

1. Learning Outcomes:

- a) Acquisition of current, latest, scientific and evidence based knowledge necessary for attaining programme outcomes.
- b) Skill to undertake independent clinical practice thereby delivering the highest standard of Urologic care to the community.
- c) Correct attitude of responsibility, accountability and caring.
- d) Foundation of ethical values in the practice of Urology.
- e) Competency to communicate effectively with patients, peers, colleagues, and the community in the discharge of his/her clinical role
- f) Skill in academic and research aspects of Urology
- g) Skill to be an effective teacher and communicator in Urology.

2. Syllabus:

It will cover wide spectrum of the diseases of urogenital system & retroperitoneum. Apart from the clinical aspect of these subjects, candidate has to acquire indepth knowledge of the related basic subjects like applied; anatomy; embryology, physiology; biochemistry, pharmacology; pathology, microbiology, epidemiology, immunology etc.

- i. Anatomy and Embryology of GU tracts, adrenal & retroperitoneum.
- ii. Applied physiology and biochemistry pertaining to Urology, Nephrology, renal transplantation and renovascular hypertension.
- iii. Investigative urology & Genito-urinary radiology and imaging including nuclear medicine.
- iv. Male Infertility, Andrology and Urological endocrinology.
- v. Sexual dysfunction- investigations and management.
- vi. Perioperative care, management of urological complications and care of the critically ill patients.
- vii. Urodynamics and Neurology.
- viii. Genito-urinary trauma.
- ix. Urolithiasis-Medical, Biochemical & Surgical aspects
- x. Uro-oncology-Adult & Paediatric
- xi. Reconstructive Urology.
- xii. Paediatric Urology-congenital malformations and acquired diseases.
- xiii. Urinary tract infections and sexually transmitted diseases.
- xiv. Obstructive Uropathy.

- xv. Renal transplantation (including transplant immunology medical & surgical aspects).
- xvi. Renovascular Hypertension.
- xvii. Gynaecological urology.
- xviii. Newer developments in urology.
- xix. Operative Urology-open & endoscopic
- xx. Endourology
- xxi. Behavioural and social aspects of urology.
- xxii. Neonatal problems in Urology.
- xxiii. Electrocoagulation, lasers, fibre optics, instruments, catheters, endoscopes etc.
- xxiv. Retroperitoneal Diseases & Management.
- xxv. Medical aspects of the kidney diseases.
- xxvi. Laparoscopic Urologic Surgery.

Apart from above mentioned subjects, each candidate should have basic knowledge of the following:

- a) Biostatistics & Epidemiology.
- b) Computer Sciences.
- c) Experimental & Research methodology and Evidence Based Medicine
- d) Scientific presentation.
- e) Ethics in medicine.

3. Teaching Learning Methods

The resident has to participate in seminars, journal clubs, symposiums, operative chats and case discussions. Problem oriented training to be given in the form of case-discussions, ward rounds, inter-disciplinary meetings and departmental statistical meetings.

Research

Each candidate has to carry out one dissertation or studies for thesis, which should be acceptable for publication in an Indian Journal or any International Journal.

TRAINING IN OPERATIVE UROLOGY

Special attention will be paid to improve the operative skill of the M.Ch. trainee. He shall be trained to take independent operative decisions. In a time bound schedule an opportunity will be accorded to perform all the major open as well as endoscopic procedures

so as to let him develop mastery in the essential procedures. Candidate will be required to maintain a logbook of operative procedures with details of complications, if any, and their management. This will be reviewed every three months. Completed logbook is to be submitted before the practical examination and will be reviewed by the external examiners.

First Year

He will assist and perform the following procedures:

- (a) Endoscopic urological procedures: Urethrocystoscopy, DJ stent removal & insertion, optical internal urethrotomy, co-axial urethral dilation, cystolitholapaxy, cystolithotripsy, retrograde pyelography, ureterorenoscopy (URS) and bladder neck incision (BNI) etc.
- (b) Open urological procedures: Needle biopsy of the prostate, suprapubic cystostomy (both trocar & open SPC), orchidectomy, hydrocelectomy, circumcision, excision of urethral caruncle, meatoplasty, urethral lay-opening, cystolithotomy, ureterolithotomy, arterio-venous fistulas, and percutaneous nephrostomy (PCN) etc.
- (c) Investigative urology: Ultrasound KUB, transrectal ultrasound (TRUS), retrograde urethrogram (RGU), static & micturating cystogram (MCU), retrograde ureteropyelogram (RGP), antegrade contrast study of KUB, nephrostogram, Whitaker test, sinogram, pouchogram, vasoseminography and urodynamic study or cystometrogram (CMG), & electromyography (EMG).

Second Year

He will assist and perform the following procedures:

- a) Endoscopic urological procedures: Transurethral resection of bladder tumor (TURBT), transurethral resection of prostate (TURP), percutaneous nephrolithotomy (PCNL) for simple renal pelvic stone.
- b) Open urological procedures: Urethroplasty, perineal urethrostomy, partial & total penectomy, simple nephrectomy, orchidopexy, varicocelectomy, simple prostatectomy (retropubic/transvesical) and pyelolithotomy.

Third Year

He will assist and perform the following procedures:

- a) Endoscopic urological procedures: Transurethral resection of bladder tumor (TURBT), transurethral resection of prostate (TURP), percutaneous nephrolithotomy (PCNL) for complex (partial/complete stag horn) renal stone.

Open & laparoscopic urological procedures: Pyeloplasty, simple/anatrophic nephrolithotomy, Radical nephrectomy, nephroureterectomy, nephrectomy for pyonephrosis, transpubic urethroplasty, hypospadias repair, radical cystectomy with urinary diversion, augmentation cystoplasty, Boari's flap procedure, ureteroneocystostomy, ileal replacement of ureter, radical prostatectomy, vesicovaginal fistula (VVF) repair, ilioinguinal/retroperitoneal lymph node dissection, and all laparoscopic urologic surgery

4. Interdisciplinary Training:

Interdepartmental meetings like uroradiology, uronephrology, uroradiotherapy and uro pathology to provide an opportunity for open discussion on a common subject and to also provide an opportunity to learn views of the specialists on these subjects

5. Assessment Methods:

The department will hold 6-monthly in-house exams to see the progress of the student. Appearance in these examinations is mandatory. The final M.Ch. examination will be held at the end of 3-academic years and will be governed by Controller of Examination, King's George Medical University, Lucknow. The examinations will be organized on the basis of grading or marking system to evaluate and certify the candidate's level of knowledge, skill and competence at the end of the training. Obtaining a minimum of 50% marks will be mandatory for passing the whole examination. There will be 4 theory papers. One paper out of these will be on Basic Medical Sciences, and another paper on Recent Advances. However, the examiners have the freedom to ask any question from the syllabus or related topics in any paper. There will be a Practical/ Clinical Examination after the theory papers. Only those candidates who fulfill all the prerequisites (like paper publication, seminar presentations, etc) to appear in the examination will be allowed to appear in final M.Ch. examinations.