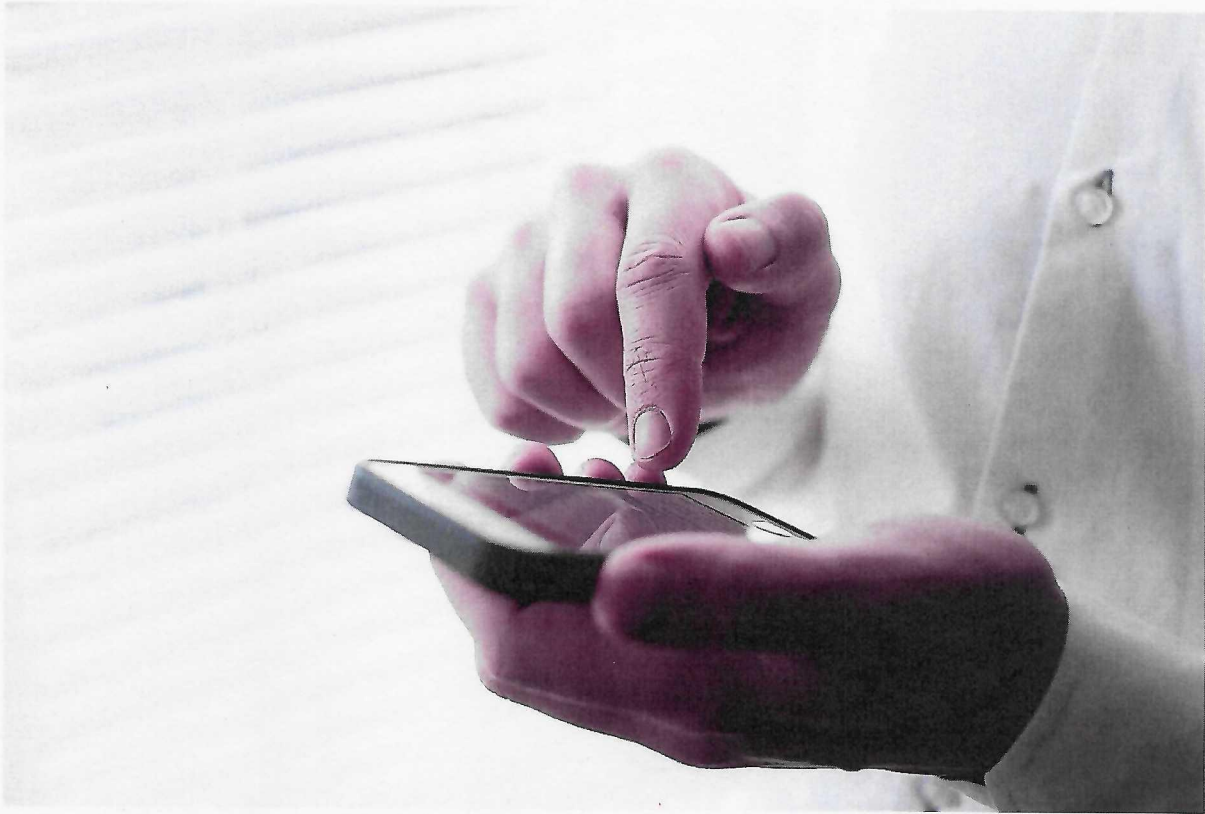


# Syllabus for MCh (Urology) Programme



**Guru Gobind Singh Indraprastha University**

A State University established by the Govt. of NCT of Delhi

**University School of Medicine and Allied Health Sciences**

# UROLOGY — M Ch

## PREAMBLE

The objective of M Ch (Urology) degree course is to produce highly competent medical manpower in Urology. The training ingredients should provide in-depth knowledge of the entire urology and relevant basic allied subjects. The course is expected to bring about a change in attitude towards better scientific approach with logic and analysis. More stress should be given to development of psychomotor skills. This should culminate in shaping of a shrewd clinician, confident surgeon and a knowledgeable teacher insured to basic research methodology. Basis of an ideal training programme will be a powerful urology service complete in every sense. Today, a urology-teaching department should include complete adult and pediatric urology services with fully developed subspecialties such as gynaecologic urology, urooncology, neuro-urology, andrology & sexual dysfunction, newer modalities of stone management like endourological techniques and extracorporeal shock wave lithotripsy and renal transplantation.

## ELIGIBILITY

M S in (General Surgery) from any recognized University or its equivalent qualifications recognized by the Medical Council of India.

## 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.

1. Anatomy and Embryology of GU tracts, adrenal & retroperitoneum.
2. Applied physiology and biochemistry pertaining to Urology, Nephrology, renal transplantation and renovascular hypertension.
3. Investigative urology & Genito-urinary radiology and imaging including nuclear medicine.
4. Male Infertility, Andrology and Urological endocrinology.
5. Sexual dysfunction- investigations and management.
6. Perioperative care, management of urological complications and care of the critically ill patients.
7. Urodynamics and Neurology.
8. Genito-urinary trauma.
9. Urolithiasis-Medical, Biochemical & Surgical aspects.
10. Uro-oncology-Adult & Paediatric
11. Reconstructive Urology.
12. Paediatric Urology-congenital malformations and acquired diseases.
13. Urinary tract infections and sexually transmitted diseases.
14. Obstructive Uropathy.
15. Renal transplantation (including transplant immunology medical & surgical aspects).
16. Renovascular Hypertension.
17. Gynaecological urology.
18. Newer developments in urology.
19. Operative Urology-open & endoscopic
20. Endourology
21. Behavioural and social aspects of urology.
22. Neonatal problems in Urology.
23. Electrocoagulation, lasers, fibre optics, instruments, catheters, endoscopes etc.
24. Retroperitoneal Diseases & Management.
25. Medical aspects of the kidney diseases.
26. Laparoscopic Urologic Surgery.

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

1. Biostatistics & Epidemiology.
2. Computer Sciences.
3. Experimental & Research methodology and Evidence Based Medicine.
4. Scientific presentation.
5. Cardio-pulmonary resuscitation.
6. Ethics in medicine.

## **TRAINING & TEACHING METHODOLOGY**

Besides didactic lectures (delivered by the faculty members, national & international visiting teachers, seminar symposium and journal clubs is to be organized. Problem oriented training to be given in the form of case discussions, ward rounds, inter-disciplinary meetings and department statistical meetings.

Every candidate is supposed to discuss a minimum of 2 clinico-pathological conferences. Practical training is to be imparted by full time residency training programme, where a trainee will be given full responsibility of the patients. He will be encouraged to improve and develop his decision-making ability under supervision of teachers.

### **Research**

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

1. Experimental Research Project – One

May be a) Animal lab work or

b) Associated with a Basic science Dept.

2. Clinical Research Project – At least one

## **TRAINING IN OPERATIVE UROLOGY**

Special attention to be paid to improve the operative skill of the candidate. 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. Candidates 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 Two Years**

Each Candidate should spent time for basic research specially related to animal laboratory or in collaboration with basic department i.e. biochemistry, biotechnology and pathology.

### **0-6 Months**

A candidate is supposed to master following procedures.

1. Cystourethroscopy, filiform, dilatation, retrograde pyelography. Interpretation of normal and abnormal

findings in relation to gross inflammations, obstructive and neoplastic changes in the lower urinary tract.

### **2. Minor Urological Procedures:**

Needle biopsy of the prostate, dilatation, trocar cystostomy, open cystostomy, orchiectomy, circumcision, meatotomy/Meatoplasty Arterio-venous shunts, Excision of urethral caruncle.

### **3. Uro-Radiological & Imaging Techniques:**

During this period a candidate should perform various uroradiological & Imaging procedures like Retrograde Urethrograms & Micturating, Cystourethrogram, cystogram, triplecystogram, nephrostogram, Whitaker test, sinogram, vasoseminography, antegrade pyelography, interpretation of Ultrasound & computerized tomography's scans and renography, renal angiography including Digital Substraction Angiography & venography.

### **06-09 Months**

A candidate should learn, perform and interpret urodynamic studies like Cystometrogram, electro

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myography & Urethral pressure profile & Video urodynamics. He will also perform and interpret various tests of sexual dysfunction such as dynamic cavernosography, papavarin test, Penil-Brachial Index, Nocturnal penile tumescence, regiscan, sacral latency period and other evoked potential studies.

### **9-23 Months**

He will assist and perform following procedures.

#### **(a) Endoscopic Surgery:**

Internal urethrotomy, Bladder neck Incision, Litholopaxy, cystolithotripsy, insertion & retrieval of bladder & ureteral stent, ureteral meatotomy, endoscopic suspension of bladder neck, Transurethral resection of bladder tumour.

#### **(b) Surgical Procedures:**

Simple nephrectomy, radical nephrectomy, cystolithotomy ureterolithotomy, pyelolithotomy, nephrostomy, pyeloplasty, various urethroplasties. Retropubic & a transvesical prostatectomy, surgery for undescended testis, partial and total amputation of penis, extended pyelolithotomy, VVF repair.

### **24-36 Months**

#### **Open Surgery**

Candidate should learn more complex surgical procedures like-transpubic urethroplasty, Hypospadias repair, Augmentation cystoplasty, Anatomic Nephrolithotomy under hypothermia, Boari's flap procedure, exstrophy closure, urinary diversion, ureteroneocystostomy, partial and total cystectomy, nephroureterectomy, penile prosthesis, Artificial urinary sphincter, Microsurgical Vasopididmostomy, and vasovasostomy, Undiversion, Renal transplant surgery and AV fistulae, retroperitoneal lymphadenectomy.

#### **Endoscopic Procedure**

Transurethral resection of prostate, percutaneous nephrolithotomy, Uretero-rensoscopy, Laser Surgery, other endourological procedures etc.

Efforts will be made that candidate is able to perform the following minimum stipulated number of procedures within three years of his training.

1. Endoscopies 100
2. Urethroplasties 5
3. Internal urethrotomy 20
4. Internal tract reconstructions 10
5. Repair of vesicovaginal fistulae 5
6. Pyeloplasties 5
7. Hypospadias repair 5
8. Transurethral Resection of Prostate 25
9. Uretero-Renoscopy 25
10. Percutaneous Nephrolithotomy & endopyelotomy 15
11. Donor Nephrectomies 5
12. Receptient Surgery 2

In addition to above mentioned procedures candidates will perform/assist minimum of two or five of each of following procedures depending upon the availability of the case material

- Nephrectomy for pyonephrosis-Surgical treatment of stress urinary incontinence
- Radical Cystoprostatectomy
- Radical Nephrectomy
- Ureteroneocystostomy
- Retroperitoneal lymphnode dissection-Ileal replacement
- Different type of Urinary diversion of orthotopic Neobaldder- Surgical management of Renal and Urethral trauma
- Transpubic urethroplasty
- Augmentation cystoplasty
- Nephroureteractomy – Undiversion
- Anatomic Nephrolithotomy

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- Laparoscopic Urologic Surgery
- Paediatric surgical procedures.

### ***In course Training***

Since it will be a full time residency cum M Ch course, a candidate will be responsible for the total care of the patients. He will be encouraged to take independent decisions. Every day there will be atleast one hour academic activity to a maximum of 10 hours/week in which all the faculty members & residents will participate. Case discusser will take place weekly with 3<sup>rd</sup> year resident as a moterator. Other academic activities like journal clubs, seminars, group discussions statistical meetings will be a fortnightly feature where deaths, complications, operations and consultations rendered will be discussed, consultation to the other department and in emergency will only be attended by the II<sup>nd</sup> & III<sup>rd</sup> year Senior Residents. Consultations given to other departments should also be discussed every morning with the respective consultants. In OPD a candidate will see the cases independently and will make all the pertinent notes. In problematic cases and a special referral, it is mandatory to show the case to the respective consultant. A candidate will not be allowed to provide independent consultations for first six months. A candidate will have to attend all postmortem examination done for the department. Interdepartmental meetings like uroradiology, uronephrology, uroradiotherapy & medical oncology, uro pathology, uroimaging will provide an opportunity for open discussion on a common subject and it will also provide an opportunity to learn views of the specialists on these subjects.

### ***Posting***

A candidate will be sent to Nephrology department for one month to learn medical aspect of Kidney diseases (except the renal transplantation). This posting should be after one to 1.1/2 year after joining the course. It is highly desirable to formulate a reasonable teaching curriculum for this posting and a candidate is to be evaluated by the Nephrologist at the end of the posting. An unsuccessful candidate has to repeat his posting.

### ***Exchange Programme***

In view of expanding field of urology, it is difficult to see, observe and have training in all newer subspecialties. Therefore, it is imperative to include exchange programme and resident should be rotated to two or three centers as per advise by the department committee. It is also suggested that department weak in some subspecialty should invite visiting professor from other centers to strengthen the course.

## **BOOKS AND JOURNALS**

The following books, journals and periodicals should be made available through Central/Departmental Library for perusal of residents so as to enable them to keep abreast with latest developments in the field

of Urology. It is also important that department should have an Internet facility which would enable residents to browse and use medline search.

### ***General Urology***

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1. Campbell urology-4 Volumes
2. Scientific Basis of Urology Mundy
3. Current Urological Therapy Kaufman
4. Obstructive Uroopathy O'Reilly
5. Urogenital trauma Macaminch
6. Text book of Urology Whitefield & Hendry
7. Adult & Paediatric Urology Gillenwater et al

### ***Paediatric Urology***

1. Pediatric Urology Kelalis & King – 2 vol.
2. Paediatric Urology Whitakar

### ***Uro-oncology***

1. Genito-urinary cancer management Backeman & Paulson
2. Genitourinary cancer Dekerrion et al

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3. Testicular cancer Javadopor  
Course and Curriculum of M Ch Urology 123

### ***Urodynamics***

1. Urodynamics principle & practise Mundy
2. Controversy in Neurourology Barret & wein
3. Neurourology & urodynamics Bradly & Hald

### ***Stone Diseases***

1. Stone disease Diagnosis & management by Rous
2. Endourology Clayman et.al
3. Endourology Carson
4. Extracorporeal shock wave Lithotripsy Gravernstein
5. Endourology Arthur Smith

### ***Infertility***

1. Male Infertility Amelar
2. Reproductive infertility Silber
3. Microsurgery in male and female

### ***Reconstructive and Female Urology***

1. Operative Gynaecology Te Linde
2. Female urology Blandy
3. Urinary Incontinence Dat. D.O. Donnel
4. Urogynaecology & urodynamics Obstargard & Bent
5. Reconstructive urologic surgery Libertino

### ***Renal Transplantation***

1. Kidney transplantation Peter morris
2. Renal transplantation Garovoy & Guttman
3. Introduction to Dialysis Logan
4. Vascular access in Haemodialysis Bell et Al

### ***Operative Urology***

1. Glen's operative urology
2. Urologic Endoscopy Bagley et al
3. Transurethral surgery Maurmayer

### ***Laparoscopy***

1. Laparoscopic urology Ralph V. Clayman, E.M. McDougall
2. Urologic Laparoscopy Sakti Das
3. Laparoscopic Urologic Surgery A.K. Hemal

Uroradiology- Emmett's -Witten-Clinical Uroradiology 3 volumes

### ***Journals***

- Indian J. Urology
- Journal of Urology
- British J. Urology
- Neurourology & Urodynamics
- Urology (Gold Journal)
- European Urology
- Urologia internationalis
- Scandinavian J. Urology & Nephrology
- Transplantation
- Transplant Proceedings
- Urological Research
- Urologic Radiology
- World Journal of Urology

### ***Periodicals***

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- Urological clinics of North America
- Seminars in Urology
- Controversy in Urology
- Recent Advances in Urology
- Year Book of Urology
- Modern Trend in Urology

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