



# **College of Physicians and Surgeons of Mumbai**

## **Syllabus for CPS-PG-Course**

### **DURO-DIPLOMA IN UROLOGY**

**College of Physicians and Surgeons of Mumbai**

CPS House, Dr. E. Borges Marg, Parel, Mumbai – 400012.

## **DURO-DIPLOMA IN UROLOGY**

### **GOALS AND OBJECTIVES**

The goal of postgraduate medical education in Diploma in Urology shall be to produce a competent expert in the field of urology and a medical teacher in urology

He/She shall recognize the health needs of community and carry out professional obligations ethically and keeping in mind the objectives of national health policy

He/She shall have mastered most of the competencies pertaining to urology that are required in clinical practice and for tertiary level healthcare delivery system

He/She shall be aware of contemporary advances and development in the field of urology.

He/She shall have acquired a taste of scientific inquiry and is oriented to the principles of research methodology and epidemiology

He/She shall have acquired the basic skills in teaching to medical graduates and surgical post graduates

He/She should be competent enough to offer super specialties services in the area of urology to other sister specialties like gynaecology, oncology, nephrology, transplantation etc

### **COURSE DESCRIPTION**

#### **Eligibility :**

A candidate should possess MBBS degree/ equivalent degree as per provisions of Indian Medical Council Act.

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

#### **Duration :2 Years**

#### **PREAMBLE**

The objective of Diploma in Urology 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 paediatric urology services with fully developed sub specialties such as gynaecological urology, urooncology, neuro-urology, Andrology, paediatric urology, Urodynamics, & sexual dysfunction, newer modalities of stone management like endourological techniques and extracorporeal shock wave lithotripsy and renal transplantation. However it has to be kept in mind is urologist has to be perfect in Endo- urological techniques,

## **SYLLABUS**

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

Anatomy and Embryology of GU tracts, adrenal & retroperitoneum.

Applied physiology and biochemistry pertaining to Urology, Nephrology, renal transplantation and Reno vascularhypertension.

Investigativeurology&Genito-urinaryradiologyandimagingincludingnuclearmedicine.

Male Infertility, Andrology and Urologicalendocrinology.

Sexual dysfunction- investigations andmanagement.

Perioperative care, management of urological complications and care of the critically illpatients.

Urodynamics andNeurology.

Genito-urinarytrauma.

Urolithiasis-Medical, Biochemical & Surgicalaspects.

Uro-oncology-Adult &Paediatric

ReconstructiveUrology.

Paediatric Urology-congenital malformations and acquireddiseases.

Urinarytractinfectionsandsexuallytransmitteddiseases.

ObstructiveUropathy.

Renaltransplantation(includingtransplantimmunologymedical&surgicalaspects).

Reno vascularHypertension.

Gynaecologicalurology.

Newer developments inurology.

Operative Urology-open&endoscopic Endourology

Behavioral and social aspects ofurology.

Neonatal problems inUrology.

Electro coagulation, lasers, fiberoptics, instruments, catheters, endoscopesetc.

Retroperitoneal Diseases &Management.

Medical aspects of the kidneydiseases.

Laparoscopic UrologicSurgery.

Energy Sources InUrology

Roboticsurgery

Sutures inSurgery

MedicalInstrumentation

Nutrition inUrology

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

Biostatistics &Epidemiology.

ComputerSciences.

Experimental & Research methodology and Evidence BasedMedicine.

Scientific presentation.

Cardio-pulmonaryresuscitation.

Ethics inmedicine.

#### TRAINING & TEACHING METHODOLOGY

Components of post graduate curriculum 1 Theoretical knowledge

Practical and clinicalskills

Thesisskills

Attitudes and communicationskills

Training in researchmethodology

Besides didactic lectures (delivered by the faculty members, national & international visiting teachers, seminar symposium and journal clubs is to be be organized. Problem oriented training to be given in the form of case discussions, ward rounds, interdisciplinary meetings and department statistical meetings. *If possible problem based learning approach may be applies*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/She will be encouraged to improve and develop his decision-making ability under supervision of teachers. Weekly clinical meetings with related department like pathology, radiology, microbiology, nephrology etc should be arranged

#### *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.

Clinical Research Project – At least one

Clinical skills and competencies in field of Urology

#### TRAINING IN OPERATIVE UROLOGY

Special attention should to be paid to improve the operative skill of the candidate. He/She 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 externalexaminers.

#### First One Year

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

#### *0-3Months*

A candidate is supposed to master following procedures.

Cystourethroscopy, filiform, dilatation, retrograde pyelography. Interpretation of normal and abnormal findings in relation to gross inflammations, obstructive and neoplastic changes in the lower urinarytract.

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

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.

#### *03-06 Months*

A candidate should learn, perform and interpret Urodynamics studies like Cystometrogram, electro myography & Urethral pressure profile & Video Urodynamics. He/She will also perform and interpret various tests of sexual dysfunction such as dynamic cavernosography, papavarin test, Penile-Brachial Index, Nocturnal penile tumescence, regiscan, sacral latency period and other evoked potential studies.

#### *Months*

He/She will assist and perform following procedures.

Endoscopic Surgery: Internalurothrotomy, Bladderneck Incision, Litholopaxy, cystolithotripsy, insertion & retrieval of bladder & ureteral stent, ureteral meatotomy, endoscopic suspension of bladder neck, Transurethral resection of bladder tumour.

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

#### *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 Vasoepididymostomy, 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.

Endoscopies 100

Urethroplasties 5

Internal urethrotomy 20

Internal tract reconstructions 10

Repair of vesicovaginal fistulae 5

Pyeloplasty 5

Hypospadias repair 5

Transurethral Resection of Prostate 25

Uretero-Renoscapy 25

Percutaneous Nephrolithotomy & endopyelotomy 15

Donor Nephrectomy 5

Recipient 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 prostatectomy

Radical Nephrectomy

Ureteroneocystostomy

Retroperitoneallymph node dissection-Ileal replacement

Different type of Urinary diversion of orthotopic Neobladder-

Surgical management of Renal and Urethral trauma

Transpubic urethroplasty

Augmentation cystoplasty

Nephroureterectomy –Undiversion

Anatrophic Nephrolithotomy

Laparoscopic Urologic Surgery Paediatric surgical procedures.

#### *In course Training*

Since it will be a full time residency Diploma In Urology course, a candidate will be responsible for the total care of the patients. He/She will be encouraged to take 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 & residents will participate. Case discusser will take place weekly with 2<sup>rd</sup> 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 II<sup>nd</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 post-mortem examination done for the department.

Interdepartmental meetings like uroradiology, uronephrology, urotherapy & medical oncology, uropathology, 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 15 days to learn medical aspect of Kidney diseases (except the renal transplantation). This posting should be after one to 1 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 this 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 inculcate exchange Programme and resident should be rotated to two or three centres as per advise by the department committee. It is also suggested that department weak in some subspecialty should invite visiting professor from other centres to strengthen the course.



## DURO-DIPLOMA IN UROLOGY

**EXAMINATION PATTERN****Theory Examination:**

PAPER I	PAPER II	PAPER III
ANATOMY PHYSIOLOGY	THERAPEUTICS	APPLIED SCIENCES
<b>Section I</b>	<b>Section I</b>	<b>Section I</b>
Q.1. 10 Marks Q.2. 10 Marks Q.3. 10 Marks Q.4. 10 Marks Q.5. 10 Marks <b>Total 50 Marks</b>	Q.1. 10 Marks Q.2. 10 Marks Q.3. 10 Marks Q.4. 10 Marks Q.5. 10 Marks <b>Total 50 Marks</b>	Q.1. 10 Marks Q.2. 10 Marks Q.3. 10 Marks Q.4. 10 Marks Q.5. 10 Marks <b>Total 50 Marks</b>
<b>Section II</b>	<b>Section II</b>	<b>Section II</b>
Q.6. 10 Marks Q.7. 10 Marks Q.8. 10 Marks Q.9. 10 Marks Q.10. 10 Marks <b>Total 50 Marks</b>	Q.6. 10 Marks Q.7. 10 Marks Q.8. 10 Marks Q.9. 10 Marks Q.10. 10 Marks <b>Total 50 Marks</b>	Q.6. 10 Marks Q.7. 10 Marks Q.8. 10 Marks Q.9. 10 Marks Q.10. 10 Marks <b>Total 50 Marks</b>
Section I + II = 100 Marks	Section I + II = 100 Marks	Section I + II = 100 Marks
<b>Total Theory = 300 Marks, Passing = 150 (i.e. 50%) Marks in aggregate</b>		

<b>Practical Examination:</b>		<b>Marks</b>
<b>Paper - IV</b>	Clinical Practical	100
<b>Paper - V</b>	Oral & Viva	100
<b>Paper - VI</b>	Case	100
<b>Total Marks</b>	<b>(Aggregate marks for passing is 50% out of total.)</b>	<b>300</b>

**BOOKS:**

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*

*Book Editor*

Campbell urology-3 Volumes Edited by Walsh, etal

Scientific Basis of Urology Mundy

Current Urological Therapy Kaufman

Obstructive Uropathy O'Reilly

Urogenital trauma Macaminch

Text book of Urology Whitefield & Hendry

Adult & Paediatric Urology Gillenwater etal

*Paediatric Urology*

Pediatric Urology Kelalis & King – 2vol.

Paediatric Urology Whitakar

*Uro-oncology*

Genito-urinary cancer management Backeman & Paulson

Genitourinary cancer Dekerrion etal

Testicular cancer Javadopor

*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 want Lithotripsy | Gravernstein                   |

5. Endourology Arthur Smith

*Infertility*

1. Male Infertility Amelar

Reproductive infertility Microsurgery in male and Silber  
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 arress 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

Urologiainternationalis

Scandinavian J. Urology &Nephrology

Transplantation

Transplant Proceedings

Urological Research

Urologic Radiology

World Journal of Urology

*Periodicals*

Urological clinics of North America

Seminars in Urology

Controversy in Urology

Recent Advances in Urology

Year Book of Urology

Modern Trend in Urology