



Dr. D. Y. PATIL VIDYAPEETH, PUNE
(Deemed to be University)

Syllabus for Super Speciality

2014 - 15
(Amended / Revised upto July 2019)



Dr. D.Y. PATIL VIDYAPEETH, PUNE
(Deemed to be University)

(Re-accredited by NAAC with a CGPA of 3.62 on a four point scale at 'A' Grade)
(An ISO 9001 : 2015 Certified University)

Dr. A. N. Suryakar
Registrar

Ref. No. : DPU/875-Vii/2019

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NOTIFICATION

Whereas in pursuance of the following decisions taken by the Board of Management, it is hereby notified to all concerned that the "Syllabus for Super Speciality – 2014-15" is revised upto July 2019 and hereby published.

- Changes in Practical examination pattern of M. Ch. Urology vide Resolution No. BM-35(viii)-18, dated 12th October, 2018.
- Approval of Syllabus for D.M. (Cardiology), D.M. (Neurology) and M. Ch. (Cardio Vascular Thoracic Surgery) vide Resolution No. BM-38(xiv)-17, dated 27th December, 2017.
- Interdisciplinary subjects of M.B.B.S, M.D./M.S. and Super-specialty (D.M./M.Ch.) Programs under the Faculty of Medicine vide Resolution No. BM-10(viii) dated 12th April, 2019.
- Interdisciplinary subjects of M.B.B.S, M.D./M.S. and Super-specialty (D.M./M.Ch.) Programs under the Faculty of Medicine vide Resolution No. BM-27(xi) dated 30th July, 2019.

The Syllabus of Super Speciality – 2014-15 Revised upto July 2019 will be useful to all the concerned. This will come into force with immediate effect.




(Dr. A. N. Suryakar)
Registrar

Copy to:

1. PS to Chancellor for kind information of Hon'ble Chancellor, Dr. D. Y. Patil Vidyapeeth, Pune.
2. PS to Vice Chancellor for kind information of Hon'ble Vice Chancellor, Dr. D. Y. Patil Vidyapeeth, Pune.
3. The Dean, Dr. D. Y. Patil Medical College Hospital & Research Centre, Pimpri, Pune
4. The Controller of Examinations, Dr. D. Y. Patil Vidyapeeth, Pune.
5. Director (IQAC), Dr. D. Y. Patil Vidyapeeth, Pune.
6. Web Master for uploading on Website.

**MAPPING OF PROGRAMME OUTCOMES [POs] AND COURSE
OUTCOMES [COs] OF SUPER SPECIALITY PROGRAMMES**

PROGRAMME OUTCOMES

No.	By the end of the programme, the Postgraduate will have /be:
PO 1	Knowledge and Skills
PO 2	Planning and problem solving abilities
PO 3	Communication
PO 4	Research Aptitude
PO 5	Professionalism and Ethics
PO 6	Leadership
PO 7	Societal Responsibilities
PO 8	Environment and Sustainability
PO 9	Lifelong Learner

M.Ch. UROLOGY PROGRAMME

Course Code	Course Title
SS-02	M.Ch. Urology

Course 1 (Subject Code)

CO No.	At the end of the course, the learner should be able to:	Mapped Programme Outcomes
SS-02.1	Recognize the key importance of medical problems in the context of the health priority of the country	PO1,PO2,PO3, PO4, PO5, PO6, PO7, PO8,PO9
SS-02.2	Practice the specialty of Urology in keeping with the principles of professional ethics	PO1,PO2,PO3, PO5, PO6, PO7, PO8, PO9
SS-02.3	Identify social, economic, environmental, biological and emotional determinants of adult Urology and know the therapeutic, rehabilitative, preventive and promotion measures to provide holistic care to all patients	PO1,PO2,PO3, PO4, PO5, PO6, PO7, PO8, PO9
SS-02.4	Demonstrate communication skills of a high order in explaining management and prognosis, providing counseling and giving health education messages to patients, families and communities regarding Urology	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO9
SS-02.5	Develop as a self-directed learner, recognize continuing educational needs; use appropriate learning resources, and critically analyze relevant published literature in order to practice evidence-based Urology	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO9
SS-02.6	Demonstrate skills in documentation of case details, and of morbidity and mortality data relevant to the assigned situation	PO1, PO2, PO3, PO5, PO6, PO7, PO8, PO9
SS-02.7	Demonstrate competence in basic concepts of research methodology and epidemiology and be able to critically	PO1, PO2, PO3, PO5, PO6, PO7, PO8, PO9

CO No.	At the end of the course, the learner should be able to:	Mapped Programme Outcomes
	analyze relevant published research literature.	
SS-02.8	Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general surgeons and paramedical health workers.	PO1, PO3, PO4, PO5, PO6, PO7, PO8, PO9
SS-02.9	Function as an effective leader of a health team engaged in health care, research or training.	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9
SS-02.10	Keep abreast with the contemporary advances and developments in Urology	PO1, PO2, PO3, PO4, PO5, PO8, PO9

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M.Ch. Urology

DEPARTMENT OF M.Ch. UROLOGY
Syllabus for the degree course of M.Ch. (Urology)

AIM AND OBJECTIVES OF THE DEPARTMENT:

While introducing M.Ch. (Urology) degree course at this Institute, our objective will be to produce highly competent medical manpower in Urology.

The training ingredients have been so planned that at the end of the course the candidate should have either the option of becoming a service Urologist or an academician open to him. He will gain in depth knowledge of the entire Urology and relevant basic allied subjects. Course is expected to bring about a change in attitude towards better scientific approach with logic and analysis. More stress will be given to development of psychomotor skills. This all should culminate in shaping of a shrewd clinician, confident surgeon and a knowledgeable teacher incurred to basic research methodology. Basis of an ideal training program 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 Gynecologic Urology, Uro-Oncology, Neuro-Urology, Andrology and Sexual Dysfunction, newer modalities of stone management like Endourological techniques and Extracorporeal Shock Wave Lithotripsy and renal transplantation.

We aim at such a complete department with equally powerful Nephrology counterpart under the same roof.

We intend to impart training in the following sub-specialties of Urology :

1. Basic sciences related to Urology such as anatomy, embryology, physiology, biochemistry and immunology.
2. General Urology- adult and pediatric Urology, Uro-Oncology & Gynecological Urology.
3. Neuro-Urology including Uro-pharmacology,
4. Male infertility and sexual dysfunction and urological endocrinology.
5. Stone centre - Endourology, extra corporeal shock wave lithotripsy (ESWL), Stone diagnostic work up and-open surgery for the urolithiasis.
6. Renal transplantation and surgery of reno-vascular hypertension. Genito-urinary imaging and Uro-radiology.
7. Care of critically ill patients.

Eligibility:

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

Duration of Course:

Three years (Six semesters) starting from 1st September (Full time resident course).

Admission procedure:

The admission would be by entrance examination conducted by the Dr. D.Y. Patil University, Pune after giving due advertisements in leading newspapers.

Course Fee:

It shall be declared by Dr. D.Y. Patil University from time to time.

Syllabus:

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

1. Anatomy and Embryology of GU tracts, adrenal & retroperitoneum.
2. Applied physiology and biochemistry pertaining to Urology and Nephrology.
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 & Neurourology.
8. Genito-urinary trauma.
9. Urolithiasis - Medical, Biochemical & Surgical aspects.
10. Uro-oncology - Adult, Pediatrics.
11. Reconstructive Urology.
12. Pediatric Urology - Congenital malformation 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. Gynecological Urology.
18. Newer developments in Urology,
19. Operative Urology - open & endoscopic.
20. Endourology and Laparoscopic surgery.
21. Behavioral and social aspects of Urology.
22. Neonatal problems in Urology.
23. Electro-coagulation, lasers, fiber optics, instruments, catheters, endoscopes etc.
24. Retroperitoneal diseases & Management.
25. Medical aspects of the kidney diseases.

Apart from above mentioned subjects, each candidate will have to qualify for the following courses run by the institute. This has to be done within the first year of course.

1. Biostatistics.
2. Computer sciences.
3. Experimental & research methodology.

Institute will also be running various other basic science course and candidates may attend the same as per their requirement and interest.

Training & Teaching methodology:

Besides lectures (delivered by the faculty members, national & international visiting teachers) seminars, symposiums and journal clubs will be organized. Problem oriented training will be given in the form of case discussions, ward rounds, inter-disciplinary meetings and departmental statistical meetings.

Every candidate is supposed to discuss a minimum of two clinico-pathological conferences. Practical training will be imparted by full time residency training program, where a trainee will be given full responsibility of the patients. He will be encouraged to improve and develop his decision-making ability under the supervision of teachers. The candidate shall also participate in teaching of undergraduate (those doing M.B., B.S. degree) and Postgraduate (those doing M.S. – General Surgery) students such as tutorials, bed side clinics etc.

Training in operative Urology :

Special attention will be paid to improve the operative skill of the candidate. He will 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 submitted before the practical examination and will be reviewed by the external examiners.

A candidate is supposed to master the following procedures -

1. 00 - 03 months:

Cystourethroscopy, filiform, dilation, retrograde pyelography, interpretation of normal and abnormal findings in relation to gross infections, obstructive and neoplastic changes in the lower urinary tract. Minor urological procedures: Needle biopsy of the prostate, dilatation, trocar cystostomy, open cystostomy, orchidectomy, circumcision, meatotomy / meatoplasty, arterio-venous shunts excision of urethral caruncle.

2. 03 - 06 months:

Uro-radiological & Imaging techniques: During this period a candidate will perform various uro-radiological and imaging procedures like retrograde urethrograms & micturating cystourethrogram, cystogram, triple-cystogram, nephrostogram, Whitaker test, sinogram vasoseminography, antegrade pyelography, interpretation of ultrasound & computerized tomography scans and renography, MRI, renal angiography including digital subtraction angiography & venography.

3. 06-09 months:

Here a candidate will learn, perform and interpret various urodynamics procedures such as cystometrogram, electro-myography, urethral pressure profile, video urodynamics. He will also perform and interpret various tests of sexual dysfunction such as dynamic cavernosography, papaverin test, Penile-Brachial Index, Nocturnal penile tumescence, Regiscan, Sacral latency period and other evoked potential studies.

4. 09-23 months:

The candidate will assist and perform following procedures –

- a) **Endoscopic surgery:** Internal urothotomy, bladder neck incision, litholopaxy, cystolithotripsy, insertion & retrieval of bladder & ureteral stent, ureteral meatotomy, endoscopic suspension of bladder neck, transurethral resection of bladder tumor.
- b) **Open 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.

5. 24 - 36 months:

- a) **Open surgery:** In this one year, candidate will learn more complex surgical procedures like -transpubic urethroplasty, hypospadias repair, augmentation cystoplasty, anastrophic 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.
- b) **Endoscopic procedures:** Transurethral resection of prostate, percutaneous nephrolithotomy, uretero-rensoscopy, Laser surgery, other endourological procedures and Laparoscopic surgery etc.

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

Sr. No.	Description	No. of Procedures
1.	Endoscopies	150
2.	Urethroplasties	5
3.	Internal urethrotomy	20
4.	Urinary tract reconstructions	10
5.	Repair of vesicovaginal fistulae	5
6.	Pyeloplasties	5
7.	Hypospadias repair	5
8.	Transurethral resection of prostate	25
9.	Uretero-rensoscopy	15
10.	Percutaneous nephrolithotomy	15
11.	Transplant nephrectomies	5
12.	Recipient surgery	2

In addition to the above-mentioned procedures, candidates will perform / assist minimum of one or two of each of the following procedures (depending upon the availability of the case material)

- 1) Nephrectomy for pyonephrosis
- 2) Radical cystoprostatectomy
- 3) Radical nephrectomy
- 4) Retroperitoneal lymphnode dissection
- 5) Urinary diversion
- 6) Trans pubic urethroplasty
- 7) Augmentation cystoplasty
- 8) Nephroureterectomy
- 9) Anatomic nephrolithotomy

In course training:

Since it will be a full-time residency cum M.Ch. course, 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 per week in which all the faculty members & residents will participate. Case discussions will take place weekly with 3rd year residents 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 departments and in emergency will only be attended by the 2nd and 3rd year senior residents. Consultation 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 examinations done for the department. Inter-departmental meetings like uro-radiology, uro-nephrology, uro-radiotherapy and medical oncology, uro-pathology, uro-imaging 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 aspects of kidney diseases (except the renal transplantation). This posting should be after 1-1^{1/2} year after joining the course. The renal transplantation will be attended and participated as and when the procedure is done.

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 will have to repeat his posting.

Suggested Books, Journals and Periodicals:

General Urology:

- Campbell Urology (3 volumes)
- Scientific basis of urology
- Current urological therapy
- Obstructive uropathy
- Urogenital trauma
- Textbook of urology
- Adult & Pediatric urology

Pediatric Urology:

- Pediatric urology (2 volumes)
- Pediatric urology

Uro-oncology:

- Genito-urinary cancer management
- Genitourinary cancer
- Testicular cancer

Urodynamics:

- Urodynamics principle & practice
- Controversy in Neurourology
- Neurourology & Urodynamics

Stone diseases:

- Stone disease - Diagnosis & management
- Endourology
- Extracorporeal shock wave lithotripsy

Infertility:

- Male Infertility
- Reproductive infertility
- Walch et al.
- Mundy Kaufman O'Reilly
- Macmainch
- Whitefield & Hendry
- Gillenwater et al.
- Kelalis & Kin
- Whitakar, Backeman & Paulson
- Dekerrion et al.
- Javadopore
- Mundy Barret & Wein
- Bradly & Hald.

Rous Clayrnan et al
Carson Gravernstein Amelar Silber

Renal Transplantation:

Kidney transplantation - Peter Morris
Renal transplantation
Introduction to dialysis
Vascular arrests in Haemo-dialysis

Operative Urology:

Glen's operative Urology
Urologic Endoscopy

Transurethral surgery:

Uro-radiology:

Clinical uro-radiology (3 volumes)
Urologic radiology

Journals:

Indian J Urology
Journal of Urology
British J Urology
Neurourology & Urodynamics
Urology
European Urology
Urological Internationals
Scandinavian J Urology & Nephrology
Transplantation
Transplant proceedings
Urological research

Periodicals-

Urological Clinics of North America
Seminars in Urology
World J Urology
Controversy in Urology
Recent advances in Urology
Yearbook of Urology.
Modern trends in Urology.
Corovoy & Guttman Logan
Bell et al.
Bagley et al.
Maurmayer Emitts

Dissertation/Thesis, Presentation at conferences and Publications-

The candidate will have to complete a dissertation/ thesis on a given topic in consultation with his guide. Before starting he will have to get a clearance from the ethical committee of the University appointed for this purpose. He will have to present this to the University 6 months before his appearance for the examination. No candidate shall be allowed to appear for his examination unless his dissertation/thesis is accepted by the examiners. This dissertation/thesis shall form the basis for having publications in the reputed national and international journals.

Each candidate is expected to publish at least one full paper in international journal, one full paper in national journal and one case report in either international/national journal. Besides these each candidate is expected to attend at least one state level/zonal and one national level conference and also present papers in these conferences under the guidance of the faculty staff. The candidate shall also attend conferences/seminars/lectures/workshops organized by the local associations and other institutions. The candidate shall also apply for the associate membership of local, state/zonal and national level urology associations.

Examination –

The candidate shall be allowed to appear for the final examination only after duly completion of SIX terms of training as certified by his guide, acceptance of his dissertation/thesis and satisfactory attendance as stipulated by the University.

The examination shall consist of both Theory and Practical examinations –

- a) **Theory examination** – There shall be four theory papers of **100 Marks each** and of 3 hours duration which would cover following topics-
- 1) Basic sciences including Embryology, Surgical Anatomy, Surgical Pathology, and Pharmacology,
 - 2) General Urology – Adult & Pediatric,
 - 3) General Urology – Adult & Pediatric,
 - 4) Recent Advances

The questions shall be in the form of Long Answer Question (L.A.Qs.) and Short Answer Questions (S.A.Qs.).

Each paper will have two sections.

Section I - shall consist two of Long Answer Question (L.A.Qs.) Each of 25 marks - **Total 50 Marks.**

Section II - shall consist of five Short Answer Questions (S.A.Qs.).Each of 10 marks - **Total 50 Marks.**

b) **Practical Examination –**

The practical examination shall consist of –

- i) One Long case presentation - **100 Marks**,
- ii) Two short cases presentations of 33, 33 & 34 marks - **Total 100 Marks**
- iii) Ward rounds along with the examiners where the candidate shall be presented with various patients by an attending expert. The candidate shall be judged for his ability to come to a logical diagnosis / differential diagnosis and management of the patient. – **100 Marks**
- iv) Viva consisting of - **Total 100 Marks**
 - 1) **Part I** - Pathological specimens and prepared slides of histopathological examinations, radiological and imaging investigations – **50 Marks**
 - 2) **Part II** - Surgical instruments open / endoscopic and operative procedures. – **50 Marks**.

To pass the examination the candidate shall require obtaining 50% of the marks in each Theory and Practical, separately.

The successful candidate shall be declared to have passed M.Ch. (Urology) examination satisfactorily and the degree of **M.Ch. (Urology)** shall be conferred on him at the time of the convocation held by the University.

Note:

The above syllabus is subject to change without any previous notice on the directions of MEDICAL COUNCIL OF INDIA (MCI), Government of India / Maharashtra, Dr. D.Y. PATIL UNIVERSITY, PUNE, from time to time.