UROLOGICAL SOCIETY
OF AUSTRALIA
AND NEW ZEALAND

MODULAR CURRICULUM PORTFOLIO

Surgical Education and Training

Urology

Updated September 2013
(Review due September 2015)
(Examination resources updated – July 2016)

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INTRODUCTION

The objective of this portfolio assessment and curriculum booklet is to lay out transparently, the expectations and objectives of the SET Program in Urology. This is a working document that is expected to change over time as scientific and social advances are made.

The original curriculum was the result of over 2 years of effort by members of the USANZ. The curriculum committee was a subcommittee of the executive, and was chaired by Peter Royce with a committee including Andrew Brooks, Peter Heathcote, Bill Lynch, Lawrie Hayden, Mohamed Khadra, Frank Gardiner, Simon Bariol (then Trainee Rep), David Barr (then USANZ CEO), Anne Ellison (RACS) and Wendy Crebbin (RACS). The committee sought to describe not only the scientific and clinical content of a safe urologist's knowledge base, but also the communication and behavioral characteristics. The document was reviewed by the 2013 Board of Urology in consultation with relevant SAG delegates.

The final examination in Urology will be broadly drawn from this curriculum but does assess the assimilation of this knowledge base into clinical practice.

Instead of presenting the curriculum as a series of objectives, it is presented here as a portfolio. This portfolio allows the trainee and trainer to document the training process together and to be able to chart ongoing coverage of the curriculum. It is important that the trainee has read access to this portfolio and that there is a broad plan to sign off on topics, competencies and characteristics as they are acquired.

The portfolio could be used as a study guide and/or mechanism to document the multitude of informal and formal teaching events that occur throughout the training period. A signoff is only done once the trainee has reached a satisfactory level of competence for their stage of training, *as judged by the trainer.* If the trainee presents a topic and still has some deficiencies then no signature should be given. A signature means the trainee is satisfactory. While it is recognised that there is no standardised marking system, it is expected that over the course of the six year training program in urology that each topic will be covered multiple times by different trainers and at different stages of training. Hence, there is an inherent check on level of knowledge and standard expected.

The signoff process itself can take many forms and can be in a variety of situations, formal and informal. Some examples are described below:

1. Formal: The trainee and trainer agree on the topic to be covered in the next session of training. The trainee presents their knowledge to the trainer and then is graded on their level of mastery of the topic in relation to their year of training.

2. Formal: The trainee gives a talk to the unit on a particular topic.

3. Informal: A patient with a particular topic is discussed and the trainee displays their knowledge.

It is important that the process is explicit. "*Please grade me on …", "Do you feel ready to be graded on …"* This is not a secret process. Training is meant to be a two-way dialogue that is transparent and open. In addition to completing this portfolio, the trainer is also obliged to complete quarterly assessment reports and of course participate in all of the other training requirements as specified by the Board of Urology and Section TA&E sub-committee.

Surgical Competence

Surgical competence is not part of the urology curriculum portfolio but will be assessed by the Supervisors of training in conjunction with the Board of Urology, as part of the quarterly in-training assessment process.

COMPETENCIES OF A GRADUATING UROLOGIST

Medical Expertise
Establish and maintain clinical knowledge, skills and attitudes appropriate to their practice • Basic Sciences • Pre-operative, intra-operative, and post-operative care and assessment. • Apply clinical knowledge in practice to recognise and safely solve real-life problems in particular, the treatment of life threatening, as well as, bothersome conditions.
Technical Expertise
Safely and effectively perform appropriate surgical procedures • Consistently demonstrate sound surgical skills • Demonstrate procedural knowledge and technical skill at a level appropriate to their level of experience • Demonstrate manual dexterity required to carry out procedures • Adapt their skills in the context of each patient-each procedure • Maintain skills and learn new skills • Approach and carry out procedures with due attention to safety of patient, self, and others • Analyse their own clinical performance for continuous improvement
Judgement – Clinical Decision Making
Provide compassionate patient-centred care • Recognise the symptoms of, accurately diagnose, and manage common problems in their area of expertise • Manage patients in ways that demonstrate sensitivity to their physical, social, cultural, and psychological needs • Use preventative and therapeutic interventions effectively • Recognise the urological (and related) disorders and differentiate those amenable to surgical treatment • Effectively manage the care of patients with severe and acute trauma including multiple system trauma • Manage the critically ill patient • Manage complexity and uncertainty • Effectively manage complications • Plan, and where necessary implement, a risk management plan Perform a complete and appropriate assessment of a patient • Take a history, perform an examination, and arrive at a well-reasoned diagnosis • Efficiently and effectively examine the patient Organise diagnostic testing, imaging and consultation as appropriate • Select medically appropriate investigative tools and monitoring techniques in a cost-effective, and useful manner • Appraise and interpret radiographic investigations against patient's needs • Critically evaluate the advantages and disadvantages of different investigative modalities
Collaboration
Work in collaboration with members of inter-disciplinary teams where appropriate • Collaborate with other professionals in the selection and use of various types of treatments assessing and weighing the indications and contraindications associated with each type. • Effectively work with other health professionals to minimise inter-professional conflict and maximise quality of patient care • Demonstrate a respectful attitude towards other colleagues and members of inter-professional teams • Develop a care plan for a patient in collaboration with members of an inter-disciplinary team • Recognise the need to refer patients to other professionals • Initiate the resolution of misunderstandings or disputes

Professionalism

Demonstrate a commitment to their patients, profession, and community through ethical practice

- Consistently apply ethical principles
- Recognise and respond appropriately to ethical issues encountered in practice
- Acknowledge their own limitations
- Is accountable for their own decisions and actions
- Maintain appropriate relations with patients
- Manage patients in a culturally appropriate manner

Recognise medico-legal issues

- Identify ethical expectations that impinge on the most common medico-legal issues
- Recognise the principles and limits of patient confidentiality
- Apply appropriate national / state regulations
- Appropriately report issues as they arise to the relevant authorities

Demonstrate a commitment to their patients, profession, and community through participation in profession-led regulation

- Employ a critically reflective approach to their practice
- Acknowledge and learn from mistakes
- Participate in peer review

Manage medical indemnity and risk

- Appropriately manage conflicts of interest
- Explain the standards of informed consent
- Summarise key issues in relation to professional liability and negligence

Scholar and Teacher

Assume responsibility for their own ongoing learning

- Access and interpret relevant evidence
- Integrate new learning into practice
- Document and evaluate any change in practice

Critically evaluate medical information and its sources, and apply appropriately to practice decisions

- Draw on different kinds of knowledge in order to weigh up patients' problems in terms of context, issues, needs and consequences
- Describe the principles of critical appraisal
- Critically appraise new trends in surgery

Facilitate the learning of patients, families, trainees, other health professionals, and the community

- Collaboratively identify the learning needs and desired learning outcomes of others
- Describe principles of learning relevant to medical education
- Develop teaching skills and facilitate medical student learning
- Provide effective feedback

Contribute to the development, dissemination, application, and translation of new medical knowledge and practices

- Select and apply appropriate methods to address a research question
- Describe the principles of research ethics
- Conduct a systematic search for evidence

Management and Leadership

Allocate finite healthcare resources appropriately

- Effectively use resources to balance patient care and systemic demands
- Identify and differentiate between systemic demands and patient needs
- Apply a wide range of information to prioritise needs and demands

Manage and lead clinical teams

- Is respectful of the different kinds of knowledge and expertise which contribute to the effective functioning of a clinical team
- Communicate with and co-ordinate surgical teams to achieve an optimal surgical environment

Manage their practice and career effectively

- Use time management skills appropriately
- Maintain accurate and up-to-date patient records

Serve in administration and leadership roles, as appropriate

- Plan relevant elements of health care delivery
- Chair or participate effectively in committees, meetings, etc

Communication

Develop rapport, trust and ethical therapeutic relationships with patients and families

- Establish positive therapeutic relationships with patients and their families
- Respect patients confidentiality, privacy and autonomy
- Respect patient diversity and difference (including gender, age, sexual orientation, religion, culture)

Accurately elicit and synthesise relevant information from patients, families, colleagues and other professionals

- Gather information about a health condition and also about a patient's beliefs, concerns, expectations and illness experience
- Identify when a patient is likely to interpret information as bad news and adjust their communication accordingly

Accurately convey relevant information and explanations to patients and families, colleagues and other professionals

- Communicate information to patients (and their family) about procedures, potentialities, and risks associated with surgery in ways that encourage their participation in informed decision making
- Communicate with the patient (and their family) the treatment options, potentials, complications, and risks associated with the use of drugs
- Appropriately adjust the way they communicate with patients to accommodate cultural and linguistic differences

Develop a common understanding (with patients, families, colleagues and other professionals) on issues, problems and plans

- Discuss relevant information with patients (and their family) in ways that encourage their participation in informed decision making
- Encourage patients to discuss and question
- Effectively identify and explore problems to be addressed from a patient encounter

Health Advocacy

Respond to individual patient health needs

- Identify the health needs of an individual patient

Promote health maintenance of patients

- Advise patients (and their families) on ways to maintain and/or improve their health

Respond to the health needs of the community

- Describe the health needs in the practice communities that they serve
- Identify opportunities for advocacy and health promotion and respond appropriately
- Identify the determinants of health in the populations including barriers to access to care and resources
- Identify vulnerable or marginalised populations and respond appropriately

Promote health maintenance of colleagues

- Describe the ethical and professional issues inherent to working in teams

Look after their own health

- Take responsibility to ensure that when they are on duty, or on call, that they are at optimal level of performance

Advocate for improvements in health care

- Identify points of influence in the health care system and its structures
- Describe the role of the medical profession in advocating collectively for health and patient safety
- Advocate for improved resources in the environment where they are employed

RESOURCES

Preamble

This modular guide provides a framework to assist in the structured learning SET trainees could use in preparing for the final FRACS (Urol) examinations. The principles and detail required will be harnessed from a variety of (current edition) resources. All trainees should select reference material that suits them. The following resources are commonly used. They include but are not limited to:

INTERMEDIATE STAGE (SSE Exam)

Textbooks

1. Wein: Campbell-Walsh Urology (Kavoussi, Novick, Partin and Peters), 11th edition
    - Chapters 1 – Evaluation of the Urologic Patient: History, Physical Examination, and Urinalysis
    - Chapter 2 – Urinary Tract Imaging: Basic Principles of Computed Tomography, Magnetic Resonance Imaging and Plain Film
    - Chapter 3 – Urinary Tract Imaging: Basic Principles of Urologic Ultrasonography
    - Chapter 21 – Surgical, Radiographic, and Endoscopic Anatomy of the Male Reproductive System
    - Chapter 33 - Surgical, Radiographic, and Endoscopic Anatomy of the Retroperitoneum
    - Chapter 42 – Surgical, Radiographic, and Endoscopic Anatomy of the Kidney and Ureter
    - Chapter 64 – Surgical and Radiologic Anatomy of the Adrenals
    - Chapter 67 – Surgical, Radiographic, and Endoscopic Anatomy of the Female Pelvis
    - Chapter 68 - Surgical, Radiographic, and Endoscopic Anatomy of the Male Pelvis
    - Chapter 122 – Embryology of the Genitourinary Tract

2. Ganong's Review of Medical Physiology (Barrett, Boitano, Barman and Brooks), 25th edition
    - Chapter 13 – Autonomic Nervous System
    - Chapter 17 – Hypothalamic Regulation of Hormonal Function
    - Chapter 18 - The Pituitary Gland.
    - Chapter 20 – The Adrenal Medulla & Adrenal Cortex
    - Chapter 21 – Hormonal Control of Calcium & Phosphate Metabolism & The Physiology of Bone
    - Chapter 22 – Reproductive Development & Function of the Female Reproductive System
    - Chapter 23 – Function of the Male Reproductive System
    - Chapter 37 - Renal Function & Micturition
    - Chapter 38 – Regulation of Extracellular Fluid Composition & Volume
    - Chapter 39 – Acidification of the Urine & Bicarbonate Excretion

3. Last's Anatomy Regional and Applied (McMinn), 9th edition
    - Chapter 1 – Introduction to Regional Anatomy
    - Chapter 5 – Abdomen

4. Robbins and Cotran Pathologic Basis of Disease (Kumar, Abbas and Aster), 9th edition
    - Chapter 1 – The Cell as a Unit of Health and Disease
    - Chapter 2 – Cellular Responses to Stress and Toxic Insults: Adaptation, Injury, and Death
    - Chapter 3 – Inflammation and Repair
    - Chapter 4 – Hemodynamic Disorders, Thromboembolic Disease, and Shock
    - Chapter 5 – Genetic Disorders
    - Chapter 6 – Diseases of the Immune System
    - Chapter 7 – Neoplasia
    - Chapter 8 – Infectious Diseases
    - Chapter 9 – Environmental and Nutritional Diseases
    - Chapter 10 – Diseases of Infancy and Childhood
    - Chapter 20 – The Kidney
    - Chapter 21 – The Lower Urinary Tract and Male Genital System

5. Smith and Tanagho's General Urology (McAninch and Lue), 18th edition

ADVANCED STAGE (FRACS Urol)

Reference texts:
*Adult and Pediatric Urology (Gillenwater)
*Campbell-Walsh Urology (Wein)

Operative/Anatomy texts:
*Textbook of Laparoscopic Urology (Inderbir Gill)
Operative Urology at the Cleveland Clinic (Andrew Novick, et al)
http://link.springer.com/book/10.1007/978-1-59745-016-4/page/1
*Glenn's Urologic Surgery (Graham & Keene)
*Complications of Urologic Surgery (Taneja)
*Hinman's Atlas of Urologic Surgery (Smith, et al)
*Hinman's Atlas of Urosurgical anatomy (Greg MacLennan)

Shorter texts:
Choe's Urology Oral Board Self-assessment (Philipp Dahm, et al)
http://www.isbns.fm/isbn/9781890018627
Pocket Guide to Urology (Jeff Wieder)
http://www.pocketguidetourology.com/
*Penn Clinical Manual of Urology (Philip Hanno, et al)

Scientific journals:
Recent seminal papers from leading urology journals including (but not limited to):

- *Journal of Urology
- *British Journal of Urology International (incl USANZ suppls)
- *European Urology
- *Urology

Guidelines:
Relevant Guidelines from USANZ, EAU, AUA (incl updates) and BAUS.

**indicates resource available at RACS online library.*
indicates purchase request to RACS librarian May 2013

TRAUMA

Preamble

This module covers the following topics:

- Open and closed renal trauma
- Ureteric injury
- Ruptured bladder
- Urethral trauma
- Genital trauma
- Multi-system trauma

Prerequisite Knowledge

- Abdominal and pelvic anatomy
- Emergency Management of Severe Trauma (EMST)

CORE LEARNING OBJECTIVES

	Completed
Anatomy and Embryology	
Describe in detail the anatomy of the kidney & ureter with particular reference to Gerota's fascia & renal vascular anatomy.	
Describe in detail the abdominal and pelvic course of the ureter.	
Describe in detail the anatomical relationships of the male urethra, prostate, pelvic floor and their attachments.	
List anatomical variants of the urinary tract that are of relevance to urologic trauma.	
Epidemiology	
Discuss the incidence and mode of urologic trauma.	
Discuss the risk factors of urinary tract trauma associated with other abdominal or pelvic trauma	
Compare the patterns of urologic injury in adults and children.	
Pathophysiology	
Discuss the pathophysiology of haemodynamic shock.	
Describe the staging or classification systems in use for renal, bladder and urethral trauma and their importance.	

CLINICAL REASONING LEARNING OBJECTIVES

	Completed
Evaluation	
Demonstrate proficiency in clinical history, examination and investigation of the trauma patient.	
List the indications for investigation of patients presenting with suspected urinary tract trauma.	
Treatment	
Design a treatment plan for a multi-trauma patient.	
Design a treatment plan for a patient with renal trauma.	
Design a treatment plan for a patient with ruptured bladder.	
Critically appraise the treatment options for patients with urethral injury, include how each option is selected	
Design a treatment plan for a patient with genital trauma.	
Design a treatment plan for patients with iatrogenic urologic trauma with particular reference to vesico-vaginal fistulae and ureteric injury.	
Communication	
Describe the information you would convey to a patient and/or their family on the management options for their condition.	
Discuss the information that a patient should be given prior to obtaining informed consent for diagnosis or treatment, with particular reference to the individual's circumstances.	

ONCOLOGY

Preamble
This module covers the following tumour sites:

- Adrenal
- Renal parenchyma
- Renal pelvis (collecting system) and Ureter
- Bladder
- Prostate
- Urethra
- Penis
- Testis
- Epididymis
- Scrotum
- Retroperitoneal

CORE LEARNING OBJECTIVES

	Completed
Epidemiology	
Discuss environmental, genetic and other predisposing factors in the aetiology of tumours.	
Recall the incidence, prevalence, morbidity and mortality statistics of the malignant tumours, with particular reference to kidney, renal pelvis and ureter, bladder, prostate, testis and penis.	
Discuss the factors that influence the natural history and growth of tumours.	
Discuss the issues involved in screening programs for urologic cancer with particular reference to prostate cancer. Be able to outline the controversies in screening.	
Pathophysiology	
Demonstrate the ability to recognise the macroscopic appearance of tumours.	
Discuss the important histopathological and cytological features. Trainees are not expected to identify and diagnose histopathology or cytology slides.	
List the TNM staging system (UICC) for adrenal, renal, ureteric, bladder, prostate, penis and testis cancer.	
Describe the grading system for those tumours.	
Describe the routes of spread of those tumours.	
Describe hormonal influences on prostate cancer.	
List the tumour markers and discuss their use with particular reference to testis and prostate cancer.	
Discuss the endocrine function of tumours with particular reference to adrenal and renal.	
Discuss the molecular biological factors that are relevant to pathogenesis, diagnosis and treatment of renal, bladder and prostate cancer.	
Uroradiology	
Describe the diagnostic features of tumours in imaging studies. Trainees are expected to have covered the uroradiological module in conjunction with the oncology module.	

CLINICAL REASONING LEARNING OBJECTIVES

	Completed
Evaluation	
Demonstrate the ability to take a history and perform a physical examination to elicit the features of relevance to diagnosis and management of the cancer patient.	
Interpret alterations in tumour marker levels in the management of tumours with particular reference to prostate & testis cancer.	
Demonstrate the ability to critically interpret imaging studies. Trainees will be expected to interpret radiological images.	
Discuss the relevance of tumour grade and TNM stage to management and prognosis.	
Treatment	
Discuss and critically appraise the treatment modalities available including risks, complications and outcomes.	
Discuss the parameters that are available to measure treatment outcomes including cancer control, survival & quality of life.	
Design a treatment plan for a patient with urological malignancy in both early and late stages of disease, including the role of a multidisciplinary approach and of community support groups:	
• Renal	
• Urothelial carcinoma urinary tract	
• Prostate	
• Testis	
• Adrenal, Retroperitoneum, Penis and Scrotum	
Discuss palliation in the care of patients with urological malignancy.	
• Renal	
• Urothelial carcinoma urinary tract	
• Prostate	
• Testis	
• Adrenal, Retroperitoneum, Penis and Scrotum	
Communication	
Describe the information you would convey to a patient and/or their family on the management options for their condition.	
• Renal	
• Urothelial carcinoma urinary tract	
• Prostate	
• Testis	
• Adrenal, Retroperitoneum, Penis and Scrotum	
Discuss the information that a patient should be given prior to obtaining informed consent for diagnosis or treatment, with particular reference to the individual's circumstances.	
• Renal	
• Urothelial carcinoma urinary tract	
• Prostate	
• Testis	
• Adrenal, Retroperitoneum, Penis and Scrotum	

MALE LOWER URINARY TRACT FUNCTION

Preamble
This module includes: obstruction (including bladder outlet and strictures), incontinence, neuropathic bladder, painful prostate and scrotal syndromes

Prerequisite Knowledge
Normal anatomy of the male pelvis and lower urinary tract

CORE LEARNING OBJECTIVES

Anatomy and Embryology	**Completed**
Describe in detail the anatomy, with particular reference to function, of the male lower urinary tract.	
Describe in detail the innervation of the male lower urinary tract, including neuromuscular receptors and pharmacological manipulation.	
Describe the normal urodynamic parameters of the lower urinary tract.	
Describe the normal and abnormal embryological development of the lower urinary tract.	
Pathophysiology	
Describe the pathological processes leading to lower urinary tract obstruction.	
Describe the physiological effects of acute and chronic obstruction to the lower urinary tract.	
Describe the pathological changes following acute and chronic obstruction with particular reference to prostatic bladder outlet obstruction, including the pathologic changes in prostate zonal anatomy, as well as, as renal and bladder pathophysiology (in response to BOO). Outline the broad differences between BPH, BPE and BOO.	
Describe the mechanism and classification of neuropathic bladder dysfunction with particular reference to cerebrovascular disease, spinal cord injury, multiple sclerosis, meningomyelocoele, Parkinson's disease, post pelvic surgery or radiation.	
Describe the mechanisms and classification of male urinary incontinence. Describe the effects of ageing on the structure and function of the lower urinary tract.	
Epidemiology	
List the risk factors involved in lower urinary tract dysfunction with particular reference to BPH/BPE and male urinary incontinence. Recall the incidence and prevalence of urinary incontinence in the male community with regard to age.	
Discuss the incidence and prevalence of BPH/BPE and associated LUTS.	
Physical Principles	
Describe the physical principles of monopolar/bipolar electrodiathermy, laser and thermotherapy devices used in the treatment of BPH. Discuss the safety issues involved with the use of these modalities.	

MALE LOWER URINARY TRACT FUNCTION

CLINICAL REASONING LEARNING OBJECTIVES

	Completed
Evaluation	
Demonstrate proficiency in clinical history, examination and investigation of a male patient with lower urinary tract dysfunction. Particular reference should be made to assessment of a male with LUTS.	
Evaluate the use of validated quality of life/symptom questionnaires for LUTS and incontinence.	
Demonstrate proficiency in the performance and interpretation of the spectrum of male urodynamic studies.	
Treatment	
Compare and critically assess the relevant outcomes of the treatment modalities of LUTS in association with BPH	
Design a treatment plan for a patient with symptomatic BPH, urethral stricture and other causes of male lower urinary tract dysfunction.	
Design a treatment plan for a male with neuropathic bladder	
Design a treatment plan for a male with chronic prostate or scrotal pain	
Design a treatment plan for a male patient presenting with acute and chronic urinary retention including management of post obstructive diuresis. (see Fin's comments)	
Communication	
Describe the information you would convey to a patient and/or his family on the management options for his treatment.	
Discuss the information that a patient should be given prior to obtaining informed consent for diagnosis or treatment, with particular reference to the individual's circumstances.	

FEMALE LOWER URINARY TRACT FUNCTION

Preamble
This module includes: Incontinence, Neuropathic Bladder, Female Urology (Interstitial Cystitis and Painful Bladder included in Inflammation/ Infection module)

Prerequisite Knowledge
Normal anatomy of the female pelvis

CORE LEARNING OBJECTIVES

	Completed
Anatomy and Embryology	
Describe in detail the anatomy, with particular reference to function, of the female lower urinary tract.	
Describe in detail the innervation of the female lower urinary tract including neuromuscular receptors and pharmacological manipulation	
Describe the normal urodynamic parameters of the female lower urinary tract.	
Describe the normal and abnormal embryological development of the female lower urinary tract	
Describe an assessment tool for vaginal prolapse (ICS-POPQ, Baden Walker Halfway System)	
Pathophysiology	
Describe the mechanisms and classification of female urinary incontinence with particular reference to types of incontinence and genitourinary prolapse.	
Describe the mechanism and classification of neuropathic bladder dysfunction with particular reference to cerebrovascular disease, spinal cord injury, multiple sclerosis, meningomyelocoele, Parkinson's disease, post pelvic surgery or radiation.	
Describe the effects of ageing on the structure and function of the female lower urinary tract.	
Epidemiology	
List the risk factors involved in lower urinary tract dysfunction with particular reference to female urinary incontinence.	
Recall the incidence and prevalence of female urinary incontinence in the community with regard to age.	
Physical Principles	
Describe the physical properties and principles of the use of biosynthetic and other materials in the female lower urinary tract.	
Discuss the medical issues involved with the use of these materials.	

CLINICAL REASONING LEARNING OBJECTIVES

	Completed
Evaluation	
Demonstrate proficiency in clinical history, examination and investigation of a patient with lower urinary tract dysfunction.	
Particular reference should be made to assessment of a female with LUTS, with incontinence or with neuropathic bladder.	
Evaluate the use of validated quality of life/symptom questionnaires for incontinence and genitourinary prolapse.	
Demonstrate proficiency in the performance and interpretation of the spectrum of urodynamic procedures.	
Treatment	
Compare and critically assess the relevant outcomes of the treatment modalities of female urinary incontinence.	
Design a treatment plan for a female with urinary incontinence with/without pelvic floor prolapse, including appropriate consultation with other specialist groups and health professionals.	
Design a treatment plan for a female patient with neuropathic bladder.	
Communication	
Describe the information you would convey to a patient and or/her family on the management options for her condition.	
Discuss the information that a patient should be given prior to obtaining informed consent for diagnosis or treatment, with particular reference to the individual's circumstances.	

INFECTION AND INFLAMMATION

Preamble

UTI includes common bacterial and non-bacterial infections of the genitourinary tract. It also includes specific infections such as STDs, HIV/AIDS, TB, candidiasis, schistosomiasis, filariasis, gas forming and gangrenous infections.

This module also includes inflammatory urological conditions such as painful bladder syndromes, interstitial cystitis, radiation cystitis**.**

Prerequisite Knowledge

The trainee should be familiar with the following:

- Principles of antibiotic treatment
- Microbiology
- Immunology
- Principles of inflammation
- Sterilisation

CORE LEARNING OBJECTIVES

	Completed
Anatomy and Embryology	
List the normal immune and structural defence mechanisms of the urinary tract	
Describe abnormalities of anatomy and embryological development pertaining to UTI	
Pathophysiology	
Discuss the pathophysiology of inflammatory and infective genito-urinary tract conditions	
Discuss the importance of specimen collection techniques and interpretation of laboratory diagnosis of urological infections	
Epidemiology	
Discuss the relevant risk factors and mode of spread of urological infections both in the individual and in the community	

CLINICAL REASONING LEARNING OBJECTIVES

	Completed
Evaluation and Treatment	
Formulate a management plan for patients presenting with manifestations of:	
Upper and Lower urinary tract infection and inflammation (including LUTS, Pyuria, Bacteriuria, fever and loin pain)	
Systemic sequelae of these conditions	
Plan the management of urinary infection/inflammation secondary to pathology in structures outside the genitourinary tract (including retroperitoneal fibrosis, endometriosis)	
Discuss the indications and rationale of prophylactic antibiotics in urology	
Discuss a treatment plan for a patient with painful bladder syndrome	
Epidemiology	
Demonstrate an ability to audit all aspects of the management of urologic infections with particular reference to surgical wound infection	
Communication	
Describe the public health issues as they affect individuals, institutions and communities and how you would communicate relevant information to relevant health groups	
Describe the information you would convey to a patient and/or their family on the management options for their condition with particular reference to privacy and public health issues	
Understand the role of interaction with other clinicians involved in the care of patients with infective and inflammatory diseases	

UPPER URINARY TRACT FUNCTION

Preamble

This module includes: renal function and obstruction, renovascular disease, renal transplantation and renal cystic (see uroradiology module)

Prerequisite Knowledge

- Renal/ureteric anatomy and physiology.
- Describe the normal process of renal function with particular reference to:
  - Water balance
  - Acid-base balance
  - Regulation of electrolytes
  - Regulation of blood pressure via the renin-angiotensin-aldosterone system

CORE LEARNING OBJECTIVES

	Completed
Anatomy and Embryology	
List the anatomic variants of renal arterial/venous anatomy and the relationship to the ureter and retroperitoneal structures.	
Describe in detail the segmental renal anatomy and associated blood supply.	
Describe and illustrate the embryological development of the kidney and ureter.	
List the congenital abnormalities of the kidney, ureter and retroperitoneum which may result in renal failure/obstruction.	
Pathophysiology	
Discuss the pathophysiology and pathology of acute and chronic obstruction to the upper urinary tract and consequences of treatment of obstruction.	
Discuss the pathophysiology and pathology of renovascular disease, with particular reference to renal artery stenosis.	
Describe the pathophysiology associated with renal transplantation with particular reference to acute tubular necrosis, acute and chronic rejection.	

CLINICAL REASONING LEARNING OBJECTIVES

	Completed
Evaluation	
Demonstrate proficiency in clinical history, examination and investigation of a patient with upper urinary tract obstruction. Particular reference should be made to the assessment of overall and split renal function using urine and serum biochemistry and specific imaging.	
Demonstrate proficiency in clinical history, examination and investigation of a patient with urologic complications of renal transplantation.	
Describe the important factors in assessing a patient for living related donor nephrectomy.	
Demonstrate proficiency in the investigation of a patient with renovascular disease.	
Treatment	
Design a treatment plan for a patient with upper urinary tract obstruction, with particular reference to PUJ obstruction, retroperitoneal disease and congenital abnormalities.	
Compare the relevant outcomes of the treatment modalities of congenital PUJ obstruction.	
Design a treatment plan for a patient with urologic complications of renal transplantation.	
Recognise the triggers for referral to a nephrologist of a patient with renal disease.	
List the treatment options for a patient with renovascular disease.	
Communication	
Describe the information you would convey to a patient and/or their family on the management options for their condition.	
Discuss the information that a patient should be given prior to obtaining informed consent for diagnosis or treatment, with particular reference to the individual's circumstances.	

URINARY STONE DISEASE

Preamble
This module covers the mechanism of urinary stone formation and the clinical consequences of stone disease

Prerequisite Knowledge
Renal physiology & mineral metabolism, Microbiology

CORE LEARNING OBJECTIVES

	Completed
Anatomy and Embryology	
Identify surface anatomy relevant to the surgical management of renal and ureteric calculi.	
Recognise radiological anatomy of the urinary tract.	
Describe the anatomic relationships of the kidney and ureter.	
Identify endoscopic anatomy of the ureter and intrararenal collecting system.	
Epidemiology	
Discuss the incidence and recurrence rates for urinary stone disease.	
List the genetic and environmental risk factors for urinary stone disease.	
Pathophysiology	
List the structural and biochemical factors that govern urinary lithiasis.	
Summarise the theories regarding stone formation.	
Compare biochemical stone types with regard to their aetiology and physical characteristics.	
List the available methods of stone analysis.	
Physical Principles of Stone Treatment	
Describe the physical principles of kinetic lithotripsy including ESWL, laser, pneumatic and electrohydraulic modalities.	
Discuss the safety issues involved with the use of these modalities.	

CLINICAL REASONING LEARNING OBJECTIVES

	Completed
Evaluation	
Discuss the assessment of a patient presenting with loin pain.	
Demonstrate proficiency in the management of a patient with the diagnosis of urinary tract calculus disease.	
Discuss the metabolic investigations of patients with recurrent or multiple urinary stone disease.	
Treatment	
Discuss the indications for admission and intervention for patients with urinary stone disease.	
Design a treatment plan for patients presenting with renal, ureteric and bladder stones and discuss the factors which influence management.	
Discuss the indications, results and complications of specific treatments including conservative management, medical therapy, extracorporeal shock-wave lithotripsy, percutaneous, endoscopic, open and laparoscopic surgery.	
Discuss the particular issues associated with the management of stone disease in children.	
Discuss the complications of stone disease and describe their management with particular reference to obstruction, infection and inflammation.	
Communication	
Describe the information you would convey to a patient and/or their family on the management options for their condition.	
Discuss the information that a patient should be given prior to obtaining informed consent for diagnosis or treatment, with particular reference to the individual's circumstances.	

ANDROLOGY

Preamble

The andrology module considers male infertility and sexual dysfunction in detail. It also includes vasectomy, vasectomy reversal, sperm retrieval techniques for assisted reproduction, varicocele, priapism, various peno-scrotal disorders and sexual counseling

Prerequisite Knowledge

Normal anatomy, physiology and function of the male genital system.

CORE LEARNING OBJECTIVES

	Completed
Epidemiology	
Describe the incidence, prevalence and risk factors in male infertility and sexual dysfunction with particular reference to cryptorchidism, varicocele, drug exposure and acquired environmental factors.	
Anatomy and embryology	
Describe normal male genital anatomy, embryology and function with particular reference to erectile and ejaculatory function and spermatogenesis	
Pathophysiology	
Explain the pathophysiology of erectile dysfunction, Peyronie's disease and priapism. List the causes of oligospermia/azoospermia and male infertility.	
Discuss the effects of ageing on the male genital system with particular reference to androgens.	
Discuss the psychosexual factors that affect male sexual function.	
Discuss the pathogenesis of benign scrotal conditions with particular reference to testis torsion, hydrocoele, varicocele and epididymal cysts.	
Discuss the pathophysiology of phimosis, paraphimosis and balanitis xerotica obliterans.	
Discuss the pathophysiology of cryptorchidism.	

CLINICAL SKILLS LEARNING OBJECTIVES

	Completed
Evaluation	
Demonstrate competency in the history, examination and investigations on the following conditions:	
Male sexual dysfunction	
Male infertility	
Vasectomy and vasectomy reversal	
Painful testis	
Describe the technique of collection and the interpretation of seminal fluid analysis.	
Discuss the differential diagnosis of penile ulcers, plaques and tumours.	
Discuss the differential diagnosis of testicular lesions.	
Treatment	
Develop a management plan for the following clinical scenarios:	
Priapism	
Male sexual dysfunction (including erectile, ejaculatory and orgasmic dysfunction)	
Infertility – interplay with a gynaecologist	
Be able to describe and obtain informed consent for the following surgical procedures:	
Testicular biopsy	
Sperm acquisition	
Varicocele repair	
Vasectomy	
Vasectomy reversal	
Epididymectomy (including cyst management)	
Corrective surgery for penile deformity	
Penile prosthesis	
Demonstrate proficiency in performing the following surgical procedures (listed below): *(be familiar with the operative steps in the other procedures mentioned above)*	
Vasectomy	
Epididymectomy	
Epididymal cyst	
Communication	
Describe the information you would convey to a patient and their sexual partner on the management options for their condition.	
Discuss the information that a patient should be given prior to obtaining informed consent for diagnosis or treatment, with particular reference to the individual's circumstances.	

PAEDIATRIC UROLOGY

Preamble

This module covers the spectrum of urological practice and represents a subspecialty at the advanced level. There are however specific aspects with which the trainee is expected to be familiar. This module considers each of the standard modules and lists those areas previously covered which apply to paediatric urology. Where necessary, additional material for each module is attached and is generally more directive as to the depth of knowledge required.

Prerequisite Knowledge

Normal anatomy, physiology and function of the male genital system

	Completed
ANDROLOGY	
Varicocele	
Testicular anatomy and embryology	
Describe the differences in assessment and treatment of a varicocele in the adolescent and adult male.	
List the common sites for the undescended testis (UDT) and describe the difference between a retractile testis and UDT.	
Describe the surgical procedure for UDT found in the superficial inguinal pouch.	
Describe in detail your evaluation and management of a child with an acute scrotum. List the relevant factors you would discuss with the child's parents.	
INFECTION	
Explain the relevance of abnormalities of anatomy and embryological development pertaining to urinary tract infections.	
Discuss the factors leading to parenchymal scarring of the kidney in children, with particular relevance to role of vesicoureteric reflux (VUR)**.**	
Describe the grades of VUR, and the techniques of evaluation.	
Describe the information you would convey to the family of a child with VUR in regard to management options.	
URINARY STONE DISEASE	
Discuss the management of stone disease in children.	
Describe the eteology and the surgical management options	

PAEDIATRIC UROLOGY

LOWER TRACT FUNCTION	Completed
Describe the normal and abnormal embryological development of the lower urinary tract.	
Describe the physiological effects of acute and chronic obstruction on the lower urinary tract.	
Describe the mechanism and classification of neuropathic bladder dysfunction (including meningomyelocele).	
Recognise the radiological features of ureteroceles and ectopic ureters.	
Describe the management options for children with ureteroceles and ectopic ureters.	
List the complications associated with posterior urethral valves and the surgical options in management.	
Classify the sites of hypospadias.	
Recognise the radiological features of sacral agenesis, exstrophy and myelomeningocele.	
List the current theories of diurnal and nocturnal enuresis, and list management options.	
RENAL FUNCTION AND OBSTRUCTION	
Describe the embryological development of the kidney and ureter.	
List the congenital abnormalities of the kidney and ureter (including reflux) which may result in renal failure or obstruction.	
Compare the relevant outcomes of the treatment modalities of upper urinary tract obstruction with particular reference to congenital PUJ obstruction.	
Describe the common renal fusion and ectopia anomalies.	
Describe the radiological/imaging features to distinguish between PUJ obstruction, Multicystic Dysplastic Kidney, and Hypoplasia.	
ONCOLOGY	
The spectrum of testicular malignancies.	
List the causes of benign and malignant abdominal masses in children.	
Describe the differences between neuroblastoma and Wilms tumour with particular reference to age of onset, radiological features, genetic factors, diagnostic tests and management principles.	
TRAUMA	
Discuss the incidence of urological trauma and the risk of urinary tract trauma associated with other abdominal or pelvic trauma (including paediatric trauma).	
Indicate the issues associated with childhood assault and self-harm with particular reference to genito/urinary tract	
Discuss the obligations and principles of management of children at risk	

URORADIOLOGY - IMAGING

Preamble
Uroradiology is an integral tool in Urology because a thorough understanding of radiographic images is critical in the diagnosis and management of patients.

The objective of this module is to provide trainees with an understanding of the scope of diagnostic modalities, the principles of their use, the normal uroradiologic anatomy, the common indications in urological practice, the limitations of each modality, and the relevant safety issues.

Note that this module is confined to the technical aspects of imaging – the clinical application has been inserted into the clinical modules

Prerequisite Knowledge
The Uroradiology module does not attempt to cover abnormal anatomy, diagnostic pathology or therapeutic radiology, all of which however, will form part of the training programme and be covered in radiologic texts, teaching and assessment.

Please Note: The area of Uroradiology is rapidly changing with advances in technology, and trainees are expected to use their own resources to maintain a current knowledge of Uroradiology.

CORE LEARNING OBJECTIVES

	Completed
Principles, Skills & Applications	
Discuss the use and limitations of the range of available techniques	
Describe the indications for use of the range of tools	
Critically evaluate the advantages and disadvantages of different investigative modalities	
Order images that are appropriate for the diagnosis of common urological problems	
Interpret Uroradiologic images and reports quickly and accurately	
Evaluate the significance of the data	
Explain the technique	
Identify the level of application	
Discuss safety issues including contra-indications	
Describe and pay due attention to radiation safety in the operating theatre	
Select appropriate investigations to suit the clinical diagnostic problem	

URORADIOLOGY - IMAGING

	Completed
Explain to a patient the purpose, limitations and risks associated with each modality	
Explain in detail, assess and perform Uroradiologic procedures such as:	
Transrectal prostate ultrasound	
Renal and scrotal ultrasound	
Fluoroscopic imaging	
Percutaneous nephrostomy	
Summarise and evaluate nuclear medicine techniques applicable to Urological surgery	
Identify the role of MRI, PET and SPECT, and apply in the diagnosis and management of benign and malignant disease	
Take responsibility for the clinical decisions of diagnosis, advice and treatment	
Communication	
Communicate information to patients (and their family) about procedures potentialities and risks associated with uroradiology	
Interact effectively with radiologists sonographers and radiographers in order to obtain the maximum benefit and minimise the risks from each investigation	