

The data below shows the relative percentage of questions from each of the content categories. The Qualifying Exam (QE) consists of 300 multiple-choice questions, of which two hundred are statistically valid, previously tested questions used to grade candidates on the examination. An additional one hundred questions are new field-test questions that are being evaluated for statistical validity for use on future examinations and will not count toward the final grade. The number of field-test questions may vary in subject matter, giving the appearance that there is a larger percentage of questions on some content areas.

This QE blueprint is provided as a study guide, and exact percentages on the topic may vary slightly from year to year.

Exam Content for Qualifying and In-service Examinations

Core Urologic Knowledge

(20%)

1. Office Based Urology

(7%)

- a. Urinary Tract Infections: Cystitis, Prostatitis, Pyelonephritis,
 - i. Guidelines
 - ii. Diagnosis (Dx)
 1. UA, urine culture, Chem strips
 - iii. Treatment (Rx)
 - iv. Recurrent vs relapsing UTI
 1. Definition of recurrent and relapsing UTI
 2. Dx ,Significance and Rx of relapsing UTI
 - v. Antibiotic prophylaxis
 1. When to use
 2. Medications to use
 3. Complications of antibiotic prophylaxis
- b. Funguria Dx & Treatment
- c. Upper Tract Urinary Infections
 - i. Pyelonephritis – Dx and management
 - ii. Xanthogranulomatous pyelonephritis
 - iii. Kidney Abscess
- d. Kidney scarring –Dx & complications
- e. Inflammatory Bowel Disease relationship to UTI
 - i. Crohn’s Disease (Enteric-urinary tract fistulas and obstruction) – Urologic manifestations
- f. Prostatitis vs Prostatosis
 - i. Dx and Treatment
- g. Epididymitis

- i. Dx, significance (relationship to voiding dysfunction, urethral stricture and sexually transmitted diseases)
 - ii. Rx
 - h. Sexually transmitted disease
 - i. Dx
 - ii. Rx
 - i. Microscopic hematuria
 - i. Guidelines
 - ii. Dx
 - iii. Rx
 - j. Proteinuria
 - i. Guidelines
 - ii. Dx
 - iii. Rx
 - k. Lower Urinary Tract Symptoms (LUTS)
 - i. Guidelines
 - l. When and how to use PSA screening
 - m. Antibiotic prophylaxis
 - i. Guidelines
 - n. DVT Prophylaxis
 - i. Guidelines

2. Postoperative Complications & Trauma

(7%)

- a. Ureteroscopy complications
- b. ESWL complications
- c. TRUS prostate biopsy complications
- d. Traumatic Renal, bladder and urethral injuries;
 - i. Dx
 - ii. Staging or classification
 - iii. Rx
- e. Vesicovaginal and ureterovaginal fistula
 - i. Dx
 - ii. Rx
- f. Penile fracture
 - i. Dx
 - 1. concerns for concomitant urethral injury
 - ii. Rx
- g. Nerve injuries following surgery
 - i. Positional nerve injuries
 - ii. Nerve injuries following retroperitoneal and pelvic surgery
 - 1. obturator, ilioinguinal, femoral, ejaculation dysfunction, bladder neck denervation, onset of neurogenic bladder (NGB)
- h. Metabolic urgencies and emergencies (Rx)

- i. Hyponatremia
 - 1. Dilution secondary to fluid absorption (TUR syndrome)- Rx
 - 2. Consequence of DDAVP -Rx
 - ii. Myoglobinuria (positional)
 - iii. Postop Addisonian crisis
 - iv. Hyperkalemia
 - v. Hypercalcemia
- 3. Transplantation (0.5%)**
 - a. **This section only covers assessment of pts for donor nephrectomy and surgical complications of renal transplants.**
- 4. Imaging, radiation & patient safety, medical ethics (5%)**
 - a. Ultrasound techniques
 - b. Complications of Fluoroscopy, CT and MRI
 - i. Ways to prevent or Rx the complications arising from radiographic studies
 - ii. Methods to reduce radiation risks to the physician and patient
 - c. Nuclear renography and cystography
 - i. Materials used and their purpose
 - d. Patient safety- outpatient concerns
 - i. Sterilization of scopes etc.
 - ii. Dx and treatment of autonomic dysreflexia
 - e. Opioid - Drug abuse
 - f. Medical Ethics
 - i. End of life concerns
 - ii. Billing irregularities
 - iii. Suspected child abuse
 - iv. Jehovah's witness patient management
- 5. Evidence Based Medicine - Statistics (0.5%)**
 - a. Basic statistical applications for interpretation of scientific articles

Basic Science- Must have a Clinical Correlation (5%)

- 1. Physiology, Immunology and Molecular Biology (1%)**
 - a. Physiology of Testosterone Production
 - b. Bladder and Urinary Sphincteric Function
 - i. Mechanism of Action of Medications, e.g. anticholinergics, alpha blocker, beta stimulants, Botox. etc.
 - ii. Alterations found in pathologic disease e.g. Interstitial cystitis, spinal cord injuries, Cerebral Palsy, Parkinsonism, etc.
 - c. Physiology of Erection
 - i. Mechanisms of Actions of Medications, e.g., Viagra, Injection therapy, etc.
 - d. Immunotherapy for GU malignancy
 - i. Mechanisms of Action

- ii. Complications
- 2. Anatomy (2%)**
 - a. Surgical orientation to anatomic structures
- 3. Renovascular Hypertension (0.5%)**
 - a. Pathophysiology
 - b. Pharmacological treatment
 - c. Indications for surgical repair
- 4. Nephrology (0.5%)**
 - a. Recognition of glomerulonephritis e.g. significance of dysplastic RBC's in urine, RBC casts, Dx of streptococcal glomerulonephritis, etc.
 - b. Proteinuria
 - i. Clinical assessment, when is it significant
 - c. Myoglobinuria
 - i. Etiology, Dx, Rx
 - d. Pharmacologic impact on Renal function e.g. Cisplatin, prostaglandins, NSAID's
 - e. Post-obstructive Diuresis
 - i. Pathophysiology, Dx and Rx
- 5. Fluid and Electrolytes (1%)**
 - a. Hypercalcemia Rx
 - b. Hyperkalemia Rx
 - c. Hyponatremia Rx
 - i. TUR syndrome and Rx
 - ii. DDAVP induced hyponatremia- symptoms and Rx
 - d. Management of central and nephrogenic diabetes insipidus
 - e. Electrolyte imbalance induced by transurethral resection, NG tube suction and Bowel preparation – Dx and Rx
 - f. Management of postoperative fluids (Adults and Pediatrics)
 - g. Complications associated with transfusions, Dx and Rx

Upper and Lower Tract Urinary Obstruction (10%)

- 1. Upper Tract Obstruction (2%)**
 - a. UPJ obstruction
 - i. Dx and management
 - b. Retroperitoneal Fibrosis
 - i. Dx, management- surgical and medical
 - c. Ureteral strictures and fistulas post endoscopy
 - i. Dx and management
 - d. Complications of long term indwelling ureteral stents
- 2. BPH- urethral obstruction- LUTS (male and female) (8%)**
 - a. BPH

- i. Dx (indications for urodynamic studies)
 - 1. Interpretation of urodynamic studies
 - ii. Medical treatment BPH
 - iii. Surgical Treatment BPH
 - b. Urethral strictures-stenosis
 - i. Pelvic Fracture Urethral Injuries
 - 1. Dx
 - 2. Treatment
 - ii. Urethral stricture (Anterior)
 - 1. Dx
 - 2. Treatment
 - c. Lichen Sclerosus- Dx and treatment
 - d. Lower Urinary Tract Symptoms (LUTS) – male and female
 - i. Dx (UDS when is it necessary?)
 - ii. Behavioral management
 - iii. Pharmacological management
 - iv. Options for refractory UUI/OAB (OnabotulinumtoxinA, neuromodulation)
 - e. Postoperative urinary incontinence
 - i. Evaluation
 - ii. Treatment of postoperative urinary incontinence
 - iii. Indications for Artificial Urinary Sphincter (AUS)
 - 1. Management of complications of AUS

Urolithiasis

(10% + core)

1. Renal and Ureteral Calculi

(9%)

- a. Dx- including metabolic evaluation
 - i. Heredity (genetic) causes for nephrolithiasis
 - ii. Urinary Crystal identification
- b. Rx
 - i. All forms, SWL, PCN, ureteroscopy, etc.
 - ii. Medical therapy for underlying metabolic abnormalities
 - 1. Complications of medical therapy
- c. Recommended follow-up following stone extraction

2. Complications of PCN, ESWL, Ureteroscopy

(See Core Knowledge)

- a. Ureteral stricture post ureteroscopy, Dx and Rx
- b. Ureteral perforation: Dx and Rx
- c. PCN complications
 - iv. Bleed
 - v. Bowel perforation
 - vi. Urinoma
- d. Urosepsis following endoscopic procedures

- a. Dx, Rx
- e. ECSWL- complications
- 3. Bladder stones (1%)**
 - a. Etiology, Significance, Dx, Rx

Oncology (25% + core)

- 1. Upper tract disease (9%)**
 - a. Adrenal Pathology (Staging, Dx, Rx)
 - i. Benign
 - ii. Malignant –staging, Dx, Rx
 - iii. Concepts on Chemotherapy
 - b. Renal Tumors
 - i. Benign
 - ii. Malignant- Staging, Dx, Rx
 - iii. Concepts on Chemo-Immunotherapy
 - iv. Ablative Rx of renal tumors
 - 1. Indications
 - 2. Follow-up
 - v. Observation protocols for renal tumors
 - c. Upper Tract Urothelial disease
 - i. Staging, Dx, Treatment
- 2. Lower Tract disease (12%)**
 - a. Bladder Tumors
 - i. Benign
 - ii. Malignant
 - 1. Staging, Dx, Rx
 - 2. Concepts on Chemotherapy
 - iii. intravesical therapy
 - b. Prostate Cancer
 - i. PSA monitoring
 - ii. Staging, Dx and Rx
 - 1. Observation protocols
 - 2. Androgen resistant prostate cancer
 - iii. Concepts on Chemo-Immuno therapy
 - c. Penile Cancer
 - i. Staging, Dx, Rx
 - ii. When to pursue lymphadenectomy
 - iii. Rudimentary concepts on Chemotherapy
 - d. Testicular Cancer
 - i. Staging, Dx, management
 - ii. Rudimentary Concepts on Chemotherapy

3. Urinary diversions

(4%)

- a. Patient selection
- b. Postoperative complications (pouch or neobladder ruptures, fistulas and strictures)
 - i. Dx and Management
- c. Metabolic complications including electrolyte and vitamin deficiencies
- d. Neobladder Management complications
 - i. Incontinence
 - ii. Urinary Retention- Dx, Rx
 - iii. Stone formation-Dx, Rx

4. Laparoscopic and Robotic Operative Complications

(See Core Knowledge)

- a. Recognition of Injury or complication
 - i. Diminished blood flow
 - ii. Reduced urine output
 - iii. Air embolism
 - iv. Complications of trocar placement
- b. Management of complications

Andrology: Impotence and Infertility

(8%)

1. Impotence-Andrology-Androgen Deficiency

(6%)

- a. Androgen deficiency
 - i. Dx, when to treat
 - ii. Complications of treatment
- b. Erectile Dysfunction
 - i. Dx
 - ii. Medical therapy
 - iii. Use and contraindications of medical therapy
 - 1. use in cardiac patients
 - iv. injectable therapy, use and contraindications
- c. Erectile dysfunction- Surgical treatment- IPP
 - i. who to consider- contraindications for usage
 - ii. complications of placement and management
 - iii. long term complications
- d. Peyronnie's disease
 - i. Diagnosis
 - ii. Medical therapy
 - iii. Surgical therapy
 - 1. Complications of surgical therapy
- e. Priapism
 - i. Etiologies,
 - 1. High flow vs low flow

- 2. sickle cell Rx
 - 3. Medical causes both drugs and malignancy as etiology
 - ii. Treatment
- 2. Infertility (2%)**
- a. Diagnosis and Rx
 - i. Varicocele
 - 1. Grading system for varicocele
 - 2. Pathophysiology of infertility with varicocele
 - 3. Indication for intervention
 - 4. Treatment
 - ii. Obstructive causes
 - 1. Dx and Treatment
 - 2. Findings and significance of findings at time of vasovasostomy
 - 3. Association of Cystic fibrosis with vassal anomalies and significance
 - iii. Endocrinologic causes
 - 1. Dx and Treatment

Female Pelvic Medicine Includes Management of Neurogenic Bladder (12%)

- 1. Urinary Incontinence, urethral diverticulum, OAB, Painful bladder syndrome (4%)**
- a. Urinary Incontinence
 - i. Evaluation: Hx, PE, indications for urodynamic study
 - ii. Interpretation of urodynamic studies
 - b. Stress Incontinence
 - i. Behavioral and functional treatment
 - ii. Surgical treatment (bulking agents, mid urethral and pubovaginalis sling, retropubic colposuspension)
 - iii. Complications of surgery including mesh complications and obstruction
 - c. Urge Urinary Incontinence/OAB
 - i. Behavioral management
 - ii. Pharmacological management
 - iii. Options for refractory UUI/OAB (OnabotulinumtoxinA, neuromodulation)
 - d. Painful Bladder syndrome including interstitial cystitis
 - i. Diagnosis
 - ii. Rx
 - e. Urethral diverticulum
 - i. Dx
 - ii. treatment
 - f. Artificial urinary sphincters (Male and Female)
 - a. Indications
 - b. Placement and complications

- 2. Pelvic Organ Prolapse, Pelvic Floor Physiology, (1%)**
- a. Pelvic Organ Prolapse
 - a. Evaluation; History and physical, staging, radiologic evaluation
 - b. Nonsurgical treatment
 - c. Surgical treatment
 - b. Pelvic Floor Physiology (No neural questions see below)
 - a. Anatomy
 - i. Normal
 - ii. Loss of support related to pelvic prolapse
 - b. Function of urethral sphincter normal and with incontinence
 - c. Influence of hormones on physiology
 - c. Fecal Incontinence and Defecation Disorders
 - a. Evaluation
 - b. Nonsurgical treatment
 - c. Surgical treatment
- 3. Neurourology, Congenital Anomalies affecting FPMS, Female Sexual Dysfunction (7%)**
- a. Neural innervation to bladder
 - a. Normal
 - b. Alterations related to specific disease process
 - b. Neurogenic bladder (includes DM, Parkinson's, MS, CP,SCI, CVA)
 - a. Evaluations for NGB including indications and interpretations of UDS
 - b. Pharmacotherapy
 - c. Surgical intervention (Botox for NGB Not OAB , Augments, urinary diversion)
 - i. Indications for urinary augmentation and urinary diversion
 - d. Complications of Bladder augmentations and urinary diversion
 - i. Surgical complications, e.g. rupture of augment, stones, ureteroenteric strictures, stomal and mid loop stenosis
 - ii. Metabolic complications
 - e. Dx and Management of autonomic dysreflexia
 - c. Congenital female abnormalities that could impact FPMS
 - a. Ectopic ureters
 - i. Dx
 - ii. management
 - b. Imperforate or duplicated vagina
 - i. Dx
 - ii. Management
 - d. Female sexual Dysfunction
 - a. Dx
 - b. Management

Pediatric Urology

(10%)

1. Infections and Inflammatory Processus in Children

(1%)

- a. Henoch- Schonlein -Urologic manifestations
- b. Balanoposthitis – Dx, Rx
- c. Phimosis- Rx
- d. Pediatric Vulvovaginitis- Dx and Rx
- e. Vaginal adhesions - Rx
- f. Sexual Transmitted Disease in adolescence
 - i. HPV vaccine
 - ii. Ethics of Rx (see core- competency)
- g. UTI's in neonates and children; Dx and Rx
 - i. Antibiotic prophylaxis in children

2. Congenital Anomalies and Embryological defects

(3%)

Note: Excludes obstructive disorders e.g. UPJ, PUV, primary obstructive megaureter, ureterocele see topic below

- a. Cloacal anomalies- common UG sinus
- b. Congenital adrenal Hyperplasia
- c. Cryptorchidism (anorchia)
- d. Disorders of Sexual Differentiation
- e. Gender dysmorphia
- f. Ectopic Ureters
- g. Epispadias-Exstrophy Complex
- h. Congenital Epididymal and Vasal anomalies
 - i. Significance of vassal agenesis to cystic fibrosis
 - ii. Significance of vassal abnormalities to renal agenesis or dysplasia
- i. Hydrocele
- j. Hydrocolpos (Mullerian Duct abnormalities)
- k. Hypospadias
- l. Enlarged prostatic utricle
- m. Imperforate Anus – associated GU anomalies
- n. Prune Belly Syndrome
- o. Congenital megalourethra
- p. Testicular torsion (neonatal and Intravaginal)
- q. Renal Agenesis
- r. Renal Fusion anomalies
 - i. Horse shoe kidneys cross fused ectopy
- s. Renal cystic disease of childhood
 - i. Multicystic dysplastic kidneys
 - ii. Autosomal recessive kidney disease

- iii. Autosomal dominant kidney disease
- t. Urachal Abnormalities, Dx and Rx
- u. Adolescent Varicoceles
 - i. Indications for surgical intervention
- v. Vesicoureteral reflux
 - i. Diagnosis
 - ii. Management
 - iii. Indication for surgical intervention

3. Pediatric Obstructive Uropathy

(2%)

- a. Antenatal Hydronephrosis
 - i. Differential Dx and Management
- b. Posterior and anterior urethral valves Dx and Management
 - i. Vesicostomy when to do
 - ii. Management of nephrogenic diabetes insipidus
 - iii. Long term sequela of PUV
- c. Primary Obstructing Megaureter Dx and Management
- d. UPJ obstruction Dx and Management
- e. Ureterocele - Dx
 - i. Duplex
 - ii. Single system- significance
 - iii. Management of ureterocele

4. Pediatric Neurogenic Bladder and Voiding Dysfunction

(2%)

- a. Dx – interpretation of UDS assessments
- b. Etiologies of Neurogenic bladder in children
 - i. Cerebral palsy
 - 1. Dx and Management
 - ii. Spina bifida
 - 1. Dx and Management
 - iii. Spinal cord injuries
 - 1. Dx and Management
 - iv. Tethered Cord
 - 1. Dx and Management
- c. Pharmacologic and Surgical Rx Neurogenic bladder (Not augments – see below)
 - i. Antimuscuranics
 - ii. Onabotulinum Toxin
- d. Bladder and Bowel dysfunction
 - i. Dx and Management
- e. Neural Stimulation
 - i. Sacral Nerve stimulation

- ii. Percutaneous Tibial nerve stimulation
- f. Management of Neurogenic Bowel
 - i. Bowel Irrigations
 - ii. ACE indications and complications

5. Pediatric Neoplasms and Urinary augmentation and diversion (1.5%)

- a. Neoplasms
 - i. Renal
 - 1. Mesoblastic Nephroma
 - 2. Wilms tumors Dx and Management
 - a. Congenital anomalies associated with Wilms Tumors e.g. Deny Drash, Aniridia, Hemihypertrophy
 - 3. Clear Cell Sarcoma of the kidney: Dx and management
 - 4. Rhabdoid tumor of kidney: dx and management
 - 5. Tuberous sclerosis- angiomyolipoma
 - 6. Von Hippel Landau
 - 7. Renal cell carcinoma of childhood
 - ii. Testicular tumors of childhood and adolescence: Dx and Management
 - 1. Yolk sac
 - 2. Teratoma
 - 3. NSGC tumors in post pubertal pt
 - 4. stromal tumors (Leydig cell tumors)
 - 5. Adrenal rest in congenital adrenal hyperplasia
 - 6. Epidermoid cysts
 - iii. Rhabdomyosarcoma: Dx and Management
 - 1. Bladder and prostate
 - 2. spermatic cord
 - 3. vagina (sarcoma botryoides)
 - iv. NO NEUROBLASTOMAS!!!
- b. Urinary Diversions, Augmentations. BNR, AUS & Slings
 - i. Indications and segments used for bladder augmentation
 - ii. Complications of augmentations
 - 1. Rupture
 - 2. Electrolyte and vitamin abnormalities
 - 3. Bladder stones management and prevention
 - 4. Renal Preservation
 - iii. Assessment of post augment urinary incontinence
 - iv. Complications and management of continent stomas
 - v. Bladder Neck reconstruction or slings with or without augmentation
 - vi. Vesicostomy management of complications

- vii. Indication and complications of urinary conduits.
- viii. Artificial Urinary Sphincter- Indications in childhood and management of complications

6. Nephrology – Pediatric

(0.5%)

- a. Microscopic hematuria(workup) in Pediatrics
 - i. Post infectious GMN- Dx
- b. Gross hematuria of Neonate, evaluation and Rx
 - i. Renal Vein Thrombosis
 - ii. Renal Artery Thrombosis
 - iii. Acute Tubular Necrosis of infancy
- c. Hypercalciuria of infancy
 - i. Etiology, treatment

Key for Abbreviations

ACE- Antegrade Continent Enema

CP-Cerebral Palsy

CVA- Cerebral Vascular Accident

DVT-Deep Vein Thrombosis

DX- Diagnosis

ESWL- Extracorporeal Shock Wave Lithotripsy

HPV- Human Papilloma Virus

LUTS- Lower Urinary Tract Symptoms

MS- Multiple Sclerosis

NGB- Neurogenic Bladder

Rx- Treatment

OAB- Overactive Bladder

PCN- Percutaneous Nephrostomy

PSA- Prostatic Specific Antigen

SCI- Spinal Cord Injury

TRUS-Transrectal Ultrasound

TUR- Transurethral Resection

UTI-Urinary Tract Infection