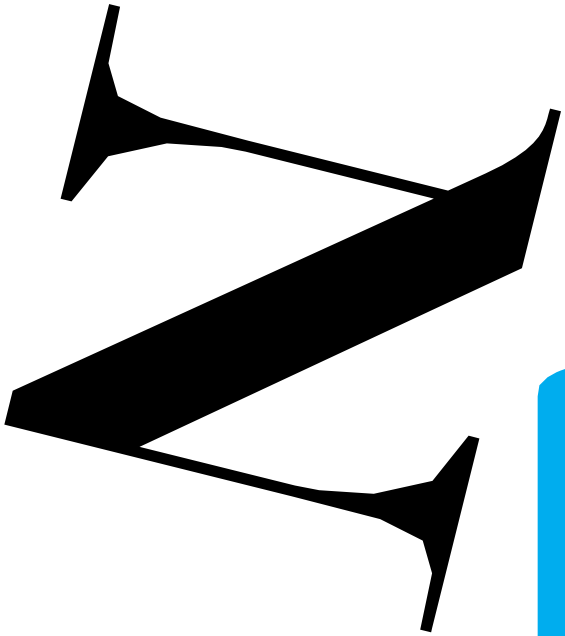
Requirements for Post IMM MD Training

NEPHROLOGY



2017

DURATION OF TRAINING

Total duration of the training is 5 years, divided into following two phases:

- Intermediate Module(IMM) training in Medicine & Allied for first two years, after which the trainee is eligible to appear in the IMM Examination. For further details about the IMM refer to the booklet titled "Intermediate Module in Medicine" published separately by the College.
- Last three years consist of advanced training in nephrology

All training inclusive of rotations is to be completed one month before the date of theory examination for MD.

APPROVED TRAINING CENTERS

Training must be undertaken in units/departments/ institutions approved by the UNIVERSITY.

REGISTRATION AND SUPERVISION

All training must be supervised and undertaken on whole time basis. The trainees are required to register with the UNIVERSITY and submit the name of their supervisor(s) by the date indicated on the registration form. The supervisor will normally be a Fellow of the College. However, another supervisor may be accepted if no Fellow is available to offer appropriate supervision. Only that training will be accepted which is done under a UNIVERSITY approved supervisor. Normally, only one supervisor is nominated, and if the trainee spends significant periods working in an area where the supervisor has no personal involvement, the supervisor must certify that suitable supervision is being provided. The

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nomination of more than one supervisor is needed only if the trainee divides the year between two or more unrelated units, departments or institutions. The trainees are not allowed to work simultaneously in any other department/institutions for financial benefit and /or for another academic qualification.

COMPONENTS OF TRAINING

Mandatory workshops:

All mandatory workshops should have been attended during the first two years of training. The trainee will be required to take any other workshop as may be introduced by the UNIVERSITY.

RESEARCH (DISSERTATION / TWO PAPERS)

One of the training requirements for fellowship trainees is a dissertation or two research papers on a topic related to the field of specialization. Synopsis of the dissertation or research papers must be approved from the Research & Evaluation Unit (REU) of RMU before starting the research work. The dissertation or research paper must be submitted for approval to the REU six months prior to the examination for which the trainee intends to sit in for.

ROTATIONS

A certificate testifying the candidate's attendance is obligatory for admittance to the final examination and an entry in the e-logbook must also appear to this effect. The supervisor should arrange for the sub-specialty training according to the facilities available. Where sub-specialties are not available, the head of the department of Nephrology should certify that candidates have handled sufficient cases of these sub specialties.

Mandatory Rotations:

2nd year:

- Renal Imaging including isotopic studies 1 month
- Renal Critical care 2 months

3rd year:

Renal Transplant 2 months

Optional Rotations:

2nd year:

- Renal Transplant 1 month
- Urodynamics / urology 1 month
- Paediatric nephrology 1 month

ROLES AND RESPONSIBILITIES

Training held under the aegis of UNIVERSITY is compulsorily supervised. A supervisor is a RMU or a specialist with relevant postgraduate qualifications recognized by RMU.

Supervision of a trainee is a multifaceted job. Arbitrarily the task is divided into the following components for the sake of convenience. This division is by no means exhaustive or rigid. It is merely meant to give semblance to this abstract and versatile role.

EXPERT TRAINER

- This is the most fundamental role of the supervisors. They have to not only ensure and monitor adequate training but also provide continuous helpful feedback (formative) regarding the progress of the training.
- This would entail observing the trainee's performance and rapport with all the people within his work environment.
- He/she should teach the trainee and help him/her overcome the hurdles during the learning process.
- It is the job of the supervisor to make the trainee develop the ability to interpret findings in his patients and act suitably in response.
- The supervisor must be adept at providing guidance in writing dissertation / research articles (which are essential components of training).
- Every supervisor is expected to participate actively in Supervisors' workshops, conducted regularly by RMU, and do his/her best to implement the newly acquired information/ skills in the training. It is a basic duty to keep abreast of the innovations in their field of expertise and ensure that this information percolates to trainees of all

years under them.

RELIABLE LIAISON

- The supervisor must maintain regular contact with the College regarding training and the conduct of various mandatory workshops and courses.
- It is expected that the supervisor will establish direct contact with relevant quarters of RMU if any problem arises during the training process, including the suitability of trainee.
- They must be able to coordinate with the administration of their institutions/ organizations in order to ensure that their trainees do not have administrative problems hampering their training.

PROFICIENT ADMINISTRATOR

- He/she must ensure that the trainee's make regular entries in the logbook and that the entries are validated promptly.
- They must provide feedback reports to the College at the end of each quarter or training period. These reports are used to evaluate a trainee's performance and should indicate if training has been followed satisfactorily. The report must also contain positive and negative aspects of the trainee's performance and any extra academic endeavors made by them. Prolonged absences must also be mentioned in sufficient detail. It is essential that each report be discussed and signed by both the trainer and the trainee before it is sent to the College.
- The supervisor might be required to submit confidential reports on trainee's progress to the College.
- The supervisor should notify the College of any change in the proposed approved training program.
- In case the supervisor plans to be away for more than two months, he / she must arrange satisfactory alternate supervision during the period.

ROLES AND RESPONSIBILITIES

Given the provision of adequate resources by the institution, Trainees should:

- Accept responsibility for his own learning and ensure that it is in accord with the relevant requirements.
- Investigate sources of information about the program and potential Supervisor and play an informed role in the selection and appointment of the Supervisor.
- Seek reasonable infrastructure support from their institution and Supervisor, and use this support effectively;
- Ensure that they undertake training diligently.
- Work with their supervisors in writing the synopsis/ research proposal and submit the synopsis/research proposal within six months of registration with the R&RC.
- Accept responsibility for the dissertation, and plan and execute the research within the time limits defied.
- Be responsible for arranging regular meetings with the supervisor to discuss any hindrances to progress and document progress etc. If the supervisor is not able/willing to meet with the student on a regular basis, the student must notify the College.
- Provide the supervisor with word-processed dated synopsis and dissertation drafts that have been checked for spelling, grammar and typographical errors, prior to submission.
- Prior to submission of dissertation, the student should ensure that the supervisor has all the raw data relevant to the thesis.

- Submit the completed Dissertation to R&RC or evidence of publication/acceptance for publication of two research papers in RMU approved journal (s)six monthsbefore the completion of (last year of) training. The trainee should be the first or second author of both papers and the synopsis of both papers must have a prior approval of R&RC;
- Complete all requirements for sitting an examination
- Provide feedback regarding the training post to the College on the prescribed confidential form 11

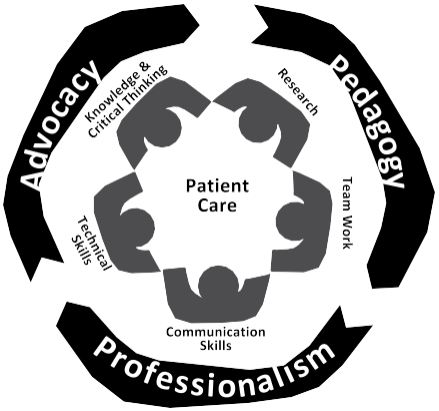
TRAINING PROGRAMME

AIM

The aim of the UNIVERSITY Programme in Nephrology is to produce specialists in the field who have attained the required competencies. By the end of the residency programme, the graduate will be able to:

- Take appropriate histories
- Demonstrate proficiency in the requisite physical examinations
- Justify the ordering and interpretation of tests and investigations
- Appropriately diagnose and rule in and rule out contending conditions
- Manage the problem in a cost effective manner
- Apply the requisite knowledge and skills to think critically and solve problems
- Be an effective team player, leading the team if necessary
- Communicate effectively with:
    - Patients and their attendants with empathy and compassion, in interviewing, counseling, breaking bad news, behavioural modification and shared decision making, recognizing the impact of the condition on the patients and their families
    - Seniors, peers, juniors, learners and other health professionals;
- Demonstrate risk analysis and emphasis on prevention
- Ensure patient safety
- Manage emergencies related to the specialty
- Present well in clinics, rounds and conferences
- Document concise and accurate histories, prescriptions, progress notes, discharge summaries and referrals
- Keep up to date and practice evidence based medicine
- Demonstrate putting patients first
- Demonstrate honesty, integrity and timeliness (punctuality and task completion).

The competencies outlined above have been reflected in the Competency model of the RMU as depicted below:



LEARNING OUTCOMES RELATING TO COGNITION

The learning outcomes will all be at the application level since that is the gold standard. Therefore, the candidate will be able to:

- Relate how body function gets altered in diseased states
- Request and justify investigations and plan management for medical disorders
- Assess new medical knowledge and apply it to their setting
- Apply quality assurance procedures in their daily work.

SKILLS

WRITTEN COMMUNICATION SKILLS

The trainee will be able to:

- Correctly write updated medical records, which are clear, concise and accurate.
- Write clear management plans, discharge summaries and competent letters for outpatients after referral from a general practitioner.
- Demonstrate competence in academic writing.

VERBAL COMMUNICATION SKILLS

The trainee will be able to:

- Establish professional relationships with patients and their relatives or caregivers in order to obtain a history, conduct a physical examination and provide appropriate management.
- Demonstrate usage of appropriate language in seminars, bedside sessions, outpatients and other work situations.
- Demonstrate the ability to communicate clearly, considerately and sensitively with patients, relatives, other health professionals and the public.
- Demonstrate competence in presentation skills

EXAMINATION SKILLS

The candidates will be able to:

- Perform an accurate physical & mental state examination in complex medical problems often involving multiple systems.
- Interpret physical signs after physical examination so as to formulate further management plans.

PATIENT MANAGEMENT SKILLS

The trainee will be able to:

- Interpret and integrate the history and examinations findings and arrive at an appropriate differential diagnosis and final diagnosis.
- Demonstrate competence in problem identification, analysis and management of the problem at hand by the use of appropriate resources, interpretation of lab results and other investigations.
- Prioritize different problems within a time frame

SKILLS IN RESEARCH

The trainee will be able to:

- Use evidence based medicine and evidence based guidelines
- Conduct Research individually by using appropriate research methodology and statistical methods.
- Correctly guide others in conducting research by advising about study designs, research methodology and statistical methods that are applicable.
- Interpret and use results of various research articles.

ATTITUDES

TOWARDS PATIENTS

The trainee will be able to:

- Establish a positive relationship with all patients in order to ease illness and suffering.
- Facilitate the transfer of information important to the management and prevention of disease.
- Demonstrate awareness of bio-psycho-social factors in the assessment and management of a patient.
- Demonstrate sensitivity in performing internal examination. It is important to explain to the patient why an intimate examination is necessary and what the examination will involve. The patient's permission must be obtained and, where possible, the patient should be invited to bring a relative or friend. The patient should have privacy to dress and undress. The discussion should be kept relevant and unnecessary personal comments avoided. Questions and feedback should be encouraged.
- Consistently show consideration of the interests of the patient and the community as paramount with these interests never subservient to one's own personal or professional interest.

TOWARDS SELF DEVELOPMENT

The trainee will be able to:

- Demonstrate, consistently, respect for every human being irrespective of ethnic background, culture, socioeconomic status and religion
- Deal with patients in a non-discriminatory and prejudice-free manner
- Deal with patients with honesty and compassion
- Demonstrate flexibility and willingness to adjust appropriately to changing circumstances
- Foster the habit and principle of self-education and reflection in order to constantly update and refresh knowledge and skills and as a commitment to continuing education.
- Recognize stress in self and others
- Deal with stress and support medical colleagues and allied health workers.
- Handle complaints including self-criticism or criticism by colleagues or patients
- Understand the importance of obtaining and valuing a second opinion.

TOWARDS SOCIETY

The trainee will be able to:

- Understand the social and governmental aspects of health care provision
- Offer professional services while keeping the cost effectiveness of individual forms of care in mind.
- Apply an understanding of hospital and community-based resources available for patients and care givers in rural areas.
- Demonstrate an understanding of health service management and health economics in rural areas.
- Understand the use of 'telemedicine' in practicing health.

OBJECTIVES

At the end of the training for MD in Nephrology a candidate shall be able to:

1. **Initially assess the patients seeking advice for their problems by:**
    - obtaining pertinent history.
    - performing appropriate physical examinations.
    - formulating a working diagnosis.
    - deciding whether the patient requires:
        - ambulatory care or hospitalization.
        - referral to other health professionals.
2. **Manage patients requiring treatment by:**
    - planning an enquiry strategy i.e. order appropriate investigations and interpret the results.
    - decide and implement suitable treatment.
    - maintain follow up of patients at required intervals.
    - maintain records of patients.
3. **Undertake research and publish findings.**
4. **Acquire new information; assess its utility and make appropriate applications.**
5. **Recognize the role of teamwork and function as an effective member/leader of the team.**
6. **Advise the community on matters related to promoting health and preventing disease.**
7. **Train paraprofessionals and other junior members of the team.**
8. **Implement Patient Safety by comprehending:**
    - concept of patient safety and its role in minimizing the incidence and impact of adverse events, and maximizing recovery from them.
    - human factors and its relationship to patient safety.
    - how systems thinking can improve health care and minimize patient adverse events.
    - importance of teamwork in health care.
    - nature of error and how healthcare providers can learn from errors to improve patient safety.
    - how to apply risk-management principles by identifying, assessing and reporting hazards and potential risks in the workplace.

- basic principles, methods and tools for improving the quality of health care.
- ways in which patients and carers can be involved as partners in health care, both in preventing harm and learning from an adverse event.
- devastating effects of inadequate infection prevention & control in health-care settings.
- main causes of adverse events in surgical and invasive procedural care and how the use of guidelines, verification processes and teamwork can facilitate the correct patient receiving the correct treatment at the appropriate time and place.
- concept of medication safety and to encourage team members to continue to learn and practice ways to improve the safety of medication use. For details see: apps.who.int/iris/bitstream/10665/44641/1/9789241501958_eng.pdf

OBJECTIVES TO BE ACHIEVED DURING ROTATIONS

RADIOLOGY

AT THE END OF ROTATION TRAINEE SHOULD BE ABLE TO:

	LEVEL	CASES
INTERPRET CT KUB WITH AND WITHOUT CONTRAST	3	10
INTERPRET X-RAY/CT / MRI RELATED TO RENAL PROBLEMS INCLUDING;		
• X-RAY - CHEST, SKELETAL SYSTEM & ABDOMEN	3	10 EACH
• CT SCAN - CHEST, SKELETAL SYSTEM, ABDOMEN AND BRAIN	3	5 EACH
• MRI - SKELETAL SYSTEM, ABDOMEN AND BRAIN	3	4 EACH
PERFORM ULTRASOUND KUB AND IDENTIFY NORMAL AND GROSS ABNORMALITIES OF URINARY SYSTEM	4	20
INTERPRET NORMAL AND ABNORMAL RENAL ISOTOPIC STUDIES	3	10
INTERPRET VASCULAR ACCESS RELATED RADIOLOGY	3	5
IDENTIFY STEPS OF INSERTION OF TUNNELED CATHETER	1	2

*** NOTE:** The supervisor will ensure that the trainee will see at least 10 cases of nuclear isotope studies related to renal diseases.

Critical care

At the end of rotation trainee should be able to

	LEVEL	CASES
INTERPRET ABGs OF MIXED ACID BASE DISORDER	4	50
MANAGE MODS (MULTIPLE ORGAN DYSFUNCTION SYNDROME)	2	3
UNDERSTAND PRINCIPLES OF ARRT (ACUTE RENAL REPLACEMENT THERAPY) INCLUDING PERITONEAL DIALYSIS, CRRT (CONTINOUS RENAL REPLACEMENT THERAPY), PLASMAPHERESIS	1	3 (EACH)
MANAGEMENT OF POISONING INVOLVING RENAL SYSTEM OR NEED FOR RRT	2	3
UNDERSTAND BASIC PRINCIPLES OF VENTILATORY SUPPORT CRITICALLY ILL AKI/CKD PATIENTS	2	10

Transplant

By the end of rotation trainee should have participated in the pre & post operative management of at least five transplant cases to:

Develop a cognitive base to understand:

- the indications for renal transplantation, criteria for selection of donors and recipients, the risks and benefits of marginal donors
- tissue typing and cross matching
- cellular and antibody mediated rejection; clinical and laboratory diagnosis, use of renal biopsy and immunohistochemistry
- causes, evaluation and treatment of delayed graft function
- causes, evaluation and treatment of elevated creatinine in post transplant patients.
- infectious complications of transplantation their prophylaxis, diagnosis and management
- mechanism of action and use of common immunosuppressive drugs.
- long-term follow-up of transplant patients regarding:
    - management of hypertension
    - bone disease
    - dyslipidemias

    - screening for malignancy
    - infectious diseases.
- long–term follow-up of renal function regarding:
    - chronic allograft nephropathy
    - calcineurin effects
    - recurrent and de novo diseases
- medical management of rejection: use of plasmapheresis, immune modulating treatment
- management of living donor and transplants with a positive cross match.
- epidemiology, screening strategies and treatment of post transplant malignancy including PTLD.
- diagnosis and management of BK virus nephropathy.

Develop clinical skills to:

- assess living donors
- examine recipients and assess whether they are fit for transplantation
- carry out the pre-transplant work up independently
- evaluate kidney donors and recipients preoperatively
- manage postoperatively transplant recipients regarding:design of immunosuppressive regimen, fluid management, use of radiological studies, recognition of technical complications and delayed graft function.

SYLLABUS

- **An understanding of normal renal biology including:**
    - Renal anatomy and histology
    - Renal physiology, including of the elderly
    - Fluid, electrolyte and acid-base regulation
    - Mineral metabolism
    - Blood pressure regulation - normal and abnormal
    - Renal drug metabolism and pharmacokinetics, including drug effects on renal function and including in the elderly
    - Renal function in pregnancy
    - Basic immunologic principles, including mechanisms of disease and diagnostic laboratory testing relevant to renal diseases
    - Medical genetics
- **Prevention, evaluation, and management of general nephrological disorders including:**
    - Acute Kidney Injury.
    - Chronic Kidney Disease/End-stage renal disease.
        - Renal Anaemia.
        - Cardiovascular Disease in Patients with Kidney Diseases.
        - Fluid, electrolyte and acid-base disorders.
        - Disorders of mineral metabolism including nephrolithiasis and renal osteodystrophy.
    - Urinary tract infections.
    - Hypertensive disorders.
    - Renal disorders related to pregnancy.
    - Primary and secondary glomerulopathies. Diabetic nephropathy.
    - Tubulointerstitial nephritis including papillary necrosis.
    - Genetic and developmental renal diseases including renal cystic diseases, hereditary glomerulopathies and interstitial nephritis, phakomatoses, congenital malformations of the urinary tract, maternally inherited mitochondrial diseases, and renal cell carcinoma.
    - Systemic diseases with renal involvement.

- Renovascular diseases including atheroembolic disease.
- Disorders of drug metabolism and renal drug toxicity.
- Renal disorders associated with the elderly including altered drug metabolism.
- Renal cystic diseases without a recognized genetic basis.
- Nutritional management of nephrology disorders.

- **Pre- and post-renal transplant care including:**
  - Pre-transplant selection, evaluation and preparation of transplant recipients and donors.
  - Immediate postoperative management of transplant recipients.
  - Immunologic principals of types and mechanisms of renal allograft rejection.
  - Clinical diagnosis of all forms of rejection including laboratory, histopathologic and imaging techniques.
  - Medical management of rejection: use of plasmapheresis, immune modulating treatment
  - Causes, evaluation and treatment of delayed graft function
  - Causes, evaluation and treatment of elevated creatinine at any time post transplantation.
  - Infectious complications of transplantation; prophylaxis, diagnosis and management
  - Mechanism of and use of common immunosuppressive drugs and their toxicity
  - Long-term follow-up of transplant patients: management of hypertension, bone disease, dyslipidemias, screening for malignancy, infectious diseases
  - Long -term follow-up of renal function: chronic allograft nephropathy, calcineurin effects, recurrent and de novo diseases
  - Principles of tissue typing and management of living donor transplants with a positive crossmatch
  - Epidemiology, screening strategies and treatment of post transplant malignancy including PTLD
  - Diagnosis and management of BK nephropathy

- Understanding major causes of post-transplant morbidity and mortality.
- Fluid, electrolyte, mineral and acid-base regulation in post-transplant patients.
- Long-term follow-up of transplant recipients in the ambulatory setting including economic and psychosocial issues.
- Principles of organ harvesting, preservation and sharing.
- Renal disease in liver, heart and bone marrow transplant recipients.

- **Management of Advanced Kidney disease:**
  - Active Supportive (Non-Dialysis) Care
  - Dialysis in Patients with Acute Kidney Injury/Renal Replacement Therapies including acute dialysis and plasma exchange
  - Renal Replacement Therapies
    - Dialysis Therapies:- General Principles and Management and complications of peritoneal and haemodialysis
  - An understanding of
    - The principles and practice of peritoneal dialysis including the establishment of peritoneal access, the principles of dialysis catheters, and how to choose appropriate catheters.
    - The technology of peritoneal dialysis including the use of automated peritoneal dialysis devices (cyclers).
    - Writing a peritoneal dialysis prescription and assessment of peritoneal dialysis adequacy.
    - The complications of peritoneal dialysis and their management which include peritonitis, exit site and tunnel infections, hernias, pleural effusions and other less common complications.
    - Assessment of peritoneal dialysis efficiency using peritoneal equilibration testing and the principles of peritoneal biopsy.

- The principles of dialysis access (acute and long-term vascular and peritoneal), including indications, techniques, and complications including thrombosis and infections.
- The kinetic principles of hemodialysis
- Urea kinetics and protein catabolic rate.
- Dialysis modes and their relation to metabolism.
- Dialysis water treatment, delivery systems, and reuse of artificial kidneys.
- The artificial membranes used in hemodialysis and biocompatibility.
- The principle of adequacy of haemodialysis and how to asses it.
- The special nutritional requirements of the haemodialysis and peritoneal dialysis patient
- The psychosocial, economic and ethical issues of dialysis.
- End-of-life care and pain management in the care of patients undergoing chronic dialysis.
- The pharmacology of commonly used medications and their kinetic and dosage alteration with peritoneal and haemodialysis.
- An understanding of end-of-life care and pain management in the care of patients undergoing chronic dialysis..

- **Knowledge base for the following procedures:**
  - Urinalysis
  - Percutaneous biopsy of native and transplanted kidneys
  - Placement of temporary vascular access for haemodialysis and related procedures including use of vascular ultrasound guidance
  - Acute and chronic haemodialysis
  - Placement of peritoneal catheters

- Therapeutic plasmapheresis
- Angioplasty and declotting of vascular access

- **Special areas in the management of patients of renal diseases including:**
  - Psychosocial and economic issues confronting patients with renal disease
  - Ethical issues relevant to care of patients with renal disease
  - Optimizing the relationship of the nephrologist with other health care providers
  - Optimizing mechanisms towards achieving life-long learning as a nephrologist
  - Quality assessment and improvement, patient safety, risk management, preventive medicine, and physician impairment as it relates to the nephrologist.

PROCEDURAL COMPETENCIES

The procedural competencies, a specialist must have, are varied and complex. A list of core procedural competencies is given below. The level of competencies to be achieved each year is specified according to the given key:

Key to competency levels in clinical skills:

1. Observer status
2. Assistant status
3. Performed under supervision
4. Performed independently

A candidate is expected to attain the laid down level of competence for the following procedures by the end of each year as given below:

COMPETENCIES	FIRST YEAR							
	3 Months		6 Months		9 Months		12 Months	
	Level	Cases	Level	Cases	Level	Cases	Level	Cases
Native and/or transplant renal biopsy	1	2	1	3	2	2	2	3
Temporary dual lumen catheter insertion	1	2	1	3	2	2	2	3
Acute peritoneal dialysis catheter insertion	1	2	1	3	2	2	2	3
Haemodialysis: Set Up/Initiate Dialysis Treatment	1	2	1	3	2	2	2	3
Assess Patient and Equipment During Dialysis	1	2	1	3	2	2	2	3
Management of Patient with complications	1	2	1	3	2	2	3	
Machine Alarm Troubleshooting Procedures	1	2	1	3	2	2	2	3
Discontinue Dialysis	1	2	1	3	2	2	2	3

COMPETENCIES	SECOND YEAR							
	15 Months		18 Months		21 Months		24 Months	
	Level	Cases	Level	Cases	Level	Cases	Level	Cases
PROCEDURES								
Native and/or transplant renal biopsy	3	2	3	3	3	2	3	3
Temporary dual lumen catheter insertion	4	2	4	3	4	2	4	3
Acute peritoneal dialysis catheter insertion	3	2	3	3	3	2	3	3
Haemodialysis: Set Up/Initiate Dialysis Treatment	3	2	3	3	3	2	4	3
Assess Patient and Equipment During Dialysis	3	2	3	3	3	2	4	3
Management of Patient with complications	3	2	3	3	3	2	4	
Machine Alarm Troubleshooting Procedures	3	2	3	3	3	2	4	3
Discontinue Dialysis	3	2	3	3	3	2	4	3

COMPETENCIES	THIRD YEAR							
	27 Months		30 Months		33 Months		36 Months	
	Level	Cases	Level	Cases	Level	Cases	Level	Cases
Native and/or transplant renal biopsy	4	2	4	3	4	2	4	3
Temporary dual lumen catheter insertion	4	2	4	3	4	2	4	3
Acute peritoneal dialysis catheter insertion	4	2	4	3	4	2	4	3
Haemodialysis: Set Up/Initiate Dialysis Treatment	4	2	4	3	4	2	4	3
Assess Patient and Equipment During Dialysis	4	2	4	3	4	2	4	3
Management of Patient with complications	4	2	4	3	4	2	4	
Machine Alarm Troubleshooting Procedures	4	2	4	3	4	2	4	3
Discontinue Dialysis	4	2	4	3	4	2	4	3

ASSESSMENT

FORMATIVE ASSESSMENT

The trainees in near future will be required to undergo Workplace Based Assessment and make the entries in e-logbook to document attainment of competence.

- Mini Clinical Evaluation Exercise (Mini-CEX) is to be carried out once every quarter starting from first year of nephrology training.
- Direct Observation of Procedural Skills (DOPS) is to be carried out once every quarter for following competencies:
  - Native and/or transplant renal biopsy
  - Temporary dual lumen catheter insertion
  - Acute peritoneal dialysis catheter insertion
  - Haemodialysis: set up/initiation of dialysis treatment
  - Assessment of patient and equipment during dialysis
  - Management of patient with complications undergoing dialysis
  - Machine alarm troubleshooting procedures
  - Discontinuation of dialysis

SUMMATIVE ASSESSMENT

ELIGIBILITY REQUIREMENTS FOR FCPS PART-II EXAMINATION

The eligibility requirements for candidates appearing in MD are:

- Passed JCAT in Medicine and allied, or been granted official exemption.
- Undertaken two years training in Intermediate Module in Medicine & Allied in an institution recognized by UNIVERSITY.
- Undertaken three years of the specified training in Nephrology, under a supervisor and in an institution approved by the UNIVERSITY.
- Provide certificate of having passed the Intermediate Module Examination in Medicine & Allied.

- Provide a certificate of approval of dissertation or acceptance of two research papers which must accompany the application form.
- Provide a certificate of attendance of mandatory work-shops.

EXAMINATION SCHEDULE

- The MD Part-II theory examination will be held twice a year.
- English shall be the medium of examination for the theory/ practical/ clinical and viva examinations.
- The RMU will notify of any change in the dates and format of the examination.
- A competent authority appointed by the UNIVERSITY has the power to debar any candidate from any examination if it is satisfied that such a candidate is not a fit person to take the UNIVERSITY examination because of using unfair means in the examination, misconduct or other disciplinary reasons.
- Each successful candidate in the Fellowship examination shall be entitled to the award of a College Diploma after being elected by the College Council and payment of registration fees and other dues.

EXAMINATION FEES

- Applications along with the prescribed examination fees and required documents must be submitted by the last date notified for this purpose before each examination.
- The details of examination fee and fees for change of centre, subject, etc. shall be notified before each examination.
- Fees deposited for a particular examination shall not be carried over to the next examination in case of withdrawal/ absence/exclusion.

REFUND OF FEES

- If, after submitting an application for examination, a candidate decides not to appear, a written request for a refund must be submitted before the last date for withdrawal with the receipt of applications. In such cases a refund is admissible to the extent of 75% of fees only. No request for refund will be accepted after the closing date for receipt of applications.

Fee deposited for a particular examination shall not be carried over to the next examination in case of withdrawal/ absence/ exclusion.

If an application is rejected by the UNIVERSITY, 75% of the examination fee will be refunded, the remaining 25% being retained as a processing charge. No refund will be made for fees paid for any other reason, e.g. late fee, change of centre/subject fee, etc.

The College in it's endeavor to improve and upgrade it's examination system and make it more fair and candidate friendly will be introducing TOACS (Task Oriented Assessment of Clinical Skills).

PART I THEORY EXAMINATION

Two papers each of 3 hours duration:

Paper I	10 Short Answer Question (SAQs) 3hours
Paper II	100 Multiple Choice Questions (MCQs) 3hours

PART II CLINICAL EXAMINATION

The Clinical section comprises two components:

The Clinical examination consists of two components

- First component: TOACS
- Second component:
    - One long case
    - Four short cases

FORMAT OF TOACS

TOACS will comprise of 12 to 20 stations of 6 minutes each with a change over time of one minute for the candidate to move from one station to the other. The stations may have an examiner, a patient or both. Structured clinical tasks will be set at each station. There will be two types of stations: static and interactive. On static stations the candidate will be presented with patient data, a clinical problem or a research study and will be asked to give written responses about the questions asked. At the interactive stations the candidate will have to demonstrate a competency, for example, taking history, performing a clinical examination, counseling. It will also include one station on dissertation/research paper and other on e-log. One examiner will be present at each interactive station and will either rate the performance of the candidate or ask questions testing reasoning and problem solving skills. College is encouraging to have all stations to be interactive and expects that the static stations will soon be phased out. Candidates have to pass the theory examination to be eligible to take the TOACS examination.

FORMAT OF LONG CASE

Each candidate will be allotted one long case and allowed 30 minutes for history taking and clinical examination. Candidates should take a careful history from the patient (or relative) and after a thorough physical examination identify the problems which the patient presents with. During this period a pair of examiners will observe the candidate. In this section the candidates will be assessed on the following areas:

INTERVIEWING SKILLS

- Introduces oneself listens patiently and is polite with the patient.
- Is able to extract relevant information.

CLINICAL EXAMINATION SKILLS

- Takes informed consent
- Uses correct clinical methods systematically (including appropriate exposure and re-draping).

CASE PRESENTATION/DISCUSSION

- Presents skillfully
- Gives correct findings
- Gives logical interpretations of findings and discusses differential diagnosis.
- Enumerates and justifies relevant investigations.
- Outlines and justifies treatment plan (including rehabilitation).
- Discusses prevention and prognosis.
- Has knowledge of recent advances relevant to the case.
- During case discussion the candidate may ask the examiners for laboratory investigations which shall be provided, if available. Even if they are not available and are relevant, candidates will receive credit for the suggestion.

FORMAT OF SHORT CASES

Candidates will be examined in at least four short cases for a total of 40 minutes jointly by a pair of examiners. Candidates will be given a specific task to perform on patients, one case at a time. During this part of the examination, the candidate will be assessed in:

CLINICAL EXAMINATION SKILLS

- Takes informed consent.
- Uses correct clinical methods including appropriate exposure and re-draping.
- Examines systematically.

DISCUSSION

- Gives correct findings.
- Gives logical interpretations of findings.
- Justifies diagnosis.

As the time for this section is short, the answers given by the candidates should be precise, succinct and relevant to the patient under discussion.

Note: The candidate is required to fill a self-explanatory 'feedback proforma' at the end of the examination. This will help the College in making future examinations more candidate friendly.

THE COLLEGE RESERVES THE RIGHT TO ALTER/AMEND ANY RULES/REGULATIONS.

Any decision taken by the College on the interpretation of these regulations will be binding on the application