

UROLOGY

U

POST IMM FELLOWSHIP TRAINING

DURATION OF TRAINING 5 YEARS

**NOTE: THE CURRICULUM IS APPLICABLE TO BATCHES INDUCTED IN
JANUARY 2023 OR ONWARDS.**



**COLLEGE OF
PHYSICIANS AND
SURGEONS
PAKISTAN**

2023

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The College of Physicians and Surgeons Pakistan would appreciate any criticism, suggestions, advice from the readers and users of this document. Comments may be sent in writing or by e-mail to the CPSP at:

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ABOUT THE COLLEGE

The College was established in 1962 through an ordinance of the Federal Government. The objectives/functions of the College include promoting specialist practice of Medicine, Obstetrics & Gynaecology, Surgery and other specialties by securing improvement of teaching and training, arranging postgraduate medical, surgical and other specialists training, providing opportunities for research, holding and conducting examinations for awarding College diplomas and admission to the Fellowship of the College.

Since its inception, the College has taken great strides in improving postgraduate medical and dental education in Pakistan. Competency- based structured Residency Programs have now been developed, along with criteria for accreditation of training institutions, and for the appointment of supervisors and examiners. The format of examinations has evolved over the years to achieve greater objectivity and reliability in methods of assessment. The recognition of the standards of College qualifications nationally and internationally, particularly of its Fellowship, has enormously increased the number of trainees and consequently the number of training institutions and the supervisors. The rapid increase in knowledge base of medical sciences and consequent emergence of new subspecialties have gradually increased the number of CPSP fellowship disciplines to eighty including specialties in dentistry. After completing two years of core training during IMM, the trainees are allowed to proceed to the advance phase of FCPS training in the specific specialty of choice for 2-3 years. However, it is mandatory to qualify IMM examination before taking the FCPS-II exit examination. The work performed by the trainee is to be recorded in the e-logbook on daily basis. The purpose of the e-log is to ensure that the entries are made on a regular basis and to avoid belated and fabricated entries. It will hence promote accuracy, authenticity and vigilance on the part of trainees and the supervisors.

The average number of candidates taking CPSP examinations each year is to a minimum of 32,000. The College conducts examinations for FCPS-I (11 groups of disciplines), IMM, FCPS-II (80 disciplines), MCPS (22 disciplines), including MCPS in Health Professions Education and Health Care System Management. A large number of Fellows and senior medical teachers from within the country and overseas are involved at various levels of examinations of the College.

The College, in its endeavor to decrease inter-rater variability and increase fairness and transparency, is using TOACS (Task Oriented Assessment of Clinical Skills) in IMM and FCPS-II Clinical examinations. Inclusion of foreign examiners adds to the credibility of its qualifications at an international level. It is important to note that in the overall scenario of health delivery over 85% of the total functioning and registered health care specialists of the country have been provided by the CPSP. To coordinate training and examination, and provide assistance to the candidates stationed in cities other than Karachi, the College has established 14 Regional Centers (including five Provincial Headquarter Centers) in the country. The five Provincial Headquarter Centers, in addition to organizing the capacity building workshops/short courses also have facilities of libraries, I.T, and evaluation of synopses and dissertations along with providing guidance to the trainees in conducting their research work. The training towards Fellowship can be undertaken in more than 306 accredited medical institutions throughout the country and 84 accredited institutions abroad. The total number of trainees in these institutions is over 32,659 who are completing residency programs with around 5,245 supervisors. These continuous efforts of the College have even more importantly developed a credible system of postgraduate medical education for the country. The College strives to make its courses and training programs 'evidence' and 'needs based' so as to meet international standards as well as to cater to the specialist healthcare needs not only for this country but also for the entire region.

Prof. Mohammad Shoaib Shafi

President

College of Physicians and Surgeons Pakistan

FELLOWSHIP DISCIPLINES

The list of fellowship programmes, first and second fellowship, are given below:

Disciplines for First Fellowship

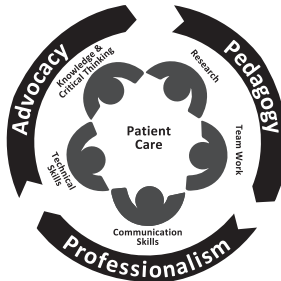
- | | |
|--------------------------------|--|
| 1. Anatomy | 24. Nuclear Medicine |
| 2. Anesthesiology | 25. Obstetrics and Gynaecology |
| 3. Biochemistry | 26. Operative Dentistry & Endodontics |
| 4. Cardiac Surgery | 27. Ophthalmology |
| 5. Cardiology | 28. Oral & Maxillofacial Surgery |
| 6. Cardio Thoracic Anaesthesia | 29. Orthodontics |
| 7. Chemical pathology | 30. Orthopaedic Surgery |
| 8. Clinical Haematology | 31. Otorhinolaryngology (ENT) |
| 9. Community Medicine | 32. Paediatric Surgery |
| 10. Dermatology | 33. Paediatrics |
| 11. Diagnostic Radiology | 34. Periodontology |
| 12. Emergency Medicine | 35. Pharmacology |
| 13. Family Medicine | 36. Physical Medicine & Rehabilitation |
| 14. Forensic Medicine | 37. Physiology |
| 15. Haematology | 38. Plastic Surgery |
| 16. Histopathology | 39. Prosthodontics |
| 17. Immunology | 40. Psychiatry |
| 18. Medicine | 41. Pulmonology |
| 19. Medical Oncology | 42. Radiation Oncology |
| 20. Microbiology | 43. Surgery |
| 21. Nephrology | 44. Thoracic Surgery |
| 22. Neurology | 45. Urology |
| 23. Neurosurgery | 46. Virology |

Disciplines for Second Fellowship

- | | |
|---|--|
| 1. Breast Surgery | 18. Paediatric Endocrinology and Diabetes |
| 2. Child and Adolescent Psychiatry | 19. Paediatric Dermatology |
| 3. Clinical Cardiac Electrophysiology | 20. Paediatric Gastroenterology and Hepatology |
| 4. Community and Preventive Paediatrics | 21. Paediatric Haematology Oncology |
| 5. Critical Care Medicine | 22. Paediatrics Infectious Diseases |
| 6. Developmental and Behavioural Paediatrics | 23. Paediatric Nephrology |
| 7. Endocrinology | 24. Paediatric Neurology |
| 8. Gastroenterology | 25. Paediatric Ophthalmology & Strabismus |
| 9. Gynecological Oncology | 26. Pain Medicine |
| 10. Hepato-Pancreato-Biliary & Liver Transplant Surgery | 27. Palliative Medicine |
| 11. Infectious Diseases | 28. Reproductive Endocrinology and Infertility |
| 12. Interventional Cardiology | 29. Rheumatology |
| 13. Maternal and Fetal Medicine (MFM) | 30. Spine Surgery |
| 14. Neonatal Paediatrics | 31. Surgical Oncology |
| 15. Orbit and Oculoplastics | 32. Urogynaecology |
| 16. Paediatric Cardiology | 33. Vitreo Retinal Ophthalmology |
| 17. Paediatric Critical Care Medicine | 34. Vascular Surgery |

CPSP COMPETENCY MODEL

College of Physicians and Surgeons Pakistan has moved to competency-based medical education and has developed its own competency-based model shown below. A generic explanation of the model is given below and it is expected that all its residency training programmes follow the components of this model in accordance to the requirements of each specialty.



Patient or population care occupies the pivotal center. Patient care includes all clinical skills such as history taking, physical examination, ordering investigations, making diagnoses and managing the care. The inner leaves of the model represent the five major competencies directly related to patient care, while the three competencies in the outer circle are mega-competencies related to patient care and also incorporate education, professionalism, leadership, advocacy and population health.

By the end of the Residency Programme, residents are expected to acquire these competencies and their constituent learning outcomes, and provide promotive, preventive, curative and rehabilitative patient-centered (or population-centered) care.

Inner Leaves:

1. Knowledge and Critical Thinking
2. Technical Skills
3. Communication Skills
4. Teamwork
5. Research

Outer Leaves:

6. Professionalism
7. Pedagogy
8. Advocacy

1. Knowledge and Critical Thinking

- Demonstrate application of wide and current readings to critical thinking and problem solving
- Relate the alteration of body function to the presenting condition
- Interpret and integrate history and examination findings to arrive at an appropriate provisional and credible differential diagnoses
- Sequentially order, justify and interpret appropriate investigations
- Apply knowledge and reasoning skills to
 - Analyze data for problem identification and to rule in and rule out contending conditions
 - Synthesize and evaluate solutions for decision-making in solving familiar and less familiar problems based on best current evidence
 - Prioritize different problems within a time frame.
 - Select, outline and provide, with evidence-based justifications, appropriate pharmacological and non-pharmacological management strategies
 - Assess new medical knowledge and apply it to resolve patient problems (Evidence-based practice)
 - Apply quality assurance procedures in daily work. (Professionalism)
 - Demonstrate shared-decision-making with the patient or family
 - Provide cost-effective care while ordering investigations and in management
 - Use resources appropriately
 - Demonstrate awareness of bio-psycho-social factors in assessment and management of a patient.

2. Technical Skills

- Demonstrate International Patient Safety Goals (IPSG)
- Demonstrate competent performance of all required technical skills and procedures in the specialty, including:
 - Obtaining informed consent
 - Preoperative planning
 - Pre-interventional care and preparation
 - Intra-Intervention technique including exposure and closure, global and task specific items, and communication and team skills
 - Post-interventional care
 - Follow-up Care.

3. Communication Skills

- Written Communication Skills
 - Maintain clear, concise, accurate and updated medical records
 - Write clear, focused, evidence-based and logical management plans and discharge summaries
 - Write respectful, clear and focused letters and referrals to other colleagues.
- Verbal Communication Skills: Demonstrate
 - Effective interpersonal communication skills: clear, considerate and sensitive towards patients, their relatives, other health professionals and the public, and towards students
 - Non-verbal communication skills:
 - Empathy and respect towards patients and their relatives
 - Effective counseling of the patient and the family with cultural sensitivity: explain options, educate them and promote joint decision-making.
 - Appropriate verbal and body language on the campus and all work situations including seminars, bedside sessions, outpatient sessions and others
 - Respect and tolerance for all health care professionals, including peers, juniors and seniors
 - Clear, focused and logical presentation of cases.

4. Teamwork

- Demonstrate constructive team-communication skills.
- Facilitate collaborative group interaction as a team member to build strong teams demonstrating respect, tolerance and interdependence.
- Support other team members to grow
- Demonstrate willingness to assume responsibility and leadership as needed.

5. Research

- Interpret and use results of various research studies (critical appraisal)
- Conduct a research study individually or in a group by using appropriate
- Selection of research question(s) and objectives
- Research design and statistical methods to answer the research question
- Ethical and R&RC approval of the synopsis
- Demonstrate competence in academic writing by writing an appropriate dissertation and/or publishing research article(s) as a step towards resolving issues or concerns in their specialty
- Guide others in conducting research by advising about research methodology including study designs and statistical methods
- Demonstrate clear, focused and logical presentations of their research.

6. Professionalism

- Demonstrate the highest level of personal integrity: honesty, punctuality, regularity, timely task completion
- Deal with all patients in a non-discriminatory, prejudice-free manner, demonstrating the same level of care for every human being irrespective of gender, age, ethnic background, culture, socioeconomic status and religion
- Establish a trusting relationship with patients, their relatives and care-givers
- Deal with all patients with honesty, empathy and compassion, putting patients' needs first (altruism)

- Facilitate transfer of information important for promotion of health, prevention and management of disease
- Encourage questioning by the patient and be receptive to feedback
- Pursue self-directed and life-long learning. Keep abreast of medical literature and assess new knowledge and apply it to resolve patient problems
- Know one's limitations and ask for help as needed from colleagues, consultations or referrals
- Apply quality assurance procedures for improvement in daily work
- Be a role model for others.

Ethics

- Maintain patient autonomy by demonstrating shared-decision-making with the patient and/or family
- Obtain informed consent, maintain patient confidentiality and do no harm
- Provide cost-effective care while ordering investigations and in management and use resources appropriately.

Leadership

- Demonstrate accountability for their decisions and actions, and that of their team
- Demonstrate willingness to assume leadership role(s) when needed in given situations or events (rush call/code).
- Change and bring about change as necessary, as a leader or supportive leader.

7. Pedagogy

Should be able to demonstrate competence in teaching skills:

- Effective clinical/community-based teaching
- Some evidence of acquisition of theory regarding learning and education
- Practice some of the best teaching methods.

8. Advocacy

Advocacy is needed at multiple levels

- Advocacy for the Patient
 - Doctors and nurses are the advocates of the patients, otherwise patients are likely to be lost in the system. All care should be timely, putting patients first.
- Advocacy for the Practice
 - Working in a service or practice, doctors must highlight limitations and issues
 - They must identify solutions for the problems, and recommend and implement improvements for the practice(s) and institutional system(s).
- Advocacy for the Health System and Society
 - Know one's role in the Health System(s) and build strong referral systems
 - Keep patient and community interests paramount, above one's own personal or professional interest
 - Demonstrate advocacy for elimination of the social determinants of health
 - Demonstrate advocacy for prevention of serious illnesses of their specialty/sub-specialty.
- For the Profession
 - Strive for building trust in the public for your profession
 - Demonstrate improvement and enhancement of profession, specialty and sub-specialty
 - Be conscientious gate-keepers of their profession, specialty and subspecialty.

GENERAL REGULATIONS

The following regulations shall apply to all fellowship trainees during residency training and FCPS-II examination. Candidate will be admitted to the examination in the name (surname and other names) as given in the MBBS degree. CPSP will not entertain any application for change of name on the basis of marriage/divorce/deed.

ELIGIBILITY REQUIREMENTS FOR ENTERING FELLOWSHIP PROGRAMME IN UROLOGY

- Passed FCPS Part I in General Surgery
- Completed two years of R&RC registered training of IMM in Surgery & Allied

DURATION OF TRAINING IN UROLOGY

Total duration of training is five years divided into following two phases:

- Intermediate Module in Surgery & Allied for first two years after which the resident becomes eligible to appear in the Intermediate Module Examination.. For further details about the Intermediate Module refer to the booklet titled "Intermediate Module in Surgery & Allied" published separately by the College.
- Last three years consists of advanced training in Urology (FCPS II).

All training inclusive of rotations is to be completed one month before the date of theory examination for FCPS-II.

ROTATIONS

The supervisor must ensure that the resident attends six weeks rotation in a transplant unit or observes five transplant cases, duly certified by the transplant surgeon.

MANDATORY WORKSHOPS

It is mandatory for all residents to attend the following CPSP certified workshops in the first two years of Intermediate Module training:

1. Introduction to Computer and Internet
2. Research Methodology Biostatistics & Dissertation Writing
3. Communication Skills
4. BLS (Basic Life Support) course
5. Primary Surgical Skills

However, if not attended earlier for any reason, they have to be completed during this phase of training. The trainee may also be required to attend any other workshop as may be introduced by the CPSP.

RESEARCH

One of the training requirements is a dissertation or two research papers on a topic related to the field of specialization. Synopsis of the dissertation or research papers must be approved from the Registration & Research Cell (R&RC) of CPSP before starting the research work. The dissertation must be submitted for approval to the R&RC before or during the first six months of fifth year of training program.

APPROVED TRAINING CENTRES

Training must be undertaken in units/departments/institutions approved by the College.

A current list of approved locations is available from the College and its regional offices as well as on the College website: www.cpsp.edu.pk.

REGISTRATION AND SUPERVISION

All training must be supervised and residents are required to register with the Registration and Research Cell (R&RC). and submit the name of their supervisor(s) by the date indicated on the registration form. The supervisor will normally be a Fellow of the College.

E-LOGBOOK

The CPSP council has made e-logbook system mandatory for all Residency program trainees inducted from July 2011. Upon registration with R&RC each trainee is allotted a registration number and a password to log on and make entries of all work performed and the academic activities undertaken in e-logbook on a daily basis. The concerned supervisor is required to verify the entries made by the trainee. This system ensures timely entries by the trainee and prompt verification by the supervisor. It also helps in monitoring the progress of trainees and the vigilance of the supervisors.

AWARD OF FELLOWSHIP

Fellowship of the College of Physicians and Surgeons Pakistan is awarded to those applicants who have:

- a recognized medical degree;
- completed one year house job in a recognized institution
- passed the relevant FCPS Part I Examination;
- registered with the Registration & Research Cell (R&RC);
- undergone specified years of supervised accredited training on whole time basis.
- passed IMM examination in Urology
- obtained approval of dissertation / two research articles (related to the specialty) published / accepted for publication in CPSP approved journal(s):
- completion of entries in e-logbook along with validation by the supervisor;
- been declared successful in examinations carried out by the Examination Department of the CPSP; and
- been elected by the College Council It is important to note that all applicants must undergo a formal examination before being offered Fellowship of the relevant specialty, except in case of Fellowship without examination.

TRAINING ENQUIRES AND REGISTRATION

All residents should notify the College in writing of any change of address and proposed changes in training (such as change of Supervisor, change of department, break in training etc.) as soon as possible.

ROLE AND RESPONSIBILITIES OF SUPERVISOR

Supervision of a resident is a multifaceted job. Arbitrarily the task is divided into the following components for the sake of convenience. This division is by no means exhaustive or rigid. It is merely meant to give semblance to this abstract and versatile role.

EXPERT TRAINER

- This is the most fundamental role of a supervisor. S/he has to not only ensure and monitor adequate training but also provide continuous helpful feedback (formative) regarding the progress of the training
- This would entail observing the resident's performance and rapport with all the people within his/her work environment
- S/he should teach the residents and help them overcome the hurdles during the learning process
- It is the job of the supervisor to make the residents develop the ability to interpret findings in their patients and act suitably in response
- The supervisor must be adept at providing guidance in writing dissertation / research articles (which are essential components of training)
- Every supervisor is required to participate actively in Supervisors' workshops, conducted regularly by CPSP, and do his/her best to implement the newly acquired information/skills in the training. It is his/her basic duty to keep abreast of the innovations in the field of expertise and ensure that this information percolates to residents of all years under him/her

RELIABLE LIAISON

- The supervisor must maintain regular contact with the College regarding training and the conduct of various mandatory workshops and courses
- It is expected that the supervisor will establish direct contact with relevant quarters of CPSP if any problem arises during the training process, including the suitability of resident
- S/he must be able to coordinate with the administration of his/her institution/organization in order to ensure that his/her residents do not have administrative problems hampering their training

PROFICIENT ADMINISTRATOR

- The supervisor must ensure that the residents regularly fill their e-logbook
- S/he must provide quarterly feedback regarding each resident through e-log system
- S/he might be required to submit confidential reports on resident's progress to the College
- The supervisor should notify the College of any change in the proposed approved training program
- In case the supervisor plans to be away for more than two months, he/she must arrange satisfactory alternate supervision during the period

ROLE AND RESPONSIBILITIES OF RESIDENT

Given the provision of adequate resources by the institution, residents should

- accept responsibility for their own learning and ensure that it is in accord with the requirements of the particular discipline
- play an informed role in the selection of the supervisor
- seek reasonable infrastructure support from their institution and supervisor, and use this support effectively
- ensure that all outlined aspects of training are covered during the defined training period
- work with their supervisors in writing the synopsis/research proposal and submit the synopsis/research proposal by the end of first year of their registration with the R&RC
- accept responsibility for the dissertation and plan to execute the research within the time limits defined
- be responsible for arranging regular meetings with the supervisor to discuss and document progress. If the supervisor is not able/willing to meet with the resident on a regular basis, he/she must notify the College
- provide the supervisor with word processed updated synopsis and dissertation drafts (ensure it has been checked for spelling, grammar and typographical errors, prior to submission) and provide the raw data to the supervisor if required
- submit completed dissertation to R&RC or evidence of publication/acceptance for publication of two research papers in CPSP approved journal(s) or JCPSP six months before the completion of (last year of) training. The resident should be the first or second author of both papers and the synopsis of both papers must have a prior approval of R&RC
- follow the College complaint procedure if serious problem arises
- complete all requirements for sitting an examination

TRAINING PROGRAMME

CURRICULUM: AIM, GOALS AND COMPETENCIES

AIM

The aim of the Fellowship Programme in Urology is to produce specialists in the field who have attained the required competencies.

GOALS

The goal of the training programme is to produce urologists with competencies under the over arching framework of CPSP competency model with integration of knowledge, skills and attitudes for the specialist care of Urology patients.

COMPETENCIES

The CPSP Competency Model is equally applicable to the discipline of Urology, like all other clinical specialities. The competencies given below are to be acquired by following a road map given under objectives.

Patient Care: The central competence around which revolve all other competencies is patient care. A Urologist needs to be fully conversant with the structure and function of human body particularly the uro-genital system, clinical skills to diagnose and treat the urological problems as well as technical skills to perform various surgical interventions.

Knowledge and Critical Thinking: This competence requires each resident not only to acquire a knowledge base related to the practice of Urology, but also to think critically so that the acquired knowledge is applied to interpret and analyze problems, synthesize multiple solutions and select the most appropriate one. The required knowledge base is summarized under the syllabus.

Communication Skills: This set of skills is needed to communicate with the patients and their carers, clinicians and other members of medical and scientific community for the optimum patient care. Hence the residents have to be fully conversant with both verbal and written communication skills.

Technical Skills: The technical skills include competencies required to carry out various surgical procedures and interventions along with patient safety.

Team Work: The urologists have to work as a team with their clinical counterparts and other members of health profession.

Research: Research is one of the essential competencies required for the CPSP fellowship qualification. All residents are required to submit either a dissertation or publish two research papers in a CPSP approved journal.

Advocacy: Urologists like their counterparts of other clinical disciplines need the competence in advocacy for educating patients, their attendants, masses about the benefits of early diagnosis and treatment and counseling at times. The competence is also required for interaction with professional colleagues and other health professionals to offer advice on matters related to the discipline of Urology, and with the decision makers for promotion of the discipline as well as its scientific practice.

Pedagogy: Post graduate medical education (PGME) is learner-centered form of education in which both teachers and residents share equal responsibilities. The supervisors are duly trained in learning how to learn and teach (pedagogy) before they assume supervisorship. The need is that the residents are also made familiar with the principles of adult learning at the outset.

Acquisition of competencies, particularly skill-based, requires close supervision and monitoring, which could be made possible by assigning and delegating some of the responsibilities of supervision and teaching to the senior residents so that they can play their role in Peer Assisted Learning (PAL) in PGME.

Professionalism: Medical profession is termed as a noble profession because of a social contract of trust between the society and the profession to uphold following basic principles of professionalism:

- Keep the interest of the patient supreme (altruism)
- Keep one-self competent, current, updated
- Maintain confidentiality
- Be considerate, caring and empathetic
- Exercise ethical principles in the practice of discipline
- Assume leadership role

OBJECTIVES

1. Initially assessing the patient seeking advice for problems related to the kidneys and urinary tract through:
 - Obtaining pertinent history.
 - Performing physical examination correctly.
 - Formulating a working diagnosis.
 - Deciding whether the patient requires.
- Ambulatory care or hospitalization.
- Referral to other health professionals.
- Emergency care including life saving measures.
2. Managing patients requiring treatment by:
 - Planning an enquiry strategy i.e. ordering appropriate investigations and interpreting the results.
 - Performing specified surgical procedures independently and competently.
 - Dealing effectively and promptly with complications which may occur during the course of disease.
 - Maintaining records of patients including summarization and indexing.
 - Seeking consultation from seniors when needed.
 - Carrying out effective and efficient management of emergency situations.
3. Undertake research and publish findings.
4. Acquiring new information; assessing its utility and making appropriate applications.
5. Recognizing the role of teamwork and functioning as an effective member/leader of the team.

SYLLABUS

APPLIED PATHO-PHYSIOLOGY, NEPHROLOGY, TRANSPLANTATION AND PRINCIPLES OF UROLOGY

Urology residents should have knowledge of principles of basic sciences (anatomy, biochemistry physiology, pharmacology, and pathology) at the time of entry into the program. During training the core knowledge to be acquired includes basic sciences as well as clinical sciences related to Urology as under:

BASIC SCIENCES

Knowledge specific to specialty including regional anatomy, molecular biology, laboratory based scientific research and relevant systemic pathology. Some of these points are outlined in individual sections given below with particular reference to:

- Normal structure; (macroscopic and microscopic), physiology and function, including relevant neurology, neuropharmacology, biochemistry and cellular & molecular biology
- Disordered function; etiology, pathophysiological response (at macroscopic, microscopic and molecular level) and local, distant and systemic consequences
- Knowledge of statistics and trial design
- Principles of cell biology, cell structure and biochemistry
- Principles of renal physiology, effects of disease, renal failure
- Common metabolic problems seen in urological patients
- Principles of stone formation
- Structure and function of lower urinary tract
- Male sexual function & rogen receptor, prostate physiology
- Embryology and intersex
- Principles of immunology
- Clinical trials and screening
- Principles of wound healing, inflammation and coagulation

CORE SURGICAL KNOWLEDGE

- Scientific principles of surgical and non surgical treatment of urological disorders
- General principles of tumor biology applied to urology
- Principles of anesthesia and local anesthesia
- Pain control

- Applied cardio-respiratory patho-physiology relevant to clinical examination and surgery
- Patho-physiology in children, elderly and those with intercurrent disease

INVESTIGATIVE & TECHNICAL ASPECTS

- Understanding of biochemical, hematological and bacteriological tests used in urology
- Measurement of renal function by biochemical means
- Methods used in histopathology with specific reference to biopsy techniques & initial handling of surgical specimens
- Principles of urological investigations with particular emphasis on safe use of X-rays, radioisotopes and lasers
- Imaging urinary tract radiologically and by ultrasound; use of nuclear medicine techniques
- Principles of sterilization and asepsis, particularly as applied to endoscopes
- Radiobiology and principles of therapeutic use of external beam radiotherapy and radioisotopes
- Principles of diathermy and associated hazards

SPECIFIC UROLOGICAL CONDITIONS

Benign Prostatic Hyperplasia

- Anatomy of prostate with particular reference to “zones” and glandular/stromal tissue
- The embryology of prostate-Growth factors in prostate
- Function of prostate and its role in ejaculation and fertility
- Endocrine control of prostate
- Etiology and pathogenesis of BPH o Pathology of BPH
- Clinical features of BPH
- Concepts of benign prostatic hyperplasia, prostatic enlargement, bladder outflow obstruction & lower urinary tract symptoms; their interrelationship and correlation
- Role and value of symptom scores in the assessment of patients with lower urinary tract symptoms
- Appropriate use of investigations and their pitfalls, particularly in relation to flow rate studies & urodynamics
- Interpretation of flow rates and urodynamic studies in relation to the diagnosis of outflow obstruction.
- The urodynamic nature and pathophysiology of outflow obstruction

- Urodynamic definition of outflow obstruction; the relationship between detrusor instability and outflow obstruction
- Inter-relationship between BPH, detrusor instability, detrusor failure and ageing
- Management of BPH and bladder outflow obstruction
- Management of acute and chronic retention of urine and other complications of BPH
- Standard surgical treatments of prostate, particularly transurethral resection and their complications
- Follow up and assessment of results of treatment of bladder outflow obstruction
- TUR and other alternatives to prostatectomy in treatment of BPH; their results shown in literature
- Physiological basis of alpha blockers and 5 alpha reductase inhibitors ;indications and their value
- Catheterisation - role of lasers, stents and other new technology

Andrology

- Spermatogenesis, sexual behaviour, erection & ejaculation and their endocrine control
- Age related changes in erectile dysfunction and fertility
- Effect of urological disease and its treatment on erectile function, ejaculation and fertility
- Causes of erectile dysfunction
- Causes and treatment of retrograde ejaculation
- Causes of infertility
- Investigation of erectile dysfunction with an appreciation of sources of error in their interpretation.
- Role of penile prosthesis in the treatment of erectile dysfunction
- Peyronie's disease-its nature, clinical features & treatment
- Priapism-its causes, their differentiation and treatments available
- Controversy surrounding varicocele and its effect on fertility; technique, pitfalls and interpretation of semen analysis and use of hormone assays
- Role of scrotal exploration, vasography & testicular biopsy
- Treatment of infertility including appropriate use of surgery and non-surgical treatments

- Vasectomy including counselling prior to vasectomy, techniques, early and late complications
- Vasectomy reversal including pre-operative counselling, technique and results
- Various types of artificial conception and principles of such treatments

Bladder Dysfunction

- Anatomy, physiology & pharmacology of the lower urinary tract
- Physiology and hydrodynamics of bladder filling and emptying and higher centers involved in their control.
- The effect of various pharmacological agents on these activities and their mechanism of action
- Clinical assessment of bladder dysfunction and its pitfalls
- Urodynamic evaluation of lower urinary tract function
Distinction between disorders of contractility & disorders of compliance
- Detrusor instability - its nature, causes, diagnosis and treatment
- Impaired detrusor contractility- its nature, causes, clinical features, diagnosis and treatment and particularly its association with ageing & with bladder outflow obstruction
- Clean intermittent self-catheterization; its use, value and complications
- Drugs used in treatment of bladder dysfunction and details of their pharmacological action and side effects
- Contributions of the ISC Standardization Committee
- Role of electrical stimulation in the treatment of bladder dysfunction
- Neuro-urology, management of spinal injuries with respect to disordered bladder function.
- Surgical management of neurogenic bladder dysfunction

Trauma

- Assessment and general management of a patient following injury
- Hypovolemic shock; patho-physiology, clinical features, diagnosis and management
- The nature, presentation and distinction between different types of blunt and penetrating injury

- Inter-relationship between urological and other types of injury and their relative importance
- Renal injury - types, classification, investigation, management and indications for surgery
- The causes, presentation, investigation and management of ureteric injury with particular reference to gynecological and urological iatrogenic trauma
- Causes, presentation, investigation and management of bladder trauma
- Causes, presentation, investigation and management of urethral trauma with particular reference to pelvic fracture injuries and straddle injuries
- Causes, presentation, assessment and management of genital injury including fractured penis & domestic injuries

Female Urology

- Hormonal influences on female bladder function, effects of pregnancy (infection and ureteric obstruction)
- Use of antibiotics, including pregnancy and with oral contraceptives
- Urethral syndrome-nature, presentation, diagnosis and management
- Interstitial cystitis and related sensory disorders- nature, presentation, diagnosis and management
- Urinary fistulae of female genital tract-causes, presentation, diagnosis and management
- Nature, presentation and effect of vaginal prolapse and its inter-relationship with urinary and ano-rectal dysfunction
- Assessment and management of females with genuine stress incontinence alone and when combined with detrusor instability, voiding dysfunction or prolapse
- Causes, pathophysiology, clinical features, investigation and treatment of genuine stress incontinence including non-surgical and surgical treatments
- Role of transvaginal and open surgery; techniques, success rates and complications (short and long-term). The artificial urinary sphincter and its role in genuine stress incontinence
- Role of periurethral injections and other minimally invasive treatments in genuine stress incontinence

- Urethral diverticulum - causes, presentation, diagnosis and management
- Cystic/mass lesions palpable through the anterior vaginal wall

Reconstructive Urology

- Role of reconstructive surgery in treatment of patients with congenital anomalies of urinary tract
- Indications and techniques of augmentation and substitution cystoplasty and continent diversion
- Long-term complications of enterocystoplasty with particular reference to acid base balance and its consequences, bacteriuria and malignant change
- Role of urethroplasty in treatment of patients with urethral strictures
- Techniques used in management of ureteric injury
- Medico-legal aspect of iatrogenic and traumatic injury and their implications in management of such patients
- Adolescents with urological problems as a result of congenital anomalies and their sexual connotation

Oncological Urology

- General pathology of cancer:
 - Causes
 - Development
 - Invasion and spread
 - Clinical features and diagnosis
 - Tumour markers and related diagnostic and prognostic factors
 - Role of surgery, radiotherapy, chemotherapy and immuno therapy
 - Care of terminally ill patient
 - Genetic basis of urological malignancies
- Histopathology, presentation, investigation, assessment and management of a patient with renal cell carcinoma including results of surgical treatment and role of radiotherapy, chemotherapy, immuno therapy, endocrine therapy and embolisation
- Technique of radical nephrectomy

- Tumours simulating renal cell carcinoma; their distinction and management
- Role of partial nephrectomy in managing renal tumours- Von Hippel-Lindau disease and other conditions with which renal cell carcinoma is associated
- Transitional cell carcinoma -etiology, pathology, staging, grading and progression including its presentation as an industrial disease
- Chromosomal and molecular biological factors involved in progression from normal urothelium to malignancy and invasiveness and metastases
- Clinical presentation, assessment and management of transitional cell carcinoma
- Superficial bladder cancer; incidence, determination and prognostic factors, surgical treatment and role of intravesical chemotherapy.
- Industrial bladder cancer, occupations at risk, principles of case control studies and other methods of investigation
- Surgical treatment of advanced bladder cancer and role of radiotherapy
- Role of systemic chemotherapy in locally advanced or metastatic bladder cancer
- Techniques of orthotopic bladder substitution or continent urinary diversion as an alternative to ileal conduit diversion after cystectomy
- Transitional cell carcinoma of renal pelvis and ureter; presentation, diagnosis and management
- Squamous cell carcinoma and adenocarcinoma of the bladder; etiology, prognosis and management
- Prostate cancer:
 - Etiology, pathology, staging, grading, invasion & spread
 - Epidemiology including geographical and racial variations in incidence and familial prostate cancer
 - Clinical features and presentation
 - PSA; its role in screening, diagnosis and follow up
 - T1 prostate cancer, with reference to incidental disease found at TURP and T1c disease
 - Investigation including appropriate use of PSA, bone scan and other staging investigations

- Management of early cancer, selection of patients for radical prostatectomy and radiotherapy
- Role of wait & watch policy, hormonal treatment and radiotherapy in with advanced cancer
- Principles of endocrine therapy-the treatment of metastatic cancer
- Inter-relationship between gynaecological and colorectal malignancy and urinary tract
- Penis; pre-malignant lesions, etiology, histopathology, development, spread, diagnosis and management of squamous cell carcinoma of penis
- Tumors of testis:
 - Etiology
 - Classification with particular reference to seminoma and non-seminomatous germ cell tumors
 - Tumor markers & their role in diagnosis, management and follow up
 - Carcinoma in situ of the testis and the role of contralateral testicular biopsy
 - Management of testicular tumors other than adult germ cell tumors including the role of surgery, chemotherapy and radiotherapy
 - The principles of statistics with particular reference to trial design and studies of cancer treatment

Paediatric Urology

- Peri-natal urology
- Embryology of renal tract, anatomy and physiology.
- Assessment of renal function in neonate
- Antenatal diagnosis and management of anomalies.
- Foreskin, its anomalies and complications.
- Circumcision; history, indications, techniques, results and complications. Relationship to penile cancer
- Undescended testis; current views on etiology, presentation, diagnosis, management and its association with infertility and testicular tumors.
- Acute scrotum in childhood:
 - Torsion of testis and torsion of Hydatid.
- Scrotal swellings in childhood, congenital hydrocoele and its management.

- Penile abnormalities:
 - Hypospadias; clinical assessment and principles of surgical correction
- Chordee, epispadias and micropenis - general principles. Diagnosis and investigation of urinary tract infection in neonates and in childhood. Significance of urinary tract infection in boys and in girls
- Vesico-ureteric reflux; pathophysiology, grades of severity, implications for renal function, assessment & management. Principles and rationale of surgical treatment
- Renal masses and their differential diagnosis. Pathology and management of Wilms' tumor
- Assessment and management of urinary incontinence in childhood
- Pelvi-ureteric junction obstruction; nature, pathophysiology, presentation, diagnosis and treatment including diagnostic problems and the relative roles of available investigational modalities.
- Duplications of upper urinary tract and ectopia; understanding of basic anatomy and clinical relevance
- "Wide ureter"; classification, diagnosis and management
- Posterior urethral valves; clinical diagnosis
- Congenital conditions (e.g. prune belly syndrome) which can be associated with urological abnormalities
- Intersex - basic overview including clinical diagnosis and principles of surgical management of common conditions such as congenital adrenal hyperplasia
- Imaging techniques in children; differences with investigation of adults.
- The role and interpretation of antenatal ultrasound in detection of urinary tract abnormalities in fetus

Stones and Endourology

- Stone disease; etiology, presentation, investigation and management
- Biochemical and biophysical factors involved in generation of urinary stone disease with particular reference to calcium oxalate, urate and triple phosphate stone disease
- Biochemical investigation of patients with recurrent urinary stone disease

- Surgical treatment of renal calculi including PCNL & open surgery
- Mode of action of extracorporeal energy sources used in the treatment of stone disease and their application to patients with renal and ureteric calculi
- Significance and management of infective staghorn calculi
- Ureteric calculi and their endoscopic treatment
- Assessment and management of bladder stones; PCNL, ureteroscopy and other aspects of endourology
- Endourological treatment of upper tract malignancy
- Principles of laparoscopy
- Laparoscopic procedures applied to urology

Urinary Tract Infection

- Bacteriology of acute pyogenic upper and lower urinary tract infection
- Etiology, presentation, clinical features, investigation, diagnosis and treatment of upper and lower urinary tract infection
- General principles of antibiotic chemotherapy and chemoprophylaxis with reference to urinary tract
- Diagnosis and management of gram negative septicaemia
- Etiology, clinical features, investigation, diagnosis and treatment of prostatitis
- Viral diseases of genital tract including urethral condylomata, AIDS and herpes
- Etiology, clinical features, investigation, diagnosis, surgical and non-surgical treatment of tuberculosis of urinary tract
- Management of radiation induced cystitis
- Etiology, clinical features, investigation, diagnosis, non-surgical and surgical treatment of schistosomiasis affecting the urinary tract
- Drug and chemical induced cystitis; management and prophylaxis

Nephrology and Transplantation

- Structure and function of kidney including glomerular and tubular physiology
- Obstructive nephropathy with particular reference to pelvi-ureteric junction obstruction, its pathophysiology, investigation and treatment
- Etiology, pathophysiology, diagnosis and treatment of acute renal failure with particular reference to hypovolemic shock, septicemic shock and obstructive nephropathy
- The causes, investigation and management of chronic renal failure from surgical perspective
- Inter-relationship between hypertension and renal disease.
- Analgesic nephropathy
- Glomerular and tubular disease of kidney; manifestations and investigations
- Role of peritoneal dialysis, haemodialysis and haemofiltration in management of acute and chronic renal failure
- General principles of access surgery
- Techniques of renal retrieval and renal transplantation including ethical issues and selection of organ donors
- Principles of immunology and immuno-suppression
- Results and complications of renal transplantation with particular reference to urological complications

PROCEDURAL COMPETENCIES

The clinical skills, which a specialist must have, are varied and complex.

A complete list of the same necessary for trainees and trainers is given below. It is arranged year wise and the level of competence to be achieved each year is arranged as follows:

1. Observer status
2. Assistant status
3. Performed under supervision
4. Performed independently

A candidate is expected to attain the laid down level of competence for the following procedures by the end of each year as given below:

COMPETENCIES		YEAR-1						YEAR-2		YEAR-3		TOTAL # OF CASES
		Level		Cases		Level	Cases	Level	Cases			
KIDNEY												
OPEN												
SIMPLE NEPHRECTOMY		2	5	2	10	3	5	20				
DONOR NEPHRECTOMY		-	-	-	-	2	5	5				
RADICAL NEPHRECTOMY		1	5	2	5	3	3	13				
RADICAL NEPHRECTOMY WITH CAVAL THROMBECTOMY		-	-	-	-	1	1	1				
PARTIAL NEPHRECTOMY		1	2	2	3	2	3	8				
NEPHROURETERECTOMY		2	2	2	3	3	1	6				
PYELOLITHOTOMY		2	5	3	5	4	5	15				
PYELOPLASTY		2	5	2	5	3	5	15				
DRAINAGE OF ABSCESS		2	5	3	5	4	5	15				
PER CUTANEOUS NEPHROSTOMY		2	5	3	5	4	10	20				
PERCUTANEOUS RENAL BIOPSY		1	3	1	3	2	3	9				
RENAL TRANSPLANTATION		-	-	-	-	2	5	5				
LAPAROSCOPIC *												
NEPHRECTOMY		1	5	2	5	2	5	15				
NEPHROURETERECTOMY		1	1	2	1	2	2	4				
DEORTICATION OF CYST		1	3	2	3	3	3	9				
PYELOPLASTY		1	2	2	2	2	3	7				

COMPETENCIES		YEAR-1						YEAR-2		YEAR-3		TOTAL # OF CASES
		Level	Cases	Level	Cases	Level	Cases	Level	Cases			
PERCUTANEOUS /ENDOSCOPIC												
PCNL		2	10	2	10	3	10					30
URETEROSCOPY												
RIGID		2	20	3	20	4	10					50
FLEXIBLE		1	5	2	5	2	5					15
RETROGRADE PYELOGRAPHY		2	20	3	20	4	20					60
INSERTION OF D.J STENT		2	10	3	20	4	20					50
URETER												
OPEN												
URETEROLITHOTOMY		2	5	3	5	4	3					13
URETEROLYSIS		-	-	-	-	1	3					3
URETEROCALICOSTOMY		-	-	-	-	1	2					2
URETERIC RE-IMPLANTATION		1	3	2	3	2	3					9
BOARI'S FLAP		1	2	2	2	2	2					6
URETERO-URETEROSTOMY		-	-	-	-	1	2					2
URETEROSTOMY		-	-	-	-	1	2					2

COMPETENCIES		YEAR-1		YEAR-2		YEAR-3		TOTAL # OF CASES
		Level	Cases	Level	Cases	Level	Cases	
BLADDER								
OPEN								
VESICOLITHOTOMY / CYSTOLITHOTOMY		2	5	3	5	4	5	15
SUPRAPUBIC CYSTOSTOMY/ SUPRA PUBIC CATHETER		3	5	4	10	4	5	20
VESICAL DIVERTICULECTOMY		1	3	2	3	3	3	9
PARTIAL CYSTECTOMY		1	1	2	1	2	1	3
RADICAL CYSTECTOMY		1	3	2	3	2	3	9
REPAIR FISTULA, VESICO COLIC, VESIOC URETERIC , VVF		1	2	2	3	2	3	8
AUGMENTATION CYSTOPLASTY ADULT**		1	3	2	3	2	3	9
ENDOSCOPIC								
CYSTOLITHOLAPEXY		2	5	4	5	4	5	15
CYSTOSCOPY (FLEXIBLE)		2	10	4	10	4	10	30
CYSTOSCOPY (RIGID)		3	10	4	20	4	20	50
TUR-BT		2	10	2	10	3	10	30
REMOVAL OF DJ STENT		2	10	4	10	4	20	40
BIOPSY OF BLADDER LESIONS		2	5	3	5	4	10	20

COMPETENCIES		YEAR-1						YEAR-2		YEAR-3		TOTAL # OF CASES
		Level		Cases		Level	Cases	Level	Cases			
PROSTATE												
OPEN												
	TRANSVESICAL PROSTATECTOMY	1	3	2	3	3	3	3	3	3	3	9
	SIMPLE RETROPUBIC PROSTATECTOMY	1	3	2	3	3	3	3	3	3	3	9
	RADICAL RETROPUBIC PROSTATECTOMY**	1	2	2	2	2	2	2	2	3	3	7
ENDOSCOPIC												
	TURP	2	10	3	15	4	15	4	15	40	40	
	TUIP	2	5	3	5	4	7	4	7	17	17	
	LASER PROSTATECTOMY**	1	2	1	3	2	3	2	3	8	8	
URETHRA												
	URETHRAL CATHETERIZATION	4	30	4	30	4	30	4	30	90	90	
	URETHRAL DILATATION	2	10	3	10	4	10	4	10	30	30	
OPEN												
	URETHROPLASTY	1	5	2	5	2	5	2	5	15	15	
	URETHRECTOMY	-	-	1	1	2	1	2	1	2	2	
	INSERTION OF SPHINCTER*	-	-	-	-	1	-	1	1	1	1	
	REPAIR OF HYPOSPADIAS (PROXIMAL)	2	3	2	3	2	3	2	3	9	9	
	REPAIR OF HYPOSPADIAS (DISTAL)	2	3	2	3	3	3	3	2	8	8	
	REPAIR OF FISTULAE	1	1	1	1	2	1	2	1	3	3	
	REPAIR OF EPISPADIAS**	-	-	-	-	1	-	1	2	2	2	

COMPETENCIES		YEAR-1						YEAR-2						YEAR-3						TOTAL # OF CASES
		YEAR-1			YEAR-2			YEAR-2			YEAR-3			YEAR-3						
		Level	Cases		Level	Cases		Level	Cases		Level	Cases		Level	Cases					
ENDOSCOPIC																				
OPTICAL URETHROTOMY		2	10		3	10		4	10								30			
PENIS																				
CORRECTION OF CORDAE (PEYRONIC'S DISEASE)		1	1		1	1		1	1		1	1		1	1		3			
CORRECTION OF PRIAPISM		1	2		2	2		3	2		3	2		3	2		6			
INTRACAVERNOSAL		2	3		3	3		4	3		4	3		4	3		9			
CIRCUMCISION		3	5		4	5		4	5		4	5		4	5		15			
PNECTOMY*		-	-		-	-		-	-		-	-		-	-		1			
INSERTION OF PROSTHESIS*		-	-		-	-		-	-		-	-		-	-		1			
VAGINA																				
NEOVAGINAL RECONSTRUCTION*		-	-		-	-		-	-		-	-		-	-		1			
REPAIR OF FISTULAE (VVF) VAGINALLY		1	2		2	2		2	2		2	2		2	2		6			
AMBIGUOUS GENITALIA																				
CLITORECTOMY		-	-		-	-		-	-		-	-		-	-		1			
PHALLOPLASTY *		-	-		-	-		-	-		-	-		-	-		1			

COMPETENCIES

	YEAR-1		YEAR-2		YEAR-3		TOTAL # OF CASES
	Level	Cases	Level	Cases	Level	Cases	
TESTIS							
OPEN							
TESTICULAR BIOPSY	1	2	2	2	3	5	9
ORCHIDECTOMY	2	5	3	5	4	5	15
RADICAL ORCHIDECTOMY	2	5	3	5	4	3	13
LAPAROSCOPIC							
ORCHIDOPEXY	1	2	2	2	2	2	6
SCROTUM							
OPEN							
HYDROCELECTOMY	2	5	4	5	4	5	15
VASECTOMY	2	5	4	5	4	5	15
EXCISION OF EPIDIDYMAL CYST	2	5	4	5	4	5	15
HIGH LIGATION OF VARICOCCLE (OPEN)	2	5	3	5	4	3	13
INSERTION OF TESTICULAR PROSTHESIS *	-		-		1	1	1
LAPAROSCOPIC							
VARICOCELE LIGATION/MICROSOPIC VARICOCELECTOM IF FACILITY EXISTS *	2	5	2	5	3	5	15

COMPETENCIES							TOTAL # OF CASES
	YEAR-1		YEAR-2		YEAR-3		
	Level	Cases	Level	Cases	Level	Cases	
RECONSTRUCTIVE PROCEDURES							
URETEROSIGMOIDOSTOMY	1	2	2	2	2	2	6
ILEAL CONDUIT	1	5	2	5	3	3	13
CONTINENT RESERVOIR RECONSTRUCTION (INSERT NUMBER AGAINST PROCEDURE)**	1	2	1	3	2	3	8
KOCK POUCH							
ILEAL NEOBLADDER							
ILEOCOLIC NEOBLADDER							
GASTROCYSTOPLASTY							
SIGMOID NEOBLADDER							
MISCELLANEOUS							
OPEN							
PELVIC LYMPHADENECTOMY	1	5	2	5	3	3	13
RETROPERITONEAL LYMPHADENECTOMY	1	2	2	2	2	2	6
INGUINAL HERNIA REPAIR	3	3	4	3	4	3	9
PELVIC EXTENTERATION	-	-	-	-	1	1	1
SEMINAL VESICULECTOMY**	-	-	-	-	1	1	1
OPEN ADRENALECTOMY	1	2	1	2	2	2	6
VASOVASOTOMY**	-	-	-	-	1	1	1

COMPETENCIES

	YEAR-1		YEAR-2		YEAR-3		TOTAL # OF CASES
	Level	Cases	Level	Cases	Level	Cases	
LAPAROSCOPIC							
PELVIC LYMPH NODE DISSECTION*	1	1	1	1	1	1	3
ADRENALECTOMY *	-	-	-	-	1	1	1
TVT/TOT	1	2	2	3	2	3	8
ICSI/ TESSA*	-	-	-	-	1	2	2
TRAUMA							
NEPHRECTOMY	1	1	2	2	2	2	5
REPAIR OF URINARY TRACT INJURIES	1	1	2	2	2	2	5
PAEDIATRIC PROCEDURES							
OPEN							
NEPHRECTOMY SIMPLE	1	5	2	5	3	3	13
WILMS NEPHRECTOMY	1	2	2	2	2	2	6
PYELOPLASTY	2	5	2	5	3	3	13
URETEIC REIMPLANT	1	5	2	5	2	5	15
URETEROSTOMY	1	5	2	5	3	5	15
VESICOSTOMY	1	5	2	5	2	5	15
CLOSURE VESICOSTOMY	1	5	2	5	3	3	13
ORCHIDOPEXY FOR UNDESCENDED TESTIS OPEN	2	5	3	5	4	5	15
TORSION TESTIS	2	5	4	5	4	5	15
HYPOSPADIAS DISTAL REPAIR	2	5	3	5	4	3	13

COMPETENCIES	TOTAL # OF CASES											
	YEAR-1		YEAR-2		YEAR-3		TOTAL # OF CASES					
	Level	Cases	Level	Cases	Level	Cases						
HYOSPADIAS 2 STAGE REPAIR HYOSPADIAS FISTULA REPAIR AUGMENTATION OF BLADDER * MITROFANOFF PROCEDURE* PAEDIATRIC PROCEDURES ENDOSCOPIC CYSTOSCOPY URETEROSCOPY FULGRATION PUV INJECTION DEFLUX/ MACROPLASTIQUE FOR VUR * PCNL IN CHILD LAPAROSCOPIC NEPHRECTOMY CHILD* LAPAROSCOPIC PYELOPLASTY CHILD* ESWL URODYNAMICS (INSERT NUMBER AGAINST PROCEDURE) CYSTOMETRY UPP VIDEOURODYNAMICS*	1	5	2	5	2	5	15					
	2	5	2	5	3	3	13					
	1	3	2	3	2	5	11					
	1	3	2	3	2	5	11					
	2	5	3	5	4	5	15					
	1	5	2	5	3	5	15					
	1	5	2	5	2	5	15					
	1	5	2	5	2	5	15					
	2	10	2	10	3	5	25					
	1	5	2	5	2	5	15					
	1	3	2	3	2	3	9					
	1	10	1	20	3	10	40					
	1	10	3	10	4	10	30					

COMPETENCIES		TOTAL # OF CASES							
		YEAR-1		YEAR-2		YEAR-3		TOTAL # OF CASES	
		Level	Cases	Level	Cases	Level	Cases		
VASCULAR ACCESS SURGERY*									
AVF		2	5	3	5	4	5	15	
VASCULAR GRAFT		1	2	1	2	2	2	6	
PERM CATHETER		1	2	1	2	1	2	6	
TENCHKOFF		-	-	-	-	1	1	1	
RADIOLOGY									
X-RAYS REPORTING		3	20	4	20	4	20	60	
IVU REPORTING		3	20	4	20	4	20	60	
CT SCAN REPORTING		2	10	3	10	3	10	30	
MRI REPORTING		2	5	2	5	2	5	15	
PET SCAN** REPORTING		1	2	1	2	2	2	6	
ULTRASOUND									
PERFORMING ULTRASOUND ABDOMEN (KUB)		2	10	3	20	4	20	50	
PERFORM TRUS*		1	5	2	5	3	5	15	
PERFORM TRUS BIOPSY		1	5	2	5	3	5	15	
RENAL ANGIOGRAPHY		1	2	1	2	1	2	6	
ULTRASOUND GUIDED DRAINAGE KIDNEY		1	5	2	5	2	5	15	
MCUG		2	10	3	10	4	10	30	
URETHROGRAM		2	10	3	10	4	10	30	
ISOTOPE SCANS		1	5	2	5	3	5	15	
OTHER									

COMPETENCIES	YEAR-1				YEAR-2				YEAR-3				TOTAL # OF CASES
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
SKILLS DEVELOPMENT TRAINING													
ENDOTRAINER*	3	20HR	3	20 HR	3	20 HR	3	20 HR	3	20 HR	3	20 HR	60HR
SIMULATOR TRAINING*	3	5HR	3	5HR	3	5HR	3	5HR	3	20HR	3	20HR	30HR
HANDS ON WORKSHOPS	3	5HR	3	5HR	3	5HR	3	5HR	3	5HR	3	5HR	15HR
RESEARCH AND SCHOLARSHIP													
PUBLICATIONS	ANY AUTHOR SELF PRESENTED	1	ANY AUTHOR SELF PRESENTED	1	ANY AUTHOR SELF PRESENTED	1	ANY AUTHOR SELF PRESENTED	1	ANY AUTHOR SELF PRESENTED	1	ANY AUTHOR SELF PRESENTED	1	3
PRESENTATIONS AT SCIENTIFIC MEETINGS		1		1		1		1		2		2	4
PARTICIPATION IN UROLOGY MEETINGS, LOCAL/REGIONAL/NATIONAL OR INTERNATIONAL		5		5		5		5		5		5	15

FOR PROCEDURES MARKED WITH ASTERISK (*), TRAINEES MAY HAVE TO GO TO CENTRES WHERE THIS FACILITY EXISTS

RECOMMENDED READING MATERIAL

A comprehensive urological knowledge requires regular rearing, both of textbooks and journals. Teaching as part of training programmes can supplement, but not replace, regular planned study throughout training. The following books are recommended for Urology.

- Campbell's "Urology",
- Smith Urology
- EUA Guidelines
- AUA Guidelines
- Gillenwater's "Adult and Paediatric Urology", Surgery",
- Blandy and Fowler's "Urology",
- Mundy, Fitzpatrick, Neal and George: "Basic Science in Urology".
- Krane, Siroki and Fitzpatrick's "Clinical Urology" A candidate will be expected to have a knowledge of the important publications on a subject and their authors, particularly in recent editions of important journals like
- BJU International
- The Journal of Urology.
- Urologic Clinics of North America
- European Urology

ASSESSMENT

FORMATIVE ASSESSMENT:

College of Physicians and Surgeons Pakistan, in order to implement competency based education in letter and spirit, is introducing Work Placed Based Assessment (WPBA) in addition to institutional/ departmental assessments. To begin with college is introducing Mini-CEX and DOPS to ensure that the graduates are fully equipped with the clinical competencies.

Mini Clinical Evaluation Exercise (Mini-CEX)

During training in Urology one Mini-CEX in each quarter on any of the following topics is to be conducted as under:

- Mini-CEX is entirely a formative tool of assessment and is to be accompanied with constructive feedback
- Each Mini-CEX encounter extends for about 20 minutes with 05 minutes for feedback and further action plan
- In case of unsatisfactory performance of the resident, a remedial has to be completed within stipulated time frame
- The topics given below are to be covered accordingly, focusing each time on a different topic
- Non-compliance by the resident has to be reported in quarterly feedback.
- The performance is reported online on the prescribed form (sample given below)

Topics List of Mini-CEX:

First Year:

- History taking for Flank Pain
- History taking for Haematuria
- Counseling/Informed Consent for Surgery
- Pre-operative Management (Preparation) of Diabetic Patient for Surgery
- Pre-operative Management (Preparation) of Hypertensive Patient for Surgery
- Pre-operative Management (Preparation) of Ischemic Heart Disease Patient for Surgery
- Proper Writing of the Calls to Different Departments
- Proper Discharge Plan (Report)
- External Genitalia Examination for Hydrocele

- External Genitalia Examination for Varicocele
- External Genitalia Examination for Epididymal cyst
- Hypospadias Examination
- Digital Rectal Examination
- Suprapubic Catheter Examination
- Abdominal Incision Examination

Second Year:

- Structured IPSS History
- Prescription Writing for Medical Management of Benign
- Enlarged Prostate
- Pre-operative Counseling
- Pre-operative Patient Education
- Reviewing a Patient for Discharge
- Extrophy-Epispadias Examination
- Urethral Fistula Examination
- Perineal Scar(s) Examination
- Peyronie's Disease Examination
- Forearm/Arm Examination for Suitability of Arteriovenous
Fistula
- AV Fistula Examination

Third Year:

- Management Plan for Non-Muscle Invasive Bladder Cancer
(NMIBC)
- Management Plan in Active Intervention for Urolithiasis
- Decision Making for Surgical Options
- Management Plan for Renal Cell Carcinoma
(Partial Nephrectomy vs. Radical Nephrectomy)
- Assessment of Renal Transplant Patient
- Post-Operative Patient Education
- Write Follow up Plan for Urocancers
- Counsel the Patient: Dietary Modification for Prevention of
Urolithiasis
- PCN Tube Examination
- Renal Mass Examination
- Abdominal Mass Examination
- Double Lumen Examination
- Grafted Kidney Examination
- Femoral Line Examination

- Post-operative Drain(s) Examination
- Examination for Ambiguous Genitalia
- Testicular Tumor Examination



MINI CLINICAL EVALUATION EXERCISE (CEX)

SPECIALTY: UROLOGY

Time Duration = 20 mins (15 mins assessment and 5 mins feedback)

PLEASE COMPLETE THE QUESTIONNAIRE BY FILLING/CHECKING APPROPRIATE BOXES

Assessor: _____ Assessment Date: _____

Resident's Name: _____

Hospital Name: _____ R&RC Number: _____

Year of Residency: ☐ R1 ☐ R2 ☐ R3 ☐ R4 ☐ R5

Quarter: ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th

Setting: ☐ Ward ☐ Outdoor (Hospital/Community) Other: _____

Diagnosis of Patient: _____ Patient Age: _____ Sex: _____

Clinical Area: _____

Complexity of Case/ Procedure: ☐ Low/Easy ☐ Moderate/Average ☐ High/Difficult ☐ N/A

Focus of Clinical Encounters: ☐ History taking ☐ Physical Examination ☐ Management

☐ Communication Skills ☐ Other: _____

Please grade the following areas on the given scale:	Not Observed / Applicable	Below Expectations		Satisfactory	Above Expectation	Excellent
		1	2	3	4	5
Informed Consent of patient						
Interviewing Skills						
Systematic Progression						
Presentation of positive & significant negative findings						
Justification of actions						
Professionalism						
Organization/Efficiency						
Overall clinical competence						

Assessor's Satisfaction with Mini-CEX:

(Low) 1 2 3 4 5 (High)

Resident's Satisfaction with Mini-CEX:

(Low) 1 2 3 4 5 (High)

Strengths	Suggestions for Improvement

Encounter to be repeated ☐ YES ☐ NO

Signature _____

Direct Observation of Procedural Skills (DOPS)

During training in Urology one DOPS in each quarter on any of the following topics is to be conducted as under:

- DOPS is entirely a formative tool of assessment and is to be accompanied with constructive feedback
- Each DOPS encounter extends for about 20 minutes with 05 minutes for feedback and further action plan
- In case of unsatisfactory performance of the resident, a remedial has to be completed within stipulated time frame
- The topics given below are to be covered accordingly, focusing each time on a different topic/procedure
- Non-compliance by the resident has to be reported in quarterly feedback.
- The performance is reported online on the prescribed form (sample given below)

Topics List of DOPS:

First Year:

- IV Cannulation
- IM Injection
- Blood Transfusions
- Urethral Catheterization
- Positioning of Critical Patients in Ward
- Making Lithotomy Position in OT
- Making Flank Position in OT
- Assembly of Equipment

Second Year:

- Percutaneous Nephrostomy (PCN)
- Ultrasound KUB
- Suprapubic Catheterization
- Flexible Cystoscopy
- Rigid Cystoscopy
- Double J-Stent (DJS) Placement
- Assembly of Trans-urethral Resection (TUR) System
- Rolly Ball in Trans-urethral Resection (TUR)
- Retrograde Pyelogram (RGP) in Percutaneous Nephrolithotomy (PCNL)
- Percutaneous Nephrolithotomy (PCNL) Puncture

Third Year:

- Extracorporeal Shock Wave Lithotripsy (ESWL)
- Urodynamics
- Suprapubic Catheterization
- Trans-urethral Incision of the Prostate (TUIP)
- Trans-urethral Resection of the Prostate's (TURP) Median Lobe only
- Opening / Closing for Open Surgery
- Trans-urethral Resection of Bladder Tumor (TURBT) [Small Tumor]
- Percutaneous Nephrolithotomy (PCNL) Tract Dilatation
- Nephroscopy and Stone Retrieval

DIRECT OBSERVATION OF PROCEDURAL SKILLS (DOPS)

SPECIALTY: UROLOGY

Time Duration = 20 mins (15 mins assessment and 5 mins feedback)

PLEASE COMPLETE THE QUESTIONNAIRE BY FILLING/CHECKING APPROPRIATE BOXES

Assessor: _____ Assessment Date: _____

Resident's Name: _____

Hospital Name: _____ R&RC Number: _____

Year of Residency: ☐ R1 ☐ R2 ☐ R3 ☐ R4 ☐ R5

Quarter: ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th

Setting: ☐ O.T. ☐ Procedure Room Other: _____

Diagnosis of Patient: _____ Patient Age: _____ Sex: _____

Name of Procedure: _____

Complexity of Case/ Procedure: ☐ Low/Easy ☐ Moderate/Average ☐ High/Difficult ☐ N/A

Number of times procedure performed by Resident: _____

Please grade the following areas on the given scale:	Not Observed / Applicable	Below Expectations		Satisfactory	Above Expectation	Excellent
		1	2	3	4	5
Indications, anatomy & steps of procedure						
Informed consent, with explanation of procedure and complications						
Preparation for procedure						
Use of Anesthesia, Analgesia or sedation						
Observance of asepsis						
Safe use of instruments						
Use of accepted techniques						
Management of unexpected event (or seeks help)						
Post-procedure instructions to patient and staff						
Professionalism						
Overall ability to perform whole procedure						

Assessor's Satisfaction with DOPS:

(Low) 1 2 3 4 5 (High)

Resident's Satisfaction with DOPS:

(Low) 1 2 3 4 5 (High)

Strengths	Suggestions for Improvement

Encounter to be repeated ☐ YES ☐ NO

Signature

SUMMATIVE ASSESSMENT:

The Eligibility Requirements for Residents Appearing in FCPS-II Examination are:

- To have passed FCPS-I in Surgery and Allied or been granted official exemption.
- To have undertaken two years training in Intermediate Module in Surgery and Allied.
- To have undertaken three years specified training in Urology
- To provide certificate of having passed Intermediate Module Examination in Surgery and Allied.
- Completion of entries in e-logbook along with validation by the supervisor
- To provide a certificate of approval of dissertation or acceptance of two research papers which must accompany the application form.
- To provide a certificate of attendance of mandatory workshops.

EXAMINATION SCHEDULE

- CPSP theory examinations may be held once or twice a year depending upon the number of candidates.
- Theory examinations are held in various cities of the country usually at Abbottabad, Bahawalpur, Faisalabad, Hyderabad, Islamabad, Karachi, Lahore, Larkana, Multan, Peshawar, Quetta and Rawalpindi, centres. The College shall decide where to hold oral/practical examination depending on the number of candidates in a city and shall inform the candidates accordingly.
- English shall be the medium of examination for the theory/practical/ clinical and viva examinations.
- The College will notify of any change in the centres, the dates and format of the examination.
- A competent authority appointed by the College has the power to debar any candidate from any examination if it is satisfied that such a candidate is not a fit person to take the College examination because of using unfair means in the examination, misconduct or other disciplinary reasons
- Each successful candidate in the Fellowship examination shall be entitled to the award of a College Diploma after being elected by the College Council and payment of registration fees and other dues.

EXAMINATION FEES

- Fees deposited for a particular examination shall not be carried over to the next examination in case of withdrawal/absence/exclusion.
- Applications along with the prescribed examination fees and required documents must be submitted by the last date notified for this purpose before each examination.
- The details of examination fee and fees for change of centre, subject, etc. shall be notified before each examination.

REFUND OF FEES

If, after submitting an application for examination, a candidate decides not to appear, a written request for a refund must be submitted before the last date for withdrawal with the receipt of applications. In such cases a refund is admissible to the extent of 75% of fees only. No request for refund will be accepted after the closing date for receipt of applications.

If an application is rejected by the CPSP, 75% of the examination fee will be refunded, the remaining 25% being retained as a processing charge. No refund will be made for fees paid for any other reason, e.g. late fee, change of centre/subject fee, etc.

FORMAT OF EXAMINATION

Every candidate applying for the fellowship of the College of Physicians and Surgeons Pakistan must pass both parts of the Fellowship examination unless exemption is approved. Since the College is continually seeking to improve its examinations, changes are likely from time to time and candidates will be notified in advance of such changes.

PART-I: THEORY EXAMINATION:

Paper-I: 100 Multiple Choice Questions (MCQs)

Paper-II: 100 Multiple Choice Questions (MCQs)

Only those candidates who pass through the written examination will be allowed to appear in clinical examination.

PART-II CLINICAL EXAMINATION

The clinical section comprises of two components:

- **First Component:**
 - TOACS: 14-16 Stations
- **Second Component:**
 - One Long Case
 - Four Short Cases (Patients maybe Physical/Virtual)

Only those candidates who pass through TOACS examination will be allowed to appear in the remaining components of clinical examination.

FORMAT OF TOACS

Task Oriented Assessment of Clinical Skills (TOACS) has been introduced since November, 2001 in FCPS examinations. TOACS will comprise of 14-16 stations including one station on e-log. All stations are required to be "Interactive". At these stations, the candidates will be required to perform a task, for example, taking history, performing clinical examination, counseling, assembling an instrument or any other task. One examiner will be present at each interactive station and will rate the performance of the candidate and ask questions testing critical thinking and problem-solving skills.

FORMAT OF LONG CASE

Each candidate will have one hour for long case in which 30 minutes will be allotted for history taking and clinical examination where as 40 minutes will be for case discussion. Candidates should take a careful history from the patient (or relative) and after a thorough physical examination identify the problems which the patient presents with. During the period a pair of examiners will observe the candidate. In this section the candidates will be assessed on the following areas:

Interviewing Skills

- Introduces one self. Listens patiently and is polite with the patient.
- Is able to extract relevant information.

Clinical Examination Skills

- Takes informed consent
- Uses correct clinical methods in a systematic manner (including appropriate exposure and re-draping).

Case Presentation / Discussion

- Presents skillfully
- Gives correct findings
- Gives logical interpretations of findings and discusses differential diagnosis
- Enumerates and justifies relevant investigations.
- Outlines & justifies treatment plan (including rehabilitation)
- Discusses prevention and prognosis
- Has knowledge of recent advances relevant to the case
- During case discussion the candidate may ask the examiners for laboratory investigations which shall be provided, if available. Even if they are not available and are relevant, candidates will receive credit for the suggestion

FORMAT OF SHORT CASES

Candidates will be examined in at least four short cases for a total of 40 minutes jointly by a pair of examiners. Candidates will be given a specific task to perform on patients (physical / virtual), one case at a time.

During this part of the examination, the candidate will be assessed in:

Clinical Examination Skills

- Takes informed consent.
- Uses correct clinical methods.
- Examines systematically.

Discussion

- Gives correct findings.
- Gives logical interpretations of findings.
- Justifies diagnosis/es.

As the time for this section is short, the answers given by the candidates should be precise, succinct and relevant to the patient under discussion.

NOTE: The resident is required to fill a self-explanatory 'feedback proforma' at the end of the examination.

THE COLLEGE RESERVES THE RIGHT TO ALTER/AMEND ANY RULES/REGULATIONS

Any decision taken by the College on the interpretation of these regulations will be binding on the applicant.

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