THE TAMILNADU Dr.M.G.R. MEDICAL UNIVERSITY,

No.69, Anna Salai, Guindy, Chennai – 600 032.

D.M/ M.Ch
SUPER SPECIALTY DEGREE COURSE

SYLLABUS AND CURRICULUM

2017-2018

M.Ch - UROLOGY

THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY, CHENNAI
Syllabus - M.Ch - UROLOGY

1. AIMS & OBJECTIVES

The syllabus for M.Ch., Urology course should comprehensively cover all the subjects in urology and renal transplantation during 3 years of study period. The student who undergoes the course should have an exposure to all the facets of urology and transplantation and develop adequate knowledge and skill to treat the patients competently after acquiring the degree.

2. THEORY SYLLABUS

It will cover a wide spectrum of the diseases of the urogenital system, retroperitoneum and renal transplantation

Apart from the clinical aspect of these subjects, the candidate has to acquire in depth knowledge of the related basic subjects like applied anatomy, physiology, biochemistry, pharmacology, pathology, microbiology, epidemiology, immunology etc.

1. Anatomy and embryology of GU tract, 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.

27. Robotic Urologic Surgery

Apart from the 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.

Bioethics

1. Respect human life and the dignity of every individual.
2. Refrain from supporting or committing crimes against humanity and condemn all such acts.
3. Treat the sick and injured with competence and compassion and without prejudice and apply the knowledge and skills when needed.
4. Protect the privacy and confidentiality of those for whom we care and breach that confidence only when keeping it would seriously threaten their health and safety or that of others.
5. Work freely with colleagues to discover,develop, and promote advances in medicine and public health that ameliorate suffering and contribute to human well being.
6. Educate the public about present and future threats to the health of humanity.
7. Advocate for social, economic, educational and political changes that ameliorate suffering and contribute to human well being.
8. Teach and mentor those who follow us, for they are the future of our caring profession.

Urological Jurisprudence

Comprehensive knowledge of urological jurisprudence including informed consent consumer protection act, organ transplantation act, medical record keeping laws relating male and female sterilization etc.

3.CLINICAL TRAINING

The Students will be clinically trained in parent department during the 3 years course.

0-6 Months

A candidate is required to perform the following procedures.

1. Cystourethroscopy, dilatation, retrograde uretero - pyelography, interpretation of normal and abnormal findings in relation to gross inflammation, obstructive and neoplastic changes in the lower urinary tract.

Interpretation of flow rate.

Optical urethrotomy, insertion and retrieval of ureteric stents.

2. Minor Urological Procedures :

Needle biopsy of the prostate, dilatation, trocar cystostomy, open cystostomy, orchiectomy, circumcision, meatotomy / meatoplasty.

3. Uro -Radiological & Imaging Techniques :

During this period a candidate should perform various uroradiological and Imaging procedures like Retrograde Urethrograms & Micturating cystourethrogram, cystogram, nephrostogram, sonogram, antegrade pyelography.
Learn interpretation of intra venous urogram, Ultrasound & Computerized tomography' scans and Isotope renogram and, renal angiography.

Attain familiarity with Shock wave Lithotripsy, perform and interpret urodynamic studies.

Various tests of sexual dysfunction such as pharmacologically induced penile erection and dynamic cavernosography.

6 – 23 Months

The candidate shall assist and perform following procedures.

(a)Endoscopic Surgery :

Bladder Neck Incision, Litholopaxy, cystolithotripsy, ureteral meatotomy, endoscopic suspension of bladder neck, Transurethral resection of Prostate and bladder tumour; ureteroscopy.

(b) Open surgical procedures :
Simple nephrectomy, radical nephrectomy, cystolithotomy, ureterolithotomy, Pyelolithotomy, extended pyelolithotomy, pyeloplasty, retropubic and transvesical prostatectomy,orchieopexy, partial and total amputation of penis, ureteric reimplantationVVF repair, A.V. Fistula (radial), harvesting Buccal mucosa, , Inguinal lymph node dissection, Blandy's urethroplasty. Bed preparation Renal Transplanation.

(c) All Urological Emergencies:
Percutaneous Nephrostomy, Cystoscopy and double DJ stenting, Trocar SPC diversion, open supra pubic cystostomy, Renal injuries, Ureteric injuries, bladder injuries, urethral injuries, penile injuries, torsion testis, fracture penis.

24 – 36 Months

a)Endoscopic surgery

PCNL

Laparoscopic procedures

Simple nephrectomy, radical nephrectomy, pyeloplasty, ureterolithotomy

b) Open Surgery

Perform
Subsitution urethroplasty, progressive perineal urethroplasty. Hypospadias repair, ,Boari flap,augmentation cystoplasty, Urinary diversion, ureteroneocystostomy, radical cystectomy, nephroureterectomy, brachial AV fistulae

Assist
Exstrophy closure,epispadias repair, posterior urethral valve fulgration,
Penile prosthesis, artificial urinary sphincter, Microsurgical vasoepididymostomy, and vasovasostomy.
Post chemotherapy retroperitoneal lymphadenectomy, nephron sparing surgery, radical prostatectomy, neobladder.
Renal transplantation.
Laproscopic pyeloplasty,laparoscopic partial nephrectomy.
RIRS.

During II year, students are encouraged to undergo special postings for learning new advanced techniques / Procedure / Skills in institutions of higher repute where the requisite facilities are available without affecting the duties of the parent department.

4.SKILL TRAINING REQUIREMENTS

ENDOSCOPIC SURGERY

1. Endoscopies	100
2. Optical Urethrotomy	30
3. TURP	20
4. TURBT	10
5. Ureteroscopy	30
6. PCNL	5
7. Laparoscopic Urological Procedures	10

OPEN SURGERY

1.	Nephrectomy	5
2.	Pyelolithotomy	5
3.	Pyeloplasty	5
4.	Radical Nephrectomy	5
5.	VVF Repair	4
6.	Radical Cystectomy	1
7.	Ileal conduit	3
8.	Partial Penectomy	5
9.	Total Penectomy	3
10.	Varicocele Ligation	5
11.	Ileo inguinal block dissection	2
12.	Substitution Urethroplasty	5
13.	Anastamotc Urethroplasty	2
14.	Meatoplasty	10
15.	Ureteric reimplantation	5
16.	Assisting Transplant Surgey	5
17.	Hypospadias repair	2

5. TEACHING METHODOLOGY

Besides didactic lectures (delivered by the faculty members, national and international visiting teachers,) seminar, symposium and journal clubs have 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.

Course Training

As it is a fulltime residency programme the candidate will be responsible for the total care of the patients. The candidate will be encouraged to improve and develop his decision-making ability under supervision to make independent decisions.

Every day, there will be at least one hour academic activity to a maximum of 10 hours/week in which all the faculty members and residents will participate. Case discussions will take place weekly with a final year resident as a moderator.

Other academic activities like journal clubs, seminars, group discussions statistical meetings , will be a fortnightly feature. Morbidity and mortality meetings where operations, complications, deaths will be carried

out monthly. Emergency will only be attended by the on call 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 have to attend all postmortem examinations 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.

Theory examination will be conducted once in six months from first year onwards.

Model practical examinations will be conducted at the end of the course.

6. RESEARCH WORK

Mandatory attendance of manuscript writing workshops.

1. Basic knowledge of clinical research methods, biostatistics, epidemiology and ethics.
2. Basic knowledge of cell biology, molecular biology, molecular genetics and immunology
3. Critical analysis of current literature, ability to formulate research questions, make a study design, calculate sample size, data management, ways to avoid bias etc.
4. Preparation of proposals for funding and evaluation by institutional review boards
5. Presentation of work in written/oral form at conferences
6. Publication of the work in peer review journals.

Students should compulsorily attend Research Methodology workshop conducted by the University within first six months of M.Ch Course.

It is desirable that the candidate should spend time for basic research in collaboration with a basic science department i.e.

biochemistry, and pathology.

7. LOG BOOK:

The Postgraduate student of a Postgraduate Degree Course in Super specialties shall maintain Log Book of the work carried out by them and the training programme undergone during the period of training including details of surgical operations assisted or done independently.

The Log Book shall be checked and assessed by the faculty members imparting the training.

Periodical evaluation of Log Book to be done by the Head of the Department as per 52nd SAB.

The Evaluation of the candidates in both theory and practical aspects will help the candidate in the improvement of his/her knowledge skills & attitude**.**

8. COMPETENCY ASSESSMENT:

Overall:

1. Communication / Commitment / Contribution / Compassion towards patients and Innovation	-	10 Marks
2. Implementation of Newly learnt techniques	-	10 Marks
3. Documentation of case sheets / discharge Summary / Review	-	10 Marks
4. Number of cases presented in Clinical Meetings/ Journal Clubs / Seminars / Papers presented in Conference.	-	10 Marks
5. No. Of Medals/ Certificates won in the conference / Quiz competitions and other academic meetings with Details.	-	10 Marks
	Total	50 Marks

Assessment	I	- February	-	First Year
	II	- August	-	First Year
	III	- February	-	Second Year
	IV	- August	-	Second Year
	V	- February	-	Third Year
	VI	- May	-	Third Year

VIVA INCLUDING COMPETENCY ASSESSMENT – 100 Marks (50+50)

9. THEORY EXAMINATION

Paper I - Basic Sciences Applied to Urology
Paper II - General Adult and Pediatric Urology
Paper III - Regional Systemic Urology
Paper IV - Recent Advances in Urology

Each paper will contain:

1. Essay questions (2) - 2 X 15 = 30 Marks

2. Short Notes (10) - 10 X 7 = 70 Marks

Total 100 Marks

10. CLINICAL EXAMINATION:

Particulars	**Time for candidate to examine the cases**	**Time for examiners to question the candidates**	**Maximum Marks**
Long Case	1 Case x 60 Minutes	60 Minutes	100
Short Case	2 Cases x 15 Minutes	30 Minutes	100
Ward Rounds	3 Patients x 10 Minutes	30 Minutes	100
OSCE	5 Stations x 3 Minutes	15 Minutes	50
Viva Voce		15 Minutes	100
Log Book			50
			500

As per Medical Council of India Post Graduate Medical Education Regulations 2000 (amended upto 10th August 2016)clause **13.9 A Postgraduate student of a Postgraduate degree Course in broad specialties/Super Specialties would be required to present one poster presentation to read one paper at a National/State conference and to present one Research paper which should be published/accepted for publication/sent for publication during the period of his Postgraduate studies so as to make him eligible to appear at the Postgraduate Degree Examination.**

Apart from Poster/Oral paper presentation in National/State conferences, the Research paper published by the candidate in the

University Journal of Medical Sciences will be considered as equivalent to the Research Paper as mentioned in 13.9. clause. Case Reports can also be published in University Journal of Medical Sciences but case reports will not be considered as Research Paper.

The candidate can also present Research Paper as per Clause 13.9 of Post Graduate Education Regulation 2000, and if the article sent for publication by the candidate as primary author or corresponding author which has not yet been published/accepted for publication, the candidate should submit a letter from the HOD, stating that the article sent for publication is of publishable merit and the proof of the Research Article submitted to the Journal for publication should be sent to the university forwarded through the HOD [as per 53rd SAB]

The student can submit articles for the University journal anytime from the time of registration till 6 months prior to theory examination.

11. OSCE:

1. Clinical Scenario - 2 stations
2. Operative Surgery - Video/Photograph
3. Clinical Photograph
4. Endoscopic Photograph
5. Pathology slide

12. REFERENCE BOOKS

General Urology

1. Campbell urology-3 Volumes Edited by Walgh, et al
2. Scientific Basis of Urology Mundy
3. Current Urological Therapy Kaufman
4. Obstructive Uropathy O'Reilly
5. Urogenital trauma Mcannich
7. Adult & Paediatric Urology Gillenwater et al

Paediatric Urology

Pediatric Urology Kelalis & King – 2 vol.

Urodynamics

Urodynamics principle & practice Mundy

Endourology

Endourology Arthur Smith

Renal Transplantation

Kidney transplantation Peter Morris

Operative Urology

1 Glen's operative urology
2 Atlas of urological surgery Hinman

****Note:** The editions are as applicable and the latest editions shall be the part of the syllabi.

13. JOURNALS

← Indian J. Urology
← European Urology
← Journal of Urology
← BJU international
← Urology (Gold Journal)
← Transplantation

Periodicals

1 Urological clinics of North America
2 Seminars in Urology

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