ProgramofMD Nephrology

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RawalpindiMedicalUniversityR

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"WhereverthetheartofMedicineis loved,thereisalsoalove ofHumanity."
*—**Hippocrates***

Revised&Updatedon:24TH May,2021

PREFACE

The horizons of *Medical Education* are widening & there has been a steady rise of global interest in *Post Graduate Medical Education*, an increasedawareness of the necessity for experience in education skills for all healthcare professionals and the need for some formal recognition of postgraduatetrainingin Internal Medicine.

We are seeing a rise in the uptake of places on postgraduate courses in medical education, more frequent issues of medical education journals and thefurther development of e-journals and other new online resources. There is therefore a need to provide active support in *Post Graduate MedicalEducation* for a larger, national group of colleagues in all specialties and at all stages of their personal professional development. If we were to formulatea statement of intent to explain the purpose of this curriculum we might simply say that our aim is to help clinical colleagues to teach and to helpstudents to learn in a better and advanced way. This book is a state of the art book with representation of all activities of the MD Internal Medicineprogram at RMU.Curriculum is incorporated in the book for convenience of supervisors and residents. MD curriculum is based on six Core Competenciesof ACGME ***(Accreditation Council for Graduate Medical Education)*** including ***Patient Care, Medical Knowledge, System Based Practice, Practice BasedLearning, Professionalism, Interpersonal and Communication Skills***. The mission of Rawalpindi Medical University is to improve the health of thecommunities and we serve through education, biomedical research and health care. As an integral part of this mission, importance of research cultureandestablishmentofacomprehensiveresearchstructureandresearchcurriculumfortheresidents hasbeen formulatedand providedinthisbook.

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Tableofcontents

SECTION-I

MISSIONSTATEMENT

ThemissionofInternalMedicineResidencyProgramofRawalpindiMedicalUniversityis:

1. To provide exemplary medical care, treating all patients who come before us with uncompromising dedicationandskill.
2. Tosetandpursuethehighestgoalsforourselvesaswelearnthescience,craft,andartof Medicine.
3. Topassionatelyteachourjuniorcolleaguesandstudentsaswehavebeentaughtbythosewhoprecededus.
4. Totreatourcolleaguesandhospitalstaffwithkindness,respect,generosityofspirit,andpatience.
5. To foster the excellence and well-being of our residency program by generously offering our time, talent, andenergyon its behalf.
6. To support and contribute to the research mission of our medical center, nation, and the world by pursuing newknowledge,whetheratthebench orbedside.
7. To promote the translation of the latest scientific knowledge to the bedside to improve our understanding ofdiseasepathogenesisandensurethatallpatientsreceivethemostscientificallyappropriateanduptodatecare.
8. To promote responsible stewardship of medical resources by wisely selecting diagnostic tests and treatments,recognizingthatourindividualdecisionsimpactnotjustourownpatients,butpatientseverywhere.
9. To promote social justice by advocating for equitable health care, without regard to race, gender, sexualorientation,socialstatus,orabilityto pay.
10. To extend our talents outside the walls of our hospitals and clinics, to promote the health and well-being ofcommunities,locally,nationally,and internationally.
11. To serve as proud ambassadors for the mission of the Rawalpindi Medical University MD internal MedicineResidencyProgramfortheremainderofour professionallives.

STATUTES

1. ***Nomenclature:***

NomenclatureoftheProposedCourseThenameofdegreeprogrammeshallbeMDInternalMedicine.Thisnameiswellrecognizedand established forthelastmanydecadesworldwide.

2. ***CourseTitle:***

   MDInternalMedicine

3. ***TrainingCentres:***

   DepartmentsofInternalMedicineatRawalpindiMedicalUniversity(RMU).

4. ***Duration of Course:***The duration of MD Internal Medicine course shall be four 4 with structured training in arecognizeddepartmentunder theguidanceof an approved supervisor.
5. ***Course structure :***The course is structured in two parts:After admission in M.D. Internal Medicine Programme theresident will spend first 6 Months in the relevant Department of Medicine as Induction period during whichresident will get onentation about the chosen discipline and will also undertake the mandatory workshops. Theresearchprojectwillbedesigned and thesynopsisbepreparedduringthisperiod.

OncompletionofInductionpenodtheresdentwillstartfon'naltrainingintheBasicPrincipalsofInternalMedicinefor18Months,during thisperiod theresidentmustgettheresearch synopsis approvedbyAS&RBoftheuniversity.

Al;theend of2years,thecandidatewilltakeupIntermediateExamination.

Duringthe3rd“&4“yearsoftheprogramme,therearetwocomponentsofthetraining:-

1. ClinicalTraininginInternalMedicine.
2. ResearchandThesiswriting.

Thecandidateshallundergoclinicaltrainingtoachieveeducationalobjectivesof M.D.InternalMedicine(knowledgeand skills) along with rotations in the relevant fields.The clinical training shall be competency based. There shall begenericand specialtyspecific competenciesand shallbeassessed bycontinuousInternalAssessment.

Research Component and thesis wanting shall be completed over the four years duration of the course. Candidates willspendtotaltimeequivalenttoonecalendaryearforresearchduringthetraining.Researchcanbedoneasoneblockorit can be done in the form of regular periodic rotation over four years as long as total research time is equivalent onecalendaryear.

AdmissionCriteria

Applications for admission to MD Training Programs will be invited through advertisement in print and electronic mediamentioningclosingdateof applications and dateof EntryExamination.

Eligibility:Theapplicantonthelastdateofsubmissionofapplicationsforadmissionmustpossessthe:

i. Basic Medical Qualification of MBES or equivalent medical qualification recognized by Pakistan Medical &DentalCouncil.
ii. Certificateofoneyear'sHouseJobexperienceininstitutionsrecognizedbyPakistanMedical&DentalCouncilIs essential at the time of inteniew. The applicant is required to submit Hope Certificate from the concernedMedicalSuperintendent thattheHouseJob shallbecompletedbeforetheInten/iew.

iii. ValidcertificateofpermanentorprovisionalregistrationwithPakistanMedical&DentalCouncil.

Registration andEnrolment

- AsperpolicyofPakistanMedical&DentalCouncilthenumberofPGTrainees/Studentspersupervisorshallbemaximum05 per annumforall PG programmesincludingminorprogrammes(ifany).
- Bedstotraineeratioattheapproved teachingsiteshallbeatleast5bedspertrainee.
- TheUniversitywillapprovesupervisorsforMDcourses.
- Candidatesselectedforthecourses:aftertheirenrollmentattherelevantinstitutionsshallberegisteredwithUHSasper prescribed RegistrationRegulations.

AIMSANDOBJECTIVES OFTHECOURSE

AIM

The aim of five years MD program in Nephrology is to train residents to acquire the competency of a specialistinthefieldof
Nephrologysothattheycanbecomegoodteachers,researchersandcliniciansintheirspecialtyaftercompletionof theirtraining.

GENERALOBJECTIVES

1. ToprovideabroadexperienceinNephrology,includingitsinterrelationshipwithotherdisciplines.

2. Toenhancemedicalknowledge,clinicalskills,andcompetenceinbedsidediagnosticandtherapeuticprocedures.

3. To achieve the professional requirements to prepare for Higher Physician Training in one or more specialty inNephrology.

4. Tocultivatethecorrectprofessionalattitudeandenhancecommunicationskilltowardspatients,theirfamiliesandother healthcareprofessionals.

5. Toenhancesensitivityandresponsivenesstocommunityneedsandtheeconomicsofhealthcaredelivery.

6. Toenhancecriticalthinking,self-learning,andinterestinresearchanddevelopmentofpatientservice.

7. Tocultivatethepracticeofevidence-basedmedicineandcriticalappraisalskills.

8. Toinculcateacommitmenttocontinuousmedicaleducationandprofessionaldevelopment.

9. To provide a broad training and in-depth experience at a level for trainees to acquire competence andprofessionalismofaspecialistinNephrologyespeciallyinthediagnosis,investigationandtreatmentofmedicalproblems towards thedelivery ofholisticpatientcare.

10. To acquire competence in managing acute medical emergencies and identifying medical problems in patientsreferredbyprimarycareand otherdoctors,andinselectingpatientsfortimelyreferralto appropriatetertiarycareortheexpertiseof another specialty.

11. To develop competence in the inpatient and outpatient management of medical problems and in selectingpatients for referral to tertiary care facilities and treatment modalities requiring high technology and/or theexpertiseof anotherspecialty.

12. To manage patients in general medical units in regional/District hospitals; to be a leader in the health caredelivery team and to work closely with networking units which provide convalescence, rehabilitation and longtermcare.

13. Toencouragethedevelopmentofskillsincommunicationandcollaborationwiththecommunitytowardshealthcaredelivery.

14. Tofosterthedevelopmentofskillsinthecriticalappraisalofnewmethodsofinvestigationand/ortreatment.15.Torei

nforceself-learningandcommitmenttocontinuedupdatingin allaspectsof Nephrology.

16. Toencouragecontributionsaimingatadvancementofknowledgeandinnovationin Nephrologythroughbasicand/orclinicalresearch andteachingofjunior traineesand otherhealth relatedprofessionals.

17. To acquire professional competence in training future trainees in Nephrology at Rawalpindi MedicalUniversity.

SPECIFICOBJECTIVES

(A) MedicalKnowledge

1. Thedevelopmentofabasicunderstandingofcore Nephrologyconcepts.

2. Etiology, clinical manifestation, disease course and prognosis, investigation and management of common medicaldiseases.

3. Scientificbasisandrecentadvancesinpathophysiology,diagnosisandmanagementofmedicaldiseases.

4. Spectrumofclinicalmanifestationsandinteractionofmultiplemedicaldiseasesinthesamepatient.

5. Psychologicalandsocialaspectsofmedicalillnesses.

6. Effectiveuseandinterpretationofinvestigationandspecialdiagnosticprocedures.

7. Criticalanalysisoftheefficacy,cost-effectivenessandcost-utilityoftreatmentmodalities.

8. Patientsafetyandriskmanagement

9. Medicalauditand qualityassurance

10. Ethicalprinciplesandmedicolegalissuesrelatedtomedicalillnesses.

11. Updatedknowledgeonevidenced-basedmedicineanditsimplicationsfordiagnosisandtreatmentofmedicalpatients.

12. Familiaritywithdifferentcareapproachesandtypesofhealthcarefacilitiestowardsthepatientscarewithmedical illnesses,includingconvalescence,rehabilitation,palliation,longtermcare,andmedicalethics.

13. Knowledgeonpatientsafetyandclinicalriskmanagement.

14. Awarenessandconcernforthecost-effectivenessandrisk-benefitsofvariousadvancedtreatmentmodalities.

15. Familiaritywiththeconceptsofadministrationandmanagementandoverallforwardplanningforageneralmedica lunit.

(B) <u>Skills</u>

1. Abilitytotakeadetailedhistory,gathersrelevantdatafrompatients,andassimilatestheinformationtodevelopdiagnost icand managementplan.

2. Students are expected to effectively record an initial history and physical examination and follow-up notes as welladelivercomprehensiveoralpresentations totheir teammembersbased on thesewritten documents.

3. Competenceinelicitingabnormalphysicalsignsandinterpretingtheirsignificance.

4. Abilitytorelateclinicalabnormalitieswithpathophysiologicstatesanddiagnosisofdiseases.

5. Abilitytoselectappropriateinvestigationanddiagnosticproceduresforconfirmationofdiagnosisandpatientmanagement.

6. Residentsshould beabletointerpretbasicas wellasadvancedlaboratorydataasrelated to thedisorder/disease.

7. Basic understanding of routine laboratory and ancillary tests including complete blood count, chemistry panels,ECG, chest x-rays, pulmonary function tests, and body fluid cell counts. In addition, students will properlyunderstandthenecessityofincorporatingsensitivity,specificity,pre-testprobabilityandBayeslaws/theoremintheorderingofindividualtests inthecontextofevaluatingpatients'signsand symptoms.

8. Theformulationofadifferential diagnosiswithup-to—datescientificevidenceandclinicaljudgmentusinghistoryandphysicalexamination data andthe development ofa prioritizedproblemlisttoselecttestsandmakeeffectivetherapeuticdecisions.
9. Assessing the risks, benefits, and costs of varying, effective treatment options; involving the patient in decision-making via open discussion; selecting drugs from within classes; and the design of basic treatment programs andusingcriticalpathways when appropriate.

10. Residents must be able to perform competently all medical and invasive procedures essential for the practice ofgeneral internal medicine. This includes technical proficiency in taking informed consent, performing by usingappropriate indications, contraindications, interpretations of findings and evaluating the results and handing thecomplicationsoftherelated proceduresmentioned inthesyllabus.

11. Residents should be instructed in additional procedural skills that will be determined by the training environment,residentspracticeexpectations,theavailabilityof skilledteachingfaculty,andprivilegedelineation.

12. Skills in performing important bedside diagnostic and therapeutic procedures and understanding of theirindications.Traineesshouldacquirecompetencethroughsupervisedperformanceoftherequirednumberof

eachofthefollowingproceduresduringthe3-yeartrainingperiodand shouldrecordthemintheTrainee'sLog Book.

Atleast10timesduringthethree-yeartrainingperiod:

a. Cardiopulmonaryresuscitation
b. Centralvenouscannulation
c. Marrowaspirationandtrephinebiopsy
d. Abdominalparacentesis
e. Pleuraltappingandbiopsy
f. Endotrachealintubation
g. Lumbarpuncture
h. Chestdraininsertion
i. ArterialBloodgasessampling

13. Abilitytopresentclinicalproblemsandliteraturereviewingrandroundsandseminars.

14. Goodcommunicationskillsandinterpersonalrelationshipwithpatients,families,medicalcolleagues,nursingandallied health professionals.

15. Ability to mobilize appropriate resources for management of patients at different stages of medical illnesses,includingcriticalcare,consultationofmedicalspecialtiesandotherdisciplines,ambulatoryandrehabilitati veservices,and communityresources.

16. Competence in the diagnosis and management of emergency medical problems, in particular cardiorespiratoryproblems, stroke, organ failures, infection and shock, gastrointestinal bleeding, metabolic disorders andpoisoning.

17. Competence in the diagnosis and management of acute and chronic medical problems as secondary care in aregional/districthospital.

18. Diagnosticskillstoeffectivelymanagecomplexcaseswithunusualpresentations.

19. Ability to implement strategies for preventive care and early detection of diseases in collaboration with primaryandcommunitycaredoctors.

20. Abilitytounderstandmedicalstatisticsandcriticallyappraisepublishedworkandclinicalresearchondiseasepresentations and treatment outcomes. Experience in basic and/or clinical research within the trainingprogramshouldlead to publicationsand/orpresentation inseminars orconferences.

21. Practiceevidence—basedlearningwithreferencetoresearchandscientificknowledgepertainingtotheirdisciplinethrough comprehensive training inResearchMethodology

22. Abilitytorecognizeandappreciatetheimportanceofcost-effectivenessoftreatmentmodalities.

23. The identification of key information resources and the utilization of the medical literature to expand one'sknowledge base and to search for answer to medical problems. They will keep abreast of the current literatureand beableto integrateitto clinicalpractice.

(C) <u>Attitudes</u>

1. Thewell-beingandrestorationofhealthof patientsmustbeofparamountconsideration.

2. Empathyandgoodrapportwithpatientandrelativesareessentialattributes.

3. Anaspirationtobetheteam-leaderintotalpatientcareinvolvingnursingandalliedmedicalprofessionalsshouldbedeveloped.

4. Thecost-effectivenessofvariousinvestigationsandtreatmentsinpatientcareshouldberecognized.

5. Theprivacyand confidentialityof patientsandthesanctityoflifemustberespected.

6. The development of a functional understanding of informed consent, advanced directives, and the physician-patientrelationship.

7. Ability to appreciate the importance of the effect of disease on the psychological and socio-economic aspects ofindividual patients and to understand patients' psycho-social needs and rights, as well as the medical ethicsinvolvedinpatientmanagement.

8. WillingnesstokeepupwithadvancesinInternalMedicineandotherSpecialties.

9. Willingnesstoreferpatientstotheappropriatespecialtyinatimelymanner.

10. Aspirationtobetheteamleaderintotalpatientcareinvolvingnursingandalliedmedicalprofessionals.

11. Thepromotionofhealthviaadultimmunizations,periodichealthscreening,andriskfactorassessmentandmodification.

12. Recognitionthatteachingandresearchareimportantactivitiesfortheadvancementoftheprofession.

(D) ***Otherrequiredcorecompetencies:***

1. PATIENTCARE

- Residentsareexpectedtoprovidepatientcarethatiscompassionate,appropriateandeffectivefortheprotionof health,prevention of illness,treatmentof diseaseand attheendoflife.

- Gatheraccurate,essentialinformationfromallsources,includingmedicalinterviews,physicalexaminations,medicalrecords anddiagnostic/therapeutic procedures.
- Makeinformedrecommendationsaboutpreventive,diagnosticandtherapeuticoptionsandinterventionsbasedonclinicaljudgment,scientific evidence,andpatientpreference.
- Develop,negotiateandimplementeffectivepatientmanagementplansandintegrationofpatientcare.
- Perform competently the diagnostic and therapeutic procedures considered essential to the practice of internalmedicine.

2. INTERPERSONALANDCOMMUNICATIONSKILLS

- Residents are expected to demonstrate interpersonal and communication skills that enable them to establish andmaintainprofessionalrelationshipswithpatients,families,and othermembersofhealthcareteams.
- Provideeffectiveandprofessionalconsultationtootherphysiciansandhealthcareprofessionalsandsustaintherapeutic andethically soundprofessionalrelationshipswithpatients,theirfamilies,andcolleagues.
- Useeffectivelistening,nonverbal,questioning,andnarrativeskillstocommunicatewithpatientsandfamilies.
- Interactwithconsultantsinarespectful,appropriatemanner.
- Maintaincomprehensive,timely,andlegiblemedicalrecords.

3. PROFESSIONALISM

- Residentsareexpectedtodemonstratebehaviorsthatreflectacommitmenttocontinuousprofessionaldevelopmental, ethical practice, an understanding and sensitivity to diversity and a responsible attitude towardtheirpatients,theirprofession,and society.

- Demonstraterespect,compassion,integrity,andaltruisminrelationshipswithpatients,families,andcolleagues.
- Demonstrate sensitivity and responsiveness to the gender, age, culture, religion, sexual preference,socioeconomicstatus,beliefs,behavior anddisabilitiesofpatientsandprofessionalcolleagues.
- Adheretoprinciplesofconfidentiality,scientific/academicintegrity,andinformedconsent.
- Recognizeand identifydeficiencies inpeerperformance.
- Understanddemonstratetheskillandartofendoflifecare.

4. <u>PRACTICE-BASEDLEARNINGANDIMPROVEMENT</u>

- Residentsareexpectedtobeabletousescientificevidenceandmethodstoinvestigate,evaluate,andimprovepatientcare practices.
- Identifyareasforimprovementandimplementstrategiestoenhanceknowledge,skills,attitudesandprocessesof care.
- Analyzeandevaluatepracticeexperiences andimplementstrategiestocontinuallyimprovethequalityofpatientpractice.
- Developandmaintainawillingnesstolearnfromerrorsanduseerrorstoimprovethesystemorprocessesofcare.
- Useinformationoftechnologyorotheravailablemethodologiestoaccessandmanageinformation,supportpatientcared ecisions and enhancebothpatientand physicianeducation.

5. SYSTEMS-BASEDPRACTICE

- Residentsareexpectedtodemonstratebothanunderstandingofthecontextsandsystemsinwhichhealthcareisprovided ,and theabilitytoapplythis knowledgeto improveandoptimizehealth care.
- Understandsaccessesandutilizestheresources,providersandsystemsnecessarytoprovideoptimalcare.
- Understandthelimitationsandopportunitiesinherentinvariouspracticetypesanddeliverysystems,anddevelopstrateg iestooptimizecarefortheindividual patient.
- Applyevidence-based,cost-consciousstrategiestoprevention,diagnosis,anddiseasemanagement.
- Collaboratewithothermembersofthehealthcareteamtoassistpatientsindealingeffectivelywithcomplexsystemsand to improve systematicprocesses ofcare.

MethodsofTeaching&Learningduringcourseconduction

1.Inpatient Services:All residents will have rotations in intensive care, coronary care, emergency medicine, generalmedical wards, general medicine, ambulatory experiences etc. The required knowledge and skills pertaining to theambulatorybased trainingin followingareas shall bedemonstrated;

- GeneralInternalMedicine
- Criticalcare&EmergencyMedicine
- Coronarycareunit
- AmbulatoryMedicine
- GeneralMedicalconsultationservice
- Cardiology
- PulmonaryMedicine
- Endocrinology
- Rheumatology
- Gastroenterology&Hepatology
- Nephrology
- HaematologicalDisorders
- Psychiatry
- InpatientOncology81PalliativeCareServices
- Neurology
- Dermatology
- GeriatricMedicine
- InfectiousDiseases
- Radiology

2.Outpatient Experiences:Residents should demonstrate expertise in diagnosis and management of patients in acutecare clinics and longitudinal clinic and gain experience in Dermatology, Geriatrics, Clinical immunology and allergy,Endocrinology,Gastroenterology,Hematology-Oncology,Neurology,Nephrology,Pulmonology,Rheumatologyetc.

3. ***Emergency services:***Our residents take an early and active role in patient care and obtain decision-making rolesquickly. Within the Emergency Department, residents direct the initial stabilization of all critical patients, manageairwayinterventions,and overseeallcriticalcare.
4. ***Electives/ Specialty Rotations:***In addition, the resident will elect rotations in a variety of electives includingnutrition, nuclear medicine or any of the medicine subspecialty consultative services or clinics. They may chooseelectives from each medicine subspecialty and from offerings of other departments. Residents may also selectelectivesatotherinstitutionsif theparentdepartmentdoesnotoffer theexperiences theywant.
5. ***InterdisciplinaryMedicine:***AdolescentMedicine,Dermatology,EmergencyMedicine,GeneralSurgery,Gynecology,Neurology,OccupationalMedicine,Ophthalmology,OrthopedicsandSportsMedicine,Otolaryngology,PhysicalMedicine and Rehabilitation,Urology.
6. ***Community Practice:***Residents experience the practice of medicine in a non-academic, non-teaching hospitalsetting. The rotation may be used to try out a practice that the resident later joins, to learn the needs of referringphysiciansor todecideon afuturecareerpath.
7. ***MandatoryWorkshops:***residentsachievehandsontrainingwhileparticipatinginmandatoryworkshopsofResearch Methodology, Advanced Life Support, Communication Skills, Computer & Internet and Clinical Audit.Specificobjectivesaregivenindetail in therelevantsection ofMandatoryWorkshops.
8. ***Core Faculty Lectures (CFL):***The core faculty lecture's focus on monthly themes of the variousspecialty medicinetopics for eleven months of the year, i.e., Cardiology, Gastroenterology, Hematology, etc. Lectures are still anefficientwayofdeliveringinformation.Goodlecturescanintroducenewmaterialorsynthesizeconcepts

students have through text-, web-, or field-based activities. ***Buzz groups*** can be incorporated into the lectures inordertopromotemoreactivelearning.

9. ***Introductory Lecture Series (ILS):***Various introductory topics are presented by subspecialty and general medicinefacultyto introduceinterns tobasicand essential topics in internalmedicine.
10. ***Long and short case presentations:***– Giving an oral presentation on ward rounds is an important skill for medicalstudenttolearn.Itismedicalreportingwhichisterseandrapidlymoving.Aftercollectingthedata,youmustthen be able both to document it in a written format and transmit it clearly to other health care providers. Inordertodothissuccessfully,youneedtounderstandthepatient'smedicalillnesses,thepsychosocialcontributionstoth eirHistoryofPresentingIllnessandtheirphysicaldiagnosisfindings.Youthenneedtocompressthemintoaconcise,organi zedrecitationofthemostessentialfacts.Thelistenerneedstobegivenalloftherelevantinformationwithouttheextraneo usdetailsandshouldbeabletoconstructhis/herowndifferential diagnosis as the story unfolds. Consider yourself an advocate who is attempting to persuade aninformed,interestedjudgethemeritsofyourargument,withoutdistortinganyofthefacts.Anoralcasepresentation is NOT a simple recitation of your write-up. It is a concise, edited presentation of the most essentialinformation. Basic structure for oral case presentations includes Identifying information/chief complaint (ID/CC) ,History of present illness (HPI) including relevant ROS (Review of systems)questions only ,Other active medicalproblems , Medications/allergies/substance use (note: e. The complete ROS should not be presented in oralpresentations , Brief social history (current situation and major issues only) . Physical examination (pertinentfindingsonly) ,Onelinesummary&Assessmentand plan

11. ***Seminar Presentation:***Seminar is held in a noon conference format. Upperlevel residentspresent an in-depthreview of a medical topic as well as their own research. Residents are formally critiqued by both the associateprogramdirectorandtheirresidentcolleagues.

12. ***Journal Club Meeting (JC):***A resident will be assigned to present, in depth, a research article or topic of his/herchoice of actual or potential broad interest and/or application. Two hours per month should be allocated todiscussion of any current articles or topics introduced by any participant. Faculty or outside researchers will beinvitedtopresentoutlinesorresultsofcurrentresearchactivities.Thearticleshouldbecriticallyevaluatedandits applicable results should be highlighted, which can be incorporated in clinical practice. Record of all sucharticlesshould bemaintained in therelevantdepartment

13. ***Small Group Discussions/ Problem based learning/ Case based learning:***Traditionally small groups consist of 8-12participants.Smallgroupscantakeonavarietyofdifferenttasks,includingproblemsolving,roleplay,discussion, brainstorming, debate, workshops and presentations. Generally students prefer small group learningto other instructional methods. From the study of a problem students develop principles and rules and generalizetheir applicability to a variety of situations PBL is said to develop problem solving skills and an integrated body ofknowledge. It is a student-centered approach to learning, in which students determine what and how they learn.Case studies help learners identify problems and solutions, compare options and decide how to handle a realsituation.

14. ***Discussion/Debate:*** There are several types of discussion tasks which would be used as learning method forresidentsincluding:***guideddiscussion***,inwhichthefacilitatorposesadiscussionquestiontothegroupand

learners offer responses or questions to each other's contributions as a means of broadening the discussion'sscope; ***inquiry-based discussion***, in which learners are guided through a series of questions to discover somerelationship or principle; ***exploratory discussion***, in which learners examine their personal opinions, suppositionsorassumptionsandthenvisualizealternativestotheseassumptions;and***debate***inwhichstudentsargueopposing sides of a controversial topic.With thoughtful and well-designed discussion tasks, learners can practicecriticalinquiryandreflection,developingtheirindividualthinking,consideringalternativesandnegotiatingmeaningwith other discussants toarriveatasharedunderstandingof theissuesathand.

15. ***Case Conference (CC):***These sessions are held three days each week; the focus of the discussion is selected by thepresenting resident. For example, some cases may be presented to discuss a differential diagnosis, while othersarepresented to discussspecificmanagement issues.
16. ***Noon Conference (NC):***The noon conferences focus on monthly themes of the variousspecialtymedicine topicsforeleven monthsoftheyear,i.e.,Cardiology,Gastroenterology,Hematology,etc.
17. ***Grand Rounds (GR)*:** The Department of Medicine hosts Grand Rounds on weekly basis. Speakers from local,regional and national medicine training programs are invited to present topics from the broad spectrum ofinternal medicine. All residents on inpatient floor teams, as well as those on ambulatory block rotations andelectivesareexpected to attend.
18. ***ProfessionalismCurriculum(PC)*:**Thisisanorganizedseriesofrecurringlargeandsmallgroupdiscussionsfocusing upon current issues and dilemmas in medical professionalism and ethics presented primarily by anassociateprogramdirector.Lectures areusuallypresented in anoonconferenceformat.

19. ***Evening Teaching Rounds:***During these sign-out rounds, the inpatient Chief Resident makes a brief educationalpresentation on a topic related to a patient currently on service, often related to the discussion from morningreport.Seriouscasesaremainlyfocused duringeveningrounds.

20. ***Clinico-pathological Conferences:***The clinicopathological conference, popularly known as CPC primarily relies oncase method of teaching medicine. It is a teaching tool that illustrates the logical, measured consideration of adifferentialdiagnosisusedtoevaluatepatients.Theprocessinvolvescasepresentation,diagnosticdata,discussion of differential diagnosis, logically narrowing the list to few selected probable diagnoses and eventuallyreachingafinaldiagnosisanditsbriefdiscussion.TheideawasfirstpracticedinBoston,backin1900byaHarvard internist, Dr. Richard C. Cabot who practiced this as an informal discussion sessionin his private office.Dr. Cabot incepted this from a resident, who in turn had received the idea from a roommate, primarily a lawstudent.

21. ***Evidence Based Medicine (EBM)*:** Residents are presented a series of noon monthly lectures presented to allowresidents to learn how to critically appraise journalarticles, stay current on statistics, etc. The lectures arepresented by theprogramdirector.

22. ***Clinical Audit based learning:***"Clinical audit is a quality improvement process that seeks to improve patient careandoutcomesthroughsystematicreviewofcareagainstexplicitcriteria…Whereindicated,changesareimplemented…and further monitoring is used to confirm improvement in healthcare delivery." *Principles for BestPracticeinClinical Audit(2002,NICE/CHI)*

23. ***Peer Assisted Learning:***Any situation where people learn from, or with, others of a similar level of training,backgroundorothersharedcharacteristic.Providesopportunitiestoreinforceandrevisetheirlearning.Encourages responsibility and increased self-confidence. Develops teaching and verbalization skills. Enhancescommunication skills, and empathy. Develops appraisal skills (of self and others) including the ability to give andreceiveappropriatefeedback.Enhanceorganizationaland team-workingskills.

24. ***Morbidity and Mortality Conference (MM)***: The M&M Conference is held occasionally atnoon throughout theyear. A case, with an adverse outcome, though not necessarily resulting in death, is discussed and thoroughlyreviewed. Faculty members from various disciplines are invited to attend, especially if they were involved in thecareof thepatient.Thediscussion focuseson how carecouldhavebeenimproved.

25. ***Clinical Case Conference***:Each resident, except when on vacation, will be responsible for at least one clinical caseconference each month. The cases discussed may be those seen on either the consultation or clinic service orduring rotations in specialty areas. The resident, with the advice of the Attending Physician on the ConsultationService,willprepareand presentthecase(s) and review therelevantliterature

26. ***SEQ as assignments on the content areas:*** SEQs assignments are given to the residents on regular basis toenhancetheir performanceduringwritten examinations.

27. ***Skill teaching in ICU, emergency, ward settings& skill laboratory:*** Two hours twice a month should be assignedforlearningandpracticingclinicalskills. **Listofskillsto belearnt during thesesessions isasfollows:**

- Residents must develop a comprehensive understanding of the indications, contraindications, limitations,complications, techniques, and interpretation of results of those technical procedures integral to the discipline(mentionedin theCourseoutlines)
- Residents must acquire knowledge of and skill in educating patients about the technique, rationale andramifications of procedures and in obtaining procedure-specific informed consent. Faculty supervision ofresidents in their performance is required, and each resident's experience in such procedures must bedocumentedbytheprogramdirector
- Residentsmusthaveinstructionintheevaluationofmedicalliterature,clinicalepidemiology,clinicalstudydesign, relativeandabsoluterisks ofdisease,medicalstatisticsand medicaldecision-making
- Training must include cultural, social, family, behavioral and economic issues, such as confidentiality ofinformation,indicationsforlifesupportsystems,and allocationoflimited resources
- Residents must be taught the social and economic impact of their decisions on patients, the primary carephysician and society. This can be achieved by attending the bioethics lectures and becoming familiar with ProjectProfessionalismManualsuch asthatof theAmerican Board ofInternalMedicine
- ResidentsshouldhaveinstructionandexperiencewithpatientcounselingskillsandcommunityeducationThis training should emphasize effective communication techniques for diverse populations, as well asorganizationalresourcesusefulforpatientandcommunityeducation
- Residents may attend the series of lectures on Nuclear Medicine procedures (radionuclide scanning andlocalizationtests and therapy) presentedto theRadiologyresidents
- Residents should have experience in the performance of clinical laboratory and radionuclide studies and basiclaboratorytechniques includingqualitycontrol,qualityassuranceand proficiencystandards.

28. Bedsideteachingroundsinward: *"Tostudythephenomenonofdiseasewithoutbooksistosailanunchartedseawhilsttostudybookswithoutpatientsisnottogotoseaatall"SirWilliamOsler*

*1849-1919.*Bedside teaching is regularly included in the ward rounds.Learning activities include the physicalexam,adiscussionofparticularmedicaldiseases,psychosocialandethicalthemes,andmanagementissues

29. ***DirectlySupervisedProcedures-(DSP)*:**Residentslearnproceduresunderthedirectsupervisionofanattendingor fellow during some rotations. For example, in the Medical Intensive Care Unit the Pulmonary /Critical Careattending or fellow, or the MICU attending, observe the placement of central venous and arterial lines. Specificproceduresused in patientcarevary byrotation.

30. ***Self-directed learning:*** self-directed learning residents have primary responsibility for planning, implementing,and evaluating their effort. It is an adult learning technique that assumes that the learner knows best what theireducational needs are. The facilitator's role in self-directed learning is to support learners in identifying theirneeds and goals for the program, to contribute to clarifying the learners' directions and objectives and to providetimely feedback. Self-directed learning can be highly motivating, especially if the learner is focusing on problemsof the immediate present, a potential positive outcome is anticipated and obtained and they are not threatenedbytakingresponsibilityfor their own learning.

31. ***Follow up clinics:*** The main aims of our clinic for patients and relatives include (a) **Explanation of patient's stay inICUorWardsettings:**ManypatientsdonotremembertheirICUstay, andthislackofrecallcanleadtomisconceptions,frustrationandhavingunrealisticexpectationsofthemselvesduringtheir recovery.Itistherefore preferable for patients to be aware of how ill they have been and then they can understand why it istaking some time to recover.(b)**Rehabilitation information and support:**We discuss with patients and relativestheirindividualizedrecoveryfromcriticalillness.Thisincludesexpectations,realisticgoals,changeinfamily

dynamics and coming to terms with life style changes.(c)**Identifying physical, psychological or social problems**Some of our patients have problems either as a result of their critical illness or because of other underlyingconditions. The follow-up team will refer patients to various specialties, if appropriate. (d)**Promoting a qualityservice**: By highlighting areas which require change in nursing and medical practice, we can improve the quality ofpatientandrelativescare.FeedbackfrompatientsandrelativesabouttheirICU&wardexperienceisinvaluable.Ithasinitiatedvariousauditsandchangesinclinicalpractice,forthebenefitofpatientsandrelativesinthefuture.

32. ***Core curriculum meeting:***All the core topics of Medicine should be thoroughly discussed during these sessions.Thedurationofeachsessionshouldbeatleasttwohoursonceamonth.Itshouldbechairedbythechiefresident (elected by the residents of the relevant discipline). Each resident should be given an opportunity tobrainstorm all topics included in the course and to generate new ideas regarding the improvement of the coursestructure

33. ***Annual Grand Meeting***Once a year all residents enrolled for MDNephrolohy shouldbe invited to theannualmeetingatRMU.Onefulldaywillbeallocatedtothisevent.Allthechiefresidentsfromaffiliatedinstituteswillpresenttheirannualreports.Issuesand concernsrelatedtotheirrelevantcourseswillbediscussed.Feedback shouldbecollectedandsuggestionsshouldbesoughtinordertoinvolveresidents indecision making. The research work done by residents and their literary work may be displayed. In the evening aninformal gathering and dinner can be arranged. This will help in creating a sense of belonging and ownershipamongstudentsand thefaculty.

34. ***Learning throughmaintaining log book: it is*** used to list the core clinical problems to be seen during theattachmentand todocument thestudentactivityandlearningachieved witheach patientcontact.

35. ***Learning through maintaining portfolio:*** Personal Reflection is one of the most important adult educational toolsavailable. Many theorists have argued that without reflection, knowledge translation and thus genuine "deep"learning cannot occur. One of the Individual reflection tools maintaining portfolios, Personal Reflection allowsstudents to take inventory of their current knowledge skills and attitudes, to integrate concepts from variousexperiences, to transform current ideas and experiences into new knowledge and actions and to complete theexperientiallearningcycle.

36. ***Task-based-learning:*** A list of tasks is given to the students: participate in consultation with the attending staff,interviewand examinepatients,review anumberof new radiographs with theradiologist.

37. ***Teaching in the ambulatory care setting:***A wide range of clinical conditions may be seen. There are largenumbers of new and return patients. Students have the opportunity to experience a multi-professional approachto patient care. Unlike ward teaching, increased numbers of students can be accommodated without exhaustingthelimitedNo.of suitablepatients.

38. ***Community Based Medical Education:*** CBME refers to medical education that is based outside a tertiary or largesecondarylevelhospital.Learninginthefieldsofepidemiology,preventivehealth,publichealthprinciples,communitydevelopment,andthesocialimpactofillnessandunderstandinghowpatientsinteractwiththehealthcaresystem.Also usedforlearningbasicclinicalskills,especiallycommunicationskills.

39. ***Audio visual laboratory:***audio visual material for teaching skills to the residents is used specifically in teachinggastroenterologyproceduredetails.

40. ***E-learning/web-based medical education/computer-assisted instruction:***Computer technologies, including theInternet, can support a wide range of learning activities from dissemination of lectures and materials, access tolive or recorded presentations, real-time discussions, self-instruction modules and virtual patient simulations.distance-independence, flexible scheduling, the creation of reusable learning materials that are easily shared andupdated, the ability to individualize instruction through adaptive instruction technologies and automated recordkeepingfor assessmentpurposes.

41. ***Researchbasedlearning:***Allresidentsinthecategoricalprogramarerequiredtocompleteanacademicoutcomes-based research project during their training. This project can consist of original bench top laboratoryresearch, clinical research or a combination of both. The research work shall be compiled in the form of a thesiswhich is to be submitted for evaluation by each resident before end of the training. The designated Faculty willorganize and mentor the residents through the process, as well as journal clubs to teach critical appraisal of theliterature.

42. ***Other teaching strategies specific for different specialties as mentioned in the relevant parts of the curriculum***Someoftheotherteachingstrategieswhicharespecificforcertaindomainsofinternalmedicinearegivenalong withrelevantmodules.

Electives/Rotations

Asignificantamountof timeduringresidencyisdevotedto electives,whichallowsour residentstheflexibilitytogainaconcentrated experience in an area of interest. Residents can choose electives from any subspecialty within theDepartment of Nephrology or other departments to enhance a particular primary care interest, academicpathway, or to pursue a subspecialty interest. We remain open to working with residents to create unique electiveexperiences geared toward their career interests. The following is a brief overview of some of the available electives:**Cardiology**

Residents will work with a cardiology fellow to initially evaluate patients with a variety of cardiovascular disorders,includingacuteandchronicmanifestationsofcoronaryarterydisease,myocardialinfarction,congestiveheartfailure, arrhythmias, valvular disorders and pericardial diseases. Resident will also participate in the workup of patients withchestpain and syncope.Resident responsibilitieswillinclude:

- assessingpreoperativecardiacriskinpatientsundergoingnon-cardiacsurgery
- managingcardiacissuesinmedical,surgicalandneurologicpatients,includingthoseintheICU
- evaluationobservationunitpatients,includingfollowinguponabnormalcardiactesting

EmergencyMedicine

Elective training in emergency medicine gives resident opportunities to work with a wide variety of undifferentiatedpatientsinafast-pacedacutecaresetting.Residentwill evaluateacutecomplaints,generatedifferentialdiagnoses,and

initiateappropriatemanagementforthesepatientsunderthesupervisionofemergencymedicinefaculty.Youwillhoneresident ’s diagnostic skills, develop triage skills, identify appropriate levels of care for these patients, and coordinatewiththelargersystemofcareto ensureeachpatientreceivesoptimalcareandfollow-up.

Endocrinology,DiabetesandMetabolism

This elective trainsresident in recognizing, diagnosing and formulating treatment plans for endocrinology disorders.Resident will work in both inpatient and outpatient settings, obtaining focused medical histories and conductingphysical exams. Resident will learn to interpret common endocrine lab tests, use fine needle thyroid aspirationappropriately,useafullrangeof imagingstudies,and recognizetherationalefortherapymodalitiessuchas diabeticdiets,exerciseprograms,glucosemonitoringandinsulin deliverydevices.

Evidence-BasedMedicine

Residentwilljoinafloorteamasthedesignated“EBMresident,”workingcloselywithan“EBMattending,”usuallythefloor team attending. During morning rounds, team members identify one or more patient management issues andformulatestructuredclinicalquestions,withresident’ssupportandfeedback.Residentwillsearchthemedical literature to identify relevant publications, and assess their validity and results using the User’s Guide to the MedicalLiterature’s critical appraisal sheets. During the next rounds meeting (usually that afternoon), resident will report hisfindings to the floor team, discuss them together, and assist in evidence-based clinical decision-making, integrating theevidencefromresident’sresearchwith patients’values,clinicalstates,andcircumstances.

Inaddition,residentwillberesponsibleforconductingtwotofour interactivesmall-groupsessions.Thesemaybe critical appraisal sessions, using the format from the User's Guide to Medical Literature, or didactic sessions to clarifyspecificconcepts.

Gastroenterology/Hepatology

Thisinpatientrotationexposesresidenttothecommonproblemsencounteredindiagnosingandmanagingdiseasesinthe field of gastroenterology and hepatology. Resident will perform histories and physicals on patients on whom thegastroenterology service at resident hospital is consulted, present those patients to the attending, and maintain newand follow-up consult notes. Resident will provide differential diagnoses for a variety of conditions, with particularemphasisonidentifyingconditionsthatareimmediatelylife-threateningorwhichrequireimmediateintervention. Residentwillnotberequired toperformprocedures,butwill beencouraged to observeprocedures.

Oncology

This elective gives resident an opportunity to evaluate and treat inpatients and outpatients as part of a combinedhematology/oncology service. You will also care for patients with malignant hematologic diseases, includinglymphomas, myelomas, and acute and chronic leukemias. Resident will review laboratory data, flow cytometry andperipheralsmearswithfellowsandfaculty.Residentmayhaveopportunitiestoperformbonemarrowbiopsiesundersupervisionand to reviewpathologyspecimens withthehematopathologist.

InfectiousDiseases

Resident will care for a wide variety of patients, with particular attention to evaluating those with possible infections,then diagnosing and treating them. Resident will also learn to diagnose cases that don't easily fit into evidence-basedguidelines. Our residency elective will help resident develop a core understanding of the clinical manifestations,pathophysiology and management of infectious diseases and systemic diseases. Through resident's training resident willdevelopexpertisein relevantbasicand clinicalsciencetopics.Thiselective emphasizesrigorousdataaccumulationwhen taking histories and conducting physical examinations, and interpreting a wide variety of laboratory data,includingcultures,imagingand othertests.

Nephrology

Residentwilllearnaboutthepathogenesis,clinicalpresentation,treatmentmodalitiesandprognosisofthefullrangeofnephrologic diseases in both didactic and clinical settings, including end-stage renal disease, acute and chronic renalfailure, tubulointerstitial diseases and glomerulonephritides. Resident will also gain proficiency with diagnostic testingandmonitoringmethodskeyto thedisciplineofnephrology.

Neurology

An elective in neurology helps resident develop core neurological evaluation skills, including taking histories, conductingphysical examinations, and performing accurate and thorough neurologic exams. Resident will see patients with avarietyofconditions,includingacuteischemicstroke,acute hemorrhagicstroke,statusepilepticusandbraintumors,for new admissions and follow-up care, including post-discharge follow-up planning where appropriate. Whennecessary,residentwill anticipatepatients'needs inacomplex healthsystemandguidethemappropriatelyby

collabroating with professionals in occupational therapy, physical therapy, speech therapy, acute rehabilitation, long-termcare placementfacilities,and soon

Nuclear Medicine The program exposes resident to clinical and research aspects of nuclear medicine. Resident will coverthediagnostic,therapeutic,andinvestigationalusesofradionuclides,andgainanunderstandingofimportantaspectsofradiochemistry,computerscience, andmodeling. Throughthiselectiverotation,residentwilllearnthe keytechniques andmethodologyofthemajornuclearmedicine diagnosticandtherapeuticapplications. It includesanactiveclinicaland researchexperiencein positron emissiontomography(PET).

PalliativeMedicine

In this elective, you learn to propose and defend comfort care for patients when cure is no longer a rational goal insettings including hospital consultation services and hospice home care. Resident will evaluate and treat symptomscommoninterminallyillpatients,focusingonhowphysical,psychological,socialandspiritualfactorsaffectsuffering.Inaddition, resident will gain an understanding of the neuroanatomy and physiology of different pain mechanisms andhowtohonormedicaldecisions thatareguidedbypatients'philosophies and values.

Pulmonary

In this elective, resident will work with patients who have lung disease problems common to the inpatient setting andresident will learn about additional pulmonary diseases and problems pulmonary specialists see. Resident will learn toperformphysicalexaminationsandtakeorderlyhistoriesfocusedonthesignsandsymptomsoflungdiseases,including

extra pulmonary signs and symptoms, and resident will plan and provide treatment for inpatients with a wide variety oflungdiseases.

Rheumatology

This elective familiarizes resident with diagnosing and treating the core rheumatic diseases through direct patientcontact in the rheumatology attendings' offices. Resident will conduct all new patient evaluations, obtaining completehistories, conducting examinations, reviewing relevant medical records, and developing appropriate differentialdiagnoses and treatment plans. Where appropriate, resident will also see patients for follow-up appointments. Theattending rheumatologist will review the clinic's long-term patients daily, selecting individual additional cases to giveresidentthebroadestexperiencepossible.

Resident will become proficient at the musculoskeletal exam, learn to obtain a relevant rheumatic history and review ofsystems, understand appropriate medication and non-drug therapies for rheumatic disease, use diagnostic laboratoryand X-ray testing appropriately, learn to distinguish inflammatory from degenerative or metabolic musculoskeletaldiseases, develop reasonable differential diagnoses for common rheumatic symptoms, and gain experience in joint andbursa/tendoninjection.

SleepMedicine

Thisrotationexposesresidenttoavarietyofsleepdisorders,focusingonhowothermedicalconditionsandmedications can cause them, and their effects on overall health. Resident will learn to take a sleep history, perform asleepphysical,andclassifythemajorproblemsencounteredinsleepmedicine,suchasnarcolepsyandobstructivesleep

apnea.Residentwillalsogainanunderstandingofthebasicsofinsomnia,circadianrhythmsandhowtotreatpatientswithsleep-alteringmedications.

HospitalMedicineandElectiveinCriticalCareandProcedures

Thesetwoelectivesprovideadditionaltrainingforthoseinterestedinacareerinhospitalistpractice.Residentslearnthe art of medical consultation and perioperative medical management under the guidance of academic hospitalists.They participate in quality assurance projects and learn about the business aspect of hospital practice. During thecritical care and procedure elective, residents gain skills in common procedures, such as central lines, LP's andparacenteses,and workcloselywith ourcriticalcarephysicians.

OccupationalMedicine

Under the supervision of specialists in Occupational Medicine, residents may elect a wide variety of activities includingevaluationofpatientswith jobrelatedillnesses,workingwithphysicians athealthfacilitiesatindustrialplants.

GeriatricMedicine

Under the supervision of the geriatrics faculty, residents participate in a multidisciplinary clinic evaluation of the elderly,engage in inpatient consultations, and care for patients in the geriatrics inpatient unit and nursing home. Outpatientclinics provide residents with training on the management of frail elderly, osteoporosis and older patients with multiplecomorbidities. Residents may also participate in the Division of Gerontology's active research in exercise physiology,obesity,menopause,metabolismand cardiovasculardiseaseprevention.

TransplantNephrology

Residentswillhavetheopportunityforavastclinicalexperienceonthiselective.Residentslearnthebasicsof

transplant biology, the evaluation of patients for transplantation, and the prevention and management of post-transplant complications. Residents work on an interdisciplinary team along with transplant nephrologists, infectiousdiseaseexperts and surgeons.

Neuro/Psychiatry

Residents will learn to diagnose and treat a variety of primary psychiatric ailments, as well as the psychiatricmanifestations of medical disorders. On the Neurology half of the Neuro/Psychiatry elective, residents will learn thenatural history, diagnosis, and treatment of cerebral vascular disease, migraines, multiple sclerosis, movementdisorders,discdisease,neuromusculardisease,andseizuredisorders,as wellasdementiaand memorydisorders.

NonClinicalElectives

Research

Residents are encouraged to engage in clinical or basic science research during their training through ourcomprehensive **monetoringprogram**.At the beginning of this rotation, resident will be asked to identify a research topicor project and be linked with a research mentor. Resident will gain broad understanding of the fundamental principlesand methods of research: developing research questions, analyzing current literature, designing studies (includingstatistical analysis), presenting research projects and writing them up.Residents receive close supervision by theirpreceptor throughout all phases of the research project, learning the process from hypothesis development to IRB(InstitutionalReviewBoard)submissionthroughexperimentation,datacollectionandanalysis,andformalwritingfor

presentation and publication. At the **Resident Research Forum,** residents present their work-in-progress to peers andfaculty.

MedicalEducation:

Designedforresidentsinterestedinexploringtheoptionofacareerasaclinicianeducator,themedicaleducationelective exposesresidentstothe varietyofeducationalactivitiescommontomedicaleducatorsinacademiccenters.Residentschoosingamedicaleducationelec tivecanlearncurriculumdevelopment,participateinpeerreviewofteachingforfacultyandresidents;developskillsinwebbase deducationandcaninitiateaneducationalscholarshipproject.Residentscanalsoparticipateinsmallgroupteachingofstudents inphysicaldiagnosis,clinicalproblemsolving,proceduralskills,anddiagnostictestinterpretation.

A crisp detail about modern Tools of Assessment intended to be used for thecourse

- **360-DEGREEEVALUATIONINSTRUMENT-MULTI-SOURCEFEEDBACK(MSF):**
  360-degree evaluations consist of measurement tools completed by multiple people in a person's sphere ofinfluence.Evaluatorscompletingratingformsina360-degreeevaluationusuallyaresuperiors,peers,subordinates, and patients and families. Most 360-degree evaluation processes use a survey or questionnaire togatherinformationaboutanindividual'sperformanceonseveraltopics(e.g.,teamwork,communication,managemen t skills & decision-making). Most 360-degree evaluations use rating scales to assess how frequently abehavior is performed (e.g., a scale of 1 to 5, with 5 meaning "all the time" and 1 meaning "never"). The ratingsare summarized for all evaluators by topic and overall to provide feedback.Evaluators provide more accurate andlesslenientratingswhentheevaluationisintendedtogiveformativefeedbackratherthansummativeevaluations.A3 60-degreeevaluationcanbeusedtoassessinterpersonalandcommunicationskills,professional

behaviors,and someaspectsof patientcareand systems-basedpractice.

- **CHARTSTIMULATEDRECALLORALEXAMINATION(CSR)**

  Inachartstimulatedrecall(CSR)examinationpatientcasesoftheexaminee(resident)areassessedinastandardized oral examination. A trained and experienced physician examiner questions the examinee about thecareprovidedprobingforreasonsbehindthework-up,diagnoses,interpretationofclinicalfindings,andtreatment plans. The examiners rate the examinee using a well-established protocol and scoring procedure. Inefficiently designed CSR oral exams each patient case (test item) takes 5 to 10 minutes. A typical CSR exam is twohours with one or two physicians as examiners per separate 30 or 60-minute session.These exams assess clinicaldecision-makingand theapplicationor useof medicalknowledgewithactualpatients.

- **CHECKLISTEVALUATION**

  Checklists consist of essential or desired specific behaviors, activities, or steps that make up a more complexcompetency or competency component. Typical response options on these forms are a check ( ) or “yes” toindicate that the behavior occurred or options to indicate the completeness (complete, partial, or absent) orcorrectness (total, partial, or incorrect) of the action. The forms provide information about behaviors but for thepurpose of making a judgment about the adequacy of the overall performance, standards need to be set thatindicate, for example, pass/fail or excellent, good, fair, or poor performance. Checklists are useful for evaluatinganycompetencyandcompetencycomponentthatcanbebrokendownintospecificbehaviorsoractions.Documented evidence for the usefulness of checklists exists for the evaluation of patient care skills (history andphysical examination, procedural skills) and for interpersonal and communication skills. Checklists have also beenused for self-assessment of practice-based learning skills (evidence-based medicine). Checklists are most useful toprovide feedback on performance because checklists can be tailored to assess detailed actions in performing atask.

- **GLOBALRATINGOFLIVEORRECORDEDPERFORMANCE**

  Global rating forms are distinguishedfromotherrating formsinthat (a)a rater judgesgeneral categoriesofability(e.g.patientcareskills,medicalknowledge,interpersonalandcommunicationskills)insteadofspecific

skills,tasksorbehaviors;and(b)theratingsarecompletedretrospectivelybasedongeneralimpressionscollected over a period of time (e.g., end of a clinical rotation) derived from multiple sources of information (e.g.,direct observations or interactions; input from other faculty, residents, or patients; review of work products orwrittenmaterials).Allratingformscontainscalesthattheevaluatorusestojudgeknowledge,skills,andbehaviors listed on the form. Typical rating scales consist of qualitative indicators and often include numericvaluesforeachindicator,forexample, (a) verygood= 1, good=2, fair=3,poor=4; or(b)superior=1, satisfactory =2, unsatisfactory =3. Written comments are important to allow evaluators to explain the ratings.Global ratingforms are most often used for making end of rotation and summary assessments about performance observedover days or weeks. Scoring rating forms entails combining numeric ratings with comments to obtain a usefuljudgmentaboutperformancebaseduponmorethan onerater.

- **OBJECTIVESTRUCTUREDCLINICALEXAMINATION(OSCE)**

In an objective structured clinical examination (OSCE) one or more assessment tools are administered at 12 to 20separatestandardizedpatientencounterstations,eachstationlasting10-15minutes.Betweenstationscandidates may complete patient notes or a brief written examination about the previous patient encounter. Allcandidates move from station to station in sequence on the same schedule. Standardized patients are theprimaryassessmenttoolusedinOSCEs,butOSCEshaveincludedotherassessmenttoolssuchasdatainterpretationex ercisesusingclinicalcasesandclinicalscenarioswithmannequins,toassesstechnicalskills.OSCEs have been administered in most of the medical schools worldwide, many residency programs, and bythelicensureboardexaminations.TheOSCEformatprovidesastandardizedmeanstoassess:physicalexamination and history taking skills; communication skills with patients and family members, breadth and depthof knowledge; ability to summarize and document findings; ability to make a differential diagnosis, or plantreatment;andclinicaljudgmentbasedupon patientnotes.

- **PROCEDURE,OPERATIVE,ORCASELOGS**

Procedure,operative,orcaselogsdocumenteachpatientencounterbymedicalconditionsseen,surgicaloperation or procedures performed. The logs may or may not include counts of cases, operations, or procedures.Patientcaselogscurrentlyinuseinvolverecordingofsomenumberofconsecutivecasesinadesignatedtime

frame. Operative logs in current use vary; some entail comprehensive recording of operative data by CPT codewhileothersrequirerecordingofoperations orprocedures forasmallnumberof definedcategories.

Logs of types of cases seen or procedures performed are useful for determining the scope of patient careexperience. Regular review of logs can be used to help the resident track what cases or procedures must besought out in order to meet residency requirements or specific learning objectives. Patient logs documentingclinical experience for the entire residency can serve as a summative report of that experience; as noted below,thenumbers reported donotnecessarilyindicatecompetence.

- **PATIENTSURVEYS**

Surveys of patients to assess satisfaction with hospital, clinic, or office visits typically include questions about thephysician'scare.Thequestionsoftenassesssatisfactionwithgeneralaspectsofthephysician'scare,(e.g.,amount of time spent with the patient, overall quality of care, physician competency (skills and knowledge),courtesy, and interest or empathy). More specific aspects of care can be assessed including: the physician'sexplanations, listening skills and provision of information about examination findings, treatment steps, and drugside effects. A typical patient survey asks patients to rate their satisfaction with care using rating categories (e.g.,poor, fair, good, very good, excellent) or agreement with statements describing the care (e.g., "the doctor keptme waiting," --Yes, always; Yes, sometimes; or No, never or hardly ever). Each rating is given a value and asatisfaction score calculated by averaging across responses to generate a single score overall or separate scoresfordifferentclinicalcareactivitiesorsettings.Patientfeedbackaccumulatedfromsingleencounterquestionnaires can assess satisfaction with patient care competencies (aspects of data gathering, treatment, andmanagement; counseling, and education; preventive care); interpersonal and communication skills; professionalbehavior; and aspects of systems-based practice (patient advocacy; coordination of care). If survey items aboutspecific physician behaviors are included, the results can be used for formative evaluation and performanceimprovement. Patient survey results also can be used for summative evaluation, but this use is contingent onwhetherthemeasurementprocess meetsstandards ofreliabilityand validity.

- **PORTFOLIOS**

  Aportfolioisacollectionofproductspreparedbytheresidentthatprovidesevidenceoflearningandachievement related to a learning plan. A portfolio typically contains written documents but can include video- oraudio-recordings, photographs, and other forms of information. Reflecting upon what has been learned is animportantpartofconstructingaportfolio.Inadditiontoproductsoflearning,theportfoliocanincludestatements about what has been learned, its application, remaining learning needs, and how they can be met. Ingraduate medical education, a portfolio might include a log of clinical procedures performed; a summary of theresearch literature reviewedwhenselecting a treatment option; a quality improvement project planand reportof results; ethical dilemmas faced and how they were handled; a computer program that tracks patient careoutcomes; orarecording ortranscript ofcounseling providedtopatients.Portfolioscanbe usedforbothformativeandsummativeevaluationofresidents.Portfoliosaremostusefulforevaluatingmasteryofcompetencies that are difficult to evaluate in other ways such as practice-based improvement, use of scientificevidence in patient care, professional behaviors, and patient advocacy. Teaching experiences, morning report,patientrounds,individualizedstudyorresearchprojectsareexamplesoflearningexperiencesthatlendthemselvestousingportfolios toassess residents.

- **RECORDREVIEW**

  Trained staff in an institution's medical records department or clinical department perform a review of patients'paperorelectronicrecords.Thestaffusesaprotocolandcodingformbaseduponpredefinedcriteriatoabstract information from the records, such as medications, tests ordered, procedures performed, and patientoutcomes. The patient record findings are summarized and compared to accepted patient care standards.Standards of care are available for more than 1600 diseases on the Website of the Agency for HealthCareResearchandQuality(http://www.ahrq.gov/).Recordreviewcanprovideevidenceaboutclinicaldecision-making, follow-through in patient management and preventive health services, and appropriate use of clinicalfacilities and resources (e.g., appropriate laboratory tests and consultations). Often residents will confer withotherclinicalteammembersbeforedocumentingpatientdecisionsandtherefore,thedocumentedcaremaynotbe directlyattributed to asingleresidentbutto theclinicalteam.

SIMULATIONSANDMODELS

Simulations used for assessment of clinical performance closely resemble reality and attempt to imitate but notduplicate real clinical problems. Key attributes of simulations are that: they incorporate a wide array of optionsresemblingreality,allowexamineestoreasonthroughaclinicalproblemwithlittleornocueing,permitexaminees to make life-threatening errors without hurting a real patient, provide instant feedback so examineescancorrectamistakenaction,andrateexaminees'performanceonclinicalproblemsthataredifficultorimpossible to evaluate effectively in other circumstances. Simulation formats have been developed as paper-and-pencil branching problems (patient management problems or PMPs), computerized versions of PMPs calledclinicalcasesimulations(CCX®),role-playingsituations(e.g.,standardizedpatients(SPs),clinicalteamsimulations),anatomicalmodelsormannequins,andcombinationsofallthreeformats.Mannequinsareimitations of body organs or anatomical body regions frequently using pathological findings to simulate patientdisease.Themodelsareconstructedofvinylorplasticsculptedtoresemblehumantissuewithimbeddedelectronic circuitry to allow the mannequin to respond realistically to actions by the examinee. Virtual realitysimulations or environments (VR) use computers sometimes combined with anatomical models to mimic as muchas feasible realistic organ and surface images and the touch sensations (computer generated haptic responses) aphysician would expect in a real patient. The VR environments allow assessment of procedural skills and othercomplex clinical tasks that are difficult to assess consistently by other assessment methods.Simulations using VRenvironments have been developed to train and assess surgeons performing arthroscopy of the knee and otherlarge joints, anesthesiologists managing life-threatening critical incidents during surgery, surgeons performingwound debridement and minor surgery, and medical students and residents responding to cardio-pulmonaryincidents ona full-sizehumanmannequin.Writtenandcomputerized simulationshave beenusedtoassessclinical reasoning, diagnostic plans and treatment for a variety of clinical disciplines as part of licensure andcertificationexaminations. Standardizedpatients assimulationsaredescribed elsewhere.

STANDARDIZEDORALEXAMINATION

The standardized oral examination is a type of performance assessment using realistic patient cases with atrained physician examiner questioning the examinee. The examiner begins by presenting to the examinee aclinicalproblemintheformofapatientcasescenarioandaskstheexamineetomanagethecase.Questions

probe the reasoning for requesting clinical findings, interpretation of findings, and treatment plans. In efficientlydesigned exams each case scenario takes three to five minutes. Exams last approximately 90 minutes to two andone-half hours with two to four separate 30 or 60-minute sessions. One or two physicians serve as examiners persession. An examinee can be tested on 18 to 60 different clinical cases.These exams assess clinical decision-making and the application or use of medical knowledge with realistic patients. Multiple-choice questions arebetteratassessingrecall or understandingof medicalknowledge.

- **STANDARDIZEDPATIENTEXAMINATION(SP)**

  Standardized patients (SPs) are well persons trained to simulate a medical condition in a standardized way oractual patients who are trained to present their condition in a standardized way. A standardized patient examconsists of multiple SPs each presenting a different condition in a 10-12 minute patient encounter. The residentbeing evaluated examines the SP as if (s) he were a real patient, (i.e., the resident might perform a history andphysical exam, order tests, provide a diagnosis, develop a treatment plan, or counsel the patient). Using achecklistoraratingform,aphysicianobserverortheSPsevaluatetheresident'sperformanceonappropriateness,correctness,andcompletenessofspecificpatientcaretasksandexpectedbehaviors(Seedescription of Checklist Evaluation…). Performance criteria are set in advance. Alternatively or in addition toevaluation using a multiple SP exam, individual SPs can be used to assess specific patient care skills. SPs are alsoincluded as stations in Objective Structured Clinical Examinations (See description of OSCE).SPs have been used toassess history-taking skills, physical examination skills, communication skills, differential diagnosis, laboratoryutilization,andtreatment.Reproduciblescoresaremorereadilyobtainedforhistory-taking,physicalexamination, and communication skills. Standardized patient exams are most frequently used as summativeperformanceexams forclinicalskills.AsingleSPcanassess targetedskillsand knowledge.

- **WRITTENEXAMINATION(MCQ)**

  A written or computer-based MCQ examination is composed of multiple-choice questions (MCQ) selected tosample medical knowledge and understanding of a defined body of knowledge, not just factual or easily recalledinformation. Each question or test item contains an introductory statement followed by four or five options inoutlineformat.Theexamineeselectsoneoftheoptionsasthepresumedcorrectanswerbymarkingtheoption

on a coded answer sheet. Only one option is keyed as the correct response. The introductory statement oftenpresents a patient case, clinical findings, or displays data graphically. A separate booklet can be used to displaypictures,andotherrelevantclinicalinformation.Incomputer-basedexaminationsthetestitemsaredisplayedonacomputermonitoroneatatimewithpicturesandgraphicalimagesalsodisplayeddirectlyonthemonitor.Ina computer-adaptivetestfewertest questionsare neededbecausetestitemsareselectedbaseduponstatisticalrulesprogrammedintothecomputertoquicklymeasurtheexaminee'sability.Medicalknowledgeandunderstandingcanbemeasuredby MCQexaminations.Comparingthetestscoresonin-trainingexaminations with national statistics can serve to identify strengths and limitations of individual residents to helpthem improve. Comparing test results aggregated for residents in each year of a program can be helpful toidentifyresidencytrainingexperiences thatmightbeimproved.

- **mini-ClinicalEvaluationExercise(mini-CEX)**

  This tool evaluates a clinical encounter with a patient to provide an indication of competence in skillsessential for good clinical care such as history taking, examination and clinical reasoning. The trainee receivesimmediate feedback to aid learning. The can be used at any time and in any setting when there is a traineeandpatientinteraction and an assessor isavailable.

- **DirectObservationofProceduralSkills(DOPS)**

  A DOPS is an assessment tool designed to evaluate the performance of a trainee in undertaking a practicalprocedure, against a structured checklist. The trainee receives immediate feedback to identify strengths andareasfordevelopment.

- **Case-basedDiscussion(CbD)**

  TheCbDassessestheperformanceofatraineein theirmanagementof apatientto providean indicationofcompetence in areas such as clinical reasoning, decision-making and application of medical knowledge inrelation to patient care. It also serves as a method to document conversations about, and presentations of,casesbytrainees.TheCbDshould focuson awritten record(such aswrittencasenotes,out-patientletter,

and discharge summary). A typical encounter might be when presenting newly referred patients in the out-patientdepartment.

- **AcuteCareAssessmentTool(ACAT)**
  TheACATisdesignedtoassessandfacilitatefeedbackonadoctor'sperformanceduringtheirpracticeontheAcute Medical Take. Any doctor who has been responsible for the supervision of the Acute Medical Take canbetheassessor for an ACAT.

- **AuditAssessment(AA)**
  The Audit Assessment tool is designed to assess a trainee's competence in completing an audit. The AuditAssessment can be based on review of audit documentation OR on a presentation of the audit at a meeting. Ifpossiblethetraineeshould beassessed onthesameauditbymorethan oneassessor.

- **TeachingObservation(TO)**
  The Teaching Observation form is designed to provide structured, formative feedback to trainees on theircompetenceatteaching.TheTeachingObservationcan bebasedonanyinstanceof formalizedteachingbythe trainee who has been observed by the assessor. The process should be trainee-led (identifying appropriateteachingsessionsand assessors).

- **Decisionsonprogress(ARCP)**
  The Annual Review of Competence Progression (ARCP) is the formal method by which a trainee's progressionthrough her/his trainingprogramme is monitored and recorded. ARCP is not an assessment – it is the reviewof evidence of training and assessment. The ARCP process is described in A Reference Guide for PostgraduateSpecialty Training in the UK (the "Gold Guide" – available from www.mmc.nhs.uk). Deaneries are responsiblefor organising and conducting ARCPs. The evidence to be reviewed by ARCP panels should be collected in thetrainee'sePortfolio.

SECTION-II

DetailsofcurriculumofMD NephrologyProgram

RAWALPINDI MEDICAL

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1.Curriculum of first year MD Nephrology2.Curriculum ofsecond, third,fourth and Final yearMD Nephrology

CURRICULUMFORFIRSTYEARMD

Nephrology RAWALPINDI

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Clinicalcomponent

Tableofcontentsoffirstyearclinicalcomponent

CLINICALCURRICULUMFORFIRSTYEARMD N E P H R O L O G Y

TOPICS TOBETAUGHT	LEARNINGOBJECTIVES **Studentshouldbeabletoknow:**	TEACHINGMETHOD	ASSESSMENT
1.HistoryTaking **(Knowledge)**	• To progressively develop the ability to obtain arelevantfocusedhistoryfromincreasinglycomplexpatientsandchallengingcircumstances • To record accurately and synthesize history withclinical examination and formulation of managementplanaccordingtolikely clinicalevolution • Recognizestheimportanceofdifferentelementsofhistory • Recognizes the importance of clinical (particularlycognitive impairment), psychological, social, culturaland nutritional factors particularly those relating toethnicity, race, cultural or religious beliefs andpreferences,sexualorientation,genderanddisability • Recognizesthatpatientsdonotpresenthistoryinstructured fashion and that the history may beinfluenced by the presence of acute and chronicmedicalconditions • Knowslikelycausesandriskfactorsforconditionsrelevant tomodeofpresentation • Recognizesthathistoryshouldinformexamination,investigationandmanagement	Bedside teaching inwards andoutpatientdepartments	mini-CEXMCQs
2.HistoryTaking **(Skills)**	• Identify and overcome possible barriers (eg cognitiveimpairment)toeffectivecommunication • Managetimeanddrawconsultationtoaclose	Bedside teaching inwards andoutpatient	mini-CEX

	appropriately • Supplementhistorywithstandardisedinstrumentsorquestionnaireswhen relevant • Managealternativeandconflictingviewsfromfamily,carersandfriends • Assimilate history from the available information frompatientandothersources • Recognise and interpret the use of non verbalcommunicationfrom patientsand carers • Focusonrelevantaspectsofhistory	departments	
3.HistoryTaking (Behaviors)	• ShowrespectandbehaveinaccordancewithGoodMedicalPractice	Bedside teaching inwards andoutpatient departments	ACAT mini-CEX
4.Clinicalexamination(knowledge)	• To progressively develop the ability to performfocussed and accurate clinical examination inincreasingly complex patients and challengingcircumstances • To relate physical findings to history in order toestablishdiagnosisandformulate amanagementplan • Understandtheneedforavalidclinicalexamination • Understand the basis for clinical signs and therelevanceofpositiveandnegativephysicalsigns • Recognise constraints to performing physicalexamination and strategies that may be used toovercomethem • Recognise the limitations of physical examination andthe need for adjunctive forms of assessment to confirmdiagnosis	Bedside teaching inwards andoutpatientdepartments	CbD mini-CEXACAT
5.Clinicalexamination	• Performanexaminationrelevanttothepresentation	Bedsideteachingin	CbD

(skills)	andriskfactorsthatisvalid,targetedandtimeefficient • Recognize the possibility of deliberate harm invulnerablepatientsandreporttoappropriateagencies • Interpret findings from the history, physicalexamination and mental state examination,appreciatingtheimportanceofclinical,psychological,religious,social and culturalfactors • Activelyelicitimportantclinicalfindings • Perform relevant adjunctive examinations includingcognitive examination such as Mini Mental stateExamination (MMSE) and Abbreviated Mental TestScore (AMTS)	wards andoutpatientdepartments	mini-CEX ACAT
6.Clinicalexamination (Behaviors)	• ShowrespectandbehavesinaccordancewithGoodMedicalPractice	Bedside teaching inwards andoutpatient departments	CbD, mini-CEX,MSF
7.Timemanagementanddecision making	• To become increasingly able to prioritise and organiseclinical and clerical duties in order to optimise patientcare. To become increasingly able to make appropriateclinical and clerical decisions in order to optimise theeffectivenessofthe clinical teamresource	Bedside teaching inwards andoutpatientdepartments	ACAT,CbD
8.Decisionmakingandclinicalreasoning	• To progressively develop the ability to formulate adiagnostic and therapeutic plan for a patient accordingtotheclinicalinformationavailable • Toprogressivelydeveloptheabilitytoprioritisethediagnosticandtherapeutic plan • To be able to communicate the diagnostic andtherapeuticplanappropriately	Bedside teaching inwards	ACAT,CbD, mini-CEX

CommonClinicalDisorders			
1.AcutehepatitisA&E	• WhatisAcutehepatitis,itsvariouscauses • Investigationsforhepatitis • Epidemiology, incubation period, transmission, clinicalfeatures,complication,managementofacuteviral hepatitis • Medicationsandtoxinscausingacutehepatitis,associated clinicalfeatures,diagnosis,managementwith focus on acutehepatic failure	Large class format(interactivel ecture	MCQs & SEQsLong caseShortcas e
2.ChronichepatitisB&C	• Whatischronichepatitis • Epidemiology,pathophysiology,clinicalfeaturesandcom plicationsofchronichepatitisB/C • Investigationfordiagnosingchronichepatitis • Managementandoutcome	Large class format(interactivel ecture	MCQs & SEQsLong caseShortcas e
3.Ascites+HRS	**Ascites** • Whatisascites,itscauses,andpathophysiology • Clinicalfeatures,investigations(SAAGanalysisincluded), management, complications, and outcomedependingoncause **HRS** • Whatishepatorenalsyndrome • Itscauses,pathophysiology,andtypes • Clinicalfeatures,investigations,management,andoutco me	Bed sideteaching	MCQs & SEQsOSCE Long caseShort case

4.Stroke	• DefinitionthedefinitionofStroke • epidemiologyandtypesof stroke • PresentingsymptomsandNeurologicalManifestation • ImportanceofinvestigationlikeCTSCANbrain • differentialdiagnosisofstroke • Treatmentandprognosis • Followup	Problem BasedLearning	MCQs & SEQsOSCE Long caseShort case
5.Asthma	• What is asthma, its epidemiology, pathophysiology,types,aggravatingfactors • Clinicalfeaturesincluding,signsofseverity,grading • InvestigationsincludingPFTS,anddifferentialdiagnosis • Treatmentofasthmawithfocusonacutesevere,and graded treatment of chronic asthmaComplications/outcome	Large class format(interactivel ecture	MCQs & SEQsOSCE Long caseShort case
6.Tuberculosis	• Differentiate between primary tuberculosis andreactivated tuberculosis on the basis ofpathophysiology • DiscusstheincidenceofTBworldwide,andidentifythecau sativeagent • ExplainhowTBisspread • DifferentiatebetweenGhonfocus&Ghoncomplex • Compare causes, pathophysiology, clinical features,diagnosis and treatment of primary and secondarytuberculosis • Differentregimenoftreatment • Discusscomplicationsandpreventionoftuberculosis	Large class format(interactivel ecture	MCQs & SEQsLong caseShortcas e
7.Anemia	• DefineAnemia • DifferentClassificationsofanemia • Causesofdifferenttypesofanemias • Clinicalfeaturesofanemia • Specificfeaturesofdifferentanemias	Bedside teaching	MCQs & SEQsOSCE Long caseShort case

	• Normalvaluesofhematologicalparameters • Basicinvestigationsinanemia • Specificinvestigationindifferenttypesofanemias • Treatmentoptionsindifferentanemia		
8.General Managementofpoisoning	• Whatispoisoning,anditstypes • General approach to poisoning (triage andresuscitation, clinical assessment and investigations,general,management,psychiatricevaluation) • Gastrointestinaldecontamination • Commonlyusedantidotesandmethodsofpoisonremoval • Roleofpsychiatricevaluation	Large class format(interactivelecture	MCQs & SEQsLong caseShortcase
9.DiabetesMellitus	• Understandtheetiology • PathogenesisofDiabetes • KnowthetypesofDiabetes mellitus • Knowthe criteriaforthediagnosis • Managementofdiabetes. • Complicationsanditsmanagement • Specialsituations	Small groupdiscussion	MCQs & SEQsLong caseShortcase
10.AcuteKidneyInjury	• WhatisAKI,itspathophysiology,andcauses(pre/post,and renal) • ClinicalfeaturesCriteriaforAKI,andinvestigations. • Management of AKI including hemodynamicmonitoring , acid-base and electrolyte management,dietary measures, use of medications/renalreplacementtherapy,complicationsandtheir treatmentprognosis	Bedside teaching	MCQs & SEQsLong caseShortcase

PSYCHIATRY					
LEARNINGOBJECTIVES	**TOPICS TOBETAUGHT**	**TIMEALLOCATION**	**TEACHING METHOD**	**DESIREDSOF TSKILLS ACQUISITION**	**ASSESSMENT**
• To discuss the communitypsychologicalaspectofhealth • To understandBio-Psycho-SocialModel • To enlist Psychological Aspect ofDiseases • Toillustratepathophysiologyofstress • To summarize methods of stressmanagement • To statePsychologicalAspectsofPain • To recognize & report PsychologicalAspectsof Aging	1.CommunityPsychological Aspectof Health & Bio-Psycho-SocialModel	2hrssession with 10minutes icebreaker activity	Large classformat (interactive lecture)	• Listeningskills • Recording skills • enhancement ofvisual memory	MCQs SEQs
	2.Psychological Aspectof Disease , Stress andits Management	2hrssession 10 minutes icebreakeractivity	seminar inwhich studentswould makepower pointpresentationsongiven topics	• Presentation skills • Computer skills • enhancement ofvisual memory	MCQs SEQs
	3.PsychologicalAspectsofPain	2hrs sessionwith 10minutes icebreakeractivity	Large classformat (interactive lecture)	• Listeningskills • Recording skills • enhancement ofvisualmemory	MCQs SEQs
	4.PsychologicalAspectsof Aging	2hrs sessionwith 15minutes groupdiscussionbreak and 10minutes icebreaker activity	Large classformat (interactive lecture)	• Listeningskills • Recording skills • enhancement ofvisualmemory	MCQs SEQs

Curriculum of clinical training of 2ND, 3RD, 4TH and

Final YEAROFMDIN Nephrology

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TABLEOFCONTENTS

DETAILSOFCOURSECONTENTS

A.GENERALINTERNALMEDICINE

EducationalPurpose

The Internal Medicine Ward rotation is structured to provide PGTs with the fundamental knowledge base of internalmedicine, the essential principles in the approach to internal medicine ward patients, the basic techniques of physicalexamination, the necessary skills in performing clinical procedures, and the capability to communicate clearly withpatients,their families and othermembersof thehealth careteam.

Contentofrequiredknowledge:

1. ***Human Growth, Development, and Aging:*** adolescent medicine, aging and introduction to geriatric medicine,managementof common problems in theelderly.
2. ***PreventiveMedicine*****:**principlesofpreventivemedicine,immunization,alcoholandsubstancesabuse.
3. ***Principle of Diagnosis and Management*****:** clinical approach to the patient, clinical decision-making, interpretationoflaboratorydata.
4. ***Cardiovascular Diseases*****:** Congestive heart failure, cardiac arrhythmias, hypertension, coronary heart disease,interpretationofEKG,interpretationofechocardiogram,nuclearmedicineimaging,indicationforcardiaccatheterization.
5. ***Respiratory Diseases:*** Respiratory failure, COPD, asthma, pulmonary embolism, pleural effusion, interpretation ofpulmonaryfunction tests.
6. ***RenalDiseases*****:**disordersofelectrolytesandacid-base,acuterenalfailure,chronicrenalfailure,glomerulonephritis,tubulointerstitialdiseases,vascular disorders.

7. ***GastrointestinalDiseases*:**gastrointestinalbleeding,smallbowelobstruction,largebowelobstruction,ischemicboweldiseases,pancreatitis, and diarrhea.
8. ***DiseasesoftheLiverandHepatobiliaryTract*:**Viralhepatitis,cirrhosisandportalhypertension,andhepaticfailure.
9. ***Hematologic Diseases*:**Anemias,interpretation ofthe peripheral bloodsmear,transfusionof blood andbloodproducts,neutropenia,disordersof theplatelets,disorders of blood coagulation.
10. ***Oncology*:**Acuteleukemias,oncologicemergencies,lymphomas.11
.***MetabolicDiseases*:**Hyperlipoproteinemias,gout.
12. ***NutritionalDiseases*:**Principlesofnutritional support,parenteralnutrition.
13. ***Endocrine Diseases*:** Diabetes mellitus, diabetic keto-acidosis, adrenal disorders, thyroid diseases, osteoporosis.14.***Musculoskeletaland Connective TissueDiseases:***Arthritis,SLE,vasculiticsyndromes.
15. ***Infectious Diseases*:** Septic shock, principles of antimicrobial therapy, pneumonias, UTI, soft tissue infections,osteomyelitis, infective endocarditis, bacterial meningitis, enteric infections, tuberculosis, fungal infections, HIVinfection,treatmentof AIDS and related disorders.
16. ***Neurology*:**Theneurologicexamination,radiologicimaging,cerebrovascularaccident,dementias,sleepdisorders,seizures.

TeachingStrategy:

- Bedsideteachingduringgrandwardrounds
- Seminars
- Smallgroupdiscussions
- Problembasedlearning
- Didacticlectures
- CaseBasedDiscussion(CBD)
- Self-directedlearning
- Followupclinics
- Skillteachinginwardsettings
- Clinicpathologicalconferences

Assessment:

- OSCE
- MCQs
- SEQs
- Longcase

- Shortcase

Evaluation/Feedback

- 360degreeevaluationtojudgetheprofessionalism,ethics.
- A formal evaluation and verbal discussion with the PGT is to be done at the end of the rotation / PGTs areencouraged to discuss with the supervisor, co- supervisor and program director/Dean their learning experiences,difficultiesorconflicts.
- Evaluationoftrainingprogrambytraineespertinenttoeffectivenessandefficiencyofprogramtoequiptraineeswithnecessaryskills

Attributesrequired

PatientCare	EvaluationofPatientCare	Professionalism	Interpersonalan dCommunicatio n Skills	Practice BasedLe arning Improvement	Evaluation ofMedicalKn owledge
• Obtain a complete history and recognizecommonabnormalphysicalfindings. • Constructamasterproblemlist,aworkingdiagnosis,andagroupofdifferentialdiagnoses. • Be familiar with different diagnostictools such as the electronicthermometer, sphygmomanometer,ophthalmoscope, EKG machine, pulseoximetry,anddefibrillator. • Becomefamiliarwiththeconceptofpre-testandpost-testprobabilitiesofdisease. • Be able to perform various clinicalprocedures such as venipuncture,thoracentesis, paracentesis, lumbarpuncture, arthrocentesis, skin punch-biopsy, endotracheal intubation, andcentral line placement. Residentsshould know indications of potentialcomplications of each of theseprocedures. • Understand how to improvepatient/physician relationships in aprofessional way. Residents shouldbe compassionate, but humble andhonest,notonlywiththeirpatients ,butalso with theirco-workers. • Residentsareencouragedto developleadershipinteachin gandsupervisinginternsand medicalstudents. • Activelyparticipateinallphases	• Completeness andaccuracyof medicalinterviewsand physicalexaminations. • Thoroughness ofthe reviewof the availablemedicaldataon each patient. • Performanceo fappropriatem aneuversandproceduresonpatients. • Accuracyandthoroughnesso f patientassessments • Appropriatenes s of diagnostic andtherapeutic decisions. • Soundnessof medicaljudgment. • Consideration of patient preferencesin	• Theresidentshouldcontinue todevelophis/herethicalbehavior, and must showthehumanisticqualities ofrespect,compassion ,integrityandhonesty. • Theresidentmust bewillingtoacknowledge errorsanddetermineh ow toavoidfuturesimilar mistakes. • Theresidentmust beresponsibl	• The residentshould learnwhen to calla sub-specialistfor evaluationandmanagement of apatient. • Theresident should be able to clearlypresent a casetotheattendingstaffinanorganizedandthoroughmanner. • Theresident must be abletoestablishrapportwitha patientandlistentothepatient'scomplaintstopromotethepatient'swelfare.	• Theresidentshouldusefeedbackand self-evaluation in ordertoimproveperformance. • Theresidentshouldreadpertinentrequiredmaterialandarticlesprovidedtoenhancelearning. • Theresidentshoulduse themedicalliteraturesearchtoolsinthe	• Theresident'sability toanswerdirectedquestionsand to participatein attendingrounds. • Theresident'spresentation ofpatienthistoryand physical exam, where attention is given to differentialdiagnosisandpathophysiology. • When timepermits,residentsmaybe assignedshorttopicstopresent atattendinggrounds. Thesewill be examined for completeness,accuracy,organizationand the residents

of patient care. Residents areencouraged to read on relatedtopics,tosharenewlearning withtheircolleaguesandtokeepthe irfundofknowledgeup-to-date. • Learn to use the computer forliterature searches, to read andanalyzescientificarticles.	makingthe rapeuticde cisions. • Completeness ofmedicalchar ting.	e and reliableatal ltimes. • Theresiden tmustalwa ysconsider theneedsof patients,fa milies,coll eagues , and support staff. • Thereside ntmustma intain aprofessio nalappear ance at alltimes.	• Theresident shouldprovi deeffectivee ducationand counselingf orpatients. • Theresident must writeorganiz edlegiblenot es. • Theresident mustcommu nicate any patientprobl emstotheatte ndingstaff in atime lyfashion.	libraryto find appropri atearticl esrelated tointeres tingcases . • Theresid entshoul duseinfo rmationp rovidedb yseniorr esidents andatten dings fromrou ndsandc onsultati ons toimpro veperfor mancean d enhance learning	understanding ofthetopic. • Theresident'sa bilitytoapplyth einformationle arned fromattendingr oundsessionsto thepatientcares etting. • Theresidentsint erestlevelin learning.

SuggestedReadings:

1. AppropriatesectionsinHarrison'sPrinciplesofInternalMedicine,McGrawHillPublisher.PGTsshouldfocusreadingin particular sectionsthatdirectlyrelateto theproblemsoftheir patients.
2. AppropriatesectionsinCecil'sTextbookofMedicine,W.B.SaundersPublisher.PGTsshouldfocusreadinginparticulartos ectionsthatdirectlyrelatetotheproblems oftheirpatients.
3. PertinentsectionsofMKSAPbooklets.

4. PrinciplesofGeriatricMedicineandGerontology.
5. The PGT is encouraged to read current medical literature particularly articles that pertain to current patientproblems. Examples of appropriate current medical literature are the New England Journal of Medicine, Annals ofInternalMedicine,Archives ofInternalMedicineand JournaloftheAmericanMedicalAssociation.

B.CRITICALCAREUNIT(INTENSIVECAREUNIT–ICU)&EMERGENCY MEDICINE

EducationalPurpose:

- The goal of the Critical Care faculty is to train the general internist to evaluate and treat critically ill patients, useconsultants and paramedical personnel effectively, and stress sensitive, compassionate management of patientsandtheirfamilies.
- Traininginemergencymedicineandcriticalcareiscrucialforthegeneralinternist.
- Recognition/prioritizationmedicalemergenciesisthebasicknowledgethatshouldbeacquiredbytheinternist
- Important aspects of this training include: identifying patients who are candidates for intensive care, the bedsideapproachtothecritically-illpatient,knowledgeofalgorithmsfordiagnosisandmanagementofcommonproblemsin theICU,death and resuscitationissues,interactionwithfamilies

Contentofrequiredknowledge:

1. Understandbloodgasresultsandrespondappropriately.
2. Understandcardiovascularhemodynamicsinawiderangeofdiseasestates.
3. Managementofcongestiveheartfailureandcardiogenicshock.
4. Basicsofconventionalmechanicalventilation.
5. Nutritionalsupportofthecriticallyill.
6. Managementofacutemyocardialischemia.
7. Acuterenalfailure-diagnosisandtreatment.
8. Acuteendocrinologicemergencies.
9. Acutelung injury.

10. Sepsisandthesepsissyndrome.
11. Acutetreatmentofcardiacarrhythmias.
12. Managementofacutegastrointestinalbleeding.
13. Managementofcommonneurologicemergencies.
14. Managementofcommontoxicologicemergencies

SkillsandProcedures:

- Asthmamanagement
- Evaluationofchestpain
- Evaluationofshortnessofbreath
- Airwaymanagement/tracheostomyBarotrauma
- Mechanicalventilation:indications,initialset-up,troubleshooting,weaning
- Criticalcarenutrition:indications,disease-specificnutrition,writingTPNorders
- ManagementofOb/Gynaeemergencies
- Oxygentransport:physiology,alterationsinthecritically-ill
- Arterialbloodgases:approachtoanalysis,commonalterations
- Hemodynamics:physiology,PAcatheter,hemodynamicwaveforms,trouble-shooting
- Criticalcarepharmacology:pressors/inotropes,antibioticdosing,drugdosinginARF
- Shock:pathophysiology,approachtoresuscitation
- Fluidandelectrolytedisturbances:sodium,potassium,magnesium,calcium
- Acuterenalfailure:approachdifferentialdiagnosis,management
- Coma:pathophysiology,neurologicalexam,differentialdiagnosis
- Wound care
- Splintingtechniques
- Ophthalmologicemergencymanagement
- Multipleorgandysfunctionsyndrome
- AcuteCHF
- EthicalissuesintheICU

- Managementofenvironmentalemergencies
- Basictoxicologyprinciples
- Sepsispreventionin theICU
- Arteriallineinsertion
- Centralvenouscatheterization
- Pulmonaryarterycatheterization
- Assistanceinendotrachealintubation
- Cardiopulmonaryresuscitation
- Orderingandrapidinterpretationoflaboratorytests

Attributesrequired

PatientCare	**PracticeBasedLearningImprovement**	**Professionalism**
• Traineeswilllearntoobtainalogical,chronologicalhistoryfromcriticallyillpatientsandtheirfamiliesandtodoaneffective physical examination inthischallengingmilieu.Useofinformation from old charts andprivatephysicians isstressed. • Residents will learn to integratephysiologicalparameters andlaboratory data with the clinicalhistoryandphysicalexamtomakeclinicaldiagnosticandmanagementdecisions. • Residents will learn the	• Theresidentshouldusefeedback and self-evaluation inordertoimproveperformance. • The resident should read therequiredmaterialandarticles provided to enhancelearning. • Theresidentshouldusethemedical literature search tools inthelibrarytofindappropriatearticlesrelatedtointerestingcases.	• The resident should continue to develophis/her ethical behavior and the humanisticqualities of respect, compassion, integrity,andhonesty.IntheICU,thesegoalsaremetinseveral ways: • Sensitivehandlingofado-notresuscitateorder. • Respectandcompassionforthedepersonalized,intubated,non-communicativepatient. • Appropriate use of consultants and paramedicalpersonnel. • Compassionatehandlingoffamiliesanddevelopmentof rapportwith them. • Residents should learn to ask permissionfor an autopsy in a forthright, non-threateningwayandshouldbeavailabletofamily members to discuss autopsyfindings.

appropriate use of daily progressnotesinpatientfollow-up,andtheneedforfrequentreevaluationoftheunstablepatient.		• Theresidentmustbewillingtoacknowledge errors and determine how toavoidfuturesimilar mistakes. • The resident mustbe responsible and reliable at alltimes. • Theresidentmustalwaysconsidertheneeds of patients, families, colleagues, andsupportstaff. • The resident must maintain a professional appearanceatall times.

TeachingStrategies

A. Formalpresentationofthenewadmissions.
B. ICURounds
C. Diagnosticandtreatmentstrategiesarediscussedatthebedside.
D. DidacticLectures
E. Readingassignments
F. literaturesearches
G. Noonconferences
H. SkillteachinginICU&emergencysettings
I. Skillteachinginskilllaboratory

Evaluation/Feedback

- At the midway point of the rotation, residents are given feedback (informally) on their performance to date.Areas and methods of improvement are suggested. A formal evaluation and verbal discussion with the residentis tobedoneattheend of therotation.
- 360degreeevaluationtojudgetheprofessionalism,ethics

- A formal evaluation and verbal discussion with the PGT is to be done at the end of the rotation / PGTs areencouraged to discuss with the supervisor, co- supervisor and program director/Dean their learning experiences,difficultiesorconflicts.
- Evaluationoftrainingprogrambytraineespertinenttoeffectivenessandefficiencyofprogramtoequiptraineeswithnecessaryskills

SuggestedReadings:

- PaulL.Marino,TheICUBook,3rdedition.
- MarinH. Kollef,TheWashingtonManualofCriticalCare.
- ATSwebsitehttp://www.thoracic.org/education/career-development/residents/ats-reading-list/
- Antonelli M *et.al*. "Year in review in Intensive Care Medicine 2009: 1. Pneumonia and infections, sepsis, outcome,acute renal failure and acid base, nutrition, and glycaemic control" Intensive Care Medicine 2010; 36:196-209(availablethrough UNMHSClibrary ejournal)

C.CORONARYCAREUNIT

EducationalPurpose:

ThegoaloftheCoronaryCarefacultyistotrainthegeneralinternisttoevaluateandtreatcriticallyillcardiacpatients,useconsultantsandparamedicalpersonneleffectively,andstresssensitive,compassionatemanagementofpatientsandtheirfamilies.

Contentofrequiredknowledge:

1. Understandbloodgasresultsandrespondappropriately.
2. Understandcardiovascularhemodynamicsinawiderangeofdiseasestates.
3. Managementofcongestiveheartfailureandcardiogenicshock.
4. Basicsofconventionalmechanicalventilation.

5. Nutritionalsupportofthecriticallyill.
6. Managementofacutemyocardialischemia.
7. Acuterenalfailure-diagnosisandtreatment.
8. Acutetreatmentofcardiacarrhythmias.

ProceduralSkills:

- Cardiopulmonaryresuscitation
- Endotrachealintubation
- Centralvenousaccess
- Hemodynamicmonitoring(PulmonaryArteryCatheterization)
- Thoracentesis
- Arterialcannulation
- Placementofatemporarytransvenousandtranscutaneouspacemaker

Attributesrequired

PatientCare	PracticeBasedLearningImprovement	Professionalism
• Trainees will learn to obtain alogical, chronological historyfrom critically ill patients andtheir families and to do aneffective physical examination inthis challenging milieu. Use ofinformation from old charts andprivatephysiciansisstressed. • Residents will learn to integratephysiological parameters andlaboratory data with the clinicalhistoryandphysicalexamto makeclinical diagnostic andmanagementdecisions. • Residentswilllearntheappropriate use of daily progressnotesinpatientfollow-up,andtheneedforfrequentreevaluationoftheunstablepatient.	• Theresidentshouldusefeedback and self-evaluation inordertoimproveperformance. • The resident should read therequiredmaterialandarticles provided to enhancelearning. • Theresidentshouldusethemedical literature search tools inthelibrarytofindappropriatearticlesrelatedtointerestingcases.	• The resident should continue to develop his/her ethicalbehavior and the humanistic qualities of respect,compassion, integrity, and honesty. In the CCU, these goalsaremetin severalways: • Sensitivehandlingofado-notresuscitateorder. • Respect and compassion for the depersonalized,intubated,non-communicative patient. • Appropriateuseofconsultantsandparamedicalpersonnel. • Compassionatehandlingoffamiliesanddevelopmentofrapport with them. • Residentsshouldlearntoaskpermissionforanautopsyina forthright, non-threatening way and should be availabletofamilymembersto discussautopsyfindings. • Theresidentmustbewillingtoacknowledgeerrorsanddetermine howtoavoidfuture similarmistakes. • Theresidentmustberesponsibleandreliableatalltimes. • Theresidentmustalwaysconsidertheneedsofpatient'sfamilies ,colleagues, and supportstaff. • Theresidentmustmaintainaprofessionalappearanceatalltimes.

TeachingStrategies

- CCUresidentwillattend EKGreadings
- Formalpresentationofthenewadmissions
- Diagnosticandtreatmentstrategiesarediscussedatthebedside.
- Didacticlectures
- Readingassignments
- literaturesearches
- interactiveseminars
- grandrounds
- problembasedlearning
- casebased learning
- skillteachinginICUsettings
- journalclubmeetings
- clinicpathologicalconferences
- skillteachinginskilllaboratory

Evaluation/Feedback

- Monthly evaluations by faculty of residents and by residents of faculty are submitted. Resident evaluations arewritten with input from the nursing staff, patients or families as regards specific attitudes towards the critically illpatients.
- Faculty supervises most of the daytime procedures done in the CCU and evaluation and feedback here isimmediateand ongoing
- Atthemidwaypointoftherotation,residentsaregivenfeedback(informally)ontheirperformancetodate.Areasan dmethods of improvementaresuggested
- Aformalevaluationandverbaldiscussionwiththeresidentistobedoneattheendoftherotation.

Suggestedreadings:

1. CoronaryCareManual2e –Review,February11,2011byEdwardBurns

2. CoronaryCareManual2ndEditionby PeterThompson,ChurchillLivingstoneAustralia2010

3. Management of the Patient in the Coronary Care Unit 1st Edition by Mehdi H. Shishehbor DO MPH (Editor), Thomas H.Wang MD (Editor), Arman T. Askari MD (Editor), Marc S. Penn MD PhD (Editor), Eric J. Topol MD (Editor), lippincott,williams&wilkans

D.AMBULATORYMEDICINE

EducationalPurpose

- To provide the resident guidance and supervision as they develop a timely clinical approach to the patient in theoutpatient setting. This would include the ability to formulate differential diagnoses based on the patient'sspecific complaints, the art of effective and appropriate communication with patients and other members of thehealth caredelivery team.
- To promote and teach the principles of Preventive Medicine, primary and secondary prevention in screening ofasymptomaticadults.

Contentofrequiredknowledge:

- **Diabetes** Classification, pathogenesis, diagnosis, management, comprehensive preventive care, management andidentificationofcomplicationsinaccordancewithAmericanDiabetesAssociation ADAguidelines.
- **LipidDisorders**Pathogenesis,diagnosis,screening,therapyandmonitoringoflipiddisordersinaccordancewiththeATPIII guidelines.
- **Anticoagulation management** Pathogenesis, INR goal achievement, indications, length of treatment,complicationsofanticoagulationtherapyinaccordancewiththemostrecentACCPConsensusConferenceon

AntithromboticTherapy(CHESTguidelines).

- **Hypertension**Diagnosis,classification.Identificationofscreeninginterventionsforsecondaryhypertension,management and pathogenesis. Understand the metabolic syndrome and causes of resistant hypertension inaccordancewithJNC7guidelines.
- **Congestive heart failure** Pathogenesis, classification, diagnosis, management and prognostication in accordancewithACCguidelines.
- **Osteoporosis** Pathogenesis, diagnosis, causes of secondary osteoporosis, and management in accordance withNationalstandards.
- **Osteoarthritis**Pathogenesis,diagnosisandmanagementinaccordancewithNationalStandards.

HeadachePathogenesis,diagnosisandmanagement.

Attributesrequired

Professionalism	**InterpersonalandCommunicationSkills**	**Practice BasedLearningImprovement**	**Evaluation ofMedicalKnowledge**
• The resident shouldcontinue to develophis/her ethical behaviorand must show thehumanistic qualities ofrespect, compassion,integrity,and honesty. • Theresidentmustbewillingtoacknowledgeerrorsanddeterminehowtoavoidfuturesimilarmistakes. • Theresidentmustberesponsible and reliable atalltimes. • The resident must always consider the needs of patients,families,colleagues,andsupport staff. • Theresidentmustmaintainaprofessionalappearanceatalltimes.	• Theresidentshouldlearnwhentocallasubspecialistforevaluationandmanagement ofa patient. • Theresidentshouldbeabletoclearlypresentheconsultationcasestothestaffinanorganized and thoroughmanner. • Theresidentmustbeabletoestablishaprapportwiththepatientsandlistentothepatient'scomplaintstopromote thepatient'swelfare. • Theresidentshouldprovideeffectiveeducationandcounselingforpatients. • Theresidentmustwriteorganizedandlegiblenotes. • The resident must communicate any patient problems to the staff in atimelyfashion. • The resident will demonstrate empathy, compassion, patience and concernforthe patientin relationtotheirmedicalcomplaints. • The resident will learn how to deal with psychosocial issues includingdepression,poverty andfamily abuseonan outpatientbasis. • The resident will learn how to communicate in a clear, concise and politemanner withphysicians,patients,nursesandotherhealthcareproviders. • The resident will listen carefully to patient complaints and determine theappropriate course of action for those complaints which occasionally mayrequirenomore than reassurance andunderstanding. • The resident will build on the attitudes developed in the ambulatory clinicto foster the belief in working cooperatively with physicians from otherfieldsaswellasotherhealthprofessionalsforthebenefitofthepatient. • Theresidentwillgainanappreciationformultifaceteddifferencesinapproachthatvarioushealthcarepractitionershaveintheoutpatientsetting. They will learn to respect these differences and work with otherhealthcareprofessionals forthe commongood of the patient.	• Thereside ntshouldus efeedback and self-evaluation inordertoimproveperformance. • Thereside ntshouldread therequiredmaterialandarticles providedto enhancelearning	• Theresident'sability toanswerdirectedquestionsanddparticipate indidacticsessions. • Theresident'sability to apply theinformationlearnedintheresources tothe patient caresetting. • Theresidents'performanceon multiplechoice examinationsbytheendofthero otation. .

TeachingStrategies:

- Most of the teaching is done through experience of the PGTs at General Care Clinic, Urgent Care Clinics andSubspecialtyclinics.
- The Urgent Care clinics consist of patients that are referred for evaluation from the Emergency department, walk-in patients with various complaints and existing patients who need timely attention. Occasionally, patients arereferredto theseclinics foroutpatientpreoperativeevaluation.
- The Subspecialty clinics that the residents will participate in include HIV clinic, Pulmonary clinic,Hematology/Oncologyclinic,GIclinic,DiabetesandEndocrineclinics,Nephrologyclinic,Cardiologyclinicand Rheumatologyclinic.Allresidentsin theseclinics aresupervisedbyfaculty.
- General and Urgent Care clinics are supervised by the General Medicine faculty. This faculty will review anddiscusseachcasewiththeclinicresidents.TheGeneralMedicinefacultysupervisesnomorethanfourresidents.
- GeneralMedicinestaffwillprovidedidacticguidanceduringcasereviewsthatisinaccordancewithinternationalguidelines for the management of hypertension, diabetes, cholesterol management and congestive heart failure,osteoporosis,osteoarthritis and anticoagulation.
- Bedsideteaching
- Residentswillbeprovidedwithwebsiteresourcesforself-directedlearning.

Evaluation/Feedback:

- 360^{o}evaluationoftheresidenttojudgeprofessionalismandethics
- Thefacultywillfilloutthestandardevaluationformsforworkplacebasedevaluationoftheresident.
- Theresidentswill filloutanevaluation oftheclinicrotation attheendofthemonth.
- Anyconstructivecriticism,improvements,orsuggestionstofurtherenhancethetrainingingeneralinternalmedicineiswelcomeatanytime.
- Theresidentshouldreceivefrequent(generallydaily)feedbackinregardstohisorherperformanceduringtheambulatorymedicinerotation.

- Thefacultyisencouragedtousethe“earlyconcern”and“praisecard”throughouttherotation.
- Aformalevaluationand verbaldiscussionwiththeresident istobedoneattheendoftherotation.

Suggestedreadings:

1. Residents are encouraged to read appropriate textbook material that is germane to the types ofmedical problems that they see in clinic. Residents that rotate in the subspecialty clinics may begivenadditionalreadingsbytherespectivesubspecialistin thatclinic.
2. MKSAPbookleton PrimaryCare
3. Primary CareMedicine. Noble,Greene,etat2001latestedition
4. ACPteachingseriesvideos(skinbiopsy,effectivecommunication,arthrocentesistechnique).
5. U.S.PreventiveTaskForce
6. **Medical Literature:** A collection of updated review articles will be available which address basic areas ofgeneralambulatorymedicine.Theresidentisencouraged toread asmanyof thesearticlesas possible.
7. **Pathology:** Abnormal hematologic peripheral smears should be reviewed by the resident and staffgeneralistwithapathologistwhenthereviewisgermanetoclinicaldecisionmakingandtheestablishmento f acleardiagnosis.

E.CARDIOLOGY

EducationalPurpose

To give the PGTs formal intensive instruction, clinical experience, and the opportunity to acquire expertise in theevaluationand management of cardiovasculardisorders.

Contentofrequiredknowledge:

1. Thegeneralinternistshouldbeabletoprovideprimaryandsecondarypreventivecareandinitiallymanagethefullrangeof cardiovasculardisorders.

2. The need for additional competencies in cardiovascular disease will depend on the availability of a cardiologist inthe primary practicesetting.
3. In some communities, the general internist may be responsible for management of more complex cardiovasculardisordersthatrequireintensivehemodynamicmonitoring(forexample,balloon-tippedpulmonaryarterycatheters)in theintensivecareunit.

CommonClinicalDisorders:

- CoronaryArteryDiseases
- Chronicstableangina.
- Unstableangina.
- Careofpost-CABGandpost-PTCApatients.
- Myocardialinfarction(coveredmainlyinthecoronarycareunitrotation).
- Careofpostmyocardialinfarctionpatients.
- Congestiveheartfailure:
- Chronicheartfailure.
- Systolicheartfailurefromvarious etiologies(ischemic/non ischemic).
- Diastolicheartfailure.
- Pulmonaryedema.
- Valvularheartdisease.
- Infectiveendocarditis.
- Arrhythmias
- Atrialfibrillation,atrialflutterandothercommonsupraventriculararrhythmias.
- Ventriculararrhythmias,suddencardiacdeathandindicationsforAICDimplantation.
- Bradyarrhythmiasandmajorindicationoftemporaryandpermanentpacing.
- Basicunderstandingofpacemakerfunction.
- Indicationandvalueofelectrophysiologictesting.
- Adultcongenitalheartdisease.
- Cardiomyopathiesandmyocarditis.

- Preoperativeevaluation:
- Assessingcardiacriskinpatientsundergoingnon-cardiacsurgeries.
- Interventionstominimizecardiacriskinpatientsundergoingnon-cardiacprocedures.
- Hypertension:
- Hypertensiveurgenciesandemergencies.
- Managementofchronichypertension,especiallypatientswithdifficulttocontrolhypertension.
- Secondaryhypertension.
- Aorticdisease(aorticaneurysm).
- Venousthromboembolicdisease/pulmonaryembolism,pulmonaryvasculardisease,andchronicvenousstasis.
- Arterialinsufficiency
- Pericardialdisease
- Dyslipidemia
- CommonClinicalPresentations
- Abnormalheartsoundsormurmurs
- Chestpain
- Dyspnea
- Effortintolerance,fatigue
- Hypertension
- Intermittentclaudication
- Legswelling
- Peripheralvasculardisease
- Riskfactormodification
- Shock,cardiovascularcollapse
- Syncope,lightheadedness

ProcedureSkills

- Advancedcardiaclifesupport

- Insertionofballoon-tippedpulmonaryarterycatheter(optional)
- Insertionoftemporarypacemaker(optional)

InterpretationofclinicalandlaboratoryTests

- AmbulatoryECGmonitoring
- Echocardiography
- Electrophysiologytesting
- Leftventricularcatheterizationandcoronaryangiography
- Nuclearscanwallmotionstudy
- Rightventricularcatheterization(includingflotationcatheter)
- Stresselectrocardiographyandthalliummyocardialperfusionscan
- Tilt-tablephysiologystudy
- Cardiacmarkers

TeachingStrategies:

- Didacticlectures
- Outpatientevaluationatcardiologyclinic
- bedsideteachingrounds
- learningthroughmonitoringofthestresstests
- ExposuretoEchocardiograms
- ExposuretoNuclearcardiologystudies
- coach-and-pupilmethodfordailyinterpretationofECGs
- Didacticlectures
- Seminars
- Problembasedlearning

- Casebased learning
- Clinicpathologicalconferences
- Teachingskillsinwardsettingsandskilllaboratory

Assessment:

- OSCE
- MCQs
- SEQs
- Longcase
- Shortcase

Evaluation/Feedback

- 360degreeevaluationtojudgetheprofessionalism,ethics
- A formal evaluation and verbal discussion with the PGT is to be done at the end of the rotation / PGTs areencouraged to discuss with the supervisor, co- supervisor and program director/Dean their learning experiences,difficultiesorconflicts.
- Evaluationoftrainingprogrambytraineespertinenttoeffectivenessandefficiencyofprogramtoequiptraineeswithnecessaryskills

Attributesrequired

Practice and ProceduralSkills	**Attitudes,Valuesand Habits**	**Professionalism**	**Interpersonal and CommunicationSkills**	**Practice BasedLearning Improvement**	**Evaluation of MedicalKnowledge**
• Development ofproficiency inexaminationofthecardiovascularsystem, in generaland cardiacauscultation, inparticular • Preoperativeevaluation ofcardiac risk in-patientsundergoing non-cardiacsurgery • Preoperativeevaluation ofcardiac risk in-patientsundergoing non-cardiacsurgery • The appropriatewayto answercardiacconsultations • The appropriatefollow-up,includinguse of substantiveprogressnotes,of	• Keepingthepatientandfamilyinformedontheclinicalstatusof the patient, resultsoftests, etc. • Frequent, directcommunication withthephysicianwhorequested theconsultation. • Reviewofpreviousmedicalrecordsandextraction ofinformationrelevantto thepatient'scardiovascularstatus.Othersourcesofinformationmaybeused,whenpertinent • Understanding thatpatientshavetherighttoeitheracceptsordeclinerecommendations madebythephysician • Education of thepatient	• The PGTshouldcontinue todevelop his/herethicalbehavior andthehumanisticqualities ofrespect,compassion,integrity, andhonesty. • The PGT mustbe willing toacknowledgeerrors anddetermine howto avoid futuresimilarmistakes. • The PGT mustbe responsibleand reliable atalltimes. • The PGT mustalwaysconsider theneeds ofpatients,families,	• The PGT shouldlearn when to calla subspecialist forevaluation andmanagement of apatient with acardiovasculardisease. • The PGT shouldbe able to clearlypresent theconsultationcasesto the staff in anorganized andthoroughmanner • The PGT must beable to establish arapport with thepatients andlistens to thepatient'scomplaints topromote thepatient'swelfare. • The PGT shouldprovide effectiveeducation andcounseling forpatients. • ThePGTmust	• The PGTshould usefeedback and self-evaluation order toimprovepperformance • The PGTshould readthe requiredmaterialand articlesprovided toenhancelearning • The PGTshould usethe medicallitera turesearch toolsin thelibrary tofindappropriatearticlesrelated tointerestin g cases.	• The PGT'sability toanswerdirectedquestionsand to participate inthedidactic sessions. • The PGT'spresentationof assignedshorttopics.These willbeexaminedfor theircompleteness, accuracy,organization,and the PGTs' understandingofthetopic. • The PGT'sability to apply theinformationlearned inthe didactic

patients who havebeen seen inconsultation. • Out-patientcardiaccare. • Differentialdiagnosis of chestpain		colleagues, andsupportstaff. • The PGT mustmaintain aprofessionalappearance atalltimes	write organizedandlegiblenotes • The PGT mustcommunicate anypatient problemsto the staff in atimelyfashion		sessionstothepatientcaresetting. • ThePGT'sinterest levelinlearning.

SuggestedReadings:

1. SectiononcardiovasculardiseaseinHarrison'sPrinciplesofInternalMedicine,McGraw-Hillpublisher
2. SectiononcardiovasculardiseaseinCecil'sTextbookofMedicine,WBSaundersPublisher.
3. MKSAPbookletonCardiology
4. A collection of updated review articles references will also be provided which address basic areas of cardiology.ThePGT is stronglyencouraged to read asmanyofthesearticlesas possible.

F.DERMATOLOGY

EducationalPurpose:

To give the residents formal intensive instruction, clinical experience, and the opportunity to acquire expertise in theevaluationand management of cutaneousdisorders.

Contentofrequiredknowledge:

1. Understandingthemorphology,differentialdiagnosisandmanagementofdisordersoftheskin,mucousmembranes, and adnexal structures, including inflammatory, infectious, neoplastic, metabolic, congenital, andstructuraldisorders.
2. Competenceinmedicalandsurgicalinterventionsanddermatopathologyareimportantfacets.

3. The general internist should have a general knowledge of the major diseases and tumors of the skin. He or sheshould be proficient at examining the skin; describing findings; and recognizing skin, signs of systemic diseases,normalfindings (includingbenign growthsoftheskin),andcommon skinmalignancies.
4. The general internist should be able to diagnose and manage a variety of common skin conditions and makereferralswhereappropriate.
5. These objectives will be taught through the didactic sessions and at bedside teaching as they relate to specificpatientsin theclinicand on theconsultservice:

The resident should learn the pathogenesis, diagnosis, and treatment of: Acne, Rosacea, Contact dermatitis, AtopicDermatitis, Nummular eczema, Dyshidrotic eczema, Psoriasis, Seborrheic dermatitis, Pityriasis Rosea, Warts, Molluscumcontagiosum, Herpes Simplex, Herpes Zoster, Impetigo, Folliculitis, Furuncles, Erythrasma, Tinea infections, Candidainfections,PityriasisVersicolor,Scabies,Cutaneousreactiontofleabites,Seborrheickeratosis,Keratoacanthoma,Moles,Bluenevus,Cherryangioma,Spiderangioma,Pyogenicgranuloma,Dermatofibroma,Keloids,Skintags,Epidermoid cysts, Trichilemmal cysts, Milium, Digital myxoid cyst, alopecia areata, Androgenic alopecia, Sun burn,dermatoheliosis,SolarLentigo,Solarkeratosis,Phototoxicreaction,Photoallergicreaction,PolymorphousLightEruption, Lichen Planus, Granuloma annulare, Infectious exanthema, Rocky Mountain Spotted Fever, Rubella, Measles,Scarletfever,Varicella,Sporotrichosis,Leprosy,Tuberculosis,Leishmaniasis,Lymedisease,Cellulitis,Gonorrhea,Syphilis, Chancroid, Genital warts, Genital Herpes, Kaposi's Sarcoma, Erythroderma, Urticaria, Erythema multiforme,Erythema Nodosum, Lupus, Vasculitis, Sarcoidosis, Xanthelasma, Exanthematous Drug eruptions, Fixed drug eruptions,Vitiligo,Melasma,Melanoma,BasalCellCarcinoma,SquamousCellCarcinoma,Paget's disease.

CommonClinicalPresentations

- Abnormalitiesofpigmentation
- Eruptions(eczematous,follicular,papulovesicular,vesicular,vesiculobullous)
- Hairloss
- Hirsutism
- Intertrigo
- Legulcer
- Mucousmembraneulceration

- Nailinfectionsanddeformities
- Pigmentedlesion
- Pruritus
- Purpura
- Skinpapuleornodule
- Verrucouslesion

ProcedureSkills

- Applicationofchemicaldestructiveagentsforskinlesionse.g.,wartsandmolluscum,condyloma
- Incision,drainage,andaspirationoffluctuantlesionsfordiagnosisortherapy
- Scrapingofskin(forpotassiumhydroxide,miteexamination)
- Skinbiopsy
- Cryotherapy
- PrimaryInterpretationofTests
- Microscopicexaminationforscabies,nits,etc.
- Tzancksmear
- OrderingandUnderstandingTests
- Dark-fieldmicroscopy
- Fungalculture
- Skinbiopsy

Attributesrequired

Professionalism	**Interpersonal and CommunicationSkills**	**Practice BasedLearningImprovement**	**Evaluationof MedicalKnowledge**
• Theresidentshouldcontinuetodevelophis/herethical behaviorandthehumanisticqualitiesofrespect,compassion,integrity,andhonesty. • Theresidentmustbewilling to acknowledgeerrorsanddeterminehowtoavoidfuturesimilarmistakes. • Theresidentmustberesponsible and reliableatall times. • Theresidentmustalwaysconsidertheneedsofpatients,families,colleagues,andsupportstaff. • Theresidentmustmaintain a professionalappearanceatalltimes.	• The resident should learn when tocall a sub specialist for evaluationand management of a patient withadermatologic disease. • Theresidentshouldbeabletoclearly presenttheconsultationcases to the staff in an organizedandthorough manner • Theresidentmustbeabletoestablish arapportwiththepatients and listens to the patient'scomplaintstopromotethepatient'swelfare. • Theresidentshouldprovideeffective education and counselingforpatients. • The resident must write organizedandlegible notes. • Theresidentmustcommunicateany patient problems to thestaffina timely fashion.	• Theresidentshould use feedbackandself-evaluationinordertoimproveperformance. • Theresidentshouldreadtherequiredmaterialand articlesprovided toenhancelearning. • The residentshould use themedicalliteratu research tools in thelibrary to findappropriateartic lesrelatedtointeresting cases.	• The resident's ability to answerdirectedquestionsandtopparticipateinthedidacticsessions. • Theresident'spresentationofassignedshorttopics.Thesewillbeexaminedfortheircompleteness, accuracy,organization, and the resident'sunderstandingofthetopic. • The resident's ability to applythe information learned in thedidactic sessions to the patientcaresetting. • The resident's interest level inlearning. • The resident will take a pre andpost test written and color slideexam.Improvementfromoneend of the rotation to the othershouldbe realized.

TeachingStrategies:

- Resident will see a wide variety of patients from various ages, socioeconomic, educational, and culturalbackgroundsatdermatologyclinic.
- Outpatientswillbeevaluatedbytheresident,andthendiscussed andseenwiththedermatologist.
- Alldermatologyinpatientconsultswillbeseenanddiscussedwiththedermatologist.
- Weeklydidacticteachinglectures
- Theresidentswillberesponsibleforreviewingacurrentjournalreviewarticleonadermatologytopic.
- Canbeaskedto dosomesimpleresearchonadermatologytopic.
- Shortpresentationsonthegivendermatologytopics.
- Clinicopathologicalconferences
- Skillteachinginwardsettingsandprocedurerooms
- Journalclubmeeting'
- Casebased learning
- Problembasedlearning

Assessment:

- OSCE
- MCQs
- SEQs
- Longcase
- Shortcase

Evaluation/Feedback:

- 360degreeevaluationtojudgetheprofessionalism,ethics
- Thefacultywillfilloutthestandardevaluationformusingthecriteriaforevaluationsoftheresidentintherequiredcompetenciesrelated to dermatology.
- Theresidentswillfilloutanevaluationofthedermatologyrotationattheendofthemonth.Anyconstructivecriticism,improvements,orsuggestions tofurtherenhancethetrainingindermatologyarewelcomeatanytime.
- Theresidentshouldreceivefrequent(generallydaily)feedbackinregardstohisorherperformanceduringthedermatologyrotation.
- Theresidentwillbeinformedabouttheresultsoftheevaluationprocess,andinputwillberequestedfromtheresidentin regards tohis orherevaluationof thedermatologyrotation.
- Thefacultyisencouragedtousethe“earlyconcern”and“praisecard”throughouttherotation.
- Aformalevaluationand verbaldiscussionwiththeresident istobedoneattheendoftherotation.

Suggestedreadings:

1. MandatoryReading:FitzpatrickT. *ColorAtlasandSynopsisof ClinicalDermatology*
2. MKSAPbookletonDermatology
3. MedicalLiterature:Acollectionofupdatedreviewarticleswillalsobeprovidedwhichaddressbasicareasofdermatology.Theresidentis stronglyencouragedto read as manyof thesearticlesaspossible.

G.ENDOCRINOLOGY

EducationalPurpose:
Togivetheresidentsformalintensiveinstruction,clinicalexperience,andtheopportunitytoacquireexpertisein theevaluation and managementof endocrinedisorders.

Contentofrequiredknowledge:

Theseobjectiveswillbetaughtthroughthedidacticsessionsandatbedsideteachingas theyrelateto specificpatientsintheclinic and on theconsultservice.

1. The principal endocrine problems handled by the general internist include goiter, thyroid nodules, thyroiddysfunction, diabetes mellitus, hyper- and hypocalcemia, adrenal cortex hyper-andhypofunction, endocrinehypertension,gonadaldisorders,hyper-andhyponatremia,certainmanifestationsofpituitarytumors,disordersof mineral metabolism,and hyperlipidemias.
2. RecognizeType1fromType2DM
3. Plan dietary therapy, oral hypoglycemic agents and insulin therapy for all diabetics, especially Type 2 DMpatients
4. Planandadvicerecommendationsforweightloss
5. Understand the concept of tight control, standards of care and targets of control for both Type 1 and Type 2DMpatients
6. Learnthemanagementofacutedecompensationofdiabetes,i.e.DKA,hyperosmolarstate.
7. Learnhowtouseamultidisciplinaryteamapproachtodiabetesmanagement(includingroleofcardiology,nephrology, ophthalmologyand Podiatry).
8. Learntointerpretthyroidfunctiontests,thyroidimagingandtoinitiateandfollowpatientsonthyroidhormonereplacementtherapy.
9. Diagnosis,evaluation,differentialdiagnosisandmanagementofovertandsubclinicalhyperthyroidismandhypothyroidism,thyroid stormandlow uptakeversushigh uptakethyrotoxicosis.
10. Approachtothyroidnodulesandthyroidcancer
11. EvaluateanddeveloptreatmentstrategiesforPituitarydisorders–pituitarytumorsandhypopituitarism,diagnosis,differencebetweenthevariousetiologiesand replacementhormonaltherapies.
12. Learn toapproach adrenaldiseasesincluding Cushing'ssyndromeand adrenalinsufficiencyfocuson acuteand chronicadrenalinsufficiency–diagnosisandmanagement.
13. Evaluation, D/D and management of Hypercalcemia (focus on primary hyperparathyroidism) andHypocalcemia,Osteoporosis, Osteopenia,Vitamin Ddeficiency.

14. Endocrine causes of secondary hypertension- Cost efficient evaluation and management.15.Learnto recognizeand treatPolyendocrineautoimmunesyndromes.
16. Evaluateandtreatmaleandfemalehypogonadism(focusontestosteronereplacementTherapy.
17. HRTinfemalesandrelatedreproductiveendocrinedisorders.
18. Approachtoendocrineincidentalomas–(pituitary,adrenalandthyroidwithafocusonadrenalincidentalomas).
19. Thegeneralinternistmustbeabletoevaluateandmanagecommonendocrinedisordersandreferappropriately.Heor shemustalsobeabletoevaluateandidentifytheendocrinologicimplicationsofabnormalserumelectrolytes,hyperte nsion,fatigue,andothernonspecificpresentations.
20. The general internist plays a key role in managing endocrine emergencies, particularly those encountered inthe intensive care unit,including diabetic ketoacidosis andhyperosmolar nonketotic stupor, severe hyper- andhypocalcemiaand Addisonian crisis.

CommonClinicalDisorders

- Pathophysiologyof Type1& 2diabetes
- DiagnosticcriteriaforDiabetes,DifferentiateTypeIvs.TypeII
- StandardsofcareforapatientwithDiabetes
- TargetsofcareforapatientwithDiabetes
- Metabolicsyndromes
- Importance&treatmentofMetabolicsyndrome
- Lifestylemodificationsinmetabolicsyndromeanddiabetes
- Classesoforalantihypoglycemicagentsusedandtheirmechanismofaction.indicationsandcontraindicationsforeachcla ss and sideeffects Insulinmanagementin Type1and 2DM
- Typesofinsulinavailabletoday(Rapid,Short,Intermediate,Basal,Premixedinsulinpreparations)
- Indications,contraindications,complicationsassociatedwithinsulinuse
- InsulinprotocolsusedinICUsettingincludingIVinsulintherapy
- Acutediabetescomplications,diagnosisandmanagement
- Hyperlipidemia

- Combinationtherapytotreatdiabeticdyslipidemia
- Thyroidfunctiontestsindiagnosingvariousthyroiddysfunctionstates.
- InterpretationofTSH,FT4,T3,T7,FTI,T3RU,Thyroglobulin
- Roleofthyroidscanandradioactiveiodineuptake–indicationsandcontraindicationsforuse
- Thyroidimaging–when touseit(ultrasound,CTscan,MRI.Roleof PETscan)
- Hyperthyroidism;etiology,pathophysiology,clinicalfeatures,diagnosisandmanagement
- Differentiatehyperthyroidismfromthyrotoxicosis
- Differentialdiagnosisofhyperthyroidism(graves'diseasevstoxicMNG,singlehotnodule,thyroiditisetc)
- Thyroidhormonetherapy
- Hypothyroidism:primaryvssecondaryhypothyroidism
- Diagnosisandmanagement
- Thyrotoxicstormandmyxedemacoma
- Euthyroidsicksyndrome
- Approachtothyroidnodulesandthyroidcancer
- Endocrinehypertension
- Management–indicationsforsurgeryvsmedicalmanagement
- Phaeochromocytoma:
- Approachtoadrenaldiseases
- Adrenalinsufficiency
- Cushing'sdisease
- Hypocalcaemiaandhypercalcaemia
- Osteoporosis,osteopenia,vitaminDdeficiency
- Incidentalomas:
- Hypopituitarismincludingpituitarytumors:
- ProlactinomasandAcromegaly
- Hirsutism
- MaleandFemaleHypogonadism

- Testosteronereplacementtherapyinmales
- Updateon theHRTinfemales
- Polyendocrineautoimmunesyndromes

CommonClinicalPresentations

- Asthenia
- Bloodlipiddisorders
- Breastdischarge
- Changeinmenstrual,gonadal/sexualfunction
- Diarrhea
- Disordersofpigmentation
- Goiter(diffuse,nodular)
- Hirsutism
- Hypertensionrefractorytoprimarytherapy
- Hypotension
- Incidentallydiscoveredabnormalitiesinserumelectrolytes,calcium,phosphate,orglucose
- Mentalstatuschanges
- Osteopenia
- Polyuria,polydipsia
- Signsandsymptomsofosteopenia
- Symptomsofhyper-andhypoglycemia
- Symptomsofhypermetabolism
- Symptomsofhypometabolism
- Urinarytractstone
- Weightgain,obesityProcedureSkills
- Dexamethasonesuppressiontest(overnight)
- Homebloodglucosemonitoring
- ACTHstimulationtest

OrderingandUnderstanding Tests

- Bonemineralanalysis(densitometry)
- Fastingandstandardizedpostprandialserumglucoseconcentrations
- Glycohemoglobinorserumfructosamineconcentration
- Imagingstudiesofthesellaturcica
- Microalbuminuria
- Serumalkalinephosphataseactivity(forPaget'sdiseaseofbone)
- Serumandurineketoneconcentrations(quantitativeorqualitative)
- Serumandurineosmolalities
- Serumgonadotropinconcentrations(follicle-stimulatinghormone,luteinizinghormone)
- Serumlipidprofile
- Serumphosphateconcentration
- Serumprolactinconcentration
- Serumtestosteroneconcentration
- Serumthyroidfunctiontests
- Thyroidscanningandultrasound
- Urinarycalcium,phosphate,uricacidexcretion
- Urinarysodium,potassiumexcretion
- Urinemetanephrine,VMA(vanillylmandelicacid),andtotalcatecholaminelevels

Attributesrequired

Patientcare	**Evaluation of PatientCare**	**Professionalism**	**Interpersonal and CommunicationSkills**	**PracticeBasedLearningImprovement**	**Evaluation of MedicalKnowledge**
• Recognize symptoms ofhyperglycemia andhypoglycemia. Seek pertinentphysical exam and laboratoryinformation to identifysystemic complications thatoccur as a result of diabetessuch as diabetic retinopathy,neuropathy, nephropathy,CAD, or gastroparesis. • Become familiar withthe nutritional treatmentof diabetes, aspects ofhome glucosemonitoring, and theadjustments ofhypoglycemic therapyrequired in associationwith abnormal glucoselevels, exercise,concurrent illness,surgicalprocedures,etc. • The resident will betaught to do anappropriate and thoroughfoot exam of diabeticpatients, including the useof the mono filament forneuropathy testing. • Identify signs and symptomsofthyrotoxicosesand	• Completeness andaccuracyofmedicalintervie wsandphysicalexaminations. • Thoroughnessofthereview of the availablemedicaldataoneachpatient. • Performance ofappropriatemaneuversandproceduresonpatients. • Accuracy andthoroughness of patientassessments. • Appropriatenessofdiagnostic andtherapeuticdecisions. • Soundnessofmedicaljudgment. • Consideration of patientpreferencesinmakingtherapeuticdecisions. • Completeness ofmedicalcharting.	• Theresidents houldcontinue todevelophis/herethicalbehaviorandthehumanisticqualities ofrespect,compassion,integrity, andhonesty. • The residentmust be willing toacknowledgeerrors and determinehowtoavoidfuturesimilarmistakes. • The resident must be responsibleandreliableatalltimes. • Theresidentmustalways	• The residentshould learnwhentocallasubspecialistforevaluation andmanagementofapatientwith an endocrine disease. • The residentshouldbeableto clearlypresent theconsultationcasestothestaffinanorganizedandthoroughmanner. • Thereside ntmust be able toestablishar apportwith the patientsandlistenstothe	The resident should usefeedbackandself-evaluationinorder toimproveperformance. Theresidentshouldread the requiredmaterialandarticlesprovidedtoenhancelearning. The residentshouldusethemedicalliteraturesearchtoolsinthelibrarytofindappropriatearticlesrelatedto interesting cases.	• Theresident'sabilitytoanswerdirected questionsand to participateinthedidacticsessions. • Theresident'spresentation ofassignedshorttopics.Thesewill beexamined fortheircompleteness,accuracy, organization, andtheresident's understanding ofthetopic.

hypothyroidism. The residentwill be taught perform anadequate examination of thethyroid gland and this will bespecifically demonstratedduringthisrotation. • The resident may observe orhavethetechniqueoffineneedle aspiration for sampling thyroidnodules explained if none aredoneduringthemonth. • Identify signs andsymptoms of lipid disordersand their management,including the use of theNational CholesterolEducation Programguidelinesfortreatment. • Identifysignsandsymptomsof adrenal disorders and theirmanagement, including the useof the cosyntropin stimulationtest. • Identify signs and symptoms ofpituitarydisordersandtheirmanagement. • Identifysignsandsymptomsofboneandcalciumdisordersandtheir managementincluding interpretation ofbonedensity tests. • Identify signs and symptoms ofgonadaldisordersandtheirmanagement.		consider the needs of patients,families,colleagues, andsupportstaff. • The residentmustmaintainaprofessionalappearanceatalltimes.	patient'scomplaints to promote thepatient'swelfare. • Theresidentshouldprovideeffectiveeducationandcounselingforpatients. • The resident must write organized and legiblenotes. • Thereside ntmustcommunicate anypatient problemstothestaffinatimelyfashion.		• Theresident'sability to apply the information learned int hedidacticsessionstothepatientcaresetting. • Theresident'sinterestlevelinlearning.

TeachingStrategies:

- Theresidentwillreceiveindividualinstructionbytheendocrinespecialistthroughseeingpatientsintheendocrineoutpatientclinics,theconsult serviceand didacticteachingsessions
- Theresidentwillseepatientsreferredfromthegeneralmedicineclinicsandthiswillallowtheresidenttoseeawidevarietyof patientsfromvariousages,socioeconomic,educational,andculturalbackgrounds.
- Eachoutpatientwillbeevaluatedbytheresident,andthendiscussedandseenwiththestaffendocrinologist.
- Theresidentmustcompleteathoroughprogressnoteoneveryoutpatientandthismustbecountersignedbythestaff endocrinologist.
- All endocrinology inpatient consults will be seen and consultation notes completed by the resident, the casesmust be discussed with the endocrinology faculty who will then see the patient with the resident, do bedsideteachingrounds,andcompletetheconsultationnote.
- Didacticteachinglectures
- Theresidentswillberesponsibleforreviewing2-3generalendocrinetopicsforthemonthand givingshortpresentationson thesetopics
- Clinicopathologicalconferences
- Journalclubmeetings
- Problembasedlearning
- Casebased learning
- Interactiveseminars

Assessment:

- OSCE
- MCQs
- SEQs
- Longcase
- Shortcase

Evaluation/Feedback:

- 360degreeevaluationtojudgetheprofessionalism,ethics
- The faculty will fill out the standard evaluation form using the criteria for evaluations as delineatedaboveto gradetheresidentin therequiredcompetencies asrelated toendocrinology.
- Theresidentswillfilloutan evaluationoftheendocrinerotationattheend ofthemonth.
- Anyconstructivecriticism,improvements,orsuggestionstofurtherenhancethetraininginendocrinologyarewelcomeatanytime.
- The resident should receive frequent (generally daily) feedback in regards to his or her performance during theendocrinology rotation. The resident will be informed about the results of the evaluation process, and input willberequested fromtheresidentin regardsto his orherevaluationof theendocrinologyrotation.
- Thefacultyisencouragedtousethe“earlyconcern”and“praisecard”throughouttherotation.
- Aformalevaluation andverbaldiscussionwiththeresident istobedoneattheendof therotation.

Suggestedreadings:

1. Sectiononendocrine-metabolicdiseasein Harrison’sPrinciplesofInternalMedicine,McGraw-Hillpublisher
2. Sectiononendocrine-metabolicdiseaseinCecil’sTextbookofMedicine,WBSaundersPublisher
3. MKSAPbookletonEndocrinology
4. **Medical literature:**A collection of updated review articles will also be provided which address basicareas of endocrinology. The resident is strongly encouraged to read as many of these articles aspossible.
5. **Pathology:**All FNA’s and surgical specimens will be reviewed by the resident and staff endocrinologistwithapathologist.

H. GASTROENTEROLOGY

EducationalPurpose:

To give the residents formal instruction, clinical experience, and opportunities to acquire expertise in the evaluation andmanagementof gastroenterologicaldisorders.

Contentofrequiredknowledge:themajorobjectivesareasfollowing

1. ToprovideResidentswithopportunitiestoevaluateandmanagepatientswithawidevarietyofdigestivedisorders in an inpatient and outpatient setting. The Resident will act, under the supervision of the attendinggastroenterologist,as aconsultantto otherclinicalservices.
2. To give Residents opportunities to learn about various aspectsof a broad range of GI, liver and pancreaticdisorders,withemphasis on themorecommon disorders.
3. To provide Residents with opportunities to learn the indications, contraindications, complications, limitations andalternativesforGIprocedures.
4. Additionalareasincludeknowledgeofnutritionandnutritionaldeficiencies,andscreeningandprevention,particularlyfo rcolorectalcancer.Thegeneralinternistshouldhaveawiderangeofcompetencyingastroenterology and should beable to provide primary and in some cases secondary preventive care, evaluate abroadarray ofgastrointestinalsymptoms,and managemanygastrointestinaldisorders.

CommonClinicalDisorders

- Malabsorptive/Nutritionaldisorders
- InflammatoryBowelDisease
- IrritableBowelSyndrome
- PepticUlcerDiseases
- MalignanciesoftheDigestiveSystem
- GIdisordersandpregnancy

- GastrointestinalEmergencies
- Indications/complicationsofGIprocedures
- Viralhepatitis
- ChronicliverdiseaseandCirrhosis
- GImotilitydisorders
- Biliarydisorders
- Pancreaticdisorders
- CommonClinicalPresentations
- Abdominaldistention
- Abdominalpain
- Abnormalliverfunctiontest
- Anorectaldiscomfort,bleeding,orpruritus
- Anorexia,weightloss
- Ascites
- Constipation
- Diarrhea
- Excessintestinalgas
- Fecalincontinence
- Foodintolerance
- Gastrointestinalbleeding
- Heartburn
- Hematemesis
- Indigestion
- Iron-deficiencyanemia
- Jaundice
- Liverfailure
- Malnutrition

- Melena
- Nausea,vomiting
- Non-cardiacchestpain
- Swallowingdysfunction
- **ProcedureSkills**
- Flexiblesigmoidoscopy
- Paracentesis
- Placementofnasogastrictube
- Sengstaken-Blakemoretube(optional)
- **PrimaryInterpretationofTests**
- Fecalleukocytes
- Testforoccultblood
- **OrderingandUnderstanding tests**
- 24-HouresophagealmotilitystudiesandpHmonitoring
- AssaysforHelicobacterpylori
- Biopsyofthegastrointestinalmucosa
- Bloodtestsforautoimmune,cholestatic,geneticliverdiseases
- Upperendoscopy
- Colonoscopy
- Computedtomography,magneticresonanceimaging,ultrasoundoftheabdomen
- Contraststudies(includinguppergastrointestinalseries,small-bowelfollowthrough,bariumenema)
- Cultureofstoolforova,parasites
- D-Xyloseabsorptiontestandothersmallbowelabsorptiontests
- Endoscopicretrogradecholangio-pancreatography
- Esophagealmanometry
- Examinationforstoolforova,parasites

- Fecalelectrolytes
- Fecalosmolality
- Interpretationoffecaloccultbloodtests.
- Gallbladderradionuclidescan
- Gastricacidanalysis,serumgastrinlevel,secretinstimulationtest
- Viralhepatitisserology
- Lactoseandhydrogenbreathtests
- Laparoscopy
- Laxativescreen
- Liverbiopsy
- Paracentesisandinterpretationofasciticfluidanalysis
- Mesentericarteriography
- Percutaneoustranshepaticcholangiography
- Qualitativeandquantitativestoolfat
- Scansofgastricemptying
- SerumB12andSchillingtests

Attributesrequired

Professionalism	**Interpersonal and CommunicationSkills**	**Practice Based LearningImprovement**	**Evaluation of MedicalKnowledge**
• Respectfortherisksand benefits ofdiagnostic andtherapeuticProcedures. • Prudent,cost-effectiveandjudicioususeofspecialinstruments,test • and therapy in the diagnosis andmanagementofgastroenterologicdisorders. • Appropriate method ofcallinggastroenterologyconsults. • Needforcontinuallyreadingcurrent literature ongastroenterology–liver diseases tostay current in terms of diagnosisandtreatment ofdiseases	• Theabilitytoaskgastroenterologyconsultants apreciseandclearQuestion. • The developmentofcriticalreadingskills for thegastroenterology literature. • Ability to give clear patientpresentationstoconsultantsandatconferencesingastroenterology.	• Theresidentshould use feedbackandself-evaluation inorder to improveperformance. • The resident should readthe required material andarticlesprovided toenhancelearning. • The resident shouldusethemedicalliteratureresearch tools in thelibrarytofindappropriate articlesrelated to interestingcases.	• Consultswillbereviewedwiththeattendingphysicians. • Patientpresentationsandconferencepresentationswillbereviewed. • Proceduresdonebytheresident will be documented,givingtheindications,outcomes,diagnoses,levelofcompetenceandassessment by the supervisorof the ability of the residenttoperformitindependently. • Mid-rotationevaluationsessionwiththefacultymemberworkingwiththeresident. • Theresidentswillalsofilloutanevaluationofthegastroenterologyrotationattheend ofthe month.

TeachingStrategies:

- Patientswithgastrointestinaldisordersandclinicalproblemsareseenbyresidentsduringtheirinternalmedicinewardrotations, gastroenterologyconsultservicerotation,and in theoutpatientclinics.
- Gastroenterologyfacultyprovidesdidacticteaching.

- Grandteachingrounds.
- Residentsparticipatein outpatientcareattheweeklygastroenterologyclinic.
- Residentsbecomefamiliarwithdiagnosticandtherapeuticupperendoscopy,colonoscopy,ERCP,capsuleendoscopy,liverbiopsy,andesophagealmotilitystudiesinourmodernendoscopyunitandradiologydepartment.
- Teachingskillsintheprocedureroomsandskilllaboratory
- Didacticlectures
- InteractiveSeminars
- Problembasedlearning
- Casebased learning
- Clinicpathologicalconferences

Assessment:

- OSCE
- MCQs
- SEQs
- Longcase
- Shortcase

Evaluation/Feedback:

1. **ResidentEvaluation:**Thefacultywillfilloutthestandardevaluationformusingthecriteriaforrequiredcompetenciesas related to gastroenterology.
2. **ProgramEvaluation**
    i. Theresidentswill filloutanevaluationof thegastroenterologyrotationattheendofthemonth.
    ii. Anyconstructivecriticism,improvements,orsuggestionstofurtherenhancethetrainingingastroenterologyarewelcomeatanytime.
3. Residentswillreceivefeedbackwithrespecttoachievingthedesiredlevelofproficiencyandworkingoutwaysin whichtheycanenhancetheirperformancewhenthedesired levelofproficiencyhasnotbeen

achieved.

4. Thefacultyisencouragedtousethe“earlyconcern”and“praisecard”throughouttherotation.
5. Aformalevaluationand verbaldiscussionwiththeresident istobedoneattheendoftherotation.

Suggestedreadings:

1. AlliedhospitalsofRawalpindiMedicalUniversityhavelargepatientpopulationswithabroadspectrumofgastrointestinal and liverdiseases.
2. PathologyandRadiologydepartmentofAlliedhospitalsofRawalpindiMedicalUniversityhaveexcellentdiagnostictesting services available.
3. MedicalLiterature:Articlesrelated tomajortopics willalsobemadeavailable.
4. Theresidentwillbeorientedtothe majortextbooksandjournalsingastroenterologyandhepatologyavailableinRawalpindiMedicalUniversity.

I. GENERALMEDICINECONSULTSERVICE

EducationalPurpose:

A. To provide internal medicine residents with the required knowledge base, patient care skills, interpersonaland communication skills, professionalism training and practice-based learning skills to function effectivelyasaconsultantto allothermedicalspecialties.

B. To perform a comprehensive preoperative evaluation and optimal postoperative follow up of patients fornon-cardiac surgery using a systematic approach based on clinical practice guidelines and other pertinentcurrentliterature.

Contentofrequiredknowledge:

A. Accessandcriticallyevaluatethemedicalliteraturerelevanttothecasesseenon theservice.

B. Reviewarticlesoncoretopicsrequiredduringtherotationaddressing:

1. FundamentalsoftheMedicalConsultation
2. PerioperativeCardiacRiskAssessmentandTesting
3. Perioperative Deep Vein Thrombosis Prophylaxis and Perioperative AnticoagulationManagement
4. PerioperativeDiabetesManagement

C. Expandtheresident'sknowledgebaseinconsultativemedicinefocusingspecificallyonperioperative care,psychiatry,pregnancy,andneurology.

Attributesrequired

Patientcare	**Professionalism**	**Interpersonal and CommunicationSkills**	**Practice Based LearningImprovement**
• Competentlyinterviewandexaminepatientsabouttoundergoanoperativeprocedureorreferralbyanon-internalmedicineserviceforevaluationofa medicalcondition. • Obtainallothernecessarymedicalinformation by chart review and reviewofallother availabledata. • Make informed recommendationsabout diagnostic and therapeuticoptions and interventions based onclinicaljudgment,scientificevidence,andpatient preference. • Competentlyandefficientlymanageallperioperativeandgeneralmedicalproblemsasrequestedbytheconsultingphysician.	• Establish aprofessionalpatient-physician,physician-familyand physician-physicianrelationships.Respondsensitively togender, age,culture, religion,socioeconomicstatus, and beliefsof patients andprofessionalcolleagues. • FollowHIPPArulesonconfidentiality,scientific integrity,andinformedconsent. • Provide clear medicalrecord documentationis expected to avoid allchartconflicts. • Clearly andrespectfullycommunicate and	• Communicateeffectively withpatient sandfamiliesonthe consultative service. • Communicatepromptly, concisely,and respectfully bothverbally and throughthe written record withall other physicians andproviders involved inthecareofthepatient. • Promptly and professionallyanswer all questionsraised bytheconsultingphysician. • Encouragefurtherconsultationbyeagerness,promptness,helpfulness,andcompetence.	• Definegapsinknowledge, skills, andattitudes aboutconsultativemedicineanduseevidence-based medicine to fillthesegaps. • Adult learningprinciples of selfdetermination, goaloriented and respectare the preferredmethods forcompetency andknowledgedevelopment duringthe medical consultservicerotation. • A biweeklyreview anddiscussionsessionwillbeheldtocoveratotalof10selectedarticlesinperioperativemanagement.

	explainrecommendations andplan of care toconsulting physicianand staff.	• Assure smooth delegationofpatientcare responsibilitiesduring outpatientclinicduties.	• Residents and attendingwill actively seekcurrent literaturepertinenttopatientcare,problems consulted andoverall perioperativepractice

TeachingStrategies:

- Self-directedlearning
- Problembasedlearning
- Didacticlectures
- Casebased learning
- Interactiveseminars

Assessment:

- OSCE
- MCQs
- SEQs
- Longcase
- Shortcase

Evaluation/Feedback:

- 360degreeevaluationtojudgetheprofessionalism,ethics
- All Residents in the Department of Internal Medicine receive formal evaluation on standardized evaluation andfeedbackformsduringtherotation
- Residentandfacultyshouldscheduleafacetofacediscussionofthelearningexperienceontheconsultationservice.

Suggestedreadings: Essentialreadingmaterialoncoretopicswiththepurposetofulfilltheobjectiveofbasicmedicalknowledgewillbep
rovided todevelop thebasis of aneffectiveInternalMedicineconsultant.Coretopics are:

1. ***FundamentalsoftheMedicalConsultation***

   Perioperative risk assessment and medical management of medical conditions entails balancingestimatedriskagainstexpectedbenefitsofthesurgery.Beyondtheteachingofclinicalandtechnic alskills to solve the problem the objective of this section is to outline the ethical principles to establishanadequaterelationship with patientandconsultingphysicians.
2. Reviewoftwochaptersfromthebook"MedicalConsultation:TheInternistonSurgical,Obstetric,and Psychiatric Services" by Richard J. Gross and William Kammerer is encouraged to betterunderstand the role of the Internist as a consultant and to clearly define the ethical principles tofollow.
3. ***PerioperativeCardiacRiskAssessmentandTesting***

   The goal is to provide an evidence based strategy to follow during for the perioperative cardiac riskassessment and management. This goal has the purpose of teaching residents the significance ofpreoperative testing and perioperative intervention of patients with ischemic and non-ischemicheartdisease.
4. Residents are expected to develop competency in five specific areas including perioperativeevaluation and management of ischemic heart disease, hypertension, congestive heart failure,arrhythmias and valvularheartdisease.
5. ***Perioperative Deep Vein Thrombosis Prophylaxis and Perioperative AnticoagulationManagement:*** The main objective is to provide residents with the tools to choose an optimalstrategy to minimize perioperative risk for embolic disease due to coagulopathy or bleeding due tointervention.
6. ***Perioperative Diabetes Management:*** A common reason for consultation is perioperativemanagement of diabetes. The objective of the review of suggested literature is to reinforce theconcept of tight blood glucose control in the perioperative and in hospital setting to minimize shortandlongtermmortality,morbidityand lengthofstay.

7. Othertopicsrecommendedforself-study

- Perioperativemanagementofpatientswithneurologicdisease.
- Perioperativeevaluationandmanagementofpulmonarycomplications.
- Perioperativemanagementofpatientswithendstagerenaldisease.
- Perioperativeassessmentandmanagementofpatientswithpsychiatricdisorders.
- Perioperativeevaluationofpatientswith liverdiseases

J.***NEUROLOGY***

EducationalPurpose:

Togiveresidentsformalinstruction,clinicalexperience,andtheopportunitytoacquireexpertisenecessarytoevaluateandmana geneurologicaldiseases.

GeneralobjectivesofNeurologycourse:

AttheendoftheNeurologycoursetheresidentshouldhaveachievedthefollowingobjectives:

1. The general internist should possess a broad range of competency in neurology and the knowledge shouldencompassthepreventionandmanagementofdisorders ofthecentralandperipheralnervoussystems.
2. Knowledge of therapeutics, surgical and medical and primary and secondary prevention of neurologic diseasesand should be familiar with the presenting features, diagnosis, and treatment of common neurologic disordersandotherconditions,such as headache,caused bynon-neural dysfunction
3. Interpretingthesignificanceofneurologicalsymptoms.
4. Heorsheshouldbeabletoperformandinterpretadetailedneurologicexamination.
5. Interpretingthesignsobtainedintheexamination
6. Localizationofdiseasesprocessinthenervoussystem
7. Integrationofsymptomsandsignsintoneurologicalsyndromesandrecognizingneurologicalillnesses
8. Makingadifferentialdiagnosis
9. Learningthebasisofneuroimaging(CTscan,MRI),andelectrodiagnosticstudies(EEG'sandEMG's)

10. Utilizing laboratory data to complete topographic and etiologic diagnoses11.Defining pathophysiologic mechanisms of disease processes12.Formulatingplan forinvestigation andmanagement
13. Assessingprognosis
14. Understandingmainneurologicalmanifestationsofsystemicdiseases15. Identifyingemergenciesand need forexpertassistance
16. Thegeneralinternistmayencounterneurologicdisordersinvarioussettings,includingambulatorycare,hospital,long-termcare,andhomecare.
17. Incommunitieswhereaneurologistisnotavailable,thegeneralinternistmaybeaconsultantforsomecomplexneurologic disorders (forexample,controlof status epilepticus).

Contentofrequiredknowledge:

CommonClinicalDisorders:

- Headache
- FacialPain
- Inflammatorymeningealandencephaliticlesions
- Epilepsy
- SyncopeandDysautonomia
- SensoryDisturbances
- WeaknessandParalysis
- TransientIschemicAttacks
- Stroke
- IntracranialandSpinalSpace-OccupyingLesions.
- NonmetastaticNeurologicComplicationsofMalignantDisease.
- PseudotumorCerebri
- SelectedNeurocutaneousDiseases
- MovementDisorders

- Dementia
- MultipleSclerosis
- VitaminEDeficiency
- Spasticity
- Myelopathiesin AIDS
- MyelopathyofHumanTCellLeukemiaVirus
- SubacuteCombinedDegenerationoftheSpinalCord.
- Wernicke'sEncephalopathy
- StuporandComa
- HeadInjury
- SpinalTrauma
- Syringomyelia
- MotorNeuronDiseases
- PeripheralNeuropathies
- DiscogenicNeckPain
- BrachialandLumbarPlexusLesions
- DisordersofNeuromuscularTransmission
- MyopathicDisorders
- PeriodicParalysisSyndrome

CommonClinicalPresentations

- Abnormalspeech
- Abnormalvision
- Alteredsensation
- Confusion
- Disturbedgaitorcoordination
- Dizziness,vertigo
- Headache
- Hearingloss
- Localizedpainsyndromes:Facialpain,radiculopathy

- Lossofconsciousness
- Memoryimpairment
- Seizure
- Sleepdisorder
- Tremor
- Weakness/paresis(generalized,localized)

ProcedureSkills

- Caloricstimulationtest
- Tensilon(edrophoniumchloride)test(optional)
- LumbarPuncture

OrderingandUnderstandingTests

- Anticonvulsantdruglevels
- CarotidDopplerechoscans
- Computedtomography,magneticresonanceimagingofcentralnervoussystem
- Digitalintravenousangiography
- Electroencephalography,evokedpotentials(visual,auditory,sensory)
- Electromyography,nerveconductionstudies
- Musclebiopsy
- Myelography
- Screenfortoxins,heavymetals
- Sleepstudy

Attributesrequired

Systembasedlearning	**Professionalism**	**Interpersonal and CommunicationSkills**	**Practice BasedLearningImprovement**	**Evaluation of MedicalKnowledge**
• Residentsshouldgaininsightintoandappreciationofthepsychosocial effects ofchronicillness. • Residents shouldenhance their utilizationof communication withmany health servicesand professionals suchas nutritionists, nurseclinicians, physicianassistants, socialworkers podiatrist,ophthalmologist,physical therapist,surgeon, radiologist andnuclear medicinespecialist. • Residents should learnthe importance ofpreventive medicine inroutine health care andspecifically in the areaof neurological diseasemanagement. • Residents should be	• Development ofethical behaviorand humanisticqualities ofrespect,compassion,integrity, andhonesty • Willing toacknowledge errors anddetermineh owtopreventthem inthefuture • Responsibilityandreliabilityatalltimes • Consideration of needsfrompatients,families,colleaguesand supportstaff • Professionalappearanceatall	• Residentsshouldbeabletodecidewhentocallanother specialist for evaluation and managementonapatientwithaneurologicaldisease. • Residents should be abletoclearlypresentthepr oblem to the consultantandaskaprecise questiontotheconsultant. • Residents shouldcontinue to developtheir ethical behaviorand the humanisticqualities of respect,compassion, empathy,and rapport withpatients and family topromote the patient'swelfare. • Residentsshouldprovideeffectiveeducationandcounselingto patients.	• Usefeedback and self-evaluationtoimprovep erformance • Read therequired materialfromtextbook, journalsandhandouts • Usemedicalliteraturesearchtools atthelibraryandthrough on-line tofindappropriate articles thatapplyto interesting cases.	• Answerspecificquestionsandtoparticipate in didacticsessions • Properlypresentassigned topics (thesewill beexamined forcompleteness, accuracy,organization , andresident' sunderstanding of thesubject) • Apply thelearnedinformationon patientscaresetting • Give

knowledgeable on the useofcosteffectivemedicine • Residentswillassist in development of systems of improvementstocorrectidentifiedproblems.	times	• Residentsmustwriteorganizedandlegiblenotes. • Residents mustcommunicate to the staffinatimelyfashionanyproblemorconflictthatarouseduringinteractionwiththepatients.		more thantheirshareandd emonstrateinterest, andenthusiasm in learning

TeachingStrategies:

- Residentswillevaluateoutpatientsandwilldiscussfindingswithneurologists.Residentsmustcompleteathorough progress note on every outpatient and this must be countersigned by the neurology faculty or professorincharge.
- ResidentswillprovideindigentcareandwillexaminepatientsreferredtoNeurologyfromotherdepartments.This will allow the residents to see a wide variety of patients from various ages, social economic, educational, andculturalbackgrounds.
- Residents will see the inpatient consults, and gather information from chart, radiology and laboratory reports.Residentsthenwilldiscussallthisinformationwiththestaffneurologistsaspartofthebedsideteachinground.
- Residentswillfollowtheirassignedadmittedpatientsastheir ownuntilpatientsarereleased.
- Didacticlectures
- Casebased learning
- Problembasedlearning
- Interactiveseminars
- Smallgroupdiscussion
- Clinico-pathologicalconference
- NeurologyGrandRoundgivenbyvisitingprofessors.

- Shortpresentationbytheresidentson onegeneralNeurologytopicper week.
- Followupclinics
- OtherresponsibilitiesincludeprovidingcontinuityofcareforNeurologyclinicpatientsseenbypriorclinicresidents. This consists of returning phone calls and reviewing patient lab. work. Any questions concerning thiscarewillbediscussedwiththeNeurologystaff.

Assessment:

- OSCE
- MCQs
- SEQs
- Longcase
- Shortcase

Evaluation/Feedback:

A. **ResidentsEvaluation:**
   - 360degreeevaluationtojudgetheprofessionalismandethics
   - TheFacultywillfilloutthestandardEvaluationFormusingthecriteriaforevaluationstogradethe residents'performanceinrequiredcompetencies.

B. **ProgramEvaluation:**TheresidentswillfilloutanevaluationoftheNeurologyrotationattheendofthemonth.Thiswillincludeconstructivecriticismforimprovement;orsuggestionstofurtherenhancetraining.

Suggestedreadings:

i. Gilmans, Newman SW: Maner and Gatz's Essentials of clinical neuroanatomy and neurophysiology.PhiladelphiaFA DavisCo. 1994.
ii. AdamsRD,VictorM:PrinciplesofNeurology,currentedition.McGraw-HillPublisher.

iii. SectiononNeurologyinHarrison'sPrinciplesofInternalMedicine;McGrew–Hill,Publisher.
iv. SectiononNeurologyinCecil'sTextbookofMedicine,WBSaunders,Publisher.
v. TheNeurologicExamination.RussellDeYong,currentedition.
vi. PattenJ.Neurologicaldifferentialdiagnosis.Springer,Publisher,1995
vii. PattenandPosner,Stuporandcoma.Currentedition.
viii. MedicalLiterature:Acollectionofupdatedreviewarticleswillalsobeprovidedwhichaddressallbasic areas of Neurology. Residents are strongly encouraged to read as many of these articles aspossible. In addition residents are encouraged to read basic neurological journals such asNeurology,Archives ofNeurologyand Annals ofNeurology.
ix. Neuroimaging:Thereshallaformalinstructiontointerpretofneuroimagingtechniques.

K.PSYCHIATRY

EducationalPurpose:

To give residents formal instruction, clinical experience, and the opportunity to acquire expertise necessary to evaluateand manage some psychiatric diseases commonly seen in Internal Medicine patients and to know when to requestconsultationservices.

Generalobjectivesofthepsychiatrycourse:

1. Understanding of the prevention and treatment of mental disorders and associated emotional, behavioral andstress-relatedproblems.
2. Givenapatientwithachiefcomplaint residents will:a)performafocusedhistory, b)requestappropriatediagnostic tests, c) formulate a set of working diagnoses, d) formulate appropriate treatment plans includingreferrals.
3. In general internal medicine practice, management of risk factors for mental disorders and early diagnosis andinterventionforestablished disease(primaryand secondaryprevention)areimportantelements.
4. Thegeneralinternistshouldhaveawiderangeofcompetencyinpsychiatricdisease,particularlyasitisencounteredinoutpatientsettingsandshouldbeabletodiagnosesymptomsandusepharmacotherapy,

behavioral modification, and counseling to provide primary and secondary preventive care and initially managemanymentaldisorders.

5. Patients hospitalized for general medical problems and those in the intensive care unit may have significantpsychiatric comorbidity that contributes to general medical morbidity and length of stay. In these and all othersettings, the general internist must be able to evaluate and manage psychiatric co morbidity effectively withappropriatespecialtyconsultation.
6. The range of competencies expected of a general internist will depend on the availability of psychiatrists in theprimarypracticesetting.Refractorycasesandpatientswithmentaldisordersrequiringpsychotherapeuticinterventi onswillgenerallybereferred toapsychiatrichospitalization.
7. Demonstrateappropriateapproachestotheexecutionofapsychiatricconsultation.
8. Quicklydevelopatherapeuticalliancewithmedicallyillpatients.
9. Evaluateforpsychopathologicprocessesinpatientswithconcomitantmedicalandsurgicalconditions.10.Ad viceandguideconsulteesabouttheroleofpsychosocialfactorinmedicaldiseaseandtheeffectof medicationsonthepatientarepresentingsymptoms.

11. Demonstratetheuseoftheliaisonprocesstoincreaseawarenessofthepsychiatricissuesofthemedicallyandsurgicall y illamongnon-psychiatriststaff.
12. Understandtheimpactofillness,hospitalizationandmedicalcareonthepsychologicalfunctioningofpatients.
13. Understandtheroleofpsychiatric,psychologicalandbehavioralfactorsinthepathogenesisofmedicaldisorders.
14. Developafundofknowledgeaboutpsychiatricissuespertainingtomedicalpatientsthroughdidacticmeansincludingt eachingrounds,selected readings and seminars.
15. Discusstheliaisonprocessanditsutilitywithinthehospitalsetting.
16. UnderstandtheuseofpsychotropicmedicationsandECTinmedical/surgicalpatients,includingphysiologicaleffects, contraindications,druginteractions,anddosingconcerns.
17. Understandtheuseofnon-organictreatments,includingbriefpsychotherapy,behavioralmanagementtechniques,family interventions and psychoeducation.

Contentofrequiredknowledge:

CommonClinicalDisorders

- Psychiatricassessmentofcommonpsychiatricdisorders.
- Substanceusedisorders.
- Delirium,dementiaandothercognitivedisorders
- Geriatricpsychiatricdisorders
- Psychiatricproblemsassociatedwithhospitalizationandmedicalandsurgicaldisorders
- CommonClinicalPresentations
- Agitationorexcitement
- Anxiety
- Confusion
- Delusionsorbizarrebeliefs
- Depressedorsadmood
- Fatigue
- Hallucinations
- Insomnia
- Memoryloss
- Poorhygieneorself-care
- Strangespeechorbehavior
- Suiciderisk
- Suspiciousnessorfeelingsofpersecution
- Unexplainedchangesinpersonalityorperformance
- Unexplainedphysicalsymptomssuggestingsomatization

ProcedureSkills

- Depressioninventory
- Mentalstatusexamination,includingstandardizedcognitiveexaminationswhenindicated

- OrderingandUnderstandingTests
- Electroencephalography
- Neuropsychologicalevaluation

Attributesrequired

Systembasedlearning	**Professionalism**	**Interpersonal and Communication Skills**	**Practice BasedLearningImprovement**	**Evaluation of MedicalKnowledge**
• Residentsshouldenhancetheir utilization ofcommunicationwithmanyhealthservicesandprofessionalssuchasnutritionists, nurse clinicians,physicianassistants, socialworkers podiatrist,ophthalmologist,physicaltherapist, surgeon, radiologistandnuclearmedicinespecialist. • Residents should learn theimportance of preventivemedicine in routine healthcare and specifically in thearea of psychiatric diseasemanagement. • Residentsshouldbeknowledgeable on the use ofcosteffectivemedicine. • Residentswillassistindevelopmentofsystemsofimprovementstocorrect identifiedproblems	• Development ofethical behaviorand humanisticqualities ofrespect,compassion,integrity, andhonesty • Willing toacknowledgeerrorsand determine how topreventtheminthefuture • Responsibilityandreliabilityatalltimes Consideration of needsfrom patients, families,colleagues and supportstaff • Professionalappearanceatalltimes	• Residentsmust writeorganizedand legible notes. • Residentsmustcommunicate to the staffinatimelyfashionanyproblemorconflictthatarisesduring interaction with the patients.	• Use feedbackand self-evaluation to improveperformance • Read therequiredmaterial fromtextbook,journals andhandouts • Usemedicallitera turesearch toolsatthelibraryand throughon-line tofindappropriatearticles that apply to interestingcases.	• Answerspecificquestionsandto participatein didacticsessions • Properlypresentassignedtopics (thesewill beexamined forcompleteness, accuracy,organization,andresident’sunderstanding of thesubject) • Apply thelearnedinformationtopatients caresettings

TeachingStrategies:

1. Residentswillprovideindigentcareandwillexaminepatientsreferredto Psychiatryfromotherdepartments.This will allow the residents to see a wide variety of patients from various ages, social economic, educational,andcultural backgrounds.
2. Resident shall see the inpatient, and gather information from chart, radiology and laboratory reports. Residentsthenwilldiscussall thisinformationwiththestaffpsychiatristaspartofthebedsideteachingrounds.
3. Residents must complete a thorough progress note on every patient, and this must be countersigned by thepsychiatrystaffmemberin chargeof therotation.
4. Residentswillfollowtheassignedpatientsundersupervisionuntilthepatientsarereleasedfromthehospital.
5. ResidentswillberesponsibleforreviewingonegeneralPsychiatrytopicperweekandgivingashortpresentation
6. Residentshallparticipateinoutpatientpsychiatricmanagement
7. Grandteachingrounds
8. Didacticlectures
9. Seminars1

0.Workshops

11. Problem based learning12.Case based learning13.Journal club meeting14.Self-directedlearning

Assessment:

- OSCE
- MCQs
- SEQs
- Longcase
- Shortcase

Evaluation/Feedback:

- **ResidentEvaluation:**
    - 360degreeevaluationtojudgetheprofessionalismandethics
    - TheFacultywillfilloutthestandardEvaluationFormusingthecriteriaforevaluationsasdelineated abovetogradetheresidents'performancein eachcategoryofcompetency.

- **Program Evaluation**: The resident will fill out an evaluation of the Psychiatry rotation at the end of the month.Thiswillincludeconstructivecriticismforimprovement;orsuggestions tofurtherenhancetraining.

- Residents should receive frequent (generally daily) feedback in regards to their performance during the rotation.Residents will be informed about the results of the evaluation process and input will be requested from residentsinregards totheirevaluationof thePsychiatryrotation.

- Therewillbeaformalevaluation andverbaldiscussionwiththeresidentattheendof therotation

Suggestedreadings:

A. MandatoryReading:

Wise, MG, Rundell, JR: Clinical Manual of Psychosomatic Medicine: A Guide to Consultation-LiaisonPsychiatry.American PsychiatricPublishing,Washington,DC.2005.

B. SuggestedReading:

Stern,TA,Herman,JB,andSlavin,PL:MassachusettsGeneralHospitalGuidetoPrimaryCarePsychiatry,2nd ed. McGraw-Hill Companies,Inc.NewYork. 2004.

L. RADIOLOGY

EducationalPurpose:

Togiveresidentsformal,informalinstructionandclinicalexperienceintheevaluationandclinicalcorrelationoftheresultsofvarious imagingtechniquesutilized in amodernradiologydepartment.

GeneralobjectivesforRadiologycourse:

1. Theabilitytounderstandtheprinciplesofradiologicalstudies
2. Utilizationofimagingtechniquesin theacutelyinjuredor illpatient
3. Effectiveevaluationofacutechestandabdominalconditions
4. Therapeuticanddiagnosticinterventionswithimagedguidedprocedures
5. Basicsaspectsofmedicalradiationexposureandprotection
6. PhysiologicprinciplesofnuclearmedicineandfunctionalMRI
7. Newerneuroimagingtechniquesforcerebraldiseasesandconditions
8. Awarenessanduseof thedatabasethatexistsinradiology

Contentofrequiredknowledge:

1. Fundamentalsofchestroentgenology
2. Basicsofradiologyofheartdisease
3. Differentialdiagnoses incardiacdisease
4. Plainfilmoftheabdomen
5. ApproachtoSmallBowelDisease
6. DifferentialDiagnosesinGIDisease
7. DifferentialDiagnosesinMSKDisease
8. RadiologicalfindingsofChestdiseases
9. RadiologicalfindingsofLiverdiseases
10. RadiologicalfindingsofPancreasdiseases
11. RadiologicalfindingsofTraumadiseases
12. BasicsofCTscan,interpretation&diagnosisofcommondiseases
13. BasicsofMRIscan,interpretation&diagnosisofcommondiseases

Attributesrequired

Patientcare	**SystemBasedlearning**	**Professionalism**	**Interpersonal and CommunicationSkills**	**Practice BasedLearningImprovement**
• Recognizingappropriateness ofvarious imagingprocedures • Correlatingimagingprocedures with clinicalfindings • Appreciateconcernswith techniquesforperforming imagingstudies • Recognizingabnormalradiologicallfindingsofthecommonly-usedimagingstudies • Proper interpretation ofthe imaging consultationreport	• The resident should improve inthe utilization of andcommunication with manyhealth services professionals;such as technologists,sonographersand othersupportstaff. • The resident should improvein the prudent, cost-effectiveandjudicioususeofimagingstudies and other diagnostictesting by recognizing thevalue and limitations ofvariousimagingprocedures. • The resident should develop asystematic approach to utilizeavailableimagingtechniquestowork-up the patients withvariousclinicalfindings. • Theresidentwillassistindeterminingtherootcauseofany error which is identified andmethodsforavoidingsuchproblemsin the future. • Theresidentwillassistindevelopmentofsystems'	• Theresidentshouldcontinuetodevelophis/her ethicalbehavior and thehumanisticqualitiesofrespect,compassion,integrity, andhonesty. • The resident must bewilling to acknowledgeerrorsanddeterminehowtoavoidfuturesimilarmistakes. • The resident must beresponsible and reliableatalltimes. • Theresident mustalwaysconsiderthe needs of patients,families,colleagu	• The proper role of radiological consultation • Obtainingappropriateclinicalinformation needed tocomplete animagingstudy • Addressingpatients'concernsaboutradiationandimagingprocedures • Understandingtechnical limitations ofimagingprocedures in	• Usefeedbackand self-evaluationinorder to improveperformance • Read therequiredmaterial andarticlesprovided toenhancelearning • Use themedicallitera turesearch toolsto find appropriatearticlesrelated to interestingcases. • Developcapabilitiesininterpretingresultsofbasic

		es,andsuppor t		

	improvementifproblemsareidentified.	staff. • The resident mustmaintain a professionalappearance at alltimes.	certains ettings	radiogical studies.

TeachingStrategies:

1. The resident will observe the radiologist interpreting the morning images and/or performing the morningfluoroscopicprocedures.
2. Theresidentisalsoexpectedtoobservespecialprocedures,diagnosticultrasound,mammography,andnuclearmedicineproceduresperformed in thedepartment.
3. Theresidentisrequiredtobepresentatallpertinentradiologicalconferencesduringtheirrotationofradiology.
4. Theresidentisencouragedtodiscusswiththeradiologistanyinterestingcases.
5. Theresidentisprovidedwithopportunitiesandappropriatematerialstoenhancehis/herlearningachievement.
6. Didacticlectures
7. InteractiveSeminars
8. Workshops
9. Problem based learning10.Case based learning11.Journal club meeting12.Self-directedlearning
13. Clinic pathological conferences14.Teachingskillsin thedepartmentsettings

Assessment:

- OSCE
- MCQs
- SEQs
- Longcase
- Shortcase

Evaluation/Feedback

1. 360degreeevaluationtojudgetheprofessionalismandethics
2. Attendanceattherequired morningX-rayfilm review
3. Assignedcasepresentationsandconferencepresentationswillbeevaluated
4. Abilitytointerpretresultsofcommonlyusedimagingstudies
5. Mid-rotationevaluationsessionbetweentheresidentandtheconsultserviceattendingforthatmonth
6. Residentswillreceivefeedbackwithrespecttoachievingthedesiredlevelofproficiency.
7. Waysinwhichtheycanenhancetheirperformancewillbediscussedwhenthedesiredlevelofproficiencyhasnotbeen achieved.
8. Evaluationandfeedbackwilloccurduringtherotation.
9. Aformalevaluationandverbaldiscussionwiththeresidentistobedoneattheendoftherotation.

- Shouldbeableto interpretCTandMRIscansforcommondiseases

Suggestedreadings:

1. TheEmergencyPatient.CharlesS.Langston,LucyFrankSquire.Saunders,1975
2. EmergencyRadiology.T. Keats.Mosby,19882nd Edition
3. RadiologyoftheEmergencyPatient:AnAtlasApproach.EditedbyEdwardI.Greenbaum.NewYork:Wiley,c1982.

4. Videodisc:Headand neck,GI,GUUltrasoundfiles
5. LearningRadiology.com

M. HAEM-ONCOLOGY

EducationalPurpose

To equip the postgraduate trainees with sufficient knowledge, clinical skills and proficiency for evaluating and managinghaematologicdisorders,emergenciesandmalignancies.

ContentofRequiredKnowledge

1. PGTshouldbeabletorecognizesignsandsymptomsofallhaematologicdisordersandmanagetheminconsultationwith supervisor
2. PGTshouldunderstandtheprinciplesoftherapyforhaematologicmalignancies
3. PGT should seek pertinent physical exam, laboratory information, and radiographic studies to rule out metastaticdiseaseand oncologicemergencies

Haem-OnclogicDiseases

A. CommonHaematologicDisorders

1. Anaemias
    - Irondeficiencyanaemia
    - Thalassemias
    - Aplasticanaemia
    - Haemolyticanaemia
    - Sicklecellanaemia
    - Perniciousanaemia
2. Thrombocytopenia

3. Leukocytosis
4. Coagulopathies

B. OncologicEmergencies

- feverandneutropenia
- hypercalcemia
- tumorlysissyndrome
- Hyperleukocytosis
- spinalcordcompression
- superior venacava syndrome

C. HaematologicMalignancies

- Leukemias
- non-Hodgkin'slymphomas
- Hodgkin'sdisease
- multiplemyeloma

D. CommonSolidTumors

- CA breast
- CAcolon
- CA lung
- CAprostate

E. CommonPara-neoplasticSyndromes

- Hypercalcemia
- SiADH
- EatonLambert
- ectopicACTH

F. **Metatstatic**

DiseasesProceduralSkills

- Bonemarrowaspiration
- Bonemarrowbiopsy
- Lumbarpuncture
- Peripheralblood smears
- Paracenteses
- thoracenteses
- administrationofchemotherapythroughalltherapeuticroutes

Interpretationofclinicalandlaboratoryprocedures

- Bonemarrowbiopsy
- Lumbarpuncture
- Paracenteses
- Peripheralblood smears

Teachingstrategies

- Didacticlectures
- Bedsideteaching
- Casebaseddiscussion
- Problembasedlearning
- Seminars
- Conferences

- Symposiums
- Outpatientevaluationinclinicalsettings
- Interactivesessions

Assessment

- OSCE
- MCQs
- SEQs
- Longcase
- Shortcase

*Assessment of the trainees will be followed by constructive feedback for improvement of their attitude, performanceandcompetencies.

Evaluation/Feedback

- 360degreeevaluationofthetraineestojudgetheprofessionalism,ethics,counseling&interpersonalcommunicationskills
- Evaluation by formal discussion of trainees with supervisor, co-supervisor and program director by the end ofrotationto ruleoutconflictsofinterestand difficultiesfaced bytrainees
- Evaluationoftrainingprogrampertinenttoeffectivenessandefficiencyofprogramineequippingtraineeswithnecessaryskills
- Traineeswillfrequentlybeprovidedwithfeedbackforimprovementoftheirperformance.

Attributesrequired

SystemsBasedLearning	Attitudes,Values andHabits	Professionalism	Interpersonal and CommunicationSkills	PracticeBased LearningImprovement	Evaluation of MedicalKnowledge
• PGT should improvein the utilization ofand communicationwith many healthservices andprofessionalssuchasthe radiologist,surgeon, andpathologist • PGT should improvein the use of costeffectivemedicine • PGT should assist indetermining the rootcause of any errorwhich is identifiedand methods foravoiding suchproblems in thefuture • PGT shouldrecommend thedrugs available inhospitalpharmacy • Bed bureau shouldbeinformedforbedissue • PGT must assist	• Keeping thepatient andfamilyinformed onthe clinical statusofthepatient, resultsoftests, etc. • Frequent,directcommunication with thephysician whorequestedtheconsultation • Review ofpreviousmedicalrecords andextraction ofinformationrelevanttothepatient'shematologicstatus. Other sources	• PGT shouldunderstandthe ethicalconflictbetweencareof anindividual and welfareof thecommunity • PGT shouldunderstandthe ethicalconflictspertinent toantimicrobialtherapy,vaccinationand preventivemeasures • PGT shouldacknowledge medicalerrors andshould learnhow to avoidmistakes infuture • PGTshould	• PGT shouldlearnwhentocall asubspecialistto managepatient withheamatologic /oncologic problem • PGT shouldclearlypresent thecasestostaffin organizedway • PGT shouldbe able toestablishrapportwithpatients • PGT shouldlisten to thepatient's complaintsfor patient'swelfare	• PGT should usefeedback andself-evaluationin order toimproveperformance. • PGT shouldread therequired material andarticlesprovided toenhancelearning. • PGT should usethe medicalliteraturesearch tools inthe library tofindappropriatearticles relatedto interestingcases	• PGT shouldbe able toanswerdirectedquestions &participate incasemanagement • PGTpresentationson assignedshort topicswill beassessed forcompleteness, accuracy,organization&understanding of topic • Ability ofPGTtoapply theinformationto the patientcaresetting • interestlevel of PGT inlearning

indevelopment ofsystems’	ofinformationmaybeused,whenpertinent		• PGT shouldeffectivelyeducate &counsel		

improvementif problems areidentified	• Understandingthatpatientshavetherightto either accepts ordeclinerecommendationsmadebythephysician • Education of thepatient	beresponsibleand timely inconsulting with staff &patients • PGT shouldhaveprofessionalappearance atalltimes • PGTshould	patients • PGT shouldnot down allcomplaints ofpatients inorganized manner • PGT shouldtimely communicate pt's problemtothe staff		

SuggestedReadings

1. Hoffbrand'sEssentialHaematology,7th Edition.October2015,©2016,Wiley-Blackwell.
2. DacieandLewisPracticalHaematology,12th Edition ByBarbaraJ.Bain,Copyright2017
3. Harrison'sPrinciplesofInternalMedicine,LatestEditionORCecil'sTextbookofInternalMedicine,LatestEdition
4. Hematologicdiseases,partXIV(pages 958–1106)andOncology,latestEditionpartXV(pages1108 –1256).
5. MKSAPlatestedition–(Oncology&Hematologybooklets).
6. NewEnglandJournalofMedicine(www.nejm.org)
7. JournalofClinicalOncology(www.jco.org)
8. NationalComprehensiveCancerNetwork(www.nccn.org)
9. Understandingthebenefitsofadjuvantchemotherapyin Breast,ColonandLungcancerpatients(www.adjuvantonline.com)

N. INFECTIOUSDISEASES

EducationalPurpose

Totrainthepostgraduatetraineeswithprovisionoffundamentalinformation,acquisitionofclinicalskillssothattheyarewell versed inprevention,assessmentand managementof infectiousdiseases.

ContentofrequiredKnowledge

1. PGTshouldIdentifysignandsymptomsandmanagementofpatientspresentingwithcommoninfectiousdiseases
2. PGT should recognize and interpret the importance of certain life styles and life events in the risk for specificinfections, including intravenous drug abuse, sexual orientation or behavior, socioeconomic status, travel, animalexposureand environmentalexposure
3. PGTshouldrecognizetheroleofadvancedage,diabetesmellitus,renalfailure,malnutrition,alcoholism,COPDandcardiovasculardiseaseindevelopmentof infections
4. PGT should be able to recommend appropriate antimicrobial therapy in a variety of infectious entities both incommunityacquiredornosocomialinfections.
5. PGT must recognize and understand the natural and pathogenesis of sepsis associated with infections at specificorgansystem
6. PGT should be aware of microbial virulence factors, host defense mechanisms, epidemiology of infectious diseasesand anti-infectivetherapyprinciples

BasicConceptsofClinicalMicrobiology

1. Appropriatecollectionandtransportofspecimen
2. Sterilizationanddisinfection
3. Microscopy
4. Staining(Gram,AFBandothers)

5. Culturemediaandbasicpreparation
6. Culturetechniques(standard&automated)
7. Bacterialandmycobacterialmicrobiology
8. Sensitivitytesting
9. Parasitology10.Mycol

ogy11.Molecular

diagnostics12.Virology

13. Safety
14. Qualityassurance

ManagementofMajorInfectiousClinicalsyndromes

1. Feverevaluation
2. Respiratorytractinfections
3. Cardiovascularinfections
4. CNSinfections
5. Skinandsofttissueinfections
6. Gastrointestinalinfections,foodpoisoningandhepatitis
7. Boneandjointinfections
8. DiseasesofreproductiveorgansandSTDs&AIDS
9. Eyeand ENTinfections
10. Infections in immune-compromised hosts and

burns11.Transplantinfections

12.Nosocomial

infections13.Infectionsinspe

cialhosts

14.Surgical & trauma related infections15.Zoonoses
16.Viral,bacterial,chlamydial,rickettsial,protozoalandfungalinfections

SpecialTopics

1. Immunization
2. Infectioncontrol
3. Riskreduction
4. Outbreakinvestigation
5. Travelmedicine
6. Biologicalwarfare

ProceduralSkills

A. Bacteriology
- Performgramstain
- Inoculationofcultureplates

B. Mycobacteriology
- PerformAFBsmear

C. UrineAnalysis
- Performurinedipstick

D. Mycology
- Identificationofmoldsandyeasts

E. Serology
- PerformRPR
- PerformMPICT

Interpretationofclinicalandlaboratoryprocedures

- Interpretgramstainsofblood,sterilefluidsandsputum
- Interpretcultureplates
- Interpretantimicrobialsusceptibilitytesting(discdiffusion,MIC)
- InterpretAPI
- InterpretAFBsmear
- InterpretAFBcultures
- Interpretserologies
- InterpretRPR
- InterpretMPICT

Teachingstrategies

- Didacticlectures
- Bedsideteaching
- Casebaseddiscussion
- Problembasedlearning
- Seminars
- Conferences
- Symposiums
- Outpatientevaluationinclinicalsettings
- Interactivesessions

Assessment

- OSCE
- MCQs
- SEQs
- Longcase
- Shortcase

*Assessment of the trainees will be followed by constructive feedback for improvement of attitude, performance andabilityof thetrainees

Evaluation/Feedback

- 360degreeevaluationofthetraineestojudgetheprofessionalism,ethics,counseling&interpersonalcommunicationskills.
- Mid-rotationevaluationsessionbetweentheresidentandtheinfectiousdiseasesstaffwillalsobeconducted
- Evaluation by formal discussion of trainees with supervisor, co-supervisor and program director by the end ofrotation to rule out conflicts of interest and difficulties faced by trainees. The faculty will complete a standardwrittenevaluation form usedbythedepartment.
- Evaluation of training program pertinent to effectiveness and efficiency of program in equipping trainees withnecessaryskills willalso becarried out.
- Traineeswillfrequentlybeprovidedwithfeedbackforimprovementoftheirperformance.

Attributesrequired

SystemsBasedLearning	Attitudes,Values andHabits	Professionalism	Interpersonal and CommunicationSkills	PracticeBased LearningImprovement	Evaluation of MedicalKnowledge
• PGT recommenddrugs easilyavailableinhospitalsetting • PGTshould understandtheissues implicatedwith the transmissionof an infectiousagentandtheresponsibilityof the physician to protectuninfectedindividuals • PGT shouldapplyevidence-based, cost-effectivestrategies forprevention,diagnosis anddiseasemanagement	• Keeping thepatient andfamilyinformed onthe clinical statusofthepatient, resultsoftests, etc. • Frequent,directcommunication with thephysician whorequestedtheconsultation • Review ofpreviousmedicalrecords andextraction ofinformationrelevanttothepatient'sinfectiousstatus. Other sources ofinformationmayb	• PGT shoulddevelopethicalbehavior • Shouldreflecthumanisticqualities ofrespect,compassion,integrity, andhonesty • PGT shouldadmithiserrors andmust learnhowtoavoidthem infuture • PGT shouldberesponsible&reliableatalltimes • PGT shouldconsidertheneeds ofpatients,families,colleagues, and supportstaff	• PGT shouldcommunicatewith lab staffto obtainrelevantmicrobiologic data ofpatients'samples • PGT shouldappropriatelycall asubspecialistforevaluationandmanagementof a patientwithinfectiousdisease • PGT shouldask precisequestionsfrominfectiousdiseasesconsultants • PGT shouldarrange theelements ofpatient's	• PGT shouldidentifyparameters tomonitorcare • PGT shouldmaintain currency withpatient'sclinicalprogress • PGT shouldkeep up to datewith medicalliteraturerelatedto interestingcases seen inconsultservice	• PGT shouldbe able toperformproceduresand consultadequatelythe plan ofcare • PGT shouldbe able toparticipate indidacticinfectiousdiseasessessions • PGT shouldapply theinformationlearnt indidacticsessions inpatient caresetting

	eused,whenpertinent • Understandingthatpatients				

	havetherightto either accepts ordec linerecommen dationsmadeb ythephysician • Education of thepatient	• PGT shouldmainta in aprofessional appearance atalltimes • PGT shouldunders tandhow personaland culturalchara cteristics impact theefforts tocontrolspre ad ofcommunic abl ediseases	report in asystematic mannertobeu seful forboth patientsandc onsultant • PGT shouldestab lishrapport withpatients • PGT shouldbe able tohealthedu cate andcounsel thepatients • PGT shouldwritel egibleandor ganizedcons ultationnote s • PGT shouldclearl ypresentpro blem totheconsult ants&infecti ous diseasescon ferences		

SuggestedReadings

1. Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases: Expert Consult Premium Edition.TwoVolumes,7th Edition.
2. Baron'sMedicalMicrobiology/4thed.;2000
3. BestPracticesinInfectionPreventionandControl:AnInternationalPerspective,2nded.;2012.
4. TheBlueBook–GuidelinesfortheControlofInfectiousDiseases/2nded.;2011.
5. Cohen&Powderly:InfectiousDiseases,3rded.;2010.---ClinicalKey
6. InfectiousDiseasessection:TheMerckManualofDiagnosisandTherapy,19thed.,2011.
7. MicrobialThreatstoHealth:Emergence,Detection,andResponse/editedbyMarkS.Smolinski,MargaretA.Hamburg,and JoshuaLederberg,Board onGlobalHealth;2003.

O.NEPHROLOGY

EducationalPurpose

Tomakepostgraduatetraineescompetentinidentificationoftheproblemandprovisionofcaretopatientspresentingwithrenal disorders.

ContentofRequiredKnowledge

1. PGTshouldbeabletoclassifyrenalfailureandstagechronickidneydiseases
2. PGTshouldunderstandetiology,pathogenesisandcompetentenoughtoclinicallypresent,diagnoseandmanagethecases ofglomerulopathies,tubule-interstitialdisorders
3. PGTmustbeproficientinmanagingacid-basedisordersand fluid/electrolyteimbalances
4. PGTshouldknowprinciplesofdialysisprocedureandits complications

RenalDisorders

- Acuterenalfailure

- Chronicrenalfailure
- Primary&secondaryglomerulopathies
- Tubulo-interstitialdisorders
- Obstructivenephropathy(acute&chronic)
- Hereditarynephropathy(Polycystickidneydisease,Alport'ssyndrome)
- Diabeticnephropathy
- Primaryandsecondaryhypertension
- Lupusnephritis
- Nephriticsyndrome
- Acidbasedisorders
- Fluid&electrolytesimbalances
- Urinalysis
- Kidneybiopsyindications
- Acuteand chronicdialysis
- Kidneytransplantation

ProceduralSkills

- placementoftemporaryhemodialysiscatheters
- kidneybiopsies
- placementoftunneledhemodialysiscatheters
- ultrasonography
- hemodialysisaccessinterventions
- Placementofperitonealdialysiscatheters

Interpretationofclinicalandlaboratoryprocedures

- RenalFunctionTests(RFTs)
- Renalbiopsy
- Renalultrasonography

Teachingstrategies

- Didacticlectures
- Bedsideteaching
- Casebaseddiscussion
- Problembasedlearning
- Seminars
- Conferences
- Symposiums
- Outpatientevaluationinclinicalsettings/dialysisclinic
- Interactivesessions

Assessment

- OSCE
- MCQs
- SEQs
- Longcase
- Shortcase

*Assessment of the trainees will be followed by constructive feedback for improvement of their attitude, performanceandcompetencies.

Evaluation/Feedback

- 360degreeevaluationofthetraineestojudgetheprofessionalism,ethics,counseling&interpersonalcommunicationskills
- Evaluation by formal discussion of trainees with supervisor, co-supervisor and program director by the end ofrotationto ruleoutconflictsofinterestand difficultiesfaced bytrainees
- Evaluationoftrainingprogrampertinenttoeffectivenessandefficiencyofprograminequippingtraineeswithnecessaryskills willalso bedone.
- Traineeswillfrequentlybeprovidedwithfeedbackforimprovementoftheirperformance.

Attributesrequired

SystemsBasedLearning	Attitudes,Values andHabits	Professionalism	Interpersonal and CommunicationSkills	PracticeBased LearningImprovement	Evaluation of MedicalKnowledge
• PGT shouldimprove in theutilization of andcommunicationwithmanyhealthservices andprofessionals such asnutritionists,nurses,therapists,surgeons andadministrativestaff. • PGT shouldimproveinthe	• Keeping thepatient andfamilyinformed onthe clinical statusofthepatient, resultsoftests, etc. • Frequent,directcommunication with thephysician whorequestedt	• PGT shouldunderstandthe ethicalconflictbetweencareof anindividual and welfareof thecommunity • PGT shouldunderstandthe ethicalconflictspertinent toantimicrobial	• PGT shouldlearnwhentocall asubspecialistto managepatient withrenaldisease • PGT shouldclearlypresent thecasestostaffin organizedway • PGT shouldbe	• PGT should usefeedback andself-evaluationin order toimprovePerformance. • PGT shouldread therequired material andarticlesprovided toenhancelearning. • PGT should usethemedical	• PGT shouldbe able toanswerdirectedquestions &participate incasemanagement • PGTpresentationson assignedshort topicswill beassessed forcompleteness,accuracy,

	heconsultation • Review of		able toestablish		

useofcosteffectivemedicine • PGT shouldrecommenddrugsavailableinhospitalsetting • PGT should assist indetermining the rootcause of any errorwhich is identifiedand methods foravoiding suchproblems in thefuture • PGT must assist indevelopment ofsystems'improvement ifproblems areidentified	previousmedicalrecords andextraction ofinformationrelevanttothepatient'srenalstatus. Other sources ofinformationmaybeused,whenpertinent • Understandingthatpatientshavetherightto either accepts ordeclinerecommendationsmadebythephysician • Education of thepatient	therapy,vaccinationandpreventive measures • PGT shouldacknowledge medicalerrors andshould learnhow to avoidmistakes infuture • PGT shouldberesponsibleandtimely inconsulting with staff &patients • PGT shouldhaveprofessionalappearance atalltimes	rapportwithpatients • PGT shouldlistento thepatient's complaintsfor patient'swelfare • PGT shouldeffectivelyeducate &counselpatients • PGT shouldnot down allcomplaintsofpatients inorganized manner • PGT shouldtimely communicatept's problemtothestaff	literaturesearch tools inthelibrary tofindappropriatearticlesrelatedto interestingcases	organization &understanding of topic • Ability ofPGTtoapply theinformationtothepatientcaresetting • interestlevel of PGT inlearning

SuggestedReadings

1. MurrayLongmore.OxfordHandbookofClinicalMedicineandOxfordAssessandProgress:ClinicalMedicinePack.2014.
2. DouglasC.Eaton.JohnPooler.VandersRenalPhysioloyg,8th Edition.Lange.
3. Michael J. Field, Carol Pollock, David Harris. The Renal System: Systems of the body series. 2nd Edition. ChurchillLivingstone.
4. RichardA.Preston.AcidBase,fluidsandelectrolytesmaderidiculouslysimple.2nd Edition.2010.

P.PULMONARYANDCRITICALCAREMEDICINE

EducationalPurpose

Togivea broadviewofpulmonary diseasesto postgraduate traineesto facilitate them indiagnosing andmanagingacuteandchronicpulmonarydiseasesandwhento pursuepulmonarysubspecialtyconsultations.

ContentofRequiredKnowledge

1. PGT should be able to recognize signs and symptoms, diagnose and manage all common pulmonary infections,TB,COPD.
2. PGTshouldbeproficientenoughtodiagnoseandmanagepulmonaryvasculardiseasesandrespiratoryfailure.
3. PGT should seek pertinent physical exam, laboratory information, and radiographic studies to rule outmalignanciesof pleuraandmediastinumincludingpneumothoraxand empyema.

PulmonaryDisorders

- Pulmonaryinfections,includingfungalinfections,andthoseintheimmuno-compromisedhost
- Tuberculosis
- Obstructivelungdiseasesincludingasthma,bronchitis,emphysemaandbronchiectasis

- Malignantdiseasesofthelung,pleuraandmediastinum,bothprimaryandmetastatic
- Pulmonaryvasculardiseases(Pulmonaryembolism)
- Pleuro-pulmonarymanifestationsofsystemicdiseases
- Respiratoryfailure(RespiratoryDistressSyndrome)
- Occupationalandenvironmentallungdisease
- Diffuseinterstitiallungdisease
- Disordersofthepleuraandmediastinum,includingpneumothoraxandempyema
- Sleep-induceddisordersofbreathing

ProceduralSkills

- Thoracentesis
- Bronchoscopy
- Chestintubation
- Needlebiopsyofpleura

Interpretationofclinicalandlaboratoryprocedures

- PulmonaryFunctionTests
- Thoracentesis
- Needlebiopsyofpleura
- Bronchoscopy
- Chestintubation

Teachingstrategies

- Didacticlectures
- Bedsideteaching
- Casebaseddiscussion
- Problembasedlearning
- Seminars
- Conferences
- Symposiums
- Outpatientevaluationinpulmonaryoutpatientclinic/TBclinic
- Interactivesessions

Assessment

- OSCE
- MCQs
- SEQs
- Longcase
- Shortcase

*Assessment of the trainees will be followed by constructive feedback for improvement of their attitude, performanceandcompetencies.

Evaluation/Feedback

- 360degreeevaluationofthetraineestojudgetheprofessionalism,ethics,counseling&interpersonalcommunicationskills

- Evaluation by formal discussion of trainees with supervisor, co-supervisor and program director by the end ofrotationto ruleoutconflictsofinterestand difficultiesfaced bytrainees
- Evaluationoftrainingprogrampertinenttoeffectivenessandefficiencyofprogramineequippingtraineeswithnecessaryskills
- Traineeswillfrequentlybeprovidedwithfeedbackforimprovementoftheirperformance.

Attributesrequired

SystemsBasedLearning	Attitudes,Values andHabits	Professionalism	Interpersonal and CommunicationSkills	PracticeBased LearningImprovement	Evaluation of MedicalKnowledge
• PGT should improvein the utilization ofand communicationwith many healthservices andprofessionalssuchasthe radiologist,surgeon, andpathologist • PGT should improvein the use of costeffectivemedicine • PGT shouldrecommend drugsavailableinhospitalsetting • PGT should assist indetermining the rootcauseof any error which is identifiedandmeth	• Keeping thepatient andfamilyinformed onthe clinical statusofthepatient, resultsoftests, etc. • Frequent,directcommunication with thephysician whorequestedtheconsultation • Review ofpreviousmedicalrecords	• PGT shouldunderstandthe ethicalconflictbetweencareof anindividual and welfareof thecommunity • PGT shouldunderstandthe ethicalconflictspertinent toantimicrobialtherapy,vaccinationand preventivemeasures	• PGT shouldlearnwhentocall asubspecialistto managepatient withendocrinedisease. • PGT shouldclearlypresent thecasestostaffin organizedway • PGT shouldbe able toestablishrapportwithpatients • PGT	• PGT should usefeedback andself-evaluationin order toimproveperformance. • PGT shouldread therequired material andarticlesprovided toenhancelearning. • PGT should usethe medicalliteratureresearch tools inthe library tofindappropriate	• PGT shouldbe able toanswerdirectedquestions &participate incasemanagement • PGTpresentationson assignedshort topicswill beassessed forcompleteness, accuracy,organization&understanding of topic • Ability of

ods for	and extraction ofi nformation		shouldliste n to the		

avoiding suchproblems in thefuture • PGT must assist indevelopment ofsystems'improvement ifproblems areidentified	relevanttothepatient'spulmonarystatus. Other sources ofinformationmaybeused,whenpertinent • Understandingthatpatientshavetherightto either accepts ordeclinerecommendationsmadebythephysician • Familiarwithhow to dealwithdifficultiesofdiseasemanagementwithindifferent agegroups,socio-economicstatus,educational &culturalbackgrounds • Education of thepatient	• PGT shouldacknowledge medicalerrors andshould learnhow to avoidmistakes infuture • PGT shouldberesponsibleand timely inconsulting with staff &patients • PGT shouldhaveprofessionalappearance atalltimes • PGTshould	patient'scomplaintsfor patient'swelfare • PGT shouldeffectivelyeducate &counselpatients • PGT shouldnot down allcomplaints ofpatients inorganized manner • PGT shouldtimely communicatept's problemtothestaff	articles relatedto interestingcases	PGTtoapply theinformationtothepatientcaresetting • interestlevel of PGT inlearning

SuggestedReadings

1. JohnB.West,AndrewM.Luks.West'srespiratoryphysiology:TheEssentials.10th Edition.WoltersKluver.
2. DinahBradley.ForewordbyDr.MikeThomas.Hyperventilationsyndrome.BreathingPatternDisorder.2012.London. United Kingdom.
3. LynelleN.B.Pierce.ManagementofMechanicallyVentilatedPatient.2nd Edition.2006.Elsevier.

Q.RHEUMATOLOGY

EducationalPurpose

To provide the postgraduate trainees with intensive instruction, clinical experience, and the opportunity to be proficientinevaluation andmanagement of rheumatologicdisorders.

ContentofRequiredKnowledge

1. PGT should be able to recognize clinical manifestations, diagnose and manage cases of osteoarthritis, rheumatoidarthritis,SLE,otherinflammatoryandmetabolicmyopathies.
2. PGTshouldbecompetentenoughtodiagnoseandmanagescleroderma,fibromyalgiaandsofttissuerheum atism.

RheumatologicDiseases

- AcuteMonoarticular arthritis
- Osteoarthritis
- Rheumatoidarthritis
- Systemiclupuserythematosus(SLE)
- Scleroderma

- Anti-phospholipidsyndrome
- Otherinflammatoryandmetabolicmyopathies
- Seronegativearthropathies
- Crystalinducedarthritis(Gout)
- Vasculitis
- Fibromyalgiaandsofttissuerheumatism(tenniselbow)

ProceduralSkills

- softtissueandjointinjections
- spinalinjectionsforreliefofbackpain
- biopsyproceduressuchsynovialormusclebiopsies
- musculoskeletalultrasound
- synovialfluidaspirations
- synovialbiopsy
- arthrocentesis
- triggerpointinjections

Interpretationofclinicalandlaboratoryprocedures

- X-rayandotherimagingtechniques
- Labtests
- softtissueandjointinjections
- spinalinjectionsforreliefofbackpain
- biopsyproceduressuchsynovialormusclebiopsies
- musculoskeletalultrasound
- synovialfluidaspirations

- synovialbiopsy

Teachingstrategies

- Didacticlectures
- Bedsideteaching
- Casebaseddiscussion
- Problembasedlearning
- Seminars
- Conferences
- Symposiums
- Outpatientevaluationinclinicalsettings
- Interactivesessions

Assessment

- OSCE
- MCQs
- SEQs
- Longcase
- Shortcase

*Assessment of the trainees will be followed by constructive feedback for improvement of their attitude, performanceandcompetencies.

Evaluation/Feedback

- 360degreeevaluationofthetraineestogradethetraineesineachofthesixcompetenciesasrelatedtorheumatology.
- Evaluation by formal discussion of trainees with supervisor, co-supervisor and program director by the end ofrotationto ruleoutconflictsofinterestand difficultiesfaced bytrainees
- Evaluation of training program pertinent to effectiveness and efficiency of program in equipping trainees withnecessaryskills
- Traineeswillfrequentlybeprovidedwithfeedbackforimprovementoftheirperformance.

Attributesrequired

SystemsBasedLearning	Attitudes,Values andHabits	Professionalism	Interpersonal and CommunicationSkills	PracticeBased LearningImprovement	Evaluation of MedicalKnowledge
• PGT should improvein the utilization ofand communicationwith many healthservices andprofessionalssuchasthe radiologist,surgeon, andpathologist • PGT shouldrecommend drugsavailableinhospitalsetting • Bed bureau shouldbeinformedfor bedissues. • PGT should improvein the use of costeffectivemedicine	• Keeping thepatient andfamilyinformed onthe clinical statusofthepatient, resultsoftests, etc. • Frequent,directcommunication with thephysician whorequestedtheconsultation • Review ofpreviousmedicalrecords and	• PGT shouldunderstandthe ethicalconflictbetweencareof anindividual and welfareof thecommunity • PGT shouldunderstandthe ethicalconflictspertinent toantimicrobialtherapy,vaccinationand preventive	• PGT shouldlearnwhentocall asubspecialistto managepatient withrheumatologicdisease • PGT shouldclearlypresent thecasestostaffin organizedway • PGT shouldbe able toestablishrapportwithpatients	• PGT should usefeedback andself-evaluationin order toimproveperformance. • PGT shouldread therequired material andarticlesprovided toenhancelearning. • PGT should usethe medicalliteratureresearch tools inthelibrary to	• PGT shouldbe able toanswerdirectedquestions &participate incasemanagement • PGTpresentationson assignedshort topicswill beassessed forcompleteness, accuracy,organization&understanding of topic

• PGT should assist indetermining the rootcause of any errorwhich is identifiedand methods foravoiding suchproblems in thefuture • PGT must assist indevelopment ofsystems'improvement ifproblems areidentified	extraction ofinformationrelevanttothepatient'srheumatologicstatus. Other sources ofinformationmaybeused,whenpertinent • Understandingthatpatientshavetherightto either accepts ordeclinerecommendationsmadebythephysician • Education of thepatient	measures • PGT shouldacknowledge medicalerrors andshould learnhow to avoidmistakes infuture • PGT shouldberesponsibleand timely inconsulting with staff &patients • PGT shouldhaveprofessionalappearance atalltimes • PGTshould	• PGT shouldlistento thepatient's complaintsfor patient'swelfare • PGT shouldeffectivelyeducate &counselpatients • PGT shouldnot down allcomplaints ofpatients inorganized manner • PGT shouldtimely communicatept's problemtothestaff	findappropriatearticlesrelatedto interestingcases	• Ability ofPGTtoapply theinformationtothepatientcaresetting • interestlevel of PGT inlearning

SuggestedReadings

1. SectiononmusculoskeletaldiseaseinHarrison'sPrinciplesofInternalMedicine,McGraw-Hillpublisher.
2. SectionofRheumatologyinCecil'sTextbookofMedicine,latestEditionWBSandersPublisher.
3. MKSAPbookletonRheumatology.
4. ThetextbookPrimerontheRheumaticDiseasewillalsobeprovidedwhichaddressallbasicareasofrheumatology.

R.EMERGENCYMEDICINE

EducationalPurpose

Tolearnpracticingemergencymedicine,prioritizationofcareandtriage,interactionwithambulanceandotheremergencypersonnelandbasicapproachtocommon emergencies;traumatic,medical,pediatricandadult.

ContentofRequiredKnowledge

1. PGT should be able to obtain all pertinent historical data and correctly do physical examination and assessment inacuteillness
2. PGTshouldbecompetentenoughto developanappropriatediagnosis&careplanforEmergencypatients
3. PGTshouldbeproficientinperformingemergencyproceduresunderuniversalprecautions
4. PGTshouldbeadequatelyskilledtoresuscitateacriticallyillpatient

Medical&Surgical Emergencies

- Knowledgeofpathologicalabnormalities,clinicalmanifestationsandprinciplesofmanagementofmedicalandsurgicalemergencies
- Understandingofroutineinvestigationsforpropermanagementofpatients
- Abilitytotakedecisionregardinghospitalizationortimelyreferraltootherconsultants/subspecialty
- Competencyinselectingcorrectdrugcombinationsfordifferentclinicalproblemskeepinginviewtheirpharmacologicaleffect,sideeffects,interactionwith otherdrugs
- Proficiency in recommending preventive, restorative and rehabilitative aspects including those in elderly so astocounselthepatientscorrectlyafterrecoveryfrom acuteor chronic illness.

GeneralskillstobeachievedformanagingEmergencies

- Historytaking
- Planninginitialmanagement
- Simpleairwaymaneuvers
- Bagmaskventilation
- LMA&multi-lumenesophagealairwayinsertion
- Oropharyngealandnasopharyngealairway
- Applynasalprongs
- Administernebulizer
- Arterialpuncture
- Inlineimmobilization
- Applicationofcervicalcollar
- Oxygentherapy
- Cardio-pulmonaryresuscitation
- BasicsofECG
- Rhythmrecognition
- Defibrillationandcardioversion
- PeripheralI/Vaccess
- NGtubeinsertion
- Urinarycatheterinsertion
- Decompressionofpneumothorax
- ExaminationofEar,NoseandThroat
- Splinting
- Debridement

- Wound care
- Suturing
- P/VandP/Rexamination
- Lumbarpuncture
- Basicsofradiology

❖ **Desiredmedicalandsurgicalprocedureswhichshouldbedemonstratedaftertraineeshavebeenimpartedcompetencies**

MedicalSkills

- Advancedairwaymanagement
- Ventilatorsupport
- Non-invasiveventilation
- Centralvascularaccess
- CVPmonitoring
- Transcutaneouspacing
- Transvenouspacing
- Invasivehemodynamicmonitoring
- Temporarypacemakerinsertionandmaintenance
- Pain relief
- Naso-jejunaltubeplacement
- Bronchoscopy
- Abdominalparacentesis
- Hemodialysis

SurgicalSkills

- Percutaneoustracheostomy
- Cricothyroidotomy
- Surgicaltracheostomy
- Burrhole
- ICPmeasurement
- Venouscutdown
- Thoracentesis
- ICDtubeplacement
- Externalfixationofpelvis
- Fasciotomy
- Escharotomy
- Embolizationofbleedingvessels
- Retrogradeurethrogram
- IVU

HandsonTraininginTraumaManagement&Assessment

1. Needlethoracentesis
2. Cricothyroidectomy
3. Needlecricothyroidotomy
4. Suprapubiccatheterization
5. Interosseousnailing
6. Centralvenousaccess
7. Spineimmobilization

8. Splinting
9. POPcasting
10. Compartmentpressuremeasurement
11. Invasivepressuremonitoring
12. Suturingtechnique
13. ABG sampling
14. Anteriorandposteriornasalpacking
15. Foreignbodyremoval
16. Reducingdislocatedjoints
17. Debridement
18. Endotrachealinsertion
19. InsertionofFoley'scatheter
20. Umbilicalveincatheterization
21. Emergencyultrasonography
22. Nailbedhematomaremoval
23. Reducingparaphymosis
24. Externalfixatorforpelvis
25. Autotransfusiontechnique
26. IncisionandDrainage
27. Nerveblocks
28. Abdominalcompartmentpressuremonitoring

Interpretationsofclinicalandlaboratoryprocedures

- ReadingtraumaandsurgicalrelatedCT
- ReadingtraumaandsurgicalrelatedMRI

- ReadingtraumaandsurgicalrelatedX-ray
- Interpretresultsofspecializedinvestigationslike:
    - Ultrasonography
    - Biochemical, hemodynamic, electro-cardiographic, electro-physiological, pulmonary functional,hematological,immunological,nuclearisotopescanningand ABGanalysis results

Teachingstrategies

- Handsontrainingintraumamanagementworkshops
- Didacticlectures
- Bedsideteaching
- Casebaseddiscussion
- Problembasedlearning
- Seminars
- Conferences
- Symposiums
- Outpatientevaluationinclinicalsettings
- Interactivesessions

Assessment

- OSCE
- MCQs
- SEQs
- Longcase
- Shortcase

*Assessment of the trainees will be followed by constructive feedback for improvement of their attitude, performanceandcompetencies.

Evaluation/Feedback

- 360degreeevaluationofthetraineestojudgetheprofessionalism,ethics,counseling&interpersonalcommunicationskills
- Evaluation by formal discussion of trainees with supervisor, co-supervisor and program director by the end ofrotationto ruleoutconflictsof interestand difficultiesfaced bytrainees
- Evaluationoftrainingprogrampertinenttoeffectivenessandefficiencyofprogramineequippingtraineeswithnecessaryskills
- Traineeswillfrequentlybeprovidedwithfeedbackforimprovementoftheirperformance.

Attributesrequired

Systems BasedLearning	Attitudes,Values andHabits	Professionalism	Interpersonal and CommunicationSkills	Practice BasedLearningImprovement	EvaluationofMedical Knowledge
• PGT shouldimprove in theutilization of andcommunicationwithmanyhealthservices andprofessionals such as theradiologist,surgeon, andpathologist • PGT shouldadvisetheuseofcost effectivemedicine • PGT should assistin determining theroot cause of anyerror which isidentified andmethods foravoiding suchproblems in thefuture • PGTmustassistindevelopmentofsystems'improvement ifproblems areidentified	• Keeping thepatient andfamilyinformed onthe clinicalstatusofthepatient, resultsoftests, etc. • Frequent,directcommunication with thephysician whorequestedtheconsultation • Review ofpreviousmedicalrecords andextraction ofinformation relevanttothepatient'shematologicstatus. Othersources ofinformation maybeused,whenpertinent	• PGT shouldunderstand theethical conflictbetweencareofan individualand welfare ofthecommunity • PGT shouldunderstand theethical conflictspertinent toantimicrobial therapy,vaccination andpreventive measures • PGT shouldacknowledgemedical errorsand shouldlearn how toavoidmistakesin future • PGT should beresponsibleandtimely inconsulting withstaff&pati	• PGT shouldlearnwhentocall asubspecialistto managepatient withmedical/surgicalemergencies • PGT shouldclearlypresent thecasestostaffin organizedway • PGT shouldbe able toestablishrapportwithpatients • PGT shouldlisten to thepatient's complaintsfor patient'swelfare • PGT	• PGT shouldusefeedbackand self-evaluation inorder toimproveperformance. • PGT shouldreadtherequired materialandarticlesprovided toenhancelearning. • PGT shouldusethemedicalliteraturesearch toolsin the libraryto findappropriatearticlesrelated tointeresting cases	• PGT should beable to answerdirectedquestions &participate incasemanagement • PGTpresentationson assignedshorttopicswillbeassessedforcompleteness,accuracy,organization &understandingof topic • Ability of PGTto apply theinformation tothepatientcaresetting • interestlevelof PGTinlearning

		ents • PGT shouldhave	shouldeffectivelyeducate &counsel		

• PGT shouldrecommendmedicineseasilyavailable fromhospitalpharmacy • PGT shouldrecommend labtests that couldeasilybedoneinhospital • Forbedissue,bedbureau should beinformed	• Understandingthatpatientshavetherighttoeitheracceptsordeclinerecommendations madebythephysician • Education ofthepatient	professionalappearanceatalltimes • PGTshould	patients • PGT shouldnot down allcomplaints ofpatients inorganized manner • PGT shouldtimely communicate pt's problemtothestaff		

SuggestedReadings

1. BasicLifeSupport(BLS)ProviderManualbyAmericanHeartAssociation.2016.
2. Emergency Care and Transportation of the Sick and Injured (Book & Navigate 2 Essentials Access). 11thEdition.American AcademyofOrthopaedicSurgeons(AAOS)
3. RespondingtoEmergency:ComprehensiveFirstAid/CPR/AED.AmericanRed Cross.1stEdition.
4. JohnTardiff,PaulaDerr,MikeMcEvoy.Emergency&CriticalCarePocketGuide 8thEdition.2016.

S.GERIATRICS

EducationalPurpose

Tolearntheprinciplesofaging,recognizeandmanagegeriatricsyndromesandbecomeexpertindiagnosing,managingandevaluatingcommon geriatricdisorders

ContentofRequiredKnowledge

1. PGT should be able to recognize signs and symptoms of all haematologic disorders and manage them inconsultationwith supervisor
2. PGTshouldunderstandtheprinciplesoftherapyforhaematologicmalignancies
3. PGT should seek pertinent physical exam, laboratory information, and radiographic studies to rule out metastaticdiseaseand oncologicemergencies

GeriatricDiseases/Problems

CommonClinicalDisorders

Prevention	Adultpreventivevisit
	Adult
	immunizationsSmoki
	ngCessation
Eye	Lowvision
	CataractBl
	epharitis
ENT	Sinusitis

	Pharyngitis
	URI
	Cerumen impactionHearinglo ss
Respiratory	Acute bronchitisCOPD/chronic bronchitisChronic coughAsthma/wheezing Pneumonia Influenza
Cardiovascular	Hypertension Coronary artery diseaseCHF Chest PainPalpitationsP eripheral edemaPost MI careAtrialfibrillati on Deepveinthrombosis

Gastrointestinal	GE refluxUlcer/g astritis Gastroenteritis/acute diarrheaIrritable bowel SyndromeConstipation HemorrhoidsDiverticu lar DiseaseLiverdisease/j aundice
Renal	Renal insufficiencyNeph rolithiasisProteinu riaHematuriaPyel onephritis
Gynecology	MenopauseVagini tis, atrophicVaginitis, infectiousBreast massUterinefibroid

Urology Incontinence

	UTI
	ProstatismPro
	statitisProstat
	emass
Musculoskeletal	Low back
	painOsteoporo
	sisOsteoarthrit
	isArthritis,
	OtherKneepain
	NeckPain
	OveruseSyndrome/tenosynovitis
Neurology	
	Delirium
	Headache
	Dementia
	Cerebrovascular
	DiseaseSleep
	disorderParkinson’sdise
	ase
	Gait
	ataxiaDizzi

ness

	Multiple sclerosisSeizuredisorder
MentalHealth	DepressionAlcohol abuseAnxiety Adjustment disorderSomatization Panic disorder
Hematology/Oncology/Immunology	AnemiaI CancerScreening SystemicCancercarecoordinationCancerdiagnosis
InfectiousDiseases	HIVTuberculosisMalaria
Dermatology	Pressure UlcerActinic keratosisSeborrheic

keratosisDermatitis

	Nevus/benplasm
	Tinea
	Varicellazoster
	Skininfection(abscess,cellulitis,EndocrineDi
	abetesmellitus,typeII
	Hypothyroidism
	Hyperlipidemia
	ObesityHyperthy
	roidism
	Diabetes mellitus, type
	IHormonereplacementtherapy
Constitutional	Fatigue
	UnintentionalweightlossF
	ever
Abuse/neglect	Elderabuse/neglect

ProceduralSkills

- ADLandIADLAssessment
- Mini—MentalStatusExam(MMSE)
- LifeExpectancyEstimate

- GeriatricDepressionScale(GDS)
- Decision-MakingCapacityAssessment
- MobilityStatusAssessment1
- RightingReflexAssessment
- NutritionalStatusAssessment
- MedicationReviewwithRecommendations
- PressureUlcerRiskAssessment/Prevention
- PressureUlcerStaging/Treatment
- UrinaryIncontinenceAssessment/Management

- **Teachingstrategies**

- Didacticlectures
- Bedsideteaching
- Casebaseddiscussion
- Problembasedlearning
- Seminars
- Conferences
- Symposiums
- Outpatientevaluationinclinicalsettings
- Interactivesessions

Assessment

- OSCE
- MCQs
- SEQs
- Longcase
- Shortcase

Evaluation/Feedback

- 360degreeevaluationofthetraineestojudgetheprofessionalism,ethics,counseling&interpersonalcommunicationskills
- Evaluation by formal discussion of trainees with supervisor, co-supervisor and program director by the end ofrotationto ruleoutconflictsofinterestand difficultiesfaced bytrainees
- Evaluationoftrainingprogrampertinenttoeffectivenessandefficiencyofprogramineequippingtraineeswithnecessaryskills
- Traineeswillfrequentlybeprovidedwithfeedbackforimprovementoftheirperformance.

Attributesrequired

SystemsBasedLearning	Attitudes,Values andHabits	Professionalism	Interpersonal and CommunicationSkills	PracticeBased LearningImprovement	Evaluation of MedicalKnowledge
• PGT should improvein the utilization ofand communicationwith many healthservices andprofessionalssuchasthe radiologist,surgeon, andpathologistetc. • PGT should advisethe use of costeffectivemedicines • PGT shouldrecommendmedicine easilyavailable fromhospitalpharmacy • PGT should suggestlab tests that couldbe conducted insidethetreatinghospital • PGT should assist indetermining the rootcause of any errorwhich is identifiedand methods foravoiding suchproblems in	• Keeping thepatient andfamilyinformed onthe clinical statusofthepatient, resultsoftests, etc. • Frequent,directcommunication with thephysician whorequestedtheconsultation • Review ofpreviousmedicalrecords andextraction ofinformationrelevanttothepatient'shematologicstatus. Other sources	• PGT shouldunderstandthe ethicalconflictbetweencareof anindividual and welfareof thecommunity • PGT shouldunderstandthe ethicalconflictspertinent toantimicrobialtherapy,vaccinationand preventivemeasures • PGT shouldacknowledge medicalerrors andshould learnhow to avoidmistakes infuture • PGTshould	• PGT shouldlearnwhentocall asubspecialistto managepatient withgeriatric disorders • PGT shouldlearn theimportanceof stayingabreast of themedicallitera tureaddressingthe variousdiseases andproblems ofthe elderly • PGT shouldclearlypresent thecasestostaffin organizedway • PGT shouldbe able	• PGT should usefeedback andself-evaluationin order toimproveperformance. • PGT shouldread therequired material andarticlesprovided toenhancelearning. • PGT should usethe medicalliteraturesearch tools inthe library tofindappropriatearticles relatedto interestingcases	• PGT shouldbe able toanswerdirectedquestions &participate incasemanagement • PGTpresentationson assignedshort topicswill beassessed forcompleteness, accuracy,organization&understanding of topic • Ability ofPGTtoapply theinformationtothepatientcaresetting • interestlevel of PGT inlearning

thefuture • PGTmust assist in	ofinformationmaybeused,whenpertinent		toestablishrapportwith		

developmentof systems'improvement ifproblems areidentified	• Understandingthatpatientshavetherightto either accepts ordeclinerecommendationsmadebythephysician • Education of thepatient	beresponsibleand timely inconsulting with staff &patients • PGT shouldhaveprofessionalappearance atalltimes • PGTshould	patients • PGT shouldlistento thepatient's complaintsfor patient'swelfare • PGT shouldeffectivelyeducate &counselpatients • PGT shouldnot down allcomplaints ofpatients inorganized manner • PGT shouldtimely communicatept's problemtothestaff		

SuggestedReadings

1. Section on Geriatric disease Chapter 9, pages 36-46 in Harrison's Principle of Internal Medicine, McGraw-Hillpublisher.
2. GeriatricdiseaseinCecil'sTextbookofMedicine,WBSaundersPublisher.
3. MKSAPbookleton Geriatrics

SECTION-III

RESEARCH&THESIS WRITING

Total of one year will be allocated for work on a research project with thesis writing. Project must be completed andthesis be submitted before the end of training. Research can be done as one block in 4th year of training or it can bestretchedoverfouryearsoftrainingintheformofregularperiodicrotationsduringthecourseaslongastotalresearchtimeis equivalentto onecalendar year.

ResearchExperience

The active research component program must ensure meaningful, supervised research experience with appropriateprotectedtimeforeachresidentwhilemaintainingtheessentialclinicalexperience.Recentproductivitybytheprogramfaculty and by the residents will be required, including publications in peer-reviewed journals. Residents must learn thedesign and interpretation of research studies, responsible use of informed consent, and research methodology andinterpretation of data. The program must provide instruction in the critical assessment of new therapies and of themedicalliterature.ResidentsshouldbeadvisedandsupervisedbyqualifiedstaffmembersintheconductofresearchClinicalResearch

Eachresidentwillparticipateinatleastoneclinicalresearchstudytobecomefamiliarwith

1. Researchdesign
2. ResearchinvolvinghumansubjectsincludinginformedconsentandoperationsoftheInstitutionalReviewBoard and ethics ofhuman experimentation
3. Datacollectionanddataanalysis
4. Researchethicsandhonesty
5. Peerreviewprocess

Thisusuallyisdoneduringtheconsultationandoutpatientclinicrotations

CaseStudiesorLiteratureReviews

Each resident will write, and submit for publication in a peer-reviewed journal, a case study or literature review on atopicofhis/herchoice

LaboratoryResearch

1. ***BenchResearch***Participationinlaboratoryresearchisattheoptionoftheresidentandmaybearrangedthrough any faculty member of the Division. When appropriate, the research may be done at otherinstitutions
2. ***Researchinvolvinganimals***

Eachresidentparticipatinginresearchinvolvinganimalsisrequiredto:

1. Become familiar with the pertinent Rules and Regulations of the Rawalpindi Medical University i.e.those relating to "Health and Medical Surveillance Program for Laboratory Animal Care Personnel" and"Careand UseofVertebrateAnimals asSubjectsin Research andTeaching".
2. Readthe"GuidefortheCareandUseof LaboratoryAnimals".
3. ViewthevideotapeofthesymposiumonHumaneAnimalCare

3.***ResearchinvolvingRadioactivity***

Eachresidentparticipatinginresearchinvolvingradioactivematerialsisrequiredto:

1. AttendaRadiationReviewsession
2. WorkwithanAuthorizedUserandreceiveappropriateinstructionfromhim/h

SECTION-IVDETAILSOFRESEARCHCURRICULUM&MANDATORYWORKSHOPS

CURRICULUMOFRESEARCH&MANDATORY WORKSHOPS

2017

FOR

MDSCHOLARS&POSTGRADUATETRAINEES

Of

RAWALPINDIMEDICALUNIVERSITY

INTRODUCTION

With advent of Evidence Based Practice over last two to three decades inmedical science, merging the best research **evidence** withgood clinical expertise and patient values is inevitable in decision making process for patient care. Therefore apart from receiving perexcellence knowledge of the essential principles of medicine and necessary skills of clinical procedures, the trainees should also be wellversed and skillful in research methodologies. So the training in research being imperative is integrated longitudinally in all four year'strainingtenureofthetrainees.

The purpose of the research training is to provide optimal knowledge and skills regarding research methods and critical appraisal. Theexpectedoutcomeofthistrainingistomaketraineesdexterousandproficienttopracticallyconductqualityresearchthroughamalgamationof theirknowledge,skillsandpracticeinresearch methodologies.

ORIENTATIONSESSIONFORPOSTGRADUATETRAINEES:

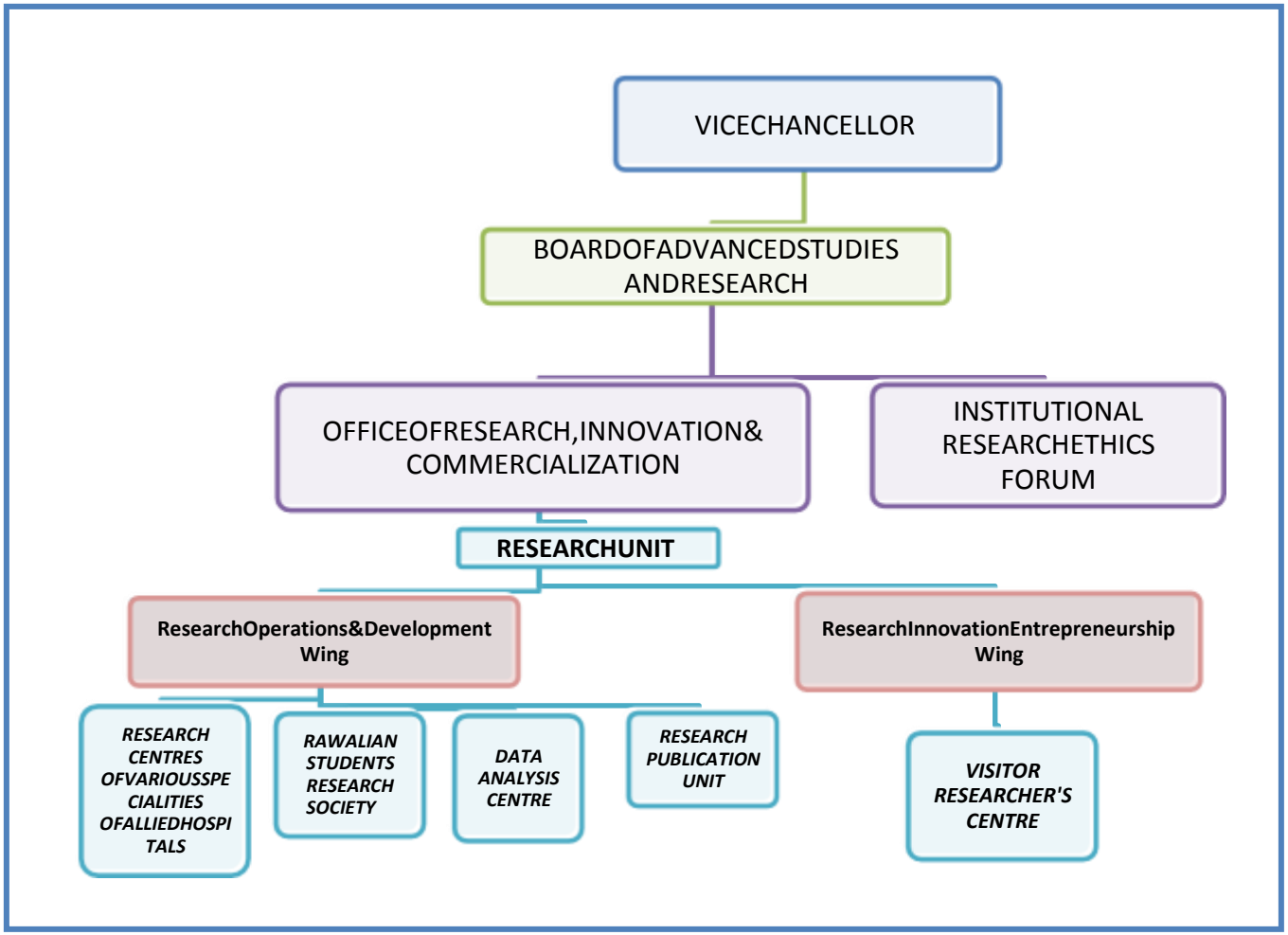
I. At the beginning of the research course, an orientation session or an introductory session of one hour duration will be held,organized by Director, Deputy Directors of ORIC (Office of Research Commercialization and Innovation) of RMU to make traineesacquainted to the research courses during four years post graduate training, the schedule of all scholarly and academic activitiesrelatedtoresearchandtheassessmentprocedures.

II. Trainees will also be introduced to all the facilitators of the course, organizational structure of ORIC (Annexure 1) and the terms ofreferences of corresponding authorities (Annexure2)foranyfurtherinformation andfacilitation.

III. Allthecurriculumdetailsandmaterialsforassistanceandguidancewillbeprovidedtotraineesduringtheorientationsession.

IV. TheresearchmodelofRMUasgiveninFigure1andwillbeintroducedtothenewlyinductedtraineesofRMU.

Figure1.MODELOFRESEARCHATRAWALPINDIMEDICALUNIVERSITY



TheresearchtrainingcomponentforPostGraduateTraineescomprisesoffouryearsandtheDistributionandcurriculumforeachyearismentioned asfollows:

RESEARCHCOURSEOFFIRSTPOSTGRAUDATIONTRAININGYEARR-Y1

PURPOSEOFR-Y1RESEARCH COURSE:

TheRESEARCHYEAR1orR-Y1researchcourseofthepostgraduatetraineesintendstoprovideampleknowledgetotraineesregardingthe importance of research, its necessity and types. This course will provide them clarity of concepts that what are the priority problemsthatrequireresearch,howtosortthemoutandselecttopicsforresearch.Itwillalsoteachthemthebesttechniquesforexploringexistent and previous evidences in research through well organized literature search and also how to critically appraise them. The coursewill not only provide them comprehensive knowledge but will also impart optimum skills on how to practically and logically plan anddesign a research project by educating and coaching them about various research methodologies. The trainees will get familiarized toresearch ethics, concepts of protection of human study subjects, practice-based learning, evidence based practice in addition to thestandard ethical and institutional appraisal procedures of Rawalpindi medical University by Board of Advanced Studies and Research andInstitutionalandEthics ResearchForumofRMU.

LEARNINGOUTCOMESOFR-Y1RESEARCHCOURSE

AftercompletionofR-Y1coursethetraineesshouldbeefficientlyableto:

1. Discussthevalueofresearchinhealthserviceinhelpingtosolveprioritypro blemsinalocalcontext.
2. Identify,analyseanddescribearesearchproblem
3. Reviewrelevantliteratureandotheravailableinformation
4. Formulateresearchquestion,aim,purposeandobjectives
5. Identifystudyvariablesandtypes

6. Developanappropriateresearchmethodology
7. Identifyappropriatesettingandsiteforastudy
8. Calculateminimallyrequired samplesizeforastudy.
9. Identifysamplingtechnique,inclusionandexclusioncriteria
10. Formulateappropriatedatacollectiontoolsaccordingtotechniques
11. Formulatedatacollectionprocedureaccordingtotechniques
12. Pre-testdatacollectiontools
13. Identifyappropriateplanfordataanalysis
14. PrepareofaprojectplanforthestudythroughworkplansandGanttcharts
15. Identifyresourcesrequiredforresearchandmeansofresources
16. Preparearealisticstudybudget inaccordancewiththeworkplan.
17. Criticallyappraisearesearchpaperofanynationalorinternationaljournal.
18. Presentresearchpaperspublishedinvariousnationalandinternationaljournalsatjournalclub.
19. Preparearesearchproposalindependently.
20. Developastrategyfordisseminationandutilisationofresearchresults.
21. FamiliarizationwithapplicationPerformaforsubmission ofaresearchproposaltoBASRorIREF.
22. FamiliarizationwithformatofpresentationsandprocedureofpresentationanddefenceofaresearchproposaltoBASRorIREF.
23. Familiarizationwiththesupervisor,nominatedbytheDeanandtodevelopaharmoniousrapportwithsupervisor.

RESEARCHCOURSEOFFIRSTTRAININGYEAR

Followingacademicandscholarlyactivitieswillbe carriedoutduringyear1 ieR-Y1ofResearchcoursecateringthepostgraduatetrainees

A. TEACHINGSESSIONS:

Researchwillbetaughttothetraineesthroughfollowingmethodsinvarioussessions.Eachsessionwillcompriseofalloreitheroneortwoorallfive ofthefollowingtechniques;

1. Didacticlecturesthroughpower-pointpresentations.
2. Onspotindividualexercises.
3. Onspot groupexercises.
4. Takehomeindividualassignment
5. Takehomegroupassignment.

Thefacilitatorsofthesesessionswillbestaffmembers(thataredirector,deputydirectors(managers),researchassociates,statisticianand publication in charge) of Office of Research Innovationand commercialization (ORIC) of RMC. While visitor lecturers includingrenowned national and international public health consultants, researchers, epidemiologists and biostatisticians will also beinvited,accordingtotheiravailability,forsomemodules of thesecourse

Formatofteachingsessions:

i. Duringyear1i.e.R-Y1,23teachingsessionsintotalwillbetaken,withanaverageofthreesessionspermonth.Eachsessionwillcompriseof adidactic lecturedeliveredinitially,toattainthementioned learning outcomes.

ii. Eachdidacticlecturewillbeof30minutes'durationusingthepower-pointmediumthatwillbefollowedbya30minutesonspotindividualorgroupexercisesoftraineesduring thesame session.

iii. Bytheendofeachsession,atakehomeindividualtask/assignmentwillbegiventotrainees,eitherindividuallyoringroups,that will beduly evaluatedandmarkedeachmonth.

Coursecontentofteachingsessions:

i. The course materials will be based on an updated modified version of course titled as "Designing Health Services Research (Basic)"that was developed in collaboration of Rawalpindi Medical College & Nuffield Institute for Health, University of Leeds, UK basedadapted from"Designing and Conducting HealthSystems Research Projects" by CM. Varkevisser KIT Publishers, Amsterdam(InternationalDevelopmentResearch Centre) inassociationwithWHORegionalOfficeforAfrica.

ii. Thetraineeswillbeprovidedhardcopiesaswellassoftcopiesofthecoursecontentinafolderattheinitiationofthecourse.

iii. In addition to it they will be provided various soft copies and links of updated and good resource materials regarding research bythecoursefacilitators.

Curriculumofteachingsessions:

The details of the 22 teaching sessions of the trainees during year one R-Y1 along with the tentative time frame work, teaching strategies,contentofcurriculum andobjectives/Learningoutcomesof eachsessionsare displayedintable1

TABLE 1.TEACHING SESSIONS OF RESEARCH CURRICULUM OF YEAR 1 OF TRAINEES OF POST GRADUATETRAINEES/MDSCHOLARSOFRMU

SESSIONS &TIMINGS	***TEACHINGSTRATEGY***	***TOPICOFSESSION***	***SESSIONOBJECTIVES i.e. BY THE END OF SESSION THETRAINEESSHOULDBEABLETO;***
SESSION1 WEEK1 Month1	Lecture through powerpointpresentationfollowedby both individual exercise&Groupexercise	A. Introduction to healthsystemsresearch B. Identifying andPrioritizingResearch Problems	• Describe the purpose, scope and characteristicsofhealthsystemsresearch • Identify criteria for selecting health-relatedproblemstobe givenpriorityinresearch
SESSION2	Lecturethroughpower	Analysisandstatement	• Analyzeaselectedproblemandthefactors

WEEK2 Month1	pointpresentationfollowed by Individualexercise	of problem &Introduction toLiteraturerevie w	influencingitandunderstandhowtopreparethestate ment oftheproblemforresearch. • Describe the reasons for reviewing availableliterature and other information for preparationofaresearch. • Identifytheresourcesthatareavailablefor carryingoutsuch areview.
SESSION3 WEEK3 Month1	Lecturethroughpower point presentationfollowed by Individualexercise & Takehomeassignment	Literature reviewReferencing systems;Vancouver & Harvardreferencingsy stems	• Describe the methods for reviewing availableliteratureandotherinformationforprep arationofaresearch. • Shouldbefamiliarwithreferencingsystemsanditsi mportance. • Use Vancouver and Harvard referencingsystemsandshouldbeabletodiff erentiate betweenthem.
SESSIONS &TIMIN GS	***TEACHINGSTRATEGY***	***TOPICOFSESSION***	***SESSIONOBJECTIVES i.e. BY THE END OF SESSION THETRAINEESSHOULDBEABLET O;***
SESSION4 WEEK1 Month2	Lecturethroughpower point presentationfollowed byIndividual	Literature reviewReferencing managingsystems	• Describe the methods for reviewing availableliteratureandotherinformationforprep aration ofaresearch.

	exercise & Takehomeassignment		• Shouldbefamiliarwithuseandimportanceofreference managing systems; Endnote &Mendeley. • Usetheliteraturereviewandotherinformationpertaining to a research topic that will adequatelydescribethecontextofstudyandstrengthenthe statementoftheproblem.
SESSION5 WEEK2 Month2	Lecturethroughpower point presentationfollowed by Individualexercise & Take homeassignment	Plagiarism	• Describe the significance and necessity ofplagiarismdetection • Use online plagiarism detection tools and turn-it-infordetectingplagiarismthroughassessment oforiginalityscores/similarityindexforplagiarism
SESSION6 WEEK3 Month2	Lecturethroughpower pointpresentation followedbyIndividual exercise	Formulationof researchobjectives	• Statethereasonsforwritingobjectivesfora researchproject. • Defineanddescribethedifferencebetween generalandspecificobjectives. • Definethecharacteristicsofresearch objectives. • Prepareresearchobjectivesinanappropriate format. • Developfurtherresearchquestions,and researchhypotheses,ifappropriateforstudy.

SESSIONS &TIMINGS	***TEACHINGSTRATEGY***	***TOPICOFSESSION***	***SESSIONOBJECTIVES i.e. BY THE END OF SESSION THETRAINEESSHOULDBEABLETO;***
SESSION7 WEEK4 Month2	Lecturethroughpower point presentationfollowed by IndividualAssignment	Formulation ofHypothesis for aresearch	• State the reasons and scenario forformull2atingresearchhypothesis . • Define and describe the types differencebetweenonesidedandtwosidedhypothesis. • Formulate Null hypothesis and Alternatehypothesisin an appropriateformat. • Identifyimportanceofhypothesistestingand to identifytypeI &typeIIerrors.

SESSION8 WEEK1 Month3	Lecture through powerpointpresentationfollowedbyagroupexercise.	Researchmethodology;Variables andIndicators	• Define what study variables are and describewhytheirselectionisimportantinresearch. • State the difference between numerical andcategorical variables and define the types ofscalesof measurement. • Discuss the difference between dependent andindependent variables and how they are used inresearchdesigns. • Identifythevariablesthatwillbemeasuredina researchprojectanddevelopmentofoperational

			definitionswithindicatorsforthosevariablesthat cannotbemeasureddirectly.
SESSIONS &TIMINGS	***TEACHINGSTRATEGY***	***TOPICOFSESSION***	***SESSIONOBJECTIVES i.e. BY THE END OF SESSION THETRAINEESSHOULDBEABLETO;***
SESSION9 WEEK2 Month3	Lecture through powerpointpresentationfollowedbyagroupexercise.	Researchmethodology;Studytypes	• Describethestudytypesmostlyused inHSR. • Define the uses and limitations of each studytype. • Describe how the study design can influencethevalidityandreliabilityofthestudyresults. • Identifythemostappropriatestudydesignfora study.
SESSION10 WEEK1 Month4	Lecturethroughpower pointpresentation	Data collectiontechniques	• Describevariousdatacollectiontechniquesandstatetheiruses andlimitations. • Advantageously use a combination of differentdatacollectiontechniques. • Identify various sources of bias in data collectionandwaysofpreventingbias. • Identify ethical issues involved in theimplementationofresearchandwaysofensuring thatinformantsorsubjectsarenotharmed.

			• Identifyappropriatedata-collectiontechniques.
SESSION11 WEEK2 Month4	Lecturethroughpower pointpresentation	Datacollectiontools	• Preparedata-collectiontoolsthatcoverallimportant variables.
SESSIONS &TIMINGS	***TEACHINGSTRATEGY***	***TOPICOFSESSION***	***SESSIONOBJECTIVES i.e. BY THE END OF SESSION THE TRAINEESSHOULDBE ABLETO;***
SESSION12 WEEK1 Month5	Lecturethroughpower pointpresentation	Sampling	• Identify and define the population(s) to bestudied • Describecommonmethodsofsampling. • Decide on the sampling method(s) mostappropriateforaresearchdesign.
SESSION13 WEEK2 Month5	Lecturethroughpower point presentationGroupexercises	Sampling	• List the issues to consider when deciding onsample size. • Calculate minimally required sample sizeaccordingtostudydesigns • UseWHO's(WorldHealthOrganization's)sample sizecalculator.

			• Decideonthesamplesize(s)mostappropriatefor aresearchdesign.
SESSION14 WEEK3 Month5	Lecturethroughpower pointpresentation	Plan for Data Entry ,storage and StatisticalAnalysis	• Identifyanddiscussthemostimportantpointstobe considered when starting to plan for datacollection. • Determinewhatresourcesareavailableandne ededtocarryoutdatacollectionforstudy. • Have knowledge of resources, available for datarecording,storageandtocarryoutdataanalysiso fastudy? • Describe typical problems that may arise duringdatacollection andhowtheymaybesolved. • Identify important issues related to sorting,qualitycontrol,and processing of data.
SESSIONS &TIMIN GS	***TEACHINGSTRATEGY***	***TOPICOFSESSION***	***SESSIONOBJECTIVES i.e. BY THE END OF SESSION THE TRAINEESSHOULDBE ABLETO;***

			•Describe how data can best be analyzed andinterpretedbasedontheobjectivesandvariablesof thestudy • Prepareaplanfortheprocessingandanalysisofdat a(includingdatamaster sheetsanddummy tables)fortheresearchproposalbeingdeveloped.
SESSION15 WEEK1 Month6	Lecture through powerpoint presentation andindividualexercises	Introduction toStatistical Package ofSocialSciences(SPSS)	• Introduction to Statistical Package of SocialSciences. •Entryofvarioustypesofvariables inSPSS.
SESSION16 WEEK2 Month6	Lecture through powerpoint presentation andindividualexercises	Pilot and projectplanning	• Describe the components of a pre-test or pilotstudy that will allow to test and, if necessary, revisea proposed research methodology before startingtheactualdata collection. • Plan and carry out pre-tests of researchcomponentsfortheproposalbeingdeve loped. • Describe the characteristics and purposes ofvariousprojectplanningandschedulingtechniques such asworkscheduling&GANTTcharting. • Determine the various tasks and the staff neededfor a research project and justify any additional staff(researchassistants,supervisors)apartfromthe

			researchteam,theirrecruitmentprocedure,

			trainingand
SESSIO;NS &TIMIN GS	***TEACHINGSTRATEGY***	***TOPICOFSESSION***	***SESSIONOBJECTIVES i.e. BY THE END OF SESSION THE TRAINEESSHOULDBE ABLETO;***
			supervision. • Prepareaworkschedule,GANTTchartandsta ffingplanfor theprojectproposal.
SESSION17 WEEK3 Month6	Lecture through powerpoint presentation andindividualexercises	Budgetingforastudy	• Identifymajor categoriesforabudget. • Makereasonableestimatesoftheexpensesinvar iousbudget categories. • List various ways a budget can be reduced, ifnecessary,withoutsubstantiallydamagingaproject. • Preparearealisticandappropriatebudgetforthe projectproposal
SESSION18 WEEK1 Month7	Lecturethroughpower pointpresentation.	• Projectadministration • Plan fordisseminat ion • Research ethics &concepts of protectionofhumanstud ysubjects	• List the responsibilities of the team leader andproject administrator related to the administrationandmonitoringofaresearchproject. • Prepare a brief plan for administration andmonitoringofaproject. • Identifytheethicalconsiderationsmandatory duringexecutionofaresearchprojectandtheir

			importance. • Prepare a plan for actively disseminating andfosteringtheutilizationofresultsforaresearchthe projectproposal.
SESSION19 WEEK2 Month7	Lecturethroughpower pointpresentation	Differencesbetween originalarticles, shortcommunications,case reports,systematicreviewsand meta-analysis	• Differentiate between original articles, shortcommunications,casereports,systematicreviewsandmeta-analysis
SESSIONS &TIMINGS	***TEACHINGSTRATEGY***	***TOPIC OFSESSION***	***SESSIONOBJECTIVES i.e. BY THE END OF SESSION THE TRAINEESSHOULDBE ABLETO;***
SESSION20 WEEK3 Month7	Lecture through powerpoint presentation andgroupexercises	Writing a Casereport	• Identifyimportantcomponentsofagoodcasereport. • Formulate a quality case report of any rare casepresentedintheclinicalunitduringthetrainingperiod
SESSION21 WEEK1 Month8	Lecture through powerpoint presentation andgroupexercises	Undertaking aclinicalaudit.	• IdentifyClinicalauditasan essentialandintegralpartofclinicalgovernance. • Differentiatebetweenresearchandclinicalaudit.

			• Identifytypesof ClinicalAudit • Understandstepsofprocessof ClinicalAudit
SESSION22 WEEK2 Month8	Lecture through powerpoint presentation andgroupproject	Critical Appraisalof a researchpaper	• Identifytheimportanceandpurposeofcriticalappraisalofresearchpapers orarticles. • Haveampleknowledgeofimportantstepsofcriticalappraisal • Caneffectivelycriticallyappraiseresearchpaper publishedinanynationalorinternationaljournal.
SESSION23 WEEK3 Month8	Lecture through powerpoint presentation andindividualexercises	• Makingeffective power-pointpresentations • Makingeffective posterpresentations • Presenting aresearchpaper	• Determine various tips for making effective power-pointpresentations. • Determinevarioustipsformakingeffectiveposteranditspresentations. • Identifyimportantcomponentsofresearchpaperthatessentiallyshouldbecommunicatedinapresentation. • Can effectively and confidently make a power-pointpresentation of a research paper published in any nationalor international
SESSIONS &	***TEACHINGSTRATEGY***	***TOPICOF SESSION***	***SESSIONOBJECTIVES i.e.BYTHEENDOFSESSIONTHETRAINEES***

TIMINGS			***SHOULDBEABLETO;***
			journal. • Canformulateaposterofaresearchpaperpublishedinanyn ational orinternationaljournal.

MinimalAttendanceofteachingsessions:

TheattendanceofthetraineesintheResearchtrainingsessionsmustbe80%oraboveduringyear1,anditwillbedulyrecordedineachsessionandwill bemonitored alltheyearround.

AssessmentofTraineesforteachingsessions:

i. *For didactic lectures*, the learning and knowledge of the trainees will be assessed during the end of year examination or AnnualResearchPaper.
ii. One examination paper of Research of R-Y1 will be taken that will comprise of 75 marks in total and will consist of two sections.Section one will be of 50 marks in total and will comprise of 25 MCQ's (multiple choice questions) while section two will compriseof5SAQ's(Shortanswerquestions)and Problems/Conceptualquestions.
iii. Totaldurationofthepaper willbe90minutes.
iv. Thepaperswillbecheckedbythe researchassociatesandDeputyDirectorsof ORIC.

Assessmentofindividualandgroupexercises:

i. Thequality,correctnessandcompletenessoftheindividualaswellasgroupexerciseswillbeassessedduringtheteachingsessions,whenthey willbepresentedbytheendofeachsessionbytrainees eitherindividuallyor in groupsrespectively.
ii. Themodeofpresentationswillbeoralusingmediaofcharts,flipcharts&whiteboards.

iii. Therewillbenoscoresormarksspecifiedfortheindividualorgroupexercisesbutthefeedbackofevaluationbythefacilitatorswillbeonspotbyendofpresentations.

Assessmentofindividualorgroup;takehometasks/assignments*:*

i. The correctness, quality and completeness of the individual or group exercises will be determined once these will be submittedafter completion to the facilitators after period specified for each task. Assignments should be submitted in electronic version andno manuallywrittenassignmentwillbeaccepted.

ii. Each assignment will be checked for plagiarism through turn-it-in soft ware. Any assignment that will have originality score lessthan 90%or similarityindex more than10%willbereturnedbacktotraineesforrephrasingandresubmission.

iii. Assignmentswillbeassessedandchecked duringthesessionsandwillbescoredbythefacilitatorswhohadtakenthesession.

iv. Atotalof50marksintotalwillbeassignedforevaluationofallofthesetakehometasks/assignments.

B. PARTICIPATIONINJOURNALCLUB SESSIONS

i. Thejournalclubofeverydepartmentwillcompriseofanacademicmeetingoftheheadofdepartment,facultymembers,traineesand interneesatdepartmentallevel.

ii. Thepurposeofjournalclubwillbetocollectivelyattempttoseeknewknowledgethroughawarenessofcurrentandrecentresearchfindingsandalso toexplorebestcurrentclinicalresearchandmeansof itsimplementation andutilization.

iii. Apartfromtheteachingsessions of thetrainees shouldattendthejournalclubsessions ofthedepartmentsandshouldattempttoactivelyparticipateinthemtoo.

iv. One journal club meeting must be organized in the department in every two months of the year and its attendance by the traineeswillbemandatory.

v. ThejournalclubmeetingwillbechairedbytheDeanofspecialty.

vi. Thepurposeofparticipation of thetrainees injournalclubwillbetoenhancetheirscientificliteracyandtohaveoptimalinsightoftherelationshipbetweenclinicalpracticeandevidenced-basedmedicinetocontinuallyimprovepatientcare.

FormatofJournalClubMeetings:

i. Inajournalclubmeeting,oneortworesearchpaper/spublishedinanindexednationalorinternationaljournal,selectedbytheDeanofthedepartmentwillbepresentedby year2trainees; R-Y2trainees.

ii. Theresearchpaperwillbepresentedthroughpower-pointandthecriticalappraisalofthepaperwillfollowit.

iii. Thetopicwillalsobediscussedincomparisontootherevidencesavailableaccordingtothelatestresearch.

iv. The year one trainee i.e. R-Y1 trainee will only participate in the journal club and will not present during first year of training.He/she will be informed regarding the selected paper one and a half month prior to the meeting and should do extensive literatureresearch onthetopicandalsooftheresearchpaperthatwillbepresentedinmeeting.

v. The trainees should actively participate in question & answer session of the journal club meeting that will be carried out followingthe presentation of the critical appraisal of the research paper. It will be compulsion for each R1 trainee to ask at least onequestionormake atleast one comment relevanttothetopicand/ortheresearchpaper, duringthe journalclubmeeting.

MinimalAttendanceof JournalClubmeetingsbyR-Y1trainee:

TheR-Y1traineesshouldattendat least5outof6journalclubmeetingsduringtheirfirstyearoftraining.

AssessmentofTraineesforJournalClubsessions:

Therewillbenoformalquantitativeorqualitativeassessmentofthetraineeduringyearonefortheirparticipationinthejournalclub.

C. OBSERVATIONOFMONTHLYMEETINGOFINSTITUTIONALRESEARCHETHICSCOMMITTEE(IREF)OFRMU

i. In order to provide exposure to R-Y1 trainees regarding standard operational procedures and protocols of the research activities ofRawalpindi Medical University, each R-Y1 trainee should attend at least two monthly meetings of the Institutional Research EthicsCommittee ofRMUandshould observetheproceedingsofthemeeting.

ii. He/she will be informed by the research associates of ORIC about the standard procedures of application to IREF step wiseincluding guidance regarding how an applicant should access the RMU website and download the application Performa and thenhowtoelectronicallyfillitinforfinalsubmission.Theywillalsobeprovidedformatofpresentationfortheirfuturepresentationsat IREFmeetings.

MinimalAttendanceofIREFmeetingsbyR-Y1trainee:

TheR-Y1traineesshouldattendatleastatleasttwo(outof12)monthlymeetingsofIREFduringtheirfirstyearoftraining.

AssessmentofTraineesforparticipationintheIREFmeetings:

Therewillbeno formalquantitativeor qualitativeassessmentofthetraineeduringyearonefortheirparticipationintheIREFmeetings.

D. NOMINATIONOFTHESUPERVISOROFTHETRAINEEFORTHEDISSERTATIONPROJECT

i. During the first year of training, the supervisor of each trainee must be nominated within first six months. The Dean of thespecialtywilldecidethenominationofthesupervisor forthepostgraduatetraineeaswellasMDscholars.

ii. A meeting will be held in the middle of the year, in June preferably, that will be attended by all heads of the departments and theDean. The list of all the first year trainees and the available supervisors in each department will be presented by respective headsof each department in meeting. All of the eligible trainees and supervisors will also be around for brief interviews during themeeting.

iii. The head of departments, prior to interviews of the trainees and supervisors, will inform the Dean in the meeting, their ownpersonal observation of the level of performance, talent personality and temperament of both the trainees and the supervisors.Based on their consideration of the compatibility of both eligible trainees and the supervisors, Head of departments (HOD's) willrecommendor proposemost suitable supervisorsforeachtraineeaftereloquentdiscussionsandjustifications.

iv. The Dean will then call each trainee individually to inform him/her the suggested Supervisor for him/her and will also give rightand time for objection or reservation in nomination, if any. The Dean will seek the trainee's final consent and then after askingthetraineetoleavethemeeting room,will callthesupervisorforfinalconsent.

v. Ifthesupervisorwillalsobewillingtohappilysupervisethetrainee,thentheDeanwillfinallyapprovethenomination.

vi. AtentativelistwillbeissuedbytheofficeoftheDean,withinthreedaysofthemeeting,copiedtotheHOD'sandthetrainees andsupervisors.

vii. Both the trainees and the supervisors will be given two weeks to challenge the nominations, in case either of the two have anyqualms or objections regarding the nominations. They will also begiven right to personally approachthe Dean for any requestfor change. In case of any objection, the Dean will make changes in consultation with the HOD's, after final consent andsatisfactionof boththraineeandsupervisor

viii. The final revised list of nominations will be then issued by the office of Dean and will be sent to the Board of Advanced studiesand ResearchofRMU (BASR).

ix. The Board of Advanced studies and Research of RMU will issue final approval of the list and the Vice chancellor will endorse thenominationsasfinalauthority.

x. During the last few months of the first year of training, the trainees and supervisors will be advised by the Dean, to get familiarwith each other and try to identify their abilities to efficiently and successfully work together as a team, especially during theprojectofClinicalAudit,mentionedinnextsection.

xi. In case of any issues, either of both will have right to request any change in nomination to the Dean, till last week of first year oftraining.TheDeanwillthenconsiderthe caseandwill seekmodificationin nominationfromthe BASR.

xii. After completion of first year of training, no substitution in nomination will be allowed. In case of any serious incompatibilitybetween the trainee and the supervisor, the issue will be brought to the Vice chancellor directly by the Dean as a special case,whowillmakethefinaldecisionaccordingly, asthefinal authority.

xiii. As regards the MD scholars, the external supervisors will also be nominated and those nominations will be made by Vicechancellor of RMU in consultation with the Dean of specialty. The consent of the trainees and supervisors will follow the sameprotocol asspecifiedabove andthefinal listof nominationswillthenbe submitted toBASRforfinalapproval.

xiv. After finalization of nominations a letter of agreement of supervision will be submitted by the trainee to the office of Dean,including consent and endorsement of both trainee and the internal and/or external supervisor, with copies to HOD, ORIC andBASR.

xv. Thesupervisorandthetraineewillbeboundtomeetonweeklybasisexclusivelyforresearchactivitywithdocumentedrecordoftheactivity doneduring themeeting inthelogbook.

E. UNDERTAKINGACLINICALAUDITPROJECT

i. Duringninthmonthoftrainingyear1;R-Y1theheadofdepartmentwillformgroupsoftrainees,eithertwoorthreetraineesinone group (along with each supervisor of each trainee), depending on the total number of trainees available in that respective firstyear.

ii. These groups will undertake clinical audits on various aspects of the department as a project assignment, on one topic assigned toeach groupbytheDeanandHeads ofDepartments.

iii. Ifthegroupwillcompromiseoftwotraineesandtheirsupervisors'thentherewillbefourgroupmembersinthatgroupandif threetraineesinonegroup,thentherewillbesixmembersofthatgroupafterinclusionoftheirsupervisors.

iv. The trainees during session 21 conducted in first week of eighth month of training R-Y1, will already have been taught how toundertake a clinical audit and this task of undertaking a clinical audit will be assigned to them as its group project. This project willalso provide the trainees and the supervisors an opportunity towork closely and will help them understand and foresee theirgroupdynamics forfuturedissertations.

v. The clinical audits completed in groups will be published as Annual Audit Reports of the departments by the Dean and HOD's andeachmemberofthegroupwillbeacknowledgedasauthorintheAnnualAuditreportsorifalsopublished inanyresearchjournal.

vi. Theclinicalauditwill alsobepresentedin weekly Clinico-pathological conferences(CPC) oftheUniversity, ifapprovedby theDean.Thepresentationwillbesupervisedby HOD.

vii. Thecontributionofthepostgraduatetrainees'/MDtraineesinauditswillbequalitativelyassessedbythesupervisorsandtheheadofdepartments.

F. MONITORINGOFRESEARCHCOURSEOFYEAR1

i. All the concerned faculty members, at department, research units of specialties (including supervisors, senior faculty members andHead of Department) and the Deputy Directors and Director at the Office of Research Innovation & Commercialization of RMU willkeep vigilantandcontinuous monitoringofalltheacademicactivitiesofeach trainee.

ii. There will be a separate section of research in Structured Log books of trainees and also section of Research in portfolio record ofthe trainees specific to research component of the training that will be regularly observed, monitored and endorsed by all theconcerned faculty members, supervisor and facilitators. The Log and portfolio for the research curriculum of each training year willbe entered separately.

iii. TheStructuredResearchsectioninLogbooksspecifictoresearchcurriculumoftrainingyear1willincludetherecordofattendance of all the teaching sessions of the trainee that will be monthly updated and endorsed by the Department of MedicalEducation(DME)ofRMU.

iv. There will also be submission record and scores attained for the individual and group assignments of the trainees, endorsed by thefacilitatorsofORICincludingDeputyDirectors and ResearchAssociates.

v. The log books will also include the attendance of the trainees in the Journal club sessions of the department and with qualitativeassessment of the trainee regarding any active participation of the trainee during the journal club. It will specifically mentionwhether any question or comment was raised by the trainee during each journal club session. This information will be endorsed bythesupervisorof thetraineeandthe HeadofDepartment.

vi. TheattendancerecordofthetraineesinthemonthlymeetingsoftheInstitutionalResearchEthicsForum(IREF)ofRMUwillalsobepartofthe LogBookthatwillbeendorsedbytheconvenerof theIREFby the endofeachattended meeting.

vii. TheHOD will monitorthe weekly meetingsthrough observation ofthedocumentedrecord of meetingsin log booksbythe end ofeverymonth.

viii. The result of the annual research paper of R-Y1 will be entered in the Log books and will be endorsed by Deputy Directors andResearch AssociatesofORIC.

ix. TheresearchportfoliooftheR-Y1willbequalitativeandquantitativeselfassessmentofthetraineeinnarrativeform.Itwill also include the individual assessment of the objectives and aims defined by the trainee during the year and elaboration of theextent of attainment of these. The trainee will be able to specify his/her achievements or knowledge gained in any aspect ofresearch that was not even formally part of the research curriculum. It will include reporting of any research courses, online orphysically attended by the trainee, contribution in any research paper or publication, any participation and/or presentation in anyresearch conference,competitionetc duringyearR-Y1.

x. The research portfolio will assist the trainees to reinforce the importance of strategic thinking as a way to understand their contextand look to the future.By having a recorded insight of the individual achievements, weaknesses and strengths, the trainee will beable to maximize his/her talent andpotential of all the activities and projects of research with an aim of further progression incareer development.

G. OVERALLASSESSMENTOFPERFORMACEOFTRAINEESFORYEAR1

i. Quantitativeassessmentoftheperformanceandaccomplishmentoftraineeswillbedoneinanunbiased,impartialandequitablemannerby the supervisor,ORICdepartmentandtheseniorfaculty membersatthedepartment.

ii. The assessment of trainees will not only serve as an effective tool for evaluation of the extent and quality of knowledge gained andskills learnt by trainees but it will also effectively provide an evidence of the level of standards of teaching and training by thefacilitators,supervisorandthefaculty members.

iii. Forannualassessment ofevery trainee 75marksofAnnual Research Paper ofR-Y1will beincluded, while 25marks will beincluded from the home tasks assignments. The 50 marks of the home task assignments will be converted to 25 marks, to get anaggregate of 100 total marks. Out of these 100 total marks, 40% will be passing marks of this Research course and in case of failurein it, second attempt will be allowed to the trainees and if any one fails in second attempt too then he/she should appear next yearwith nextbatch'sfirstattempt.

H. EVALUATION/FEEDBACKOFRESEARCHCOURSEOFYEAR1

Success of any academic or training activities greatly rely on the honest and constructive evaluation that opens pavements of improvedand more effective performances and programs. The research course of the trainees will not only be evaluated by the trainees themselvesbut also by the deputy directors of ORIC, supervisors and HOD's through end of sessions forms and then collectively through end of coursefeedbackforms.

i. ***Thefeedbackoftrainees***willincludestructuredevaluationofeachteachingsessionthroughstructuredandanonymousfeedback forms/questionnaire that will be regularly distributed amongst the trainees. Anonymity will ensure an honest andunbiased response. They will be requested to provide their feedback regarding various aspects of teaching sessions eg content,medium used, facilitators performance and knowledge, extent of objectives attained etc through Likert scale. They will mark,through their personal choice without any pressure or peer consultation, one particular category amongst five scales specifiedranging from1-5, I representing the poorest quality while 5 representing excellence.Apart fromthisstructured assessment,open ended questions will also include an in depth perspective and insight. Similarly, an overall feedback questionnaire will alsobe rotated amongsttrainees.

ii. ***The feedback of trainers*** will include structured evaluation of each teaching session by the facilitators, supervisors and seniorfaculty members involved in the Research training course. They will provide their feedback through structured and anonymousfeedback forms/questionnaire, including closed and partially closed questions that will be regularly provided by them. They willprovide their inputs and opinions regarding effectiveness of the course contents, curriculum, teaching methodologies, teachingaidsandtechnologies,contentandusefulnessoftheexercisesandassessmentsetc.

iii. ***Three focus group discussions;*** oneof the R-Y1 trainees, second of the facilitators and third of the supervisors will also beorganizedbytheORICtoevaluatetheresearch course, itsbenefitsandweaknesses andscopefor improvement.

iv. ***Theresearchportfolio***willbecheckedandendorsedbythesupervisorandtheDirectorofORIC.

v. ***A final evaluation report of the Research Course R-Y1*** will be formulated and compiled by the ORIC of RMU. The report will bepresented all concerned stake holders, since the course evaluations will play a significant role in curriculum modification andplanning.

I. QUALITYASSURANCEOFRESEARCHCOURSEOF YEAR1

i. Thefinalqualityevaluationreportalongwithallthefeedbackmaterial,randomlyselectedlogbooks,researchportfolios,submitted individual & groups assessments and randomly selected annual research course examination papers will be observed byan evaluation team of Research course. The quality evaluation team of research course will include the Head of departments,Deans, selected representatives of BASR, IREF, Director DME (Department of Medical Education), Director of ORIC, Director ofQuality enhancement cell (QEC) and Vice chancellor of RMU, individually. The selection of representatives of the concerneddepartmentswillbemadebytheVicechancellorofRMU.

ii. All the materials will be observed and evaluated by the above mentioned once during the course and finally by the end of courseyear.

iii. The evaluation during the year will be done at any random occasion by members of evaluation teams individually or in teams andwillbedone withoutany priorinformationtothetraineesandtrainers.

iv. The evaluation will include not only physical observation of the materials but the evaluators may also make a visit to observe anyproceedingsor activitiesoftheresearch coursee.g.alecture,agroupexercise, ajournalclubsession and/oran IREFmeeting.

v. ORIC will be responsible for submission of the evaluation content to all including a copy to the Quality Enhancement Cell (QEC) ofRMUforinternal evaluation.

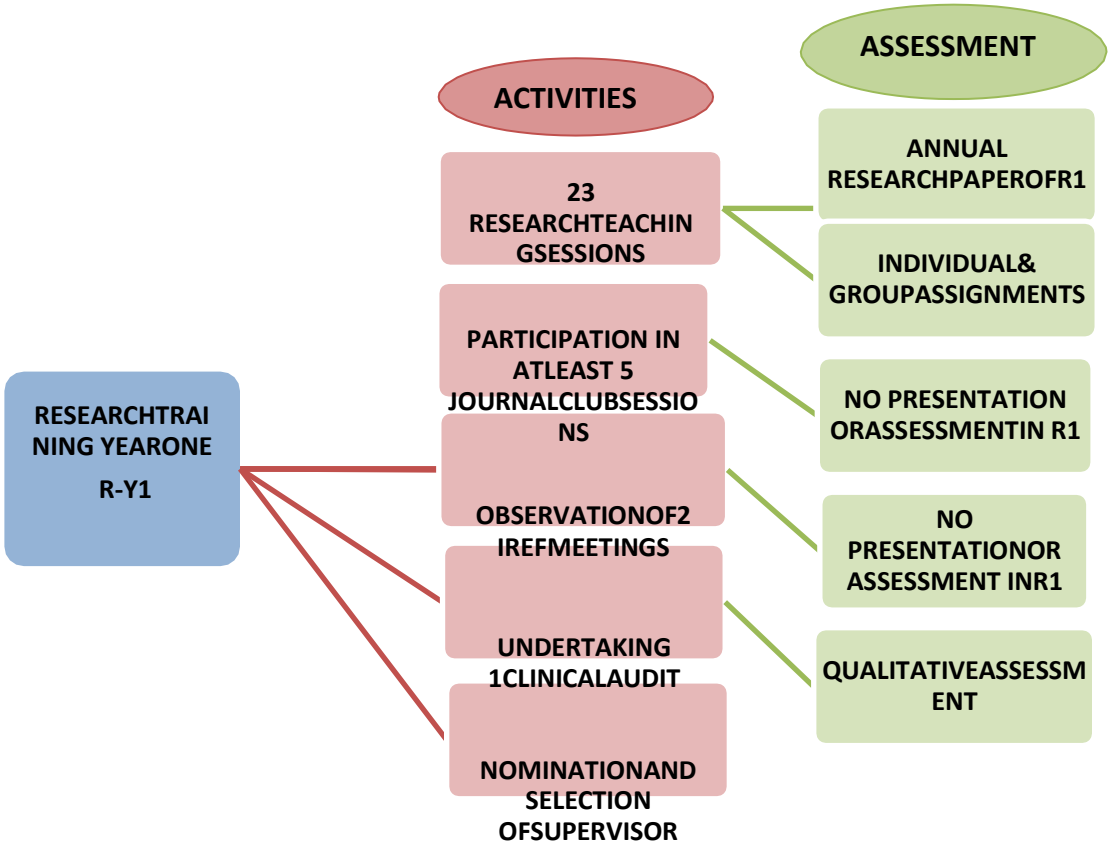
vi. The QEC will organize an external evaluation too through involvement of a third party that may include members of QualityassurancedepartmentofHigherEducationDepartmentbasedontheir availability.

vii. An annual meeting of the quality assessment and enhancement will also be organized by the Quality Enhancement Cell of RMU,including representatives of supervisors, Head of Departments, Dean, representative members of BASR, ORIC, DME, QEC & IREFand will be chaired by Vice chancellor. During the meeting all participants will review and discuss all the evaluation material. Thequalityevaluationteam willalso share theirexperiences oftheirevaluationvisits and observations tovalidatethe existingmaterials.

viii. In perspective of the quality assessment, the Vice Chancellor and the Board of Advanced study and Research will finalize anymodificationsorenhancementinthenextResearchcourse.

The activities related to research training of post graduate trainees is also displayed in figure 1. Successful completion of above mentionedrequirements of research course is one component of the all clinical and scholarly requirements for mandatory advancement to the nextPost GraduateYearleveli.e. year2trainingyearorR-Y2.

Figure3.AFLOWCHARTOFRESEARCHACTIVITIESOFR-Y1POSTGRADUATE/MDTRAINEEOFRMUANDTHEIRASSESSMENT



RESEARCHCOURSEOFSECONDPOSTGRAUDATIONTRAININGYEARR-Y2

PURPOSEOFR-Y2RESEARCHCOURSE:

The YEAR 2-R2 research course of the post graduate trainees will provide optimum skills to trainees to actually formulate their individualresearch proposal of the research project/dissertation, prerequisite to their degrees, in perspective of the knowledge acquired during yearone of the training i.e. R-Y1. This course will provide them clarity of basic epidemiological and biostatistics concepts that they essentiallyrequiretotransformtheirdataintosubstantialevidences,toanswertheirresearchquestionsfortheirindividualresearchproject/dissertation. The course will also make them proficient to follow the standard ethical and institutional appraisal procedures ofRawalpindi medical University by Board of Advanced Studies and Research and Institutional and Ethics Research Forum of RMU. It will alsoimpartthemexpertisetoexploreevidencesin researchthroughwellorganizedliteratureresearchand alsohowtocriticallyappraisethem.

LEARNINGOUTCOMESOFR-Y2RESEARCHCOURSE

AftercompletionofR-Y2coursethetraineesshouldbeefficientlyableto:

1. Identifyanddefinethebasicconceptsof Epidemiologicalmeasuresandbiostatistics.
2. Formulateandpretesttofinalizeallthedatacollectiontoolsfortheresearchprojects
3. Identifyandexecuteproficientlyallproceduresrequiredfordataanalysisandinterpretation.
4. Analyzeandinterpretthedatacollectedforaresearchprojectanddrawconclusionsrelatedtotheobjectivesofstudy.
5. Write a clear and concise research report (paper for a peer reviewed journal/dissertation) and a summary of the major findings andrecommendationsforeachofthedifferentparties interestedintheresults.
6. Presentthemajorfindingsandtherecommendationsofastudytopolicy-makersmanagersandotherstakeholderstofinalizetherecommendations.
7. Prepareaplanofactionforthedissemination,communicationandutilization ofthefindingsand(ifrequired)makerecommendationsforadditionalfutureresearch.
8. Criticallyappraisearesearchpaperofanynationalorinternationaljournal.
9. Presentresearchpaperspublishedinvariousnationalandinternationaljournalsatjournalclub.

10. Prepare finaldraftofthe researchproposalofthe Dissertationproject,requisite tothe postgraduationdegreeoftrainee,under theguidanceofthenominatedsupervisor.

11. FillinanapplicationPerformaforsubmissionofDissertation'sresearchproposaltoBASRorIREF.

12. PresentanddefendaresearchproposaltoBASRorIREF.

RESEARCHCOURSEOFSECONDTRAININGYEAR

Followingacademicandscholarlyactivitieswillbecarriedoutduringyear2i.e.R-Y2ofResearchcoursecateringthepostgraduatetrainees

A. TEACHINGSESSIONS:

i. Basic and advanced Biostatistics and Epidemiological concepts will be taught to the trainees through following methods in varioussessions.Eachsessionwill compriseofallor either oneortwoorallfourofthefollowingtechniques;

1. Didacticlecturesthroughpower-pointpresentations.
2. Onspotindividualexercises.
3. Takehomeindividualassignment
4. Takehomegroupassignment.

ii. The facilitators of these sessions will be staff members of Office of Research Innovation and commercialization (ORIC) of RMCincluding Director, Deputy Directors, Research Associates, Statistician and Publication In charge. While visitor lecturers includingrenownednationalandinternationalpublichealthconsultants,researchers,epidemiologists andbiostatisticians will alsobeinvited,accordingtotheiravailability,forsomemodulesofthesecourses.

Formatofteachingsessions:

i. Duringyear2i.e.R-Y2,16teachingsessionsintotalwillbeconducted,withanaverageofthreesessionspermonth.

ii. Each session will comprise of a didactic lecture delivered initially, to attain the mentioned learning outcomes. Each didacticlecture will be of 30 minutes duration using the power-point medium that will be followed by a 30 minutes on spot individualexercisesoftraineesduring thesamesession.

iii. Since most of the curriculum will comprise of quantitative calculations so trainees will be encouraged to work individually onexercises assigned both manually as well on Statistical Package of Social Sciences, instead of group exercises. These exercises willrequire calculations andnumericalsolvingtoo.

iv. By the end of each session, a take home individual task/assignment will be given to trainees, that too preferably individuallyrather thaningroups,that will beduly evaluatedandmarked eachmonth.

Coursecontentofteachingsessions:

i. The course materials will be based on an updated modified version of course titled as"Designing Health Services Research(Advanced)" that was developed in collaboration of Rawalpindi Medical College & Nuffield Institute for Health, University of Leeds,UKbasedadaptedfrom"DesigningandConductingHealthSystemsResearchProjects"byCM.VarkevisserKITPublishers,Amsterdam (InternationalDevelopmentResearch Centre)in associationwith WHORegional Office for Africa.

ii. Thetraineeswillbeprovidedhardcopiesaswellassoftcopiesofthecoursecontentinafolderattheinitiationofthecourse.

iii. Inadditiontoittheywillbeprovidedvarioussoftcopiesofvariousdatasetsforpracticingdataanalysisinadditiontolinksofupdated andgoodresource materialsregardingresearchby the coursefacilitators.

Curriculumofteachingsessions:

Thedetailsofthe16teachingsessions of the trainees during yeartwoR-Y2alongwiththetentativetimeframework,teaching strategies,contentofcurriculum and objectives/Learning outcomes ofeach sessionsare displayedintable2.

TABLE2.TEACHINGSESSIONSOFRESEARCHCURRICULUMOFYEAR2OFTRAINEESOFPOSTGRADUATETRAINEES/MDSCHOLARSOFRMU

SESSIONS &TIMINGS	***TEACHING STRATEGY***	***TOPIC OFSESSION***	***SESSIONOBJECTIVES i.e. BY THE END OF SESSION THETRAINEESSHOULDBEABLETO;***
SESSION1 WEEK1 Month1	Lecturethrough power pointpresentationfollowed byindividualexercises andTake homeindividual assignments	• Introduction toBiostatistics • Description ofVariables • Numericalmethods ofDatasummarization(Manual as wellas throughStatisticalPackage ofSocialSciences)	• Describe the purpose, scope andimportance of Biostatics in Health systemsresearch • Identifybasicfourstepsof Biostatistics. • Describe data in terms of frequencydistributions,percentages,andproportions. • Explain the difference between mean,medianandmode. • Calculate the frequencies, percentages,proportions, ratios, rates, means, medians,and modes for the major variables of a studymanuallyaswellasthrough Statistical PackageofSocialSciences(SPSS).

SESSION2 WEEK2 Month1	Lecturethrough power pointpresentation followedby	Graphicalpresentation ofdata	• Identifyvarioustypesofgraphs • Identify the graphical presentationsappropriateforeachtype ofvariables • Describedataintermsoffigures

	individualexercises&Take homeindividualassignments.		• Use of Microsoft Excel and SPSS informulationofgraphs.
SESSIONS &TIMINGS	***TEACHING STRATEGY***	***TOPIC OFSESSION***	***SESSIONOBJECTIVES*** • ***i.e. BY THE END OF SESSION THETRAINEESSHOULDBEABLETO;***
SESSION3 WEEK3 Month1	Lecturethrough powerpoint presentation followedby Individual exercise & Takehome assignment	Cross-tabulationof quantitative data	• Describethedifferencebetween descriptiveandanalyticalcross-tabulations. • Constructallimportantcross-tabulations whichwillhelpmeettheresearchobjectives manuallyaswell asthrough SPSS. • Interpretthecross-tabulationsinrelation tostudyobjectivesandstudyquestions.

SESSION4 WEEK1 Month2	Lecturethrough power pointpresentation followed byIndividualexercise & Take homeassignment	Measures ofAssociationbasedonrisk	• Define incidence, risk, relative risk andoddsratio. • Calculate relative risk for appropriatestudy designs (cross-sectional comparativestudies, cohort studies, case-control studiesandexperimental studies) • Calculate measures of associationmanuallyandalsothroughSPSSandmed-calculator.
SESSION5 WEEK2 Month2	Lecture throughpower pointpresentation followed byIndividualexercise & Takehomeassignment	Confoundingand methods tocontrolconfounding	• Identify what is confounding and what areconfounder variables • Explain different ways of dealing withconfounding at the design and analysis stageofastudy. • Evaluate whether an association betweentwo variables may be influenced by anotherconfoundingvariable/riskfactor. • Calculateassociation inawaythattakesintoconsiderationthe effectofpotential confoundingbyanothervariable/riskfactor.
SESSIONS	***TEACHING***	***TOPICOF***	***SESSIONOBJECTIVES***

& TIMINGS	*STRATEGY*	*SESSION*	*i.e.BYTHEENDOFSESSIONTHE TRAINEESSHOULDBEABLETO;*
SESSION6 WEEK3 Month2	Lecture throughpower pointpresentation followed byIndividualexercise & Takehome individualassignments	Basic statisticalconcepts;Measure ofdispersion andconfidence Intervals	• Explain what is meant by a range, apercentile, a standard deviation, a normaldistribution, a standard error and a 95%confidenceinterval. • Calculate ranges, standard deviations,standard errors and 95% confidenceintervalsfor data,manuallyas wellas throughSPSS.
SESSION7 WEEK1 Month3	Lecturethrough power pointpresentation	Hypothesis testing for aresearch	• Statetheconceptofhypothesistesting. • Defineanddescribethetypesdifferencebetween one sided and two sidedhypothesis. • Formulate Null hypothesis and Alternatehypothesisin an appropriateformat. • Identifyimportanceofhypothesistesting andtoidentifytype I&typeIIerrors.
SESSION8 WEEK2 Month3	Lecturethrough power pointpresentation	Tests ofSignificance	• Explain what a significance test is andwhat its purposeis. • Explainwhat isprobabilityvalue orp-

	followed by aTake homeindividualassignment.		value • Identifyingvarioustestsofsignificances • Identifying appropriate test ofsignificanceforaspecificresearchdesign.
SESSIONS &TIMINGS	***TEACHING STRATEGY***	***TOPIC OFSESSION***	***SESSIONOBJECTIVES i.e. BY THE END OF SESSION THETRAINEESSHOULDBEABLETO;***
SESSION9 WEEK1 Month4	Lecturethrough powerpoint presentation followedbyan individual exercise &a Takehome individual assignment.	Determining difference betweentwo groups-categoricaldata Paired&unpaired observations	• Decidewhentoapplythe chi-squaretest. • Calculatechi-squarevalues. • Use the chi-square tables to assess whethercalculatedchi-square valuesaresignificant. • Decide when to apply the McNemars testand calculateitsvalues. • Make a decision concerning whether thesetests can be used on give data and, if so, whattestshouldbeusedonwhichdata. • Performthesetestsondatamanuallyas wellasthroughSPSS.

SESSION10 WEEK2 Month4	Lecturethrough power pointpresentation followed by anindividualexercise &Take homeindividualassignment.	Determiningdifferencebetween twogroups-numericaldata Paired & unpairedobservations	• Decide when to apply the independent anddependent t-test. • Calculatepaired andunpairedt-values. • Use the t tables to assess whethercalculatedtvaluesare significant. Decide when to apply the independent anddependentttest andcalculateitsvalues. • Make a decision concerning whether thesetests can be used on give data and, if so, whattestshouldbeused onwhichdata. • Perform these tests on data manually aswell asthroughSPSS.
SESSIONS &TIMINGS	***TEACHING STRATEGY***	***TOPIC OFSESSION***	***SESSIONOBJECTIVES i.e. BY THE END OF SESSION THETRAINEESSHOULDBEABLETO;***

SESSION11 WEEK1 Month5	Lecture throughpower pointpresentation followed by anindividualexercise &Take homeindividualassignment.	Determiningdifference betweenmore than twogroups-numericaldata ANOVA (AnalysisofVariance)	• DecidewhentoapplytheANOVAtest. • CalculateF- values. • UsetheFtablesto assesswhethercalculatedtvaluesaresignificant. • Make a decision concerning whether thistestscanbeusedongivedataand,if so,whattestshouldbeusedonwhichdata. • PerformANOVAtestsondatathroughSPSS.
SESSION12 WEEK2 Month5	Lecturethrough power pointpresentationfollowed by anindividualexercise	Determining Correlationbetweenvariables	• Decide when to apply the Pearson's andSpearman'scorrelationtests. • Calculate Pearson's correlation coefficientand Spearman's Pearson's correlationcoefficient. • Use the p-values to assess whethercalculatedcoefficientsaresignificant. • Performcorrelationtestsondatathrough SPSS.

SESSION13 WEEK3 Month5	Lecturethrough power pointpresentation followed by anindividualexercise	Regression Analysis	• Explainwhatisaregressionanalysis • Differentiatebetweensimplelinearandmultiplelogisticregressionanalysis. • Decide when to apply the regressionanalysisandhowtointerpret. • Make a decision concerning whether thesetests can be used on give data and, if so, whattestshouldbeusedonwhichdata. • PerformthesetestsondatathroughSPSS.
SESSIONS &TIMINGS	***TEACHING STRATEGY***	***TOPIC OFSESSION***	***SESSIONOBJECTIVES i.e. BY THE END OF SESSION THETRAINEESSHOULDBEABLETO;***
SESSION14 WEEK1 Month6	Lecture throughpower pointpresentation andindividualexercises	DiagnosticAccuracyofatest	• Identify what is a diagnostic accuracy ofatestcomparedtogoldstandardtests. • Identify what are true positives, truenegatives, false positive and false negatives inadiagnostictesting. • CalculateSensitivity,specificity,Positive and negative predictive values of a diagnostictestusingstandardformulae.

SESSION15 WEEK2 Month6	Lecture throughpower pointpresentation andindividualexercises	Writing aresearchpaper	• Listthemaincomponentsofaresearchpaper. • Makeanoutlineof aresearchpaper. • Writedraftsof reportinstages. • Check the final draft for completeness,possible overlaps for clarity and smoothnessofstyle. • Draftrecommendationsforactionbasedon researchfindings.
SESSION16 WEEK3 Month6	Lecture andindividualexercises	Writing adissertation	• Listthemaincomponentsofadissertation • Explain how a research paper differs from adissertation • Makeanoutlineofadissertation.

MinimalAttendanceofteachingsessions:

TheattendanceofthetraineesintheResearchtrainingsessionsmustbe80%oraboveduringyear2anditwillbedulyrecordedineachsessionandwillbemonitored alltheyearround.

AssessmentofTraineesforteachingsessions:

i. *Fordidactic lectures*,thelearningandknowledgeofthetraineeswillbeassessed duringtheendofyearexamination.

ii. One examination paper of Research of R-Y2 will be taken that will comprise of 75 marks in total and will consist of two sections.Sectionone will beof 50marksin total and willcomprise of 25MCQ's(multiple choice questions) while section two willcompriseof 5NumericalProblems/Conceptualquestions.

iii. Totaldurationofthepaper willbe120minutes.

iv. Thepaperswillbecheckedbythe researchassociatesandBio-statisticiansofORIC.

***Assessmentofindividualexercises*:**

i. Thequality,correctnessandcompletenessoftheindividualexerciseswillbeevaluatedduringtheteachingsessions,whentheywillbepresentedby theendofeachsessionbytrainees.

ii. Themodeofpresentationswillbeoral,electronicorwrittenaccordinglyandifneededusingmediaofcharts,flipcharts&whiteboards.

iii. Mostof theindividualexercises willbeobservedandevaluatedby thefacilitators directlyoncomputers sinceitmostly willinvolveskillsofdataanalysisthroughStatisticalPackageofSocialSciences.

iv. Therewillbenoscoresormarksspecifiedfortheindividualexercisesbutthefeedbackofevaluationbythefacilitatorswillbeonspot.

Assessmentofindividual;takehometasks/assignments:

i. Thetakehomeassignmentsofthetraineeswillbecheckedoncethesewillbesubmittedaftercompletiontothefacilitatorsafterperiod specifiedforeachtask.

ii. Mostofthetakehomeassignmentswillberelatedtonumericalproblemsolving,calculationsortasksofanalysisinSPSS.

iii. Assignmentsshouldbesubmittedinelectronicversionandnomanuallywrittenassignmentwillbeaccepted.

iv. Eachassignmentwillbecheckedforplagiarismthroughturn-it-insoftware.Anyassignmentthatwillhaveoriginalityscorelessthan 90%or similarityindexmorethan10%willbe returnedbacktotraineesfor rephrasing andresubmission.

v. Theywillbe assessedand checkedwithinoneweekofthesessionandwillbe scoredbythefacilitators.

vi. Atotalof50marksintotalwillbeassignedforevaluationofallofthesetakehometasks/assignments.

B. PRESENTATIONINJOURNALCLUBSESSIONS

i. Duringyear2oftraining,thetraineesshouldactivelyparticipateinthejournalclubsessionsofthedepartmentregularbasis.

ii. One journal club meeting must be organized in the department within every two months of a year and apart from mandatorymorethan 80%yearlyattendance,thetraineesmustpresenttwo researchpaper in year2of trainingindividually.

iii. The purpose of presentation of the second year trainees in journal club is teach themhow to form a bridge between researchand practice, how to confidently appraise recent research and then how to practically apply best research findings into theirclinicalsettingas theirfirststepsevidenced-basedmedicine.

FormatofJournalClubMeetings:

i. In a journal club meeting, two research papers, published in an indexed national or international journal, selected by the Dean ofthedepartment mustbepresented bysecond yeartraineeduringR-Y2trainingyear,intwodifferent meetings.

ii. Traineewillbe giventheselectedpaperoneandahalf monthpriortothemeetingbytheDean ofthedepartment.

iii. After thoroughly going through the research a paper, trainee should do extensive literature search on the topic also and must befamiliarwith all therecentandcurrentresearchdoneon thesimilartopicbyother researchers.

iv. An approximately 30 minutes long oral presentation will be made by the trainee, in monthly journal club session on the selectedresearchpaper.Theresearchpaperwillbepresentedthroughpower-pointandthecriticalappraisalofthepaperwillfollowit.

v. Thetopicwillalsobediscussedincomparisontootherevidencesavailableaccordingtothelatestresearch.

vi. The other second year trainees should actively participate in question & answer session of the journal club meeting that will becarriedoutfollowingthepresentationofthecriticalappraisaloftheresearchpaper.ItwillbecompulsionforeachR-Y2traineeto ask at least one question or make at least one comment relevant to the topic and/or the research paper, during the journalclub meeting.

MinimalAttendanceof JournalClubmeetingsbyR-Y2trainee:

TheR-Y2traineesshouldattendatleast5outof6journalclubmeetingsduringtheirsecondyearoftraining.Outofthese6journalclubs,he/she mustmakepresentation in anytwosessions as acompulsion.

AssessmentofpresentationofthetraineeatJournalClub:

i. Duringthepresentation,theheadofdepartmentandtwootherseniorfacultymemberswillevaluate,trainee'sabilitytomake effectivepresentationoftheresearchpaperandalsohis/herskillstocriticallyappraisearesearchpaper.

ii. The scoring will not be done for the first paper presentation by the trainee, since that will be the first ever presentation by thetrainee.Duringthe firstpresentationthe evaluatorswillgenerallyqualitativelyevaluatetheskillsofpresenterwithoutanyquantitative assessment. They will inform the presenter by the end of first paper presentation, his/her mistakes, weaknesses andscopefor improvement.The strengthsand competences,ontheotherhand,willalsobe appreciatedforencouragement.

iii. Astructuredchecklist forscoring theskills andabilities of trainee will be used bythe abovementioned senior faculty members.The average of the three total scores will be calculated, out of total attainable score of 25 that will then be used in overallassessmentofthetrainee.

iv. The evaluation will include aspects like the presenter's aptitude to identify the strengths and weaknesses of a research article,apart from assessment of the usefulness and validity of research findings. He/she should be able to determine the appropriatenessof the study methodology and design for the research question, apart from suitability of the statistical methods used, theirappropriate presentation, interpretationand discussion. He/she should also be able to identify andjustify relevance oftheresearchtoone'sownpractice.

C. FORMULATIONOFRESEARCHPROPOSAL/SOFDISSERTATION/RESEARCHPAPERSASREQUISITETOPOST GRADUATEDEGREE/MDDEGREE

i. Atthebeginningofyear2,thetraineewillstartsortingoutvariousresearchquestionsforhis/herresearchprojectasdissertationrequisitefor thepostgraduation degree.

ii. Traineemustsubmitandseekapprovaloftheresearchproposal/sfromtheconcernedinstitutionstillendofyear2i.e.R-Y2.

iii. SincepostgraduatetraineesseekingFellowshipfromtheCollegeofPhysiciansandsurgeonsofPakistan(CPSP)haveeitherofthetwofollowing options,as perguidelinesofCPSP:

OPTIONA:SubmissionofonedissertationinspecialtyfieldasrequisitetofcpsdegreeOR

OPTIONB:Publicationoftwooriginal researcharticlesinanyCPSPrecognizedjournals, beingfirstauthor,as requisitetoFCPSdegreeTheywillhavetosubmitoneresearchproposalforthedissertationtillendofsecondyearoftraining,iffollowingoptionAandtworesearchproposals ofthe original articles,iffollowingoptionBaccordingly.

iv. The MD scholars will also have to submit one research dissertation, in specialty field, to Rawalpindi Medical University, so they willalso submitoneresearchproposalforthedissertation tillendofsecondyear oftraining.

v. Whatever is the post graduation academic scenario; the trainee must decide the research question/s under the guidance of thesupervisortillthirdmonthof R-Y2andhencedecidethefinaltitle oftheresearchproject/s.

vi. During these first three months of R-Y2, the trainee under guidance of the supervisor and ORIC will do extensive review of theliterature, relevant to topic. He/she will do online as well physical search of printed, Journal articles, reports, books, conferencepapers, dissertations, Research and program reports- published/ unpublished. He/she will also access the libraries of RawalpindimedicalUniversity, repositoriesofvariousinstitutions.

vii. The trainee will also consult the research Associates and Deputy Directors at the ORIC for the feasibility of the research questionandany modification. Thetrainees will beencouragedto preferably selectresearchquestions thatwill be better answeredthroughcrosssectionalcomparative,analyticandexperimentalstudydesignsinsteadofsimpledescriptivecrosssectionalorcase

series design. Descriptive cross sectional, exploratory or case series design will be allowed only in special cases when the researchquestion will deal with an exceedingly significant and priority issue, not addressed previously ever though published work eitherlocally/nationallyorinternationally.

viii. Once the research question and topic is finalized with mutual understanding of the supervisor, trainee will submit the selectedtopictotheHeadofDepartmentandDeanofspecialty.

ix. TheDeanofthespecialtywillgiveapprovalofthetopicafterscrutinyandwillconfirmthatthereisnoduplicationofthetopicin thedepartment,afterconsultationwithHOD's.

x. ThentheDeanwillfinalizethelistofthetopicsofresearchproposalsofalltraineesduringfourthmonthofR-Y2andwillsubmitthelisttoBASR.

xi. BASRwillgivethefinalapprovalofalltopicswithinsamemonth.

xii. For the post graduate trainees following aforementioned option B (Publication of two original research articles in any CPSPrecognized journals, being first author, as requisite to FCPS degree) must submit their topics (already approved from BASR) to CPSPfor its approval.Once the topicsare approved byCPSP, theywillinitiate research proposal development for these researchprojectsthatthey will publishasoriginal articles.

xiii. Once the trainee gets the approval of the topic/s from all concerned authorities, the formal write up of proposal/s must beinitiatedwithinfifthmonthofR-Y2inconsultationwithsupervisorandtheresearchassociatesofORICforguidanceinmethodology.

xiv. The research proposal/s will be brief outline of trainees' future research project/s (approx of 1000-1500 words) and must compriseofthefollowingtopics:

1. Titleofresearchproject.
2. Introductionandrationale(withVancouverintextcitations)
3. Researchaim,purposeandobjectives

4. Hypothesis,ifrequiredaccordingtothestudydesign.
5. OperationalDefinitions
6. ResearchMethodology:

a) Setting

b) StudyPopulation

c) StudyDuration

d) StudyDesign

e) Sampling:*Samplesizewithstatisticaljustifications,samplingtechnique,inclusioncriteria&exclusioncriteria.*

f) DataCollectiontechnique/s

g) DataCollectiontool/s

h) DataCollectionprocedure

i) PlanforData entry&Analysis

7. EthicalConsiderations
8. Workplan/Ganttchart
9. Budgetwithjustifications
10. ReferencelistaccordingtotheVancouverreferencingstyle
11. Annexure*(including data collection toolor performa,consentform,officialletters,scales,scoringsystemsand/or anyotherrelevantmaterial)*

xv. The research proposal should be completed in eighth month of R-Y2 and should also be reviewed and finalized by the Supervisor ofthetrainees.

xvi. The finalized research proposal will be reviewed by publication in charge of ORIC for plagiarism through turn-it-in soft ware. Anyproposal that will have originality score less than 90% or similarity index more than 10% will be returned back to trainees forrephrasingandresubmission.Onlywhentheeligible scoreswillbereached,then theproposalwillbefurtherprocessed.

xvii. The statistician at data analysis centre of ORIC will facilitate the trainees in sample size calculation through sample size calculatorsaccordingtheirstudydesigns.

xviii. The trainees should formulate all the data collectiontools under guidanceof supervisor and research associates of ORIC andshould alsopretest tofinalize all thedata collectiontoolsfortheirresearch projects.

xix. Theseresearchproposalsalongwiththe toolswillbesubmittedtoallconcernedauthoritiesforappraisal.

xx. The supervisors and research associates of ORIC will also ensure that the duration of research project should be adequate andrealistic so that trainees will be able to complete their project/s during third year of training leaving enough time for its write upduring year 4 of training. For the post graduate trainees following option of Publication of two original research articles as requisiteto FCPSdegree,thestudy durationwillbeevenbriefer.

D. PRESENTATIONOFRESEARCHPROPOSAL/STOINSTITUTIONALRESEARCHETHICSCOMMITTEE(IREF)OFRMU

i. The R-Y2 trainees will already be aware of the standard operational procedures and protocols of the Institutional Research EthicsCommittee of RMU as they had, as a mandatory activity, participated and observed the proceedings of the meeting during R-Y1.However, he/she will be informed about any modifications or updates regarding the standard procedures of application to IREF ifwillhave occurred during lastoneyear.

ii. Trainees will be individually provided an updated step wise guidance by the research associates of ORIC, regarding how anapplicant should access the RMU website and download the application Performa and then how to electronically fill it in for finalsubmission.TheywillalsobeprovidedupdatedformatofpresentationfortheirResearchProposalpresentationsatIREFmeetings.

iii. The trainees must submit ten sets of hard copies of all the documentation including the research proposal with all annexes,plagiarism detection report and application performa to ORIC, at least ten days prior to the monthly meeting. ORIC will providethem date and month of the IREF meeting for presentation and the trainee must present in the meeting along with his/hersupervisor.

iv. The trainee must make a five to ten minutes' presentation through power-point at Institutional Research Ethics Forum during 9-10months of R-Y2.By the end of presentation, he/she will respond to all the queries of the forum and the supervisor will facilitate indefenseoftheproposal.

v. The IREF will appraise and scrutinize every aspect of the proposal/s and if found acceptable then will provide on spot verbalapprovaloftheprojectfollowedby writtenapprovalletterwithinnexttwoweekstothetrainees.

vi. If members ofIREFwillfindany modificationsrequired in theproposal/stheywillrecommendthem totraineeandsupervisor.The traineemustincorporatethosechangesandwillresubmitthecorrectedversionofproposal/swithinnextoneweek'speriod.

vii. Thewrittenapprovalletterof IREFwillbeissuedwithinnexttwoweeksofmeeting,tothetrainee.

viii. In case the trainee will be working on option B of CPSP i.e. publication of two research papers, instead of writing dissertation, thenhe/shewillpresentbothresearchproposalsto IREFforthetwotopicsalready approved byCPSP.

E. ASSURANCEOFFEASIBILITY&AVAILIBILITYOFRESOURCESFORRESEARCHPROJECTS

i. The trainee will ensure that for his/her research project/s ample resources in terms of monetary, human or physical will beavailable to complete the project. He will also provide documented proof and justification to avoid any unforeseen problems thatmayleadtoincompletionofresearchproject/s.

ii. No individual funding will be provided to the trainees for their research projects requisite to their post graduation degrees byRawalpindi Medical University. The trainee may be bearing all the expenses on individual basis or may be applying to any ofnationalorinternationalfundingagenciesforresearchproject/s.

iii. In case the trainee will be applying for any external source of funding from any national or international funding agency, thefundingapplicationandapprovalprocess mustbe completedby the endofyear2oftraining.

iv. Thetraineemayalsobepursuingthedegree,throughanyscholarshipthatalsowillincludetheresearchprojectexpenses.

v. In either of the above mentioned circumstances, the trainee must provide and submit the budget details and documentedevidences of the funding or availability of monetary resources to the supervisor and Dean who will ensure the feasibility of theresourcesavailabletothetrainees.

vi. Moreover,ifanytools, kits,equipmentorphysicalmaterialswill be requiredforresearchproject,thetraineewillprovidedocumentedevidenceofits availability.

vii. If the data collection will require hiring of additional human resources, then the trainee will provide documented evidence likeconsent of staff members contributing to his/her research or details of training expenses or honorarium details if any to thesupervisor.

viii. The supervisor will also consult the Dean and HOD's in ensuring the feasibility and availability of resources of a trainee duringsecond yearoftraining.

F. SUBMISSIONOFRESEARCHPROPOSAL/STOCPSP/BASROFRMU

i. Post graduate trainees applying for their CPSP fellowship using aforementioned option A (Submission of one dissertation inspecialty field as requisite to FCPS degree) after receiving appraisal of IREF of RMU, must submit their proposal to CPSP during lastquarter of second year of training. The approval process from CPSP takes approximately 3 months on an average but in case anycorrections are suggested the resubmission and acceptance procedure may take 6 months on an average. These trainees willinitiatedatacollectionassoonasthey receivetheacceptancebyCPSP authorities.

ii. However, the post graduate trainees who will opt to publish two original research articlesin any CPSP recognized journals, asrequisitetoFCPSdegree,willnotrequireanysubmission oftheirproposalstoCPSP.Thewilldirectlyinitiatethedatacollection as

soon as they will receive the IREF acceptance letter. Hence their data collection phase of both research projects will begin in lastquarterofR-Y2.

iii. The MD scholars of RMU will submit their research proposals to the Board of Advanced Studies and Research (BASR) of RMU forappraisal. BASR will issue an acceptance letter of the research proposal endorsed by the Vice chancellor of RMU copied to theconcernedstakeholdersandauthorities including office ofDeanand ORIC.Ifmembers ofBASRwill findany modificationsrequiredintheproposaltheywillrecommendthemtotraineeandsupervisor.Thetraineemustincorporatethosechangesand will resubmit the corrected version of proposal to BASR within next one-week period. The written approval letter of BASR will thenbe issued within next two weeks to the trainee. The trainees will thus receive formal permission to initiate data collection phasethroughthis acceptanceofBASR.

iv. All trainees who will require data collection from any RMU or its teaching hospitals that are Benazir Bhutto Hospital, DistrictHeadquarters Hospital and Holy Family Hospital, will not require any permission from the administration of these hospitals. TheappraisallettersofIREFandBASRwillbe consideredasacceptancebyallauthoritiesoftheRMU.

v. IfanytraineewillneedtocollectdatafromanyinstitutionotherthanRMUoritsteaching hospital,theymustseekthatinstitution's approval too according to their standard protocols parallel to the period when they will have submitted proposals toCPSP/BASRtosavetheirtime.

vi. Allthepostgraduatetraineeswillfollowtheguidelinesregardingtheformatandcontentoftheresearchproposalsprovidedbythe authorities to whom they will be presenting their research proposals that are Board of Advanced Studies and Research (BASR)forMDscholarsorCollege ofPhysiciansandsurgeonsofPakistan(CPSP).

G. MONITORINGOFRESEARCHCOURSEOFYEAR2

i. An alert and continuous monitoring of all the scholarly activities of each trainee will be carried out by all the concerned faculty i.e.research units of specialties, supervisor, Head of Department and the deputy Directors and research fellows at the Office ofResearch Innovation&CommercializationofRMU.

ii. The structured Research component of Log books and Research portfolio of the trainees specific to research component of thetraining of year 2; R-Y2 will also be regularly observed, monitored and endorsed by all the concerned faculty members, supervisorandfacilitators.

iii. The Log books section R-Y2 specific to research curriculum of training year 2 will include the record of attendance of all theteaching sessions of the trainee that will be monthly updated and endorsed by the department of Medical Education (DME) ofRMU.

iv. It will also comprise of all the submission record and scores attained for the individual and group assignments of the trainees,endorsedbythesupervisor andtheresearch associatesandDeputyDirectors ofORIC.

v. Thelog books willalso include theattendanceand presentationscoresof the trainees in theJournalclubsessions ofthedepartment.It will also include observation notes catering to qualitative evaluation for active participation by the trainee duringeach journalclubsession.Thisinformation willbeendorsedbythe supervisorofthetraineeand HOD.

vi. The record of the trainees regarding timely completion and quality of each activity related to completion of research proposals andits presentation in the monthly meeting of the Institutional Research Ethics Forum (IREF) of RMU will also be part of the Log Bookthat willbeendorsedbythesupervisor, researchassociatesof ORICandconveners oftheIREFandBASR.

vii. The result of the annual research paper of R-Y2 will also be entered in the Log books by Research Associates and will be endorsedbytheDeputyDirectorsofORIC.

viii. The research portfolio of the trainee R-Y2 will again include qualitative and quantitative self assessment of the trainee in narrativeform.Itwillincludetheindividualassessmentoftheobjectivesandaimsdefinedbythetraineeduringthesecondyearoftraining

andextentoftheirsuccessfulattainment.Thetraineewillalsomentionindividualachievementsorknowledgeandskillsacquiredin any aspect of research that was either formally part of the research curriculum or even not. It will also include reporting of anyresearch courses, online or physically attended by the trainee, contribution in any research paper or publication, any participationand/orpresentation in anyresearchconference,competition etc duringyearR-Y2.

H. OVERALLASSESSMENTOFPERFORMACEOFTRAINEESFORYEAR2

i. The overall assessment of performance of trainee for R-Y2 will rely on marks attained out of total 100 obtainable marks. Thesetotal 100 marks will include 50 marks for the Annual Research Paper of R2 (where the 75 marks of paper will be converted to 50marks),while25markswillbeincludedfromthehometasksassignments(byconversionof50marksofthehometaskassignments into 25 marks) and actual 25 marks of presentation of journal club will be included in assessment (without anyconversion),togetanaggregateof100totalmarks.

ii. Out of the total attainable 100 total marks, 40% will be passing marks of this Research course and in case of failure in it, secondattempt will be allowed to the trainees and if any one fails in second attempt too then he/she should appear next year with nextbatch'sfirstattempt.

I. EVALUATION/FEEDBACKOFRESEARCHCOURSEOFYEAR2

Like evaluation of year one of research course R-Y1, the second year of training R-Y2 will also be evaluated not only by the traineesthemselves but also by the Deputy Directors, supervisors and senior faculty through end of sessions forms and then collectively throughendofcoursefeedbackforms.

i. ***The feedback of trainees*** will include structured evaluation of each teaching session of R-Y2 through structured and anonymousfeedback forms/questionnaire that will be regularly distributed amongst the trainees. The forms will include questions phrased asLikert scales (1-5 categories) inquiring their responses regarding various aspects of teaching sessions. Category 1 will represent thepoorestquality increasingtillcategory5representingexcellenceand thetraineeswillchooseeitherof5based on their honestand

unbiased personal choice. The open ended questions in form will indicate qualitative evaluation of the trainees. There will also anoverallfeedbackquestionnaireforentire secondyear oftrainingcourseadministered totrainees.

ii. ***The feedback of trainers*** will be obtained through structured and anonymous feedback forms/questionnaire, including closed andpartiallyclosedquestionsthatwillberegularlyprovidedbythem.Theywillprovidetheirinputsandopinionsregardingeffectiveness of the R-Y2 course contents, curriculum, teaching methodologies, teaching aids and technologies, content andusefulnessoftheexercisesandassessmentsetc.

iii. ***Three focus groupdiscussions;***oneof theR-Y2 trainees, second of thefacilitators andthird of the supervisors will alsobeorganizedbytheORICtoevaluatetheresearch course,itsbenefitsandweaknessesand scopeforimprovement.

iv. ***A final evaluation report of the Research Course R-Y2*** will be formulated and compiled by the ORIC of RMU. The report will bepresented allconcernedstakeholders.

J. QUALITYASSURANCEOFRESEARCHCOURSEOFYEAR2

i. The evaluation of research course of R-Y2 will follow exactly the same pattern of R-Y1, but all the feedback material will pertain toR-Y2 course (including feedback forms of R-Y2, randomly selected log books, research portfolios, individual & group assessmentrecord andrandomly selectedannualresearchcourse examinationpapers).

ii. The evaluation team that will observe all these R-Y2 course evidences will be same team that will evaluate R-Y1 course. The teamof R-Y2 will include the Head of departments, Deans, selected representatives of BASR, IREF, Director of ORIC, Director DME,Director ofQualityenhancementcell(QEC)andVicechancellor ofRMU, individually.

iii. The random visit for physical observation of the materials and also of all the academic activities through uninformed visits will alsofollow sameprotocolasmentionedinquality assuranceprocedureofR-Y1.

iv. ORIC will be responsible for submission of the evaluation content of R-Y2 to all including a copy to the Quality Enhancement Cell(QEC)ofRMU forinternal evaluation.

v. The QEC will organize an external evaluation too through involvement of a third party that may include members of QualityassurancedepartmentofHigherEducationDepartmentbasedontheir availability.

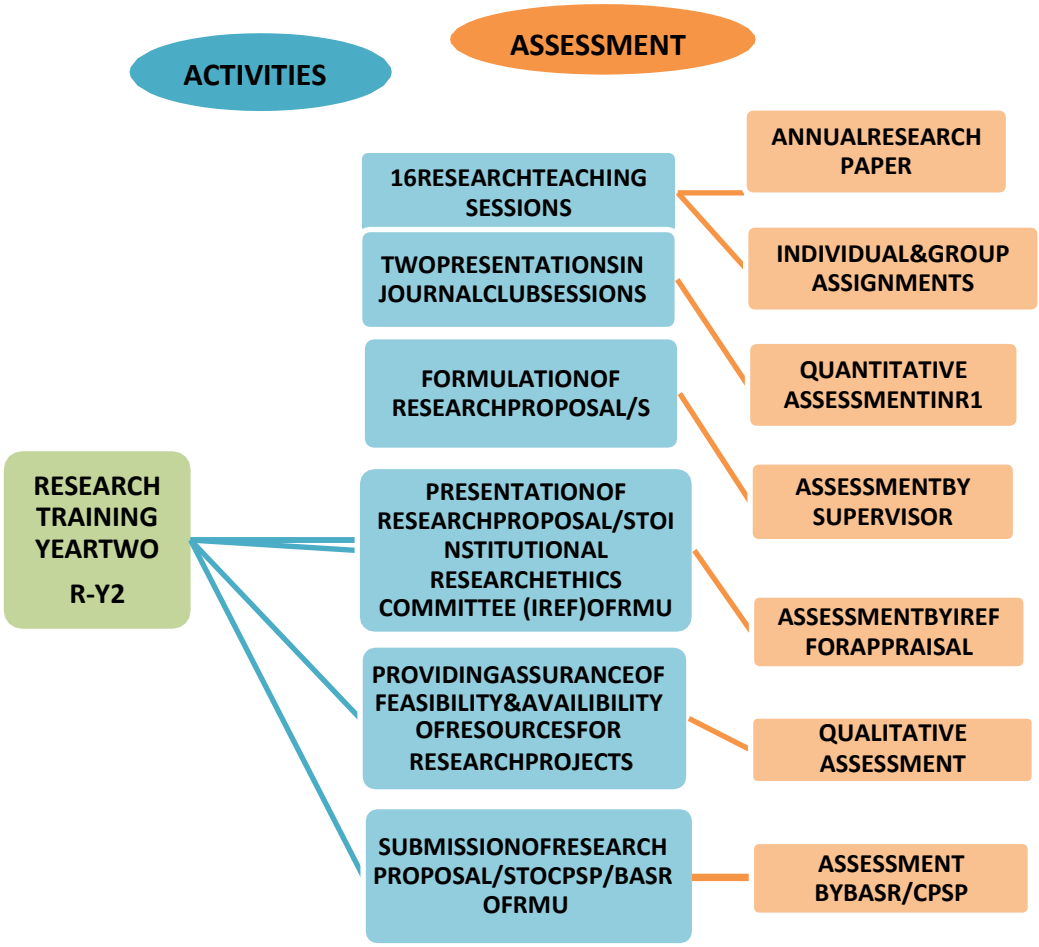
vi. AnannualmeetingofthequalityassessmentandenhancementbyendofyearRMU,including representativesofsupervisors,Headof Departments, Dean,representativemembersofBASR, ORIC, DME, QEC & IREF, who will be then collectively, review all the evaluation material of R-Y2. The evaluation team willalso sharetheirexperiencesoftheirevaluationvisitsandobservationstovalidatetheexistingmaterials.

vii. ThequalityofR-Y2coursewillbedeterminedwithrecommendationsforfurtherenhancementandmodifications.

Successfulcompletionofabovementionedrequirementsofresearchcoursewillbemandatoryrequirementforadvancementtothenext Post GraduateYearleveli.e. year3trainingyearorR-Y3.

An overviewofactivitiesrelatedtoresearch traininginthirdyear,R-Y3 isalsodisplayedinfigure3.

Figure 3. A FLOW CHART OF RESEARCH ACTIVITIES OF R-Y2 POST GRADUATE/MD TRAINEE OF RMUANDTHEIRASSESSMENTS



RESEARCHCOURSEOFTHIRDPOSTGRAUDATIONTRAININGYEARR-Y3

PURPOSEOFR-Y3RESEARCHCOURSE:

Utilizing all the knowledge and skills in research, accrued during first two years, the post graduate trainees of RMU, will be dexterousenough to actually execute a research project and implement efficiently and proficiently all the activities of the research project that theywill have planned during period of R-Y1 to R-Y2. During the third year of training post graduate trainees will collect all the information anddata and to explore answer to their research questions formulated for their individual research project/dissertation, prerequisite to theirdegrees.Thiscoursewillprovidethemanopportunitytorevitalizeandupdatetheirconcepts,knowledgeandskillsinresearchmethodologies.

LEARNINGOUTCOMESOFR-Y3RESEARCHCOURSE

AftercompletionofR-Y3coursethetraineesshouldbeefficientlyableto:

1. ReviseandrejuvenateallthebasicconceptsofEpidemiologicalmeasuresandbiostatistics.

2. Collate the information gathered through an extensive literature review relevant to study topics finalized and formulate an extensivewriteupofliteratureforresearchproject.

3. Collectandstorehighqualityinformationfortheirresearchprojectinanhonestandunambiguousway.

4. Utilizeskillstoenter,analyzeandinterpretthedatacollectedforaresearchproject

5. Write a clear and concise research report (research paper for a peer reviewed journal/dissertation) and a summary of the majorfindingsandrecommendationsforeachofthedifferentpartiesinterestedintheresults.

RESEARCHCOURSEOFTHIRDTRAININGYEAR

Duringthethirdyearoftraining,revisionandrefreshingupofpreviouslysecuredknowledgeandconceptsrelatedtoresearchwillenhancetheproductivityandefficiencyofthepostgraduatetrainees.

A. ELECTIVEREFRESHERSHORTCOURSES/WORKSHOPS:

The elective refresher short courses of one day to three days duration will be held to rejuvenate concepts Basic and advanced Biostatisticsand Epidemiological concepts that will be taught to the trainees during initial first two years of training. The short courses will comprise

ofonetothreedaysworkshops.Theseworkshopswillprovidethetraineeshandsontrainingofallthecomponentsofresearchmethodologies, basic and advanced biostatistics and epidemiological calculations. Each workshop will comprise of following teachingmethodologies

- Power-pointpresentationsofbasictheoreticalconceptsduringworkshops.
- Onspotindividual/groupexercises.

These short courses will be conducted by the staff members of Office of Research Innovation and commercialization (ORIC) of RMCincluding the Statistician, Deputy Directors and Director while they will be facilitated by the Research Associates.Visitorlecturers;including renowned national and international public health consultants, researchers, epidemiologists and biostatisticians will also beinvited,accordingtotheiravailability, for someworkshops.

Formatofshortcourses:

i. A total of 10 short courses will be offered and the post graduate trainee must attend a minimum of 5 of these short courses duringR-Y3,accordingtotheirneeds,choiceandpreferences.

ii. Eachworkshopwillcompriseof8-12modulesintotal.

iii. For each module, power-point presentations will be delivered initially, to restore the memories of the trainees regarding theprevious knowledge attained by them in R-Y1 and R-Y2. These presentations will be on an average 15-20 minutes of duration foreach moduleandwillteachthebasicandadvancedconcepts.

iv. Following the presentations, on an average 30-60 minutes of individual and group exercises will be supervised by the facilitators toprovide the trainees hands on experience. Depending on the type and content of courses, trainees will mostly work throughcomputer soft-wares.These exerciseswill requirecalculations andnumerical solvingtoo.

v. By the end ofeach day ofworkshop, brief take home individual or group task/assignments will be givento trainees that will bedulyevaluatedbyfacilitatorswithinthreedaysoftheshort courseandwillprovidetheir feedbackto eachtraineeindividually.

Contentofshortcourses:

i. The course materials for these workshops will be formulated by the Deputy Directors and Director of ORIC, specific to the needsandrequirementofthepostgraduatetrainees, usingvariousnational andinternationalresourcematerials.

ii. The trainees will be provided hard copies as well as soft copies of the course content in a folder at the initiation of the course. Thistakeawayresourcematerial willalsoincludehandoutsofpresentationsofallthe modulestaughtduringtheworkshops.

Following ten short courses will be offered to the post graduate trainees during year three; R-Y3 along with the tentative time frame workand title of workshops in table 3. However the details of modules, duration and objectives/Learning outcomes of each workshop are notspecified right now as these will be formulated based on the needs and requirements of the trainees and also the will depend on thevisitorfacilitatorschoice,thatwillbedecidedandconfirmed at leastonemonthpriortoconductingeach workshop.

TABLE3.TENELECTIVESHORTCOURSESTOBEOFFEREDDURINGTRAININGYEAR3.

TIME FRAME WORKDURINGTHIRD YEAR R-Y3	***TOPICSOFSHORTREFRESHERCOURSES***
MONTH1	Endnotereferencingmanager
MONTH2	Mendeleyreferencingmanager
MONTH3	EffectivewriteupofLiteraturereview
MONTH4	DataentryinStatisticalPackageof SocialSciences
MONTH5	GraphicalpresentationofdatainMicrosoftExcel
MONTH6	Univariate,Bivariate and Multivariate analysis in StatisticalPackageofSocialSciences
MONTH7	Effectivelywritingupofadissertation.
MONTH8	Research articlewriteup
MONTH9	Criticalappraisalofresearch
MONTH10	HowtoPresentResearchthroughpower-pointor posters

AssessmentofTraineesforshortcourses:

Noformalassessmentthroughanyexaminationpaperwillbecarriedoutduringyearthreesincetheywillbealreadyinvolvedindatacollectionandentryoftheir researchprojects.Sotheywillnot bestrainedwithanyformalexaminations.

Assessmentofindividualandgroupexercises:

i. Thequality,correctnessandcompletenessoftheindividualaswellasgroupexerciseswillbeassessedduringtheworkshopsbythefacilitators.

ii. Theexerciseswillbepresentedduringeachmoduleofworkshopsbytraineeseitherindividuallyoringroupsaccordingly.

iii. Themodeofpresentationswillbeoralusingmediaofcharts,flipcharts&whiteboardsorthroughpower-pointpresentationsdependingonthenatureofthetasks.

iv. Therewillbenoscoresormarksspecifiedfortheindividualorgroupexercisesbutthefeedbackofevaluationbythefacilitatorswillbeonspotbyendofpresentations.

Assessmentofindividualorgroup;takehometasks/assignments*:*

i. Thecorrectness,qualityandcompletenessoftheindividualorgroupexercisesthatwillbegivenduringtheshortcourses/workshopswillalsobedetermined.

ii. Thesewillbesubmittedaftercompletiontothefacilitatorswithinthreedaysoftheworkshop.NoAssignmentswillbeacceptableafterthreedays.

iii. Theassignmentswillbeassessedandcheckedbyfacilitatorwithinoneweekofsubmissionalongwithextensivefeedback oftheseassignments.

iv. Noformalquantitativeassessmentorscoringofanyofthesetakehometasks/assignmentsofR-Y3willbedone.

B. PRESENTATIONIN JOURNALCLUB

i. Duringthirdyearoftraining,thetraineesshouldcontinuetoactivelyparticipateinthejournalclubsessionsofthedepartmentonregularbasis.

ii. The R-Y3 trainees must present at least one research paper in journal club. The format of presentation and procedure for year 3traineewill exactlybesame as itwillbeforR-Y1andR-Y2traineesas mentioned before.

iii. After oral presentation in monthly journal club session on the selected research paper and the critical appraisal of the paper R-Y3trainee should actively participate in question & answer session of the journal club too. It will be compulsion for each R-Y3 traineeto ask at least one question or make at least one comment relevant to the topic and/or the research paper, during the journal clubmeeting.

MinimalAttendanceof JournalClubmeetingsforR-Y3trainee:

The R-Y3 trainees must attend at least 5 out of 6 journal club meetings during their third year of training and should make at least onepresentationas acompulsion.

AssessmentofpresentationofthetraineeatJournalClub:

i. During the presentationofR-Y3traineeinjournalclub, eventhough theheadofdepartmentandtwoothersenior facultymembers will evaluate trainee's ability to make effective presentation of the research paper and also his/her skills to criticallyappraisea researchpaper,butnoformalscoringwillbedone

ii. The assessment will be qualitative rather than a quantitative assessment. Even though not scored in numbers, but by the end ofpaperpresentation,evaluatorswillinformthe strengths,mistakes, weaknesses andscopeforimprovementto eachtrainee.

iii. The evaluators will assess that how far the presenter was successful to identify the strengths and weaknesses of a research article,to determine the appropriateness of the study methodology and design for the research question and to assess suitability of thestatisticalmethodsused.Theappropriatenessofpresentation,interpretationanddiscussionwillalso beconsidered.

C. DATA COLLECTION, ENTRY AND ANALYSIS OF RESEARCH PROJECT/S OF DISSERTATION/RESEARCHPAPERS

i. Bythebeginningofyear3,thetraineeswillhavereceivedtheapprovalfromtheIREF,BASRandrespectiveexaminationauthorities for their research proposals of dissertations or research papers. Moreover, till then all the data collection tools for theirresearchprojects will alsohavebeen readyafterpretesting.

ii. During first quarter of year 3, it will be mandatory for the trainees to initiate the data collection phase of their project/s. If thetrainee will be collecting the data individually for his/her research project, it will be started under continuous guidance of theirsupervisors and continuous facilitation by the research centers of specialties, the data analysis center and Research Associates ofORICofRMU.

iii. In case the data collection will require more human resources, other than trainee himself/herself, either as honorary or hired datacollection staff, they should be properly trained for data collection by the trainee. The supervisor will also ensure that theadditional data collection staff will be adequate in number within data within the time framework and should also make sure thattheywillbeproficientenoughtocollecthighqualityandauthentic data.

iv. ThedatastoragewillalsobefinalizedbytraineeundertheguidanceofSupervisorandresearchcenterofspecialty.

v. ThetraineewillinitiatedatacollectionphaseandwillseekassistanceofstatisticiansatDataanalysiscentreofORICforcompilation of data sheets in SPSS/or any other statistical software for data coding and entry. The trainees will be encouraged bystatisticiansto collectthedataandenterit simultaneouslyaftercleaningintothe softwareto savetime.

vi. BytheendofR-Y3,thedatacollectionand entryofdatamustbe completed.

vii. In case the trainee will be working on option B of CPSP i.e. publication of two research papers, keeping in consideration, thelengthy period required for submission and then acceptance of papers by journals, he/she should be vigilant in data collection andmust do it at faster pace as compared to those writing dissertation. So such trainees should complete data collection of bothpaperswithinfirsthalfofyear3oftrainingsimultaneously.Otherwisetheycanalsocollectdataforfirstpaperwithinfirstthree

months of year 3 of training and then will initiate data collection of second paper from sixth to ninth month of year 3 of training.Whatever is the option followed by the trainee, the data collection phase should not extend beyond ninth month of R-Y3, in orderto completebothpapers forsubmission tillendofR-Y3.

viii. ThetraineesandMDscholarswritingdissertationmustalsocompletedatacollectionandanalysistilllastmonthofR-Y3.

D. COMPLETION AND SUBMISSION OF TWO RESEARCH PAPERS AS REQUISITE TO CPSP FELLOWSHIPDEGREE

This section D implies only for the trainees who will be following option B of CPSP i.e. publication of two research papers, as requisite tofellowshipofCPSP,insteadofsubmittingadissertation.

i. The trainees opting for publication of two research papers should complete and submit manuscripts of both research papers bythe end of third year of training. Keeping in consideration, the lengthy period required for submission and then acceptance ofpapersbyjournals(thatvariesfromjournaltojournalandmayrangefrom3monthstoevenoneyear)he/sheshouldbevigilantin datacollectionandpapercompletionatfasterpace ascomparedtothose writingdissertation.

ii. Thesetraineeswillbeprovidedthefollowingoptionsandtheywillchooseeitherofitbasedontheirwillandtheirsupervisor's advise:

OPTION 1: The trainees should complete data collection of both papers within first 6 months of year 3 of training simultaneously. Thenafter analyzing data and completing write up of original article in next 5-6 months must submit both papers during last month of R-Y3 tojournalsofchoice.

OPTION 2: The trainees should complete data collection of first paper within first three months of year 3 of training and then submit firstpaper after completion of manuscript till sixth month of R-Y3 to journal of choice. Then the trainee will initiate data collection of secondpapertillninthmonthofyear3oftrainingandthensubmitsecondmanuscriptaftercompletiontilllastmonthofR-Y3tojournalofchoice.

iii. Whateveristheoptionfollowedbythetrainee,bothofhis/herpapershouldbesubmittedtojournalsofchoicebeforeinitiationof year 4 of trainee, keeping adequate time secured in advance, in case any paper will not be accepted and will have to be sent toanotherjournalaccordingly.

iv. During the data collection and entry phase, trainees will receive continuous assistance from the Research Associates and DataanalysisunitofORICofRMU.

v. When the data entry will be completed in the statistical software, the trainee will be provided full assistance in data analysis,interpretationandwriteupof resultsbythestatisticians ofORIC.

vi. ThesupervisorsandpublicationinchargeofORICwillalsoguidethetraineetowritethesection"Discussion"basedonthe comparisonofthefindingsoftheirstudywiththepreviouslyavailableresearchnationallyaswellasinternationally.

vii. Theyshouldalsobeabletoidentifystrengthsandweaknessesoftheirstudiesandshouldmakerecommendationswithstatement offinalconclusion.

viii. The trainees will identify the target journals for publication and after formatting their write up according to the specific formatrequiredbybothjournals.

ix. The research papers will be reviewed by publication in charge of ORIC for plagiarism through turn-it-in soft ware. Any article thatwill have originality score less than 90% or similarity index more than 10% will be returned back to trainees for rephrasing andresubmission. Only when the eligible scores will be reached, then the trainee will be allowed to proceed further and to submittheirresearch in theform oforiginal articlesunder continuousassistanceofPublication unitof ORIC.

x. The traineeshould also submit copies ofsubmitted papers to the Dean, Director ofORIC andChairperson ofBASR that will bekeptwiththemas confidentialdocuments.

xi. In case the research paper/s is/are sent back with recommended corrections or modifications, the supervisor and associated staffatORICwill assistthetraineeonurgentbasistoget it rectifiedandresubmittedwithinnext 10days'time.

xii. In case any of the paper is refused publication by a journal even then the supervisor and publication unit at ORIC will assist thetrainee on urgent basis, to get it rectified and resubmitted to another target journal of choice within next 10 days' time and notdelayingitall.

Since the trainees who will be submitting dissertation in specialty field as requisite to FCPS degree or as a requisite to their MD degreewill not comply with this section D, they will continue with data collection and entry and will also initiate write up of literature review fortheirdissertationsduringthislasthalfofR-Y3.

E. MONITORINGOFRESEARCHACTIVITIESOFYEAR3

i. Continuousmonitoringofalltheresearchactivitiesofeachtraineewillbecarriedoutbyresearchcentersofspecialties,supervisors,HeadofDepartmentsandtheresearchfellows&DeputyDirectorsattheOfficeofResearchInnovation&CommercializationofRMU.

ii. The structured Log books specific to research component of the training of year 3; R-Y3 and Research portfolio of the trainees willalso beregularly observed,monitoredandendorsedby alltheconcernedfaculty,supervisorandfacilitators.

iii. The section of research training in Structured Log books of R-Y3 will be specific to short refresher courses of research conductedduring training year 3. It will also include the record of attendance of all the short course/workshops attended by the traineeendorsed by the facilitators of each course and Office of Research Innovation & Commercialization (ORIC) in addition to theDepartmentofMedical Education ofRMU.

iv. It will also comprise of all the submission record of the individual and group assignments of the trainees, endorsed by thefacilitatorsofORICalong withtheircomments.

v. The log books will also include theattendanceand presentation details of the trainees in theJournalclub sessions of thedepartment. The observation notes catering to qualitative evaluation for active participation by the trainee during each journalclub sessionwillalsobe inclusive.Thisinformation willbe endorsed bythe supervisorofthetrainee and HOD.

vi. The record of the trainees regarding timely completion and quality of each research activity related to completion of datacollection and entry phase will also be part of the Log Book that will be endorsed by the supervisor, research associates andrelevant facilitators ofORIC.

vii. The research portfolio of the trainee R-Y3 will again include qualitative and quantitative self assessment of the trainee in narrativeform. It will include the individual assessment of the objectives andaims defined by the trainee during thethirdyear of trainingandextentoftheirsuccessfulattainment.Thetraineewillalsomentionindividualachievementsorknowledgeandskillsacquiredin any aspect of research that was either formally part of the research curriculum or even not. It will also include reporting of anyresearch courses, online or physically attended by the trainee, contribution in any research paper or publication, any participationand/orpresentation inany researchconference,competitionetc.duringyearR-Y3.

F. OVERALLASSESSMENTOFPERFORMACEOFTRAINEESDURINGR-Y3

i. Theoverallassessment ofperformanceoftraineewill bemorequalitativeinR-Y3, so it will notrely onany scores ormarksattained by trainees hence there will not be any examination paper of research or scoring for the home tasks assignments orpresentationofjournalclub.

ii. The Heads of department and the director of ORIC will observe the log books for assessments of facilitators of short courses, theircomments regarding the home tasks/assignments, comments of evaluators of presentation at journal club and the remarks ofsupervisorregardinghis/heropinionregardingthetrainee'soverallperformance duringthirdyearoftraining.

iii. The Heads of department and the director of ORIC will also observe the research portfolio ofthe trainees. Based on theirobservations,they willevaluatethe completeness andqualityofperformance ofeach trainee.

iv. In case of any deficiencies or weaknesses they will personally call the trainee and supervisor and will guide them how to correct orimproveaccordingly.

G. EVALUATION/FEEDBACKOFRESEARCHCOURSEOFYEAR3

Theresearchcourseandactivitiesofthird year oftrainingwillbe evaluatedbythetrainees,facilitatorsofORICand supervisors.

i. ***Thefeedbackoftrainees***willincludestructuredevaluationofshortcourses/workshopsofR-Y3throughstructuredandanonymous feedback forms/questionnaire that will be administered by the end of each short course/workshop. The forms willinclude questions phrased as Likert scales (1-5 categories) inquiring their responses regarding various aspects of workshops.Category 1 will represent the poorest quality while category 5 will represent excellence and the trainees will choose either of 5based on their honest and unbiased personal choice. The open ended questions in form will indicate qualitative evaluation. Therewillalsoanoverallfeedbackquestionnaireforentirethirdyearofresearchtraining.

ii. ***The feedback of trainers***will be obtained through structured and anonymous feedback forms/questionnaire to provide theirinputs and opinions regarding effectiveness of the R-Y3 short course contents, curriculum, teaching methodologies, teaching aidsandtechnologies,contentandusefulness oftheexercises andassessments etc.

iii. ***Three focus groupdiscussions;***oneof theR-Y3 trainees, second of thefacilitators andthird of the supervisors will alsobeorganizedbytheORICtoevaluatetheresearch course,itsbenefitsandweaknesses andscopeforimprovement.

iv. ***A final evaluation report of the Research Course R-Y3*** will be formulated and compiled by the ORIC of RMU. The report will bepresentedtoallconcernedstakeholders.

H. QUALITYASSURANCEOFRESEARCHCOURSEOFYEAR3

i. The quality assessment of research course of R-Y3 will involve meticulous review of materials of R-Y3 course (including randomlyselected data sheets and completed data collection tools, feedback forms of R-Y3 short course/workshops, log books, researchportfolios,individual &groupassessmentrecords).

ii. The quality evaluation team of R-Y3 will include the Head of departments, Deans, selected representatives of BASR, IREF, DirectorofORIC,DirectorDME(DepartmentofMedicalEducation),DirectorofQualityenhancementcell(QEC)andVicechancellorof

RMU. The random visits for physical observation of the materials and also of all the short courses proceedings through uninformedvisitswillalsofollow sameprotocolas mentionedinqualityassuranceprocedure ofR-Y1 andR-Y2.

iii. The research papers submitted by post graduate trainees following option of publication of two original articles to CPSP accreditedjournals will be observed as confidential evidences by Director of ORIC, Dean and chairperson of BASR for quality assessment. Noother personwillhaveaccess tothese manuscripts in orderto avoid any riskofpotentialplagiarism.

iv. ORIC will submit evaluation content of R-Y3 to all stake holders including a copy to the Quality Enhancement Cell (QEC) of RMU forinternalevaluation.

v. The QEC will organize an external evaluation too through involvement of a third party that may include members of QualityassurancedepartmentofHigherEducationDepartmentbasedontheir availability.

vi. SincetheR-Y3willprimarilycompriseofthedatacollectionphaseofresearchprojectsoftrainees,therefore,QualityEnhancementCell(QEC)inliaisonwiththeresearchcentersofthespecialty,willensuretheoriginality,transparencyandunambiguityofdata,during entiredata collection.

vii. An annual meeting of Quality assurance, by end of year 3, will be organized by the Quality Enhancement Cell of RMU, includingrepresentatives of supervisors, Head of Departments, Dean, representative members of BASR, ORIC, DME, QEC & IREF, who will bethen collectively, review all the evaluation material of R-Y3. The meeting will be chaired by the Vice Chancellor of RMU.Theevaluationteamwillalsosharetheirexperiencesoftheir evaluation visitsandobservationsto validatetheexistingmaterials.

viii. ThequalityofR-Y3coursewillbestringentlydeterminedwithrecommendationsforfurtherqualityenhancement.

Successfulcompletionofabovementionedrequirementsofresearchcourse,alsooutlinedinFigure4((A)and4(B),willbemandatoryrequirementforadvancementtothenextPost GraduateYearlevel i.e. last,final orfourthyear orR-Y4.

Figure4(A).AFLOW CHARTOFRESEARCHACTIVITIESANDASSESSMENTS OFR-Y3POSTGRADUATE/MDTRAINEEOFRMUWHOWILLOPTFORDISSERTATIONWRITING

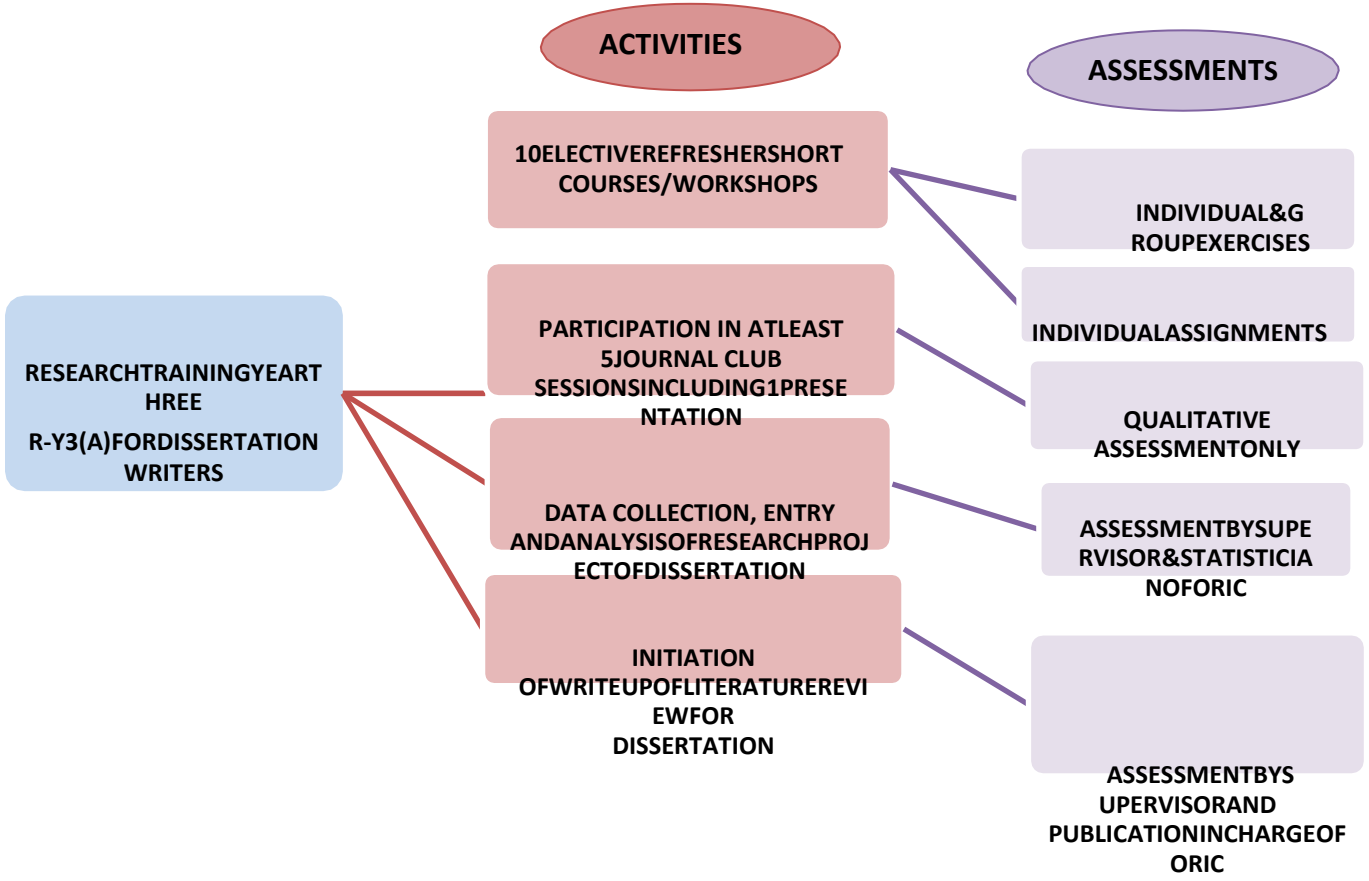
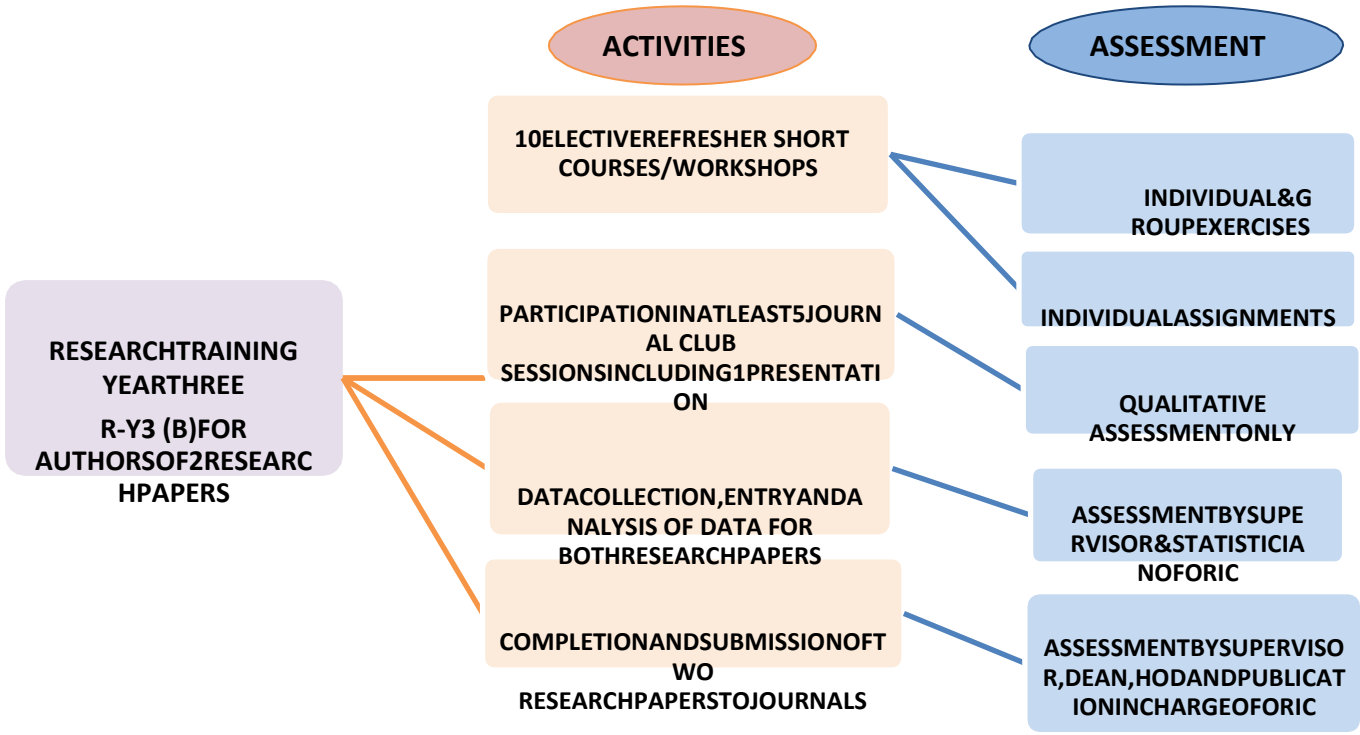


Figure4(B).AFLOWCHARTOFRESEARCHACTIVITIESANDRELEVANTASSESSMENTS OF R-Y3 POST GRADUATE TRAINEES OF RMU OPTING FOR PUBLICATION OF TWO RESEARCH PAPERS AS REQUISITE TO CPSP FELLOWSHIPDEGREE



RESEARCHCOURSEOFFOURTHPOSTGRAUDATIONTRAININGYEARR-Y4

PURPOSEOFR-Y4RESEARCHCOURSE:

During the fourth year of training the post graduate trainees will receive extensive practical hands on experience of conducting individualresearch project and then transformation of this project's report into a dissertation or original articles, in perspective of the knowledgeand skills they will acquire during year initial three years of post graduate training. This course will make them proficient to conductextensive literature search and using available information delve into existent findings and evidences of research, critically appraise themand then explore how to transform them into clinical practice. The fourth year of training will be purely practical where no formal didacticlecturesor sessionswillbeheld.

LEARNINGOUTCOMESOFR-Y4RESEARCHCOURSE

AftercompletionofR-Y4coursethetraineesshouldbeefficientlyableto:

1. Identifyandexecuteproficientlyallproceduresrequiredfordataanalysisandinterpretation.
2. Analyzeandinterpretthedatacollectedforaresearchprojectanddrawconclusionsrelatedtotheobjectivesofstudy.
3. Writeaclearandconciseresearchreport(paperforapeerreviewedjournal/dissertation)andasummaryofthemajorfindingsandrecommendationsforeachofthedifferentparties interestedintheresults.
4. Present the major findings and the recommendations of a study to policy-makers, managers and other stakeholders to finalize therecommendations.
5. Prepareaplanofactionforthedissemination,communicationandutilizationofthefindingsand(ifrequired)makerecommendationsforadditionalfutureresearch.
6. Criticallyappraisearesearchpaperofanynationalorinternationaljournal.
7. Presentresearchpaperspublishedinvariousnationalandinternationaljournalsatjournalclub.

8. Prepareandcomplete finalresearchDissertation/originalarticles, requisite to the postgraduationdegree oftrainee, under theguidanceofthenominatedsupervisor.

9. PresentanddefendaresearchfinalresearchDissertation/originalarticleprojecttoconcernedauthorities.

RESEARCHCOURSEOFFOURTHTRAININGYEAR

The fourth year of post graduate of training will be purely practical where no lectures, courses or workshops will be held and the traineewill be directly involved under the supervisor's and staff members (of ORIC) guidance in actual implementation of research. The followingactivities related toresearchwillbecarriedoutby thetraineeduringthe lastandfinalyearofresearchcourse.

A. COMPLETIONOFRESEARCHPROJECTANDITSWRITEUPASADISSERTATION

ThissectionAimpliesonlyforthetraineeswhowillbeeitherMDscholarsorthosepostgraduatetraineesfollowingoptionAofCPSP i.e.writingdissertation,asrequisitetofellowshipofCPSP.

i. The trainees writing dissertations should have completed their data collection and entry by the end of third year of trainingandwillhave alsoinitiated writeupliteratureview forthedissertation.

ii. As soon as the year four of training commences, these trainees should complete the introduction and literature review sections oftheir dissertations along with proper referencing during first three months of R-Y4. They will be continuously guided in this task bytheirsupervisors,researchassociatesandthepublicationin chargeattheORIC.

iii. The trainees, In the meanwhile, will also seek continuous assistance of statisticians of Data analysis unit of ORIC for data analysis instatistical soft ware. Trainees will be guided how to interpret the results, how to determine the statistical significances and how towrite these results in textual, tabulated and graphical forms. They will have to complete their data analysis and write up of resultstillfourthmonthofyear4.

iv. ThesupervisorandpublicationinchargeatORICwillalsoguidethetraineetowritethesectionof“discussion”fortheirdissertations based on the comparison of the findings of their study with the previously available research nationally as well asinternationally.

v. The trainees will also identify strengths and weaknesses of their study and should make recommendations with statement of finalconclusion.

vi. Accordingtotherequiredreferencingsystemsthereferencelistsandintextcitationwillalsobecompletedcorrectly.

vii. After writing the abstract and cover pages and annexure of the dissertation, the trainee will submit his/her dissertation’s final draftto publication in charge ORIC for plagiarism detection through turn-it-in soft ware. Any dissertation that will have originality scoreless than 90% or similarity index more than 10% will be returned back to trainees for rephrasing till the eligible scores will bereached.

viii. Then the trainee should submit final draft of dissertation to the supervisor and head of department till end of fifth month of yearfor final modifications. Since the supervisor will be incessantly involved in every aspect of the project since the beginning and willbe persistently guiding the procedure, so he/she should not take more than 10 days to give final review to dissertation of thetraineewithwrittenfeedbackthatwillbeenteredinastructuredperformawithrecommendationsforimprovementorcorrections.TheHeadofDepartmentwillalsoprovidehisfeedbackwithin10-15days.

ix. Based on the feed back of the reviews, the trainee will make final editing and will get the dissertation printed and submitted to thedegree awarding authority accordingly (BASR for MD trainees and CPSP for post graduate trainees of fellowship) for review foracceptancebeforethirdweekofsixthmonth ofyear4.

x. The trainee will also submit a copy of dissertation to head of department, the Dean, Director of ORIC and Chair person of BASRthat will bedealtas aconfidentialdocumentinordertoavoidpotentialriskofplagiarism.

xi. While the dissertations will be under review by the degree awarding authority for acceptance, the trainees will be continuouslyguidedbythesupervisorandtheresearchassociatesatORICregardingdefenseoftheirdissertation.Theywillbeguidedhowto

makeeffectivepresentationsaccordingtotheformatprovidedbytheexaminationauthoritiesandalsohowtosuccessfullyandconfidentlyrespondt othequeriesofexaminers.

xii. Incasethedissertationissentbackwithrecommendedcorrectionsormodifications,thesupervisorandresearchassociatesat ORICwillassistthetraineeonurgentbasisto getitrectifiedand resubmittedwithinatleast10days'timeandnot morethanit.

B. RESUBMISSIONOFRESEARCHPAPER/SINCASEMODIFICATIONSADVICEDORREJECTEDFORPUBLICATIONBYAJOURNAL

ThissectionBimpliesonlyforthepostgraduatetraineeswhowillbeoptfortworesearchpapersubmissionasrequisitetofellowshipofCPSPandprovided oneorboth oftheirresearch paper/sis/aresent backformodificationsorrejected publication.

i. Incasetheresearchpaper/sis/aresentbackwithrecommendedcorrectionsormodifications,thesupervisor,publicationincharge and concerned facilitators at ORIC will assist the trainee on urgent basis to get it rectified and resubmitted within next 10days'time.

ii. In case any of the paper is refused publication by a journal even then the supervisor and publication unit at ORIC will assist thetrainee on urgent basis, to get it rectified and resubmitted to another target journal of choice within next 10days' time withoutany delay.

C. SUBMISSIONOFACCEPTANCELETTERSOFAPPROVEDRESEARCHPAPER/PAERSANDSUBMISSIONOFHARD ANDSOFTCOPIESOFPUBLISHEDRESEARCH PAPER/STOCPSP

This section C implies only for the post graduate trainees who will be opt for two research paper submission as requisite to fellowship ofCPSPandprovidedtheirresearchpaper/sis/areapproved byjournalsandare published.

i. In case the research paper/s is/are approved by the target journals, the trainee will submit the letter of acceptance/s to CPSP inadditiontocopiesto supervisor, HOD,Dean andPublication in chargeofORIC.

ii. When the original article will be published in journal/s, then the trainee will submit hard and soft copies of the original journal withhis/herpublishedarticlestoCPSPin additiontocopiestosupervisor,HOD,DeanandPublication inchargeofORICandBASR.

D. PARTICIPATIONINJOURNALCLUBSESSIONS

i. Since the journal club is one of the best sources to provide awareness of best current clinical research, its implementation andutilizationsoitsimportancecannotbeoverlooked.Inspiteofademandingandeventfulfourthyearoftraining,theparticipationoftrainee inthejournalclubwill still be mandatory.

ii. The participation of trainees in journal club during R-Y4 will complement their knowledge and skills that will be beneficent in writeup aswell asdefenseofdissertationbutalsoenhancetheirevidencebased clinical skills.

iii. However, to decrease the trainees' workload during final year of training, only participation in journal club will be mandatory andhe/shewillbeexempted frommaking apresentation duringR-Y4.

iv. The R-Y4 trainee will still be expected to actively participate in discussion and also in question & answer session of the journal clubmeeting. It will be compulsion for each R-Y4 trainee to ask at least one question or make at least one comment relevant to thetopicand/ortheresearchpaper,duringthejournal clubmeeting.

MinimalAttendanceof JournalClubmeetingsbyR-Y4trainee:

TheR-Y4traineesshouldattendat least5outof6 journalclubmeetingsduringtheirlastyear oftraining.

AssessmentofTraineesforJournalClubsessions:

Therewillbenoformalquantitativeorqualitativeassessmentofthetraineeandtheywillalsonotmakeanyformalpresentationinthejournalclubduri ng R-Y4.

E. MONITORINGOFRESEARCHACTIVITIESOFYEAR4

i. During the last year of training of post graduate trainees, they will be scrutinized for each and every activity of dissertationcompletion by research centers of specialties, supervisors, Head of Departments and the research associates and Deputy Directorsat theOfficeofResearchInnovation&Commercialization ofRMU.

ii. The structured component of research in Log books of fourth training year will pertain to various components of their researchprojectsincludingtimingandcompletenessofdataanalysis,resultwriteup,introduction,literaturereview'swriteup,methodology,discussion, recommendations,conclusionsandcoverpages.

iii. The log books will also include the attendance details of the trainees in the Journal club sessions of the department during R-Y4.Thisinformationwillbeendorsedbythesupervisorof thetraineeandtheHOD.

iv. The Log Books of the trainees in addition to the Research portfolio during fourth year will be endorsed by the supervisor andDeputy Directors of ORIC. The research portfolio of the R-Y4 will again include self assessment regarding research activities of thetrainee in narrative form. In addition to individual assessment of the objectives and aims formulated for fourth year of training andtheir successful attainment, it will also include participation in any research course/s, conference/s and/or competition/s etc.duringyearR-Y4.

F. OVERALLASSESSMENTOFPERFORMACEOFTRAINEESDURINGR4

i. The overall assessment of performance of trainee will not rely on any scores or marks attained by trainees since there will not beanyexaminationPaperorscoringforthehometasksassignmentsorpresentationofjournalclub.

ii. The Heads of department and the director of ORIC will observe research portfolio of trainees in addition to the log books forattendance record and the remarks of supervisor regarding his/her opinion regarding the trainee's overall performance duringfourth year of training.Based on their observations, they will evaluate the completeness and quality of performance of eachactivityoftraineeduringfourthyear.

iii. In case of any deficiencies or weaknesses, the trainee and supervisor will be called by the Heads of department and the director ofORICwhowill directthemonhowto improveaccordingly.

G. EVALUATION/FEEDBACKOFRESEARCHCOURSEOFYEAR4

Theresearchcourseandactivitiesofthird yearoftrainingwillbe evaluatedbythetrainees,facilitatorsORICandsupervisors.

i. ***The end of year R-Y4 and end of four years' research training feedback of trainees*** will include structured evaluation throughfeedback questionnaire not only four fourth year but also for entire four year of research training. It will be anonymous and apartfromquestionsphrased inLikertscale,openendedquestionswillalsobeincludedforthe opinionsoftrainees.

ii. ***The end of year R4 and end of of four years' research training feedback of trainers*** will also reflect the anonymous feedback forthe opinions of all supervisors and facilitators regarding benefits, drawbacks or weaknesses of R-Y4 course as well as of entire fouryear'sresearchtraining course.

iii. ***Three focus group discussions;*** oneof the R-Y4 trainees, second of the concerned facilitators and third of the supervisors will alsobeorganizedbytheORICtoevaluatetheentirefouryear'sresearchcourse,itsbenefitsandweaknessesandscopeforimprovement.

iv. ***A final evaluation report of the Research Course R-Y4 and entire 4 years' research training Course*** will be formulated andcompiledbytheORICof RMU. Thereportwillbepresentedtoallconcernedstakeholders.

H. QUALITYASSURANCEOFRESEARCHCOURSEOFYEAR4

i. Thequalityassessmentofresearchcourseof R-Y4aswellastheentirefouryears'researchcoursewillbecarriedoutthrough reviewofmaterialsandobservationsofproceedingsbytheevaluationteamofRMU.

ii. The research dissertations submitted by post graduate trainees will be observed as confidential evidences by Director of ORIC,Dean and chairperson of BASR for quality assessment. No other person will have access to these manuscripts in order to avoid anyriskof potentialplagiarism.

iii. ORIC will submit evaluation content of R-Y4 to all stake holders including a copy to the Quality Enhancement Cell (QEC) of RMU forinternalaswell asexternal evaluation.

iv. Anannual meeting of the trainers by end ofyear 4, will be organized by the Quality EnhancementCell of RMU, includingrepresentatives of supervisors, Head of Departments, Dean, representative members of BASR, ORIC, QEC, DME & IREF, to reviewanddiscussalltheevaluationmaterialsofR-Y4,itsqualityandanyrecommendationsforqualityenhancement,underthechairmanshipofVicechancellorofRMU.

The activities of trainees of RMU are displayed in figure 5(A) and 5 (B), according to their concerned options. Successful completion ofabove mentioned requirements of research course will be mandatory requirement for completion of Post Graduate training final year aswell asforMDscholar'strainingatRMU.

Figure5(A).AFLOW CHARTOFRESEARCHACTIVITIESANDASSESSMENTS OFR-Y4POSTGRADUATE/MDTRAINEEOFRMUWHOWILLOPTFORDISSERTATIONWRITING

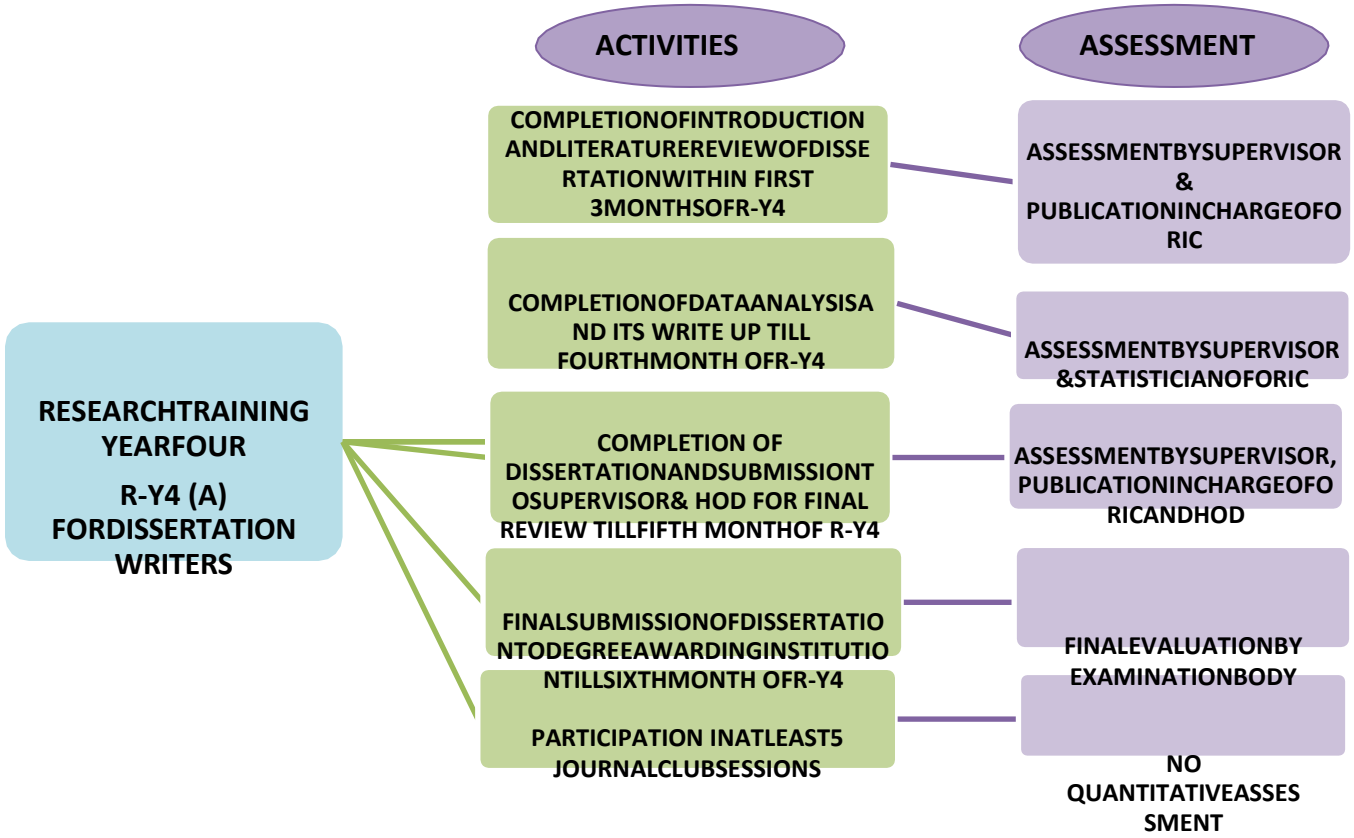
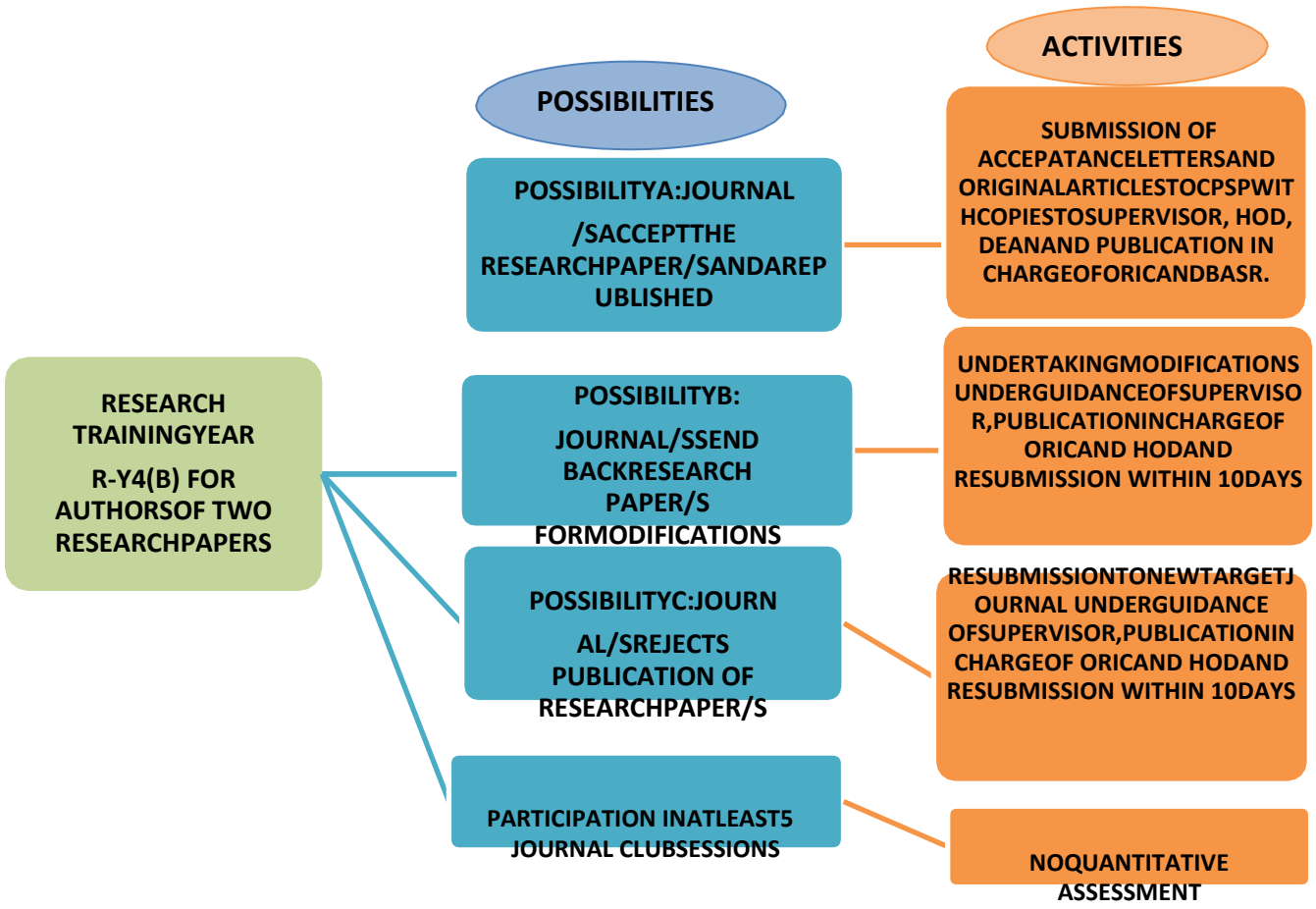


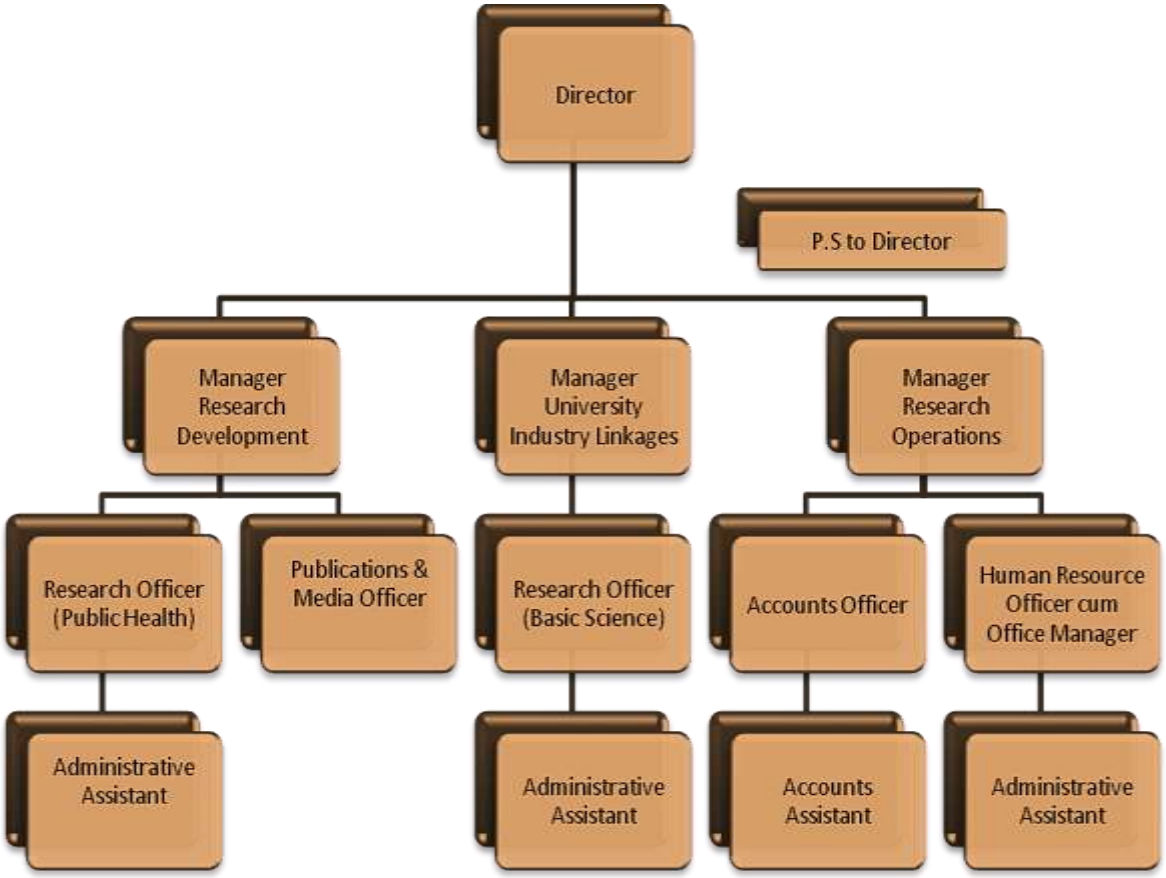
Figure6(B).AFLOWCHARTOFRESEARCHACTIVITIESANDASSESSMENTS

OFR-Y4POSTGRADUATEOFRMUWHOWILLOPTFOR2RESEARCHPAPERSASREQUISITETOCPSPFELLOWSHIPDEGREE



ANNEXURE1

THEORGANIZAITONALCHARTOFORICOF RMU



Note:ManagersofORICarealsoreferredtoasDeputyDirectorsinRMU

ANNEXURE2

TERMSOFREFERENCESOFSTAFFMEMBERSOFRMUWITHREFERENCETOTHERESEARCHTRAININGPROGRAMOFPOSTGRADUATETRAINEESOFRMU

A. THEVICECHANCELLOR:

1. The vice chancellor of RMU will be final authority to approve nominations of external supervisors of MD scholars, in consultation with the Deanof specialty.
2. Regarding nominations of the internal supervisors of MD trainees and also of Post graduate trainees of fellowship of CPSP, after completion offirst year of training, i.e. R-Y1, no substitution in nomination will be allowed. But in case of any serious incompatibility between the trainee andthe supervisor, the issue will be brought to the Vice chancellor, directly by the Dean, as a special case. And only the vice chancellor will make thefinaldecisionaccordingly,as thefinal authority.
3. Thevicechancellor willalsobetheheadof thequalityevaluationteamof researchtrainingcourses thatwill alsoincludetheHead ofdepartments, Deans, selected representatives of BASR, IREF, Director of ORIC and Director of Quality enhancement cell (QEC). The selection ofabovementionedteammemberswill bemadebytheVicechancellorofRMU.
4. The Vice chancellor will have the authority through the research training course, to make surprise visits, evaluations, rounds and checking(without any prior information to the trainees and trainers) at any random occasion, being member of quality evaluation team individually or inteam.
5. An annual meeting of the trainers will also be organized by the Quality Enhancement Cell of RMU, including representatives of supervisors, HeadofDepartments,Dean,representativemembersofBASR,ORIC,QEC&IREF andthis meetingwillbe chairedbytheVicechancellor.
6. In perspective of the quality assessed through extensive procedure all the year round and also during the Annual meeting of quality assessmentand enhancement, the Vice Chancellor and the Board of Advanced study and Research will finalize any modifications or enhancement in the nextResearch course.

7. WhentheMDscholarsofRMU willsubmittheirresearchproposalstotheBoardofAdvancedStudiesandResearch(BASR)ofRMUforappraisal,BASRwill issueanacceptanceletterofthe research proposalthatwill beendorsedby theVicechancellorofRMU.

B. MEMBERSOFBOARDOFADVANCEDSTUDIESANDRESEARCH:

1. The Board of Advanced studies and Research of RMU will finalize, approve and issue final approval list of the supervisors of the trainees ofRMU.
2. The Board of Advanced Studies and Research (BASR) of RMU will receive the submitted research proposals of MD scholars of RMU forappraisal.BASRwillissueanacceptanceletteroftheresearchproposalendorsedbytheVicechancellorofRMUcopiedtotheconcerned stake holders and authorities including office of Dean and ORIC. If members of BASR will find any modifications required in the proposal theywill recommend them to trainee and supervisor. The trainee must incorporate those changes and will resubmit the corrected version ofproposal to BASR within next one-week period. The written approval letter of BASR will then be issued within next two weeks to the trainee.Thetraineeswill thusreceiveformal permissionto initiate data collectionphasethroughthis acceptanceofBASR.
3. The quality evaluation team of research training course will include selected representatives of BASR who will be nominated and selectedbyBASR and Vice chancellor of RMU. The members may pay random visits for physical observation of theproceedings and materialsofalltheresearchrelatedactivitiesof thetraineesandsupervisors forquality assessment andassurance.
4. The copies of research papers or dissertations submitted by post graduate trainees following option of publication of two originalarticles to CPSP accredited journals will also be submitted to the chairperson of BASR for quality assessment to be observed asconfidential evidences
5. Representative members of BASR will attend the annual meeting of Quality assurance, by end of each research training year and willalso sharetheirexperiencesoftheirevaluationvisits and observationstovalidatetheexistingmaterials.
6. The quality ofResearch Training coursewill be stringently determined byBASRin theirmeetingsandthemembers willproviderecommendations for further quality enhancement and will have the authority for policy formulation or modification regarding theresearchtraining course.

C. MEMBERSOFINSTITUTIONALRESEARCHANDETHICSFORUMOF(IREF)RMU:

1. Institutional Research Ethics Forum will organize monthly meetings for approval of research proposals of the trainees of RMU in which thetraineemustpresentalongwithhis/hersupervisorforpresentationanddefence ofproposalsofdissertations/researchpapers.
2. The members will be provided hard copies of the research proposals prior to the meetings that they will review before coming to themeeting.
3. Memberswilllistenandvisualizefivetotenminutes'presentationthroughpower-pointbythetraineesandbytheendofpresentationwillmake relevant queriestothetrainees.
4. The IREF will appraise and scrutinize every aspect of the proposal/s and if found acceptable then will provide on spot verbalapprovaloftheprojectfollowedby writtenapprovalletterwithinnexttwoweekstothetrainees.
5. If members of IREF will find any modifications required in the proposal/s they will recommend them to trainee and supervisor.Thetraineemustincorporatethosechangesandwillresubmitthecorrectedversionofproposal/swithinnextoneweek'sperio d.
6. ThewrittenapprovalletterofIREFwillbeissuedwithinnexttwoweeksofmeeting,tothetrainee.
7. In case the trainee will be working on option B of CPSP i.e. publication of two research papers, instead of writing dissertation,thenhe/shewillpresentbothresearchproposalsto IREFforthetwotopicsalreadyapprovedbyCPSP.
8. The quality evaluation team of research training course will include selected representatives of IREF who will be nominated and selectedbychairperson of IREF and Vice chancellor of RMU. The members may pay random visits for physical observation of the proceedingsandmaterialsofalltheresearch relatedactivitiesofthetraineesandsupervisorsforquality assessmentand assurance.
9. Representative members of IREF will attend the annual meeting of Quality assurance, by end of each research training year and will alsosharetheirexperiencesof their evaluationvisitsandobservations to validatetheexisting materials.

10. Thequality ofResearch Trainingcoursewillbestringentlydeterminedby IREFintheirmeetingsandthememberswillprovide recommendationsforfurtherqualityenhancementtoBASR,ifany,regardingresearchtrainingcourse.

D. THEDEANOFTHESPECIALITY:

1. Thejournal clubmeetingswill be chaired bytheDeanof specialty.
2. In a journal club meeting, one or two research paper/s published in an indexed national or international journal will be selected by the Dean andwillbenotifiedtothedepartmentsatleast oneandahalfmonth priortothemeeting.
3. The Dean of the specialty will decide the nomination of the supervisor for the post graduate trainee as well as the internal supervisors of MDscholarswithinfirstsixmonths ofthe first yearof trainingR-Y1.
4. For the selection of supervisors, the Dean will chair meeting for selection of supervisors that will be held in the middle of the first researchtrainingyear,preferably inJune.
5. The list of all the first year trainees and the available supervisors in each department will be presented to the Dean, by respective heads of eachdepartment inmeeting.
6. The Dean will consider the recommendations and proposals of most suitable supervisors for each trainee aftereloquent discussions andjustificationswiththeHeadofDepartments.
7. The Dean will then call each trainee individually to inform him/her the suggested Supervisor for him/her and will also give right and time forobjection or reservation in nomination, if any. The Dean will seek the trainee's final consent and then after asking the trainee to leave themeetingroom,will callthesupervisor for final consent.
8. Ifthesupervisorwillalsobe willingto happilysupervise thetrainee,thentheDeanwillfinallyapprove thenomination.
9. Atentativelistwill be issuedby theofficeoftheDean,withinthreedaysof themeeting,copiedtotheHOD'sandthetraineesandsupervisors.
10. Both the trainees and the supervisors will be given two weeks to challenge the nominations and will also be given right to personally approachthe Dean for any request for change. In case of any objection, the Dean will make changes in consultation with the HOD's, after final consent andsatisfactionof both traineeandsupervisor
11. The final revised list of nominations will be then issued by the office of Dean and will be sent to the Board of Advanced studies and Research ofRMU(BASR).

12. During the last few months of the first year of training, the trainees and supervisors will be advised by the Dean, to get familiar with each otherandtrytoidentifytheir abilities toefficiently andsuccessfullyworktogetherasateam.
13. In case of any issues, either of both will have right to request any change in nomination to the Dean, till last week of first year of training. TheDeanwill thenconsider thecase andwill seekmodificationin nominationfromthe BASR.
14. Aftercompletion offirst yearof training,nosubstitutioninnomination willbeallowed.In case ofany seriousincompatibilitybetween thetraineeandthe supervisor,theDeanwill haveauthorityto bringittothenoticeof theVicechancellor asaspecialcase.
15. As regards the MD scholars, the external supervisors will also be nominated and those nominations will be made by Vice chancellor of RMU inconsultation with the Dean of specialty. After finalization of nominations a letter of agreement of supervision will be submitted by the trainee totheofficeofDean,includingconsent andendorsement ofbothtraineeandtheinternaland/orexternal supervisor.
16. Regarding the project of undertaking clinical audits on various aspects of the department during first year of research training, on one topicassignedto eachgroupbytheDeanin consultationwithHeads ofDepartments.
17. Theclinicalauditscompleted ingroupswillbepublishedasAnnualAudit Reportsofthedepartments bytheDean
18. TheDeanwillmakethedecisionregardingthepresentationofclinicalauditweeklyClinico-pathologicalconferences(CPC)ofthe University.
19. Once the research question and topic is finalized with mutual understanding of the supervisor, the Dean will also be handed over the selectedtopic by the trainee. The Dean of the specialty will give approval of the topic after scrutiny and will confirm after consultation with HODs thatthereisno duplicationof thetopicin thedepartment.
20. TheDean willfinalizethelistofthetopicsofresearchproposalsofall traineesduringfourthmonthofR-Y2andthen will submitthe listtoBASR.
21. Dean will also ensure the feasibility and availability of resources during second year of research training of the trainees of RMU, before initiationoftheresearch project.
22. The office of Dean will receive a copy of approval of the acceptance letter of BASR once the MD scholars of RMU will get their research proposalsapprovedby tothe Boardof Advanced Studies andResearch (BASR)ofRMU.
23. The Dean will receive the copies of final manuscript by post graduate trainees following option of publication of two original articles to CPSPaccredited journals that will be observed as confidential evidences by Dean for quality assessment. It will be kept strictlyconfidential by theofficeoftheDean inordertoavoidany riskof potential plagiarism

24. The Dean will also receive the copies of final dissertation manuscript by post graduate trainees and MD trainees that will be observed asconfidential evidences by Dean for quality assessment. It will be kept strictly confidential by the office of the Dean in order to avoid any risk ofpotentialplagiarism.
25. The office of Dean must also receive the letter of acceptance/s by the trainees, in case the research paper/s is/are approved by the targetjournals. When the original article will be published in journal/s, then the trainee will submit hard and soft copies of the original journal withhis/herpublishedarticlestoDeanof specialityforevidence.
26. The Dean of speciality will be member of the quality evaluation team of research course and he/she will have right to make any surprise visitduring the four years training research course, at any random occasion, either individually or in teams, without any prior information to thetrainees andtrainers.
27. The Dean will also attend the annual meeting that will be organized by the Quality Enhancement Cell of RMU.During the meeting, the Dean willsharehis/her experienceofevaluationvisitsandobservations tovalidatetheexistingmaterials.

E. THEHEADOFTHEDEPARTMENT:

1. TheHead ofthe Department (HOD)will overseealltheresearchactivities ofthe trainees,inclose consultation withthe Deanandthesupervisorsatthedepartmental level.
2. TheHOD willattendallthejournalclubsessionsofdepartment.
3. During the first six months of research training year 1 i.e. R-Y1, the HOD will be responsible for consideration of the nominations of the internalsupervisorof each trainee. TheHODwill decidethesenominationsbased on his/her ownpersonal observation of the level of performance,talent personality and temperament of both the trainees and the supervisors. Based on his/her personal observation of the compatibility of botheligible trainees and the supervisors, Head of department will recommend or propose most suitable supervisors for each trainee after eloquentdiscussionsandjustifications totheDean duringanomination meetingthatwillbeespecially heldforthis purpose.
4. The nominations will be finalized in a special meeting by all heads of the departments and the Dean. The list of all the first year trainees and theavailable supervisors ineachdepartmentwill bepresentedby respectiveheadsofeachdepartment inmeeting.
5. In case of any objection to nominations of supervisors, the Dean will make changes after direct consultation with the HOD's, apart from finalconsentandsatisfactionofboth traineeandsupervisor.

6. Afterfinalizationofnominations acopyof letterofagreementof supervisionwillbereceivedbytheofficeofHOD,submitted bythetrainee.
7. The weekly meetings of the supervisor and the trainee will be monitored by the HOD through observation of the documented record of meetinginlogbooks, bytheendofevery month.
8. During ninth month of training year 1; R-Y1 the head of department will supervise the project of clinical audit of the trainees. In this regard HODwill firstly form groups of trainees, either two or three trainees in one group (along with each supervisor of each trainee), depending on the totalnumberof trainees availableinthatrespectivefirst year.
9. TheHODinconsultationwith theDeanofspecialty will assigntopicsofauditstoeachgroup.
10. Theclinicalauditscompletedingroupswill be publishedasAnnualAuditReportsofthedepartmentsundersupervisionofHOD's.
11. ThepresentationofclinicalauditinweeklyClinico-pathologicalconferences (CPC)oftheUniversity,willalsobesupervisedbyHOD's.
12. Thecontributionofthetrainees in executionandpublicationofclinicalauditwillalso bequalitativelyassessed by the headof departments.
13. Once the trainee finalizes research question and topic in mutual understanding with supervisor, the HOD will also be handed over the selectedtopicby thetraineewho inconsultationwiththeDeanofthespecialtywill confirmfor nonduplicationofthetopicin thedepartment.
14. HOD will also ensure the feasibility and availability of resources during second year of research training of the trainees of RMU, before initiationoftheresearch project.
15. The trainee should submit final draft of dissertation to the head of department till end of fifth month of year for final modifications and the HeadofDepartmentwill alsoprovidehis/her feedbackwithin10-15 days.
16. The HOD will receive a copy of final dissertation by the trainee during fourth year of research training that will be kept by him/her as aconfidentialdocument inorder toavoidany potentialrisk ofplagiarism.
17. In case the research paper/s of the trainees is/are approved by the target journals, the office of HOD trainee will also receive a copy of the letterof acceptance/s and when the original article will be published in journal/s, even then the trainee will submit hard and soft copies of the originaljournalwithhis/herpublishedarticlestoHOD.
18. All the Head of Departments along with other staff members of Office of Research Innovation & Commercialization of RMU will keep vigilant andcontinuousmonitoringofalltheresearchactivitiesofeach trainee.
19. The HOD will monthly check and endorse the sections of research in Structured Log books of trainees and also section of Research in portfoliorecordofthetraineesspecific to research componentof thetraining.

20. The HOD will also endorse the attendance of the trainees in the Journal club sessions of the department in the log books along with his/herquantitative and/or qualitative assessment of the trainees' active participation and/or presentation during the journal club session. HOD will alsoendorse the information whether any question or comment was raised by the trainee during each journal club session or not. The Heads ofdepartment will observe the log books for assessments of facilitators of short courses during third year of research training and their commentsregardingthehometasks/assignmentsapartfromtheremarksofsupervisorregardinghis/heropinionregardingthetrainee'soverallperforma nceduringthirdyear oftraining.
21. In case of any deficiencies or weaknesses, HOD will personally call the trainee and supervisor and will guide them how to correct or improveaccordingly.
22. TheresearchcourseofthetraineeswillalsobeevaluatedbytheHOD'sthroughendofsessionsformsandthencollectivelythroughendof coursefeedback forms.
23. The HODs will also be members of the quality evaluation team of research training course and will vigilantly and equitably observe and evaluateallthedocumented records andmaterials duringthecourseandfinally by theendofeach courseyearforquality assessment.
24. Theywillalsomake surprise visits atanyrandomoccasion,withoutanypriorinformationto the traineesandtrainers,individuallyorinteam.
25. HODswillalsoattendtheannualmeetingqualityassessmentandenhancementwheretheyalongwithotherparticipantswillactivelyreviewand discuss all the evaluation material. And will also share their experiences of evaluation visits and observations to validate the existingmaterials.

F. THEDIRECTOROFOFFICEOFRESEARCHINNOVATIONANDCOMMERCIALIZATION(ORIC):

1. The Director ORIC (Office of Research Commercialization and Innovation) of RMU will conduct an orientation session or an introductory sessionof one-hour duration along with Deputy Directors of ORIC at the commencement of first research training year of all post graduate trainees ofRMU. During the session, the Director will make trainees acquainted to the complete research course of four years' post graduate training, itsschedule of all scholarly and academic activities and the assessment procedures. He/she will also introduce the model of research at RMU,organizational structure of ORIC and all requisites of training along with introduction to the staff members of ORIC who will be involved in theirtraining.

2. The director ORIC will take few research training sessions of first two training years (R-Y1 & R-Y2) that will comprise of didactic lecture followedbytakingexercisesandthenalsoberesponsible for givingandcheckingthe hometaskassignments(if any)relatedtosession.
3. During the third year of training the Director ORIC will conduct few of short refresher courses/workshops along with other staff members ofOffice of Research Innovation and commercialization. For the specific course, Director will have to carry out a 20-25 minutes' power-pointpresentation torestore the memories of the traineesregarding the previous knowledge attained by themin R-Y1 andR-Y2. The director ORICwill also facilitate the individual or groups exercises of trainees in the training session following the presentation and also check the take homeassignments.
4. Director at the Office of Research Innovation & Commercialization of RMU will keep vigilant and continuous monitoring of all the academicactivitiesofeach trainee related toResearch courses.
5. DirectorofORICwill checkthe researchportfoliooftheтrainee andwillendorseit.
6. Based on his/her observations, the completeness and quality of performance of each trainee will be evaluated and in case of any deficiencies orweaknesseshe/shewill personallycallthetraineeandsupervisorandwillguidethem howtocorrectorimproveaccordingly.
7. Director ORIC will supervise the formulation of evaluation report of the research training course and after its endorsement will send it to allconcerned departments and stake holders. The director ORIC will also be responsible for submission of the evaluation content to the QualityEnhancementCell (QEC)ofRMU for internal evaluationandexternal evaluation.
8. The Director will also be member of the quality evaluation team of research training course and will also evaluate all the documented recordsandmaterials duringthecourse andfinally by theendof each courseyearforqualityassessment.
9. Like all other members of Quality evaluation team, the director will also have the right to make a surprise visit at random individually or in team.The evaluation will include not only physical observation of the materials but the evaluators may also make a visit to observe any proceedings oractivitiesof theresearchcourse e.g.a lecture,a groupexercise,ajournalclubsessionand/oran IREFmeeting.
10. The Director will attend the annual meeting quality assessment and enhancement where he/she will actively review and discuss all availablematerialof trainingcoursewillalsosharehis/herexperienceofevaluationvisitsandobservations tovalidatethe existingmaterials.
11. The trainees who will opt for publication of research papers to journals will submit copy of submitted papers to Director of ORIC who will checkandkeepthemsecured inrecordsas confidentialdocuments.
12. TheDirectorwillreceiveacopyof dissertationofthetraineefor recordasaconfidentialdocumentin ordertoavoidpotentialriskof plagiarism.

G. THEDEPUTYDIRECTORSOFOFFICEOFRESEARCHINNOVATIONANDCOMMERCIALIZATION(ORIC):

1. The Deputy Directors ORIC (Office of Research Commercialization and Innovation) of RMU, along with Deputy Director and other staff membersof ORIC will conduct an orientation/introductory session of one-hour duration at the initiation of first research training year of all post graduatetrainees of RMU. The Deputy Directors will provide introduction to trainees regarding the research course of four years' post graduate training,its schedule of all scholarly and academic activities and the assessment procedures. They will also inform the trainees organizational structure ofORIC andall requisitesoftrainingalongwithintroductiontothestaffmembersofORICwhowill beinvolvedintheir training.
2. The Deputy directors ORIC will take research training sessions of first two training years (R-Y1 & R-Y2) that will comprise of didactic lecturefollowedbytakingexercisesandthenalsoberesponsible forgivingandcheckingthe hometaskassignments(if any)relatedto session.
3. The submitted record and scores of trainees attained for the individual and group assignments during first two training years will be endorsed bythe DeputyDirectorsof ORIC.
4. During the third year of training the Deputy Directors ORIC will conduct a few of short refresher courses/workshops. For the specific course, theywill have to carry out a 20-25 minutes' power-point presentation to restore the memories of the trainees regarding the previous knowledgeattained by them in R-Y1 and R-Y2. In addition, they will also facilitate the individual or groups exercises of trainees in the training sessionfollowingthepresentationandwill alsocheckthe takehomeassignments.
5. The submitted record and scores of trainees attained for the individual and group assignments of the short training courses of third year oftrainingwill alsobeendorsed by theDeputyDirectorsof ORIC.
6. The Deputy Directors will check and mark the written papers of end of year examination or Annual Research Paper of first two training year R-Y1& R-Y2.Theywill alsoendorse thescoresofthe Annual papers inthelogbookofthetrainees.
7. The research course will be evaluated by the deputy directors of ORIC too through end of sessions forms and then collectively through end ofcoursefeedbackforms.

8. During these first three months of R-Y2, the Deputy Directors at the ORIC will provide consultation to the trainees regarding feasibility of theirresearchquestions andwillbe advised if anymodificationrequired.
9. Thedeputydirectorswillbecontinuouslyinvolvedinanalertandcontinuousmonitoringof allthescholarly activitiesof eachtrainee.
10. The structured Research component of Log books and Research portfolio of the trainees specific to research component of all the training yearsR-Y1 to R-Y4 will also be regularly observed, monitored and endorsed by the Deputy Directors of ORIC. Based on his/her observations, thecompleteness and quality of performance of each trainee will be evaluated and in case of any deficiencies or weaknesses he/she will personallycallthetraineeandsupervisor andwill guidethemhowtocorrector improveaccordingly.
11. The Deputy Director will also monitor the submission of the evaluation content to all including a copy to the Quality Enhancement Cell (QEC) ofRMUfor internal evaluation.

H. THE RESEARCH ASSOCIATES OF OFFICE OF RESEARCH INNOVATION AND COMMERCIALIZATION(ORIC):

1. The Research Associates of ORIC (Office of Research Commercialization and Innovation) of RMU, along with Deputy Director and other staffmembersofORICwillfacilitatetheorientation/introductorysessionofone-hourdurationattheinitiationoffirstresearchtrainingyearofallpost graduatetraineesof RMU.
2. The Research Associates will take few research training sessions of first two training years (R-Y1 & R-Y2) that will comprise of didactic lecturefollowedby takingexercises andthen also beresponsiblefor givingandcheckingthehometask assignments(ifany)related to session.
3. The Research Associates will also be will be present and will be actively involved in facilitation of all the training sessions that will be taken byDirector,DeputyDirectorsorguestfacilitators.Theywillactivelyfacilitatetheindividualandgroupworksofthe traineesduringthe sessions.
4. The Research Associates will be responsible for record keeping of the post graduate trainees regarding the training sessions and the records andscores of trainees for the individual and group assignments during all four training years that will also be endorsed by the Deputy Directors ofORIC. They will not only collate the record at the ORIC in computerized versions as well as in the form of hard copies. The Research Associateswill also fill in the record in research sections of the log books relevant to thetraining sessions and other relevant activities that will besupervisedby them.

5. During the third year of training, the Research Associates will also be present in the short refresher courses/workshops for facilitating theDirector,DeputyDirectorsorguestfacilitators.Theywillactivelyfacilitatetheindividualandgroupworksofthe traineesduringthe workshops.
6. The Research Associates along with the Deputy Directors will check and mark the written papers of end of year examination or Annual ResearchPaper of first two training year R-Y1 & R-Y2. They will enter the the scores of the Annual papers in the log book of the trainees and will also keepitsrecordat theORIC incomputerizedversionsas well as in theformof hardcopies.
7. During the first three months of R-Y2, the Research Associates at the ORIC will provide consultation to the trainees regarding feasibility of theirresearchquestions andwilladvisetraineesif anymodificationrequired.
8. Once the trainee gets the approval of the topic/s from all concerned authorities during R-Y2 and will initiate the formal write up of proposal/s,theresearch associatesofORIC will guidethemregardingtheresearchmethodologies.
9. The research associates of ORIC will also ensure that the duration of research project should be adequate and realistic so that trainees will beabletocompletetheir project/s timely duringtrainingleavingenoughtimeforitswriteup.
10. The research associates of ORIC will also guide the trainees regarding the research formulation of data collection tools, their pre-testing andexecutionof datacollectionphase
11. TraineeswillbeindividuallyprovidedanupdatedstepwiseguidancebytheresearchassociatesofORIC,regardingsubmissionoftheirsynopsisto IREF for appraisal. They will be supervised by Research Associates regarding how to access the RMU website, to download the applicationPerforma and then how to electronically fill it in for final submission. They will also be provided updated format of presentation by the ResearchAssociates fortheir Research Proposalpresentationsat IREFmeetings.
12. Therecord ofthetraineesregarding timelycompletionandqualityofeachactivityrelatedtocompletionofresearchproposalsanditspresentation in the monthly meeting of the Institutional Research Ethics Forum (IREF) of RMU will also be part of the Log Book that will beenteredby theresearch associatesof ORIC andconveners oftheIREF andBASR.
13. As soon as the year four of training commences, these trainees should complete the introduction and literature review sections of theirdissertations along with proper referencing during first three months of R-Y4 and the Research Associates will also guide them along with thesupervisorsandthepublicationin chargeattheORIC.
14. While the dissertations will be under review by the degree awarding authority for acceptance, the trainees will be continuously guided by thesupervisorandtheresearchassociatesatORICregardingdefenceoftheirdissertation.Theywillbeguidedhowtomakeeffectivepresentations

according to the format provided by the examination authorities and also how to successfully and confidently respond to the queries ofexaminers.

15. IncasethedissertationissentbackwithrecommendedcorrectionsormodificationsresearchassociatesatORICwillguidethetraineealong withsupervisoronurgentbasis to get itrectified andresubmittedwithinat least10days'time.

I. THE PUBLICATION IN CHARGE OF OFFICE OF RESEARCH INNOVATION AND COMMERCIALIZATION(ORIC):

1. The Publication in charge will be actively involved in the Research training course and for the academic sessions relevant to literature search,reviewandwriteup,he/shewilltakedidacticlectures,followedbyfacilitatingindividualandgroupexercisesandcheckingofrelevanthometasksand assignments.
2. The post graduate trainees and MD scholars submit a copy of their finalized research proposal/s for the dissertation/research papers to thepublication in charge of ORIC who will review for plagiarism through turn-it-in soft ware. Any proposal that will have originality score less than90% or similarity index more than 10% will be returned back to trainees for rephrasing and resubmission. Only when the eligible scores will bereached,then thepublicationinchargewill approve andtheproposalwill befurther processed.
3. ThepublicationinchargeofORICwillalsoguidethetraineestowritetheliteraturereviewsectionsandthesectionof"Discussion" basedonthecomparisonof thefindingsoftheirstudywiththepreviouslyavailableresearchnationallyaswellasinternationally.
4. The final research papers/dissertations of traineeswillalso be reviewed by publication in charge of ORIC for plagiarism through turn-it-in soft ware. Any article that will have originality score less than 90% or similarity index more than 10% will be returned back totrainees for rephrasing and resubmission. Only when the eligible scores will be reached, then the trainee will be allowed to proceedfurtherandto submittheir research intheformoforiginalarticlesundercontinuousassistance ofPublicationunitofORIC.
5. In case the research paper/s of traineesis/are sent back with recommended corrections or modificationspublication in charge alongwith the supervisor and concerned facilitators at ORIC will assist the trainee on urgent basis to get it rectified and resubmitted withinnext10days' time.

6. In case any of the paper of trainee is refused publication by a journal then the publication unit at ORIC along with the supervisor andconcerned facilitators at ORIC will assist the trainee on urgent basis, to get it rectified and resubmitted to another target journal ofchoice withinnext10days' timeandnotdelayingitall.

J. THESTATISTICIANSATDATAANALYSISUNITOFOFFICEOFRESEARCHINNOVATIONANDCOMMERCIALIZATION(ORIC):

1. The statisticians at the Data Analysis Unit of ORIC at data analysis centre of ORIC will also be actively involved in the Research training coursespecifically those of Basic and advanced Biostatistics and Epidemiological concepts. The statisticians will take didactic lectures, followed byfacilitatingindividual andgroupexercises andcheckingofrelevant hometasksandassignments.
2. Thestatisticianswillfacilitatethetrainees insamplesize calculationthroughsamplesizecalculatorsaccordingtheirstudydesigns.
3. Trainees will also be assisted by the statisticians in planning the Data analysis for the research projects and also data coding, cleaning and sortingaccordingly.
4. Thestatisticianswillfacilitatethetraineesinformulationofthedataentrysheetsin SPSSorother dataanalysissoftwaresandwillbecontinuouslyassistedintheprocesstilldataentryis completed.
5. The trainees will perform the data analysis of their research projects for research papers or dissertations, under continuous guidance andsupervision of the statisticians who will also guide them how to interpret analyzed files and to write up results in textual forms, tabulatedversionsor figures/graphs.
6. In case the research paper/s or dissertation/s of trainees is/are sent back with recommended corrections or modificationsin results sectionthen the statisticians along with the supervisor, publication in chargeand concerned facilitators at ORIC will assist the trainee on urgentbasistogetitrectified andresubmitted withinnext10days'time.

K. DEPARTMENTOFMEDICALEDUCATION:

1. The quality evaluation team of research training course will include Director of Department of Medical Education who may pay random visits forphysical observation of the proceedings and materials of all the research related activities of the trainees and supervisors for quality assessmentandassurance.
2. The Director DME will also attend the annual meeting of Quality assurance, by end of each research training year and will also share his/herexperiencesofevaluationvisitsandobservationstovalidate theexistingmaterials.
3. The demonstrator at the DME will keep record of attendances of all the post graduate trainees and MD scholars for all the academic sessionsattended by them regarding the research training course along with the record of all assessments, scores, marks of annual papers. They willmonitorthelogbooksandresearchportfolioforthecompletenessandregularitytoo.Therecordwillnotonlybekeptandmaintainedat DMEashardcopi esaswellascomputerizedversion,buttheywill alsoregularly sharerecordswithORIC andQualityenhancementcellsofRMU.

L. THESUPERVISOROFTHETRAINEEFORTHEDISSERTATIONPROJECT

1. The supervisor of the trainee must be nominated within first six months of the research training. The Dean of the specialty will decide thenomination of the supervisor for the post graduate trainee as well as MD scholars.In this regards a meeting will be held that will beattended by all heads of the departments and the Dean. The list of all the first year trainees and the available supervisors in each department willbepresented byrespectiveheads of each departmentin meeting. All of the eligibletraineesand supervisors will alsobearound for briefinterviews during the meeting.The supervisor for the trainee will be nominated based the the level of performance, talent personality andtemperament of both the trainees and the supervisors by the HOD. If the supervisor will also be willing to happily supervise the trainee, then theDeanwill finallyapprovethenomination, apartfromother requirements.
2. After finalization of nominations a letter of agreement of supervision will be submitted by the trainee to the office of Dean, includingconsentandendorsementofboththraineeandthe internaland/orexternalsupervisor,with copiesto HOD,ORICandBASR.
3. The supervisor will be bound to meet with the trainee, on weekly basis exclusively for research activity and will document the activityperformedduringthemeetingin the logbookalongwith endorsement.

4. During ninth month of training year 1; R-Y1 the supervisor/s will supervise trainees together in groups and will undertake clinical audit on variousaspects of the department as a project assignment, on one topic assigned to each group by the Dean and Heads of Departments. The contributionofthepost graduatetrainees'/MDtraineesinauditswill be qualitatively assessedbythesupervisorsandtheheadof departments.
5. Thesupervisorwillkeepvigilantandcontinuousmonitoringofallthe researchrelatedacademicactivitiesofeachtrainee.
6. The supervisors will provide their feedback through structured and anonymous feedback forms/questionnaire, including closed andpartiallyclosedquestionsthatwillberegularlyprovidedbythem.Theywillprovidetheirinputsandopinionsregardingeffectivenessof the course contents, curriculum, teaching methodologies, teaching aids and technologies, content and usefulness of the exercisesand assessments etc.
7. One Focus group discussion ofsupervisors will also be organized by the ORIC to evaluate the research course, its benefits and weaknessesand scopeforimprovement,eachyear.
8. The supervisor will keep a close and continuous check on the Log books, Research portfolio of the trainee and will endorse it regularly. Based onhis/her observations, the supervisor will evaluate the performance of the trainee and will discuss it in monthly meeting withthe Head ofDepartmentorDeanof thespeciality if required.
9. The supervisor will not only guide and facilitate the trainee in preparation of presentation of Journal Club but will also ensure that trainees shouldactively participate in question & answer session of the journal club meeting and will also ensure the attendance of the trainees in Journal club aspersetrequirements.
10. During these first three months of R-Y2, supervisor will guide and supervise the trainee to do extensive review of the literature, relevant totopic and finalize the research question/s and research topic/s with mutual understanding and will submit the selected topic to the Head ofDepartment andDeanof specialty.
11. The supervisor will facilitate the trainee at every step, the formal write up of research proposal/s in consultation with the research associates ofORIC for guidance in methodology.The research proposal should be completed in eighth month of R-Y2 and should also be reviewed and finalizedbytheSupervisorof thetrainees.
12. The trainees should formulate all the data collection tools under guidance of supervisor and should also pretest to finalize all the datacollectiontoolsfortheirresearchprojects.

13. The supervisors will also ensure that the duration of research project should be adequate and realistic so that trainees will be able to completetheir project/s during third year of training leaving enough time for its write up during year 4 of training. The supervisor will also consult the DeanandHOD's inensuringthefeasibility andavailabilityofresourcesof atrainee duringsecondyearoftraining.
14. The supervisor will help the trainee to make a five to ten minutes' presentation through power-point at Institutional Research EthicsForumduring9-10monthsofR-Y2. Bytheendofpresentation,thesupervisor willfacilitate indefenceof theproposal.
15. During first quarter of year 3, it will be mandatory for the trainees to initiate the data collectionphaseoftheirproject/sundercontinuousguidanceoftheirsupervisors.Incasethedatacollectionwillrequiremorehumanresources,otherth antraineehimself/herself,the supervisor will ensure that the additional data collection staff will be adequate in number within data within the time framework and shouldalsomakesurethattheywill be proficientenoughtocollecthighqualityandauthentic data.
16. ThedatastoragewillalsobefinalizedbytraineeundertheguidanceofSupervisorandresearchcentreofspecialty.
17. Whether the trainee is opting for dissertation writing or research paper publication, the supervisor will ensure that every step and procedure isbeingfollowedeffectivelyandtimelymeetingall set requirementsasper standardoperational procedures.
18. Thesupervisorwill activelyassistthetrainee inwriteupofdissertation/researchpapers.
19. The trainee should submit final draft of dissertation to the supervisor till end of fifth month of year4for final modifications. Since thesupervisorwillbeincessantlyinvolvedineveryaspectoftheprojectsincethebeginningandwillbepersistentlyguidingtheprocedure, so he/she should not take more than 10 days to give final review to dissertation of the trainee with written feedback thatwillbeenteredina structuredperformawithrecommendationsforimprovementorcorrections.
20. In case the dissertation or research paper/s is/are sent back with recommended corrections or modifications, the supervisor will assistthetraineeonurgentbasistogetitrectifiedandresubmittedwithinnext10days'time.Incaseanyofthepaperisrefusedpublicationbya journal even then the supervisor will assist the trainee on urgent basis, to get it rectified and resubmitted to another target journal of choicewithinnext10 days' timeandnot delayingitall.
21. Incasetheresearchpaper/sis/aresentbackwithrecommendedcorrectionsormodifications, thesupervisorwillassistthetraineeon urgentbasistogetitrectifiedandresubmittedwithinnext10days'time.Incaseanyofthepaperisrefusedpublicationbyajournaleven

thenthesupervisorandpublicationunitatORICwillassistthetraineeonurgent basis,togetitrectifiedandresubmittedtoanothertargetjournal ofchoicewithinnext10days'timeandnot delayingitall.

22. While the dissertations will be under review by the degree awarding authority for acceptance, the trainees will be continuously guidedby the supervisor regarding defense of their dissertation. They will be guided how to make effective presentations according to theformatprovidedbytheexaminationauthoritiesandalsohowtosuccessfullyandconfidentlyrespondtothequeriesofexaminers.

MANDATORYWORKSHOPS

WORKSHOPS(3hourseachfor2-5days)

S.NO	NAMEOFTHE WORKSHOP	LEARNINGOBJECTIVES	TOPICSTOBECOVERED
1.	**Biostatistics & ResearchMethodology (4 days)**	• To understand the basics of Bio-Statistics • To critique why research isimportant? • To discuss the importance ofSelectingaFieldforResearch • To prepare oneself for Participationin National and InternationalResearch • To prepare oneself for Participationin Pharmaceutical CompanyResearch • To interpret the importance ofresearch ideas & Criteria for a goodresearchtopic • TodiscussEthicsinHealthResearch • To learntowriteaScientificPaper • To learn to make a ScientificPresentation • To learn to make a purposefulliteratureresearch	1. IntroductiontoBio-Statistics 2. IntroductiontoBio-MedicalResearchWhyresearchis important? 3. Whatresearchtodo? i. SelectingaFieldforResearch ii. DriversforHealthResearch iii. Participation in National andInternationalResearch iv. Participation in PharmaceuticalCompanyResearch v. Wheredoresearchideascomefrom vi. CriteriaforagoodresearchtopicEthicsinHealthResearch 4. Writinga ScientificPaper 5. MakingaScientificPresentation&SearchingtheLiterature
2.	**Introductionto computer/Information**	By the end of this workshop student shouldbeable to:	1. HardwareandSoftware • Understandthemaincomponentsofacomputer,

	Technology & Software(5 days)	• Appropriately start up and shutdownyourcomputer. • Navigate the operating system andstart applications. • Perform basic functions of filemanagement. • Perform basic functions in a wordprocessorandspreadsheet. • Manage printsettingsandprintdocuments. • Receiveandsendemail. • Use a web browser to navigate theInternet. • work with windows, toolbars, andcommandmenus • perform basic word processing andgraphic tasks • make aPowerPointpresentation • exploreWebbrowsingbasics • backupfiles • save,copy, andorganizeyourwork • to enter data accurately in softwareof Statistical Package for SocialSciences	includinginputandoutputdevices. • Understand the function of communicationdevicessuchassmartphones andtablets. • Understand the role of Operating Systems,programsandapps. 2. Windows • Turningonthecomputerandloggingon. • TheWindowsscreen. • RunningprogramsfromtheStartMenu. • Minimising, maximising, moving, resizing andclosingwindows. • Logging off and shutting down your computer.3.Workingwith Programs • Runningmultipleprograms. • Desktopiconsandcreatinga desktopshortcut. • Managingprogramsfromthe taskbar. • Closing programs.4.File Management • ManagingWindowsExplorer. • Creating, moving, renaming and deleting foldersandfiles. • Understandingsfileextensions. • Viewingstoragedevices andnetworkconnections. • Managing USB flash drives.5.WordProcessing • CreatingdocumentsinMicrosoftWord. • Typingtext,numbersanddatesinto adocument. • Easyformatting. • Checkingthespellinginyour document. • Makingandsavingchangestoyour document. • 6. PowerPoint Making Power Point presentation7.Spreadsheets • Understandingspreadsheetfunctionality.

			• CreatingspreadsheetsinMicrosoftExcel. • Typingtextnumbersanddatesinto aworksheet. • Easyformulas. • Easyformatting. • Chartingyourdata. • Makingandsavingchangestoyourworkbook. • Printing a worksheet.8.Printing • Printpreview. • Printsettings. • Managing the print queue.9.UsingEmail • TheOutlookmailscreenelements. • Composingandsendingan emailmessage. • Managing the Inbox.10.AccessingtheIntern et • Goingto aspecificwebsiteandbookmarking. • Understandinghowtosearch/Googleeffectively. • Copy and paste Internet content into yourdocuments andemails. • Stoppingandrefreshingpages. • DemystifyingtheCloud. • Understanding social media platforms such asFacebook andTwitter. • Computer security best practices.11.StatisticalPackageforSocialSc iences • generalunderstandingfordata entry •
3.	**communicationskills (3days)**	• To learn to use Non-medicinalInterventions in CommunicationSkillsofClinicalPr actice • To discuss the importance ofcounseling • To roleplayasacounselor • To learntomanageaconflict	1. UseofNon-medicinalInterventionsinClinicalPractice CommunicationSkills 2. Counseling 3. InformationalSkills 4. CrisisIntervention/Disaster 5. ManagementConflictResolution 6. BreakingBadNews

		resolution • Tolearntobreak abadnews • To discuss the importance ofMedical Ethics, Professionalism andDoctor-Patient RelationshipHippocraticOath • To learn to take an informedconsent • To illustrate the importance ofconfidentiality • To summarizeEthicalDilemmasina Doctor'sLife	7. Medical Ethics, Professionalism and Doctor-PatientRelationshipHippocraticOath 8. Four Pillars of Medical Ethics (Autonomy,Beneficence, Non-malficence andJustice) 9. InformedConsentandConfidentiality 10. EthicalDilemmas in aDoctor'sLife
4.	**Clinical Audit(2days) (WorkshopisspecificforMD Internal Medicineonly)**	**RoadMapforworkshop:** 1. Step1:Topicselection 2. Step2:Settingofcriteriaandstandards 3. Step3:Firstdatacollection 4. Step 4: Evaluation and comparisonwithcriteria andstandards 5. Step5:Implementationofchange 6. Step6:Seconddatacollection–evaluationof change **Thefollowingarefactorsthatmayaffectyourchoiceofaudittopic:** • Strongimpactonhealth • Convincing evidence available aboutappropriatecare • Common condition which can beclearlydefined • Good reasons of believing thatcurrent performance can beimproved • Readily accessible data which can becollectedwithinareasonable length	1. Tounderstandclinicalauditprocess.Tohelpclinicians decideexactlywhytheyaredoingaparticularauditand whattheywanttoachievethroughcarryingouttheaudit. 2. To determine, how clinical audit relates to otheractivities related to accountability for the qualityandsafetyofpatientcare. 3. Toselecttherightsubjectforaudit. 4. Touseevidenceofgoodpracticeindesigningclinicalaudits. 5. Tohelp cliniciansformulatemeasuresofqualitybasedonevidenceofgoodpractice,asthebasisfordatacollectionandalsotodevelopdatacollection protocols and tools and advise on datacollectionforclinicalaudits. 6. Tohelpinunderstandinghowtohandledataprotectionissues relatedtoclinicalaudit. 7. To understand use of statistics for analyzing andpresentingfindingsofdatacollectionandthushelp clinicians to analyze causes of problems thatareaffectingthequalityofcare.Thishelpsinapplying principles and strategies for taking actionto achievechangesin clinical practice.

		of time • Consensus on the audit topic amongthepracticemembers	8. Tohelpcliniciansmanagereviewofclinicalauditfindingswiththeircolleagues. 9. To beabletoprepareclinicalaudit reports. 10. Torecognizeandhandleethicsissuesrelatedtoclinical audit.
5.	**Advanced Cardiac LifeSupport (4days) (WorkshopisspecificforMD Internal Medicineonly)**	Upon successful completion of theworkshop,the studentwillbeable to: • Recognize and initiate earlymanagement of pre-arrestconditions that may result in cardiacarrest or complicate resuscitationoutcome • Demonstrate proficiency inproviding BLS care, includingprioritizing chest compressions andintegrating automated externaldefibrillator(AED) use • Recognize and manage respiratoryarrest • Recognize and manage cardiacarrest until termination ofresuscitation or transfer of care,including immediate post-cardiacarrestcare • Recognize and initiate earlymanagement of ACS, includingappropriatedispositio n • Recognize and initiate earlymanagementofstroke,inclu dingappropriatedisposition • Demonstrate effectivecommunication as a member orleader of a resuscitation team andrecognizethe impactofteam dynamicsonoverallteam	The workshop is designed to give students the opportunityto practice and demonstrate proficiency in the followingskillsused inresuscitation: 1. Systematicapproach 2. High-quality BLS 3. Airwaymanagement 4. Rhythmrecognition 5. Defibrillation 6. Intravenous (IV)/intraosseous (IO) access(informationonly) 7. Useofmedications 8. Cardioversion 9. Transcutaneouspacing 10. Teamdynamics 11. Reading and interpreting electrocardiograms(ECGs) - Be able to identify—on a monitor andpaper tracing—rhythms associated withbradycardia, tachycardia with adequate perfusion,tachycardia with poor perfusion, and pulselessarrest. These rhythms include but are not limitedto: o Normalsinusrhythm o Sinusbradycardia o TypeIsecond-degree AVblock o TypeII second-degree AVblock o Third-degreeAVblock o Sinustachycardia o Supraventriculartachycardias o Ventriculartachycardia o Asystole

		performance	○ Ventricularfibrillation ○ Organizedrhythmwithoutapulse 12. Basicunderstandingof theessential drugs used in: ○ Cardiacarrest ○ Bradycardia ○ Tachycardiawithadequateperfusion ○ Tachycardiawithpoorperfusion ○ Immediatepost–cardiacarrestcare

SECTION-V

ChartingtheRoadtoCompetence:DevelopmentalMilestonesforMDInternalMedicineProgram atRawalpindiMedicalUniversity

Remember to celebrate for the milestones as you prepare for the road ahead----Nelson Mandela. High-quality assessment of resident performance is needed to guide individual residents' development and ensure theirpreparedness to provide patient care. To facilitate this aim, reporting milestones are now required across all internalmedicine (IM) residency programs.Milestones promote competency based training in internal medicine. Residencyprogram directors may use them to track the progress of trainees in the 6 general competencies including ***patient care,Medical Knowledge, Practice-BasedLearningand Improvement, InterpersonalandCommunication Skills,Professionalism and Systems-Based Practice.*** Mile stones inform decisions regarding promotion and readiness forindependent practice. In addition, the milestones may guide curriculum development, suggest specific assessmentstrategies, provide benchmarks for resident self-directed assessment-seeking, assist remediation by facilitatingidentificationofspecificdeficits,andprovideadegreeofnationalstandardizationinevaluation.Finally,byexplicitly enumeratingtheprofession'sexpectationsforgraduates,theymayimprovepublicaccountabilityforresidencytraining.

Table-1	DevelopmentalMilestonesforInternalMedicineTraining—PatientCare	
Competency	**DevelopmentalMilestonesInformingCompetencies**	**Approxima Frame TraiShould Ach Stage(mon**
A.Clinicalskillsandreasoning • Managepatientsu sing clinical skillsofinterviewing andphysicalexami nation • Demonstratecom petence intheperformance ofprocedures • Appropriatelyusela boratoryandimaging techniques	***Historicaldatagathering***	
	1.Acquireaccurateandrelevanthistoryfromthepatient inanefficientlycustomized,prioritized,andhypothesisdrivenfashion	8
	2.Seekandobtainappropriate,verified,andprioritized datafromsecondarysources(eg,family, records,pharmacy)	12
	3.Obtainrelevanthistoricalsubtletiesthatinformandprioritizebothdifferentialdiagnosesanddiagnosticplans,includ ingsensitive,complicated,anddetailedinformationthatmaynotoftenbevolunteeredbythe patient	24
	4.Rolemodelgatheringsubtleandreliableinformation fromthepatientforjuniormembersofthehealthcareteam	40
	Performingaphysicalexamination	
	1.Performanaccuratephysicalexaminationthatisappropriatelytargetedtothepatient's complaintsandmedicalconditions.Identifypertinentabnormalitiesusingcommonmaneuvers	8
	2.Accuratelytrackimportantchangesinthephysicalexaminationovertimeintheoutpatientandinpatient settings	12
	3.Demonstrateandteachhowtoelicitimportant physicalfindingsforjuniormembersofthehealthcareteam	24
	4.Routinelyidentifysubtleorunusualphysicalfindingsthatmayinfluenceclinicaldecisionmaking, usingadvancedmaneuverswhereapplicable	40
	Clinicalreasoning	
	1.Synthesizeallavailabledata,includinginterview,physicalexamination,andpreliminarylaboratory data,todefineeachpatient'scentralclinicalproblem	16
	2.Developprioritizeddifferentialdiagnoses,evidence-baseddiagnosticandtherapeuticplanfor commoninpatientandambulatoryconditions	32
	3.Modifydifferentialdiagnosisandcareplanbasedonclinicalcourseanddataasappropriate	32
	4.Recognizediseasepresentationsthatdeviatefromcommonpatternsandthatrequirecomplexdecision	48

	making	
	Invasiveprocedures	
	1.Appropriatelyperforminvasiveproceduresandprovidepost-proceduremanagementforcommonprocedures	24
B.Delivery of patient-centeredclinicalcare • Managepatients with progressiveresponsibility • Managepatientsacrossthespectrumofclinicaldiseases seen in thepractice of generalinternalmedicine • Managepatients in avariety of health caresettings to include theinpatientward,criticalcareunits, theambulatorysetting,andtheemergencysetting • Manage undifferentiatedacutely and severelyillpatients • Managepatientsin theprevention,counseling, detection,diagnosis, andtreatmentofgender-specificdiseases • Managepatientsas aconsultantto otherphysicians	***Diagnostictests***	
	1.Makeappropriateclinicaldecisionsbasedontheresultsofcommondiagnostictesting,includingbutnotlimitedtoroutine blood chemistries, hematologic studies,coagulationtests,arterialbloodgases,ECG,chestradiographs,pulmonaryfunctiontests,urinalysis andotherbodyfluids	16
	2.Makeappropriateclinicaldecisionbasedontheresultsofmoreadvanceddiagnostictests	24
	Patientmanagement	
	1.Recognizesituationswithaneedforurgentoremergentmedicalcare,includinglife-threatening conditions	8
	2.Recognizewhentoseekadditionalguidance	8
	3.Provideappropriatepreventivecareandteachpatientregardingself-care	8
	4.Withsupervision,managepatientswithcommon clinicaldisordersseenin thepracticeofinpatientandambulatorygeneralinternalmedicine	16
	5.Withminimalsupervision,managepatientswithcommonandcomplexclinicaldisordersseeninthe practiceofinpatientandambulatorygeneralinternalmedicine	16
	6.Initiatemanagementandstabilizepatientswithemergentmedicalconditions	16
	7.Managepatientswithconditionsthatrequireintensivecare	48
	8.Independentlymanagepatientswithabroadspectrum ofclinicaldisordersseeninthepracticeofgeneralinternalmedicine	48
	9.Managecomplexorraremedicalconditions	48
	10.Customizecareinthecontextofthepatient'spreferencesandoverallhealth	48
	Consultativecare	
	1.Providespecific, responsiveconsultationto otherservices	32
	2.Provideinternalmedicineconsultationforpatientswithmorecomplexclinicalproblemsrequiringdetailedriskassessment	48

Table-2DevelopmentalMilestonesforInternalMedicineTraining—MedicalKnowledge			
Competency	**DevelopmentalMilestonesInformingCompetencies**	**ApproximateTime FrameTraineeShouldAchieveStage (months)**	**General EvaluationStrategies Assessment Methods/Tools**
A. Coreknowledgeofgeneralinternal medicine and itssubspecialties • Demonstrate a level ofexpertiseintheknowledge ofthoseareasappropriatefora ninternalmedicinespecialist • Demonstrate sufficientknowledgetotreatmedical conditions commonlymanaged by internists,provide basicpreventivecare,and recognizeandprovideiniti al management ofemergencymedicalpro blems	***Knowledgeofcorecontent***		
	1.Understandtherelevantpathophysiologyandbasic scienceforcommonmedicalconditions	8	• Directobse rvation • Chartaudit • Chart-stimulatedrecall • Standardizedtests
	2.Demonstratesufficientknowledgetodiagnoseand treatcommonconditionsthatrequirehospitalization	16	
	3.Demonstratesufficientknowledgetoevaluate commonambulatoryconditions	24	
	4.Demonstratesufficientknowledgetodiagnoseand treatundifferentiated andemergentconditions	24	
	5.Demonstratesufficientknowledgetoprovide preventivecare	24	
	6.Demonstratesufficientknowledgetoidentifyandtreat medicalconditionsthatrequireintensivecare	32	
	7. Demonstrate sufficient knowledge to evaluatecomplexorraremedicalconditionsandmultiple coexistentconditions	48	
	8.Understandtherelevantpathophysiologyandbasic scienceforuncommonorcomplexmedicalconditions	48	
	9.Demonstratesufficientknowledgeofsociobehavioralscience sincludingbutnot limitedto healthcare economics,medicalethics,andmedicaleducation	48	
B.Commonmodalitiesusedinthepractice ofinternalmedicine&Demonstrate sufficientknowledgetointerpretbasicclinicaltestsandimages,use	***Diagnostictests***		
	1.Understandindicationsforandbasicinterpretationofcommondiagnostictesting,includingbutnotlimitedtoroutine bloodchemistries,hematologicstudies, coagulationtests,arterialbloodgases,ECG,chest	16	• Chart-stimulatedrecall • Standardizedtests

common pharmacotherapy,and appropriately use andperformdiagnostic andtherapeuticprocedures.	radiographs,pulmonaryfunctiontests,urinalysis,and otherbodyfluids		• Clinicalvignettes
	2.Understandindicationsforandhasbasicskillsin interpretingmoreadvanceddiagnostictests	24	
	3.Understandpriorprobabilityandtestperformance characteristics	24	

Table-3DevelopmentalMilestonesforInternalMedicineTraining—Practice-BasedLearningandImprovement

Competency	DevelopmentalMilestonesInformingCompetencies	Approximate TiFrame TraineeShould Achiev Stage(months)
A.Learningandimprovingviaauditofperformance&Systematicallyanalyze practice using quality improvement methods, andimplementchangeswiththegoalofpracticeimprovement	***Improvethequalityofcareforapanelofpatients***	
	1.Appreciatetheresponsibilitytoassessand improvecarecollectivelyforapanelofpatients	16
	2.Performorreviewauditofapanelofpatientsusingstandardized,disease-specific, andevidence-based criteria	32
	3.Reflectonauditcomparedwithlocalornationalbenchmarksandexplorepossibleexplanations fordeficiencies,includingdoctor-related,system-related,andpatientrelatedfactors	32
	4.Identifyareasinresident'sownpracticeand localsystemthatcanbechangedtoimprove effectoftheprocessesandoutcomesofcare	48
	5.Engageinaqualityimprovementintervention	48
B. Learningandimprovementviaansweringclinicalquestionsfrompatientscenarios • Locate,appraise,andassimilateevidencefromscientificstudiesrelatedtotheirpatients'healthproblems; • Useinformationtechnologytooptimizelearning	***Askanswerablequestionsforemerginginformationneed***	
	1.Identifylearningneeds(clinicalquestions)as theyemergeinpatientcareactivities	16
	2.Classifyandpreciselyarticulateclinical questions	32
	3.Developasystemtotrack,pursue,andreflecton clinicalquestions	32

	Acquiresthebestevidence	
	1.Accessmedicalinformationresourcesto answerclinicalquestionsandsupportdecisionmaking	16
	2.EffectivelyandefficientlysearchNLM databasefororiginalclinicalresearcharticles	16
	3.Effectivelyandefficientlysearchevidence-based summarymedicalinformationresources	32
	4.Appraisethequalityofmedicalinformationresourcesa ndselectamongthembasedonthe characteristicsoftheclinicalquestion	48
	Appraisestheevidenceforvalidityandusefulne	
	1.Withassistance,appraisestudydesign,c onduct,andstatisticalanalysisinclinical researchpapers	16
	2.Withassistance,appraiseclinicalguidelines	32
	3.Independentlyappraisestudydesign,conduct,and statisticalanalysisinclinicalresearchpapers	48
	4. Independently, appraise clinical guidelinerecommendations for bias and cost-benefit considerations	48
	Appliestheevidencetodecision-makingforindividualpat	
	1.Determineifclinicalevidencecanbe generalizedtoanindividualpatient	16
	2.Customizeclinicalevidenceforanindividual patient	32
	3.Communicaterisksandbenefitsof alternativestopatients	48
	4.Integrateclinicalevidence,clinicalcontext, andpatientpreferencesintodecisionmaking	48
C. Learningandimprovingvia feedbackandself-assessment • Identifystrengths,deficiencies,andlimitsinone'sknowledgeand expertise • Setlearningandimprovementgoals • Identifyandperformappropriatelearningactivities • Incorporateformativeevaluationfeedbackintodailypractice	***Improvesviafeedback***	
	1. Respond welcomingly and productively tofeedbackfromallmembersofthehealthcareteamin cludingfaculty,peerresidents,students,nurses, alliedhealthworkers,patients,andtheiradvocates	16
	2.Activelyseekfeedbackfromallmembersofthe healthcareteam	24

• Participateintheeducationofpatients,families,students,residents,andotherhealthprofessionals	3.Calibrateself-assessmentwith feedback andother externaldata	32
	4.Reflectonfeedbackindevelopingplansfor improvement	32
	Improvesviaself-assessment	
	1.Maintainawarenessofthesituationinthe moment,andrespondtomeetsituationalneeds	32
	2.Reflect(inaction)whensurprised,appliesnewinsightstofutureclinicalscenarios,and reflects(onaction)backontheprocess	48
	Participatesintheeducationofallmembersofthehealth	
	1.Activelyparticipateinteachingconferences	16
	2.Integrateteaching,feedback,andevaluationwith supervisionofinterns'andstudents' patientcare	32
	3.Takealeadershiproleintheeducationofall membersofthehealthcareteam.	48

Table-4DevelopmentalMilestonesforInternalMedicineTraining—InterpersonalandCommunicationSkills

Competency	DevelopmentalMilestonesInformingCompetencies	ApproximateTimeFrame TraineeShouldAchieve Stage(months)	General EvaluationStrategies AssessmentMethods/ Tools
A.Patients and familyCommunicate effectively withpatients, families, and thepublic,asappropriate,across abroad range of socioeconomicandculturalbackgrounds	***Communicateeffectively***		
	1.Providetimelyandcomprehensiveverbaland writtencommunicationtopatients/advocates	16	• Multisource feedback • Patientsurveys • Directobservation • Mentored self-reflection
	2.Effectivelyuseverbalandnonverbalskillstocreate rapportwithpatients/families	16	
	3.Usecommunicationskillstobuildatherapeutic relationship		
	4. Engage patients/advocates in shareddecisionmakingforuncomplicateddiagnostic and therapeuticscenarios	32	

	5.Usepatient-centerededucationstrategies	32	
	6.Engagepatients/advocatesinshareddecisionmakingfordifficult,ambiguous,orcontroversial scenarios	48	
	7.Appropriatelycounselpatientsabouttherisksandbenefitsoftestsandprocedures,highlightingcost awarenessandresourceallocation	48	
	8.Rolemodeleffectivecommunicationskillsin challengingsituations	48	
	Interculturalsensitivity		
	1.Effectivelyuseaninterpretertoengagepatientsin theclinicalsetting,includingpatienteducation	8	• Multisource feedback • Directobservation • Mentored self-reflection
	2.Demonstratesensitivitytodifferencesinpatients includingbutnotlimitedtorace,culture,gender,sexualorientation,socioeconomicstatus,literacy,and religiousbeliefs	16	
	3.Activelyseektounderstandpatientdifferencesandviewsandreflectsthisinrespectfulcommunicationandshareddecision-makingwiththepatientandthe healthcareteam	40	
B. Physiciansandotherhealthcareprofessionals • Communicate effectivelywith physicians, otherhealthprofessionals,andhealth-relatedagencies • Workeffectivelyasamemberorleaderofahealthcareteamor otherprofessionalgroup • Actinaconsultative role tootherphysiciansandhealth professionals	***Transitionsofcare***		
	1.Effectivelycommunicatewithothercaregiversinordertomaintainappropriatecontinuityduring transitionsofcare	16	• Multisource feedback • Directobservation • Sign-outformratings • Patientsurveys
	2.Rolemodelandteacheffectivecommunicationwithnextcaregiversduringtransitionsofcare	32	
	Interprofessionalteam		
	1.Deliverappropriate,succinct,hypothesis-drivenoralpresentations	8	• Multisource feedback
	2.Effectivelycommunicateplanofcaretoall membersofthehealthcareteam	16	
	3.Engageincollaborativecommunicationwithall membersofthehealthcareteam	40	
	Consultation		

	1.Requestconsultativeservicesinaneffective manner	8	• Multisource feedback • Chartaudit
	2.Clearlycommunicatetheroleofconsultanttothe patient,insupportoftheprimarycarerelationship	16	
	3.Communicateconsultativerecommendations tothereferringteaminaneffectivemanner	48	
C.Medicalrecords • Maintaincomprehensive,timely,a ndlegiblemedicalrecords	***Healthrecords***		
	1.Providelegible,accurate,complete,andtimelywritten communicationthatiscongruentwith medicalstandards	8	• Chartaudit
	2.Ensuresuccinct,relevant,andpatient-specific writtencommunication	32	

Table-5DevelopmentalMilestonesforInternalMedicineTraining—Professionalism

Competency	DevelopmentalMilestonesInformingCompetencies	ApproximateTime FrameTraineeShouldAchieveStage (months)	GeneralEvaluationStrategiesAssessmentMethods/Tools
A.Physicianship	***Adheretobasicethicalprinciples***		
• Demonstrate compassion, integrity, andrespect for others	1.Documentandreportclinicalinformationtruthfully	1.5	• Multisource feedback
	2.Followformalpolicies	1.5	
	3.Accept personalerrorsandhonestlyacknowledgethem	8	
	4.Upholdethicalexpectationsofresearchandscholarlyactivity	48	
• Respon- siveness topatient needs thatsupersedes self-interest	***Demonstratecompassionandrespecttopatients***		
	1.Demonstrateempathyandcompassiontoallpatients	4	• Multisource feedback
	2.Demonstrateacommitmenttorelievepainandsuffering	4	
• Account-	3.Providesupport(physical,psychological,social,andspiritual)fordying	32	

abilitytopatients,society, and theprofession	patientsandtheirfamilies		
	4.Provideleadershipforateamthatrespectspatientdignityandautonomy	32	
	Providetimely,constructivefeedbacktocolleagues		
	1.Communicateconstructivefeedbacktoothermembersofthehealthcareteam	16	• Multisource feedback • Mentored self-reflection • Directobservation
	2.Recognize,respondto,andreportimpairmentincolleaguesorsubstandardcareviapeerreviewprocess	24	
	Maintainaccessibility		
	1.Respondpromptlyandappropriatelytoclinicalresponsibilitiesincludingbut notlimitedtocallsandpages	1.5	• Multisource feedback
	2.Carryouttimelyinteractionswithcolleagues,patients,andtheirdesignated caregivers	8	
	Recognizeconflictsofinterest		
	1.Recognizeandmanageobviousconflictsofinterest,suchascaringforfamily membersandprofessionalassociatesaspatients	8	• Multisource feedback • Mentored self-reflection • Clinicalvignettes
	2.Maintainethicalrelationshipswithindustry	40	
	3.Recognizeandmanage subtlerconflictsofinterest	40	
	Demonstratepersonalaccountability		
	1.Dressandbehaveappropriately	1.5	• Multisource feedback • Directobservation
	2.Maintainappropriateprofessionalrelationshipswithpatients,families,and staff	1.5	
	3.Ensurepromptcompletionofclinical,administrative,andcurricular tasks	8	
	4.Recognizeandaddresspersonal,psychological,andphysicallimitationsthat mayaffectprofessionalperformance	16	
	5.Recognizethescopeofhis/herabilitiesandaskforsupervisionandassistance appropriately	16	
	6.Serveasaprofessionalrolemodelformorejuniorcolleagues(eg,medical students,interns)	40	
	7.Recognizetheneedtoassistcolleaguesintheprovisionofduties	40	

	Practiceindividualpatientadvocacy		
	1.Recognizewhenitisnecessarytoadvocateforindividualpatientneeds	8	• Multisource feedback • Directobse rvation
	2.Effectivelyadvocatefor individualpatientneeds	40	
	Complywithpublichealth policies		
	1.Recognizeandtakeresponsibilityfor situationswherepublichealthsupersedesindividualhealth(eg,reportableinfectiousdisease s)	32	• Multisource feedback
B.Patient-centeredness • Respect for patientprivacy andautonomySensitivitya ndresponsivenesstoadiv erse patientpopulation, includingbut not limited todiversity in gender,age, culture, race,religion,disabilitie s,andsexualorientation	***Respectthedignity,culture,beliefs,values,andopinionsofthepatient***		
	1.Treatpatientswithdignity,civilityandrespect,regardlessofrace,culture,gender, ethnicity,age,orsocioeconomicstatus	1.5	• Multisource feedback • Directobse rvation
	2.Recognizeandmanage conflictwhenpatientvaluesdifferfromtheirown	40	
	Confidentiality		
	1.Maintainpatientconfidentiality	1.5	• Multisource feedback • Chartaudits
	2.Educateandholdothersaccountableforpatientconfidentiality	24	
	Recognizeandaddressdisparitiesinhealthcare		
	1.Recognizethatdisparitiesexistinhealthcareamongpopulationsandthatthey mayimpactcareofthepatient	16	• Multisource feedback • Directobser vation • Mentored self-reflection
	2.Embracephysicians'roleinassistingthepublicandpolicymakersin understandingandaddressingcausesofdisparityindiseaseandsuffering	40	
	3.Advocatesforappropriateallocationoflimitedhealthcareresources.	40	

Table-6 Developmental Milestones for Internal Medicine Training—Systems-Based Practice			
Competency	**Developmental Milestones Informing Competencies**	**Approximate Time Frame Trainee Should Achieve Stage (months)**	**General Evaluation Strategies Assessment Methods/ Tools**
A. Work effectively with other care providers and settings • Work effectively in various healthcare delivery settings and systems relevant to their clinical practice • Coordinate patient care within the healthcare system relevant to their clinical specialty • Work in interprofessional teams to enhance patient safety and improve patient care quality • Work in teams and effectively transmit necessary clinical information to	***Work effectively within multiple health delivery systems***		
	1. Understand unique roles and services provided by local health care delivery systems.	16	• Multisource feedback • Chart-stimulated recall • Direct observation
	2. Manage and coordinate care and care transitions across multiple delivery systems, including ambulatory, subacute, acute, rehabilitation, and skilled nursing.	32	
	3. Negotiate patient-centered care among multiple care providers.	48	
	Work effectively within an interprofessional team		
	1. Appreciate roles of a variety of health care providers, including but not limited to consultants, therapists, nurses, home care workers, pharmacists, and social workers.	8	• Multisource feedback • Chart-stimulated recall • Direct observation
	2. Work effectively as a member within the interprofessional team to ensure safe patient care.	8	
	3. Consider alternative solutions provided by other teammates	16	
	4. Demonstrate how to manage the team by using the skills and coordinating the activities of interprofessional team members.	48	

ensuresafean d proper careof patients,inclu ding thetransitiono fcare betweensettings			
B. Improvinghealth caredelivery • Advocate forquality patientcareand optimalpatient caresystems • Participate inidentifying system errorsandimp lementingpot entialsyste mssolutions • Recognizean d functioneffe ctively inhigh-qualitycare system	***Recognizessystemerrorandadvocatesforsystemimprovement***		
	1.Recognizehealthsystemforcesthatincreasetheriskfor errorincludingbarrierstooptimalpatientcare	16	• Multisourcefeedback • Qualityimprovementp roject
	2.Identify,reflecton,andlearnfromcriticalincidents suchasnearmissesandpreventablemedicalerrors	16	
	3.Dialoguewithcareteammemberstoidentifyriskfor andpreventionofmedicalerror	32	
	4.Understandmechanismsforanalysisandcorrectionof systemserrors	32	
	5.Demonstrateabilitytounderstandandengageina system-levelqualityimprovementintervention.	48	
	6.Partnerwithotherhealthcareprofessionalstoidentify,pr oposeimprovementopportunitieswithinthesystem.	48	
C.Cost-effectivecareforpatient s andpopulations &Incorporateconsid erationsofcostawaren essandrisk-benefit analysis inpatient and/orpopulation-basedcareasappropr iate	***Identifiesforcesthatimpactthecostofhealthcareandadvocatesforcost-effectivecare***		
	1.Reflect awarenessofcommon socioeconomicbarriersthat impactpatientcare.	16	• Standardized examinations • Directobservation • Chart-stimulatedrecall
	2.Understandhowcost-benefitanalysisisappliedtopatientcare(ie,viaprinciple sofscreeningtestsandthe developmentofclinicalguidelines)	16	
	3.Identifytheroleofvarioushealthcarestakeholdersincl udingproviders,suppliers,financiers,purchasers,andcons umersandtheirvariedimpactonthecostofand accesstohealthcare.	32	
	4.Understandcodingandreimbursementprinciples.	32	
	Practicescost-effectivecare		

	1.Identifycostsforcommondiagnosticortherapeutictests.	8	• Chart-stimulatedrecall
	2.Minimizeunnecessarycareincludingtests,procedures, therapies,andambulatoryorhospitalencounters	8	
	3.Demonstratetheincorporationofcost-awarenessprinciplesintostandardclinicaljudgmentsand decision making	24	
	4.Demonstratetheincorporationofcost-awareness principlesintocomplexclinicalscenarios	48	

ReferencesofMilestones

1. https://www.acgme.org/Portals/0/PDFs/Milestones/InternalMedicineMilestones.pdf
2. http://education.med.ufl.edu/files/2010/10/InternalMedicineMilestones.pdf
3. http://www.upstate.edu/medresidency/current/competencies.php

SECTION-VI

UNIVERSITYRESIDENCYPROGRAMOFRAWALPINDIMEDICALUNIVERSITY:THEASSESSMENTSTRATEGIESFOR MDINTERNALMEDICINE(updatedon26th April,2021)

The vision:

Toimprovehealthcareandpopulationhealthbyassessingandadvancingthequalityofresident physician'seducationthroughaccreditation.

TheMission:

Weimagineaworldcharacterizedby:

- Astructuredapproachtoevaluatingthecompetencyofallresidentsandfellows
- MotivatedphysicianroleModelsleadingallprogramoftheuniversity.
- Highquality,supervised,humanisticclinicaleducationalexperience,withcustomizedformativefeedback.
- Clinicallearningenvironmentscharacterizedbyexcellenceinclinicalcare,safetyofpatients,doctorsandparamedicsandprofessionalism.
- Residentsandfellowsachievingspecificproficiencypriortograduation.
- Residentsandfellowsarepreparedtobe VirtuousPhysicianswhoplacetheneedsand well-beingofpatientsfirst

Thevalues:

- HonestyandIntegrity
- ExcellenceandInnovation
- AccountabilityandTransparency
- FairnessandEquity
- StewardshipandService
- EngagementofStakeholders
- LeadershipandCollaboration

BackGround/Rationale:

- NeedforModernizationofthePost Graduate MedicalTraininginthecountry.

- NeedforstructurationofallthecomponentsofPostGraduateMedicaltraininginPakistan.
- NeedforbetterMonitoringoftheSystemforbetteroutcomes.

Aims:

- TofulfilltheneedofModernizationoftheAssessmentstrategies.
- TostructuretheAssessment strategies.
- ToshifttheparadigmfromanExaminationOrientedSystemtowardsaTrainingOrientedSystem.

TheCharacteristicsofthedocumentonAssessmentStrategies:

FollowingaspectsaretriedtobeaccomplishedwhilesynthesisofthisdocumentonassessmentstrategiesforMDInternalMedicineUniversityResidencyProgram:

- ShouldbeTechnicallySound
- Shouldbeacceptablebyallthe stakeholders
- Shouldbedfeasibleforimplementation
- Shouldbe concise
- Shouldbeaccordingtotheneed ofour educationalsystem
- Shouldbereproducible/canbenationalized
- Shouldbe sustainable
- Shouldbeabletoassessesallrequiredcompetenciesaccurately

Few definitions beforeweproceedfurthermade tobe clear:

1. **What Is Competency?**
   Theabilitytodosomethingsuccessfullyorefficiently**.**

2. **What Is Competence?**

Competencyisdescribedwhatanindividualisenabletodowhileperformanceshoulddescribewhatanindividualactuallydoesinclinicalpractice.Theterms“performance” and “competency”are oftenusedinterchangeably.

3. **Whatisperformancebasedassessmentofcurriculum?**

Performancebasedassessmentmeasuresstudents’abilitytoapplytheskills&knowledgelearnedfromaunitofstudy.

4. **Whatiswork place basedassessmentof curriculum**?

The apprenticeship model of medical training has existed for thousands of years: the apprentice learns from watching the master and the master in turnobserve the apprentice's performance & helps them improve. Performance assessment not therefore a new concept higher work in modern healthcareenvironmentwith itsdiscourse ofaccountability, performanceassessment increasing roleIn ensuring thatprofessionalsdevelop andmaintain theknowledgeandskillsrequired for practice.Howevernowitwillbe donein astructured manner.

5. **WhatisaFormativeAssessment?**

- SuchanAssessment whichcreateslearningitself,fromone'sdeficiencies.
- Itisnon-threateningforthestudentsbecauseit doesnotdecidepassorfail.
- ProvisionofFeedbacktothestudentsisessentialcomponentofFormativeAssessment

6. **WhatisaSummativeAssessment?**

- CriteriaBasedHighStakeExaminations
- ProvisionofFeedbacktothestudentsisnotessentialforSummativeExaminations

7. **WhatiscontinuousInternal Assessment?**

AcollectionofFormativeAssessmentsiscalledContinuousInternalAssessment

WhatisthebasisofcurriculumandAssessmentofMDinternal MedicineofRawalpindi MedicalUniversityRawalpindi?

ThecurriculumofMDinternalMedicineofRawalpindiMedicalUniversityRawalpindiisderivedfrom**AccreditationCouncilforGraduateMedicalEducation**which is competency/ performance basedsystemdepends uponsix followingcompetencies.

1. **MedicalKnowledge**
2. **PatientCare**
3. **Interpersonal&CommunicationSkills**
4. **Professionalism**
5. **PracticeBasedLearning**
6. **SystemBased Learning**

RawalpindiMedicalUniversityRawalpindihastwoincorporatedoneadditional componentinthisbasicstructureofsixcorecompetencies

7. **Research**

ModelofexaminationforMDInternalMedicineRawalpindiMedicalUniversity:

Distributionofweightage(ifweconsidertotal marksas 100)amongvariousdesiredcompetenciesofRMUInternalMedicineMDcurriculum:

1.Medical knowledge	40%both
2.Patientcare	
3.Interpersonal&communication skills	40%both
4.Professionalism	
5.Practicebasedlearning	10%both
6.System basedlearning	
7.Research	10%

ContinuousInternalAssessment:

Competencies includedCIA	**Phasesof CIA**	**Time Line for endofvariousphases of CIA**	**Weightageof CIA**	**ToolsforAssessmentofCIA**
1. Medicalknowledge **2. Patientcare(40% both)** **3. Interpersonal &communicationskills** **4. Professionalism (40%both)** **5. Practicebasedlearning** **6. System based learning(10% both)** **7. Research10%)**	Phase-1 ➢ CIAYear1 ➢ CIAYear2	tillendof Year2	Equaltoormorethan 75%ofthetotalmarks of all formative assessments/360°Evaluations	• Multi source feedback/360 degreeevaluation • MCQsfor knowledge • Mini-CEX • Casebaseddiscussion • CPCpresentations • TOACS/OSCE • Chartsstimulatedrecall • Teachingrounds • Directlyobservedprocedures • Researchactivities
	Phase-2 ➢ CIAYear3 ➢ CIAYear4 ➢ CIA Year 5for five yeartraining program	tillendofYear4Or Year 5 for 5 yeartrainingprogram	Equaltoormorethan 75%ofthetotalmarks of all formative assessments/360°Evaluations	

DetailsaboutvariouscompetenciesrequiredforMDInternalMedicinealongwithbriefdetailsofTeachingStrategies,TypeofAssesment,weightagegiventothe competency&Toolsof Assesment:

Sr. No	Competency to beassessed	Teaching &learning strategies	Type of Assessment for thecompetencytobeassessed	% weightage of thecompetency	ToolsofAssessment
1.	Medicalknowledge	Case based discussion & problem basedlearning,largegroupinteractivesession, self-directed learning, teaching rounds,and literatureresearch.	FormativeAssessment leading to continue internal assessmentand also summative assessment in highstakeexams	40% for both MedicalKnowledge and PatientCareboth	MCQs, SEQs, Directly observe procedure,miniclinicalexaminations,charts ,OSCE, teaching ward rounds, case discussion,seminars,topicpresentation
2.	Patientcare	Case based discussion, teaching rounds,morbidity & mortality meetings, 360^0feedback evaluation, DOPS, long case/shortcasediscussionsOPDs,emergency indoorworkshops, handsontrainings.	Formative assessment leading tocontinueinternalassessmentandalso summative assessment in high stakeexams		Teaching rounds, case base discussion,presentations, CPC participations, clinicalmanagement, problem base learning, peerassistedlearning,dealingwithparamedics &patientattendants
3.	Professionalism	Teaching rounds, known conferences,workshops, hands on training, CPC,morbidity&mortalitymeetings,journal club	Formative assessment leading tocontinueinternalassessment	40% for bothprofessionalism &interpersonalcommunicationskillsboth	Working in OPDs, wards, emergencyDOPs, clinical case discussion, dealingwithparamedics,meetingwithsupervisor &mentors,miniclinicalexamination
4.	Interpersonal &communicationskills	Teaching rounds, hands on training,workshops related to researchmethodology,SPSS,dataentry, LGIS,session with supervisor & mentors,session with researchunits,SDL,	Formative assessment leading tocontinuousinternalassessment		Multisource&360 degreeevaluation.
5.	Practice basedlearning	Case based discussion, teaching rounds,known conferences, morbidity &mortalitymeetings,OPDs,emergency indoorworkshops,handsontrainings.	Formative assessment leading tocontinuous internal assessment Multisource&360degreeevaluation (Logbook&portfolio)	10%bothPractice BasedLearning& SystemBasedLearningboth	Working in OPDs, wards, emergencyDOPs, clinical case discussion, dealingwithparamedics,meetingwithsupervisor &mentors,miniclinicalexamination
6.	System basedlearning	Workinginwards,OPDs,Emergency	Formativeassessmentleadingtocontinuousinternal assessmentMultisource&360degreeevaluation (Logbook &portfolio)		Working in OPDs, wards, emergencyDOPs, clinical case discussion, dealingwith paramedics, meeting with supervisor&mentors,miniclinical examination
7.	Research	Large group Interactive sessions onResearch,hands on training&workshops, practical work of researchincluding literature search, findingresearch question, synopsis writing, datacollection,dataanalysis,thesiswriting	Formative leading to continuousinternalassessmentMultisource&360 degree evaluation (Logbook &portfolio)&alsoSummativeassessment	10%	Approvalofresearch topicand synopsis&thesis from URTMC, Board of Advancedstudies and Research and ethical reviewboard, Requirement of Completion certificate ofresearch workshops as eligibility criteriaforexaminations, DefenseofThesisexamination

SummaryofallAssessmentsinFour& FiveyeartrainingprogramofMD Internal Medicine:

S.NO.	**Year ofExaminati on**	**NameofExamination&t ypeofAssessment**	**Competencies to beAssessedwithweightage**	**Eligibilitycriteria**	**PassMarksrequired**	**TotalNo.ofExaminations**
1	During training ofYear-1	End of Rotation FormativeAssessment /Evaluations(FormativeAssessment)	1. Medicalknowledge 2. Patientcare(40%both) 3. Interpersonal &communicationskills 4. Professionalism (40%both) 5. Practicebasedlearning 6. System based learning(10% both) 7. Research(10%)	75% or above of CIA the totalmarkswillbeconsideredaseligible	Not applicable as it is aFormativeAssessment	04 evaluations in one year(total evaluationsin fouryears=16&infiveyears =20)
2	AttheEndofYear 1	InTraining-Assessmentyear1 (SummativeAssessment)		1. Submission of certificates ofcompletion of the FollowingMandatory workshops:Communicationskills 3days Computer &ITskills ------- 3 days Synopsiswriting ---------- 3 days BasicLifeSupport --------- 2 days 2. Submission of certificate ofapproval of ResearchTopic/Affidavitthatifcertificate of approval ofResearch Topicwill not beprovided within 30 days ofsubmissionofApplicationforin training examination no.1, thecandidate will not be allowed totakeexamination. 3. Publication of one article inResident Research Journal (forfiveyeartrainingprogramonly) 4. OR Statistical report of onedisease (for five year trainingprogramonly) 5. CompletedandDulysignedLogBookforyear one 6. Completed and duly signedPortfolioforyear one 7. Submission of certificate ofContinuous Internal Assessmentfor year one: Equal to or Morethan 75% (a cumulative score oftheyear one) 8. Certificate of completion of FirstyearTrainingdulysignedbythe Supervisor	DetailsDescribedattheend 50% passmarks	02Examinationinfouryearstraining program & 03 Examinations in Fiveyearstrainingprogram

				9. Submission of evidence ofpayment of examination Fee foryear-1 examination 10. Submission of no duescertificate from all relevantdepartmentsincludingLibrary, Hostel, Cashier etc. for year oneof training		
3	During training ofYear-2	End of Rotation FormativeAssessment /Evaluations(FormativeAssessment)		75% or above of CIA the totalmarkswillbeconsideredaseligible	Not applicable as it is aFormativeAssessment	04 evaluations in one year(total evaluationsin fouryears=16&infiveyears =20)
4	AttheendofYear-2	Mid Training AssessmentEquivalent to IntermediateModule Examination(SummativeAssessment)		1. Submission of Pass Result ofExamination ofYear-1 2. Submission of certificates ofcompletion of the FollowingMandatory workshops:Researchmethodology&Biostatistics----- -----3 days Professionalism -----2 days SPSS (Statistical Package forSocialSciences) ---- 2days 3. Submission of certificate ofapproval of ResearchProtocol/Synopsis orundertaking /Affidavit that ifapproved synopsis will not beprovided within 30 days ofsubmission of Application forIntermediate ModuleExamination, the candidate willnot be allowed to takeexamination. 4. Publication of one article inResident Research Journal (forfiveyeartrainingprogramonly) 5. OR Statistical report of onedisease (for five year trainingprogramonly) 6. CompletedandDulysignedLogBookforyear oneandtwo 7. Completed and duly signedPortfolioforyearoneand two 8. Submission of certificate ofContinuous Internal Assessmentfor year one: Equal to or Morethan75%(acumulativescor	DetailsDescribedattheend 60% passmarks	01

				eof		

				theyear oneand twoboth) 9. Certificate of completion ofsecondyearofTrainingduly signedbytheSupervisor 10. Submission of evidence ofpayment of examination Fee forintermediate ModuleExamination: Examination Feeonce deposited cannot berefunded/carried over the nextexamination under anycircumstances 11. Submissionofnoduescertificate from all relevantdepartments including Library,Hostel,Cashieretc.foryea rtwo of training		
5	During training ofYear-3	End of Rotation FormativeAssessment /Evaluations(FormativeAs sessment)		75% or above of CIA the totalmarkswillbeconsideredaseligib le	Not applicable as it isa FormativeAssessmen t	04 evaluations in one year(total evaluationsin fouryears=16&infiveyears =20
6	AttheendofYear-3	In Training - Assessmentyear3 (SummativeAssessment)		1. Submission of Pass result MidTraining Examination 2. Submission of certificates ofcompletion of the FollowingMandatory workshops :Reference Manager (Endnote)---1day Mandalay1day 3. Submission of certificate ofverification of Data Collection orundertaking /Affidavit that if thecertificate of verification of DataCollection will not be providedwithin 30 days of submission ofApplication for in trainingexamination no.2, the candidatewill not be allowed to takeexamination. 4. Publication of one article inResident Research Journal (forfiveyeartrainingprogramonl y) 5. OR Statistical report of onedisease (for five year trainingprogramonly) 6. CompletedandDulysignedLogB ookforyear three	DetailsDescribedatt heend 50% Passmarks	02Examinationinfouryearstr aining program & 03 Examinations in Fiveyearstrainingprogram

				7. Completed and duly signedPortfolioforyear three 8. Submission of certificate ofContinuous Internal Assessmentfor year three: Equal to or Morethan 75% (a cumulative score oftheyear three) 9. Certificate of completion of thirdyear of Training duly signed bytheSupervisor 10. Submission of evidence ofpayment of examination Fee forin training examination no.2:Examination Fee once depositedcannot be refunded/carried overthe next examination under anycircumstances 11. Submissionofnoduescertificatefrom all relevant departmentsincluding Library,Hostel, Cashieretc.Foryearthree		
7	During training ofYear-4	End of Rotation FormativeAssessment /Evaluations(FormativeAssessment)		75% or above of CIA the totalmarkswillbeconsideredaseligible	Not applicable as it isa FormativeAssessment	04 evaluations in one year(total evaluationsin fouryears=16&infiveyears=20)
8	Attheendofyear-4	Final Assessment for fouryearprogram(SummativeAssessment)		1. SubmissionofPassresultofInExamination year-3 2. Submission of certificates ofcompletionoftheworkshops: 3. Can attendany requiredworkshop optionally if He or Shewants and can submit thecertificate 4. Submission of certificate ofapproval of Thesis orundertaking /Affidavit that ifapproved synopsis within 30days of submission ofApplication for FinalExamination, the candidate willnot be allowed to takeexamination. 5. Publication of one article inResident Research Journal (forfiveyeartrainingprogramonly) OR Statistical report of onedisease(forfiveyeartrainin	DetailsDescribedattheend 60% Passmarks	01

				g		

				programonly) 6. CompletedandDulysignedLogBookforyear threeand four 7. Completed and duly signedPortfolioforyearthreeand four 8. Submission of certificate ofContinuous Internal Assessmentfor year three and four: Equal toor More than 75% (a cumulativescoreoftheyearthreeand four) 9. Certificate of completion ofFourthyearofTrainingduly signedbytheSupervisor 10. Submission of evidence ofpayment of examination Fee forFinal Examination: ExaminationFee once deposited cannot berefunded/carried over the nextexamination under anycircumstances 11. Submissionofnoduescertificatefrom all relevant departmentsincluding Library, Hostel,Cashieretc. Foryear fouronly		
GrandtotalofAllAssessmentsforFourYearTraining Program						04 SummativeAssessmentsinfouryears
GrandtotalofAllAssessmentsforFiveYearTrainingProgram OneAdditionalAssessmentattheEndofYear4 with samepattern asendofyear1 &3Assessments						05SummativeAssessmentsin fiveyears

TABLEOFSPECIFICATION& NOMENCLATURE(underprocess)

DetailsaboutContent,numberofquestions(MCQs&SEQs)andMarksofvariousHighStake/SummativeExaminations

<table>
<tr><th>Nameofexamination</th><th>Content</th><th>Eligibilitycriteria</th><th>QuestionsMCQs/SEQs/TOACS</th></tr>
<tr>
<td>InTraining - Assessmentyear-1(attheendofyear1)</td>
<td>

Basicprinciplesofmedicine
Symptomsanalysis
Clinical methods/signsinterpretation
Differential diagnosis
Basicinvestigations
Infectiousdiseases
Counseling&ethics
Management of commonemergencies
Fluid&ElectrolyteManagement
BLS/ACLS
Principlesof AntibioticTherapy

</td>
<td>
i. Completionof 1year training
ii. Workshopscompletion

Communicationskills ----------3days
Computer&IT skills---------- 3days
Synopsiswriting---------- 3days
BLS/ACLS ----------1days

iii. Research

AllotmentofThesistopic by supervisor
PublicationofonearticleinResidentResearchJournalORStatistical reportofone disease

iv. CIS- Minimum 75% marks- Certification byDME andSupervisor/s
Specialnote:
Students with less than 75% CIS, such cases will bereferredtorelevantacademicreviewcommitteewhich willwork under theumbrellaofDME/UTMC
</td>
<td>
A. WrittenAssessmentforyear-1 total marks 100(100clinical/AppliedBasicSciencesMCQs)
(Passpercentage:50%)

B-TableofSpecificationforwrittenAssessment
<table>
<tr><th>Sr.no</th><th>Discipline</th><th>MCQs</th></tr>
<tr><td>1.</td><td>Basicprinciplesofmedicine</td><td>15MCQs</td></tr>
<tr><td>2.</td><td>Symptomsanalysis</td><td>13MCQs</td></tr>
<tr><td>3.</td><td>Signsinterpretation</td><td>13MCQs</td></tr>
<tr><td>4.</td><td>DifferentialDiagnosis</td><td>7 MCQs</td></tr>
<tr><td>5.</td><td>Clinical methodsinterpretation</td><td>7 MCQs</td></tr>
<tr><td>6.</td><td>Basicinvestigations</td><td>7 MCQs</td></tr>
<tr><td>7.</td><td>InfectiousDiseases</td><td>8 MCQs</td></tr>
<tr><td>8.</td><td>Counseling&Ethics</td><td>10MCQs</td></tr>
<tr><td>9.</td><td>Management of commonemergencies</td><td>8 MCQs</td></tr>
<tr><td>10.</td><td>Fluid & ElectrolyteManagement</td><td>8 MCQs</td></tr>
<tr><td>11.</td><td>BLS/ACLS</td><td>2 MCQs</td></tr>
<tr><td>12.</td><td>Principles of AntibioticTherapy</td><td>2 MCQs</td></tr>
</table>
</td>
</tr>
</table>

<table>
<tr>
<td>Mid TrainingAssessmentExaminationequivalent toIntermediateModularExam
(at theendofyear 2)</td>
<td>

Cardiology
Gastroenterology
Respiratorymedicine
Neurology
Infectiousdiseases
Nephrology
Emergency medicine
Hematology
Rheumatology
Psychiatry
Endocrinology
Criticalcare
Dermatology

</td>
<td>i- Completion of 2 year trainingii- PassedYearOneexaminationiii- Rotationscompletion
Three rotations (each of 2 months- to becompleted infirst two years)
1. Cardiology
2. Nephrology
3. ICUi
v-Research:

Formulation of research synopsis withapproval of ERB & BASR by the end of 2nd year
CertificatewillbeissuedbyUTMC

v- CIS- Minimum 75% marks minimum 75% marks- CertificationbyDMEandSupervisor/s

Specialnote:
Students with less than 75% CIS, such cases will bereferred to relevant academic review committeewhich willwork under theumbrellaofDME/UTMC</td>
<td>
A – Mid TrainingAssessment(total marks = 300)B- WrittenAssessment (150marks)
Twopapersofcasebased 75MCQs --------- totalmarks 150
(Passpercentage=60%)
C- Table of Specification for paper I & IIPAPER-I
<table>
<tr><th>Sr.no</th><th>Discipline</th><th>MCQs</th></tr>
<tr><td>1.</td><td>Cardiology</td><td>15MCQs</td></tr>
<tr><td>2.</td><td>Nephrology</td><td>15MCQs</td></tr>
<tr><td>3.</td><td>ICU</td><td>15MCQs</td></tr>
<tr><td>4.</td><td>Infectiousdiseases</td><td>8 MCQs</td></tr>
<tr><td>5.</td><td>Respiratorymedicine</td><td>8 MCQs</td></tr>
<tr><td>6.</td><td>Emergency medicine</td><td>7 MCQs</td></tr>
<tr><td>7.</td><td>Psychiatry</td><td>7 MCQs</td></tr>
</table>
PAPER-II
<table>
<tr><th>Sr.no</th><th>Discipline</th><th>MCQs</th></tr>
<tr><td>1.</td><td>Neurology</td><td>15MCQs</td></tr>
<tr><td>2.</td><td>Dermatology</td><td>15MCQs</td></tr>
<tr><td>3.</td><td>Hematology</td><td>13MCQs</td></tr>
<tr><td>4.</td><td>Endocrinology</td><td>13MCQs</td></tr>
<tr><td>5.</td><td>Rheumatology</td><td>12MCQs</td></tr>
<tr><td>6.</td><td>Gastroenterology</td><td>7 MCQs</td></tr>
</table>
D-Clinical Assessment (TOACS 150marks)
On passing thetheory(60% passpercentage),traineewillbe eligibletoappearinpracticalexam.
</td>
</tr>
</table>

<table>
<tr>
<td>InTraining - Assessment year-3(attheendofyear3)</td>
<td>

Cardiology
Gastroenterology
Respiratorymedicine
Neurology
Infectiousdiseases
Nephrology
Dermatology
Criticalcare
Emergency medicine
Rheumatology
Endocrinology
Psychiatry
Hematology

</td>
<td>
i. Completionof3rd yeartraining
ii. PassedIntermediateexamination
iii. Workshopscompletion

ReferenceManager(Endnote)---1day

iv. Research

datacollection
dataanalysis&interpretation
startwritingthesis

v. Publicationofonearticlein residentresearchjournalorstatisticalreportof 11disease(optional)
vi.CISMINIMUM75% marksminimum75%markscertification byDMEandSupervisors/s
Special note:
Students with less than 75% CIS, such cases will bereferred to relevant academic review committeewhich willwork under theumbrellaofDME/UTMC
</td>
<td>
A-WrittenAssessment (100marks)

100MCQs -------- totalmarks100 (100clinicalMCQs)

(Passpercentage= 50%)
B-Table ofSpecification
<table>
<tr><th>Sr.no</th><th>Discipline</th><th>MCQs</th></tr>
<tr><td>1.</td><td>Cardiology</td><td>10MCQs</td></tr>
<tr><td>2.</td><td>Gastroenterology</td><td>10MCQs</td></tr>
<tr><td>3.</td><td>Respiratorymedicine</td><td>10MCQs</td></tr>
<tr><td>4.</td><td>Infectiousdiseases</td><td>5MCQs</td></tr>
<tr><td>5.</td><td>Nephrology</td><td>5 MCQs</td></tr>
<tr><td>6.</td><td>Neurology</td><td>10MCQs</td></tr>
<tr><td>7.</td><td>Dermatology</td><td>10MCQs</td></tr>
<tr><td>8.</td><td>Criticalcare</td><td>10MCQs</td></tr>
<tr><td>9.</td><td>Emergencymedicine</td><td>10MCQs</td></tr>
<tr><td>10.</td><td>Psychiatry</td><td>5MCQs</td></tr>
<tr><td>11.</td><td>Rheumatology</td><td>5MCQs</td></tr>
<tr><td>12.</td><td>Endocrinology</td><td>5MCQs</td></tr>
<tr><td>13.</td><td>Hematology</td><td>5MCQs</td></tr>
</table>
</td>
</tr>
<tr>
<td>FinalAssessment (at theendofyear 4)</td>
<td>

Cardiology
Gastroenterology
Respiratory medicine
Neurology
Infectiousdiseases
Nephrology
Dermatology
Criticalcare
Emergencymedicine
Rheumatology
Endocrinology
Hematology
Psychiatry

</td>
<td>
i- Completionof4th yeartrainingii - Passed 3rd year examinationiii- Research/Thesis

Completion & submission of Thesis6 monthsbeforecompletionoftraining
Defense&Approvalof Thesis inBASR
Certificatewill beissuedbyUTMC

iv- Rotations
Fourrotations completion in last two year (each of2months)

Neurology(2month)
Gastroenterology(2month)
Dermatology(1month)
Pulmonology(1month)

V.CIS Minimum 75% marks- Certification by DME andSupervisor/s
Specialnote:
Students with less than 75% CIS, such cases will bereferred to relevant academic review committeewhich willwork under theumbrellaofDME/UTMC
</td>
<td>
(TotalMarks =800)
A. Written Assessment (200marks)

PAPER-I-Case Based 100MCQs---(100 marks)(clinicalMCQsof C3level)
PAPER-II10SEQs ------ (100marks)

(Passpercentage=60%)
B-TableofSpecificationforpaperI& II
<table>
<tr><th>S.No</th><th>DISCIPLINE</th><th>MCQs</th><th>SEQ</th></tr>
<tr><td>1.</td><td>Cardiology</td><td>10MCQs</td><td>1 SEQ</td></tr>
<tr><td>2.</td><td>Gastroenterology</td><td>10MCQs</td><td>1 SEQ</td></tr>
<tr><td>3.</td><td>Respiratory Medicine-----</td><td>10MCQs</td><td>1 SEQ</td></tr>
<tr><td>4.</td><td>Infectious diseases1</td><td>10MCQs</td><td>1 SEQ</td></tr>
<tr><td>5.</td><td>Nephrology</td><td>10MCQs</td><td>1 SEQ</td></tr>
<tr><td>6.</td><td>Neurology</td><td>10MCQs</td><td rowspan="6">Fromnumber 6-13 fiveSEQs willbemade</td></tr>
<tr><td>7.</td><td>Dermatology</td><td>5 MCQs</td></tr>
<tr><td>8.</td><td>Criticalcare</td><td>5 MCQs</td></tr>
<tr><td>9.</td><td>Emergency medicine</td><td>5 MCQs</td></tr>
<tr><td>10.</td><td>Endocrinology</td><td>10MCQs</td></tr>
<tr><td>11.</td><td>Hematology</td><td>5 MCQs</td></tr>
</table>
</td>
</tr>
</table>

12.	Psychiatry	5 MCQs	
13.	Rheumatology	5 MCQs	

C-ClinicalAssessment(500marks)

On passing the theory, trainee will be eligible to appear inpracticalexam.Passmarks 60%.

- Four short cases total 200marks(each of50marks)
- Onelongcase100marks
- TOACS(15-20stations)------200marks

D-DefenseofThesis(100marks)

- Onpassingthetheory,traineewillbeeligibleto appearin defenseof thesis.
  - PowerPointpresentation :30 marks
  - Discussionsession:70 marks

(Passpercentage=60%)

Formatofdefenseof thesis

- Panelof2 examiner'sincludingoneinternal&oneexternal/gues texaminer
- Power point presentations of 30 min regardinghis/her research project ,including major outcomesofdiscussionalso
- This will be followed by interactive discussionsession/Q&Asessions of1hour.

TABLEOFSPECIFICATIONFORINTERNAL MEDICINE&ALLIEDMIDTRAINING ASSESSMENT

BLOOM'STAXONOMY

Various Levels of Cognition, Psychomotor & Attitude Domains Are Provided Here For Better Understanding Regarding Table ofSpecificationofTOACS

Levelsof domain	Standfor	Detail
Cognitivedomain–C (Knowledge)		
C1	Remembering	• Abilitytorememberfactswithoutnecessarilyunderstanding • Retrieving,recognizing,andrecallingrelevantknowledgefromlong- termmemory
C2	Understanding	• Abilitytounderstandandinterpretlearnedinformation • Constructingmeaningfromoral,written,andgraphicmessagesthrough interpreting, exemplifying, classifying, summarizing, inferring,comparing,and explaining.
C3	Applying	• Abilitytouselearnedmaterialinnewsituation • Carryingoutorusingaprocedureforexecuting,orimplementing.
C4	Analyzing	• Abilitytobreakdowninformationintoitscomponents • Breaking material into constituent parts, determining how the parts relate to oneanotherandto anoverallstructureorpurposethroughdifferentiating, organizing,andattributing.
C5	Evaluating	• Abilitytoputpartstogether • Makingjudgmentsbasedoncriteriaandstandardsthroughcheckingandcritiquing.
C6	Creating	• Abilitytocombineelementsintoapatternnot clearlytherebefore • Putting elements together to form a coherent or functional whole; reorganizingelementsinto anew patternor structurethrough generating,planning, orproducing.
PsychomotorDomain–P(Skills)		

P1	Imitiation	• Observing and patterningbehavior after someone else.Performance may be of lowquality. • Observeotherpersonbehaviorandcopy it	**ExampleandKeyWords(verbs)** **Examples:** Copying a work of art.Performing a skill while observing ademonstrator. **Key Words:** copy, follow, mimic,repeat,replicate,reproduce,trace
P2	Manipulation	• Beingabletoperformcertainactions by memory orfollowinginstructions • Abilitytoperformskillsbyfollowingtheinstructions	**ExampleandKeyWords(verbs)** **Examples:** Being able to perform askill on one's own after taking lessonsorreadingabout it.Followsinstructionsto build amodel. KeyWords:act,build,execute,perform
P3	Precision	• Refining,becomingmoreexact. Performing a skillwithin a high degree ofprecision • Ability to perform skill withminimal errors and moreprecision	**ExampleandKeyWords(verbs)** **Examples:**Workingandreworkingsomething, so it will be "just right."Perform a skill or task withoutassistance. Demonstrate a task to abeginner. **Key Words:** calibrate, demonstrate,master,perfectionism
P4	Articulation	• Coordinating and adapting aseries of actions to achieveharmony and internalconsistency. • Ability to solve and modifyskillstofitnewrequirements	**ExampleandKeyWords(verbs)** **Examples:** Combining a series ofskillstoproduceavideothatinvolvesmusic,drama, color, sound,etc. Combining a series of skills oractivitiestomeetanovelrequirement.

			KeyWords:adapt,constructs,combine, creates, customize,modifies,formulate
P5	Naturalization	• Mastering a high levelperformance until it becomessecond-nature or natural,without needing to think muchaboutit. • Ability to perform the skillswith perfection. (flawless &perfect)	**ExampleandKeyWords(verbs)** Maneuvers a car into a tight parallelparking spot. Operates a computerquicklyand accurately.Displayscompetence while playing the piano.MichaelJordanplayingbasketballorNancyLopezhittingagolf ball. **KeyWords:**create,design,develop,invent,manage, naturally
AttitudeDomain –A(Professionalism)			
A1	Receiving	• Awareness, willingness tohear,selected attention.! • Involves being aware of andwilling to freely attend tostimulus	**ExampleandKeyWords(verbs)** **Examples:** Listen to others withrespect.Listenforandremember thenameofnewlyintroducedpeople.Keywords: asks, chooses, describes,follows, gives, holds, identifies, locates, names, points to,selects,sits, erects, replies, uses.
A2	Responding	• Activeparticipationon the part of the learners. Attendsand reacts to a particularphenomenon. Learning outcomesmay emphasize compliance inresponding, willingness torespond, or satisfaction inresponding(motivation).	**ExampleandKeyWords(verbs)** **Examples:** Participates in classdiscussions. Gives a presentation.Questions new ideals, concepts, models,etc.in order tofully understand them. Know the safety rulesandpracticesthem.

			Keywords: answers, assists, aids,complies,conforms,discusses , greets, helps, labels, performs, practices,presents,reads,recites, reports,selects,tells,writes.
A3	Valuing	• The worth or value a personattaches to a particular object,phenomenon, or behavior.This ranges from simpleacceptance to the morecomplexstateofcommitment. Valuingisbasedon the internalization of a set ofspecifiedvalues,whilecluesto these values are expressed inthelearner's overt behavior and are oftenidentifiable. • Refers to voluntarily givingworthtoaobjectphenomenonor stimulus .	**ExampleandKeyWords(verbs)** **Examples:** Demonstrates belief in thedemocraticprocess.Is sensitive towards individual andculturaldifferences(valuediversity). Shows the ability to solveproblems.Proposes aplan to social improvement and followsthrough with commitment. Informsmanagementonmattersthatonefeelsstrongly about. **Keywords**: completes, demonstrates,differentiates,explains, follows, forms, initiates, invites, joins,justifies,proposes, reads, reports,selects,shares,studies,works.
A4	Organization	• Organizes values intopriorities by contrastingdifferent values, resolvingconflicts between them, andcreating an unique valuesystem. The emphasis is oncomparing,relating, andsynthesizingvalues • Involves building andinternallyconsistentvaluesystem	**ExampleandKeyWords(verbs)** **Examples**:Recognizestheneedforbalance between freedom andresponsible behavior. Acceptsresponsibilityforone'sbehavior. Explains the role of systematicplanning in solving problems. Accepts professionalethical standards. Creates a lifeplaninharmony withabilities, interests,andbeliefs.Prioritizestime

			effectivelytomeettheneedsoftheorganization,family,and self. **Keywords:**adheres,alters,arranges,combines,compares, completes, defends, explains,formulates, generalizes, identifies,integrates,modifies,orders,organizes,prepares,relates, synthesizes.
A5	Characterization		**ExampleandKeyWords(verbs)**
		• Has a value system thatcontrolstheirbehavior.The behavior is pervasive,consistent, predictable, andmost importantly,characteristicof thelearner. Instructional objectivesareconcernedwiththe student's general patternsof adjustment (personal,social,emotional).! • Involves building andinternallyconsistentvaluesystem	**Examples:** Shows self-reliance whenworking independently. Cooperates ingroup activities (displays teamwork).Uses an objective approach in problemsolving. Displays a professionalcommitment to ethical practice on a dailybasis. Revises judgments and changesbehaviorinlightof newevidence. Values people for what they are, not howtheylook. **Keywords:** acts, discriminates, displays,influences,listens, modifies, performs, practices, proposes,qualifies,questions, revises,serves,solves,verifies.

References:

Bloom,B.S.(Ed.).Engelhart,M.D.,Furst,E.J.,Hill,W.H.,Krathwohl,D.R.(1956).*TaxonomyofEducationalObjectives,HandbookI:TheCognitiveDomain*.NewYork:DavidMcKayCoInc.

Harvey,P.D.(2019).Domainsof cognitionandtheirassessment.Dialogues inclinicalneuroscience,21(3),227.

DETAILSABOUTTHEMARKSANDSTATIONS

- Total number ofstations–15
- Typesofstations
  - 11-Interactive
  - 4-Non-interactive
- Timeallocationforeachstation–5minutes
- Marksallocationforeachstation–10marks

StationNo	Domain	Activityatthestation	Level ofcognition -C	Level ofskill- P	Level ofattitude -A	Weightage
STATION 1	ECG	TwoECGswillbeshown • Describethefindings	C2			20%
		• Mentiondiagnosis/differentialdiagnosis/management	C4			40%
STATION 2	(Radiology – X-ray)Non-interactiveStation	• Describethefindings	C2			20%
		• Relevantquestionswillbeasked(regardingdifferentialdiagnosisandmanagement)	C4			40%
STATION –3	(Radiology – CT-scan,MRI, PET, USG,ECHO) Non-interactiveStation	OneIMAGEwillbeshown: • Describethefindings	C2			20%
		• Relevantquestionswillbeasked(regardingdifferentialdiagnosisandmanagement)	C4			40%
STATION –4	(Instrument)InteractiveStation	• Describethefindings	C2			20%
		• Relevantquestionswillbeasked(regardingdifferentialdiagnosisandmanagement)	C4			40%
STATION –5	(Medical Emergency)InteractiveStation	Examiner will share a case-scenario related to acutemedical emergency: • Diagnosis	C5			50%
		• Relevant questions will be asked (regarding work-up andemergencymanagementplan)	C5			50%
STATION –6	(Counselling)InteractiveStation	Examinerwillshareacasescenario:		P2		20%
		• Candidatewillbeaskedtotakehistory/do counsellingofthe simulator			A3	30%
STATION –7	(Short Case-GPE/Musculoskeletal)InteractiveStation	CandidatewillbeaskedtoperformGeneralphysicalExamination/Musculoskeletalexamination		P3		30%
		• Describethefindings	C2			20%
		• Relevantquestionswillbeasked (regardingdifferential	C4			40%

		diagnosis,investigations,management)				
STATION –8	Short Case-Neurology)InteractiveStation	Candidatewillbeaskedto examinethepatient				
		• Describethefindings	C2			20%
		• Relevantquestionswillbeasked(regardingdifferentialdiagnosis,investigations, management)	C4			40%
STATION –9	(Short Case-Cardiology) InteractiveStation	Candidatewillbeaskedto examinethepatient • Describethefindings	C2			20%
		• Relevantquestionswillbe asked(regardingdifferentialdiagnosis,investigations, management)	C4			40%
STATION –10	(Short Case-Respiratory system)InteractiveStation	Candidatewillbeaskedto examinethepatient • Describethefindings	C2			20%
		• Relevantquestionswillbeasked(regardingdifferentialdiagnosis,investigations, management)	C4			40%
STATION –11	(Short Case-Abdomen)InteractiveStation	Candidatewillbeaskedto examinethepatient				
		• Describethefindings	C2			20%
		• Relevantquestionswillbeasked(regardingdifferentialdiagnosis,investigations, management)	C4			40%
STATION –12	(Dermatology/Eye)Non-InteractiveStation	• Candidatewillbeshown imageofskinlesion/fundoscopy findings				
		• Describethefindings	C2			20%
		• Relevantquestionswillbeasked(regardingdifferentialdiagnosis,investigations, management)	C4			40%
STATION –13	(Laboratory datainterpretation)InteractiveStation	Candidatewillbeshownreportoflaboratoryinvestigation(Blood film, ABGsetc)				
		• Describethefindings	C2			20%
		• Relevant questions will be asked (regarding differentialdiagnosis,investigations, management)	C4			40%
STATION –14	(Case scenario-Gastroenterology/Infectious Diseases)InteractiveStation	• Examinerwillshareacasescenarioandcandidatewillbeaskedabout:				
		• Differentialdiagnosis	C2			20%
		• Investigationand managementplan	C4			40%
STATION –15	(Case scenario-InternalMedicine) InteractiveStation	Examinerwillshareacasescenarioand candidatewillbeasked about: • Differential diagnosis Investigation and managementplan	C4			40%

MIDTRAININGMODEL

Sr.no	Discipline	Paper	MCQs Total Marks150	Weightage	TOACS Totalmarks150		Weightage	Accumulative Weightage
					Station	Domain		
1.	Cardiology	Paper –I	15 MCQs	5%	1.	**Thisdisciplinehastwo OSPE STATIONS** • ECG	20%	65%
						• (ShortCase-Cardiology)InteractiveStation	40%	
2.	Nephrology		15 MCQs	5%	2.	(Counseling)Inter activeStation	50%	55%
3.	Infectious diseases		8MCQs	2.6%	3.	(Casescenario-Gastroenterology/InfectiousDiseases) InteractiveStation	20%	22.6%
4.	Respiratorymedicine		8MCQs	2.6%	4.	(ShortCase-Respiratorysystem)InteractiveStation	20%	22.6%
5.	Emergency medicine		7MCQs	2.3%	5.	(Medical Emergency)Interactiv eStation	50%	52.3%
6.	Psychiatry		7MCQs	2.3%	6.	ShortCase	20%	22.3%
7.	ICU		15MCQs	5%	7.	ShortCase	20%	25%
8.	Gastroenterology	Paper –II	5MCQs	5%	8.	**ThisdisciplinehastwoOSPESTATIONS** (ShortCase-Abdomen)InteractiveStation	40%	85%
					9.	(Casescenario-Gastroenterology/InfectiousDiseases) InteractiveStation	40%	
9.	Neurology		15 MCQs	5%	10.	ShortCase-Neurology)InteractiveStation	40%	55%
10.	Dermatology		15 MCQs	5%	11.	(Dermatology/Eye)Non-InteractiveStation	40%	55%
11.	Hematology		13 MCQs	4.3%	12.	(Laboratorydatainterpretation)InteractiveStation	60%	64.3%
12.	Endocrinology		13 MCQs	4.3%	13.	ShortCase	40%	44.3%
13.	Rheumatology		12MCQs	4%	14.	(ShortCase-GPE/Musculoskeletal)InteractiveSt ation	40%	44%
					15.	CasescenarioInternalMedicine	40%	40%
GRANDTOTAL MARKS(MCQs+TOACS)=300Marks								

SECTION-VII

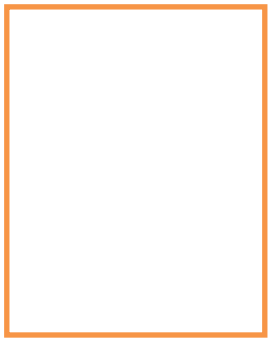
LOGBOOKforInternalMedicine(Templates)

MD

NephrologyRAWALPINDIMEDICALUN

IVERSITYRAWALPINDI

ENROLMENTDETAILS



ProgramofAdmission_____

Session_____

Registration/TrainingNumber _____

NameofCandidate_____

Father'sName_____

DateofBirth_____/_____/_____ CNICNo. _____

PresentAddress _____

_____

PermanentAddress _____

_____

E-mailAddress _____

CellPhone_____

DateofStartofTraining_____

DateofCompletionofTraining_____

NameofSupervisor _____

DesignationofSupervisor _____

QualificationofSupervisor _____

Titleofdepartment/Unit _____

NameofTrainingInstitute/Hospital _____

INTRODUCTIONOFLOGBOOK:

A structured book in which certain types of educational activities and patient related information is recorded, usually byhand. Logbooks are used all over the world from undergraduate to postgraduate training, in human, veterinary anddentalmedicine,nursingschools andpharmacy,eitherin paperorelectronicformat.

Logbooks provide a clear setting of learning objectives and give trainees and clinical teachers a quick overview of therequirements of training and an idea of the learning progress. Logbooks are especially useful if different sites areinvolved in the training to set a (minimum) standard of training. Logbooks assist supervisors and trainees to see at oneglancewhichlearningobjectiveshavenotyetbeenaccomplishedandtosetalearningplan.Theanalysisoflogbookscanreveal weakpointsoftrainingandcanevaluatewhethertraineeshavefulfilledtheminimumrequirementsoftraining.

Logbooks facilitate communication between the trainee and clinical teacher. Logbooks help to structure andstandardize learning in clinical settings. In contrast to portfolios, which focus on students' documentation and self-reflection of their learning activities, logbooks set clear learning objectives and help to structure the learning process inclinical settings and to ease communication between trainee and clinical teacher. To implement logbooks in clinicaltrainingsuccessfully,logbookshavetobean integratedpartofthecurriculumand thedailyroutineon theward. Continuousmeasuresofqualitymanagementarenecessary.

Reference

BraunsKS,NarcissE,SchneyinckC,BöhmeK,BrüstleP,HolzmannUM,etal.Twelvetips for successfully implementinglogbooksin clinicaltraining.Med Teach.2016Jun2; 38(6): 564–569.

INDEX:*LOGOF*

SECTION-1

MORNINGREPORTPRESENTATION/CASEPRESENTATION (LONG ANDSHORTCASES)

SR#	DATE	REG#OF PATIENT	DIAGNOSIS&BRIEFDESCRIPTION	SIGNATURESOF THE SUPERVISOR

SECTION-2

TOPICPRESENTATION/SEMINAR

SR#	DATE	NAMEOFTHETOPIC&BRIEFDETAILSOFTHEASPECTSCOVERED	SIGNATURES OFTHESUPERVISOR

SECTION-3

JOURNALCLUB

SR#	DATE	TITLEOF THEARTICLE	NAMEOF JOURNAL	DATEOFPUBLICATION	SIGNATURES OFTHESUPERVISOR

SECTION-4

PROBLEMCASEDISCUSSION

SR#	DATE	REG.# OF THE PATIENTDISCUSSED	DIAGNOSIS	BRIEFDESCRIPTIONOFTHECASE	SIGNATURES OFTHESUPERVISOR

SECTION-5

DIDACTICLECTURE/INTERACTIVELECTURES

SR#	DATE	TOPIC&BRIEFDESCRIPTION	NAME OF THETEACHER	SIGNATURES OFTHESUPERVISOR

SECTION-6

RECORDOFTOTALEMERGENCYCASESSEENONEMERGENCYCALLDAYS

SR.#	DATE	TOTALNUMBEROFCASESATTENDED	SIGNATURESOFTHESUPERVISOR
1			
2			
3			
4			
5			
6			
7			
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11			
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14			

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16			
17			
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19			
20			
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25			
26			
27			

SECTION-6

EMERGENCYCASES(repetitionofcasesshouldbeavoided)

SR#	DATE	REG # OF THEPATIENT	DIAGNOSIS	MANAGEMENT	PROCEDURES PERFORMED	SIGNATURES OFTHESUPERVISOR

SECTION-7

RECORDOFTOTALINDOORCASESSEENONCALLDAYSINTHEWARD

SR.#	DATE	TOTALNUMBEROFCASESATTENDED	SIGNATURESOFTHESUPERVISOR
1			
2			
3			
4			
5			
6			
7			
9			
10			
11			
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25			
26			
27			
28			

SECTION-7

INDOORPATIENTS(repetitionof cases should beavoided)

SR#	DATE	REG # OF THEPATIENT	DIAGNOSIS	MANAGEMENT	PROCEDURES PERFORMED	SIGNATURES OFTHESUPERVISOR

SECTION-8

RECORDOFTOTALOPD/CLINICCASESSEENONOPDCALLDAYS

SR.#	DATE	TOTALNUMBEROFCASESATTENDED	SIGNATURESOFTHESUPERVISOR
1			
2			
3			
4			
5			
6			
7			
9			
10			
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24			
25			
26			
27			
28			

SECTION-8

OPDANDCLINICS(repetitionofcasesshouldbeavoided)

SR#	DATE	REG # OF THEPATIENT	DIAGNOSIS	MANAGEMENT	SIGNATURES OF THESUPERVISOR

SECTION-9

PROCEDURES

SR.#	DATE	REG NO. OFPATIENT	NAMEOFPROCEDURE	OBSERVED/ASSISTED/PERFORMED UNDERSUPERVISION/PERFORMED INDEPENDENTLY	PLACE OFPROCEDURE	SIGNATURES OFTHESUPERVISOR

SECTION-10

MULTIDICIPLINARYMEETINGS

SR#	DATE	BRIEFDESCRIPTION	SIGNATURES OF THESUPERVISOR

SECTION-

CLINICOPATHOLOGICALCONFERENCE(CPC)

SR#	DATE	BRIEFDESCRIPTIONOFTHETOPIC/CASEDISCUSSED	SIGNATURES OF THESUPERVISOR

SECTION-12

MORBIDITY/MORTALITYMEETINGS

SR#	DATE	REG. # OF THEPATIENTDISCUSSED	BRIEFDESCRIPTION	COMMENTS/SUGGESTIONS	SIGNATURES OFTHESUPERVISOR

SECTION-13

HANDSONTRAINING/WORKSHOPS

SR#	DATE	TITLE	VENUE	FACILITATOR	SIGNATURES OF THESUPERVISOR

SECTION-14

PUBLICATIONS

SNO.	NAME OFPUBLICATION	TYPE OF PUBLICATIONORIGINALARTICLE/EDITORIAL/CASE REPORTETC	NAME OFJOURANL	DATE OFPUBLICATION	PAGE NO.	SIGNATURES OF THESUPERVISOR

SECTION-15

MAJORRESEARCHPROJECTDURINGMDTRAINING/ANYOTHERMAJORRESEARCHPROJECT

SNO.	RESEARCHTOPIC	PLACE OFRESEARCH	NAME AND DESIGNATIONOF SUPERVISOR OTHERTHAN MD SUPERVISORUNDERWHOMRESEARCH WASCONDUCTED	BRIEFDETAILS	SIGNATURES OF THESUPERVISOR

SECTION-16

WRITTENASSESSMENTRECORD

SNO	TOPIC OF WRITTENTEST/EXAMINATION	TYPE OF THE TESTMCQSORSEQSOR BOTH	TOTALMARKS	MARKSOBTAINED	SIGNATURES OFTHESUPERVISOR

SECTION-17

CLINICALASSESSMENTRECORD

SR.#	TOPIC OF CLINICALTEST/EXAMINATION	TYPE OF THE TEST&VENUE OSPE, MINICEX, CHARTSTIMULATED RECALL, DOPS,SIMULATEDPATIENT,SKILLLAB e.t.c	TOTALMARKS	MARKSOBTAINED	SIGNATURES OFTHESUPERVISOR

SECTION-18

EVALUATIONRECORDS

(Photocopyofconsolidated evaluationrecordattheendofeachblockshouldbepastedhere)

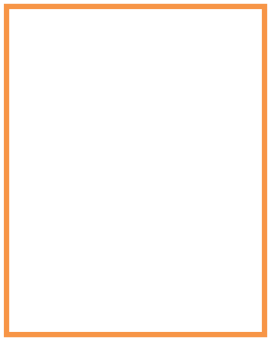
LogbookofResearch(Templates)

LOGBOOKOFRESEARCH

RAWALPINDIMEDICALUNIVERSITY

RAWALPINDI

ENROLMENTDETAILS



ProgramofAdmission_____

Session_____

Registration/TrainingNumber_____

Nameof Candidate _____

Father'sName_____

DateofBirth_____/_____/_____ CNIC No._____

Present Address_____

ermanent Address_____

_____

E-mailAddress _____

CellPhone _____

DateofStartofTraining_____

DateofCompletionofTraining_____

NameofSupervisor _____

DesignationofSupervisor_____

QualificationofSupervisor_____

Titleofdepartment/ Unit_____

MOTOOFRAWALPINDIMEDICALUNIVERSITY

TruthWisdom&Service

MISSIONSTATEMENT

- To impartevidencebasedresearchoriented*medical*education.
- Toprovidebestpossiblepatientcare.
- Toinculcatethe**values**ofmutualrespectandethicalpracticeof**medicine**.
- Highly recognized and accredited centre of excellence in **Medical** Education, using evidence-based training techniques for development of highlycompetenthealth professionals.

LOGOFRESEARCHELECTIVE
(RESEARCHELECTIVEWOULD BETAUGHT08:00AMTO02:00 PM&RESIDENTWOULDPERFORMTHE DUTYOF EVENINGCALLSASPER ROTA.)If required

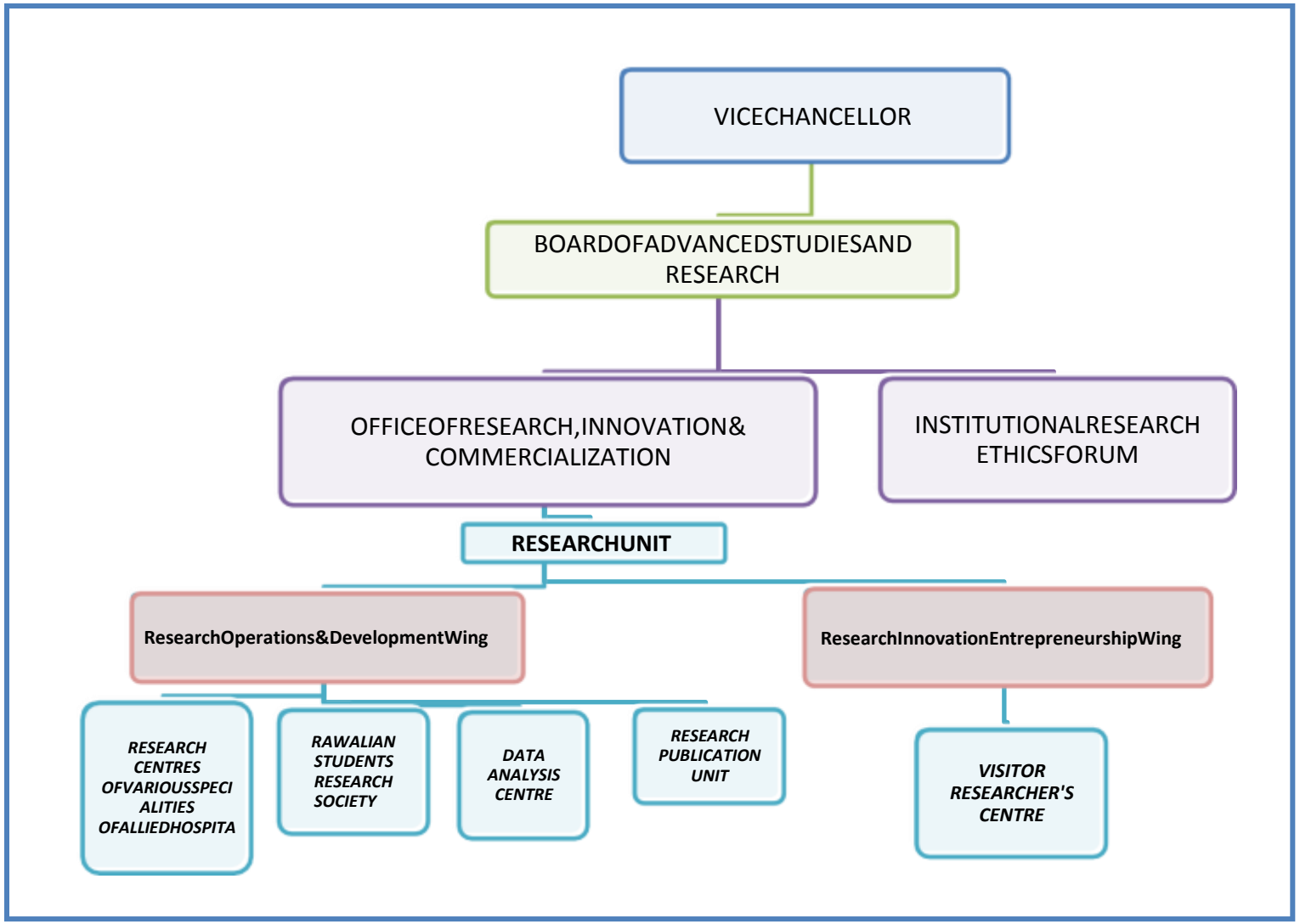
Internal medicine residents' outlook in research can be significantly improved using a research curriculum offered through a structured and dedicatedresearch rotation. This is exemplified by the improvement noted in resident satisfaction, their participation in scholarly activities and resident researchoutcomes since the inception of the research rotation in our internal medicine training program. Residents' research lead to better clinical care,correlates with the pursuit of academic careers, increases numbers of clinician investigators, and is an asset to those applying for fellowships. We reportour success in designing and implementing a "Structured Research Curriculum" incorporating basic principles within a research rotation to enhanceparticipationandoutcomes ofour residentsinscholarly activities withina busyresidencytrainingprogramsetting.

REFERENCE:

https://bmcmededuc.biomedcentral.com/articles/10.1186/1472-6920-6-52

ROTATIONCURRICULUMOFMDMEDICINEFORRESEARCH

ORGANIZATIONALSTRUCTUREOFRESEARCHATRAWALPINDIMEDICALUNIVERSITY



BASELINEPERFORMATOBEFILLEDINBYRESIDENTSBEFOR EORIENTATIONSESSION:
RAWALPINDIMEDICALUNIVERSITY

1. NameofTrainee:_____
2. Gender:Male: Female: ☐
3. Specialty: _____
4. Unit/Department: _____
5. Hospital:_____
6. DateOfCommencementofTraining: _____
7. AnticipatedyearofTraining: _____
8. RegistrationNo:_____
9. Nameof Supervisor: _____
10. A.Haveyoueverattendedanyresearchmethodologyworkshop/course/training: YES: ☐ NO: ☐

10. BIfyes,pleaseentersthe detailsofthecourse/workshop(mentionthelast 5workshops/courses incaseof exceeding5, startingfrom thelatestas SR# 1

SR#	Date/Month andyearoftraining course/workshop	Titleoftrainingcourse/workshop	Organizinginstitution/company.	Duration ofcourse in days	What was the main content/learningoutcomeof the researchcourse?
1.					
2.					
3.					
4.					
5.					

11. A.Haveyoueverattendedanyworkshoporcourseregardingsynopsisdevelopmentorresearchproposaldevelopment:YES: ☐ NO: ☐

11. B.Ifyes pleasementiondetailsofthe course/workshop(mentionthelast3workshops/coursesincaseofexceeding3,startingfrom the latestasSR#01):

SR#	Date/Monthand year of trainingcourse/workshop	Titleoftrainingcourse/workshop	Organizinginstitution/company.	Durationof course indays	What was the main content/learningoutcomeof the researchcourse?
1.					
2.					
3.					

12. Doyouconsideryourselfproficient/skilledenoughtowritearesearchproposalindependentlywithappropriatemethodology: ☐

13. YES: NO: ☐ UNCERTAIN: ☐

14. A.Haveyoueverformulatedaresearchproposalpreviously?YES: ☐ NO: ☐

13. B. If yes please mention the details of the synopsis/proposals developed by you (mention the last 3 synopsis/proposals in case of exceeding 3, startingfromthelatest asSR#01):

SR#	Date/Month andyear offormulatingpr oposal	Title ofPropo sal	Did you formulate as a pre-requisite to any degree orfunding? Please mention itspurposeand	Was the proposal submittedanywhere forapproval/acceptance? If yes,where? And was it approvedormodified oraccepted?	Did you pursue that synopsis andcompleted the research? Yes /No.Please mention reason for notcompleting the research afterdevelopmentofsynopsisifans wer is no.
1.					
2.					
3.					

A.Haveyoueverwrittenaresearchpaper/manuscriptpreviously: YES: ☐ NO: ☐

14. B.Ifyes pleasementionthelastfivemanuscriptsincaseofexceeding 5,startingfrom the latest asSr #1):

Sr#	Date/Month andyear offormulating themanuscript/pa per	TitleofPaper	Was it an originalarticle/shortcomm unication/casestudy/syste maticreview/metaanalysis /editorial/anyotheracade micwritingin ajournal?Pleasespecify	Was the manuscript eversubmitted any publication?Yesor No. If No give reason please. Ifyes to which journal/s andwas it approved forpublicationorrejected?	If published please specify title ofjournal and edition and year ofpublication.
1.					
2.					
3.					
4.					
5.					

15. Haveyoueverbeen involvedinanyofthe followingresearchactivitiesduringlast 2years?(Pleasetickintheappropriateboxes):

a) ReviewofMedicalliterature ☐

☐

b) Write upofliterature review

c) Vancouver/Harvardreferencing ☐

d) UsedanyPlagiarismdetectiontool ☐

e) Formulatedresearchmethodologyofaresearchproject/synopsis ☐

f) Formulatedanydatacollectiontool/Performa/checklist/questionnaireforresearchproject ☐
g) CollecteddatathroughPerforma's/interviews/observations/scales/FocusGroupDiscussionsetc. ☐

h) Entereddatainanycomputerbasedsoftware e.g.SPSS,Epi-info,MicrosoftExceletc. ☐
Ifyesmentionnameofsoftware:_____

i) Analyzedquantitativeorqualitativedatainanycomputer basedsoftware ☐

j) Writeupof resultsof studywith formulationoftables or graphs ☐

k) Write upof discussionof apaper ☐

l) Eversubmittedamanuscripttoanyjournal ☐

16. Titleofresearchassignedto youby yoursupervisoryou'reyourMD/MS programme:_____
_____

17. Please mention which of the following activities you already have performed regarding your research project/THESIS as requisite to MD/MS programme:(Please tickinthe appropriate boxes):

a) Topicselection ☐
b) Reviewof literature ☐
c) Write upofliterature review ☐
a) Vancouver/Harvardreferencing ☐
b) CheckedPlagiarism throughdetectiontool ☐
c) Formulatedresearchmethodologyofaresearchproject/synopsis ☐
d) Formulatedanydatacollectiontool/Performa/checklist/questionnaireforyourresearch ☐
e) Collecteddatathroughdatacollectiontools/scales ☐
f) Entereddatainanycomputerbasedsoftware(e.g.SPSS,Epiinfo,MicrosoftExceletc.) ☐

g) Analyzeddatainanycomputerbasedsoftware ☐
h) Have formulated resultsofstudy withtablesorgraphs ☐
i) FormulateddiscussionofTHESIS ☐
j) WrittenconclusionandabstractofyourTHESIS ☐

k) SubmittedyourTHESIStoyoursupervisor ☐

18. Whatareyourexpectationsfrom thisresearchcourse/moduleofMS/MD programmeandanyspecificareasoftrainingyouwanttobe paidspecial emphasisbythetrainers:?

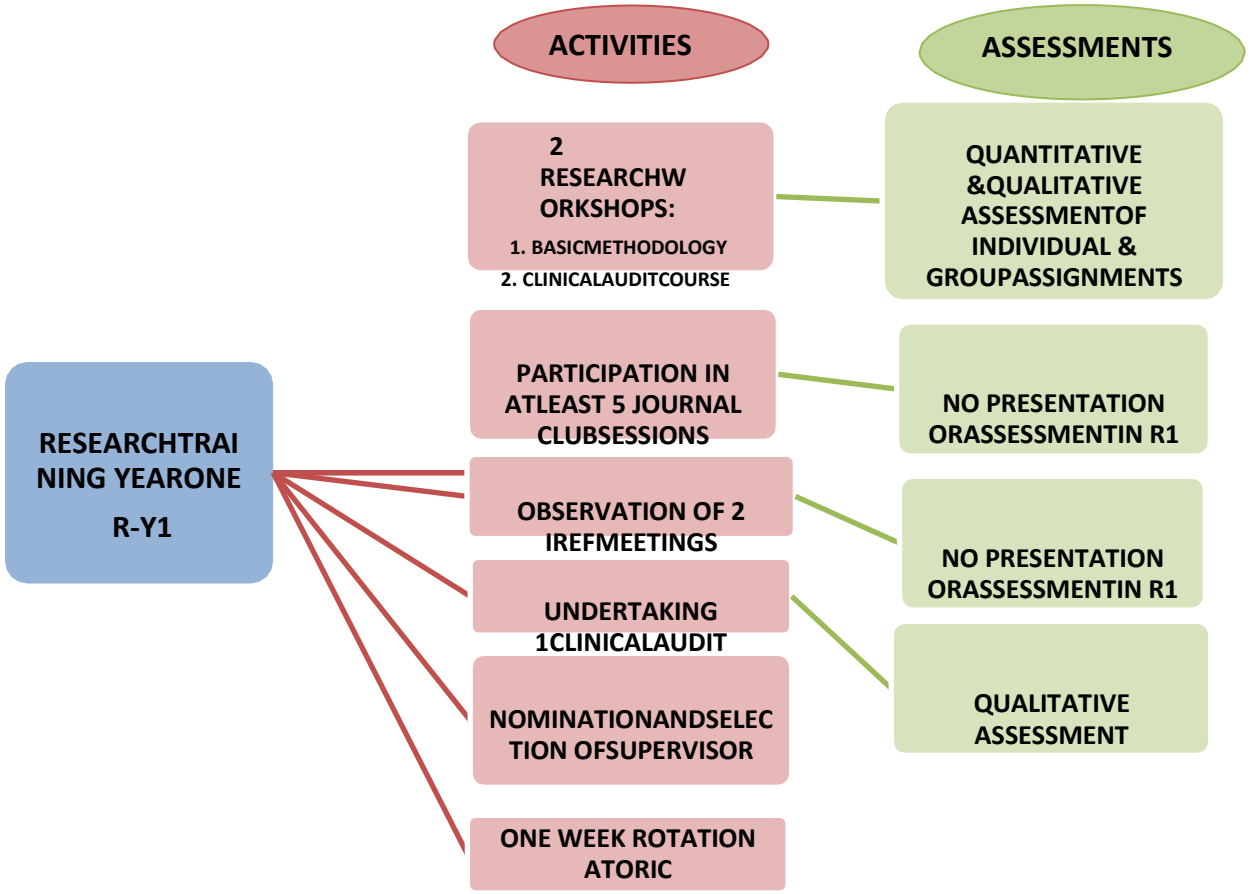
Thankyou

DateoffillingthePerforma: _____

Signatures oftheresident:_____

Signatures oftheDirectorof ORIC, RMU:_____.

RESEARCHCOURSEOFFIRSTTRAININGYEAR-Y1



SECTION-1

3DAYS-BASICRESEARCHMETHODOLOGYWORKSHOP
DAY1OFWORKSHOP:

Date&Venue:_____

Modules ofDay 1 ofWorksho p	**TITLEOFMODULES OFDAY1**	**NAMES ANDSIGNATURES OFFACILITATORSOFEA CH MODULE**	**FACILITATOR'SFEEDBACKREGARDINGCOMPLETIONAND PERFORMANCE OF RESIDENT IN ON SPOTINDIVIDUALORGROUPASSIGNMENTSOFTHE COURSEMODULE**	**SIGNATUREOFDIRECTOR OFORIC (NAME/STAMP)**
Module1	Introduction to health systemsresearch Identifying and PrioritizingResearchProble ms			
Module2	Analysis and statement ofproblem & Introduction toLiteraturereview			
Module3	Literature reviewReferencing systems;Vancouver& Harvard referencingsystems			
Module4	Literaturereview Referencingmanagingsystems			
Module5	Plagiarism			
Module6	Formulation of researchobjectives			
Module7	Formulation of Hypothesis for aresearch			
Module8	Research methodology;Variables andIndicators			

DAY2 OFBASICRESEARCHMETHODOLOGYWORKSHOP:

Date&Venue:_____

ModulesofDay 2ofWorkshop	TITLEOFMODULESOFDAY2	NAMES AND SIGNATURESOF FACILITATORS OF EACHMODULE	FACILITATOR'S FEEDBACK REGARDING COMPLETION ANDPERFORMANCE OF RESIDENT IN ON SPOT INDIVIDUAL ORGROUPASSIGNMENTSOFTHECOURSE MODULE	SIGNATURE OFDIRECTOROFOR IC (NAME/STAMP)
Module1	Researchmethodology;Studytypes			
Module2	Data collectiontechniques			
Module3	Datacollectiontools			
Module4	Sampling			
Module5	Plan for Data Entry ,storage and StatisticalAnalysis			

DAY3OFBASICRESEARCHMETHODOLOGYWORKSHOP:

Date&Venue:_____

ModulesofDay 3ofWorkshop	TITLEOFMODULESOFDAY3	NAMES AND SIGNATURESOF FACILITATORS OF EACHMODULE	FACILITATOR'S FEEDBACK REGARDING COMPLETION ANDPERFORMANCE OF RESIDENT IN ON SPOT INDIVIDUAL ORGROUPASSIGNMENTSOFTHECOURSE MODULE	SIGNATURE OFDIRECTOROFOR IC (NAME/STAMP)
Module1	Pilot and projectplanning			
Module2	Budgetingfor astudy			
Module3	Projectadministration			
Module4	Planfordissemination			
Module5	Research ethics &concepts of protectionof human studysubjects			
Module6	Differences betweenoriginal articles, shortcommunication, casereports, systematicreviewsan dmeta-analysis			
Module7	WritingaCasereport			
Module8	Critical Appraisal of aresearchpaper			
Module9	• Making effectivepower-pointpresentations of aResearchProject			
Module10	• Making effectiveposterprese ntations			

SECTION-2

INDIVIDUAL AND GROUP (HOME TASK) ASSIGNMENTS OF THE RESIDENTSREGARDING BASICRESEARCHMETHODOLOGYWORKSHOP

ASSIGNMENT'SNUMBER	TITLE	DATE OFSUBMISSION:	ORIGINALITY SCORE OFASSIGNMENTINTURN-IT–IN PLAGIARISMDETECTIONSOFTWARE	FACILITATOR'S REFLECTION ONCORRECTNESS, COMPLETION ANDQUALITY OF INDIVIDUAL OR GROUPASSIGNMENTSOFTHEWORKSHOP	SCORESATTAINED OUTOF TOTALATTAINABLE SCORE	SIGNATURE OFFACILITATORS	SIGNATURE OFDIRECTOR OFORIC(NAME/ STAMP)

SECTION-3

ONEDAY– WORKSHOPONUNDERTAKINGCLINICALAUDIT

Date&Venue:_____

ModulesofDay 1ofWorkshop	TITLEOFMODULESOFDAY1	NAMES AND SIGNATURESOF FACILITATORS OF EACHMODULE	FACILITATOR'S FEEDBACK REGARDING COMPLETION ANDPERFORMANCE OF RESIDENT IN ON SPOT INDIVIDUAL ORGROUPASSIGNMENTSOF THECOURSE MODULE	SIGNATURE OFDIRECTOROFORIC (NAME/STAMP)
Module1	Introductionto a clinical audit and itsimportance			
Module2	TypesofClinicalAudit			
Module3	Process and steps ofClinicalAudit			
Module4	Methodology of ClinicalAudit			
Module5	Data Analysis of aClinicalAudit			
Module6	Clinical Audit ReportWriting			
Module7	Dissemination of thereport			

SECTION-4

JOURNALCLUBMEETINGSATTENDEDBYRESIDENTASANOBSERVERDURINGYR1

JOURNALCLUBMEETING#	DATE	TITLES OF THE ARTICLESPRESENTEDINTHEJOURNALCLUBMEETING	TITLE OF JOURNAL/ YEAR OFPUBLICATION	ANY QUESTION ORCOMMENT MADE ON THEPRESENTATIONBYTHE OBSERVER	SUPERVISOR'S SIGNATURE	HEADOFDEPARTMENT'SSIGNATURE(NAME/STAMP)
1.		A. B. C.	A. B. C.	A. B. C.		
2.		A. B. C.	A. B. C.	A. B. C.		
3.		A. B. C.	A. B. C.	A. B. C.		
4.		A. B. C.	A. B. C.	A. B. C.		
5.		A. B. C.	A. B. C.	A. B. C.		

SECTION-5

INSTITUTIONALRESEARCH&ETHICSFORUMMEETINGSATTENDEDBYRESIDENTASANOBSERVERDURINGYR1

IREFMEETING#	DATE/VENUE	TITLESOFTHERESEARCHPROPOSALSPRESENTEDINTHEIR EFMEETING	ANY QUESTION OR COMMENT MADE ONTHEPRESENTATIONSBYTHEOBSERVER	SIGNATURE OF THECONVENER OF THE MEETING(NAME/STAMP)
1.				
2.				
3.				
4.				
5				

SECTION-6

UNDERTAKINGACLINICALAUDITSUNDERTAKENASAGROUPMEMBERDURINGYEAR1

TITLEOFTHECLINICALAUDIT	UNIT/DEPARTMENTWHERE THE AUDIT WASCONDUCTED/NAME OFSUPERVISOR	PERSON WHO CONDUCTEDTHE AUDIT AND CONTENTOF CONTRIBUTION IN THECLINICALAUDIT	DISSEMINATIONOFREPORTOFAUDIT: (A. WASCLINICALAUDITREPORTPUBLISHEDASA NNUAL AUDIT REPORT/IN A RESEARCHJOURNAL? IFYES,DATEANDYEAROFPUBLICATIONANDNAMEOF JOURNAL B.WASCLINICALAUDITPRESENTEDINCPCOF RMU?IFYESDATEANDVENUE)	SIGNATURE OF THE DEAN(NAME/STAMP)
1.				
2.				
3.				
4.				
5				

SECTION-7

RECORDOFFORTNIGHTLYMEETINGSOFTHERESIDENTWITHTHESUPERVISOR

Sr#	DATE/VENUE /DURATIONOF MEETING	AGENDA AND OUTLINE OF THE MEETING(INTERMSOFCONTENT,DISCUSSION POINTS)	ACTIONPOINTSAND SUPERVISOR'SREFLECTIONS	SUPERVISOR'S SIGNATURE (NAME/STAMP)	HEADOFDEPARTMENT'S SIGNATURE (NAME/STAMP)
1					
2					
3					
4					
5					
6					
7					

SECTION-8

RECORDOFRESIDENT'SONE WEEK'SROTATIONATORIC

DAY#	DATE	ACTIVITY CARRIED OUT AT ORIC AND THERESEARCHASSOCIATE/DEPUTYDIRECTOR WHOSUPERVISEDTHEACTIVITY	ORICSTAFFMEMBER'S REFLECTIONSONTHE PERFORMANCEOFTHEACTIVITY	THE RESEARCH ASSOCIATE/DEPUTYDIRECTOR SIGNATURE (NAME/STAMP)	DIRECTORORIC'SSIGNATURE (NAME/STAMP)
1					
2					
3					
4					
5					
6					
7					
8					

SECTION-9

ANYRESEARCHCOURSECOURSE/WORKSHOPATTENDED(ONOWN)BYTHERESIDENTDURINGYEAR1

Sr#	DATE/MONTHANDYEAR OF TRAININGCOURSE/WORKSHOP	TITLE OF TRAININGCOURSE/WORKSHOP	ORGANIZINGINSTITUTION/COMPANY	DURATIONOFCOURSEINDAYS/MODEOF COURSE(onlineor physicallyattended)	THE OBJECTIVES OR LEARNINGOUTCOMESOFTHERESEARCH COURSE.

SECTION-10

RECORDOFLITERATUREREVIEWCONDUCTEDBYTHERESIDENTIN YEAR1

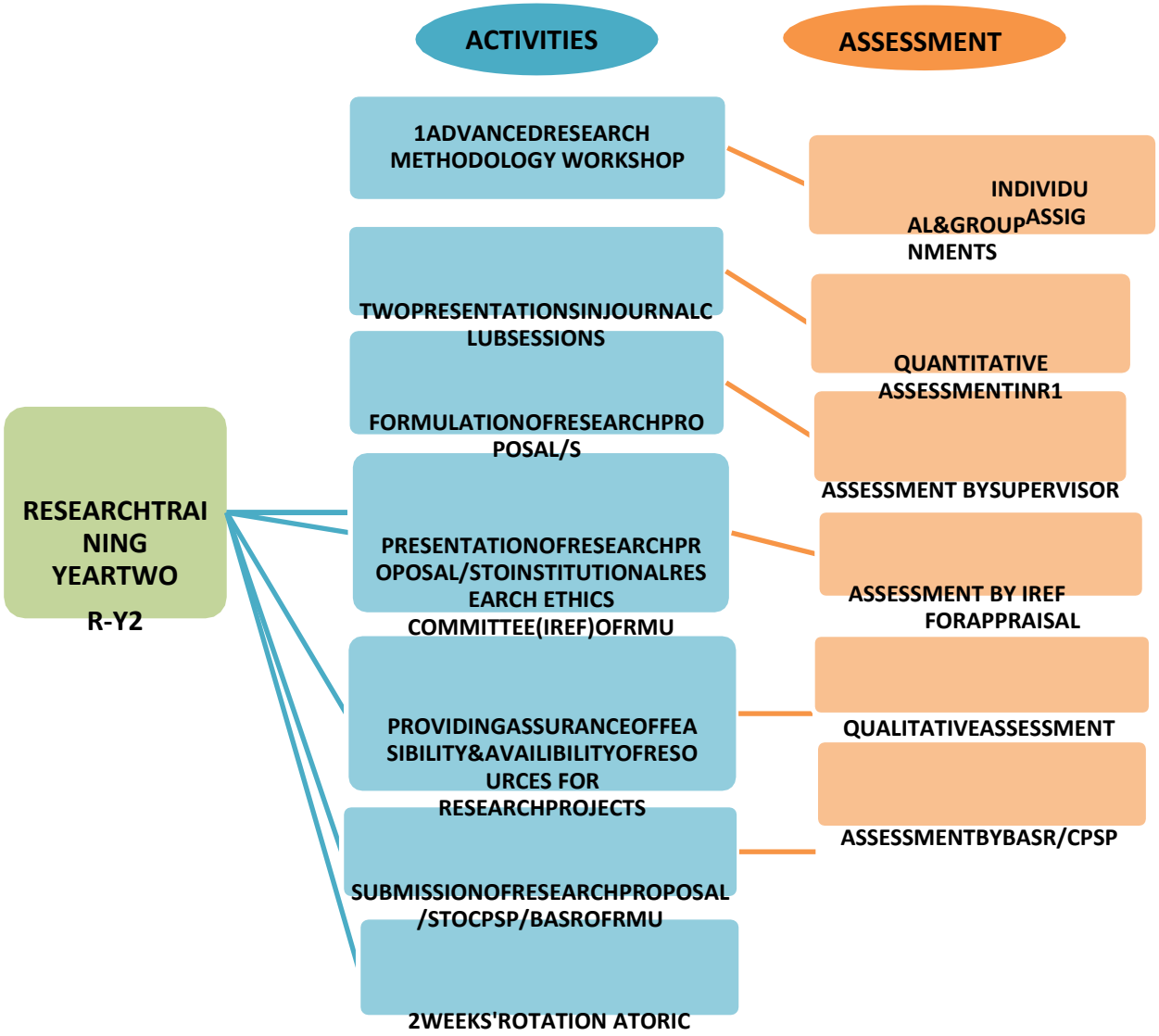
SR#	TITLEOFTHELITERATUREREVIEWED	DATE/MONTHANDYEAROFPUBLICATION	TITLEOFTHEJOURNAL/BOOK	WAS IT AN ORIGINAL ARTICLE/SHORTCOMMUNICATION/CASE STUDY/SYSTEMATICREVIEW/METAANALYSIS /EDITORIAL/ANY OTHERACADEMICWRITING(e.g.reports,books,conference papers, THESISs, Research andprogramreports-published/ unpublished)?PLEASESPECIFY
1				
2				
3				
4				

SECTION-11

RECORDOFANYMANUSCRIPT/RESEARCHPAPERFORMULATEDBYTHERESIDENTINYEAR1

SL#	TITLEOFTHEMANUSCRIPT	IFSUBMITTEDFORPUBLICATION,DATE/MONTH AND YEAR OFPUBLICATION,IFPUBLISHED	TITLEOFTHEJOURNAL	WAS IT REVIWED,MODIFIED, ACCEPTED ORREJECTED. PLEASESPECIFY	DIRECTOR ORIC'SSIGNATURE(NAME/STAMP)

RESEARCHCOURSEOFSECONDRESEARCH TRAININGYEAR(R-Y2)



SECTION-1

3 DAYS –ADVANCED RESEARCH METHODOLOGY WORKSHOPDAY1OFWORKSHOP:

Date&Venue:_____

ModulesofDay 1ofWorkshop	TITLEOFMODULESOFDAY1	NAMES AND SIGNATURESOF FACILITATORS OF EACHMODULE	FACILITATOR'S FEEDBACK REGARDING COMPLETIONAND PERFORMANCE OF RESIDENT IN ON SPOTINDIVIDUALORGROUPASSIGNMENTSOFTHECOURSE MODULE	SIGNATUREOFDIRECTOROFORIC(NAME/STAMP)
Module1	• Introduction toBiostatistics • Description of VariablesNumerical methods ofData summarization(Manualas wellasthroughStatisticalPackage ofSocialSciences)			
Module2	Graphical presentation ofdata			
Module3	• Cross-tabulation ofquantitativedata			
Module4	Measures of Associationbased onrisk			
Module5	Confoundingand methodsto controlconfounding			
Module6	Basic statistical concepts;Measure of dispersion andconfidenceIntervals			

DAY2 OFADVANCEDRESEARCHMETHODOLOGYWORKSHOP:

Date&Venue:_____

ModulesofDay 2ofWorkshop	TITLEOFMODULESOFDAY2	NAMES AND SIGNATURESOF FACILITATORS OF EACHMODULE	FACILITATOR'S FEEDBACK REGARDING COMPLETION ANDPERFORMANCE OF RESIDENT IN ON SPOT INDIVIDUAL ORGROUPASSIGNMENTSOFTHECOURSE MODULE	SIGNATURE OFDIRECTOROFOR IC (NAME/STAMP)
Module1	Hypothesis testing fora research			
Module2	TestsofSignificance			
Module3	Determiningdifferen ce betweentwo groups-categorical dataPaired&unpaired observations			
Module4	Determiningdifference betweentwo groups-numericaldata Paired&unpaired observations			
Module5	Determining differencebetween more than twogroups-numerical dataANOVA (Analysis ofVariance)			

DAY3OFADVANCEDRESEARCHMETHODOLOGYWORKSHOP:

Date&Venue:_____

ModulesofDay 3ofWorkshop	TITLEOFMODULESOFDAY3	NAMES AND SIGNATURESOF FACILITATORS OF EACHMODULE	FACILITATOR'S FEEDBACK REGARDING COMPLETION ANDPERFORMANCE OF RESIDENT IN ON SPOT INDIVIDUAL ORGROUPASSIGNMENTSOF THECOURSE MODULE	SIGNATURE OFDIRECTOROFOR IC (NAME/STAMP)
Module1	DeterminingCorrelation betweenvariables			
Module2	RegressionAnalysis			
Module3	Diagnostic Accuracy ofa test			
Module4	Writing a researchpaper			
Module5	Writinga THESIS			

SECTION-2

INDIVIDUAL AND GROUP (HOME TASK) ASSIGNMENTS OF THE RESIDENTS3REGARDINGADVANCEDRESEARCHMETHODOLOGY WORKSHOP

ASSIGNMENT'SNUMBER	TITLE	DATE OFSUBMISSION:	ORIGINALITY SCORE OFASSIGNMENTINTURN-IT–IN PLAGIARISMDETECTIONSOFTWARE	FACILITATOR'S REFLECTION ONCORRECTNESS,COMPLETIONANDQUALITY OF INDIVIDUAL ORGROUPASSIGNMENTSOFTHE WORKSHOP	SCORESATTAINED OUTOF TOTALATTAINABLE SCORE	SIGNATURE OFFACILITATORS	SIGNATURE OFDIRECTOR OFORIC (NAME/STAMP)

SECTION-3

4JOURNALCLUBMEETINGSATTENDEDBYRESIDENTASANOBSERVERDURINGYR2

JOURNAL CLUBMEETING #	DATE	TITLES OF THE ARTICLESPRESENTED IN THEJOURNALCLUBMEETING	TITLEOFJOURNAL/YEAROFPUBLICATION	ANY QUESTION ORCOMMENT MADE ON THEPRESENTATIONBYTHE OBSERVER	SUPERVISOR'S SIGNATURE	HEADOFDEPARTMENT'SSIGNATURE(NAME/STAMP)
1.		A. B. C.	A. B. C.	A. B. C.		
2.		A. B. C.	A. B. C.	A. B. C.		
3.		A. B. C.	A. B. C.	A. B. C.		
4.		A. B. C.	A. B. C.	A. B. C.		
5		A. B. C.	A. B. C.	A. B. C.		

SECTION-4

2JOURNALCLUBMEETINGSATTENDEDBYRESIDENTASAPRESENTERDURINGYR2

JournalClubMeeting#	Date	Title Of The ArticlePresented By Resident InTheJournalClubMeeting	TitleOfJournal/YearOfPublication	Reflection Of Two SeniorFaculty Members On ThePresentation	Senior FacultyMembersSignature	ReflectionOfTheHODOnThe Presentation AndScoresGivenOutOf AttainableTotalScoreOf25	Head OfDepartment'sSignature (Name/Stamp)
1.							
2.							

SIGNATUREOFTHEDEANOFSPECIALITY:_____

SIGNATURE(NAME/STAMP):_____

APPROVALOFTOPICOFRESEARCHPROPOSAL/SYNOPSISFORTHESISFORMULATEDBYRESIDENTDURINGYR2:

TOPICOFTHERESEARCHPROPOSAL/SYNOPSISFORTHESIS

_____

_____

APPROVALOFTHETOPIC:_____

NAMEOFTHEPERSONAPPROVINGTHE TOPICOFSYNOPSIS	**DESIGNATIONOFTHEPERSON APPROVINGTHETOPICOFSYNOPSIS**	**SIGNATURES**	**STAMP/DATE**
	SUPERVISOR		
	HEADOFDEPARTMENT		
	DEANOFSPECILAITY		
	DIRECTORORIC		
	CO- CHAIRPERSON OF THE BOARDOF ADVANCED STUDIES &RESEARCHOF RMU		

SECTION-6

COMPLETIONOFRESEARCHPROPOSAL/SYNOPSISFORTHESISFORMULATEDBYRESIDENTDURINGYR2(TILLMONTH8OFYR2):

TOPICOFTHERESEARCHPROPOSAL/SYNOPSISFORTHESIS: _____

SR#	DATE	ASPECTSOFTHESYNOPSIS/RESEARCHPROPOSALREVIEWED	REFLECTIONOFRESEARCHASSOCIATES/DEPUTYDIRECTOR ORIC ON THECONTENT&QUALITYOF THEPROPOSAL	RESEARCHASSOCIATES/DEPUTYDIRECTOR'SSIGNATURE	REFLECTIONOFTHESUPERVISORONTHE CONTENT & QUALITY OF THEPROPOSAL	SUPERVISOR'SSIGNATURE(NAME/STAMP)
1.		Introduction and rationale (withVancouver/Harvardintextcitations)				
2.		Researchaim,purposeandobjectives				
3		Hypothesis, if requiredaccordingtothestudydesign.				
4		OperationalDefinitions				

5A		*ResearchMethodology:* Setting				
5B		*ResearchMethodology:* StudyPopulation				
5C		*ResearchMethodology:* StudyDuration				
5D		*ResearchMethodology:* StudyDesign				

5E		*ResearchMethodology:* j)Sampling:(Sample sizewithstatisticaljustifications, samplingtechnique,inclusioncriteria&exclusioncriteria)				
5F		*ResearchMethodology:* DataCollectiontechnique/s				
5G		*ResearchMethodology:* DataCollectiontool/s				
5H		*ResearchMethodology:* DataCollectionprocedure				

6		PlanforDataentry& Analysis				
7		EthicalConsiderations				
8		Workplan/Gantt chart				
9		Budgetwithjustifications				
10		ReferencelistaccordingtotheVancouverreferencingstyle				

11		Annexure*(includingdatacollectiontoolorPerforma,consentform,officialletters,scales,scoringsystemsand/oranyotherrelevantmaterial)*				

SECTION-7

APPROVALOFRESEARCHPROPOSAL/SYNOPSISFORTHESIS FORMULATEDBYRESIDENTDURINGYR2:

TOPICOFTHERESEARCHPROPOSAL/SYNOPSISFORTHESIS:

_____

_____

APPROVALOFTHESYNOPSIS/PROPOSAL:_____

DATEONWHICH PROPOSALWAS PRESENTED	**NAMEOFTHEPERSONAPPROVINGTHESYNOPSIS**	**DESIGNATION OF THE PERSONAPPROVINGTHESYNOPSIS**	**SIGNATURES**	**STAMP**
		SUPERVISOR		
		HEADOFDEPARTMENT		
		DEANOFSPECILAITY		
		DIRECTORORIC		
		CHAIRPERSONOFTHE INSTITUTIONALRESEARCHAND ETHICS FORUM OFRMU		
		CO-CHAIRPERSONOFTHE BOARD OF ADVANCED STUDIES& RESEARCHOFRMU		

SECTION-8

RECORD OFFORTNIGHTLYMEETINGSOFTHERESIDENTWITHTHESUPERVISORINYEAR2

SR#	DATE/VENUE /DURATION OFMEETING	AGENDA AND OUTLINE OF THE MEETING (INTERMSOFCONTENT,DISCUSSIONPOINTS)	ACTIONPOINTSANDSUPERVISOR'S REFLECTIONS	SUPERVISOR'SSIGNATURE(NAME/STAMP)	HEAD OFDEPARTMENT'SSIGNATURE (NAME/STAMP)
1					
2					
3					
4					
5					
6					

SECTION-9

RECORDOFRESIDENT'STWOWEEK'SROTATIONATORICDURING YR2

DAY#	DATE	ACTIVITY CARRIED OUT AT ORIC AND THERESEARCHASSOCIATE/DEPUTYDIRECTOR WHOSUPERVISEDTHEACTIVITY	ORICSTAFFMEMBER'S REFLECTIONSONTHE PERFORMANCEOFTHEACTIVITY	THE RESEARCH ASSOCIATE/DEPUTYDIRECTOR SIGNATURE (NAME/STAMP)	DIRECTORORIC'SSIGNATURE(NAME/STAMP)
1					
2					
3					
4					
5					
6					
7					
8					

SECTION-10

ANYRESEARCH COURSE/WORKSHOPATTENDED(ONOWN)BYTHERESIDENTDURINGYEAR2

SR#	DATE/MONTHANDYEAR OF TRAININGCOURSE/WORKSHOP	TITLE OF TRAININGCOURSE/WORKSHOP	ORGANIZINGINSTITUTION/COMPANY	DURATION OFCOURSE INDAYS/MODE OF COURSE(onlineor physicallyattended)	THE OBJECTIVES OR LEARNINGOUTCOMESOFTHERESEARCH COURSE.
1.					
2.					
3.					
4.					
5.					
6					

SECTION-11

RECORD OFLITERATUREREVIEWCONDUCTEDBYTHERESIDENTIN YEAR2

SL#	TITLEOFTHELITERATUREREVIEWED	DATE/MONTHANDYEAROFPUBLICATION	TITLE OF THEJOURNAL/BOOK	WAS IT AN ORIGINAL ARTICLE/SHORTCOMMUNICATION/CASE STUDY/SYSTEMATICREVIEW/METAANALYSIS/EDITORIAL/ANYOTHER **ACADEMIC(**e.g.reports,books,conferencepapers,THESISs,Researchandprogramreports-published/unpublished)**?PLEASESPECIFY**
1.				
2.				
3.				
4.				
5.				
6.				
7.				

SECTION-12

RECORD OFANYMANUSCRIPT/RESEARCHPAPERFORMULATEDBYTHERESIDENTINYEAR2

SL#	TITLEOFTHEMANUSCRIPT	IFSUBMITTEDFORPUBLICATION,DATE/MONTH AND YEAR OFPUBLICATION,IFPUBLISHED	TITLEOFTHEJOURNAL	WAS IT REVIWED,MODIFIED, ACCEPTED ORREJECTED. PLEASESPECIFY	DIRECTOR ORIC'SSIGNATURE(NAME/STAMP)
1					
2					
3					
4					
5					
6					

SECTION-13

OVERALLEVALUATIONOFRESEARCHTHESISPROGRAMBYSUPERVISOR

SECTION-13

OVERALLEVALUATIONOFRESEARCHTHESISPROGRAMBY*BASR*(BOARDOFADVANCEDSTUDIESANDRESEARCH)

SECTION-13

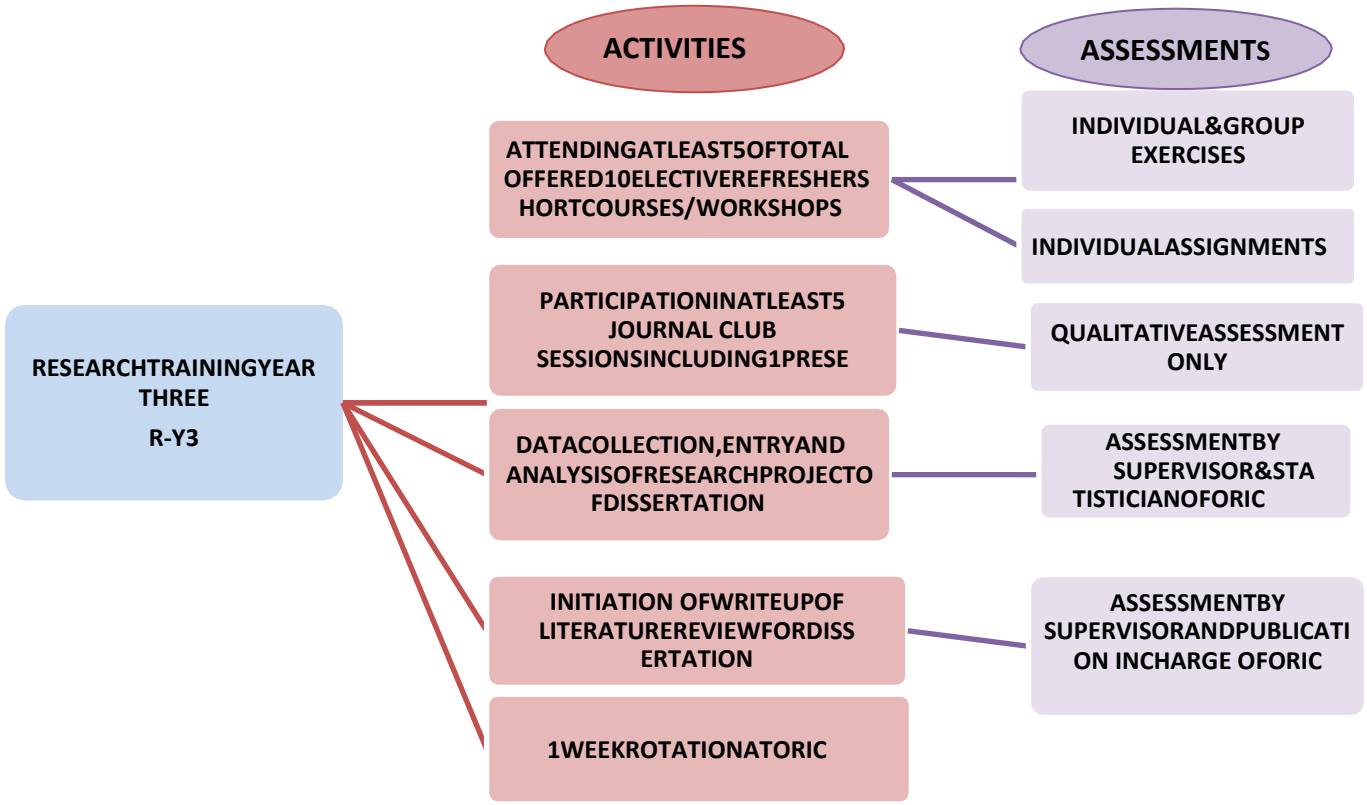
OVERALLEVALUATIONOFRESEARCHTHESISPROGRAMBYORIC(OFFFICEOFRESEARCHINNOVATIONANDCOMMERCIALIZATION)

SECTION-13

OVERALLEVALUATIONOFRESEARCHTHESISPROGRAMBYDEPARTMENTOFMEDICALEDUCATION(DME)

RESEARCHCOURSEOFTHIRDRESEARCHTRAININGYEAR

R-Y3



SECTION-1

10ELECTIVERESEARCHWORKSHOPSTOBE OFFEREDDURINGYEAR3

DATE & VENUE&DURATIONOFWORKSHOP	TITLE OF ELECTIVEWORKSHOPSATTENDED	NAMES AND SIGNATURESOF FACILITATORS OF EACHWORKSHOP	FACILITATOR'S FEEDBACK REGARDING COMPLETION ANDPERFORMANCE OF RESIDENT IN ON SPOT INDIVIDUAL ORGROUPASSIGNMENTSOFTHECOURSE MODULE	SIGNATURE OFDIRECTOR OF ORIC(NAME/STAMP)
	End note referencingmanager			
	Mendeleyreferencingmanager			
	Effective write up ofLiteraturereview			
	Data entry inStatistical Package ofSocialSciences			
	Graphicalpresentation of datainMicrosoft Excel			

	Univariate, Bivariateand Multivariateanalysis in StatisticalPackage of SocialSciences			
	Effectively writing upofaTHESIS.			
	Research article writeup			
	Critical appraisal ofresearch			
	How to PresentResearch throughpower-point orposters			

SECTION-2

INDIVIDUALANDGROUP(HOMETASK)ASSIGNMENTSOFTHERESIDENTS3REGARDINGADVANCEDRESEARCHMETHODOLOGYWORKSHOP

ASSIGNMENT'S NUMBER	TITLE OFWORKSHOP	DATE OFSUBMISSION:	ORIGINALITY SCORE OFASSIGNMENTIN TURN-IT–INPLAGIARISMDETECTIONSOFTWARE	FACILITATOR'S REFLECTION ONCORRECTNESS, COMPLETIONAND QUALITY OF INDIVIDUALORGROUPASSIGNMENTSOF THEWORKSHOP	SIGNATURE OFFACILITATORS	SIGNATURE OFDIRECTOR OF ORIC(NAME/STAMP)

SECTION-3

5JOURNALCLUBMEETINGSATTENDEDBYRESIDENTASANOBSERVERDURINGYR3

JOURNAL CLUBMEETING #	DATE	TITLES OF THE ARTICLESPRESENTED IN THEJOURNALCLUBMEETING	TITLEOFJOURNAL/YEAROFPUBLICATION	ANY QUESTION ORCOMMENT MADE ON THEPRESENTATIONBYTHE OBSERVER	SUPERVISOR'S SIGNATURE	HEADOFDEPARTMENT'SSIGNATURE(NAME/STAMP)
1.		A. B. C.	A. B. C.	A. B. C.		
2.		A. B. C.	A. B. C.	A. B. C.		
3.		A. B. C.	A. B. C.	A. B. C.		
4.		A. B. C.	A. B. C.	A. B. C.		
5.		A. B. C.	A. B. C.	A. B. C.		

SECTION-4

1JOURNALCLUBMEETING ATTENDEDBYRESIDENTASANPRESENTERDURING YR3

JOURNAL CLUBMEETING#	DATE	TITLE OF THE ARTICLEPRESENTED BY RESIDENT INTHEJOURNALCLUBMEETING	TITLEOFJOURNAL/YEAROFPUBLICATION	REFLECTION OF TWOSENIOR FACULTYMEMBERS ON THEPRESENTATION	SENIORFACULTY MEMBERSSIGNATURE	REFLECTION OF THEHOD ON THEPRESENTATION ANDSCORES GIVEN OUT OFATTAINABLETOTAL SCOREOF25	HEAD OFDEPARTMENT'SSIGNATURE(NAME/STAMP)
1.							

SIGNATUREOFTHEDEANOFSPECIALITY:_____

(NAME/STAMP):_____

SECTION-5

CONFIRMATIONOFCOMPLETENESSOFDATACOLLECTIONOFTHEOFRESEARCHPROJECTFORTHESISBYRESIDENTDURINGYR3:

TOPICOFTHERESEARCHPROPOSAL/SYNOPSISFORTHESIS:

_____

_____

CONFIRMATIONOFCOMPLETENESSOFDATACOLLECTION:_____

NAMEOFTHEPERSONCONFIRMING	**DESIGNATIONOFTHEPERSON CONFIRMING**	**SIGNATURES**	**STAMP/DATE**
	SUPERVISOR		
	HEADOFDEPARTMENT		
	STATISTICIANATORIC		
	DIRECTORORIC		

SECTION-6

RECORDOFFORTNIGHTLYMEETINGSOFTHE RESIDENTWITHTHE SUPERVISORIN YEAR3

SR#	DATE/VENUE /DURATIONOF MEETING	AGENDA AND OUTLINE OF THE MEETING(INTERMSOFCONTENT,DISCUSSION POINTS)	ACTIONPOINTSAND SUPERVISOR'SREFLECTIONS	SUPERVISOR'S SIGNATURE (NAME/STAMP)	HEADOFDEPARTMENT'S SIGNATURE (NAME/STAMP)
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					

SECTION-7

RECORDOFRESIDENT'S ONEWEEK'S ROTATIONATORICDURINGYR3

DAY#	DATE	ACTIVITYCARRIEDOUTATORICANDTHERESEARCH ASSOCIATE/STATISTICIAN/DEPUTYDIRECTORWHO SUPERVISEDTHEACTIVITY	ORIC STAFF MEMBER'SREFLECTIONS ON THEPERFORMANCEOFTHEACTIVITY	THE RESEARCH ASSOCIATE/DEPUTYDIRECTOR SIGNATURE(NAME/STAMP)	DIRECTORORIC'SSIGNATURE (NAME/STAMP)
1					
2					
3					
4					
5					
6					
7					

SECTION-8

ANYRESEARCHCOURSECOURSE/WORKSHOPATTENDED(ONOWN)BYTHERESIDENTDURINGYEAR3

SL#	DATE/MONTH ANDYEAR OF TRAININGCOURSE/WORKSHOP	TITLEOFTRAININGCOURSE/WORKSHOP	ORGANIZINGINSTITUTION/ COMPANY	DURATION OFCOURSE INDAYS/MODE OF COURSE (onlineorphysically attended)	THE OBJECTIVES OR LEARNING OUTCOMES OFTHERESEARCHCOURSE.
1.					
2.					
3.					
4.					
5					

SECTION-9

RECORDOFLITERATUREREVIEWCONDUCTEDBYTHERESIDENT INYEAR3

SR#	TITLEOFTHELITERATUREREVIEWED	DATE/MONTHANDYEAROFPUBLICATION	TITLE OF THEJOURNAL/BOOK	WAS IT AN ORIGINAL ARTICLE/SHORTCOMMUNICATION/CASE STUDY/SYSTEMATICREVIEW/METAANALYSIS/EDITORIAL/ANYOTHER ACADEMIC (e.g. reports, books, conference papers, THESISs,Researchandprogramreports-published/unpublished)? PLEASESPECIFY
1.				
2.				
3.				
4.				
5.				
6.				

SECTION-10

RECORD OFANY MANUSCRIPT/RESEARCHPAPERFORMULATEDBYTHERESIDENTINYEAR3

SR#	TITLEOFTHEMANUSCRIPT	IFSUBMITTEDFORPUBLICATION,DATE/MONTH AND YEAR OFPUBLICATION,IFPUBLISHED	TITLEOFTHEJOURNAL	WAS IT REVIWED,MODIFIED, ACCEPTED ORREJECTED. PLEASESPECIFY	DIRECTOR ORIC'SSIGNATURE(NAME/STAMP)
1					
2					
3					
4					
5					
6					

SECTION-11

OVERALLEVALUATIONOFRESEARCHTHESISPROGRAMBYSUPERVISOR

SECTION-11

OVERALLEVALUATIONOFRESEARCHTHESISPROGRAMBY*BASR*(BOARDOFADVANCEDSTUDIESANDRESEARCH)

SECTION-11

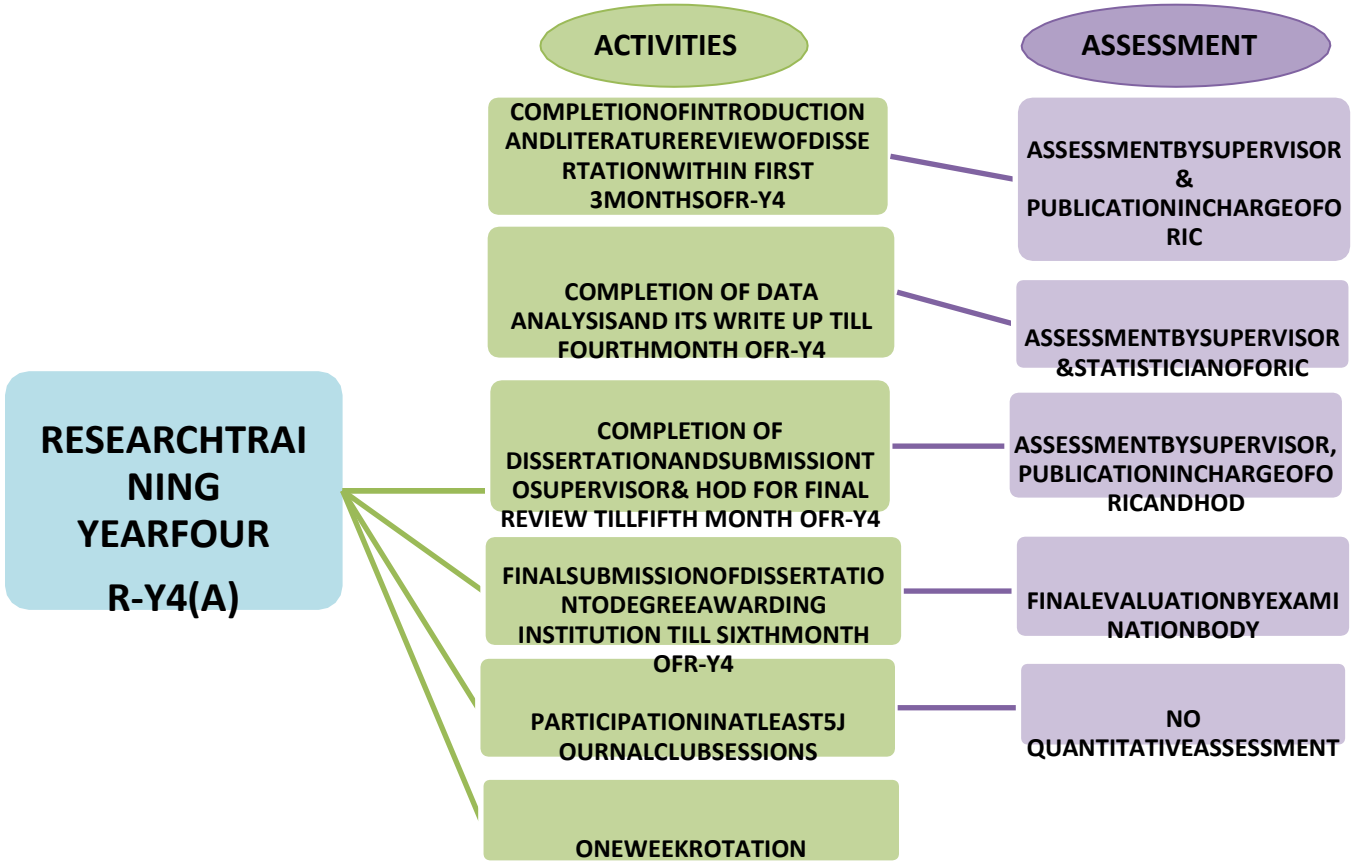
OVERALLEVALUATIONOFRESEARCHTHESISPROGRAMBYORIC(OFFFICEOFRESEARCHINNOVATIONANDCOMMERCIALIZATION)

SECTION-11

OVERALLEVALUATIONOFRESEARCHTHESISPROGRAMBYDEPARTMENTOFMEDICALEDUCATION(DME)

RESEARCHCOURSEOFFOURTHRESEARCHTRAININGYEAR

R-Y4



SECTION-1

5JOURNALCLUBMEETINGSATTENDEDBYRESIDENTASANOBSERVERDURINGYR4

JOURNAL CLUBMEETING #	DATE	TITLES OF THE ARTICLESPRESENTED IN THEJOURNALCLUBMEETING	TITLEOFJOURNAL/YEAROFPUBLICATION	ANY QUESTION ORCOMMENT MADE ON THEPRESENTATIONBYTHE OBSERVER	SUPERVISOR'S SIGNATURE	HEADOFDEPARTMENT'SSIGNATURE(NAME/STAMP)
1.		A. B. C.	A. B. C.	A. B. C.		
2.		A. B. C.	A. B. C.	A. B. C.		
3.		A. B. C.	A. B. C.	A. B. C.		
4.		A. B. C.	A. B. C.	A. B. C.		
5.		A. B. C.	A. B. C.	A. B. C.		

SECTION-2

CONFIRMATION OF COMPLETENESS OF WRITE UP OF INTRODUCTION OF RESEARCH PROJECT FOR THESIS BY RESIDENT

TILL3RD MONTH OFYR4:

TOPICOFTHERESEARCHPROPOSAL/SYNOPSISFORTHESIS:

_____

_____

CONFIRMATIONOFCOMPLETENESSOFINTRODUCTIONOFRESEARCHPROJECTFORTHESISBYRESIDENTTILL3RDMONTHOFYR4:

NAMEOFTHEPERSONCONFIRMING	DESIGNATIONOFTHEPERSONCONFIRMING	SIGNATURES	STAMP/DATE
	SUPERVISOR		
	HEADOFDEPARTMENT		
	RESEARCHASSOCIATE/DEPUTY DIRECTORATORIC		
	DIRECTORORIC		

SECTION-3

CONFIRMATION OF COMPLETENESS OF DATA ANALYSIS & WRITE UP OF RESULTS OF RESEARCH PROJECT FOR THESIS BY RESIDENT TILL 4TH MONTH OFYR4:

TOPICOFTHERESEARCHPROPOSAL/SYNOPSISFORTHESIS:

_____

_____

CONFIRMATION OF COMPLETENESS OF DATA ANALYSIS & WRITE UP OF RESULTS OF RESEARCH PROJECT FOR THESIS BY RESIDENT TILL 4TH MONTH OFYR4

NAMEOFTHEPERSONCONFIRMING	DESIGNATIONOFTHEPERSONCONFIRMING	SIGNATURES	STAMP/DATE
	SUPERVISOR		
	HEADOFDEPARTMENT		
	RESEARCHASSOCIATE/DEPUTY DIRECTORATORIC		
	STATISTICIANATORIC		
	DIRECTORORIC		

SECTION-4

CONFIRMATIONSOFCOMPLETENESSOFTHESISWRITE UPBYRESIDENTTILL5TH MONTHOFYR4:

TOPICOFTHERESEARCHPROPOSAL/SYNOPSISFOR THESIS:

NAMEOFTHEPERSONCONFIRMING	DESIGNATIONOFTHEPERSON CONFIRMING	SIGNATURES	STAMP/DATE
	SUPERVISOR		
	HEADOFDEPARTMENT		
	RESEARCHASSOCIATE/DEPUTY DIRECTORATORIC		
	STATISTICIANATORIC		
	DIRECTORORIC		

SECTION-5

CONFIRMATIONOFSUBMISSIONOFCOMPLETEDTHESISBYRESIDENTTILL6TH MONTHOFYR4:

TOPICOFTHERESEARCHPROPOSAL/SYNOPSISFOR THESIS:

NAMEOFTHEPERSONCONFIRMING	DESIGNATIONOFTHEPERSON CONFIRMING	SIGNATURES	STAMP/DATE
	SUPERVISOR		
	HEADOFDEPARTMENT		
	RESEARCHASSOCIATE/DEPUTY DIRECTORATORIC		
	DIRECTORORIC		
	CHAIRPERSON OF BOARD OFADVANCEDSTUDIES&RESEARCH (BASR)OFRMU		

SECTION-6

RECORDOFFORTNIGHTLYMEETINGSOFTHE RESIDENTWITHTHESUPERVISORIN YEAR4

SR#	DATE/VENUE /DURATION OFMEETING	AGENDAANDOUTLINEOFTHE MEETING (INTERMSOFCONTENT,DISCUSSIONPOINTS)	ACTIONPOINTSAND SUPERVISOR'SREFLECTIONS	SUPERVISOR'S SIGNATURE(NAME/STAMP)	HEADOFDEPARTMENT'S SIGNATURE(NAME/STAMP)
1.					
2.					
3.					
4.					
5.					
6.					
7.					

SECTION-7

RECORDOFRESIDENT'SONEWEEK'SROTATIONATORICDURINGYR4

DAY#	DATE	ACTIVITYCARRIEDOUTATORICANDTHERESEARCH ASSOCIATE/STATISTICIAN/DEPUTYDIRECTORWHO SUPERVISEDTHEACTIVITY	ORIC STAFF MEMBER'SREFLECTIONS ON THEPERFORMANCEOFTHEACTIVITY	THE RESEARCH ASSOCIATE/DEPUTYDIRECTOR SIGNATURE(NAME/STAMP)	DIRECTORORIC'SSIGNATURE (NAME/STAMP)
1					
2					
3					
4					
5					
6					

SECTION-8

ANYRESEARCHCOURSECOURSE/WORKSHOPATTENDED(ONOWN)BYTHERESIDENTDURINGYEAR4

SL#	DATE/MONTHANDYEAR OF TRAININGCOURSE/WORKSHOP	TITLE OF TRAININGCOURSE/WORKSHOP	ORGANIZINGINSTITUTION/COMPANY	DURATIONOFCOURSEINDAYS/MODEOFCOURSE (onlineorphysically attended)	THE OBJECTIVES OR LEARNINGOUTCOMESOFTHERESEARCH COURSE.
1.					
2.					
3.					
4.					
5.					

SECTION-9

RECORDOFLITERATUREREVIEWCONDUCTEDBYTHERESIDENTIN YEAR4

SR#	TITLE OF THE LITERATUREREVIEWED	DATE/MONTHANDYEAROFPUBLICATION	TITLE OF THEJOURNAL/BOOK	WASITANORIGINALARTICLE/SHORTCOMMUNICATION/CASESTUDY/SYSTEMATICREVIEW/METAANALYSIS/EDITORIAL/ANY OTHERACADEMIC(e.g.reports,books,conferencepapers,THESISs,Researchandprogramreports-published/unpublished)?PLEASE SPECIFY
1.				
2.				
3.				
4.				
5.				

SECTION-10

RECORD OFANY MANUSCRIPT/RESEARCHPAPERFORMULATEDBYTHERESIDENTINYEAR4

SR#	TITLEOFTHEMANUSCRIPT	IFSUBMITTEDFORPUBLICATION,DATE/MONTH AND YEAR OFPUBLICATION,IFPUBLISHED	TITLEOFTHEJOURNAL	WAS IT REVIWED,MODIFIED, ACCEPTED ORREJECTED. PLEASESPECIFY	DIRECTOR ORIC'SSIGNATURE(NAME/STAMP)
1					
2					
3					
4					
5					

SECTION-11

OVERALLEVALUATIONOFRESEARCHTHESISPROGRAMBYSUPERVISOR

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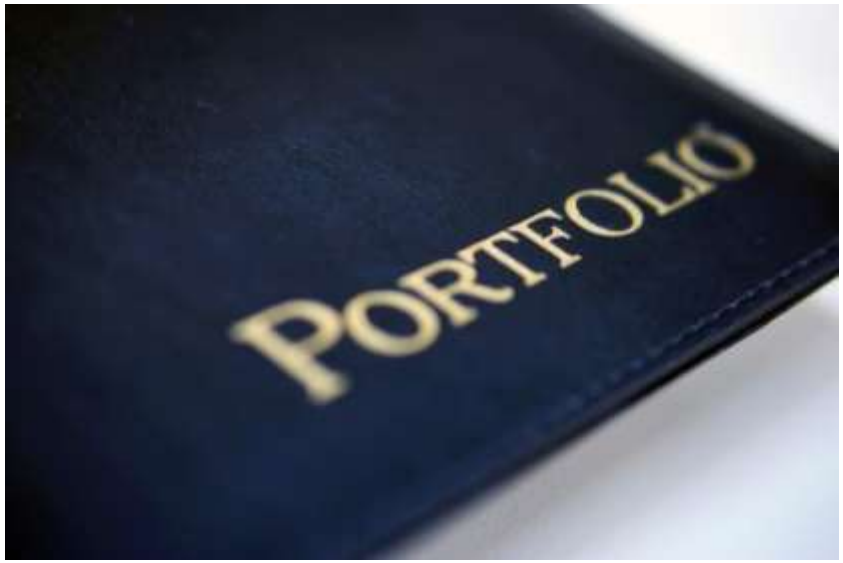
SECTION-11

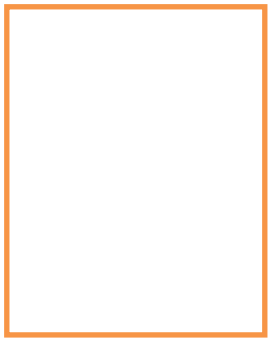
OVERALLEVALUATIONOFRESEARCHTHESISPROGRAMBYDEPARTMENTOFMEDICALEDUCATION(DME)

Portfolio(Templates)

RAWALPINDI MEDICAL UNIVERSITYMD/MS RESIDENCYPROGRAMME



ENROLMENTDETAILS



ProgramofAdmission_____

Session_____

Registration/TrainingNumber _____

NameofCandidate_____

Father'sName_____

DateofBirth_____/_____/_____ CNICNo. _____

PresentAddress _____

_____

PermanentAddress _____

_____

E-mailAddress _____

CellPhone_____

DateofStartofTraining_____

DateofCompletionofTraining_____

NameofSupervisor _____

DesignationofSupervisor _____

QualificationofSupervisor _____

Titleofdepartment/Unit _____

NameofTrainingInstitute/Hospital _____

Howtowritereflections

In the following sections 2-12 (case presentation, topic presentation, journal club, emergency, indoor, opd and clinics,proceduralskills/directlyobservedprocedures,multidisciplinarymeetings,morbidity/mortalitymeetings,handsontraining) reflect on the key activities that you have performed throughout the year in according to the 6 stages of Gibb's reflectivecycle.

Gibb'sReflectiveCycle:

Stage1- Description

Hereyousetthescene.Whathappened?Whenitoccurred?Whowasthere?Whatdidtheydo?Whatwastheoutcome?

Stage2- Feelings

Discussyourfeelingsandthoughtsabouttheexperience.Considerquestionssuchas:

Howdidyoufeelatthetime?Whatdidyouthinkatthetime?Whatimpactdidyouremotions,beliefsandvalueshave?Whatdo you thinkotherpeoplewerefeeling?Whatdidyouthinkabouttheincident afterwards?

Stage3- Evaluation

Howdidthingsgo?Focusonthepositiveandnegativeevenifitwasprimarilyoneortheother.Whatwasgoodandwhatwasbad about the experience? What went well? What didn't? Were your contributions positive or negative. If you are writingabout adifficultincident,didyoufeel thatthesituationwasresolvedafterwards?

Stage4- Analysis

This is where you make sense of what happened, using the theory and wider context to develop understanding. Why didthings go well? Badly? How can the theory explain what happened? How does my experience compare to the literature? Whatresearch/theories/models can help me make sense of this? Could I have responded in a different way? What might havehelpedorimprovedthings?

Stage5-Conclusion

What have you learnt? Generally, and specifically. What can I now do better? Could/should you have done anythingdifferently?WhatskillswouldIneedtohandlethis better?

Stage6- Actionplan

Actionplanssumupanythingyouneedtoknowanddotoimprovefornexttime.

How /where can I use my new knowledge and experience? How will I adapt my actions or improve my skills? If the same thinghappened again,whatwouldI dodifferently?

ASampleReflection

Thissamplereflectioniswrittenfromа Postgraduatemedicalstudent'sperspective.Itwillhelpyouwritereflectionsin yourportfolio.

Topic:JournalClubPresentationon"xx-xx-xx"at"ConferenceRoomMedicalUnit1"

Description

Thiswasmy first journalclubpresentationontheresearchtitle"_____"publishedin "_____".Thepaperwasselected bymysupervisorasitwasarecentstudyandrelevanttowhat wepractice in ourunit.Ittookme3days(9hours) to prepareforthispresentation.ForguidanceIaskedmySR Dr._____forhelp.

Feelings

During the presentation I felt quite nervous. As the presentation progressed, my tone of voice and command over thepresentationimproved.

Evaluation

Thestrengthsofmypresentationweremygoodgrip onthetopic.

MyweaknesseswerethatIcouldnotexplainthestatisticalaspectsofthestudyandhadtorushthroughthetables.

Analysis

TheIntroductionwentwellbecauseinadditiontothepaperIalsoreadthetopicfromthetextbookandtookguidancefrommy SR.

Themethodologyandresultspresentationwereweakbecause Icouldnotunderstandthemmyself.

Conclusion

Ineedtoworkonmypresentationanxietyandneedtounderstandinterpretationonmethodologyandresults.

Actionplan

I discussed with my supervisor and he informed me that I can self-learn these skills by reading up/attending courses online.However,IhavecometoknowthatDMEdepartmentandResearchUnitfrequentlyconductsworkshopsonpresentationskillsandresearch methodology.Iintenttoregisterandattendthem.

Introductionofportfolio

Whatisaportfolio?

A collection of a learner's various documents and assessments throughout residency that reflect their professionaldevelopmentovertime.Mayincludereferrallettersandprocedurelogs(Rideretal.,2007).Portfoliosalsofrequentlyincludeself-assessments,learningplans,and reflectiveessays (Epstein,2007).

Whatshouldbeincludedinaportfolio?

residentmayincludethefollowingcomponentsinhisorherportfolio:

- CurriculumVitae(CV)
- PersonalPublications
- Researchabstractspresentedatprofessionalconferences
- Presentationsatteachingunits/departmentalmeetingsandteachingsessions
- Patient(case)presentations
- Logofclinicalprocedures
- Copiesofwrittenfeedbackreceived(directobservations,fieldnotes,dailyevaluations)
- Qualityimprovementprojectplanandreportofresults
- Summariesofethicaldilemmas(andhowtheywerehandled)
- Chartnotesofparticularinterest
- Photographsandlogsofmedicalproceduresperformed
- Consult/referrallettersofparticularinterest
- Monthlyfacultyevaluations
- 360-degreeevaluations
- Copiesofwritteninstructionsforpatientsandfamilies
- Casepresentations,lectures,logsofmedicalstudentsmentored
- Learningplans

- Writingassignments,orcase-basedexercisesassignedbyprogramdirector
- Listofhospital/universitycommitteesservedon
- Documentationofmanagerialskills(e.g.,schedulesorminutescompletedbyresident)
- Copiesofbillingsheetswithexplanations
- Copiesofwritten examstakenwithanswersheets
- In-trainingEvaluationReport(ITER)results
- Format can be as simple as material collected in a three-ringed binder or as sophisticated as information stored inahandheld PocketPC(PPC).
- Patientconfidentialityshouldbeassuredwhenanyclinicalmaterialisincludedintheportfolio.
- Shouldberesident-drivenand includeaspaceforresidentstoreflecton theirlearningexperiences.

<u>Whyportfolioisrequired?</u>

Can beused as a:

- Formativelearningtool:Tohelpdevelopself-assessmentandreflectionskills.
- Summativeevaluation tool:Todetermineifacompetencyhasbeen achieved.
- Usefulforevaluatingcompetenciesthataredifficultto evaluatein moretraditionalways such as:
    - Practice-basedimprovement
    - Useofscientificevidenceinpatientcare
    - Professionalbehaviors(Rideretal.,2007)
- Purposeistohighlightfor theresidenttheneed forongoinglearningand reflectiontoachieveand maintaincompetencies.
- Enormous flexibility in using the portfolio as a learning tool: Portfolio may focus on one area (e.g., assessmentspertaining to professionalism in a learner with attitudinal issues) without losing its effectiveness for the broaderscopeof competencies.
- Number and frequency of entries may vary. Expectations, including minimum standards, should be defined withtheresident fromtheoutset.
- Portfolioscanbepowerfultoolsforguidedself-assessmentandreflection(Holmboe&Carracio,2008).

Evidence:

- Evidence suggests that an assessment of skills is most valid when the tool used places the learner in anenvironment and/or situation that closely mimics that in which the learner will later practice the mastered skill(Wiggins et al., 1998). In that way, portfolios have the advantage of reflecting not just what residents can do in acontrolledexaminationsituationbutwhattheyactuallydoatworkwithrealpatients(Jackson etal.,2007).
- As an evaluation tool, the reliability and validity of a portfolio are dependent on the psychometric characteristicsoftheassessmentand judgingmethodsused in theportfolioprocess (Holmboe&Carracio,2008).
- Researchisstillneededtodeterminewhetherportfolioscanbeacatalystforself-directed,lifelonglearning (O'Sullivanetal.,2002).

Practicality/Feasibility:

Portfolioscanbetimeconsumingfortheresidenttoassembleandforthepreceptortoassess.

References:

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2. Challis M. (1999). AMEE medical education guide no. 11 (revised): Portfolio-based learning and assessment inmedicaleducation.*Medical Teacher*,21,370-86.

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INDEX:

SECTION-1

CURRICULUMVITAE(CV)

Briefcurriculumvitaeencompassingallacademicachievements&workexperiencesshouldbewrittenorpastedhere

SECTION-2

CASEPRESENTATION

Interestinganduniquecasepresentationsshouldbewritteninthissectionwithyourownopinionandcomments ofthesupervisor

Title:	**Date &** **Time:Venue:**
Description	**Supervisor'sComments:**
Feelings	
Evaluation	
Analysis	
Conclusion	
Actionplan	

SECTION-3

TOPICPRESENTATION

Detailsofthetopicpresentationswiththecommentsofthesupervisorshouldbewrittenhere

Title:	**Date &** **Time:Venue:**
Description	**Supervisor'sComments:**
Feelings	
Evaluation	
Analysis	
Conclusion	
Actionplan	

SECTION-4

JOURNALCLUB

Detailsoftheselectedcriticalappraisalsofresearcharticlesdiscussedinjournalclubmeetingsshouldbewrittenhere

Title:	**Date &** **Time:Venue:**
Description	**Supervisor'sComments:**
Feelings	
Evaluation	
Analysis	
Conclusion	
Actionplan	

SECTION-5

EMERGENCY

Detailsofcomplicatedandinterestingemergencycasesalongwithcommentsofthesupervisorshouldwritteninthissection

Title:	**Date &** **Time:Venue:**
Description	**Supervisor'sComments:**
Feelings	
Evaluation	
Analysis	
Conclusion	
Actionplan	

SECTION-6

INDOOR

Memorablecasesseeninandmanagedinthemedicalwardalongwithcommentsofthesupervisorshouldbementionedinthissection

Title:	**Date &** **Time:Venue:**
Description	**Supervisor'sComments:**
Feelings	
Evaluation	
Analysis	
Conclusion	
Actionplan	

SECTION-7

OPDANDCLINICS

Outpatientexperiencesalongwithsupervisor'scommentsshouldbewrittenhere

Title:	**Date &** **Time:Venue:**
Description	**Supervisor'sComments:**
Feelings	
Evaluation	
Analysis	
Conclusion	
Actionplan	

SECTION-8

PROCEDURALSKILLS/DIRECTLYOBSERVEDPROCEDURES

Experiencesduringlearningofproceduresanddetailsofdirectlyobservedproceduresshouldbewrittenherealongwithcommentsofthesupervisor

Title:	**Date &** **Time:Venue:**
Description	**Supervisor'sComments:**
Feelings	
Evaluation	
Analysis	
Conclusion	
Actionplan	

SECTION-9

MULTIDICIPLINARYMEETINGS

DetailsofMultidisciplinarymeetingsattendedshouldbewrittenherewithcommentsofthesupervisor

Title:	**Date &** **Time:Venue:**
Description	**Supervisor'sComments:**
Feelings	
Evaluation	
Analysis	
Conclusion	
Actionplan	

SECTION-10

MORBIDITY/MORTALITYMEETINGS

Detailsmorbidity/mortalitymeetingsattendedshouldbewrittenherewithcommentsofthesupervisor

Title:	**Date &** **Time:Venue:**
Description	**Supervisor'sComments:**
Feelings	
Evaluation	
Analysis	
Conclusion	
Actionplan	

SECTION-11

HANDSONTRAINING

Brief description of learning outcomes achieved by workshops attended should be written here along with the reason of need to have a specificworkshopandalsogetendorsedthe commentsofthesupervisor foreach workshopseparately

Title:	**Date &** **Time:Venue:**
Description	**Supervisor'sComments:**
Feelings	
Evaluation	
Analysis	
Conclusion	
Actionplan	

SECTION-12

RESEARCHPUBLICATIONS/MAJORRESEARCHPROJECT/ ABSTRACT/SYNOPSIS/DISSERTATION/PAPERPRESENTATIONINACONFERENCE

Allresearchexperiencesshouldbementionedinthissectionalongwithcommentsofthesupervisor

Title:	**Date &** **Time:Venue:**
Description	**Supervisor'sComments:**
Feelings	
Evaluation	
Analysis	
Conclusion	
Actionplan	

SECTION-13

ASSESSMENTRECORDS/EVALUATIONPROFORMAS

Evidenceofallavailableresultcardsandendofblock(fourmonths)evaluationrecordshouldmentionedinthissectiontohaveareflectionaboutresident'sMedical knowledge, patient care, Interpersonal and Communication Skills, system based learning, practice based learning andprofessionalism.

SECTION-14

AWARDS/TESTIMONIALS/APPRECIATIONLETTERS

Evidenceofawards, testimonialsandappreciationlettersifanyshouldbegiveninthissectionwithcommentsofthesupervisor

SECTION-15

ANYOTHERSPECIFICACHIEVEMENT

Evidence of any other specific achievement done under forceful circumstances as a compulsion or done by chance without any previous plan or doneasa passionshouldbementionedinthissectionalong withcommentsofsupervisor

SECTION-16

FUTURE AIMS&OBJECTIVES

Briefoverviewofthefutureaimsandobjectivesshouldmentionedinthissection

SECTION-VIII

References

TeachingMethods

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LinksforElectives/Rotations

- **https://gme.uchc.edu/programs/im/electiveselective.html**
- http://medicine.buffalo.edu/departments/medicine/education/internal-medicine/program/electives.html
- **http://www.umm.edu/professionals/gme/programs/im-residency/electives-and-research**
- **https://internalmedicine.osu.edu/education/welcome/educational-career-development-programs/electives/**

LINKSforcurriculum

- https://elpaso.ttuhsc.edu/som/internal/IM_Curriculum_8-26-13.pdf
- http://www.hkcp.org/docs/TrainingGuidelines/HKCP%20GuideBooklet%202011updated%2021.8.2013.pdf
- https://www.jrcptb.org.uk/sites/default/files/2009%20GIM%20%28amendment%202012%29.pdf
- https://med.uth.edu/internalmedicine/files/2015/10/internal_medicine_curriculum_acgme.pdf
- http://www.uhs.edu.pk/downloads/MD%20Internal%20Medicine.pdf

Assessmentmethods

- CenterforCreativeLeadership,Greensboro,NorthCarolina(http://www.ccl.org).

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SECTION-IX

ListofAppendices

1. WorkplaceBasedAssessments-Multisourcefeedbackprofoma-360^{o}evaluation -------- Appendix“A”
2. ProformaforfeedbackbyNurseforcorecompetenciesoftheresident ---------- “AppendixB”
3. ProformaforpatientMedicationRecord -------- “AppendixC”
4. WorkplaceBasedAssessments-guidelinesforassessmentofGeneric&specialtyspecificCompetencies------ Appendix“D”
5. Supervisor’sAnnualReviewReport -------- Appendix“E”
6. SupervisorsevaluationProformaforcontinuousinternalassessments----------Appendix“F”
7. Evaluationofresidentbythefaculty---------- Appendix“ G”
8. Evaluationoffacultybytheresident----------Appendix“H”
9. Evaluationofprogrambythefaculty ---------- Appendix “I”
10. Evaluationofprogrambytheresident ---------- Appendix“J”
11. Guidelinesforprogramevaluation ----------Appendix “K”
12. EvaluationofProjectDirectorbytheresidents ---------- Appendix“L”

WorkplaceBasedAssessments-MultiSourceFeedbackprofoma-360°EvaluationAppendix"A"

RawalpindiMedicalUniversity

QualityEnhancementCell

360 Degree Evaluation Proforma (by Senior)PGT,MO, HOProforma

Reviewer		Evaluationfor	
Name:Designation:		Name:Designation:	

Performanceratings AssessmentDate:_____

The following guidelines are to be used in selecting the appropriate rating:1=Never 2=Rarely 3=Occasionally 4=Frequently 5=Always 6=NotApplicable

1. PatientsCare
   Implements the highest standards of practice in the effective and timely treatment of all patients regardless of gender, ethnicity, location,or socioeconomicstatus.

   1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

2. MedicalKnowledge
   Keepscurrentwithresearchandmedicalknowledge inordertoprovideevidence-basedcare.

   1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

3. Interpersonaland CommunicationSills

Worksvigorouslyandefficientlywithallinvolvedpartiesaspatientadvocateand/orconsultant.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

---

4. PracticebasedLearningandImprovement

Assessesmedicalknowledgeandnewtechnology andimplements best practicesinclinicalsetting.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

---

5. Professionalism

Displayspersonalcharacteristicsconsistentwithhighmoralandethicalbehaviour.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

---

6. SystemsBasedPractice

Efficientlyutilizeshealth-careresourcesandcommunitysystemsofcareinthetreatmentofpatients.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

Reference:CompetenciesidentifiedbyACGME&ABMS

ACGMEAccreditationCouncilforgraduatemedicaleducationAB

MSAmerican BoardofMedicalSpecialties

RawalpindiMedicalUniversity

QualityEnhancementCell

360DegreeEvaluationProforma(byColleague)P GT,MO, HOProforma

Reviewer

Name:Desig nation:

Evaluationfor

Name:Desig nation:

Performanceratings

AssessmentDate:_____

Thefollowingguidelinesaretobeusedinselectingtheappropriaterating:1=Never 2=Rarely 3=Occasionally 4=Frequently 5=Always 6=Not Applicable

1. He/sheisoftenlatetowork?

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

2. He/shemeetshisdeadlinesoftenly?

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

3. He/sheiswillingtoadmitthemistakes?

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

4. He/shecommunicateswellwith others?

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

5. He/sheadjustsquicklytochangingPriorities?

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

6. He/sheishardworking?

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

7. He/sheworkswellwiththeothercolleague?

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

8. He/sheco-workerbehaveprofessionally?

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

9. He/sheco-workertreatyou, respectfully?

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

10. He/sheco-workerhandlescriticismofhisworkwell?

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

11. He/shefollowupthepatient'sconditionquickly?

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

Reference:http://www.surveymonkey.com/r//360-Degree-Employee-Evaluation-Template

RawalpindiMedicalUniversity

QualityEnhancementCell

360 Degree Evaluation Proforma (Self-Assessment)PGT,MO, HOProforma

Reviewer		Evaluationfor	
Name:Designation:		Name:Designation:	

Performanceratings AssessmentDate:_____

Thefollowingguidelinesaretobeusedinselectingtheappropriaterating:

1=Poor 2=LessthanSatisfactory 3= Satisfactory4=Good 5=Very Good 6=Don’tknow

1. Clinicalknowledge

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

2. Diagnosis

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

3. Clinicaldecisionmaking

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

4. Treatment(includingpracticalprocedures)

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

5. Prescribing

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

6. Medicalrecordkeeping

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

7. Recognizingandworkingwithinlimitations

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

8. Keepingknowledgeandskillsuptodate

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

9. Reviewingandreflectingonownperformance

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

10. Teaching(student,trainees,others)

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

11. Supervisingcolleagues

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

12. Commitmenttocareandwellbeingofpatients

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

13. Communicationwithpatientsandrelatives

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

14. Workingeffectivelywithcolleagues

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

15. Effectivetimemanagement

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

Reference:www.gmc-uk.org

RawalpindiMedicalUniversity

QualityEnhancementCell

360DegreeEvaluationProforma(byParamedicalStaff)PGT, MO, HOProforma

Reviewer		Evaluationfor	
Name:Desig		Name:Desig	
nation:		nation:	

Performanceratings AssessmentDate:_____

کبھی نہیں ☐ کم سے کم ☐ کبھی کبھار ☐ اکثر ☐ ہمیشہ ☐ لاگو نہیں ☐

1۔مریض کی تشخیص بالکل ٹھیک کرتا/ کرتی ہے۔

کبھی نہیں ☐ کم سے کم ☐ کبھی کبھار ☐ اکثر ☐ ہمیشہ ☐ لاگو نہیں ☐

2۔دستاویزات وقت پر تیار ہوتے ہے اور اُس پر عمل کرنے میں آسانی ہوتی ہے۔

کبھی نہیں ☐ کم سے کم ☐ کبھی کبھار ☐ اکثر ☐ ہمیشہ ☐ لاگو نہیں ☐

3۔ٹیم ورک کو اہمیت دیتا/دیتی ہے۔

کبھی نہیں ☐ کم سے کم ☐ کبھی کبھار ☐ اکثر ☐ ہمیشہ ☐ لاگو نہیں ☐

4۔موقع ملنے پر عملہ اور طالب علم کو تعلیم دیتا/دیتی ہے۔

کبھی نہیں ☐ کم سے کم ☐ کبھی کبھار ☐ اکثر ☐ ہمیشہ ☐ لاگو نہیں ☐

5۔عملہ کی بات پر جلدی جواب دیتا/دیتی ہے۔

کبھی نہیں ☐ کم سے کم ☐ کبھی کبھار ☐ اکثر ☐ ہمیشہ ☐ لاگو نہیں ☐

RawalpindiMedicalUniversity

QualityEnhancementCell

360DegreeEvaluationProforma(byAttendant)PG T,MO, HOProforma

Reviewer		Evaluationfor	
Name:Designation:		Name:Designation:	

Performanceratings AssessmentDate:_____

کبھی نہیں ☐ کم سے کم ☐ کبھی کبھار ☐ اکثر ☐ ہمیشہ ☐ لاگو نہیں ☐

1۔ ڈاکٹر نے مریض کی صورتحال تشخیص و تفصیل سے بتائی ہے۔

کبھی نہیں ☐ کم سے کم ☐ کبھی کبھار ☐ اکثر ☐ ہمیشہ ☐ لاگو نہیں ☐

2۔ ڈاکٹر نے اپنی پریشانی بتانے کے لئے مجھے حوصلہ دیا۔

کبھی نہیں ☐ کم سے کم ☐ کبھی کبھار ☐ اکثر ☐ ہمیشہ ☐ لاگو نہیں ☐

3۔ ڈاکٹر نے عزت سے میرا علاج کیا۔

کبھی نہیں ☐ کم سے کم ☐ کبھی کبھار ☐ اکثر ☐ ہمیشہ ☐ لاگو نہیں ☐

4۔ ڈاکٹر نے مجھے جو تفصیلات بتائیں وہ آسانی سے سمجھ آ گئی۔

کبھی نہیں ☐ کم سے کم ☐ کبھی کبھار ☐ اکثر ☐ ہمیشہ ☐ لاگو نہیں ☐

5۔ ڈاکٹر نے میرے احساسات کا خیال رکھا۔

کبھی نہیں ☐ کم سے کم ☐ کبھی کبھار ☐ اکثر ☐ ہمیشہ ☐ لاگو نہیں ☐

RawalpindiMedicalUniversity

QualityEnhancementCell

360 Degree Evaluation Proforma (by Patient)PGT,MO, HOProforma

Reviewer		Evaluationfor	
Name:Designation:		Name:Designation:	

Performanceratings AssessmentDate:_____

کبھی نہیں ☐ کم سے کم ☐ کبھی کبھار ☐ اکثر ☐ ہمیشہ ☐ لاگونہیں ☐

1۔ڈاکٹر نے آپ کا معائنہ عزت اور احترام سے کیا ہے۔

کبھی نہیں ☐ کم سے کم ☐ کبھی کبھار ☐ اکثر ☐ ہمیشہ ☐ لاگونہیں ☐

2۔ڈاکٹر نے آپ کی بیماری کے متعلق آپ کو روکے ٹوکے بغیر تسلی سے سنا۔

کبھی نہیں ☐ کم سے کم ☐ کبھی کبھار ☐ اکثر ☐ ہمیشہ ☐ لاگونہیں ☐

3۔ڈاکٹر نے آپ کی بات بہت توجہ سے سنی۔

کبھی نہیں ☐ کم سے کم ☐ کبھی کبھار ☐ اکثر ☐ ہمیشہ ☐ لاگونہیں ☐

4۔ڈاکٹر نے آپ کی زندگی کے متعلق تفصیل سے سوالات کیئے۔

کبھی نہیں ☐ کم سے کم ☐ کبھی کبھار ☐ اکثر ☐ ہمیشہ ☐ لاگونہیں ☐

5۔ڈاکٹر نے آپ کے حدشات کو اچھی طرح سمجھا ہے۔

کبھی نہیں ☐ کم سے کم ☐ کبھی کبھار ☐ اکثر ☐ ہمیشہ ☐ لاگونہیں ☐

6۔ڈاکٹر نے مجھے بیماری سے متعلق تفصیل اور وضاحت سے آگاہ کیا ہے۔

کبھی نہیں ☐ کم سے کم ☐ کبھی کبھار ☐ اکثر ☐ ہمیشہ ☐ لاگونہیں ☐

7۔ڈاکٹر نے مجھے بیماری سے متعلق صحیح فیصلہ کرنے میں مدد کی۔

کبھی نہیں ☐ کم سے کم ☐ کبھی کبھار ☐ اکثر ☐ ہمیشہ ☐ لاگونہیں ☐

8۔ڈاکٹر نے بیماری کے علاج کا لائحہ عمل بنانے میں مجھے شامل کیا۔

کبھی نہیں ☐ کم سے کم ☐ کبھی کبھار ☐ اکثر ☐ ہمیشہ ☐ لاگونہیں ☐

ResidentEvaluationbyNurse/Staffforcorecompetencies **Appendix"B"**

Pleasetakeafewminutestocompletethisevaluationform.Allinformationisconfidentialandwillbeusedconstructively.You need notanswer allthequestions.

NameofResident_____

Locationofcareorinteraction_____

(ForexampleOPD/Ward/Emergency/EndoscopyDepartment)

Yourposition(forexample:nurse,wardservant,endoscopyattendant)_____

S #	Professionalism	Poor	Fair	Good	V.Good	Excellent	InsufficientContact
1	ResidentisHonestandtrustworthy						
2	Resident treats patients and familieswithcourtesy,compassionand respect						
3	Resident treatsmeandothermember of the tream with courtesy andrespect						
4	Resident shows regard for myopinions						
5	Residentmaintainsaprofessional mannerand appearance						
Interpersonalandcommunicationskills							
6	Resident communicates well withpatients,families,andmembersofthe healthcareteam						
7	Residentprovideslegibleandtimely documentation						
8	Resident respect differences inreligion, culture, age, gender, sexualorientationanddisability						

Systembasedpractice							
9	Resident works effectively with nursesandotherprofessionalsto improve patientcare						
PatientCare							
10	Residentrespectspatientpreferences						
11	Residenttakecareofpatientcomfort anddignityduringprocedures						
Practicebasedlearningandimprovement							
12	Resident facilitatesthelearningof studentsandotherprofessionals						
Comments							
13	Pleasedescribeanypraises or concerns or information about specificincidents						
Thanksyouforyourtimeandthoughtfulinput.Youplayavitalroleintheeducation andtrainingoftheinternal medicineresident							

Poor:0, Fair:1, Good:2, V.Good: 3, Excellent:4

TotalScore_____/52

EvaluationofPatientMedicalRecord/ChartEvaluationProforma **Appendix"C"**

NameofResident_____

LocationofCareorInteraction_____-
(OPD/Ward/Emergency/EndoscopyDepartment)

S#		Poor	Fair	Good	V.Good	Excellent
1.	BasicDataonFrontPageRecorded	O	O	O	O	O
2.	PresentingComplaintswrittenin chronologicalorder	O	O	O	O	O
3.	PresentingComplaintsEvaluation Done	O	O	O	O	O
4.	SystemicreviewDocumented	O	O	O	O	O
5.	AllComponentsofHistory Documented	O	O	O	O	O
6.	CompleteGeneralPhysical Examinationdone	O	O	O	O	O
7.	Examinationofallsystems documented	O	O	O	O	O
8.	DifferentialDiagnosisframed	O	O	O	O	O
9.	Relevantandrequiredinvestigations documented	O	O	O	O	O
10.	ManagementPlanframed	O	O	O	O	O
11.	Notesareproperlywrittenand	O	O	O	O	O

	eligible					
12.	Progressnoteswritteninorganized manner	O	O	O	O	O
13.	Dailyprogressiswritten	O	O	O	O	O
14.	Chartisorganizednoloosepaper	O	O	O	O	O
15.	Investigationsproperlypasted	O	O	O	O	O
16.	Abnormalfindingsininvestigations encircled.	O	O	O	O	O
17.	Proceduresdoneonpatient documentedproperly	O	O	O	O	O
18.	Medicinewrittenincapitalletter	O	O	O	O	O
19.	I/vfluidsordersareproperwithrate ofinfusionmentioned	O	O	O	O	O
20.	Allcolumnsofchartcomplete	O	O	O	O	O

***Poor**:0,**Fair**:1,**Good**:2,**V.Good**:3,**Excellent**:4*

TOTALSCORE_____/80

Appendix"D"

WorkplaceBasedAssessments-GuidelinesforSupervisorsforAssessmentofGeneric&SpecialtySpecificCompetency

TheCandidatesof allMDprogramswillbe trained andassessedinthe followingfivegenericcompetencies andalso specialtyspecificcompetencies.

A. GenericCompetencies:

i. PatientCare.

a. PatientCarecompetencywillincludeskillsofhistorytaking,examination,diagnosis,counselingPlancarethroughwardteachingdepartmentalconferences, morbidityand mortalitymeetings corecurriculum lectures andtraining inprocedures andoperations.
b. Thecandidateshalllearnpatientcarethroughwardteachingdepartmentalconferences,morbidityandmortalitymeetings,carecurriculumlectures and training in procedures andoperations.
c. TheCandidatewillbeassessedbythesupervisorduringpresentationofcasesonclinicalwardrounds,scenariobaseddiscussionsonpatientsmanagementmultisourcefeedbackevaluation,Directobservationof Procedures(DOPS)andoperatingroomassessments
d. Thesemethodsofassessmentswillhaveequalweightage.

ii. MedicalknowledgeandResearch

a. Thecandidatewilllearnbasicfactualknowledgeofillnessesrelevanttothespecialtythroughlectures/discussionsontopicsselectedfromthesyllabus, small group tutorials and bed siderounds
b. Themedicalknowledge/skillwill beassessedby theteacherduring
c. Thecandidatewill betrainedin designingresearchproject, data collectiondata analysisandpresentation ofresultsby thesupervisor.
d. Theacquisitionofresearchskillwillbeassessedasperregulationsgoverningthesisevaluationand itsacceptance.

iii. PracticeandSystemBasedLearning

a. Thiscompetencywillbelearntfromjournalclubs,reviewofliteraturepoliciesandguidelines,auditprojectsmedicalerrorinvestigation,root causeanalysis and awareness of health carefacilities,.
b. Theassessmentmethodswillincludecasestudies,personationinmobilityandmortalityreviewmeetingsandpresentationofauditprojectsif any.
c. Thesemethods ofassessment shall haveequal weight-age

iv. CommunicationSkills

a. Thesewillbelearn itfromrolemodels, supervisorandworkshops.

b. Theywillbeassessedbydirectobservationofthecandidatewhilstinteractingwiththepatients,relatives,colleaguesandwithmultisourcefeedback evaluation.

v. ProfessionalismasperHippocraticoath

a. Thiscompetencyislearntfromsupervisoractingasarolemodelethicalcaseconferencesandlecturesonethicalissuessuchasconfidentiallyinformed consentend oflifedecisions, conflictof interest,harassment and useof humansubjects in research.

b. Theassessmentofresidentswillbethroughmultisourcefeedbackevaluationaccordingtopreformsofevaluationanditsscoringmethod.

B. SpecialtySpecificCompetences.

i. Thecandidateswillbetrainedinoperative and proceduralskillsaccording to aquarterlybasedschedule.

ii. Thelevel ofproceduralCompetencywill beaccording toacompetencytable tobedevelopedbyeachspecialty

iii. Thefollowingkey willbeusedforassessing operativeand proceduralcompetencies:

a. Level1Observerstatus

b. Thecandidatephysicallypresentandobservingthesupervisorandsenior colleagues

c. **Level2Assistant status**
Thecandidateassistingproceduresandoperations

d. **Level3Performedundersupervision**
Thecandidateoperatingorperformingaprocedureunderdirect supervision

e. **Level4Performedindependently**
Thecandidateoperatingorperformingaprocedurewithout any supervision

vi. ProcedureBasedAssessments(PBA)

a. Procedural competency willassesstheskillofconsenttaking,preoperativepreparationandplanning,intraoperativegeneralandspecifictasks and postoperativemanagement

b. ProcedureBasedassessmentswillbecarriedoutduringteachingandtrainingofeachprocedure.

c. Theassessors may besupervisors,consultant colleagues and seniorresidents.

d. Thestandardizedformswillbefilledinbytheassessorafterdirectobservation.

e. Theresident'sevaluation willbegradedassatisfactory,deficientrequiring furthertrainingandnotassessedatall.

f. Assessmentreportwill besubmitted

g. Asatisfactoryscorewillberequiredtobeeligiblefortakingfinalexamination.

Appendix“E”

Supervisor’sAnnualReviewReport.

Thisreport willconsist of thefollowing components:-

I. VerificationandvalidationofLogBookofoperations&proceduresaccordingtotheexpectednumberofoperationsandproceduresperformed(as per levelsof competence) determinedby relevant board of studies.
II. A90%attendanceinacademicactivitiesisexpected.Theacademicactivitieswillinclude:Lectures,Workshopsotherthanmandatoryworkshops ,journal Clubs Morbidity & MortalityReviewMeetings andOther presentations.
III. Assessmentreportofpresentationsandlectures
IV. ComplianceReporttomeettimelineforcompletionofresearchproject.
V. Compliancereportonpersonal DevelopmentPlan.
VI. MultisourceFeedbackReport,onrelationshipwithcolleagues,patients.
VII. Supervisorwillproduceanannualreportbasedonassessmentsasperproformainappendix-GandsubmitittotheExaminationDepartment.
VIII. 75%scorewillberequired topasstheContinuousInternal Assessmentonannualreview.

Supervisor'sEvaluationoftheResident(ContinuousInternalAssessment) **Appendix"F"**

Resident'sName: _____ **Evaluator'sName(s):** _____

_____ **HospitalName:** _____

_____ **DateofEvaluation:** _____

1	Unsatisfactory
2	BelowAverage
3	Average
4	Good
5	Superior

Pleasecircletheappropriatenumberforeachitem usingthescaleabove.

PatientCare	Scale				
1. Demonstratessoundclinicaljudgment	1	2	3	4	5
2. Presentspatientinformationcaseconciselywithoutsignificantomissionsordigressions	1	2	3	4	5
3. Able to integrate the history and physical findings with the clinical data and identify all of thepatient'smajor problems usinga logical thought process	1	2	3	4	5
4. Developsalogicalsequenceinplanningfordiagnostictestsandproceduresand Formulatesa nappropriatetreatment plan to dealwith thepatient'smajorproblems	1	2	3	4	5
5. Abletoperformcommonlyusedofficeprocedures	1	2	3	4	5
6. Followsageappropriatepreventativemedicineguidelinesinpatientcare	1	2	3	4	5
MedicalKnowledge	**Scale**				
1. Usescurrentterminology	1	2	3	4	5

2. Understandsthemeaningofthepatient'sabnormalfindings	1	2	3	4	5
3. Utilizestheappropriatetechniquesofphysicalexamination	1	2	3	4	5
4. Developsapertinentandappropriatedifferentialdiagnosisforeachpatient	1	2	3	4	5
5. Demonstratesasolidbaseofknowledgeof ambulatorymedicine	1	2	3	4	5
6. Candiscussandapplytheapplicablebasicandclinicallysupportivesciences	1	2	3	4	5
Professionalism	**Scale**				
1. Demonstratesconsiderationforthepatient'scomfortandmodesty	1	2	3	4	5
2. Arrivestoclinicontimeandfollowsclinicpoliciesandprocedures	1	2	3	4	5
3. Workseffectivelywithclinicstaffandotherhealthprofessionals	1	2	3	4	5
4. Abletogainthepatient'scooperationandrespect	1	2	3	4	5
5. Demonstratescompassionandempathyforthepatient	1	2	3	4	5
6. Demonstratessensitivitytopatient'sculture,age,gender,anddisabilities	1	2	3	4	5
7. Discussesend-of-lifeissues(DPOA,advanceddirectives,etc.)whenappropriate	1	2	3	4	5
InterpersonalandCommunicationSkills	**Scale**				
1. Demonstratesappropriatepatient/physicianrelationship	1	2	3	4	5
2. Usesappropriateandunderstandablelayman'sterminologyindiscussionswithpatients	1	2	3	4	5
3. Patientcaredocumentationiscomplete,legible,andsubmittedintimelymanner	1	2	3	4	5

4.	Recognizesneedforbehavioralhealthservicesandunderstandsresourcesavailable	1	2	3	4	5
Systems-basedPractice		**Scale**				
1.	Spendsappropriatetimewithpatientforthecomplexityoftheproblem	1	2	3	4	5
2.	Abletodiscussthecosts,risksandbenefits ofclinicaldataandtherapy	1	2	3	4	5
3.	Recognizesthepersonal,financial,andhealthsystemresourcesrequiredtocarryoutth eprescribedcareplan	1	2	3	4	5
4.	Demonstrateseffectivecoordinationofcarewithotherhealthprofessionals	1	2	3	4	5
5.	Recognizesthepatient'sbarrierstocompliancewithtreatmentplansuchasage,gender, ethnicity,socioeconomicstatus,intelligence,dementia,etc.	1	2	3	4	5
6.	Demonstratesknowledgeofriskmanagementissuesassociatedwithpatient'scase	1	2	3	4	5
7.	Workseffectivelywithotherresidentsin clinicasifamemberofagroupppractice	1	2	3	4	5
OsteopathicConcepts		**Scale**				
1.	Demonstratesabilitytoutilizeanddocumentstructuralexaminationfindings	1	2	3	4	5
2.	Integratesfindingsofosteopathicexaminationinthediagnosisandtreatmentplan	1	2	3	4	5
3.	Successfullyusesosteopathicmanipulationfortreatmentwhereappropriate	1	2	3	4	5
4.	PracticesPatientCenteredCarewitha"wholeperson"approachtomedicine.	1	2	3	4	5
Practice-BasedLearningandImprovement		**Scale**				
1.	Locates,appraises,andassimilatesevidencefromscientificstudies	1	2	3	4	5
2.	Applyknowledgeofstudydesignsandstatisticalmethodstotheappraisalofclinicalstudiesto assessdiagnosticandtherapeuticeffectiveness oftreatment plan	1	2	3	4	5

3. Usesinformationtechnologytoaccessinformationtosupportdiagnosisandtreatment	1	2	3	4	5
Comments					

Resident'sSignature_____ **Date**_____

Supervisor'sSignature_____ **Date**_____

FACULTYEVALUATIONOF RESIDENT(INTERNALMEDICINE) **Appendix"G"**

AbbreviationsforsixCoreCompetencies

- PC=PatientCare
- MK=MedicalKnowledge
- ICS=Interpersonal/CommunicationSkills
- PBL=Practice-BasedLearningandImprovement
- P=Professionalism
- SBP=Systems-BasedPractice

InterpersonalandCommunicationSkills

Notecontentisappropriateandcomplete(ICS)(Question1of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

Interpersonalskillswithpatients,familiesandstaffisappropriateandskilled(ICS)(Question2of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

Presentscasesinclear,concisemanner(ICS)(Question3of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

MedicalKnowledge

Demonstratesunderstandingofclinicalproblemsandtheirpathophysiology(MK)(Question4of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

Developsappropriatedifferentialdiagnosis(MK)(Question5of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

Evaluatesscientificbasisofdiagnostictestsused(MK)(Question6of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

Readsservicespecificliterature(MK) (Question7of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

PatientCare

Obtainsaccurateclinicalhistory(PC)(Question8of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

0	1	2	3	4	5	6	7	8	9

Demonstratesappropriatephysicalexam(PC)(Question9of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

Identifiesandreviewsrelevantexistingpatientdata(PC)(Question10of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

Prioritizesproblemsandtreatmentplansappropriately(PC)(Question11of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

Effectivelyusesconsultationservices(PC)(Question12of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

Practice-Basedlearningandimprovement.

Identifiesareasforimprovementandappliesitto practicePBL(Question13 of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

Applieslesionslearnedfrommedicalerrorsintopractice PBL(question14of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

ShowsInterestin learningfromcomplexcareissuesPBL(Question15of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

Professionalism

Displaysa professionalattitudeanddemeanor(P)(Question16of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

Attendsroundsontime.Handlescriticismofselfinpro-activeway(P)(Question17of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
	☐	☐	☐	☐	☐	☐	☐	☐	☐

0	1	2	3	4	5	6	7	8	9

Cross-coverscolleagueswhennecessary(P)(Question18of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

System-BasedPractices

Understands the different types of medical practice and delivery systems, and alternative methods of controlling health care costs and allocatingresources (SBP)(Question19of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

EffectivelyUtilizesancillaryservicesSBP(Questions20of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

UsesPatientcarevenues appropriatelySBP(Questions 21of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

AdvocatesforqualitypatientcareandassistspatientsindealingwithsystemcomplexitiesSBP(Questions22of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

Overall/Summary

Didresidentmeetcourseobjectives?(Questions23of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

Comments(PleaseprovideStrengths,WeaknessesandAreasforImprovement)(Question24of24)

NoInteraction	Unsatisfactory	Failing	Less thanMarginal	BelowAverage	Average	AboveAverage	Advanced	Outstanding	Superior
0	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐

RESIDENTEVALUATIONOFFACULTYTEACHINGSKILLS

Appendix"H"

FacultyMember_____ Department:_____

PeriodofEvaluation_____ Location_____

Direction:please take amomentto assess theclinicalfacultymembersteachingskillsusingthisscale

1=Poor **2=Fair** **3=VeryGood** **4=Excellent**

A. Leadership

Discussed expectations, duties and assignments for eachteam member and reviewed learning objectives andevaluationprocess	1☐	2☐	3☐	4☐	N/A☐
Treatedeachtea,memberinacutout andpeacefulmanner	1☐	2☐	3☐	4☐	N/A☐
Was usually prompt for teaching assignments and was alwaysAvailableandaccessibleasa supervisor	1☐	2☐	3☐	4☐	N/A☐
Showed respect for the physician in other specialties /Subspecialtiesaswellasforotherhealthcareprofessionals	1☐	2☐	3☐	4☐	N/A☐

Comments

_____

_____

_____

B. Roleofmodeling

Demonstrated positive in interpersonal communicationskillswithpatients, familymembersandstaff	1 ☐	2 ☐	3 ☐	4 ☐	N/A ☐
Enthusiasmandinterestinteachingresidents	1 ☐	2 ☐	3 ☐	4 ☐	N/A ☐
Recognizedownlimitationsandused these Situation as opportunities to demonstrate how he / she	1 ☐	2 ☐	3 ☐	4 ☐	N/A ☐
learnUsedMedical/scientific literaturetosupportclinicaldecisions	1 ☐	2 ☐	3 ☐	4 ☐	N/A ☐

Comments

_____

_____

_____

C. PatientCare/Teachingand&Feedback

Demonstratehowtohandle “difficult”patientsencounters	1 ☐	2 ☐	3 ☐	4 ☐	N/A ☐
Demonstratedhowtoperformspecialphysicalexamtechniques and / or procedures and observed meduringmy initialsattempt	1 ☐	2 ☐	3 ☐	4 ☐	N/A ☐
Asked thought provoking questions to help me develop mycriticalthinkingskills andclinicaljudgment	1 ☐	2 ☐	3 ☐	4 ☐	N/A ☐

Sharehis/herownthoughtprocesswhendiscussingpatientworkupsandpatientscaredecisionswiththe team 1 ☐ 2 ☐ 3 ☐ 4 ☐ N/A ☐

Highlighted important aspects of a patient case and oftengeneralizedto boardermedicalconceptsandprinciples 1 ☐ 2 ☐ 3 ☐ 4 ☐ N/A ☐

Integratedsocial/ethicalaspectsofmedical(cost containment, patents right , humanism) intodiscussionof patient care 1 ☐ 2 ☐ 3 ☐ 4 ☐ N/A ☐

Providedguidanceandspecific"instructive feedback to help me correct mistakes and / or increase my knowledgebase 1 ☐ 2 ☐ 3 ☐ 4 ☐ N/A ☐

Comments:

_____

_____

_____

D. Didactic(Classroom)Instructions

Was usually prompt for teaching sessions, kept interruptionstominimumandkeptdiscussionfocusedoncaseor topic 1 ☐ 2 ☐ 3 ☐ 4 ☐ N/A ☐

Gavelecturepresentationsthatwerewellorganized and "Interactive"() i.e.,andreviewpertinenttopics 1 ☐ 2 ☐ 3 ☐ 4 ☐ N/A ☐

Providedreferencesorother materialsthatstimulatedme to road,researchandreview pertinenttopics 1 ☐ 2 ☐ 3 ☐ 4 ☐ N/A ☐

Comments

_____

_____

E. Evaluation

Reviewed my overall clinical performance at the end of therotationpointedoutmy strengths andareasforimprovement 1 ☐ 2 ☐ 3 ☐ 4 ☐ N/A ☐

Demonstrated “fairness” by adhering to established criteria,explaining reasons for the scores and following me to respond**Comments** 1 ☐ 2 ☐ 3 ☐ 4 ☐ N/A ☐

_____

_____

_____

Overall,Iwouldratethisfacultymember'sclinicalteachingskillsas

POOR ☐ FAIR ☐ VERYGOOD ☐ EXCELLENT ☐

Wouldyourecommendthatfacultymembercontinuetoteachinthisprogramm? Yes ☐ NO ☐

COMMENTS,COMMENDATIONSORCONCERNS

_____

_____

_____

***RESIDENTEVALUATIONOFFACULTY(FORCORECOMPETENCIES)*Appendix"I"**

B. InterpersonalandCommunicationSkills

InterpersonalandCommunicationSkills(Question1of22)

Asksquestioninanon-threateningmanner

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2	3	4	5

InterpersonalandCommunicationSkills(Question2of22)

Emphasizesproblem-solving(thoughtprocessesleadingtodecisions)

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2	3	4	5

InterpersonalandCommunicationSkills(Question4of22)

Effectivelycommunicatesknowledge

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2	3	4	5

C. Medical

KnowledgeMedical Knowledge

(Question 5 of

22)Knowledgeofspecialty

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2	3	4	5

MedicalKnowledge(Question6of22)

Appliesknowledgeofspecialtytopatientproblems

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2	3	4	5

PatientCare(Question7of22)

Appliescomprehensivehighqualitycare

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2	3	4	5

D. Patient

CarePatient Care (Question 8 of

22)Explainsdiagnosticdecision

s

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2	3	4	5

PatientCare(Question9of22)

ClinicalJudgment

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2	3	4	5

PatientCare(Question10of 22)

ClinicalSkills

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2	3	4	5

E. Practice-Based Learning and

ImprovementPractice-Based Learning and Improvement (Question 11

of 22)Encouragesself-education

CannotEvaluate	Unsatisfactory (Comment Required)	Marginal (Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2	3	4	5

Practice-BasedLearningandImprovement(Question12of22)

Encouragesevidence-basedapproachestocare

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2	3	4	5

F. Professionalism

Professionalism(Question13of22)

Sensitivecaringrespectfulattitudetowardspatients

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2	3	4	5

Professionalism(Question14of22)

Usestimewithpatientsandresidentseffectively

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2	3	4	5

Professionalism(Question15of22)

Sufficientresidentteachingonrounds/clinics

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2	3	4	5

Professionalism(Question16of22)

Respectsallmembersofthe healthcareteam

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2	3	4	5

Professionalism(Question17of22)

DemonstratesIntegrity

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2	3	4	5

Professionalism(Question18of22)

Attainscredibilityandrapportwithpatientsandtheirfamily

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2	3	4	5

G. Systems-BasedPractice

Systems-BasedPractice (Question19of22)

Providesusefulfeedbackincludingconstructivecriticismtoteammembers

CannotEvaluate	Unsatisfactory(CommentRequired)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2	3	4	5

SystemBasePractice(Question20of22)

Discussesavailabilitycostandutilityofsystemresourcesinprovidingmedicalcare.

CannotEvaluate	Unsatisfactory(CommentRequired)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2	3	4	5

Overall/Summary(Question21of22)

Overallcontributionstoyourtraining

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2	3	4	5

Comments:(Question22of22)

FacultyEvaluationoftheResidency/FellowshipProgram **Appendix"J**

Pleaseusethisscaleto answerquestion1-10:

1	2	3	4	5
StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree

1. ***PATIENT/CASEVOLUME:***Thereareasufficientnumberandvarietyofpatients/casestofacilitatehighqualityresident/fellow education.
2. ***CURRICULUM:***Theresidency/fellowshipprogramcurriculumprovidestheappropriateeducationexperiencesforresidents/fellows toanalyzeinvestigateandimprovepatientcarepractices.
3. ***PROGRAMDIRECTOR:***Theprogramdirectoreffectivelycommunicateswithprogramfacultymemberstounderstandtheirrolein resident/felloweducationanddevelopment.
4. ***ADMINISTRATIVESUPPORT:***Thereis adequate administrative support service to facilitate faculty participation in resident/felloweducation.
5. **SUPERVISION:**TheProgramresident/fellowsupervisionpolicyhasbeenclearlycommunicatedtoprogramfacultyandisused bytheprogram.

6. **TRANSITIONOFCARE:**Theprogramtransitionofcare/hand-offpolicyandtoolshavebeendistributedtoprogramfacultyand theyareused.
7. **EVALUATION:**Programfacultyreceivesregularandtimelyfeedbackabouttheirteachingandsupervisorsskills.
8. **FACULTY DEVELOPMENT:**Therearebeneficialresourcesavailableforprogramfaculty toimprovetheirteachingandsupervision skills.
9. **SCHOLARLYACTIVITY:**Programfacultieshavetheadequateresourcestoparticipateinscholarlyactivates.
10. **FACULTY:**Theprogramfacultyprovidesthediversityofexperienceandexpertisetoaccomplishthegoalsandobjectivesofthe program.

RESIDENTEVALUATIONOFRESIDENCYPROGRAM **Appendix"K**

A. ProgramGoalsandObjectives(Question1of35)

Thegoalsandobjectivesforeachrotationareclearlycommunicatedtoresidents.

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

B. Evaluation(Question2of35)

Theevaluationprocessoftheresidentsisconstructive(computerizedfacultyevaluationsofresidents,dailyclinicalfeedbacktoresidents,yearlyPRITE,andDirector's semi-annualresidentmeetingwith resident).

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1	2 ☐	3 ☐	4 ☐	5

C. Research(Question3of35)

Residentsareprovidedampleopportunitytodevelopaninterestaninresearch.

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1	2 ☐	3 ☐	4 ☐	5

Research(Question4of35)

Residentsareencouragedtoparticipateinresearch.

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2 ☐	3 ☐	4	5 ☐

Research(Question5of35)

Residentsareprovidedtheeducationtodevelopanunderstandingofresearch.

.

CannotEvaluate	Unsatisfactory(CommentRequired)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

D. Faculty(Question6of35)

Thesize,diversificationandavailabilityoffacultyisadequateforthetrainingprogram.

.

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1	2 ☐	3 ☐	4 ☐	5

Faculty(Question7of35)

TheKnowledgeofthefacultyiscurrentandappropriate.

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1	2 ☐	3 ☐	4	5 ☐

E. Facilities(Question8of35)

Theavailableresourcesnecessary(libraryandcomputer)toobtaincurrentmedicalinformationandscientificevidenceareadequateandaccessible.

.

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2 ☐	3 ☐	4 ☐	5

Facilities(Question9of35)

On-callrooms,whenneeded,areadequatetoensurerest,safety,convenienceandprivacy.

CannotEvaluate	Unsatisfactory(CommentRequired)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

Facilities(Question10of35)

Thefacilitiesareadequatewithregardtosupportservices(nurses,clinicaides)andspaceforteachingandpatientcare.

CannotEvaluate	Unsatisfactory(CommentRequired)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1	2 ☐	3 ☐	4 ☐	5

F. LeadershipandLogistics(Question11of35)

TheProgramDirectorcommunicateseffectivelywithresidents.

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1	2 ☐	3 ☐	4	5 ☐

LeadershipandLogistics(Question12of35)

TheAssociateProgramDirectorcommunicateseffectively withresidents.

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1	2 ☐	3 ☐	4	5 ☐

LeadershipandLogistics(Question13of35)

TheChiefResidentscommunicateseffectivelywithresidents.

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2 ☐	3 ☐	4 ☐	5

LeadershipandLogistics(Question14of35)

TheProgramCoordinatorcommunicateseffectivelywithresidents.

CannotEvaluate	Unsatisfactory(CommentRequired)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

LeadershipandLogistics(Question15of 35)

TheProgramDirectorprovideseffectiveleadershipoftheresidency.

CannotEvaluate	Unsatisfactory(CommentRequired)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1	2 ☐	3 ☐	4 ☐	5

LeadershipandLogistics(Question16of35)

Thereisadequatedepartmentalsupportforresidencyeducation.

CannotEvaluate	Unsatisfactory (Comment Required)	Marginal (Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1	2 ☐	3 ☐	4	5 ☐

LeadershipandLogistics(Question17of35)

Thereisadequatedepartmentalsupportforresidencyeducation.

CannotEvaluate	Unsatisfactory(CommentRequired)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1	2 ☐	3 ☐	4	5 ☐

LeadershipandLogistics(Question18of35)

Theprogramisresponsiveregardingscheduling,coursematerials andotherlogisticalconcerns.

CannotEvaluate	Unsatisfactory(CommentRequired)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1	2 ☐	3 ☐	4 ☐	5

Leadership and Logistics (Question 19 of

35)Theevaluationsystem(E-Value)iseasytouse.

CannotEvaluate	Unsatisfactory(CommentRequired)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

G. Training(Question20of35)

Facultyadequatelysupervisesresidents'careofpatients.

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1	2 ☐	3 ☐	4 ☐	5

Training(Question21of35)

Trainingsitespresentawiderangeofpsychiatricclinicalproblems.

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1	2 ☐	3 ☐	4	5 ☐

Training(Question22of35)

Residentsseeanappropriatenumberofpatients.

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1	2 ☐	3 ☐	4	5 ☐

Training(Question23of35)

Residentsaregivensufficient responsibilityfordecision-makinganddirectpatientcare.

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2 ☐	3 ☐	4 ☐	5

Training(Question24of35)

Roundsandstaffingareconductedprofessionally.

CannotEvaluate	Unsatisfactory(CommentRequired)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

Training(Question25of35)

Roundsandstaffingareconductedefficiently.

CannotEvaluate	Unsatisfactory(CommentRequired)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1	2 ☐	3 ☐	4 ☐	5

Training(Question26of35)

Facultyteachesand supervisesinwaysthatfacilitatelearning.

CannotEvaluate	Unsatisfactory (Comment Required)	Marginal (Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1	2 ☐	3 ☐	4	5 ☐

Training(Question27of35)

Theprogramis responsivetosafetyconcemsattraining.

CannotEvaluate	Unsatisfactory(CommentRequired)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1	2 ☐	3 ☐	4	5 ☐

Training(Question28of35)

Theprogramisresponsiveto feedbackfromresidents.

CannotEvaluate	Unsatisfactory(CommentRequired)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1	2 ☐	3 ☐	4 ☐	5

Training(Question29of35)

Residentsexperienceanappropriatebalanceofeducationalandclinicalresponsibilities.

CannotEvaluate	Unsatisfactory(CommentRequired)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

Training(Question30of35)

Thedidacticsessionsprovidecoreknowledgeofthefield.

CannotEvaluate	Unsatisfactory(CommentRequired)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1	2 ☐	3 ☐	4 ☐	5

Training(Question31of35)

Themoraleofthe residentsis good.

CannotEvaluate	Unsatisfactory (Comment Required)	Marginal (Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1	2 ☐	3 ☐	4	5 ☐

Training(Question32of35)

Themoraleofthefacultyis good.

CannotEvaluate	Unsatisfactory(CommentRequired)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0 ☐	1	2 ☐	3 ☐	4	5 ☐

Training(Question33of35)

Overall,Iamverysatisfiedwiththetrainingourprogramprovides.

CannotEvaluate	Unsatisfactory(Comment Required)	Marginal(Comment Required)	Satisfactory	VeryGood	Excellent
0	1	2 ☐	3 ☐	4 ☐	5

Recommendations(Question34of35)

Whatchangesinthetrainingprogramwouldyousuggesttobetterpreparesidentsfor theircareers?

AdditionalComments(Question35of35)

_____

_____

GuidelinesforprogramEvaluation Appendix "L"

ProgramEvaluationCommittee(PEC)

Background

Thepurposeofthiscommitteeistoconductanddocumentaformal,systematicevaluationoftheprogram&curriculumonanannualbasis.

Membership

Thechairandmembershipofthecommitteeareappointedbythe ProgramDirector.Themembershipofthecommitteeconsistsofatleasttwomemberso ftheprogramfaculty,andatleastoneresident/subspecialty resident.

MeetingFrequency

Thecommitteemeets,ataminimum,annually.

ResponsibilitiesofthePEC

- ThePECactivelyparticipatesinplanning,developing,implementingandevaluatingtheeducationalactivitiesoftheprogram.
- ThePECreviewsandmakesrecommendationsforrevisionofcompetency-basedgoalsandobjectives.
- Addressesareasofnon-compliancewiththestandards;andreviewstheprogramannuallyusingwrittenevaluationsoffaculty,residents,andother s.

RequiredDocumentationofPECActivities

ThePECprovidestheGMECwithawrittenAnnualProgramEvaluation(APE)intheformatthatisappendedtothisdocument.Thisdocumentdetailsawrittenplan ofactiontodocumentinitiativestoimproveperformancebasedonmonitoringofactivitiesdescribedbelow.

TheAPEdocumentprovidesevidencethatthePECismonitoringthefollowingareas,ataminimum:

1. Residentperformance

2. Facultydevelopment

3. Graduateperformance,includingperformanceofprogramgraduatesonthecertifyingexamination

4. Assessmentofprogramqualitythrough:

.**Annualconfidentialandformalfeedback**fromresidentsandfacultyabouttheprogramquality;

b.**Assessmentofimprovementsneededbasedonprogramevaluationfeedback**fromfaculty,residents,andothers

5. Continuation ofprogressmadeonprioryear'sactionplan

6. Prepareandsubmitawrittenplanofactionto

a. documentinitiativestoimproveperformanceinoneofmoreofthe areasidentified,

b. Delineatehowtheywillbemeasuredandmonitored

c. Documentcontinuationofprogressmadeontheprioryear'sactionplan

TemplateforDocumentationofAnnualProgramEvaluationandImprovement

Dateofannualprogramevaluationmeeting:_____

Attendees:

i. ProgramDirector: _____

ii. ProgramCoordinator: _____

iii. Associate/AssistantPD: _____

iv. FacultyMembers: _____

v. Residents:_____

	Reviewed √	**Discussion, Followup, ActionPlan**
1.CurrentProgramRequirements&InstitutionalRequirements		
2.Most recent Internal Review Summary to ensure allrecommendationsareaddressed		
3. ReviewCurriculum a. effective mechanism in place to distributeGoals &Objectives(G&O) toresidents andfaculty b. overallprogrameducational goals c. up-to-datecompetency-basedG&Oforeachassignment d. up-to-date competency-based G&O for each level oftraining		

e.G&O contain delineation of resident responsibilities forpatient care, progressive responsibility for patientmanagement,andsupervisionofresidents		
4. EvaluationSystem a. Residentformativeevaluationmeetsorexceedsprogramrequirement b. Residentsummativeevaluationmeetsorexceedsprogramrequirement c. Facultyevaluationmeetsorexceedsprogram requirement d. programevaluationmeets orexceedsprogram requirement.		
5. DidacticCurriculum a. includes recognizing the signs of fatigue and sleepdeprivation b. thedidacticcurriculummeetsprogram requirements c. thedidacticcurriculummeetsresidentsneeds		
6.Clinical Curriculum – the effectiveness of in-patient andambulatory teaching experience (structure, case mix, meetsresident'sneeds)		
7.Volume andvarietyofpatientsandprocedures(caselogdata) meetsrequirementsandresidents'needs		
8.Summary of written program evaluations completed by bothfaculty andresidents		
9.ResidentsupervisioncomplieswithProgramRequirement		
10.Recruitingresults		
11.Duty hourmonitoringresults		
12.Track all research and scholarly activities of faculty andresidents/fellows		
13. Educational outcomes: is the program achieving itseducational objectives?What aggregate data (residents as agroup) can be used to show the program is achieving itsobjectives? Board scores, in-service training exam scores,graduatesurveys,employer surveys,etc.		

15.Clinical outcomes– specialty-specific metrics aligned withdept./division QI initiatives, disease outcomes, patient safetyinitiatives (describe resident involvement), QI projects(describe resident involvement)		

Note:

If deficiencies are found during this process, the program should prepare a written plan of action todocumentinitiativestoimproveperformanceintheareasthathavebeenidentified.Theactionplanshouldberviewedandapprovedbytheteaching facultyanddocumentedinmeetingminutes.

AnnualProgramEvaluation(APE)

Minutes&Action Plan

DateoftheAPE meeting:

Date;Minutes&ActionPlanwerereviewedandApprovedbyteachingfaculty:

PleaseattachtheminutesofthemeetingwheretheMinutes&ActionPlanwerereviewedandapproved.

AcademicYearreviewed:

Faculty MembersofthePEC in

attendanceOtherMembersofthePECinatt

endance:Areasreviewed:

1. Residentperformance
    - Supportingdocuments:
2. Facultydevelopment
    - Supportingdocuments:
3. Graduateperformance
    - Supportingdocuments:
4. Programquality
    - Supportingdocuments:
5. Policies,Protocols&Procedures
    - Supportingdocuments:

RAWALPINDI MEDICAL UNIVERSITY

1

MENTOR / SUPERVISOR EVALUATION OF TRAINEE

Resident's Name: _____

Evaluator's Name(s): _____

Hospital Name: _____

Date of Evaluation: _____

☐ Traditional Track (10% Clinic) ☐ Primary Care Track (20% Clinic)

1	Unsatisfactory
2	Below Average
3	Average
4	Good
5	Superior

Please circle the appropriate number for each item using the scale above.

Patient Care	Scale				
1. Demonstrates sound clinical judgment	1	2	3	4	5
2. Presents patient information case concisely without significant omissions or digressions	1	2	3	4	5
3. Able to integrate the history and physical findings with the clinical data and identify all of the patient's major problems using a logical thought process	1	2	3	4	5
4. Develops a logical sequence in planning for diagnostic tests and procedures and Formulates an appropriate treatment plan to deal with the patient's major problems	1	2	3	4	5
5. Able to perform commonly used office procedures	1	2	3	4	5
6. Follows age appropriate preventative medicine guidelines in patient care	1	2	3	4	5
Medical Knowledge	**Scale**				
1. Uses current terminology	1	2	3	4	5
2. Understands the meaning of the patient's abnormal findings	1	2	3	4	5
3. Utilizes the appropriate techniques of physical examination	1	2	3	4	5
4. Develops a pertinent and appropriate differential diagnosis for each patient	1	2	3	4	5
5. Demonstrates a solid base of knowledge of ambulatory medicine	1	2	3	4	5
6. Can discuss and apply the applicable basic and clinically supportive sciences	1	2	3	4	5
Professionalism	**Scale**				
1. Demonstrates consideration for the patient' s comfort and modesty	1	2	3	4	5
2. Arrives to clinic on time and follows clinic policies and procedures	1	2	3	4	5
3. Works effectively with clinic staff and other health professionals	1	2	3	4	5
4. Able to gain the patient's cooperation and respect	1	2	3	4	5
5. Demonstrates compassion and empathy for the patient	1	2	3	4	5
6. Demonstrates sensitivity to patient's culture, age, gender, and disabilities	1	2	3	4	5
7. Discusses end-of-life issues (DPOA, advanced directives, etc.) when appropriate	1	2	3	4	5

RAWALPINDI MEDICAL UNIVERSITY

1

Interpersonal and Communication Skills	Scale				
1. Demonstrates appropriate patient/physician relationship	1	2	3	4	5
2. Uses appropriate and understandable layman's terminology in discussions with patients	1	2	3	4	5
3. Patient care documentation is complete, legible, and submitted in timely manner	1	2	3	4	5
4. Recognizes need for behavioral health services and understands resources available	1	2	3	4	5
Systems-based Practice	**Scale**				
1. Spends appropriate time with patient for the complexity of the problem	1	2	3	4	5
2. Able to discuss the costs, risks and benefits of clinical data and therapy	1	2	3	4	5
3. Recognizes the personal, financial, and health system resources required to carry out the prescribed care plan	1	2	3	4	5
4. Demonstrates effective coordination of care with other health professionals	1	2	3	4	5
5. Recognizes the patient's barriers to compliance with treatment plan such as age, gender, ethnicity, socioeconomic status, intelligence, dementia, etc.	1	2	3	4	5
6. Demonstrates knowledge of risk management issues associated with patient's case	1	2	3	4	5
7. Works effectively with other residents in clinic as if a member of a group practice	1	2	3	4	5
Practice-Based Learning and Improvement	**Scale**				
1. Locates, appraises, and assimilates evidence from scientific studies	1	2	3	4	5
2. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies to assess diagnostic and therapeutic effectiveness of treatment plan	1	2	3	4	5
3. Uses information technology to access information to support diagnosis and treatment	1	2	3	4	5

Comments

Total Score _____/165

_____ _____ _____ _____

Resident's Signature **Date** **Evaluator's Signature** **Date**

RAWALPINDI MEDICAL UNIVERSITY

2

Patient Medical Record / Chart Evaluation Proforma

Name of Resident

Location of Care or Interaction
(OPD/Ward/Emergency/Endoscopy Department)

S#		Poor	Fair	Good	V. Good	Excellent
1.	Basic Data on Front Page Recorded	O	O	O	O	O
2.	Presenting Complaints written in chronological order	O	O	O	O	O
3.	Presenting Complaints Evaluation Done	O	O	O	O	O
4.	Systemic review Documented	O	O	O	O	O
5.	All Components of History Documented	O	O	O	O	O
6.	Complete General Physical Examination done	O	O	O	O	O
7.	Examination of all systems documented	O	O	O	O	O
8.	Differential Diagnosis framed	O	O	O	O	O
9.	Relevant and required investigations documented	O	O	O	O	O
10.	Management Plan framed	O	O	O	O	O
11.	Notes are properly written and eligible	O	O	O	O	O
12.	Progress notes written in organized manner	O	O	O	O	O
13.	Daily progress is written	O	O	O	O	O
14.	Chart is organized no loose paper	O	O	O	O	O
15.	Investigations properly pasted	O	O	O	O	O
16.	Abnormal findings in investigations encircled.	O	O	O	O	O
17.	Procedures done on patient documented properly	O	O	O	O	O
18.	Medicine written in capital letter	O	O	O	O	O
19.	I/v fluids orders are proper with rate of infusion mentioned	O	O	O	O	O
20.	All columns of chart complete	O	O	O	O	O

Poor: 0, Fair: 1, Good: 2, V.Good: 3, Excellent: 4

RAWALPINDI MEDICAL UNIVERSITY

3

Preview Form

RESIDENT EVALUATION BY NURSE / STAFF

Please take a few minutes to complete this evaluation form. All information is confidential and will be used constructively. You need not answer all the questions

Name of Resident*

Location of care or interaction: *(OPD/Ward/Emergency/Endoscopy Department)*

Your position (Nurse, Ward Servant, Endoscopy Attendant)

S#	PROFESSIONALISM	Poor	Fair	Good	V Good	Excellent	Insufficient Contact
1.	Resident is Honest and Trustworthy	❍	❍	❍	❍	❍	❍
2.	Resident treats patients and families with courtesy, compassion and respect	❍	❍	❍	❍	❍	❍
3.	Resident treats me and other member of the team with courtesy and respect	❍	❍	❍	❍	❍	❍
4.	Resident shows regard for my opinions	❍	❍	❍	❍	❍	❍
5.	Resident maintains a professional manner and appearance	❍	❍	❍	❍	❍	❍
INTERPERSONAL AND COMMUNICATIONS SKILLS							
6.	Resident communicates well with patients, families, and members of the healthcare team	❍	❍	❍	❍	❍	❍
7.	Resident provides legible and timely documentation	❍	❍	❍	❍	❍	❍
8.	Resident respect differences in religion, culture age, gender sexual orientation and disability	❍	❍	❍	❍	❍	❍
SYSTEMS BASED PRACTICE							
9.	Resident works effectively with nurses and other professionals to improve patient care.	❍	❍	❍	❍	❍	❍
PATIENT CARE							
10.	Resident respects patient preferences	❍	❍	❍	❍	❍	❍
11.	Resident is reasonable accessible to patients	❍	❍	❍	❍	❍	❍
12.	Resident take care of patient comfort and dignity during procedures.	❍	❍	❍	❍	❍	❍
PRACTICE BASED LEARNING AND IMPROVEMENT							
13.	Resident facilitates the learning of students and other professionals	❍	❍	❍	❍	❍	❍
COMMENTS							
14.	Please describe any praises or concerns or information about specific incidents	❍	❍	❍	❍	❍	❍

THANK YOU for your time and thoughtful input. You play a vital role in the education and training of the internal medicine residents.

Poor: 0, Fair: 1, Good: 2, V. Good: 3, Excellent: 4

Total Score _____/56

RAWALPINDI MEDICAL UNIVERSITY

4

Patient Evaluation of Trainee

Trainee Name: _____

Date of Evaluation: _____

1	Strongly Disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

Please circle the appropriate number for each item using this scale. Please provide any relevant comments on the back of this form.

	This Trainee:	Scale				
1.	Introduces him/herself and greets me in a way that makes me feel comfortable. ڈاکٹر صاحب نے خود کو متعارف کرایا اور خوش اسلوبی سے پیش آئے	1	2	3	4	5
2.	Manages his/her time well and is respectful of my time. ڈاکٹر صاحب نے میرے اور اپنے وقت کا خیال رکھا۔	1	2	3	4	5
3.	Is truthful, upfront, and does not keep things from me that I believe I should know. ڈاکٹر صاحب نے میرے مرض کی صورتحال پوری سچائی سے بیان کی۔	1	2	3	4	5
4.	Talks to me in a way that I can understand, while also being respectful. ڈاکٹر صاحب نے میرے احساسات کا خیال رکھا اور عزت سے میرا علاج کیا۔	1	2	3	4	5
5.	Understands how my health affects me, based on his/her understanding of the details of my life. ڈاکٹر صاحب نے میرے علاج میں میری صحت پر ذاتی زندگی کو مدنظر رکھا۔	1	2	3	4	5
6.	Takes time to explain my treatment options, including benefits and risks. ڈاکٹر صاحب نے میرے مرض کے علاج کے فوائد اور نقصانات کو تفصیلاً بیان کیا۔	1	2	3	4	5

Total Score _____/30

RAWALPINDI MEDICAL UNIVERSITY

5

Resident/Fellow Evaluation of Faculty Teaching

Evaluator: _____

Evaluation of: _____

Date:_____

Evaluation information entered here will be anonymous and made available only in aggregated form.

S#		Strongly Disagree	Disagree Moderately	Disagree Slightly	Agree Slightly	Agree Moderately	Strongly Agree
	PATIENT CARE						
1.	Teaches current scientific evidence for daily patient management*						
2.	Explains rationale behind clinical judgements/decisions*						
3.	Teaches clear diagnostic algorithms*						
4.	Teaches clear treatment algorithms*						
	PATIENT CARE - OPERATIVE AND PROCEDURAL SKILLS						
5.	Teaches operative/procedural skills during cases*						
6.	Allows learners to perform operative/procedural skills when appropriate*						
	MEDICAL KNOWLEDGE						
7.	Teaches relevant pathophysiology needed to evaluate patient medical conditions*						
8.	Teaches how/when to use-order-perform procedures/tests*						
9.	Teaching content adds significantly to my medical knowledge						
10.	Teaches the use of literature / evidence based medicine to support clinical decisions/teaching points*						

PRACTICE-BASED LEARNING & IMPROVEMENT/TEACHING							
11.	Asks questions about differential diagnosis*						
12.	Teaches trainees when to consider referrals/consults with other specialists*						
13.	Actively teaches trainees in clinical settings/labs*						
INTERPERSONAL & COMMUNICATION SKILLS							
14.	Motivates learners to expand medical knowledge*						
15.	Stimulates critical thinking*						
16.	Encourages questions*						
17.	Teaches at the appropriate level for the trainee*						
18.	Provides feedback specific enough to be helpful*						
PROFESSIONALISM							
19.	Demonstrates respect for trainees of all levels*						
20.	Does not belittle/ publicly humiliate learners*						
21.	Teaches professional behavior with respect to patient care.*						
22.	Exhibits professional behavior with respect to patient care*						
23.	Role models professional behavior*						
SYSTEMS-BASED PRACTICE							
24.	Teaches cost/benefit decision making*						
25.	Teaches how to call on resources in the system to provide optimal health care*						
26.	Role models the necessity of working in inter-professional teams to enhance patient safety/outcomes.*						

Strongly Disagree: 0, Disagree Moderately: 1, Disagree Slightly: 2, Agree Slightly: 3, Agree Moderately: 4, Strongly Agree: 5

Total Score _____ / 130

RAWALPINDI MEDICAL UNIVERSITY

6

FINAL Evaluation Scoring Sheet

Name of Resident	Name of Supervisor	Year of Training

Date _____

Duration of Assessment _____

Specialty _____

Hospital _____

Unit _____

	Faculty #1 (165)	Faculty #2 (165)	Faculty #3 (165)	Average Score
Medical Patient Care (30)				___/30
Medical Knowledge (30)				___/30
Professionalism (35)				___/35
Interpersonal and Communication Skills (20)				___/20
System Based Practice (35)				___/35
Practice Based Learning and Improvement (15)				___/15
Overall Rating				
Average:				_____/165

Patient # 1 (30)	Patient # 2 (30)	Patient # 3 (30)	Medical Record Performa #1 (80)	Medical Record Performa #2 (80)	Medical Record Performa #3 (80)	Staff # 1 (56)	Staff #2 (56)	Staff #3 (56)
___/30			___/80			___/56		

Grand Total

_____/331

RAWALPINDI MEDICAL UNIVERSITY

Logbook *complete* ☐ *incomplete* ☐

Portfolio *complete* ☐ *incomplete* ☐

Leave /absentees: _____

Comments

_____

_____

_____

_____

Supervisor Name (1) _____ *Supervisor Name (2)* _____ *Head of Unit* _____

Sign & Stamp _____ *Sign & Stamp* _____ *Sign & Stamp* _____

RAWALPINDI MEDICAL UNIVERSITY

7

RESIDENT SELF-ASSESSMENT PROFORMA

Resident Name_____ **Date** _____

Year of Training _____ **Hospital Name**_____ **Unit** _____

❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
Not Applicable	I rarely demonstrates (<25% of the time)	I do this Sometimes (25-50% of the time)	I do this most of the time (50-75% of the time)	I do this all the time (>75% of time)

1.	I am able to acquire accurate and relevant histories from my patients in an efficient, prioritized and hypothesis driven fashion.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
2.	I am able to seek and obtain appropriate, verified, and prioritized data from secondary sources (e.g. family, records and pharmacy)	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
3.	I am able to perform accurate physical examinations that are appropriately targeted to the patient's complaints.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
4.	I am able to synthesize all available data, including interview, physical exam, and preliminary lab data to define each patient's central clinical problem.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
5.	I am able to develop prioritized differential diagnoses, evidence based diagnostic and therapeutic plans for common conditions in Internal Medicine patients.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
6.	I am able to recognize situations with a need for urgent or emergent medical care, including life threatening conditions.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
7.	I am able to recognize when to seek additional guidance.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
8.	I am able to provide appropriate preventive care.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
9.	I am able to manage patients with common clinical disorders in the practice of outpatient internal medicine with minimal supervision.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
10.	I have performed several invasive procedures and documented them in my New Innovations log.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
11.	I demonstrate sufficient knowledge to diagnose and treat common conditions that require hospitalization.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
12.	I understand the indications for and the basic interpretation of common diagnostic tests.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
13.	I have reviewed my in service exam scores and believe my medical knowledge is where it should be for my level of training.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
14.	I am able to identify clinical questions as they emerge	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4

	in patient care activities.					
15.	I am responsive to feedback from all members of the healthcare team including faculty, residents, students, nurses, allied health professionals, patients and their advocates.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
16.	I am an active participant in teaching rounds and intern report.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
17.	I effectively use verbal and non verbal skills to create rapport with patients and their advocates.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
18.	I communicate effectively with other caregivers to ensure safe transitions in care.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
19.	My patient presentations on rounds are organized, complete and succinct.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
20.	I am able to communicate the plan of care to all the members of the healthcare team.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
21.	My documentation in the medical record is accurate, complete and timely.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
22.	I accept personal errors and honestly acknowledge them.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
23.	I demonstrate compassion and respect to all patients.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
24.	I complete my clinical, administrative and academic tasks promptly.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
25.	I maintain patient confidentiality	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
26.	I log my duty hours regularly and make every effort not to violate the rules	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
27.	When I feel I am too fatigued to work safely, I understand that I can call the chief medical residents for back-up.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
28.	I understand the unique roles and services provided by the workers in the local health delivery system (social workers, case managers, dept of public health etc...)	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
29.	I am able to identify, reflect on, and learn from critical incidents and preventable medical errors.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4
30.	I do my best to minimize unnecessary care including tests, procedures, therapies and consultations.	❑ NA	❑ 1	❑ 2	❑ 3	❑ 4

Please identify three specific clinical skills that you have improved over the past six months:

Please set three specific goals for the next six months:

Signature _____ Date _____

Rawalpindi Medical University

8

DIRECT OBSERVATION OF PROCEDURAL SKILLS (DOPS)

Please complete the questions using a cross ☒ Please use black ink and CAPITAL LETTERS

Doctor's Name: _____

PMDC Number: _____

Clinical setting: A&E ☐ OPD ☐ In-patient ☐ Acute Admission ☐ Other

Procedure number ☐☐

Assessors position: Consultant ☐ SpSR ☐ SpR ☐ Specialty doctor ☐ Nurse ☐ Other ☐

Number of previous DOPS observed by assessor with any trainee 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5-9 ☐ >9 ☐

Number of times procedure performed by trainee: 0 ☐ 1-4 ☐ 5-9 ☐ >10 ☐

Difficulty of procedure: Low ☐ Average ☐ High ☐

Please grade the following areas	Well below expectations	Below Expectations	Borderline	Meets Expectations	Above Expectations	Well above expectations	U/C*
	1	2	3	4	5	6	
1 Demonstrate understanding of indications, relevant anatomy, technique of procedure	☐	☐	☐	☐	☐	☐	☐
2 Obtains informed consent	☐	☐	☐	☐	☐	☐	☐
3 Demonstrates appropriate preparation pre-procedure	☐	☐	☐	☐	☐	☐	☐
4 Appropriate analgesia or preparation pre-procedure	☐	☐	☐	☐	☐	☐	☐
5 Technical ability safe sedation	☐	☐	☐	☐	☐	☐	☐
6 Aseptic technique	☐	☐	☐	☐	☐	☐	☐
7 Seeks help where appropriate	☐	☐	☐	☐	☐	☐	☐
8 Post procedure management	☐						
9 Communication skills	☐	☐	☐	☐	☐	☐	☐
10 Consideration of Patient/professionalism	☐	☐	☐	☐	☐	☐	☐
11 Overall ability to perform procedure	☐	☐	☐	☐	☐	☐	☐

* U/C Please mark this if you have not observed the behaviour and therefore feel unable to comment.

Please use this space to record areas of strength or any suggested development

U/C

Anything especially good?	Suggestions for development:

Have you had training in the use of this assessment tool? ☐ Face to face ☐ Have read guidelines ☐ Web/ CD-Rom

Time taken for observation: (in minutes) ☐☐

Assessors signature:

Date (mm/yy) ☐☐ / ☐☐

Time taken for feedback ☐☐

Assessor's Name: _____

*if appropriate Please note failure of return of all completed forms to your administrator is a probity issue

Acknowledgement: Adapted with permission of the American Board of internal Medicine

SpSR - Specialty Senior Registrar

SpR - Specialty Registrar

RAWALPINDI MEDICAL UNIVERSITY

9

CASE BASED CLINICAL EVALUATION OF TRAINEE

Resident's Name: _____

Evaluator's Name(s): _____

Hospital Name: _____

Date of Evaluation: _____

☐ Traditional Track (10% Clinic) ☐ Primary Care Track (20% Clinic)

1	Unsatisfactory
2	Below Average
3	Average
4	Good
5	Superior

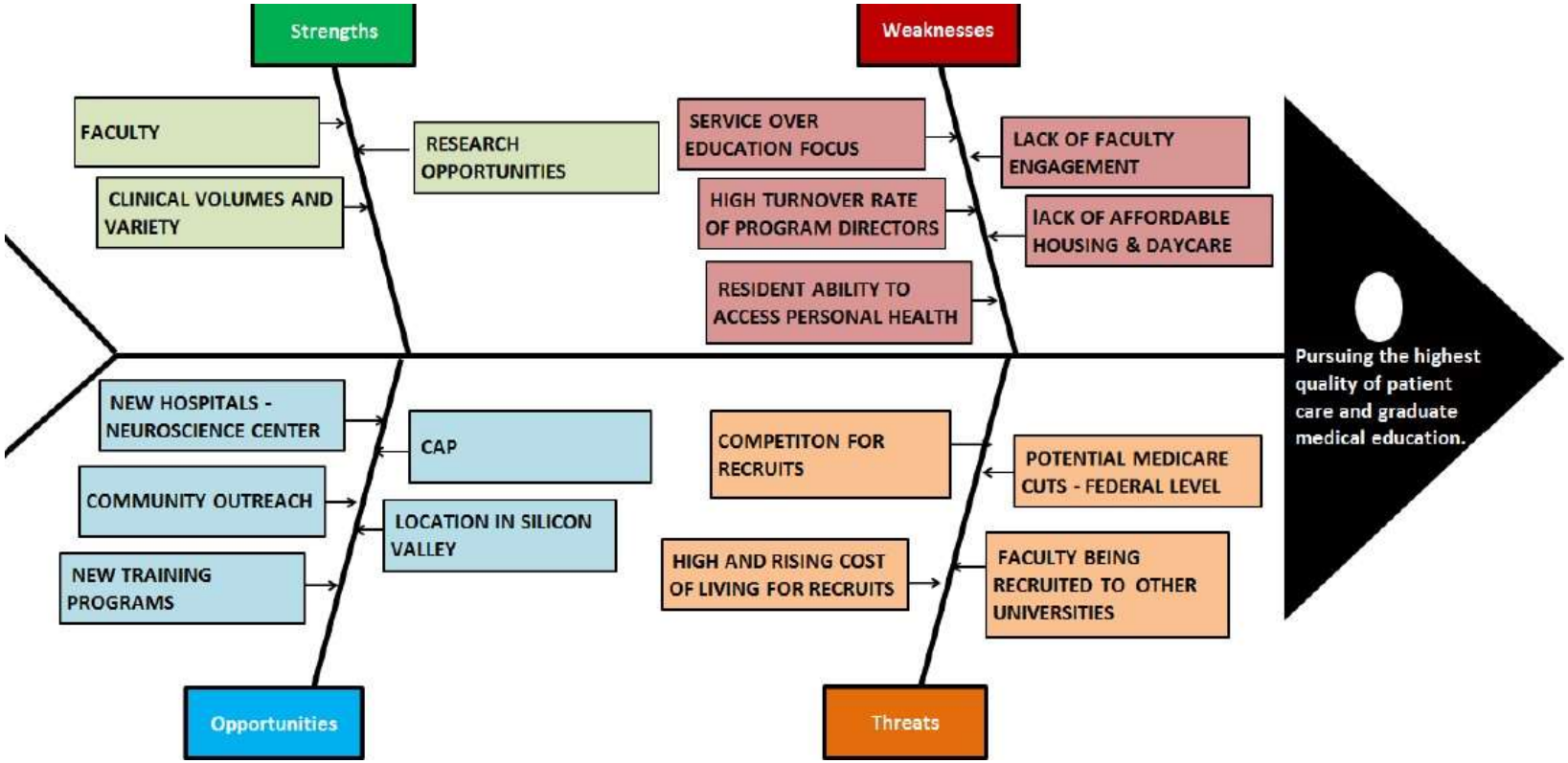
Please circle the appropriate number for each item using the scale above.

History	Scale				
1. Introduces himself and greet the patient.	1	2	3	4	5
2. Listen to the patient problems.	1	2	3	4	5
3. Shows politeness and empathy	1	2	3	4	5
4. Gathers proper information of present and past history	1	2	3	4	5
Physical Examination	**Scale**				
1. Physical examination done correctly	1	2	3	4	5
2. Pick physical signs correctly	1	2	3	4	5
3. Relevant examination done in detail	1	2	3	4	5
4. Interpret physical signs correctly	1	2	3	4	5
Assessment Plans	**Scale**				
1. Can list a logical differential diagnosis	1	2	3	4	5
2. Defend the diagnosis logically	1	2	3	4	5
3. Identifies patient active problems	1	2	3	4	5
Interpretation and Correlation of Laboratory and Imaging Data	**Scale**				
1. Can order logical and relevant investigations	1	2	3	4	5
2. Correctly interpret investigations (Laboratory and Imaging)	1	2	3	4	5
3. Formulate a logical management plan	1	2	3	4	5
4. Treatment plan is logical and relevant	1	2	3	4	5
5. Able to write a proper prescription	1	2	3	4	5

SWOTAnalysis

- **S**:Strengths
- **W**: Weaknesses
- **O**:Opportunities
- **T**:Threats

SOWTAnalysis(Fishbone–IshikawaDiagram)


Strengths
Weaknesses
FACULTY
CLINICAL VOLUMES AND VARIETY
RESEARCH OPPORTUNITIES
SERVICE OVER EDUCATION FOCUS
HIGH TURNOVER RATE OF PROGRAM DIRECTORS
RESIDENT ABILITY TO ACCESS PERSONAL HEALTH
LACK OF FACULTY ENGAGEMENT
IACK OF AFFORDABLE HOUSING & DAYCARE
Pursuing the highest quality of patient care and graduate medical education.
NEW HOSPITALS - NEUROSCIENCE CENTER
COMMUNITY OUTREACH
NEW TRAINING PROGRAMS
CAP
LOCATION IN SILICON VALLEY
COMPETITON FOR RECRUITS
HIGH AND RISING COST OF LIVING FOR RECRUITS
POTENTIAL MEDICARE CUTS - FEDERAL LEVEL
FACULTY BEING RECRUITED TO OTHER UNIVERSITIES
Opportunities
Threats

ActionPlan

Item	Strategy	Resources	Timeline	Evaluation
PreservationGoals(Strengths)				
EliminationGoals(Weaknesses)				
AchievementGoals(Opportunities)				
AvoidanceGoals(Threats)				

SECTION-X

Miscellaneousattacheddocuments

Date:19th May2021

SUMMARYOF THEFORMAT FORMDMSPROGRAM

Tableofcontents

SNO.	Content	Instructions
SECTION–IGeneralplan ofthecourse		
38.	MissionStatement	• AlreadygiveninthesamplecurriculumofMDInternalMedicine • Missionstatementwillremainsameforall
39.	Statutes	***6. Nomenclature:*** ***7. CourseTitle:*** ***8. TrainingCentres:*** ***9. DurationofCourse:*** ***10. Course structure :*** NOTE:Tobewrittenaccordingtotheseheadings.
40.	AdmissionCriteria	• Rulesandregulationsforadmissionwillremainthesameforalldisciplines.
41.	RegistrationandEnrolment	• Rules and regulations for admission will remain the same for alldisciplines.
42.	Aims and objectives of thecourse(general&specific)	• Forguidanceyoucanseetheaims&objectivesofinternal medicine but onecan change the aims of objectives accordingtotherequirementoftheirowndiscipline
43.	Other required corecompetencies for theresidents	• All six core competencies of ACGME model & additionalresearch competency to be mentioned here. This material willremainsameforalldisciplinesbutresearchcompetencycanbe modifiedas required. • Guidance canbetakenfromtheinternalmedicine curriculum.
44.	Electives/Rotations	• Foryourguidancerotationsregardinginternalmedicinecanbeseen from curriculum but one can modify the rotations asrequired.
45.	MethodsofTeaching&Learningduringcourseconduction	• Remainthesameasmentionedinthecurriculumofinternalmedicine • Readitthoroughly • Youcankeeptheteaching&learningstrategyasitisor increase

		ordecreasethestrategiesaccordingtotherequirementofyourparticular discipline
46.	ToolsofAssessmentforthecourse	• 20toolsofassessmentaredescribeintheinternalmedicinecurriculum foryour guidance • 360degreeevaluationisthemostimportanttoolofformativeassessment • Youcanmodify/add/deleteanytoolofassessmentaccordingtothereq uirement of the discipline
SECTION–II	**CourseContent**	
47.	Detailsofthe content	• Content of the curriculum of internal medicine is given for yourguidance along with suggested teaching & learning method andtoolsof assessment • This section can be made more structured by adding specificlearningobjectiveofeachtopicalongwithitsspecificteaching & learning strategy, tools of assessment and level of cognition,levelof psycho motor skill, level of attitude • Foryourconveniencewareprovidingattheendofthisdocumentastru cturedproformaforaddingspecificlearningobjective • ACGME core competencies required for each sub section shouldbementionedseparatelywitheachsubsection/subspecialty /discipline/theme
SECTION–III	**Research&Thesiswriting**	
48.	Details about Researchcomponent&Thesiswriting	• Fullsectionofresearchcurriculumispresentintheinternalmedicinecurriculum • Thesamecurriculum isapplicableto allthedisciplines • The details about the eligibility criteria regarding researchcompetency is mentioned in the section of research curriculumseparately.
SECTION–IV	**MandatoryWorkshops**	

49.	Details of Mandatoryworkshops	• Therearefourmandatoryworkshops
		  ○ Biostatistics&Research Methodology
		  ○ Introductiontocomputer/InformationTechnology & Software

		○ Communicationskills ○ AdvancedCardiacLifeSupport • In additiontofourmandatoryworkshopsanydisciplinecanaddadditional workshop for example: internal medicine has addedworkshopforclinical audit.
SECTION–V	**MileStonestobeachievedbytheresidents**	
50.	ChartingtheRoadtoCompetence:DevelopmentalMilestonesfor MD Internal MedicineProgramatRawalpindi MedicalUniversity	• Infouryearstrainingprogramthereare48monthsinternalmedicine milestone are describe month wise according toknowledgeskill,and attitude • Guidancecanbetakenfrommilestonesofinternalmedicineand you can develop milestone of your respective disciplineaccordingly
SECTION–VI	**Evaluation&Assessmentstrategies**	
51.	Evaluation & Assessmentstrategiesageneraloverview	• Sectionofassessmentforinternalmedicinehasbeenupdated&revisedmany timeafter repeatedmeetings &discussion • You can modify the same template according to your disciplinebut the basic rules and regulation regarding assessment & marksdistributionandno.ofTOACSdistributionwillremainthesame • Rules and regulation of thesis evaluation/defense of thesis willremainthe same • All eligibility criteria mentioned in the section of assessment willremainthe sameforall discipline.
SECTION– VII	**LogBook&Portfolio**	
52.	Log Book for InternalMedicine(Templates)	• Logbookforinternalmedicineisdesignedasatemplateforalldiscipline but you can do minor modification in the logbookaccording to your discipline wherever required but the generaltemplatewill remain thesame
53.	Log Book for Research(Templates)	• Researchlogbookwillremainthesamefor alldiscipline
54.	Portfolio(Templates)	• Template of Portfolio for internal medicinewill remain the sameforall discipline • Howtowritevarioussectionofportfoliowillbepresentedinameetingseparately
SECTION–VIIIReferences		

55.		
SECTION–IX Appendices(proformas/Forms)		
56.	Multisource feedbackproforma-360°evaluation---- --**"AppendixA"**	• All 9 latest updated proformas of 360 degree evaluation / multisourceshould bepresentin all discipline asannexure • These profromas are present number wise (each number ispresentinthetextbox)inthecurriculumofinternalmedicine.
57.	Supervisor'sAnnual Review Report -------**Appendix"E"**	• Theseproformas willremainthesamefor alldiscipline
58.	Evaluationofprogrambythe faculty ----------**Appendix"J"**	• Theseproformas willremainthesameforalldiscipline
59.	Evaluation of program by theresident---------- **Appendix"k"**	• Theseproformas willremainthesamefor alldiscipline
23.	Guidelines for programevalua tion---------- **Appendix" L"**	• Feedbackfromthealumniisunderprocessbythequalityenhancement cell (QEC) • Feedbackfromotherstakeholdersfromfacultyandresidentisalsound er processby the quality enhancementcell(QEC)
	Note: • Rest of the proformas mentioned in the end of curriculum of internal medicine should be considereddiscarded • You can add any additional proforma according to specific requirement of your discipline in addition totheabovementionedproformas	

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iversity
Rawalpindi

TEMPLATEFORLEARNINGOBJECTIVES (tobeadoptedby eachspecialty)

TOPICS TOBE TAUGHT	LEARNING OBJECTIVES Studentshould beabletoknow:	Domains/leveloflearning			TEACHINGMETHOD	ASSESSMENTTOOL
		Knowledge (C1-C6)	Skill (P)	Attitude (A)		

THEEND