Mapping of Urology Curricular Competencies with Assessment Tools

الهيئة السعودية للتخصصات الصحية
Saudi Commission for Health Specialties

This outline maps curricular competencies\objectives with the assessment tools and potential test type. Tests will emphasize certain parts of the outline, and no single test will include questions on all aspects. Questions may include content that is not included in this outline.

Construct	Domain	Level	Code	Performance indicator (Curriculum)	Page #	Learning Domain	Assessment Method			
						(1:Cognitive, 2:Skills, 3:Attitude)	MCQ - Part I Written	MCQ - Final Written	OSCE - Final Clinical	SOE - Final Clinical
A Medical expert	A1 Basic science	R1+R2	A1.1	Apply knowledge of the clinical, socio-behavioral, and fundamental biomedical sciences in anatomy relevant to all basic surgical approache	10	1	*	*		*
			A1.2	Apply knowledge of the clinical, socio-behavioral, and fundamental biomedical sciences relevant to surgical practice during assessment of a patient in relation to physiology including: - Impact of age on specific organ systems as it relates to surgical management - Impact of pregnancy on specific organ systems as it relates to surgical management - Obesity and the impact of obesity on organ systems - Respiratory system, including: - Lung volumes - flow rates - pressures - Gas exchange - Oxygen transport and carbon dioxide elimination - Hemostasis - Physiology of coagulation - Fluid and electrolyte physiology - Fluid compartments and body water component - Osmotic and volume regulation - Sodium (Na), Potassium (K), Calcium (Ca), Phosphorus (P), and Magnesium (Mg) metabolism - Regulation of acid-base balance - Circulatory system - Hemodynamics of cardiovascular system - Immunology of sepsis and transplantation - Nutrition - Metabolic needs - Caloric-protein-lipid requirements, fluids, and micronutrients	10-11	1	*	*		*
				Adaptation to starvation as compared to response to surgical stress - Body response to surgical stress - Metabolic responses including catabolic response, the need for metabolic support, and endocrine changes not mediated by the neuroendocrine axis - Mediators, cells involved in metabolic response - Neuroendocrine axis						
			A1.3	Apply knowledge of the socio-behavioral, and fundamental biomedical sciences relevant to surgical practice during assessment of a patient, including: - Coronary artery disease (CAD) - Valvular disease - Cardiomyopathy - Cardiac arrest, arrhythmias as per advanced cardiovascular life support (ACLS) protocols - Chronic obstructive lung disease (COLD) - Asthma - Renal failure - Diabetes - Physiological complications - Management of hypoglycemia and hyperglycemia - Thyroid pathophysiology - Parathyroid pathophysiology - Adrenal pathophysiology - Liver Cirrhosis - Liver failure - Screening for diatheses - Hypocoagulable states - Hypercoagulable states	11-12	1	*	*		*
			A1.4	Apply knowledge of the socio-behavioral, and fundamental biomedical sciences relevant to surgical practice during assessment of a nutritional status, including Indications, complications, and benefits of nutritional support, including enteral and parenteral feeding	12	1	*	*		*
			A1.5	Apply knowledge of the clinical, socio-behavioral, and fundamental biomedical sciences relevant to diagnostic modalities including their technology, indications, and limitations of: - Plain radiography - Ultrasound - Computed tomography (CT) scan - Magnetic resonance imaging (MRI) technology - Fluoroscopy - Nuclear medicine - Positron emission tomography (PET) scan - Other emerging technologies	13	1	*	*		*
			A1.6	Apply knowledge of the clinical, socio-behavioral, and fundamental biomedical sciences relevant to medical treatments and their impact on the surgical management of patients: - Immunosuppression - Chemotherapy - Radiotherapy - Common drugs with an impact on hemostatic function and methods to correct their impact - Complementary and alternative medicine - Blood products and derivatives, including types, indications, and adverse reactions	13	1	*	*		*

		A1.7	Apply knowledge of the clinical, socio-behavioral, and fundamental biomedical sciences relevant to Oncology: - Purpose and basis of staging and grading - Basic principles of neoplastic transformation, including tumor growth and spread - Pathology requirements for appropriate assessments - Definitions of common pathological terms, such as, but not limited to, neoplasia, malignancy, dysplasia, metaplasia, and atypia - Genetics of neoplasia - Genetics of families at risk - Role of environmental carcinogens - Paraneoplastic syndromes - Principles of multi-modality therapy - Psychological and social impact of cancer on the individual and family	13-14	1	*	*		*
		A1.8	Apply knowledge of the socio-behavioral, and fundamental biomedical sciences relevant to principles of advanced trauma life support (ATLS) or principles of trauma care	14	1	*	*		*
		A1.9	Apply knowledge of the socio-behavioral, and fundamental biomedical sciences relevant to Common infection: - Community and hospital acquired bacteria, fungi, and viruses - Impact of blood borne pathogens, including HIV, hepatitis B, and hepatitis C	14	1	*	*		*
		A1.10	Demonstrate an understanding of the conduct of Wound healing: - Classification of wounds - Normal wound healing - Abnormal wound healing - Factors that alter wound healing	14	1	*	*		*
		A1.11	Apply knowledge of the socio-behavioral, and fundamental biomedical sciences relevant to transplantation/implantation: - Description of autograft, xenograft, and allograft - Graft rejection—mechanisms and types - Implants - Principles of compatibility - Biological reaction/rejection	14	1	*	*		*
		A1.12	Demonstrate an understanding of the principles of energy sources: - Electro-cautery - Laser - Emerging energy source modalities	15	1	*	*		*
		A1.13	Demonstrate an understanding of the principles of prophylaxis: - Wound and systemic infection - Thromboembolism - Tetanus	15	1	*	*		*
		A1.14	Demonstrate an understanding of the principles of anesthesia, analgesia, and sedation: - Local anesthetic agents, indications, contra-indications, and administration - Regional anesthetics - General anesthetics - Procedural sedation, indications, contra-indications, and administration - Complications arising from the administration of anesthesia	15	1	*	*		*
		A1.15	Demonstrate an understanding of pathophysiology and types of postoperative pain	15	1	*	*		*
		A1.16	Demonstrate an understanding of pathophysiology in the surgical patient in relation to: - Principles of advanced cardiac life support - Cardiac failure - Ischemic heart disease - Arrhythmia - Shock (Septic, Cardiogenic, Hypovolemic, Neurogenic) - Multiple organ dysfunction syndrome - Respiratory failure - Basic mechanism, indications, contra-indications, and complications of mechanical ventilation - Pulmonary embolism - Fat embolism - Homeostasis - Deep venous thrombosis (DVT) - Arterial ischemia - Pressure sores - Delirium and altered mental status - Transient ischemic attack (TIA) and stroke - Principles of brain death assessment - Anxiety and depression - Psychological and emotional response to sensitive disorders - Malingering/Munchausen syndrome/hypochondriasis - Post-traumatic stress disorder - Post-surgical delirium - Stress gastritis - Post-operative Ileus	15-16-17	1	*	*		*
		A1.17	Demonstrate an understanding of pathophysiology of common postsurgical infections: - Pulmonary - Vascular catheter - Urinary - Parotitis - Surgical site infection, including incisional and organ/space - Spreading and necrotizing infections - Hematogenous infections - Clostridium difficile - Multi antibiotic-resistant pathogens - Methicillin-resistant Staphylococcus aureus (MRSA) - Multi-resistant gram-negative bacilli - Vancomycin-resistant enterococci (VRE) - Common pathogens in the specific surgical site"	17	1	*	*		*
		A1.18	Demonstrate an understanding of pathophysiology of Compartment syndromes - Abdominal - Limb	17	1	*	*		*
		A1.19	Demonstrate an understanding of pathophysiology of delayed wound healing	17	1	*	*		*
		A1.20	Demonstrate an understanding of complications of delayed wound healing	17	1	*	*		*
		A1.21	Demonstrate the application of anatomic knowledge as it relates to the surgical procedure.	22	1	*	*		*
	R3+R4+R5	A1.22	Apply knowledge of the socio-behavioral, and fundamental biomedical sciences relevant to urology in the following conditions - Congenital and developmental abnormalities - Kidney and ureter - Cystic disease of the kidney - Horseshoe kidney and other renal anomalies - Duplication, retrocaval ureter, and other ureteric anomalies	40	1		*		*

	A1.23	Apply knowledge of the socio-behavioral, and fundamental biomedical sciences relevant to urology in the following conditions - Congenital and developmental abnormalities - Bladder and urethra - Vesicoureteral reflux - Posterior urethral valves - Epispadias and exstrophy - Hypospadias and chordee - Other anomalies - External genitalia - Disorders of sexual differentiation - Undescended testes - Scrotal and external genital anomalies	41	1		*		*
	A1.24	Apply knowledge of the socio-behavioral, and fundamental biomedical sciences relevant to urology in the following conditions - Obstructive disease of the upper urinary tract - Hydronephrosis and obstructive uropathy - Ureteropelvic junction obstruction - Obstructive disease of the lower urinary tract - Bladder outflow obstruction - Benign prostatic hypertrophy - Urethral strictures - Obstruction secondary to neurological disorders	41	1		*		*
	A1.25	Apply knowledge of the socio-behavioral, and fundamental biomedical sciences relevant to urology in the following conditions - Urinary calculus disease - Renal and ureteral calculi - Bladder and urethral calculi - Urinary fistulae - Urinary and genital infections - Bacterial (complicated and uncomplicated) and non-bacterial cystitis and urethritis - Pyelonephritis and other renal infections, including xanthogranulomatous pyelonephritis - Prostatitis including chronic pelvic pain syndrome - Sexually transmitted infections - Genito-urinary tuberculosis - Genito-urinary parasitic disease - Fungal urinary tract infections - Other genital infections (including necrotizing fasciitis)	41-42	1		*		*
	A1.26	Apply knowledge of the socio-behavioral, and fundamental biomedical sciences relevant to urology in the following conditions - Trauma (including the genito-urinary aspects of multi-system trauma evaluation and management) - Renal trauma - Ureteral trauma - Bladder trauma - Urethral trauma - External genital trauma - Renovascular hypertension - Surgically correctable hypertension - Renal transplantation - Recipient selection and organ donation - Relevant transplantation immunology - Principles of immunosuppression - Management of surgical complications of renal transplantation	42	1		*		*
	A1.27	Apply knowledge of the socio-behavioral, and fundamental biomedical sciences relevant to urology in the following conditions - Andrology - Male sexual function and dysfunction - Fertility and male factor infertility - Hypogonadism	42	1		*		*
	A1.28	Apply knowledge of the socio-behavioral, and fundamental biomedical sciences relevant to urology in the following conditions: Urological oncology. For all tumors (benign and malignant) of the genito-urinary tract, the resident MUST be able to: - Describe the etiology, prevention, natural history, role of screening, and pathology - Diagnose the condition through appropriate use of investigative and diagnostic techniques - Apply staging and grading systems that are in common use - Describe the principles of cancer management, including the role of surgery, radiotherapy, chemotherapy, and immunotherapy - Be familiar with the role of percutaneous, angiographic, and new techniques and their indications - Describe the principles of cancer palliation The following tumors must be covered: - Tumors of the kidney (Renal epithelial tumors , Wilms' tumor) - Urothelial carcinoma of renal pelvis and ureter (Angiomyolipoma) - Tumors of the bladder (Urothelial carcinoma, Squamous cell carcinoma) - Cancer of the prostate (Adenocarcinoma & Other tumors) - Tumors of the testes (Germ cell (including seminoma and non- seminoma), Non-germ cell tumors) - Cancer of the penis (Squamous cell carcinoma) - Cancer of the urethra - Tumors of the adrenal (Pheochromocytoma, Neuroblastoma, Adrenal adenoma, Adenocarcinoma) - Metastatic cancers of the genito-urinary tract	42-43	1		*		*
	A1.29	Apply knowledge of the clinical, socio-behavioral, and fundamental biomedical sciences relevant to urology in the following conditions - Voiding disorders, including relevant neurourology - Urinary incontinence - Voiding dysfunction due to neurological disease - Nocturnal enuresis - Functional voiding disorders - Interstitial cystitis - Adrenal diseases - Adrenal cysts, hyperplasia - Adrenal hyperfunction, hypofunction, and associated syndromes	43-44	1		*		*

		A1.30	Apply knowledge of the socio-behavioral, and fundamental biomedical sciences relevant to urology in the following conditions - Systemic diseases and other processes affecting the urinary tract -Urological manifestations of systemic diseases (including diabetes mellitus, sepsis, HIV/AIDS, and other disorders of immunocompromised patients) - The urinary tract in pregnancy (including normal physiologic and anatomic changes and management of urinary tract problems in the pregnant patient) - Disorders of the male external genitalia - Hydrocele, varicocele, spermatocele, cysts - Torsion of the testes, cord, and appendages - Inguinal hernia - All benign, premalignant, and malignant dermatological lesions of the male external genitalia	44	1		*		*
		A1.31	Demonstrate knowledge of the mechanism of action and physiological effects of therapeutic technologies relevant to urology - Laparoscopy - Understand the principles of laparoscopy, the role of laparoscopy in benign and malignant diseases, its indications and contraindications - Extracorporeal shockwave lithotripsy - Lasers - Transurethral prostatic hyperthermia/thermotherapy and other alternative modalities used in the management of patients with benign prostatic hyperplasia - Botulinum toxin - Neurostimulation - Radiofrequency ablation - Cryotherapy	44-45	1		*		*
A2 Assessment & Diagnosis	R1+R2	A2.1	Apply knowledge of the clinical sciences relevant to surgical practice during assessment of a nutritional status, including Indications, complications, and benefits of nutritional support, including enteral and parenteral feeding	12	1	*	*		*
		A2.2	Apply knowledge of the clinical, socio-behavioral, and fundamental biomedical sciences relevant to risk assessment strategies and scores: - Anesthetic risks - Cardiac risk assessment - ICU risk assessment - Trauma assessment including Glasgow coma scale (GCS) - Nutritional assessment - Preoperative screening tests and their limitations	12	1	*	*		*
		A2.3	Apply knowledge of the clinical sciences relevant to Common infection: - Community and hospital acquired bacteria, fungi, and viruses - Impact of blood borne pathogens, including HIV, hepatitis B, and hepatitis C	14	1	*	*		*
		A2.4	Apply knowledge of the clinical sciences relevant to transplantation/implantation: - Graft rejection— types - Biological reaction/rejection	14	1	*	*		*
		A2.5	Demonstrate an understanding of the complications arising from the administration of anesthesia	15	1	*	*		*
		A2.6	Demonstrate an understanding of types of postoperative pain	15	1	*	*		*
		A2.7	Demonstrate an understanding of complications of common postsurgical infections including surveillance: - Pulmonary - Vascular catheter - Urinary - Parotitis - Surgical site infection, including incisional and organ/space - Spreading and necrotizing infections - Hematogenous infections - Clostridium difficile - Multi antibiotic-resistant pathogens - Methicillin-resistant Staphylococcus aureus (MRSA) - Multi-resistant gram-negative bacilli - Vancomycin-resistant enterococci (VRE) - Common pathogens in the specific surgical site"	17	1	*	*		*
		A2.8	Demonstrate an understanding of complications of Compartment syndromes (Abdominal, Limb)	17	1	*	*		*
		A2.9	Demonstrate an understanding of complications in the surgical patient in relation to: - Principles of advanced cardiac life support - Cardiac failure - Ischemic heart disease - Arrhythmia - Shock (Septic, Cardiogenic, Hypovolemic, Neurogenic) - Multiple organ dysfunction syndrome - Respiratory failure - Basic mechanism, indications, contra-indications, and complications of mechanical ventilation - Pulmonary embolism - Fat embolism - Homeostasis - Deep venous thrombosis (DVT) - Arterial ischemia - Pressure sores - Delirium and altered mental status - Transient ischemic attack (TIA) and stroke - Principles of brain death assessment - Anxiety and depression - Psychological and emotional response to sensitive disorders - Malingering/Munchausen syndrome/hypochondriasis - Post-traumatic stress disorder - Post-surgical delirium - Stress gastritis - Post-operative Ileus	18	1	*	*		*

		A2.10	Apply knowledge of the clinical sciences relevant to surgical practice during assessment of a patient, including: - Coronary artery disease (CAD) - Valvular disease - Cardiomyopathy - Cardiac arrest, arrhythmias as per advanced cardiovascular life support (ACLS) protocols - Chronic obstructive lung disease (COLD) - Asthma - Renal failure - Diabetes - Physiological complications - Management of hypoglycemia and hyperglycemia - Thyroid pathophysiology - Parathyroid pathophysiology - Adrenal pathophysiology - Liver Cirrhosis - Liver failure - Screening for diatheses - Hypocoagulable states - Hypercoagulable states	18	1	*	*		*
		A2.11	Elicit a history and perform a physical examination that is relevant, concise, and accurate to the context and preferences for the purposes of prevention and health promotion, diagnosis, and/or management - Identify risk factors for disease or diagnoses - Identify aspects that may affect surgical management of the patient - Identify physical, mental, and psychosocial issues that may influence post- operative care - Identify opportunities for risk management and prevention	18	1,2	*	*	*	*
		A2.12	Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating the information to generate differential diagnoses	18	1	*	*		*
		A2.13	Demonstrate proficiency and selectivity in ordering appropriate imaging with sufficient attention to clinical details as well as interpreting common and simple imaging modalities including: - Plain chest radiography - Plain views of the abdomen - Common cross-sectional imaging - Routine trauma imaging - Ultrasound	21	1	*	*		*
	R3+R4+R5	A2.14	- Formulate a differential and provisional diagnosis - Order or perform, and interpret required investigations - Formulate a treatment plan for the urologic patient	40	1		*		*
		A2.15	Apply knowledge of the clinical sciences relevant to urology in the following conditions - Congenital and developmental abnormalities - Kidney and ureter - Cystic disease of the kidney - Horseshoe kidney and other renal anomalies - Duplication, retrocaval ureter, and other ureteric anomalies	40	1		*		*
		A2.16	Apply knowledge of the clinical sciences relevant to urology in the following conditions - Congenital and developmental abnormalities - Bladder and urethra - Vesicoureteral reflux - Posterior urethral valves - Epispadias and exstrophy - Hypospadias and chordee - Other anomalies - External genitalia - Disorders of sexual differentiation - Undescended testes - Scrotal and external genital anomalies	41	1		*		*
		A2.17	Apply knowledge of the clinical sciences relevant to urology in the following conditions - Obstructive disease of the upper urinary tract - Hydronephrosis and obstructive uropathy - Ureteropelvic junction obstruction - Obstructive disease of the lower urinary tract - Bladder outflow obstruction - Benign prostatic hypertrophy - Urethral strictures - Obstruction secondary to neurological disorders	41	1		*		*
		A2.18	Apply knowledge of the clinical sciences relevant to urology in the following conditions - Urinary calculus disease - Renal and ureteral calculi - Bladder and urethral calculi - Urinary fistulae - Urinary and genital infections - Bacterial (complicated and uncomplicated) and non-bacterial cystitis and urethritis - Pyelonephritis and other renal infections, including xanthogranulomatous pyelonephritis - Prostatitis including chronic pelvic pain syndrome - Sexually transmitted infections - Genito-urinary tuberculosis - Genito-urinary parasitic disease - Fungal urinary tract infections - Other genital infections (including necrotizing fasciitis)	41-42	1		*		*
		A2.19	Apply knowledge of the clinical sciences relevant to urology in the following conditions - Trauma (including the genito-urinary aspects of multi-system trauma evaluation and management) - Renal trauma - Ureteral trauma - Bladder trauma - Urethral trauma - External genital trauma - Renovascular hypertension - Surgically correctable hypertension - Renal transplantation - Recipient selection and organ donation - Relevant transplantation immunology - Principles of immunosuppression - Management of surgical complications of renal transplantation	42	1		*		*

	A2.20	Apply knowledge of the clinical sciences relevant to urology in the following conditions - Andrology - Male sexual function and dysfunction - Fertility and male factor infertility - Hypogonadism	42	1		*		*
	A2.21	Apply knowledge of the clinical relevant to urology in the following conditions Urological oncology. For all tumors (benign and malignant) of the genito-urinary tract, the resident MUST be able to - Describe the etiology, prevention, natural history, role of screening, and pathology - Diagnose the condition through appropriate use of investigative and diagnostic techniques - Apply staging and grading systems that are in common use - Describe the principles of cancer management, including the role of surgery, radiotherapy, chemotherapy, and immunotherapy - Be familiar with the role of percutaneous, angiographic, and new techniques and their indications - Describe the principles of cancer palliation The following tumors must be covered: - Tumors of the kidney (Renal epithelial tumors , Wilms' tumor) - Urothelial carcinoma of renal pelvis and ureter (Angiomyolipoma) - Tumors of the bladder (Urothelial carcinoma, Squamous cell carcinoma) - Cancer of the prostate (Adenocarcinoma & Other tumors) - Tumors of the testes (Germ cell (including seminoma and non- seminoma), Non-germ cell tumors) - Cancer of the penis (Squamous cell carcinoma) - Cancer of the urethra - Tumors of the adrenal (Pheochromocytoma, Neuroblastoma, Adrenal adenoma, Adenocarcinoma) - Metastatic cancers of the genito-urinary tract	42-43	1		*		*
	A2.22	Apply knowledge of the clinical, socio-behavioral, and fundamental biomedical sciences relevant to urology in the following conditions - Voiding disorders, including relevant neurourology - Urinary incontinence - Voiding dysfunction due to neurological disease - Nocturnal enuresis - Functional voiding disorders - Interstitial cystitis - Adrenal diseases - Adrenal cysts, hyperplasia - Adrenal hyperfunction, hypofunction, and associated syndromes	43-44	1		*		*
	A2.23	Apply knowledge of the clinical sciences relevant to urology in the following conditions - Systemic diseases and other processes affecting the urinary tract -Urological manifestations of systemic diseases (including diabetes mellitus, sepsis, HIV/AIDS, and other disorders of immunocompromised patients) - The urinary tract in pregnancy (including normal physiologic and anatomic changes and management of urinary tract problems in the pregnant patient) - Disorders of the male external genitalia - Hydrocele, varicocele, spermatocele, cysts - Torsion of the testes, cord, and appendages - Inguinal hernia - All benign, premalignant, and malignant dermatological lesions of the male external genitalia	44	1		*		*
	A2.24	Understand the role of laparoscopy in benign and malignant diseases, its indications and contraindications, and recognition and treatment of its complications	44-45	1		*		*
	A2.25	Perform a complete and appropriate assessment of a patient - Select medically appropriate investigative methods in a resource-effective and ethical manner - Demonstrate effective clinical problem solving skills and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses	45	1		*		*
	A2.26	Appropriately use and interpret diagnostic tests relevant to urology Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to their practice - Urinalysis - Routine urinalysis - Urine culture techniques - Urinary collections for metabolic studies - Urine cytological studies - Semen analysis - Qualitative and quantitative analyses - Prostatic fluid examination - Microscopic examination	45-46	1, 2		*	*	*
	A2.27	Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to their practice Biochemical serum studies - Renal function tests - Adrenal function tests - Tumor markers - Intravenous excretory urography - Retrograde urethrography, cystography, and pyelography - Antegrade imaging of the kidneys and pelvic vessels - Loopography - Voiding cystourethrography	46	1, 2		*	*	*
	A2.28	Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to their practice - Ultrasonography (Kidney, Bladder, Prostate, Scrotal contents, Doppler studies of renal, gonadal, and penile vessels, Ultrasound-guided procedures (aspirations, biopsies, drainage) - Radioisotope studies (Renal scans (all types), Voiding cystograms, Bone scans for staging of malignant disease, Scans for localization of inflammatory lesions, Scans for adrenal localization)	46	1, 2		*	*	*
	A2.29	Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to their practice - CT scanning (Abdomen and pelvis, CT-guided procedures (aspirations, biopsies, drainage) - MRI scanning of the urinary tract - Angiography of the renal vasculature	46	1, 2		*	*	*

		A2.30	Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to their practice - Urodynamic studies (Cystometrogram, Uroflowmetry, Voiding pressure studies, Pelvic floor electromyography, Videourodynamic studies) - Phallodynamics (Dynamic infusion cavernosometry and caversography (DICC), Duplex ultrasound scans, Combined injection and stimulation test (CIS))	47	1, 2		*	*	*
		A2.31	Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to their practice Diagnostic histopathology - Malignant lesions of the kidney (Renal carcinoma, Wilms' tumor) - Benign lesions of the kidney (Oncocytoma , Angiomyolipoma) - Urothelial neoplasms (Urothelial carcinoma of the renal pelvis and ureter, Bladder carcinomas, Urethra carcinoma) - Prostatic neoplasms (Prostatic adenocarcinoma , Prostatic intraepithelial neoplasia, Benign prostatic hyperplasia) - Testis tumors (Germ cell tumors (seminoma and non-seminoma) , Functional tumors of the testes (Leydig cell tumors), Sertoli cell tumors)	47	1,2		*	*	*
		A2.32	Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to their practice - Inflammatory lesions of the kidneys (Xanthogranulomatous pyelonephritis, Tuberculosis, Chronic pyelonephritis) - Inflammatory lesions of the lower urinary tract (Interstitial cystitis, Cystitis cystica, Cystitis glandularis, Cystitis follicularis, Prostatitis)	48	1, 2		*	*	*
A3 Management	R1+R2	A3.1	Apply knowledge of the clinical sciences relevant to Trauma initial management	14	1	*	*		*
		A3.2	Apply knowledge of the clinical sciences relevant to Common infection: - Community and hospital acquired bacteria, fungi, and viruses - Impact of blood borne pathogens, including HIV, hepatitis B, and hepatitis C	14	1	*	*		*
		A3.3	Demonstrate an understanding of the principles of management of patient and surgical team with respect to blood borne pathogens: - Needle stick injury - Mucosal exposure - Smoke plume inhalation	14	1	*	*		*
		A3.4	Demonstrate an understanding of the complications arising from the administration of anesthesia	15	1	*	*		*
		A3.5	Demonstrate an understanding of routine post-operative patient care, including - Fluid management - Wound care - Common analgesic medications - Patient-controlled analgesia	15	1	*	*		*
		A3.6	Demonstrate an understanding of complications of common postsurgical infections including judicious use of antibiotics: - Pulmonary - Vascular catheter - Urinary - Parotitis - Surgical site infection, including incisional and organ/space - Spreading and necrotizing infections - Hematogenous infections - Clostridium difficile - Multi antibiotic-resistant pathogens - Methicillin-resistant Staphylococcus aureus (MRSA) - Multi-resistant gram-negative bacilli - Vancomycin-resistant enterococci (VRE) - Common pathogens in the specific surgical site"	17	1	*	*		*
		A3.7	Select medically appropriate investigative methods in a resource-effective and ethical manner including but not limited to: - Preoperative screening tests - Laboratory tests and imaging	18	1	*	*		*
		A3.8	Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating the information to generate management plans	18	1	*	*		*
		A3.9	Formulate and implement a comprehensive management plan in collaboration with patients and their families for preoperative evaluation and optimization of the patient with the following conditions: - Arrhythmias - Ischemic heart disease - Valvular heart disease - Heart failure - Cardiomyopathy - Respiratory failure - Chronic obstructive lung disease (CLD) and asthma - Obstructive sleep disorders (OSD) and related conditions - Kidney disease - Acid base disorders - Electrolytes disorders (sodium, potassium, calcium, phosphorus, magnesium) - Renal insufficiency - Cirrhosis and its complications - Liver failure - Endocrine disease - Diabetes - Thyroid disease - Adrenal disorders - Disorders of hemostasis - Pregnancy - Morbid obesity - Malnutrition - Patient with immunosuppression - HIV - Immunosuppressant due to drugs - Chronic disease states - Post-transplant states - Trauma - Thermal injury - Major categories of shock - Infections	18-19	1	*	*		*

		A3.10	Formulate and implement a comprehensive management plan for unexpected perioperative bleeding, both surgical and nonsurgical in nature - Antibiotic - Thromboembolic - Immunization, including tetanus	19	1	*	*		*
		A3.11	Demonstrate effective, appropriate, and timely application of therapeutic interventions for post-operative management of patients with uneventful postoperative course and complicated post-operative course: - Approach to a patient with fever - Cardiac disorders - Ischemia - Arrhythmias - Heart failure - Aspiration pneumonia - Hospital-acquired pneumonia - Pulmonary embolus - Respiratory insufficiencies - Pneumothorax - Oliguria—anuria - Renal failure - Electrolyte and acid-base disorders - Vascular disease - Deep venous thrombosis - GI bleeding - Ileus - Vascular catheter-related sepsis (catheter-related bloodstream infection) - Superficial surgical site infection - Deep surgical site infection - Compartment syndromes (Abdominal, Limb) - Fat embolism - Pressure sores - Recognition of complications from operative positioning	20-21	1	*	*		*
		A3.12	Ensure patients receive appropriate end-of-life care	21	1,3	*	*	*	*
		A3.13	Demonstrate appropriate procedural skills including: - Use of common surgical instruments such as, but not limited to, needle drivers, retractors, forceps, clamps, electrocautery, scalpel, and scissors - Appropriate choice and use of suture materials - Incision using sharp and energy-based instruments - Knot-tying - Suturing - Appropriate tissue handling during surgical procedures paying attention to the preservation of tissue vitality - Blunt and sharp dissection without injury to adjacent structures - Vascular control in elective and critical situations - Closure of simple wounds - Appropriate use of drains - Application of appropriate wound dressing - Urethral catheter insertion - Insertion of a nasogastric tube - Tourniquet application - Splint for bony injury or soft tissue injury - Remove a superficial skin lesion - Drain a superficial abscess - Perform biopsy - Secure arterial and venous vascular access in critical and non- critical situations - Needle thoracostomy - Tube thoracostomy - Needle cricothyroidotomy - Cricothyroidotomy or tracheostomy	22-23	2			*	
		A3.14	Demonstrate appropriate Post-procedural skills including: - Preparation and handling of specimen for presentation to a pathologist - Perform appropriate wound surveillance and dressing care	23	2			*	
		A3.15	Ensure adequate follow-up is arranged for the procedures performed including: - Plan and discuss appropriate postoperative care and issues with patients and families - Discuss immediate and long-term follow-up issues with family members or medical power-of-attorney, as appropriate - Arrange for appropriate postoperative resources	23-24	1,2	*	*	*	*
	R3+R4+R5	A3.16	- Formulate a treatment plan for the urologic patient	40	1		*		*
		A3.17	Apply knowledge of the clinical sciences relevant to urology in the following conditions - Congenital and developmental abnormalities - Kidney and ureter - Cystic disease of the kidney - Horseshoe kidney and other renal anomalies - Duplication, retrocaval ureter, and other ureteric anomalies	40	1		*		*
		A3.18	Apply knowledge of the clinical sciences relevant to urology in the following conditions - Congenital and developmental abnormalities - Bladder and urethra - Vesicoureteral reflux - Posterior urethral valves - Epispadias and exstrophy - Hypospadias and chordee - Other anomalies - External genitalia - Disorders of sexual differentiation - Undescended testes - Scrotal and external genital anomalies	41	1		*		*
		A3.19	Apply knowledge of the clinical sciences relevant to urology in the following conditions - Obstructive disease of the upper urinary tract - Hydronephrosis and obstructive uropathy - Ureteropelvic junction obstruction - Obstructive disease of the lower urinary tract - Bladder outflow obstruction - Benign prostatic hypertrophy - Urethral strictures - Obstruction secondary to neurological disorders	41	1		*		*

	A3.20	Apply knowledge of the clinical sciences relevant to urology in the following conditions - Urinary calculus disease - Renal and ureteral calculi - Bladder and urethral calculi - Urinary fistulae - Urinary and genital infections - Bacterial (complicated and uncomplicated) and non-bacterial cystitis and urethritis - Pyelonephritis and other renal infections, including xanthogranulomatous pyelonephritis - Prostatitis including chronic pelvic pain syndrome - Sexually transmitted infections - Genito-urinary tuberculosis - Genito-urinary parasitic disease - Fungal urinary tract infections - Other genital infections (including necrotizing fasciitis)	41-42	1		*		*
	A3.21	Apply knowledge of the clinical sciences relevant to urology in the following conditions - Trauma (including the genito-urinary aspects of multi-system trauma evaluation and management) - Renal trauma - Ureteral trauma - Bladder trauma - Urethral trauma - External genital trauma - Renovascular hypertension - Surgically correctable hypertension - Renal transplantation - Recipient selection and organ donation - Relevant transplantation immunology - Principles of immunosuppression - Management of surgical complications of renal transplantation	42	1		*		*
	A3.22	Apply knowledge of the socio-behavioral, and fundamental biomedical sciences relevant to urology in the following conditions - Andrology - Male sexual function and dysfunction - Fertility and male factor infertility - Hypogonadism	42	1		*		*
	A3.23	Apply knowledge of the clinical sciences relevant to urology in the following conditions * Urological oncology. For all tumors (benign and malignant) of the genito-urinary tract, the resident MUST be able to - Describe the etiology, prevention, natural history, role of screening, and pathology - Diagnose the condition through appropriate use of investigative and diagnostic techniques - Apply staging and grading systems that are in common use - Describe the principles of cancer management, including the role of surgery, radiotherapy, chemotherapy, and immunotherapy - Be familiar with the role of percutaneous, angiographic, and new techniques and their indications - Describe the principles of cancer palliation The following tumors must be covered: - Tumors of the kidney (Renal epithelial tumors , Wilms' tumor) - Urothelial carcinoma of renal pelvis and ureter (Angiomyolipoma) - Tumors of the bladder (Urothelial carcinoma, Squamous cell carcinoma) - Cancer of the prostate (Adenocarcinoma & Other tumors) - Tumors of the testes (Germ cell (including seminoma and non- seminoma), Non-germ cell tumors) - Cancer of the penis (Squamous cell carcinoma) - Cancer of the urethra - Tumors of the adrenal (Pheochromocytoma, Neuroblastoma, Adrenal adenoma, Adenocarcinoma) - Metastatic cancers of the genito-urinary tract	42-43	1		*		*
	A3.24	Apply knowledge of the clinical, socio-behavioral, and fundamental biomedical sciences relevant to urology in the following conditions - Voiding disorders, including relevant neurourology - Urinary incontinence - Voiding dysfunction due to neurological disease - Nocturnal enuresis - Functional voiding disorders - Interstitial cystitis - Adrenal diseases - Adrenal cysts, hyperplasia - Adrenal hyperfunction, hypofunction, and associated syndromes	43-44	1		*		*
	A3.25	Apply knowledge of the clinical sciences relevant to urology in the following conditions - Systemic diseases and other processes affecting the urinary tract -Urological manifestations of systemic diseases (including diabetes mellitus, sepsis, HIV/AIDS, and other disorders of immunocompromised patients) - The urinary tract in pregnancy (including normal physiologic and anatomic changes and management of urinary tract problems in the pregnant patient) - Disorders of the male external genitalia - Hydrocele, varicocele, spermatocele, cysts - Torsion of the testes, cord, and appendages - Inguinal hernia - All benign, premalignant, and malignant dermatological lesions of the male external genitalia	44	1		*		*
	A3.26	Perform a complete and appropriate assessment of a patient - Demonstrate effective clinical problem solving skills and judgment to address patient problems, including interpreting available data and integrating information to generate management plans	45	1		*		*
	A3.27	Use therapeutic interventions effectively - Implement a management plan in collaboration with a patient and his/her family - Demonstrate appropriate and timely application of therapeutic interventions relevant to urology - Ensure appropriate informed consent is obtained for therapies - Ensure patients receive appropriate end-of-life care	45	1, 3		*	*	*
	A3.28	*The training resident in levels R3 to R5 must perform the following procedures as the primary surgeon and only under the direct and immediate supervision of the attending urologist. In addition, he must be able to manage the patient prior to, during, and after the procedure.*	48-49	1, 2		*	*	*

				Open Procedures - Circumcision - Suprapubic cystostomy - Urethral meatotomy, meatoplasty - Meatal repair for glanular hypospadias - Fulguration of venereal warts - Scrotal surgery—hydrocele, epididymal cyst, epididymectomy, simple orchiectomy - Varicocele repair - Orchiopexy for inguinal testis - Radical orchiectomy - Repair of testicular torsion - Pyeloplasty for ureteropelvic junction obstruction - Nephrectomy (simple and radical) - Nephroureterectomy **Laparoscopic Procedures** - Laparoscopic orchiopexy/orchiectomy for abdominal testis		1, 2		*		*
		A3.29	*The training resident in levels R3 to R5 must know how to perform and be able to describe the following procedures, including indications, and peri-operative management. Residents may not actually perform one of these procedures independently during the residency-training period, but if the opportunity arises, they should assist in the operation.* **Endoscopic and Percutaneous Procedures** - Resection of posterior urethral valves - Endoscopic pyeloplasty (endopyelotomy) - Transurethral excision of external sphincter	49 - 50	1, 2		*	*	*
			Open Procedures - Renal biopsy - Nephrolithotomy and ureterolithotomy - Ureterolysis, ureteroplasty, uretero-pyelostomy - Cutaneous ureterostomy/pyelostomy - Vesicostomy - Procedures for renal trauma repair - Perineal urethrostomy - Trans-uretero-ureterostomy - Procedures for correction of penile curvature and Peyronie's disease - Penectomy - Urethrectomy - Augmentation cystoplasty - Continent urinary reservoir - Drainage of perinephric, perivesical, and retroperitoneal abscess - Insertion of testicular prosthesis - Insertion of penile prosthesis - Insertion of artificial urinary sphincter - Simple retropubic prostatectomy - Radical nephrectomy with vena cava thrombus below diaphragm - Correction of mid and distal shaft hypospadias - Biopsy of penile lesions - Testicular biopsy - Vasectomy - Cavernosal shunting procedures for priapism - Pediatric indirect hernia repair						
			- Procedures for correction of stress urinary incontinence - Uretero-neocystostomy - Repair of urinary fistulae—involving bladder, urethra, ureter, kidney - Urinary diversion procedures—ileal conduits - Radical cystectomy and anterior pelvic exenteration - Procedures for ureteral and bladder trauma repair - Pelvic lymphadenectomy - Partial nephrectomy for cancer - Uretero-ureterostomy - Correction of proximal hypospadias and epispadias - Surgical reconstruction for exstrophy - Transplant nephrectomy - Renal transplantation - Anatrophic nephrolithotomy - Removal of vena caval and atrial tumor thrombus for carcinoma of the kidney - Urethral reconstruction for anterior urethral strictures and pelvic fracture distraction injuries - Epididymo-vasostomy with microscope - Post-chemotherapy retroperitoneal lymph node dissection - Vasovasostomy - Inguinal lymphadenectomy for carcinoma penis, Cadaveric and live donor renal harvesting for transplantation - Retroperitoneal lymph node dissection						
			Laparoscopic Procedures (Adrenalectomy, PyeloplastyNephrectomy (simple and radical), Prostatectomy, Varicocelectomy, Live donor nephrectomy)						
	A4 Health promotion & Illness prevention	R1+R2	A4.1	Apply knowledge of the clinical, socio-behavioral, and fundamental biomedical sciences relevant to radiation safety principles as they apply to patients and practitioners	13	1	*	*		*
			A4.2	Demonstrate an understanding of the principles of patient safety	17	1	*	*		*
			A4.3	Demonstrate an understanding of complications of common postsurgical infections including prevention: - Pulmonary - Vascular catheter - Urinary - Parotitis - Surgical site infection, including incisional and organ/space - Spreading and necrotizing infections - Hematogenous infections - Clostridium difficile - Multi antibiotic-resistant pathogens - Methicillin-resistant Staphylococcus aureus (MRSA) - Multi-resistant gram-negative bacilli - Vancomycin-resistant enterococci (VRE) - Common pathogens in the specific surgical site"	17	1	*	*		*
			A4.4	Formulate and implement a comprehensive prophylactic plan for unexpected perioperative bleeding, both surgical and nonsurgical in nature	19	1	*	*		*

			A4.5	Demonstrate effective, appropriate, and timely application of preventive interventions for post-operative management of patients with uneventful postoperative course and complicated post-operative course: - Approach to a patient with fever - Cardiac disorders - Ischemia - Arrhythmias - Heart failure - Aspiration pneumonia - Hospital-acquired pneumonia - Pulmonary embolus - Respiratory insufficiencies - Pneumothorax - Oliguria—anuria - Renal failure - Electrolyte and acid-base disorders - Vascular disease - Deep venous thrombosis - GI bleeding - Ileus - Vascular catheter-related sepsis (catheter-related bloodstream infection) - Superficial surgical site infection - Deep surgical site infection - Compartment syndromes (Abdominal, Limb) - Fat embolism - Pressure sores - Recognition of complications from operative positioning	20-21	1	*	*		*
			A4.6	Demonstrate effective, appropriate, and timely performance of a surgical procedure while maintaining patient and team safety - Apply the concept of aseptic technique as it is used for all procedures - Gather and manage the availability of appropriate instruments and materials for minor procedures - Obtain appropriate assistance - Maintain universal precautions - Demonstrate understanding of the steps to take when there has been a break in universal precautions or a potential contamination - Demonstrate appropriate patient positioning - Prepare the operative site - Cleanse the operative site - Appropriately antiseptic technique - Demonstrate appropriate draping - Deliver pre-procedural anesthesia if appropriate - Strictly adhere to patient safety guidelines according to the WHO 5 steps in patient safety in the operating room: - Briefing - Sign-in - Time-out - Sign-out - Debriefing	21-22	1,2		*	*	*
			A4.7	Use of a pre-operative team checklist to improve patient safety	27	2			*	
			A4.8	Promote and participate in patient safety Describe ways to prevent injury . Appropriate safety equipment for work and leisure pursuits . Error prevention systems in operating rooms	31	1	*	*		*
		R3+R4+R5	A4.9	Use preventive interventions effectively - Demonstrate appropriate and timely application of preventive interventions relevant to urology	45	3			*	
			A4.10	Respond to individual patient health needs and issues as part of patient care - Identify the health needs of an individual urology patient - Identify opportunities for health promotion, and disease prevention for individuals to whom they provide care - Take advantage of opportunities to discuss lifestyle changes that influence urological health	55	1,2,3	*	*	*	*
B Communicator		R1+R2	B1	Perform a consultation, including: - Completion and presentation of well-documented assessments - Preparation of recommendations in written and/or verbal form in response to a request from another healthcare professional	10	2				
			B2	Demonstrate compassionate and patient-centered care	10	3			*	
			B3	Formulate and implement a comprehensive management plan in collaboration with patients and their families	10	1,2	*	*	*	*
			B4	Ensure appropriate informed consent is obtained for procedures & therapies including the discussion of appropriate postoperative care and issues with patients and families	21	2			*	
			B5	Document and disseminate information related to procedures performed and their outcomes including operative reports and other records	23	2			*	
			B6	Identify and explore issues to be addressed effectively in a surgical patient encounter, including, but not limited to, the patient's context and preferences, including aspects such as age, ethnicity, gender, family, and religious beliefs	25	2			*	
			B7	Recognize that being a good communicator is a core clinical skill for surgeons, and that effective physician-patient communication can lead to patient adherence to treatment regimens, improved clinical outcomes, patient satisfaction, and physician satisfaction	25	1	*	*		*
			B8	Establish positive therapeutic relationships with patients and their families that are characterized by understanding, trust, respect, honesty, and empathy - Encourage discussion, questions, and interaction in the encounter - Engage patients, families, and relevant health care professionals to develop a plan of care using shared decision-making	25	2			*	
			B9	Listen effectively Be aware of, and responsive to, nonverbal cues Facilitate a structured clinical encounter effectively	25	2			*	
			B10	Gather information about a disease and about a patient's beliefs, concerns, expectations, and illness experience	25	2			*	
			B11	Seek out and synthesize relevant information from other sources, such as a patient's family, caregivers, and other professionals	25	2			*	

	B12	Deliver information to patients and families, colleagues, and other professionals in a humane manner and in a way that is understandable, and encourages discussion and participation in decision-making	25	2			*	
	B13	Plan and discuss appropriate perioperative care and issues with patients and families, preoperatively	26	1,2	*	*	*	*
	B14	Perform informed discharge as it relates to the procedures being completed	26	2			*	
	B15	Discuss follow-up issues with family members or medical power-of-attorneys, as appropriate	26	2			*	
	B16	Educate patients and families concerning alternatives to surgical and non-surgical care	26	2			*	
	B17	Demonstrate effective communication using newer technologies	26	2			*	
	B18	Address challenging communication issues effectively, including . Obtaining informed consent . Delivering bad news . Disclosing adverse events . Discussing end-of-life care . Discussing organ donation . Addressing anger, confusion, and misunderstanding . Language barriers . Cultural differences	26	2			*	
	B19	Maintain clear, concise, accurate, and appropriate records (e.g., written or electronic) of clinical encounters and plans	26	2			*	
	B20	Present verbal reports of clinical encounters and plans	26	2			*	
R3+R4+R5	B21	Perform a consultation, including the presentation of well-documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional - Perform a focused physical examination and urological history, including past and present medical history relevant to the urological care of the patient - Communicate the consultation, both verbally and in written format, including a clear plan of action or recommendations - Identify and appropriately respond to relevant ethical issues arising in patient care - Demonstrate compassionate and patient-centered care - Recognize and respond to ethical dimensions in medical decision-making - Demonstrate medical expertise in situations other than patient care, such as providing expert legal testimony or advising governmental agencies	40	2, 3			*	
	B22	Perform a complete and appropriate assessment of a patient - Identify and explore issues to be addressed in a patient encounter effectively, including the patient's context and preferences - Elicit a history that is relevant, concise, and accurate to context and preferences for the purposes of prevention and health promotion, diagnosis, and/or management - Perform a focused physical examination that is relevant and accurate for the purposes of prevention and health promotion, diagnosis, and/or management	45	2			*	
	B23	- Prepare a patient for surgery and seek appropriate consultation from other healthcare professionals if necessary - Ensure appropriate informed consent is obtained for procedures - Document and disseminate information related to procedures performed and their outcomes - Ensure adequate follow-up is arranged for procedures performed	50	2			*	
	B24	Seek appropriate consultation from other health professionals: - Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care - Arrange appropriate follow-up care services for a patient and their family	50	2			*	
	B25	Develop rapport, trust, and ethical therapeutic relationships with patients and families - Recognize that being a good communicator is a core clinical skill for urologists, and that effective physician-patient communication can foster patient satisfaction, physician satisfaction, adherence, and improved clinical outcomes - Establish positive therapeutic relationships with patients and their families that are characterized by understanding, trust, respect, honesty, and empathy - Respect patient confidentiality, privacy, and autonomy - Listen effectively - Demonstrate awareness of, and responsiveness to, nonverbal cues such as non-verbalized fears, anxieties, and needs for privacy - Facilitate structured clinical encounters effectively	51	2, 3			*	
	B26	Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues, and other professionals - Gather information about a disease and about a patient's beliefs, concerns, expectations, and illness experience - Seek out and synthesize relevant information from other sources, such as a patient's family, caregivers, and other professionals	51	2			*	
	B27	Convey relevant information and explanations accurately to patients and families, colleagues, and other professionals - Deliver information to a patient and family, colleagues, and other professionals in a humane manner and in such a way that it is understandable, and encourages discussion and participation in decision-making - Communicate bad news to patients and families in an empathic manner	51	2, 3			*	
	B28	Develop a common understanding of issues, problems, and plans with patients, families, and other professionals to develop a shared plan of care - Effectively identify and explore problems to be addressed from a patient encounter, including the patient's context, responses, concerns, and preferences - Respect diversity and differences, including, but not limited to the impact of gender, religion, and cultural beliefs on decision-making - Encourage discussion, questions, and interaction in the encounter - Engage patients, families, and relevant health professionals in shared decision-making to develop a plan of care - Address challenging communication issues effectively, such as obtaining informed consent, delivering bad news, and addressing anger, confusion, and misunderstanding - Demonstrate awareness of their own feelings and biases and recognize any personal reactions, which may be detrimental to the physician-patient relationship	51-52	2			*	

			B29	- Convey effective oral and written information about a medical encounter - Maintain clear, accurate, and appropriate records (e.g., written or electronic) of clinical encounters and plans - Accurately and succinctly record data collected from patients, laboratory tests, and radiological studies - Communicate opinions clearly in the form of consultation letters, telephone calls to family physicians, other consultant specialists, and allied health professionals - Present verbal reports of clinical encounters and plans - Clearly and concisely explain (Diagnosis and management plans for urological problems in a way that motivates and facilitates patients' willing participation, Management plans to other health care personnel in a way that ensures their effective participation, Steps necessary for problem management when acting as a consultant for other physicians) - Effectively present medical information to the public or media about a medical issue	52	2			*	
C Collaborator		R1+R2	C1	Recognize and respect the diversity of roles, responsibilities, and competencies of other professionals in relation to their own	27	3				
			C2	Work with others to assess, plan, provide, and integrate care for individual patients (or groups of patients) . Arrange for the appropriate postoperative resources to be available . Arrange for appropriate postoperative allied health care assistance as necessary	27	2				
			C3	Work with others to assess, plan, provide and review other tasks, such as research problems, educational work, educational program review, or administrative responsibilities	27	2				
			C4	Participate effectively in inter-professional team meetings	27	2,3				
			C5	Enter into interdependent relationships with other professions for the provision of quality care	27	3				
			C6	Describe the principles of team dynamics in the operative and non-operative environments	27	1	*	*		*
			C7	Work with other professionals to prevent conflicts	27	2				
			C8	Employ collaborative negotiation to resolve conflicts	27	3				
			C9	Respect differences and address misunderstandings and limitations in other professionals	28	3				
			C10	Recognize one's own differences, misunderstandings, and limitations that may contribute to inter-professional tension	28	3				
		R3+R4+R5	C11	Participate effectively and appropriately in an interprofessional healthcare team - Describe the urologist's roles and responsibilities to other professionals - Describe the roles and responsibilities of other professionals within the urological healthcare team, including, but not limited to nurses, occupational and physiotherapists, and imaging technologists - Recognize and respect the diversity of roles, responsibilities, and competencies of other professionals in relation to their own - Work with others to assess, plan, provide, and integrate care for individual patients (or groups of patients) - Work with others to assess, plan, provide, and review other tasks, such as research problems, educational work, program review, or administrative responsibilities - Participate in interprofessional urological team meetings - Enter into interdependent relationships with other professions for the provision of quality care - Describe the principles of team dynamics - Respect team ethics, including confidentiality, resource allocation, and professionalism - Demonstrate progressive leadership in a healthcare team, as appropriate	53	1,2,3		*		*
			C12	Work effectively with other health professionals to prevent, negotiate, and resolve interprofessional conflict - Demonstrate a respectful attitude towards other colleagues and members of an interprofessional team - Work with other professionals to prevent conflicts - Employ collaborative negotiation to resolve conflicts - Respect differences and address misunderstandings and limitations in other professionals - Recognize one's own differences, misunderstandings, and limitations that may contribute to interprofessional tension - Reflect on interprofessional team functioning	53	3				
D Manager/ Leader		R1+R2	D1	Demonstrate appropriate use of operative assistance: - Recognize when to use operative assistance as necessary for the safe and effective performance of operative procedures - Demonstrate understanding of personal technical limitations - Direct assistants - Demonstrate how to provide operative assistance as necessary for the safe and effective performance of operative procedures including taking direction from a lead surgeon	22	3				
			D2	Describe the surgeon's roles and responsibilities with respect to other professionals . Describe the elements of a good consultation . Recognize one's own limitations and the need for help from others	27	1	*	*		*
			D3	Demonstrate progressive leadership in a health care team, as appropriate	27	3				
			D4	Demonstrate an understanding of the influences that affect the functioning of the healthcare system at various levels, including an understanding of . Hospital governance . Operating room governance . Worker's compensation organizations . Public health issues as they relate to mandatory reporting of diseases	29	1	*	*		*
			D5	Participate in systemic quality process evaluation and improvement, such as patient safety initiatives	29	2				
			D6	Describe the structure and function of the healthcare system as it relates to their surgical practice, including the roles of physicians	29	1	*	*		*
			D7	Describe principles of healthcare financing	29	1	*	*		*
			D8	Set priorities and manage time to balance patient care, practice requirements, outside activities, and personal life	29	3				
			D9	Employ information technology appropriately for patient care	29	2				

		D10	Demonstrate an understanding of the introduction of new technologies and the need for . Health technology assessment . Education . Credentialing	29	1	*	*		*
		D11	Recognize the importance of just allocation of health care resources, balancing effectiveness, efficiency, and access with optimal patient care	29	1	*	*		*
		D12	Recognize the duality of being a learner as well as a practitioner Demonstrate an understanding of the role of appropriate supervision	34	1	*	*		*
		D13	Fulfill the regulatory and legal obligations required of current practice	34	3				
		D14	Balance personal and professional priorities to ensure personal health and a sustainable practice	34	3				
		D15	Strive to heighten personal and professional awareness and insight	35	3				
		D16	Recognize other professionals in need and respond appropriately	35	3				
		D17	Demonstrate an awareness of the risks associated with the high stress environments in which surgeons work	35	3				
		D18	Demonstrate an understanding of occupational risks and their management	35	1	*	*		*
		D19	Promote a healthy lifestyle and demonstrate awareness of personal risk behaviors . Substance abuse . Exposure to infection . Sleep deprivation	35	1,2	*	*		*
		D20	Demonstrate an understanding of techniques for stress reduction	35	1	*	*		*
	R3+R4+R5	D21	Contribute to the enhancement of quality care and patient safety in their practice, integrating the best available evidence and practices	44-45	2				
		D22	Seek appropriate consultation from other health professionals, recognizing the limits of their expertise - Demonstrate insight into their own limitations of expertise	50	2			*	
		D23	Participate in activities that contribute to the effectiveness of healthcare organizations and systems - Work collaboratively with others in their organizations - Participate in systemic quality process evaluation and improvement, such as patient safety initiatives - Describe the structure and function of the healthcare system as it relates to urology, including the roles of urologists - Describe principles of healthcare financing, including physician remuneration, budgeting, and organizational funding	54	1,2		*		*
		D24	Manage their practice and career effectively - Set priorities and manage time to balance patient care, practice requirements, outside activities, and personal life - Manage a practice, including finances and human resources - Demonstrate knowledge of issues pertaining to running a private office, including staffing, billing, and maintaining patient records - Implement processes to ensure personal practice improvement - Appropriately employ information technology for patient care	54	1		*		*
		D25	Allocate finite healthcare resources appropriately - Recognize the importance of just allocation of healthcare resources, balancing effectiveness, efficiency, and access with optimal patient care - Apply evidence and management processes for effective cost-appropriate care - Access appropriate urological diagnostic and therapeutic technology in a timely and efficient manner to benefit patients - Organize a priority list for patients waiting for surgery	54	1		*		*
		D26	Serve in administration and leadership roles - Chair or effectively participate in committees and meetings - Lead or implement change in healthcare - Plan relevant elements of healthcare delivery (e.g., work schedules)	54	2				
		D27	Demonstrate a commitment to patients, the profession, and society through participation in profession-led regulation - Demonstrate working knowledge of provincial and federal laws and regulations related to the practice of medicine in general and urology in particular - Demonstrate an understanding and appreciation for patients' legal rights in matters related to informed consent, delegated consent, and informed decision-making - Fulfill regulatory and legal obligations required of current practice - Demonstrate accountability to professional regulatory bodies - Demonstrate an understanding of medical protective procedures and the role of the Canadian Medical Protective Association in areas of patient-physician and hospital-physician disputes - Participate in peer review	58-59	1,2,3		*		*
		D28	Demonstrate a commitment to physician health and sustainable practice - Balance personal and professional priorities to ensure personal health and a sustainable practice - Strive to heighten personal and professional awareness and insight - Recognize other professionals in need and respond appropriately - Identify a colleague or faculty member with whom they may discuss personal and professional goals, conflicts, and stresses	59	3				
E Scholar		R1+R2	E1	Describe the principles of lifelong learning	32	1	*	*		*
			E2	Describe the principles and strategies for implementing a personal knowledge management system	32	1	*	*		*
			E3	Pose an appropriate learning question	32	2				
			E4	Access and interpret relevant evidence including appropriate literature searches	32	1	*	*		*
			E5	Integrate new learning into practice	32	1	*	*		*
			E6	Evaluate the impact of any change in practice	32	1	*	*		*

		E7	Document the learning process using methods such as . Surgical logs through the electronic logbook . Learning portfolios	32	2				
		E8	Describe the principles of critical appraisal, including statistics and epidemiology	32	1	*	*		*
		E9	Critically appraise retrieved evidence in order to address a clinical question	32	1	*	*		*
		E10	Discuss ways to integrate critically appraised conclusions into clinical care	32	1	*	*		*
		E11	Describe the principles of learning relevant to medical education - Develop skills to educate medical students, colleagues, and other healthcare professionals	32	1	*	*		*
		E12	Collaboratively identify the learning needs and desired learning outcomes of others	32	1	*	*		*
		E13	Select effective teaching strategies and content to facilitate others' learning	32	1	*	*		*
		E14	Effectively deliver lectures or formal presentations	32	2				
		E15	Assess and reflect on a teaching encounter	33	1	*	*		*
		E16	Provide effective feedback	33	2			*	
		E17	Describe the principles of ethics with respect to teaching	33	1	*	*		*
		E18	Demonstrate appropriate presentation skills including formal, informal, and written presentations	33	2				
		E19	Demonstrate an understanding of the use of information technology to enhance surgical practice, including - Computers - Presentation software - Personal digital assistants (PDAs) - Simulation and other technologies	33	1	*	*		*
		E20	Participate in peer review	34	2				
	R3+R4+R5	E21	Apply lifelong learning skills of the scholar role to implement a personal program to keep up- to-date, and enhance areas of professional competence	44-45	3				
		E22	Maintain and enhance professional activities through ongoing learning - Describe the principles of maintenance of competence - Maintain an inquisitive attitude - Describe the time commitment required for ongoing self-study for the maintenance of competence - Describe principles and strategies for implementing a personal knowledge management system - Recognize and reflect on learning issues in practice - Conduct a personal practice audit - Pose an appropriate learning question - Access and interpret relevant evidence - Integrate new learning into practice - Evaluate the impact of any change in practice - Document the learning process - Complete surgical logs through the electronic logbook - Demonstrate continuing evaluation of their own capabilities and limitations	56	1,2	*	*		*
		E23	Critically evaluate medical information and its sources, and apply this appropriately to practice decisions - Describe the principles of critical appraisal - Critically appraise retrieved evidence in order to address a clinical question - Integrate critical appraisal conclusions into clinical care	56	1	*	*		*
		E24	Facilitate the learning of patients, families, students, residents, other health professionals, the public, and others - Describe principles of learning relevant to medical education - Collaboratively identify the learning needs and desired learning outcomes of others - Select effective teaching strategies and content to facilitate others' learning - Demonstrate an effective lecture or presentation - Assess and reflect on a teaching encounter - Provide effective feedback - Describe principles of ethics with respect to teaching	56-57	1,2	*	*		*
		E25	Contribute to the development, dissemination, and translation of new knowledge and practices - Describe the principles of research and scholarly inquiry - Describe the principles of research ethics - Demonstrate an understanding of the ethics of animal and human experimentation - Demonstrate an ability to incorporate gender, cultural, and ethnic perspectives in research methodology, data presentation, and analysis - Pose a scholarly question - Formulate a scientific research study to answer a clinical question - Conduct a systematic search for evidence - Demonstrate the use of databases for literature searches and reviews - Select and apply appropriate methods to address the question - Describe basic statistical methods used in clinical trials - Disseminate the findings of a study	57	1,2	*	*		*
		E26	Complete at least one scholarly project under the mentorship of an attending urologist or other faculty supervisor. The project should be presented at either a national or an international scientific event or published in a peer-reviewed journal. Residents are encouraged to complete the project or make significant progress toward completion of training before their final examination.	57	2				
F Health advocate		R1+R2	F1	Recognize opportunities for advocacy, health promotion, and disease prevention with individuals to whom they provide care, such as -Child abuse -Elder abuse -Domestic violence and spousal abuse -Smoking cessation -Substance abuse -Patient behaviors that place them at risk for injury or disease -Disadvantaged populations	30	1	*	*		*
			F2	Recognize the importance of organ transplantation Identification of potential donors	30	1	*	*		*

		F3	Identify opportunities to advocate for appropriate screening	30	1	*	*		*
		F4	Describe and respond to the health needs of the communities that they serve - Demonstrate an understanding of how they may affect surgical disease prevalence	30	1	*	*		*
		F5	Describe an approach to implementing a change in a determinant of health of the populations they serve	30	1	*	*		*
		F6	Describe how public policy impacts on the health of the populations served	30	1	*	*		*
		F7	Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity, and idealism	30	1	*	*		*
		F8	Appreciate the possibility of conflict inherent in their roles as health advocates for patients or the community and being a manager or gatekeeper	30	1	*	*		*
		F9	Describe the role of the medical profession in advocating collectively for health and patient safety	31	1	*	*		*
	R3+R4+R5	F10	Respond to individual patient health needs and issues as part of patient care - Identify opportunities for advocacy for individuals to whom they provide care	55	1		*		*
		F11	Respond to the health needs of the communities that they serve - Describe the practice communities that they serve - Identify opportunities for advocacy, health promotion, and disease prevention in the communities that they serve, and respond appropriately - Demonstrate understanding of the role of community-based patient support groups - Appreciate the possibility of competing interests between the communities served and other populations	55	1		*		*
		F12	Identify the determinants of health for the populations served - Identify the determinants of health of the populations, including barriers to accessing care and resources - Identify vulnerable or marginalized populations within those served and respond appropriately	55	1		*		*
		F13	Promote the health of individual patients, communities, and populations - Describe an approach to implementing a change in a determinant of health of the populations served, such as screening/early detection of certain diseases - Describe how public policy impacts on the health of the populations served - Identify points of influence in the healthcare system and its structure - Describe ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity, and idealism - Appreciate the possibility of conflict inherent in their roles as health advocate for patients or communities and manager or gatekeeper - Describe the role of the medical profession in collectively advocating for health and patient safety - Understand the role and function of the Saudi Urological Association (SUA) and other provincial and international urological societies	55	1		*		*
G Professional		R1+R2	G1	Exhibit appropriate professional behaviors in practice, including honesty, integrity, commitment, compassion, respect, and altruism - Demonstrate the ability to be objective in treating patients regardless of their socioeconomic status or other factors	34	3			*	
			G2	Demonstrate and maintain a commitment to delivering the highest quality care	34	3			*	
			G3	Recognize and appropriately respond to ethical issues encountered in practice	34	1,3	*	*	*	*
			G4	Manage conflicts of interest - Demonstrate an awareness of the influence of industry on practice and training	34	1	*	*		*
			G5	Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law	34	1	*	*		*
			G6	Maintain appropriate relations with patients and families	34	3			*	
			G7	Respect patient confidentiality, privacy, and autonomy - Demonstrate an understanding of the risk of breaching patient confidentiality because of new technologies such as tele-health, internet, or digital storage and transmission devices	25	1	*	*		*
			G8	Respect diversity and differences in decision-making, including, but not limited to the impact of (Gender, Religion, Cultural beliefs, Age, Sexual orientation, and Socioeconomic status)	26	3			*	
			G9	Respect the roles and responsibilities of other professionals within the healthcare team	27	3			*	
			G10	Respect team ethics, including confidentiality, resource allocation, and professionalism	27	3			*	
			G11	Demonstrate a respectful attitude towards other colleagues and members of a team	27	3			*	
			G12	Demonstrate knowledge and an understanding of the professional, legal, and ethical codes of practice	34	1	*	*		*
			G13	Demonstrate accountability to professional regulatory bodies	34	3			*	
			G14	Recognize and respond to others' unprofessional behaviors in practice	34	1,2	*	*	*	*
	R3+R4+R5	G15	Demonstrate a commitment to their patients, profession, and society through ethical practice - Exhibit appropriate professional behaviors in practice, including honesty, integrity, commitment, compassion, respect, and altruism - Demonstrate personal responsibility to patients through availability and confidentiality - Demonstrate a commitment to delivering the highest quality care and maintenance of competence - Demonstrate adherence to the best available practice, including referral to other qualified practitioners when appropriate - Demonstrate meticulous accuracy in reporting clinical and scientific information - Recognize and appropriately respond to ethical issues encountered in practice - Manage conflicts of interest - Recognize the principles and limits of patient confidentiality, as defined by professional practice standards and the law - Maintain appropriate relations with patients	58	1,3	*	*	*	*

			G16	Demonstrate a commitment to patients, the profession, and society through participation in profession-led regulation - Participate in Saudi and international professional organizations - Demonstrate knowledge and an understanding of the professional, legal, and ethical codes of practice - Demonstrate knowledge of the ethical problems of human organ procurement for the purposes of transplantation - Recognize and respond to others' unprofessional behaviors in practice	58-59	1,3	*	*	*	*