European Board of Urology

Training Requirements for the Specialty of Urology

October 2022

European Standards of Postgraduate Medical Specialist Training - Preamble

The UEMS is a non-governmental organisation representing national associations of medical specialists at the European Level. With a current membership of 41 countries, it is the representative organisation of the National Associations of Medical Specialists in the European Union and its associated countries. Its structure consists of a Council responsible for and working through 43 Specialist Sections and their European Boards, addressing training in their respective Specialty and incorporating representatives from academia (Societies, Colleges and Universities). The UEMS is committed to promote the free movement of medical specialists across Europe while ensuring the highest level of training which will pave the way to the improvement of quality of care for the benefit of all European citizens. The UEMS areas of expertise notably encompass Continuing Medical Education, Post Graduate Training and Quality Assurance.
It is the UEMS' conviction that the quality of medical care and expertise is directly linked to the quality of training provided to the medical professionals. Therefore, the UEMS committed itself to contribute to the improvement of medical training at the European level through the development of European Standards in the different medical disciplines. No matter where doctors are trained, they should have at least the same core competencies.
In 1994, the UEMS adopted its “Charter on Post Graduate Training” aiming at providing the recommendations at the European level for good medical training. Made up of six chapters, this Charter set the basis for the European approach in the field of Post Graduate Training. With five chapters being common to all specialties, this Charter provided a sixth chapter, known as “Chapter 6”, that each Specialist Section was expected to complete according to the specific needs of their discipline.
More than a decade after the introduction of this Charter, the UEMS Specialist Sections and European Boards have continued working on developing these European Standards in Medical training that reflects modern medical practice and current scientific findings. In doing so, the UEMS Specialist Sections and European Boards did not aim to supersede the National Authorities' competence in defining the content of postgraduate training in their own State but rather to complement these and ensure that high quality training is provided across Europe.
At the European level, the legal mechanism ensuring the free movement of doctors through the recognition of their qualifications was established back in the 1970s by the European Union. Sectorial Directives were adopted and one Directive addressed specifically the issue of medical Training at the European level. However, in 2005, the European Commission proposed to the European Parliament and Council to have a unique legal framework for the recognition of the Professional Qualifications to facilitate and improve the mobility of all workers throughout Europe. This Directive 2005/36/EC established the mechanism of automatic mutual recognition of qualifications for medical doctors according to training requirements within all Member States; this is based on the length of training in the Specialty and the title of qualification.

Given the long-standing experience of UEMS Specialist Sections and European Boards on the one hand and the European legal framework enabling Medical Specialists and Trainees to move from one country to another on the other hand, the UEMS is uniquely in position to provide specialty-based recommendations.

The UEMS values professional competence as “the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served”. While professional activity is regulated by national law in EU Member States, it is the UEMS understanding that it has to comply with international treaties and UN declarations on Human Rights as well as the WMA International Code of Medical Ethics. This document derives from the previous Chapter 6 of the Training Charter and provides definitions of specialist competencies and procedures as well as how to document and assess them. It aims to provide the basic European Training requirements for Urology and Andrology and should be regularly updated to reflect scientific and medical advances.

I. TRAINING REQUIREMENTS FOR TRAINEES

Introduction

The EBU promotes the harmonization of urological training programs across Europe. It acts as a coordinating and monitoring body for the training in Urology in the EU and formulates standards, mentioned hereafter, for the training institutions, the trainers and the trainees within the specialty of Urology.

Specialization as a Urologist requires that the trainee acquires the theoretical knowledge in all the different aspects of the field of urology, as well as the practical and clinical skills. It should prepare the trainee for the operative and non-operative management of patients, ie. disease prevention, diagnosis, multidisciplinary decision-making, treatment, and management of both benign and malignant conditions.

Certification as a urologist is obtained after satisfying all the training requirements of the urology training programme at a national level in an EBU member country. The European Board of Urology, through its Examination Committee, offers high-quality exams which reflect current European standards.

Training in Urology should be undertaken in training institutions that provide the standard of education that is expected to be achieved. It is the EBU that sets these standards and is actively involved in the assessment and certification of such residency training programmes. The EBU has a Certification committee which functions to determine standards and quality assurance when assessing the Residency training programme of the Institution concerned. During the training period, the trainee should have time and opportunities allocated for practical and theoretical study and also have access to relevant national and international literature.

The ratio between the number of specialists on the teaching staff and the number of trainees at any given moment should be tailored to provide close personal monitoring of the trainees as well as adequate exposure of the trainees to sufficient practical work.

1. CONTENT OF TRAINING AND LEARNING OUTCOME

A medical trainee is a doctor who has completed their general professional training as a physician and is in an accredited training programme, to become a recognised medical specialist, variably known in different countries as an intern, fellow or registrar.

'Learning Outcomes' means statements of what a learner knows, understands and is able to do on completion of a learning process, which are defined in terms of knowledge, skills and competence.

1.a. Theoretical knowledge

This section includes the main domains covered by the specialty which the trainee should know. These "learning objectives" may also be accessed from the EBU official website.
The compilation of the EBU Learning Objectives has been derived from a variety of existing documents that deal with the syllabus/curriculum that is expected of a fully trained urologist. It is also very important that the trained urologist exhibits the professional behaviour that is befitting of a specialist doctor.
A general outline is presented and is intended to be a guide rather than a fully exhaustive list. Suitable sources of information include urology textbooks, scientific papers, podcasts and other learning formats and guidelines produced by the EAU and other educational urological institutions.

The Learning Objectives include 10 sections.
Section 1: Professionalism expected of a trained urologist
Section 2: Basic science and other general areas
Section 3: Urinary tract infections, sexually transmitted and parasitic diseases
Section 4: Urinary incontinence, functional urology, LUTS and benign prostatic hypertrophy
Section 5: Renal failure and renal transplantation
Section 6: Stone disease
Section 7: Urological malignancies
Section 8: Andrology, infertility, penile and scrotal surgery
Section 9: Paediatric urology
Section 10: Trauma

SECTION 1: PROFESSIONALISM EXPECTED OF A TRAINED UROLOGIST

Professional behaviour and ethics

Patients need good urologists. Patients must be able to trust urologists with their lives and health. To justify that trust urologists must show respect for human life and make sure their practice meets the standards expected of them. This places certain obligations and duties upon the urologist that they must fulfil.

Good urologists make the care of their patients their first concern: they are competent, keep their knowledge and skills up to date, establish and maintain good relationships with patients and colleagues, are honest and trustworthy, and act with integrity and within the law. Good urologists work in partnership with patients and respect their rights to privacy and dignity. They treat each patient as an individual. They do their best to make sure all patients receive good care and treatment that will support them to live as well as possible, whatever their illness or disability.

It is being expected that during their training to become a specialist Urologist, the doctor will have not just acquired the specialist knowledge along with clinical and operative skills to enable clinical practice, but also would have developed and habituated values, behaviours and actions which are truly professional.

Therefore, the abilities that are required for being a professional go far beyond just being a good clinician. It is important that the doctor is a good communicator with fellow healthcare professionals and also with patients and their relatives so that the clinical pathway is clearly understood by everyone. It is important that the doctor appreciates the commitment for lifelong learning and has the skills to evaluate scientific data and to be able to follow a path of "knowledge-based" medicine.

The urologist must appreciate that they also have a teaching role and are committed to training future generations of professionals. The urologist also needs to have the administrative, managerial, and leadership skills to be able to manage clinical practice and also to be able to manage research when working in an academic environment.

Central and core to all other requirements the urologist is expected to have developed clear moral principles and characteristics: honesty, integrity, compassion, fortitude, trustworthiness, conscientiousness, practical wisdom, and humility. These will shape and govern their behaviour in their medical practice.

Good clinical care

The basis for good clinical management is to be able to elicit a good clinical history and to be skilled at performing a good physical examination. This is the basis of the ability to formulate an appropriate diagnostic and therapeutic plan. In turn good clinical care requires the ability to communicate this clearly with the patient, and to be receptive to the fears, expectations and needs of the individual patient and to any cultural beliefs.

Good clinical care requires that the urologist to involve other allied professionals in the decision-making process as required, recognising that the best care for the patients requires consensus on appropriate management in certain cases.

The good urologist recognizes the limits of their own expertise and abilities and therefore practises within the limits of their own professional competence being open to seeking a second opinion or the assistance of others. A good urologist will be able to inform patients in such a way that they can understand, appreciate and deliberate upon the diagnosis and therapeutic options available and their implications. patient will be able

give The good urologist will facilitate patient choice and to be willing to adapt or adjust treatment according to the beliefs and preferences of the patient.
These actions will ensure that a patient is truly able to give fully informed consent for any course of action, diagnostic or therapeutic.

A good communicator
It can be appreciated, therefore, that the fundamental purpose of interaction of the doctor with the patient is to establish a good doctor/patient relationship based on good understanding, trust, respect empathy and confidentiality. It is essential that the urologist has the skills to communicate in a manner that is clearly understood by the patient but that also allows for listening to the patient's perspective. It is also necessary that the urologist has the necessary skills for breaking bad news in a manner that is appropriate for the clinical circumstances and acting with empathy, honesty, and sensitivity avoiding undue optimism or pessimism.
The urologist, likewise, must communicate with other allied healthcare professionals with similar care and professionalism, respecting individual and their professional position expertise.

The doctor as a teacher/researcher
It is important that the urologist recognises the responsibility to be an educator and as such needs to be able to allocate the necessary time and the appropriate environment for education. This education might involve medical students, trainee doctors whether urologists or others as well as other healthcare professionals. As a teacher the doctor needs to maintain honesty, empathy, and objectivity during appraisal and assessment.
The urologist educator should have acquired the necessary specialist knowledge, skills, and abilities or education and training recognising that there is a professional basis to educational practice as much as there is to medical practice.
In consequence of which the urologist educator should be familiar with educational theory and practice and keep up to date with this through their continuing professional development as much as they might in respect of their clinical practice. It is important that the doctor is involved in 'lifelong learning' promotes evidence-based guidelines and practice. Therefore, they should be involved in audit of their clinical practice and promote high standards of clinical care and quality assurance.
They should be involved in medical research in accordance with the responsibilities of their post and follow the highest ethical standards in research.

The doctor as a manager and leader
The good urologist when acting as a manager, must ensure that they act in accordance with the principle that the care of the patient is the first concern. Any plans and actions must be flexible and take into account the needs and requirements of others.to The urologist manager should involve others in their decision-making. This involves good communication skills, gaining trust and respecting the roles of others, managing differences of opinion and adopting a 'team-approach'.
To be able to identify the need for instituting change in clinical practice when appropriate and to facilitate such change where necessary.

Promoter of good health

The good urologist should understand the factors that influence the incidence and prevalence of certain diseases and should understand the role of screening programmes. They should be able to show willingness to maintain a close working relationship with other members of a multi-disciplinary team and should encourage screening (where appropriate) to facilitate early disease detection.

They should promote lifestyle changes with a view to reducing incidence of ill-health.

SECTION 2: BASIC SCIENCES AND OTHER GENERAL AREAS

To know about the basic techniques that are currently in use in medical laboratories including the tests that are done in the microbiology laboratory.
To know the aetiology, pathophysiology and pathogenesis of disease, of infection and of microbiology.
To know about nuclear medicine; palliative medicine; emergency medicine; transfusion medicine; psychosomatic medicine; radiology and radiation protection.
To know about pharmaco-therapy including drug interaction, drug abuse and pain medication.
To know how to take a clinical history from a patient and how to do a full physical examination.
To have good communication skills with colleagues, patients and relatives.
To know the role and extent of multidisciplinary team-working for establishing an extended differential diagnosis.
To practice with proper documentation of clinical information, appropriate time management and to practice in a manner that includes informed consent.
To know about medical and scientific ethics and about medico-legal issues.
To know specific aspects of disease prevention and rehabilitation.
To know the structure of the national health care system and to know about the economic issues that are involved.

- Normal development of genitourinary tract (Embryology)

To know the embryological development of the kidney, bladder and ureter and of the genital and reproductive systems, the female and male external genital systems.
To know about the migration of the gonads to their normal anatomic locations.

- Anatomy of the retroperitoneum, adrenal glands, kidneys and ureters, lower urinary system and the genital organs

To know the anatomy of the retroperioneum and its contents.
To know the anatomy of abdominal aorta, the inferior vena cava, the lymphatics and the nervous systems found in the retroperitoneum.
To know the anatomy, blood supply and innervation of the adrenal glands.
To know the macroscopic and microscopic anatomy of the kidneys.
To know anatomy, blood supply, lymphatic drainage and innervation of the kidneys. To know the normal anatomy of ureters (and their anatomical variations) and to know the blood supply, innervation and lymphatic drainage.

To know the anatomy of the female and male bony pelvis and the adjacent organs.
To know the soft tissues in the pelvis, their blood supply and innervation.
To know the anatomy of rectum, bladder and prostate together with their blood supply and innervation.
To know the anatomy of male and female urethra, the vas deferens, seminal vesicles, spermatic cord including their blood supply and innervation.
To know the anatomy of penis, scrotum and testes including their blood supply and innervation.

- **Renal physiology – pathophysiology**

To know the structure of the nephron and to understand the basic renal physiology. To know the structure and function of afferent- and efferent- renal arterioles and the glomerulus.
To know the structure and function of renal tubules within the renal nephron.
To know the physiology and the pharmacology of the renal pelvis and ureters and to know the pathophysiology of urinary system obstruction.
To know how to calculate the creatinine clearance.
To know the renin-angiotensin-aldosterone mechanism and to know the disorders and their treatment.

- **Fluid electrolyte balance**

To know how to diagnose and treat hyper/hypovolaemia, hyper/hyponatraemia, hyper/hypokalaemia, hyper/hypocalcaemia and hyper/hypomagnesaemia.
To know about the disorders of acid-base balance and to know the appropriate treatment.

- **Imaging of the Urinary Tract**

To know the current indications, contraindications and complications of conventional imaging techniques (to include intravenous urogram (IVU), direct urinary system radiography (DUSG), retrograde and antegrade pyelography, loopography, urethrography and cystography/voiding cystourethrography).

To know the physics of ultrasound.
To know the indications for urinary tract ultrasound studies.
To know the indications for nuclear medicine investigations (DMSA, DTPA, PET, MAG-3, PET-CT).
To know the physics of computed tomography (CT) (including the dynamic and multiphasic protocols) and to know the properties of image reconstruction of the CT machine.
To know the normal anatomic structures and the pathological processus of the body as seen by CT.
To know the physics of magnetic resonance imaging (MRI) and to know its dynamic and multiphasic investigative properties.
To know the indications for MRI investigation and its contraindications and complications.
To know how to interpret MRI imaging and be able to describe the varied appearances of the body's anatomic structures in normal and pathologic situations.
To know the different indications, complications and contraindications of contrast media.
To be able to prevent and to treat an allergic reaction to contrast media.

- **Urinary tract obstruction**

To know how to diagnose urinary tract obstruction and which imaging modalities are used.
To know the pathophysiological effects this can have on the kidney.
To know the normal and pathologic renal pelvis in urinary obstruction using ultrasound and to know about the use and interpretation of scintigraphy in urinary obstruction.
To know the outcome of different methods of surgery (endoscopic, laparoscopic or open) for urinary obstruction.
To know the aetiology, clinical presentation and differential diagnosis of retroperitoneal fibrosis and what imaging methods are used to make the diagnosis.
To know the medical and surgical therapy options for retroperitoneal fibrosis.
To know the clinical significance of a retrocaval ureter.
To know the aetiology, diagnosis and therapy of a ureteral stricture depending on the site of the stricture.

- **Anaesthesia and premedication in urological surgery**

To know about the pre-operative preparation of a patient for surgery including the physical examination, the organising of appropriate investigations and referral for specialist consultation when necessary.
To know how to manage postoperative pain.
To know the indications for general anesthesia and local/regional anaesthesia.
To know how to do local anaesthesia in different anatomical sites (penile block, inguinal block, spermatic cord nerve block, periprostatic nerve block and skin infiltration anesthesia).
To know about the various concomitant anticoagulant medications that are currently in use in many patients undergoing urological surgery and to know about the pre-operative precautions that are necessary.
To know the indications and use of different types of premedication.

- **Urological surgical equipment and principles of sterilization/disinfection**

To know the hospital equipment that is currently commonly in use for different urological operations.
To know the principles of sterilisation or high-level disinfection that is necessary to ensure safe use of this equipment.
To know how to define the terms: sterilisation, disinfection, asepsis and antisepsis.
To know the different sterilisation techniques in use in operating rooms, patient wards and other areas.

- **Incision techniques, suturing techniques and wound care**

To know the relevant local anatomy encountered when performing a midline incision, anterior subcostal incision, lumbotomy incision, paramedian incision, Gibson (flank) incision, Pfannenstiel incision, subinguinal incisions, scrotal and perineal incisions.
To know about different suturing materials and which type of suture should be used in which type of tissue.
To know about appropriate wound care and about the dressings that are required.

- **Drainage of urinary system and catheterisation**

To know the indications and complications for ureteral stenting and to know the different types of ureteral stents that are available.
To know the technique and the indications and complications of nephrostomy.
To know the technique and complications of urethral catheterization.
To know the indications for permanent and temporary urinary catheters and be able to describe the technique of self-catheterisation.
To know the technique, the indications, potential complications and contra-indications of suprapubic catheterization.

- **Principles of endoscopic surgery**

To know the endoscopic procedures for lower and upper urinary system conditions.
To know how to position a patient for cystoscopy.
To know the normal and pathological structures which are encountered in the urethra, urinary bladder and upper tract during cystourethroscopy and ureterorenoscopy.
To know the correct method of specimen collection during cystoscopy and ureterorenoscopy.
To know the optimal placement of endoscopy equipment and imaging units in the operating theatre during endoscopic surgery.

- **Robotic and laparoscopic surgery**

To know the history of robotic and laparoscopic surgery and to know the existing robotic platforms.
To know how to place the patient correctly on the operating table and know which port configurations are necessary for robotic and laparoscopic surgery.
To know specific robotic and laparoscopic surgery complications and to know how to manage them.
To know about the points of caution for the assistant surgeon.
To know which surgical instruments are used during robotic and laparoscopic surgery.

- **Physiologic changes in laparoscopic and robotic surgery and patient preparation**

To know the preoperative evaluation and preparation of the patient that is necessary for both laparoscopic and robotic surgery.
To know the entry techniques and port placements that are needed in laparoscopic and robotic surgery.
To know the instruments and equipment that are used during these procedures (hand tools, power sources, haemostasis methods, stapler and clips).
To know the normal anatomy of the intraperitoneal and retroperitoneal organs.
To know the diagnosis and treatment of certain complications that might develop due to pneumoperitoneum and pneumoretroperitoneum.
To know how to recognize the complications and to know the treatment options for the injuries of vessels, visceral organs and intestines.

To know the anaesthetic complications specific to laparoscopic and robotic surgery.
To know how to describe the technique of intracorporeal or extracorporeal knot-tying. To know about the points of caution while exiting the abdomen and to know the principles of post-operative care for patients undergoing laparoscopic and robotic surgery.

- **Molecular genetics and cancer biology**

To know the normal cell cycle and related basic mechanisms.
To know the DNA structure, replication, the process of protein synthesis and their relationship with diseases and be able to make a differential diagnosis according to the individual chromosomes, DNA and genes that are present.
To know the processes involved in DNA, RNA and protein synthesis.
To know the mechanisms of DNA damage and repair.
To know about DNA mutations and be able to explain the relationship between DNA replication, transcription and translation errors and the development of urologic diseases.
To know the essentials of gene therapy, and pharmacogenomics and their place in urology.
To know the benefit of cell cultures from a urological perspective.

- **Basic principles of immunology in urology**

To know the principles of heredity using basic genetic concepts and the concept of proto- oncogene and oncogene and to know their roles in the development of urologic cancers.
To know the relationship between malfunctioning of the immune system and the development of urological diseases.
To know the genetic, molecular, biologic and immunologic methods used in the treatment of urological disease.
To know the relationship between proto-oncogenes, oncogenes, tumour suppressor genes, DNA repair genes and the development of urological cancers.
To know about genetic mutations and gene polymorphisms.
To know the hereditary aspects of certain urological cancers and the mechanisms that are responsible.
To know about the laboratory methodology that is currently used for basic molecular biology.

- **Evaluation of health services, informed consent and medico-legal issues**

To know the basic goals of an ideal health service and the importance of clear rules regarding patient accessibility and the importance of supervision of public health care services.
To know how to justify the cost and quality of these services.
To know the difference between preventive and therapeutic health services.
To know what information needs to be in a patient's hospital file.
To know the principle of informed consent and to know the importance of the medico-legal perspective of clinical care.

SECTION 3: URINARY TRACT INFECTIONS, SEXUALLY TRANSMITTED AND PARASITIC DISEASES

To know how to classify, diagnose and differentiate between complicated and non-complicated urinary infections.
To know the pathogenesis, the clinical manifestations and the laboratory investigations and imaging techniques that are required for the investigation of urinary infections.
To know the principles of antimicrobial therapy and antimicrobial prophylaxis for certain urological procedures and the appropriate use of antibiotics.
To know the management of recurrent urinary infections and the indications for surgical and/or medical intervention and their possible complications.
To know how to diagnose and treat bacteraemia, sepsis and septic shock.

To know the aetiology, pathophysiology, incidence / prevalence, clinical findings and symptoms of acute and chronic pyelonephritis, xanthogranulomatous pyelonephritis, renal abscess-carbuncle, and pyonephrosis.
To know the clinical presentation, laboratory diagnosis, radiological findings and treatment of other infections such as Fournier's gangrene and periurethral abscess.
To know the epidemiology, histopathology, classification, clinical findings, laboratory findings, imaging methods, treatment methods for prostatitis and chronic pelvic pain syndrome, orchitis and epididymitis.
To know the appropriate management of bacteriuria during pregnancy, in the elderly and also in spinal cord patients.

- Sexually transmitted diseases

To know the aetiology, epidemiology, pathogenesis, pathology, clinical features and the laboratory and imaging tests that are required for diagnosis of gonococcal urethritis and non- gonococcal urethritis, genital syphilis, chlamydia, lymphogranuloma venerum, chancroid, genital herpes, condyloma acuminatum (HPV), HIV–AIDS, and genitourinary tuberculosis.
To know the complications of these conditions and to know their treatment and follow up protocols.
To know the aetiology, epidemiology and management of fungal infections.
To know about the culture media, serum immune studies, and the routine laboratory investigations that are required in the diagnosis of fungal infections.

- Parasitic infestations

To know the epidemiology and the clinical presentation and treatment of parasitic infestations such as bilharzia and renal echinococcosis.

SECTION 4: URINARY INCONTINENCE, FUNCTIONAL UROLOGY, LUTS AND BENIGN PROSTATIC HYPERTROPHY

To be able to take a good history and to be able to establish a differential diagnosis by use of appropriate clinical examination and investigations (including urodynamic evaluation when appropriate) and to know the therapeutic options for management.

- The anatomy of the urinary system and the physiology of micturition

To know the anatomy, the development and function the of the renal pelvis and ureter.
To know the normal nervous system control of ureteral function and urine transport and to know how disease can affect this control.
To know the physiology and mechanical properties of the urothelium and smooth muscle of the bladder.
To know the overall neural control and pharmacology of the lower urinary, be able to classify lower urinary system dysfunction and to know their respective pathophysiologies.
To know the physiology of micturition and lower urinary tract symptoms.
To know how to diagnose neurogenic lower urinary tract disorders and their natural course including complications and to know their management strategies.

- Lower urinary tract symptoms (LUTS)

To know the definition according to ICS terminology of storage, voiding and post-micturition symptoms.
To be able to describe the algorithm for investigation of lower urinary tract symptoms (questionnaires, bladder diary, urine tests, ultrasound).
To know the indications for special investigations (urodynamics, endoscopy, neurological tests).

- Urinary incontinence

To know the different types of urinary incontinence and the differential diagnoses ('pseudo' incontinence – ureteric incontinence, fistulas etc.).
To be able to explain complicated incontinence where first/second-line management cannot be initiated until other conditions are first fully investigated (such as pelvic-organ prolapse, post-void residual, pain, haematuria etc.).

- Urodynamics

To know how to define various urodynamic terms according to ICS guidelines and be familiar with standard urodynamic devices and be able to explain how they work.
To know the classification of urodynamic investigations according to ICS terminology. To know the indications and contra-indications of urodynamic testing and be able to classify micturition disorders according to the interpretation of the urodynamic findings.
To know the indications for video urodynamics, to explain how it is done and be able to interpret the urodynamic findings.

To know the potential side-effects and complication of urodynamic testing including the life-threatening complication of autonomic dysreflexia and its management.

- **Pelvic Organ prolapse**

To know the anatomy of the female pelvic organs and the anatomical compartments. To know the epidemiology, pathophysiology and the classification of pelvic organ prolapse. To know the effect of pelvic organ prolapse on continence and be able to describe the uro-gynaecological evaluation.

- **Conservative (non-surgical/ non-medical) treatment of incontinence**

To know the conservative management options in the management of urinary incontinence: behavioural therapy and lifestyle changes, pelvic floor muscle exercises and urine suppression training, the role of biofeedback, pelvic floor electrical stimulation and bladder re-training.
To know about the mechanical vaginal and urethral devices that can be used for the management of urinary incontinence.

- **Pharmacologic approach to storage and voiding disorders of the lower urinary system**

To know the pharmacological therapeutic options for urinary bladder disorders of filling/storage and of voiding.

- **Urge incontinence and Overactive bladder (OAB)**

To know the aetiology, pathogenesis, incidence and the clinical symptoms of OAB and its economic and psychological impact and be familiar with the differential diagnosis.
To know how to define “overactive bladder” and urge incontinence according to ICS criteria and be able to describe the symptom-complex.
To know the classification and pathophysiology of neurogenic and non-neurogenic lower urinary tract dysfunction and to know how to evaluate and differentiate between the two.
To know about the management by primary pharmacotherapy, secondary pharmacotherapy, neuromodulation, Botox and other surgical therapies.
To be familiar with OAB questionnaires and their interpretation.

- **Nocturia and nocturnal polyuria**

To know the different causes of nocturnal frequency and the possible collaboration with other specialities (cardiology, endocrinology, somnology etc.).
To be able to diagnose nocturnal polyuria, and to be familiar with the use of the nocturnal polyuria index (NPI).

- **Painful bladder syndrome (Interstitial cystitis) and related conditions**

To know the aetiology and epidemiology of painful bladder syndrome and to know the diagnostic criteria and the differential diagnosis in chronic pelvic pain syndromes.
To be familiar with symptom index and scale (VAS pain scale) and cystoscopic diagnostic criteria for interstitial cystitis (including Hunner's ulceration).
To know about medical and surgical therapeutic options including intravesical treatments and also the longer-term management strategy.

- **Stress type urinary incontinence in women**

To know the epidemiology, aetiology and classification of stress urinary incontinence and to know how to undertake the clinical and urodynamic evaluations.
To know how to perform a neurological evaluation of a patient.
To know the medical, surgical and conservative therapeutic options and their respective indications, side effects and contraindications.
To know the indications, contraindications, complications and the technique of open/laparoscopic suspension procedures and periurethral injection, the use of the artificial sphincter, of the sling, anterior/posterior prolapse repair, the use of the mesh (and the possible side-effects of the mesh), vaginal fixation operations, TOT-TVT and retropubic sling operations.

- **Urinary incontinence in men**

To know the classification, pathophysiology and aetiology of male urinary incontinence and the algorithm for investigation and indications for urodynamic studies.
To know the conservative, pharmacological and surgical management options including the use of the artificial urinary sphincter and sling operations and be able to discuss the long term outcome and complications.

- **Incontinence in geriatric patients**

To know the effect of age on urinary continence and the causes of transient incontinence in the geriatric patient and to know about the pharmacology of the frequently used drugs in terms of their likelihood to affect continence.
To know the differential diagnosis of both lower urinary system and non-lower urinary system (functional) related causes and to know the indications and the interpretation of urodynamic studies.
To know the different treatment options for incontinence.

- **Urinary system fistulae and diverticula**

To know the normal anatomy of the female urethra and the internal and external sphincters in women.
To know about female urethral pathologies and female genitourinary system fistulae and be able to discuss therapeutic options.

To know the clinical appearance during physical examination of a rigid urethra, urethral hypermobility, appearance of healthy mucosa, mucosal prolapse, caruncule and urethral tumour.
To know the management of urethro-vaginal fistulae.
To know about the physical examination, triple pad test and micturition pattern in women with fistulae and be able to discuss the value of urethroscopy, cystourethrography and vaginal exam.
To know how to diagnose intestinovesical fistulae and to discuss their management.
To know the surgical reconstructive management of urethral duplication, urethral diverticulum and of a bladder diverticulum.

BENIGN PROSTATIC HYPERPLASIA
To know the development, cell biology, endocrine control of the prostate.
Be able to explain prostate secretions.
To know the aetiology, pathophysiology, the epidemiology and natural history of benign prostate hyperplasia.
To be familiar with the terms of bladder outflow obstruction (BOO), benign prostatic enlargement (BPE) and benign prostatic hyperplasia (BPH).
To know how to assess and treat a patient presenting with lower urinary tract symptoms.
To know about symptom score questionnaires, frequency-volume charts and bladder diaries.
To know how to perform a digital rectal examination of the prostate.
To know the diagnostic evaluation of LUTS with ultrasound, uroflowmetry and the indications for formal urodynamic assessment

To know the value of urinalysis and PSA in the work-up of male patients with LUTS.
To know the medical treatments in LUTS/BPH with their major side-effects and be able to state the evaluation of the efficacy and safety of this treatment.
To know the non-surgical therapies (ablative therapies).
To know the mechanisms of acute and chronic urinary retention and to describe their management and possible complications.

- **Surgical therapies in BPH**

To know the different methods of performing a suprapubic prostatectomy.
To know the indications for the standard transurethral resection (TUR) and to be familiar with the different types of procedures and their possible side-effects.
To know the complications of TURP including the management of TUR syndrome.
To know about other treatments of BPH to include: electrovaporesection (EVR), prostate incision (TUIP), aquablation therapy, the urolift procedure, prostatic urethral sling and prostate artery embolisation.
To know the different types of laser used in prostate surgery and also to be able to discuss the indications for laser surgery, mechanisms of action and complications of the different laser energies (KTP, Diiode, Thulium, HoLEP).

SECTION 5: RENAL FAILURE AND RENAL TRANSPLANTATION

- Aetiology, pathogenesis of renal failure and clinical approach to renal failure

To know the causes of prerenal, postrenal, and intrarenal renal failure and be able to define oligouria and oliguric renal failure stages.
To know the classification of acute renal failure according to its causes and describe appropriate investigations.
To know the signs and symptoms of acute renal failure and be able to state the follow up and treatment principles of a patient with postrenal acute renal failure (conservative management and the indications for dialysis).
To know the indications for dialysis in acute renal failure.

To know the aetiology and pathogenesis of chronic renal failure and be able to describe appropriate investigations.
To know the signs and symptoms of chronic renal failure.
To be able to evaluate the pre-operative risk of chronic renal failure and to know about renal protective strategies.
To know the indications for dialysis in a patient with chronic renal failure.

- Renal Transplantation

To know the role of the urologist in renal transplantation.
To know the general principles of transplantation (its indications and contraindications), the criteria for recipients and the ethical issues involved.
To be able to describe the problems and solutions that one might encounter in donors and recipients in the work-up for the transplantation.
To know the surgical technique for live donor and cadaveric donor transplantation and retrieval.
To know the principles for organ preservation.

To know the general management principles of perioperative and early postoperative care of donors and recipients (including thrombophylaxis, antibiotic prophylaxis and urine output monitoring).
To know how to recognise and treat specific complications such as haemorrhage, arterial thrombosis, venous thrombosis, transplant renal artery stenosis, arterio-venous fistulae and pseudo-aneurysms after renal biopsy, lymphocoele, urinary leak, ureteral stenosis, haematuria, ureteric reflux and acute pyelonephritis, kidney stones, wound infection and incisional hernia.
To know the general principles of therapeutic immunosuppression.
To know the potential urological problems emerging in the longer term follow-up of donors and recipients.

SECTION 6: STONE DISEASE

- Epidemiology, pathogenesis and metabolic evaluation

To know the genetic transmission of stone disease, its geographic distribution and its familial and gender predisposition.
To know how diet, water intake, profession, stress and modern lifestyle can have an impact on stone formation.
To know the chemical composition of the different types of stones and their relative frequencies.
To know the pathogenesis and pathophysiology of urolithiasis and to know calcium metabolism pathways and that of other relevant elements that are involved in stone formation.
To know the indications for metabolic evaluation in stone disease and be able to advise appropriate treatment, particularly in recurrent stone formers.

- **Ureteric stones**

To know the indications and the technique of ureterorenoscopy and retrograde intrarenal surgery and to know about the endoscopic equipment and the consumables such as stents, guidewires and ureteric access sheaths that are employed.
To know the indications, complications and basic physics for different modalities of endoscopic fragmentation (including laser and ballistic fragmentation) depending on stone size and position.
To know the indications, complications and outcome of extracorporeal treatment of ureteric stones.

- **Renal stones (PNL, SWL, RIRS)**

To know the assessment, investigation and treatment options for a patient with renal calculi.
To know the indications, anatomy and complications of percutaneous access.
To know the indications, contraindications and complications of percutaneous surgery (PNL) and be familiar with the factors involved in appropriate patient selection, patient position and anaesthetic considerations.
To know the indications, complications and outcome for extracorporeal treatment (SWL) and be able to describe the physics of different lithotripter technologies.
To know the indications, complications of retrograde intrarenal surgery (RIRS) and to know the basic physics of laser fragmentation depending on stone size and position.

- **Bladder stones (and other sites)**

To know the patho-physiology of stone formation in the bladder and also in special situations such as augmented bladders, urinary diversion and in the prostate or urethra.
To know the indications and complications of different treatment modalities.

- **Laparoscopic and open surgery for stone disease**

To know the indications and techniques of laparoscopic surgery for stones in different locations.
To know the indications and complications for open surgical procedures for stones.
To know the anatomy, patient position and types of incisions of the different surgical approaches.

- **In a clinical setting**

To know how to diagnose and manage urolithiasis in the acute and the elective scenarios and to know the management of the patient in emergency situations such as urosepsis and renal failure.
To know how to organise appropriate imaging and other investigations and to know the indications and side-effects of the commonly used drugs.
To know the strategies for the prevention, diagnosis and management of urinary sepsis.
To know how to formulate an appropriate therapeutic approach depending on the size and position of the stone and depending also on patient factors such as co-morbidities and patient choices.
To know how to discuss and to liaise with other appropriate specialities in the context of an MDT meeting and to be able to discuss these treatment options later with the patient in order to obtain their consent for treatment.
To know the follow-up strategies for the recurrent stone former and for different types of stone.

SECTION 7: UROLOGICAL MALIGNANCIES

- Overall learning objectives in urological malignancies

To know the indications for organising relevant radiological and pathological investigations depending on the stage of the urological malignancy.
To know the genetic disorders that are associated with an increased risk of urological malignancy.
To know the Tumour Node Metastasis (TNM) and other relevant classification and staging systems.
To know how to formulate an appropriate therapeutic approach depending on the stage and extent of the disease and depending also on patient factors such as co-morbidities, geriatric aspects and patient choices.
To be able to discuss the indications for surgery, pre-operative and post-operative management, complications and follow-up strategies.
To know the use of different pharmacological agents in different stages of the disease and to know the contra-indications and side-effects of these drugs.
To know the physics behind radiotherapy treatment and its role in radical and palliative treatments.
To know how to liaise with other appropriate specialities in the context of an MDT meeting.
To be able to discuss findings, treatment options, prognosis and quality-of-life issues with the patient in order to obtain their consent for treatment.
To be able to discuss the importance of lifestyle factors and to be able to give counselling about smoking cessation.

PROSTATE CANCER

- Anatomy, epidemiology, clinical and pathologic staging of prostate cancer

To know the anatomy and physiology of the prostate and the epidemiology, aetiology and risk factors for prostate cancer.
To know the therapeutic options according to life expectancy and co-morbidity.
To know the pathologic staging and the investigations necessary for clinical staging.
To know the physics behind the radiological and nuclear medicine imaging technologies.
To know the role and diagnostic value of the digital rectal examination, of PSA and other biomarkers, and to be able to interpret the use of nomograms for pathologic staging and prognosis (Partin, Kattan, Briganti etc.).
To know the indications and techniques for prostate biopsy and the potential complications and to know the Gleason grading system and to be able describe the zonal anatomy of the prostate.
To know the new methods of prostate imaging and biopsies including multiparametric MR and fusion biopsy and PET-scan and when they should be implemented.

- Classification, therapeutic options and palliation

To know how to classify and to know the treatment options for prostate carcinoma in terms of whether it is: locally confined, locally advanced, metastatic or hormone refractory disease.
To know how to stratify patients into “low, intermediate and high risk” groups.

To be able to identify patients that are suitable for active surveillance and to explain its indications and contraindications.
To know the indications and complications for different therapeutic options including radical prostatectomy (open, laparoscopic and robotic), radical radiotherapy, brachytherapy, hormonal therapy depending also on patient factors such as co-morbidities and patient choices.
To know the physics behind radiotherapy treatment and to know its role in the management of different stages of prostate cancer.
To know the pharmacology of the endocrine, cytotoxic and other agents used in treatment of prostate cancer.
To know the indications and limitations of new technologies such as cryotherapy and HIFU.
To know the role of palliation with hormones, radiotherapy, chemotherapy and other novel treatments in low and high volume metastatic hormone-sensitive prostate cancer.
To be able to define castration-resistant prostate cancer and to discuss treatment options for this situation.

UROTHELIAL CANCER

- **Bladder cancer – (NMIBC, TaT1 and CIS)**

To know the epidemiology and pathology of differing types of bladder cancer.
To know the pathology of benign bladder tumours and also the pathology of malignant non-urothelial bladder cancers.
To know the aetiological factors of different tumours and to explain the importance of lifestyle, professional occupation and geographical region.
To be able to give counselling about smoking cessation.
To know the staging and classification systems and to be able to do patient stratification into low-, medium- and high-risk groups.
To know the presenting signs and symptoms and the physical examination and to know about the laboratory and imaging investigations that are necessary for the diagnosis and staging of bladder tumours and when cystoscopy is indicated.
To know the treatment of NMIBC according to stage.
To know the principles of the TURBT and to know about the new technologies for better tumour visualisation during endoscopy.
To know how to classify patients eligible for adjuvant intravesical treatment according to their risk factors and to plan treatment according to risk stratification.
To know the indications and mechanisms of action of intravesical chemotherapy and BCG and to know their efficacy, side effects and complications.
To know about “device-assisted” intravesical therapy.
To know the treatment strategy for carcinoma in situ.
To know the indications for radical cystectomy for NMIBC.

- **Muscle invasive and metastatic bladder cancer**

To know how to classify muscle invasive bladder cancer and to know the imaging modalities used for the diagnosis of metastatic disease.
To know the prognostic factors taking into account co-morbidities, anaesthetic risk and geriatric assessment.
To know the indications for, the technique and the complications of radical cystectomy and pelvic lymph node dissection.
To be able to discuss the prognosis and preoperative preparation of the patient for the surgery.
To know the indications, technique and complications of partial cystectomy.
To know the indications for concomitant urethrectomy.
To know the management of patients with metastatic disease and the follow-up strategies including palliative care support.
To know the indications, efficacy and side effects of radiotherapy and chemotherapy for localized and metastatic bladder cancer. To know the indications for neoadjuvant and adjuvant chemotherapy.
To know the follow-up strategy for patients with bladder cancer.
To know the indications for multimodal therapy and for bladder preserving therapeutic options.
To be able to explain the palliative approaches in metastatic patients.

- **Robotic and laparoscopic bladder surgery**

To know the methods, basic principles and the complications of minimal invasive surgery (laparoscopic and robotic approaches) for benign and malignant bladder diseases.
To know how to prepare a patient for laparoscopic and robotic bladder surgery and to organise post operative patient follow up.

- **Urinary diversions**

To know the different types of urinary diversion after cystectomy and be able to obtain informed consent from the patient for the relevant urinary diversion after liaison with the reconstructive surgeon and after discussion at an MDT meeting.
To know which intestinal segments can be used in the selection of urinary diversion and be able to describe different techniques of intestinal anastomosis.
To know about bowel preparation including the concept of “enhanced recovery after surgery” (ERAS).
To know the different types of continent cutaneous diversion and of orthotopic urinary diversion.
To know how to diagnose and manage perioperative complications that might occur and be able to manage the clinical follow up of a patient with a urinary diversion.
To know the metabolic and neuromechanical problems likely to occur in urinary intestinal diversion.
Be able to discuss and treat quality-of-life aspects such as loss of potency.

- **Urothelial carcinoma of the upper urinary tract**

To know the epidemiology, aetiology (including risk factors) and pathology of upper urinary tract tumours.
To know the staging and classification systems that are in use.
To know the presenting symptoms and the imaging and endoscopic modalities that are necessary for diagnosis.
To know the indications for kidney-sparing surgery and adjuvant topical therapy.
To know the role of radical nephroureterectomy and the different types of lymphadenectomies for localized and also for high-risk disease.
Be able to discuss the perioperative and post-operative complications with the patient.
To know the indications for adjuvant therapy after surgery and the treatment options in more advanced disease.
To know the relevance of the extent of co- morbidity in the choice of appropriate therapy and to be able to discuss this in the context of an MDT meeting.
To be able to discuss prognosis and appropriate follow up protocols.

- **Urothelial carcinoma of the lower urinary tract**

To know the aetiology, epidemiology and histopathology (urothelial and non-urothelial) of urethral tumours.
To be able to describe the presenting signs and symptoms and the physical examination.
To know the laboratory and imaging investigations that are used in the diagnosis and staging or urethral cancer.
To be able to discuss choice of appropriate treatment in the context of an MDT meeting.
To be able to discuss prognosis and suggest an appropriate follow-up protocol.

KIDNEY AND RETROPERITONEAL TUMOURS KIDNEY TUMOURS

- **Anatomy, epidemiology, clinical and pathologic staging of renal tumours**

To know about benign conditions affecting the kidney and to know the radiologic evaluation of renal masses and the indications for pre-operative biopsy.
To know the Bosniak classification of renal cystic masses.
To know the epidemiology, aetiology (including risk factors), histopathology and clinical presentation of renal cell carcinoma.
To know the genetic disorders that are associated with renal carcinoma and to know the appropriate treatment options and follow-up protocols.

- **Classification, therapeutic options and palliation of renal tumours**

To know about different classification systems (RENAL, PADUA etc.) and to know about different prognostic factors (anatomical, histological, molecular) and different prognostic models (IMDC, MSKCC, Leibovich, UISS).
To be able to discuss treatment options and prognosis for local, locally advanced and metastatic renal cell carcinoma (RCC).
Be able to discuss treatment options in small renal masses, including active surveillance, taking into account patient choices and co-morbidities.
Be familiar with the appropriate follow-up protocols.
To know the indications, methods, complications, advantages and disadvantages of open (and also robotic or laparoscopic) retroperitoneal kidney surgery and transperitoneal kidney surgery.
To know the indications, methods (open, laparoscopic, robotic), complications, advantages and disadvantages of partial nephrectomy.
To know the criteria for cytoreductive and deferred nephrectomy and metastasectomy.
To know the relevance of the extent of co-morbidity in the choice of appropriate therapy and to be able to discuss this in the context of an MDT meeting.
To be able to discuss the nonsurgical treatment of advanced stage RCC and to know the pharmacology of the agents used for systemic therapy (including the immunological and biological agents).
To be able to discuss the options of palliative treatment including radiotherapy and angiological interventions.
To know the indications, treatment options, complications, outcome of ablative and follow-up of therapy in renal tumours.

RETROPERITONEAL TUMOURS

To know the epidemiology and pathology of retroperitoneal tumours.
To know that there is a wide spectrum of benign and malignant retroperitoneal tumours and their clinical manifestations.
To be able to discuss the primary diagnostic investigations that are needed for these tumours.

ADRENAL GLAND TUMOURS

- **Anatomy, epidemiology, clinical and pathologic staging**

To know the epidemiology and aetiology (genetic disorders) of adrenal tumours.
To know how to classify benign and malignant diseases of adrenal gland and be able to make the differential diagnosis of functional and non-functional tumours of adrenal cortex.
To know the signs and symptoms of the different adrenal cortical tumours.
To know the laboratory and radiological work-up of these tumours.

- **Classification, therapeutic options and palliation**

To know the surgical anatomy of the adrenal gland, patient selection and the indications for surgery.
To know the preoperative preparation, postoperative follow up and complications of adrenalectomy.
Be able to describe the different approaches for adrenalectomy (open, laparoscopic and robotic).
To be able to discuss the diagnosis and treatment options with other medical specialities in the context of an MDT meeting.
To know the prognosis of non-surgical treatments such as systemic therapy and radiotherapy in advanced disease.

TESTICULAR CANCER

- **Anatomy, epidemiology, clinical and pathologic staging in clinical masses**

To know the epidemiology, aetiology (including risk factors) and pathogenesis of testicular cancer.
To be able to discuss the clinical presentation, physical exam and differential diagnoses of scrotal masses.
To know the different histopathologies of testicular tumours.
To know the imaging required to stage the extent of the disease.
To know which tumour specific markers are used in the diagnosis and follow up of testis tumours.
To be able to describe the principles of radical inguinal orchiectomy and be able to discuss further management and prognosis according to tumour stage and histological type.

- **Classification, therapeutic options and palliation**

To be able to discuss the diagnosis and treatment options with other medical specialities in the context of a MDT meeting.
To know the indications for chemotherapy, the chemotherapy protocols, the follow up and the short and long-term side effects of chemotherapeutic agents.
To know the indications and complications of retroperitoneal lymph node dissection RPLND.
To know about quality-of-life issues, the effect of treatment on potency and fertility and be able to discuss with the patient the option of semen harvesting and freezing in appropriate situations.
To be familiar with prognosis and post therapy follow up protocols.

PENILE CANCER

- Anatomy, epidemiology, clinical and pathologic staging

To know the epidemiology and aetiology (including risk factors) and pathogenesis of penile cancer.
To know the clinical presentation, physical examination, diagnostic procedures, imaging and differential diagnoses.

- Classification, therapeutic options and palliation

To know the classification and treatment options including organ preserving treatment, the indications for inguinal lymph node dissection and reconstructive methods after penile surgery.
To be able to discuss the diagnosis and the treatment options with other medical specialities in the context of a MDT meeting.
Be familiar with extent and relevance of co-morbidities and patient choices when formulating a treatment plan and to be able to obtain informed consent.
To know the indications for radiotherapy, chemotherapy, the follow-up and the side-effects of chemotherapeutic agents.
To be able to discuss prognosis and quality-of-life issues after penile cancer treatment.

SECTION 8: ANDROLOGY, INFERTILITY, PENILE AND SCROTAL SURGERY

- Male reproductive physiology and infertility

To know how to assess a man with male factor infertility.
To know the epidemiology, aetiology and risk factors of male infertility.
To know the normal physiology of the hypothalamo- hypophyseal-gonadal axis and the hormonal status that is essential for normal spermatogenesis.
To be aware at which level and to what extent, a disorder will affect this process and the epididymal sperm maturation process as well.
To know the hormonal investigations that are necessary when investigating an infertile male.
To know the genetic and epigenetic disorders that may be discovered in the infertile man.
To be able to explain to the infertile man, the risk of transferring his genetic disorder to the offspring if pregnancies are achieved using assisted reproductive technology.
To be able to explain the laboratory analyses used in infertility (hormonal tests, spermiogram, genetic tests, biochemical assays of markers of the secretory function of the male accessory genital glands evaluating the patency of the male reproductive tract such as the semen alpha-glucosidase assay and the semen fructose assay).
To be competent at performing a physical examination of prostate, testis, vas deferens and penis and to be able to evaluate the secondary sex characteristics.
To know how to distinguish the histologic structure of the testis, germ cells, Leydig cells and Sertoli cells and to know the functions and dysfunctions of these structures. To know the normal spermatogenic process and the level of arrest in cases on non-obstructive azoospermia.
To be able to differentiate between the normal spermatogenesis process and the type of spermatogenic arrest in the seminiferous tubuli of men with non-obstructive azoospermia. Thus to be able distinguish with histological examination, within a population of males with non- obstructive azoospermia: subpopulations of men with:

a) hypospermatogenesis;
b) early maturation arrest (arrest at the primary spermatocyte stage);
c) late maturation arrest (arrest at the spermatid stage); and
d) males with Sertoli cell-only syndrome.

To know the hormones responsible for spermatogenesis, their normal levels, secretion rhythms and timings.
To know which structures are involved in the process of sperm transport and to know about the transport mechanisms.
To be able to differentiate between obstructive azoospermia and non-obstructive azoospermia (with reference to the results of the clinical examination, transrectal ultrasonography, results of the genetic tests, results of biochemical markers of the secretory function of male accessory genital glands or the results of testicular histology).
In cases of obstructive azoospermia, be able to define the level of obstruction in the male reproductive tract.
To be able to advise the male partner to undergo specific genetic testing for obstructive azoospermia (genetic alterations of the CFTR gene) or non-obstructive azoospermia (karyotype and microdeletions in the Y chromosome).

To know the principles of assisted reproductive technologies and to know the diagnostic indications and the therapeutic role (for sperm recovery) of testicular biopsy.
To know the genetic risks (numerical or structural chromosomal abnormalities) and the epigenetic risks (e.g. Beckwith-Wiedeman syndrome) of assisted reproductive technology in the generated offspring.
To know the indications, the techniques and the complications of: vasography, vasovasostomy, transurethral resection (TURED) of ejaculatory duct, electroejaculation and other sperm obtainment techniques.
To know the indications and diagnostic accuracy of non- magnified TESE and the micro-TESE procedures.
To know the aetiology, epidemiology, underlying physiopathologic mechanisms, the clinical examination and staging of a varicocoele.
To know that a varicocele might have an impact on:

a) spermatogenesis;
b) epididymal sperm maturation process;
c) the overall male reproductive potential.

To know the indications for treatment for a varicocoele and to know the different operation approaches for varicocoelectomy (inguinal, subinguinal, Palomo and embolisation).
To know how to assess and counsel a man requesting a vasectomy or a vasectomy reversal.
To be able to inform the male partner of an infertile couple on the effect of each of the above surgical procedures on the post-operative pregnancy rate.
To be aware of which life style changes might improve semen quality.
To be able to advise about sperm cryopreservation in men with oncological disease and in men with progressive testicular damage.
To know how to obtain live spermatozoa from men with retrograde ejaculation and to be able to recommend assisted reproductive technology in this scenario.
To be aware of the role of the gonadotrophins, anti-oxidants, micronutrient supplements, selective oestrogen receptor modulators or aromatase inhibitors in the alleviation of male infertility (EAU recommendations).

- **Erectile dysfunction**

To know how to assess and manage a man with erectile dysfunction.
To know the physiology of erection and the causes of erectile dysfunction.
To know how to take the medical and sexual history of cases with ED and be able to describe the important aspects of the physical examination.
To know which laboratory investigations are indicated in the investigation of ED.
To know how to plan the treatment based on the cause of ED and also taking into account the patient's expectations.
To be able to recommend changes in lifestyle and also to offer appropriate drug treatment and to refer for psycho-sexual counselling when appropriate.
To know the indications and the choice of the method of androgen replacement therapy to improve libido and erectile function in cases of androgen deficiency (depending on the desire of the male partner to father his own child).

To know the indications, contra-indications, drug interactions, side-effects and success of agents such as PDE5 inhibitors.
To know that there are differences in the chemical affinity with their substrate (PDE5) of different commercially available PDE5 inhibitors and that affects their speed of onset.
To know about the potential for inhibition of other PDEs (PDE6 or PDE11, among others) by different PDE5 inhibitors which helps explain differences in the side-effect profiles.
To know about the use of the vacuum device, intracavernosal injection and intraurethral treatment.
To know the indications, the method and the complications of different penile prostheses.

- **Premature ejaculation**

To know the anatomy and pathophysiology of normal ejaculation and to know how to diagnose and classify premature ejaculation.
To know how to interpret the IELT form and be able to explain the treatment options for premature ejaculation.

- **Priapism and Peyronnie's Disease**

To know the epidemiology and pathophysiology of priapism and to know the molecular basis of ischaemic and intermittent priapism.
To know how to take the history, to perform the physical examination and to diagnose a patient with priapism.
To know the medical and surgical therapeutic steps in the management of priapism.
To know the history, epidemiology, aetiology, risk factors and pathophysiology of Peyronie's disease and to know the medical, minimally invasive and surgical therapeutic steps of Peyronie's disease management.

- **Androgen insufficiency in ageing man**

To know how to define an “ageing man” and to know the reasons/theories for the increase in the elderly population.
To know the changes occurring in the endocrine system in parallel with ageing and to explain their consequences.
To know about the problems affecting the urogenital system which are specific to the ageing man and to know about the systemic consequences.
To know how to take a history, how to do a physical examination and to know which laboratory investigations are indicated in the investigation of the ageing man and to know about which teams are involved in a multidisciplinary approach.

- **Scrotal surgery and circumcision**

To know the advantages, timing, indications and contraindications of circumcision, vasectomy, epididymal surgery, hydrocoele, testicular surgery, vasography and varicocoele ligation.

To know the surgical procedures for that are indicated for orchitis and chronic scrotal pain.
To know the clinical presentation, the physical examination and the diagnostic tests that are needed for the diagnosis of testicular torsion and to know the algorithm of management.

SECTION 9: PAEDIATRIC UROLOGY

- Evaluation of paediatric urology patients and peri-operative approach

To be able to take a history from a child (if possible) and also from the parents or carers, to do physical examination in the presence of the parents or carers and to be able to interpret basic laboratory tests commonly used in the investigation of the paediatric patient.
To be able to describe the indications for different imaging evaluation methods to be able to interpret these.
To know the indications and method of non-invasive and invasive urodynamic studies in children and to be able to interpret the result and classify different micturition disorders.
To know the general preparation principles for anaesthesia, the preoperative and postoperative preparation.
To know the principles of local and regional anaesthesia, as well as the possible drugs used of loco-regional anaesthesia, their maximal dosage and their potential complications.
To know the antimicrobial prophylaxis (hospital specific guidelines), thromboembolism prophylaxis, skin cleansing, how to measure intraoperative blood loss, appropriate intraoperative fluid therapy, the principles of postoperative fluid therapy and postoperative analgesia.

- Perinatal urology

To know the embryology and anatomy of common congenital anomalies including undescended testicle, renal duplication systems, posterior urethral valves, uretero-pelvic junction obstruction, spina bifida and disorders of sexual differentiation.
To know the diagnostic characteristics of foetal vesicoureteral junction obstruction, posterior urethral valves, uretero-pelvic junction obstruction and ureterovesical junction obstruction, foetal cystic renal diseases, bladder exstrophy-epispadias complex and cloacal malformations.
To know the surgical therapy (indications, methods and complications) and the outcomes for extrophy- epispadias complex.
To know the diagnostic and treatment workup in the diagnosis of renal agenesis, renal ectopy and multicystic dysplasic kidney.
To know how to diagnose newborns with congenital adrenal hyperplasia and Prune Belly.
To know how to assess and investigate immediately a newborn with a disorder of sexual differentiation and to know where to refer to in the event of lack of a specialised team in the hospital.

- Hypospadias

To know the epidemiology, aetiology and pathophysiology of hypospadias.
To be able to discuss the diagnostic evaluation and to know the different types of reconstructive procedures and their potential complications.
To know the indications and the limitations for adjuvant hormonal therapy in the event of hypospadias.

- **Nocturnal enuresis (bed-wetting)**

To be familiar with the epidemiology, aetiology and pathophysiology of nocturnal enuresis including the diagnostic evaluation and management of the condition.

- **Scrotal diseases (undescended testis, child hydrocele, acute scrotum)**

To be able to examine boys with possible undescended testis.
To be able to differentiate in a clinical exam between retractile testis, true undescended testis and non-palpable testis.
To know the guidelines about timing of surgery and eventual additional treatment.
To know the possible impact of undescended testis on fertility, paternity and risk of malignancy.
To know the epidemiology, aetiology and pathophysiology of a patent processus vaginalis and be able to differentiate between childhood hernias and hydrocoeles.
To know the differential diagnosis of an acute scrotum in childhood and the respective diagnostic tests and management.
To know the age and incidence and different aetiologies of neonatal, pubertal and adolescent testicular torsion as well as their correct management.

- **Infection and inflammation of the paediatric urinary tract**

To know the epidemiology, aetiology and pathophysiology of urinary infections in children and to be familiar with classification systems according to site, episode or severity of symptoms.
To be able to assess a child with a UTI including the physical examination and the laboratory and radiologic investigation.
To know the hospital guidelines regarding treatment of a urinary tract infection, based upon actual and recent bacterial resistance results and to be able to discuss the principles of acute oral and parenteral antibiotic therapy as well as short-term and long-term antibiotic prophylaxis.
To know the actual guidelines for investigation and prevention of recurrent UTI as well as possible sequelae of recurrent UTI.

- **Upper urinary tract anomalies**

To be able to discuss the epidemiology, aetiology and the pathophysiology of pelvi-ureteric junction (PUJ) also called ureteropelvic junction obstruction (UPJ), ureterovesical junction (UVJ) obstruction, obstructive megaureter, reflexive megaureter, obstructive and reflexive megaureter, non-obstructive and non-refluxive megaureter, ectopic ureter, renal duplication and ureterocoele.
To be able to discuss the diagnostic evaluation, clinical symptoms and clinical consequences of these conditions and the indications, imaging methods and outcomes of different surgical interventions.

- **Vesicoureteral reflux (VUR)**

To be able to discuss the epidemiology, aetiology and pathophysiology of VUR and also to discuss the diagnostic evaluation possibilities.
To know the classification of VUR according to voiding cystourethrography and to know the actual guidelines regarding the indication, advantages and disadvantages of the surgical and non-surgical therapeutic approaches for VUR.

- **Neurogenic bladder dysfunction and urinary tract reconstruction in children**

To know the normal development and function of the lower urinary tract.
Be able to discuss the epidemiology, diagnosis, classification, imaging modalities, laboratory tests and urodynamic testing in the event of children with congenital or acquired neurospinal or other central nervous system pathologies.
To be able to discuss the therapeutic principles, the early treatment approaches and the indications for medical or surgical therapy.
To know the long-term outcomes (in terms of quality of life, sexual life and fertility issues) of the different non-surgical, minimal invasive and surgical treatments (according to the actual guidelines recommendations).

- **Management of paediatric stone disease**

To know the possible causes of paediatric stone disease, as well as the diagnostic and imaging workup.
To know the actual guidelines regarding the use of medical or surgical management. To know the possibilities and limitations of SWL, uretero-renoscopy, laser treatment, (micro) percutaneous litholapaxy, open, laparoscopic and robotic surgery.
To know the management of bladder stones in the paediatric patient.

- **Paediatric urological oncology**

To know the epidemiology, clinical features, the diagnostic and actual guidelines recommendations for renal, adrenal, bladder, prostatic, penile, testicular or paratesticular tumours.
To know the staging imaging and evaluation that is required.

- **Paediatric genitourinary trauma and child abuse**

To know the causes, clinical features and specific pathophysiology of paediatric genitourinary trauma (renal, bladder, urethral and scrotal) as well as the diagnostic evaluation, treatment and long-term follow-up (according to the actual guidelines recommendations).
To be able to recognise the signs and symptoms of possible sexual abuse and to discuss its management and follow up protocol (in accordance with the hospital guidelines and recommendations).

SECTION 10: TRAUMA

Genitourinary trauma involves injury to the kidneys, ureters, bladder, prostate, posterior urethra, anterior urethra, penis scrotum and testicles and is often associated with other injuries in a polytrauma patient.
To know how to assess and manage patients presenting with trauma and to involve multidisciplinary teams as necessary.

- **Genital and lower urinary system traumas**

To know how to examine, classify and diagnose genital organ traumas (in both male and female patients) and to be able to describe the likelihood of associated urethral and urinary bladder injuries and be familiar with the multidisciplinary approach to patient management.
To know how to evaluate a patient with pelvis bone fracture.

Bladder: To know the mechanisms of injury to the bladder and to be able to classify into intraperitoneal and extraperitoneal rupture and to be aware of the potential for other associated injuries.
To know which imaging investigations are necessary to establish a diagnosis and to know the treatment algorithms for conservative or surgical management of intraperitoneal or extraperitoneal rupture and the potential complications.

Urethra: To know the anatomical difference between the anterior and the posterior urethra, the difference in the mechanism of injury and to know the classification of anterior and posterior urethral injuries.
To be able to discuss the potential for other associated injuries particularly to the pelvis and bladder.
To know the detailed anatomy of the urethra and nearby structures and to know the algorithm for investigation including the indications for retrograde urethrography and the role of cysto-urethroscopy.
To know the treatment of anterior urethral injury (contusion, urethral laceration) and the role of suprapubic diversion.
To know the treatment options for posterior urethral injury in the male patient according to injury type and grade (primary anastomosis, realignment, suprapubic diversion or delayed repair).
To know how to manage urethral injuries in the female patient.

Penis: To know the cause and the clinical presentation of penile trauma and penile fracture and the potential for associated urethral injury.
To know the principles of management for blunt-, fracture- and penetrating injuries and to be aware for the potential need of microsurgery repair.

Testicle: To know the diagnosis, investigation and management of haematocoele, testicular rupture and penetrating trauma of the testicle.

- **Upper urinary system traumas**

Kidney: To know the classification of renal injuries and to be able to discuss the common causes of blunt and penetrating kidney injuries.

To know the clinical presentation and the diagnostic evaluation of the patient and the criteria for radiological investigations.
To know the management of renal trauma according to stage.
To be able to discuss the management of a patient who is in shock.
To know the indications for emergency intervention and what the surgical options are.
To know which patient scenarios can be managed conservatively and to know the long-term complications of kidney trauma such as hypertension and Page kidney.

Ureter: To know the common causes of ureteric injury including iatrogenic injury (pelvic surgery and ureteroscopy) and to know how to establish a diagnosis.
To know the treatment algorithms for immediate and delayed recognition and to know the reconstruction methods depending on the degree and level of injury.
To know when urinary diversion is indicated.

1.b Practical and clinical skills

The EBU proposes a list of 14 core-surgical procedures which are deemed to be a minimum requirement of competency of the trainee at the completion of the training programme. Although these procedures are listed as mandatory, it is accepted that different national associations might have different national regulations and practices which might affect the clinical exposure of its trainees to some of these procedures.
These procedures include :

1. Circumcision
2. Cystoscopy
3. ESWL
4. Inguinal orchidectomy
5. Nephrectomy (partial/total)
6. Percutaneous suprapubic cystostomy
7. Percutaneous nephrostomy
8. Retrograde pyelography / ureteric stenting
9. Scrotal surgery (including hydrocoele, epididymal cyst
10. TRUS and prostate biopsy
11. TUR- bladder tumour
12. TUR prostate
13. Ureteroscopy and ureterorenoscopy
14. Urodynamic (pressure/flow) studies

1.c. Levels of competence attained.

The content of the curriculum should cover the whole spectrum of Urology and comprises knowledge, experience, clinical skills and attitudes, as well as, professional behaviour.

Trainees should keep a portfolio of their competency outcomes and at the end of training, should be clinically independent.

Management of common clinical scenarios

It is expected that a trained urology specialist would be able to manage certain patients who attend the out-patient clinic with common urological presenting symptoms. These include the management of :

- A patient who presents with loin pain and to know how to investigate and/or refer accordingly depending on the outcome of the investigations.
- A patient presenting with lower urinary tract symptoms (LUTS).
- A patient with haematuria.
- A patient with a urinary tract infection, including sexually transmitted diseases (STDs); including the management of the severely septic patient.
- A patient with benign and malignant lesions of the genital skin.
- Scrotal swellings.
- Urinary incontinence.
- Urological malignancies.
- A patient presenting with infertility, erectile dysfunction and ejaculatory disorders, penile deformity, priapism, penile fracture etc.
- Common urological conditions of childhood.
- A patient with renal failure in the acute and the chronic setting including dialysis and transplantation.
- A patient with multiple injuries in the acute setting including the principles of resuscitation.

Skills assessment of the urological procedures

The trainee needs to be able to demonstrate competence for each of these 14 core procedures. It is recommended that the trainee is assessed by two supervisors/trainers for each of the procedures and deemed to be competent. As the field is so wide, it is felt that fixing a rigid “number” of procedures that deems competency is debatable, the emphasis being more on quality rather than quantity. At present, the EBU does not specify a fixed number of procedures but rather emphasises the importance of competency. Procedures performed by the trainee will become progressively more complex. They would initially be “observers”, then later they will be supervised by a senior surgeon, and finally, they shall undertake the procedures “unaided”. Trainees should keep a portfolio of their competency outcomes and at the end of training should be clinically independent. An assessment form is shown below which demonstrates the key elements that are necessary to demonstrate competence and is recommended for use for the procedures that are being assessed. It is also mandatory for the trainee to keep a logbook documenting all the surgical experience during training. The logbook should detail the numbers and the types of procedures that have been performed throughout the period of training.

	1	**2**	**3**
Preoperative preparations	Has not undertaken the relevant preoperative workup (Patient identification, consent, X-ray, technical equipment, antibiotic treatment, etc).	Has partially undertaken the relevant preoperative workup.	Has undertaken all the relevant preoperative workup.
Respect for the tissue	Rough or careless tissue handling or damage.	Mainly careful tissue handling but with occasional inappropriate damage.	Careful handling of the tissue with minimal damage.
Timing and movements	Many unnecessary movements during surgery.	Effective timing, but some unnecessary movements during surgery.	Good timing, effective movements and no unnecessary, time consuming movements.
Handling instruments/ technical equipment	Clumsy or slow use of instruments.	Uses instruments appropriately most of the time.	Appropriate and efficient use of instruments.
Knowledge of the instruments	Unfamiliar with the relevant instruments with inappropriate use.	Familiar with most of the instruments and mostly knows how to use them.	Familiar with all of the instruments and their use.
Progression during the procedure	Unfamiliar with the steps of the procedure with regular and frequent pauses.	Reasonably familiar with the steps of the procedure with occasional pauses.	Familiar with the steps of the procedure with smooth progression through the operation.
How to work with the assistant	Works poorly with the assistant.	Uses the assistant inconsistently.	Works well with the assistant.
Knowledge of the procedure	Little or no knowledge of the procedure.	Knows most of the important phases of the procedure.	Good knowledge of all elements of the procedure.

Certification as a urologist is obtained after satisfying all the training requirements of the urology training programme at a national level in an EBU member country.
The European Board of Urology, through its Examination Committee, offers high-quality exams which reflect current European standards. The examination consists of a written component (Part 1) and an oral component (Part 2).
The successful candidate is awarded the FEBU title (Fellow of the European Board of Urology).
The candidate meets one of the following criteria for eligibility to sit for the FEBU examination.
a) be a Final-year resident trained as part of a national urology training programme. The training must be completed before the end of October of the following year.
b) be a Certified urologist holding a certificate of accreditation in urology issued in an EBU member country

2. ORGANISATION OF TRAINING

2.a Schedule of training

The minimum duration of training is 5 years.

2.b Curriculum of training

A general outline is presented in the section above (Learning Objectives) which is intended to be a guide and not a fully exhaustive list.

2.c Assessment and evaluation

The Examination Committee strives to offer high-quality exams reflecting European standards and is responsible for organising the formative and summative exams.
The first Written Exam was held in 1992 and has since been organised annually.
Successful candidates in the European Board Examinations in Urology are awarded the FEBU title. Since then, more than 6.000 urologists received this title.

Formative: In-Service Assessment
Self-assessment is regarded to be a powerful learning tool. It is used to inform the teaching and learning process, and encourage both trainers and residents to reflect upon the training scheme. The assessment consists of 100 MCQs (Single Correct Answer format) and is offered in English.

Summative: Written Exam (Part 1) and Oral Exam (Part 2)
Part 1 Written Exam
The aim is to assess whether the candidate meets the minimum level of knowledge set by the Examination Committee. The exam consists of 100 MCQs and covers all urology fields including basic science. The exam is held once per year and is offered in English; a translated version is offered to candidates who take the exam as part of their country's national requirements.

Part 2 Oral Exam
The objective is to test the candidate's ability to evaluate and manage common cases in everyday practice. The exam is organised once per year in a European capital city. Moreover, and in collaboration with national associations, sessions are held simultaneously in countries in which this is part of their national requirements.
The candidate will be examined by a team of two urologists on a number of clinical cases. There is quality assurance to avoid bias.
At present, the exam is offered in Danish, Dutch, English, French, German, Greek, Italian, Portuguese and Spanish. National exam candidates take the exam in Polish, Hungarian and Turkish respectively.

2.d Governance
Since it is our objective to provide objective and fair exams, the EBU has a mechanism in place to allow candidates to (1) appeal results, (2) submit a complaint or (3) claim exceptional circumstances.

II. TRAINING REQUIREMENTS FOR TRAINERS

1. PROCESS FOR RECOGNITION AS A TRAINER

1.a Requested qualification and experience
Recognition across the EU as regards competence to be a trainer despite coming from different countries and having different routes and extents of training is covered by Directive 2005/36/EC (paragraph C2/20).

EBU recommends that the trainer is a fully certified urologist and is also well-experienced in the area that is being taught.
It is also recommended and desirable that the trainer has had formal teacher-training.

1.b Core competencies for trainers
Although it is not essential for every trainer to hold Special Trainer Qualifications, it is desirable that each trainer has an understanding of the core competencies that need to be within the skill-set of the trainer. These include :

1. Critical thinking/problem solving
2. Oral and written communication skills
3. Teamwork/collaboration
4. Knowledge and competence with information technology
5. Leadership
6. Professionalism / work ethic
7. Career management

A trainer should be :

a) Familiar with all aspects of the overall curriculum as it relates to practice within their country
b) Experienced in teaching and in supporting trainees.
c) Skilled in identifying the learning needs of their trainees and in guiding the trainees to achieve their educational and clinical goals.
d) Able to recognise trainees whose professional behaviour in unsatisfactory and initiate supportive measures as necessary.
e) Trainers should lecture to a peer-audience on a regular basis, attend national meetings and be able to demonstrate appropriate participation in continuing professional development.

2. QUALITY MANAGEMENT FOR TRAINERS

Quality management for trainers remains a core competency of respective national specialty boards.

It is desirable that Trainers and Programme Directors will have their job description agreed with their employer which will allow them sufficient time each week for support of trainees and in the case of Programme Directors, sufficient time for their work with the trainers.

It is recommended that a single trainer should not have more than two trainees.

The number of trainees would determine the amount of time each week that would be allocated to their support.

Trainers will collaborate with trainees, the Programme Director and their institution to ensure that the delivery of the training is optimal. Feedback from trainees will assist in this regard.

The educational work of trainers and programme Directors will be appraised, typically on an annual basis, within the department or Institution as local circumstances dictate.

Educational support of trainers and Programme Directors needs to be provided by their Department and Institution.

It is important that there is a method for feedback from the trainees regarding the quality of the training that is being delivered and that there is a process in place for internal reflection by the trainers together with the Director of training.

III. TRAINING REQUIREMENTS FOR TRAINING INSTITUTIONS

1. Process for recognition and certification of training institutions that run **residency** training programmes in urology

EBU Certification provides national training centres the unique opportunity to have their programmes evaluated and assessed against European standards. This assessment provides structured and individual recommendations on further improvements on the existing training programme. This EBU Certification offers a “Mark of Quality” which helps the training centre to evolve and to improve training and patient care for the future. The evaluation goes into the detail of staff requirements, clinical activity of the institution, the facilities that are required (such as equipment, accommodation, library etc) and evaluates also the opportunities for research and career development for the trainees within that institution.

The certification process by the Certification Committee is based on the “UEMS Charter on Training of Medical Specialists”.

a) Process of Application

The Training Institution submits an online application and is required to include information regarding proof of national accreditation of its residency training programme and demographic information of its hospital activity and the facilities that are available. It is also required to provide activity data and logistic organization of the Department of urology including information regarding the urology teaching staff, teaching facilities and clinical activities that are usually undertaken. Information is also requested regarding the institution’s research opportunities, a list of publications and the EBU Logbook of all residents covering their training period within the institution.

The application is then evaluated by the Certification committee and if the application is satisfactory, the committee appoints a team to perform the assessment.

b) Site visit

During the site visit, the assessors are shown around the urological department, and also meet with other clinical staff such as radiologists and general surgeons. A formal interview is held with the chief of training and members of the staff and personal interviews are held with the trainees in order to obtain information and feedback about their training.

The site visitors then issue a report based on the EBU scoring schedule form, and this is then reviewed and discussed by Certification Committee. If the training institution satisfies the requirements, the EBU Certificate of Accreditation is awarded which is valid for a period of either 3 or 5 years (depending on the scoring outcome of the visit). All EBU-certified training centres are listed on the EBU official website.

One year before the end of the certification period the applicant receives an invitation to apply for another term. In case of a ‘re-certification’ the same procedure applies. If the applicant does not apply for the next term the certification is discontinued.

The site-visit’s principles and ideals

The site visit enables an evaluation of different aspects of the residency training programme. This includes an evaluation of the educational programme, an assessment of the training staff, an evaluation of the training facilities and how the training programme is applied and how it is evaluated internally.

- **Educational programme**

It is important to have a trainer who is recognised as the Programme Director. The training institution needs to have a structured training programme and which is introduced at the start of resident training. The training programme itself should cover the breadth of the European Urology Residency Curriculum as set out by the EBU and trainees should be offered the opportunity for adequate rotation in order to have access and exposure to different urological sub-specialities.
It is important that the trainees document their clinical surgical experience in their personal logbooks. The Institution should also engage in internal meetings with other allied specialities in the form of MDT meetings with pathology, radiology and oncology and should hold regular meetings to discuss morbidity and mortality, basic science, journal club, and other. It is important that the training programme seeks to teach the content of the “learning objectives” and that there is a mechanism to assess that this is being achieved.

- **Faculty of trainers**

It is important that the institution has an adequate number of trainers with expertise in the various sub-specialities. In addition to broad clinical expertise, it is also desirable for the staff to offer scientific, administrative and educational expertise that can be used during residency training. It is ideal to have a ratio of staff : resident of 1:1 or 1:2 but if the ratio falls below this, then the institution is deemed to have inadequate training staff within the faculty to ensure adequate quality of training.

- **Desirable facilities for quality training**

The quality of training is directly related to the clinical workload being undertaken within the institution and the range of facilities that are available. The institution needs to have an adequate number of beds and facilities in the ward. There needs to be an adequate throughput of patients at Out-patients, and there needs to be adequate availability of diagnostic facilities. Also, there needs to be adequate number of operating theatres which are equipped with supporting teaching facilities.

- **Opportunities for research and development**

It is important that the faculty is motivated to educate and that residents are recognised as being an integral part of the institution with adequate two-way communication and constructive feedback. Within this type of environment, residents should also be encouraged to go to meetings and courses and also be encouraged to write publications on clinical and/or basic research) and should be given adequate ‘protected’ time in order to achieve this.

Quality management within training institutions

Accreditation

Training institutions in Urology should have their residency training programme officially recognised and accredited by their National Authority responsible for training. The National Authority is also responsible for the quality assurance of the training programme, of the trainers and the training institution.

External auditing – the site visit

A site visit offers the opportunity for external auditing of the institution where the training is being undertaken. This could be done at a national level by the local regulatory authority or else at a European level through the EBU (as detailed above). The audit should ensure that trainees are having a regular documented evaluation (at least on an annual basis) and that they are following their personal training plan. The trainees need to be keeping the logbook updated and that, ideally, they are participating in the EBU in-service assessment.

Clinical governance

The national authority is the responsible body for recognition and certification of medical specialists and the standards for recognition of national training institutions are matters for the National Authorities in accordance with national rules and EU legislation. The EBU certification of the residency training programme is regarded as a “Mark of Quality” at a European level.

Clinical governance needs to ensure that there is adequate supervision of the trainees in the operation theatre and out-patient clinic and that there is Step-by-step education in surgical skills in an adequate number of procedures. It is therefore important that the range of the procedures that are being undertaken within the institution covers the majority of current urological practice. Finally, evaluation of the Logbook can determine whether the (final-year) resident is performing an adequate number of procedures as a first surgeon (under supervision).

Manpower planning

The ethos of the manpower planning of the training institution should be towards providing adequate staffing to enable adequate training opportunities for the trainees.

Regular review of training institutions

It is the responsibility of the National Authorities to give accreditation for the residency training programme and training programme itself needs to be transparent and made available for scrutiny. Where individual training institutions are unable to provide the whole breadth of training, it is incumbent on that institution to formally organise and co-ordinate training opportunities at other allied institutions to ensure full comprehensive urological training.

It would be recommended that there is a regular appraisal of the individual training institutions and the detailed residency training programme every 5 years by the national authority to ensure on-going quality assurance.

Mechanism to withdraw recognition.

In rare cases where a training institution has attained recognition, however, a drastic change in circumstances changes the whole dynamics of the training of trainees within that institution, the EBU retains the right to withdraw recognition of the residency training programme.