

SYLLABUS

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

SYLLABUS

It will cover wide spectrum of the diseases of Urogenital system & Retroperitonium. Apart from the clinical aspect of these subjects, candidate has to acquire indepth knowledge of the related basic subjects like applied anatomy, 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-investigation 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 and 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

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

1. Biostatistics & Epidemiology
2. Computer Sciences
3. Experimental and 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 and international Visiting teachers,) seminar , symposium and journal clubs has to be organized. Problem oriented training to be given in the form of case discussions, ward rounds, inter-disciplinary meetings and department statistical meetings. 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 one dissertation or studies for thesis, which should be acceptable for publication in a Indian Journal or any International Journal.

TRAINING IN OPERATIVE UROLOGY

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 and Imaging procedures like Retrograde Urethrograms & Micturating, Cystourethrogram, cystogram, triplecystogram, nephrostogram, Whitaker test, Sonogram, vasoseminography, antegrade pyelography, interpretation of Ultrasound & Computerized tomography's scans and renography, renal angiography including Digital Substration Angiography & Venography.

06 – 09 Months

A candidate should learn, perform and interpret urodynamic studies like Cystometrogram, electromyography & Urethral pressure profile & Video urodynamics. He will also perform and interpret various tests of sexual dysfunction such as dynamic cavernosography, papaverine 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 and a transvesical prostatectomy, surgery for undescended testis, partial and total amputation of penis, extended pyelolithotomy, VVF repair.ESWL.

24 – 36 Months

Open Surgery

Candidate should learn more complex surgical procedures like transpubic urethroplasty. Hypospadias repair, Augmentation cystoplasty, Anatrophic Nephrolithotomy under hypothermia, Boari's flap procedure, exstrophy closure,

Urinary diversion, ureteroneocystostomy, partial and total cystectomy, nephroureterectomy, penile prosthesis, Artificial urinary sphincter, Microsurgical Vasoepididmostomy, and vasovasostomy, Undiversion, Renal transplant surgery and AV fistulae, retroperitoneal lymphadenectomy.

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 and residents will participate. Case discussers will take place weekly with 3rd year resident as a moderator.

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 IInd and IIIrd 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.

Exchange Programme

In view of expanding field of Urology, it is difficult to see, observe and have training in all newer subspecialities. Therefore, it is imperative to inculcate 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 subspeciality should invite visiting professor from other centers to strengthen the course.

PATTERN OF EXAMINATION

Internal Assesment:

Internal assessment marks has to be awarded to each candidate.

The total marks will be 100 which can be divided in the following pattern.

The marks can be awarded after conducting theory examination, clinical examination, Attendance and his activities in the ward, at the end of each year by the Department.

The Break up of the marks will be :

1st year - 25 marks

IInd year - 25 marks

IIIrd year - 50 marks

The minimum marks for the Pass is 50)

Theory – 4 papers, 100 Marks each Duration : Three hours each

Paper I	: Basic Sciences applied to Urology	100
Paper II	: General Adult & Paediatric Urology	100
Paper III	: Regional Systemic Urology	100
Paper IV	: Recent Advances in Urology	100

DISTRIBUTION OF MARKS

MCQ (Multiple Choice Questions) 20 questions (20x1)	20 Marks
One Essay	20 Marks
Two Essays 15 Marks each (15 x 2)	30 Marks
Six Short notes 5 Marks each (5 x 6)	30 Marks

TOTAL	100 Marks

Practical/Clinical and Oral Examination

	<u>No. of Cases</u>	<u>Duration</u>	<u>Marks</u>
LONG CASE	One	One Hour	100
SHORT CASE	Two	One Hour (30 mts Each)	100
WARD ROUNDS	Four (Minimum)	One Hour	100

		TOTAL	300
Oral / Viva Examination			100

		TOTAL	400

Note : Not more than 3 candidates will be examined in practical examination per day.

DISSERTATION : Approved / Not approved (No Marks)

MARKS QUALIFYING FOR A PASS

	Maximum Marks	Marks Qualifying for a pass (50%)
Theory	400	200
Clinical	300	150
Oral	100	50
Internal Assessment	100	50
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TOTAL	900	450
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