SERVICE: Urology - Sinai, PGY 1

General description:

The Sinai surgical residents will rotate in the Department of Urology at Sinai Hospital during their intern year. The duration of this rotation is 6 weeks.

The Sinai resident will be a fully integrated member of the Urology team, under the supervision of the senior Urology resident, experienced Urology mid-level provider(s) and the Urology attending staff.

The surgical residents will participate in all care rendered to inpatient Urology patients at Sinai Hospital: admission, diagnostic workup, operations, post-operative care and discharge. In addition, the surgical residents will participate in the care/operations of Urology patients at the Surgi-Center and Urology attending office hours.

The surgical residents will attend the following educational activities:

GU Tumor Board - weekly
GU Radiology Conference - biweekly
GU Grand Rounds at Sinai - monthly
GU Resident Conference UMMS - weekly
GU Grand Rounds UMMS - weekly
Operative Skills Lab JHH - monthly
Surgical core and specialty curricula and M&M - weekly

In addition, the residents (all levels) will receive the following lectures during the subspecialty core curriculum:

Bedside urology, neurologic bladder dysfunction and incontinence, urologic trauma, genito-urinary malignancies, benign prostate hyperplasia and prostate cancer, urolithiasis, laparoscopy in urology, common testicular disease

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Competencies: | Goals and Objectives:
---|---
**Patient Care:** | **Goals:**
During this rotation, the resident should learn and practice to:

- Demonstrate caring and **responsible behaviors** when interacting with patients and their families. Demonstrate **sensitivity** to gender, age, ethnicity, religion, value systems and other potential differences of patients and their families; practice according to the clinical standards of Sinai Hospital

- Gather patient and case specific essential, **comprehensive multi-source and accurate information** about their patients for initial or peri-operative workup and patient followup in the inpatient and outpatient setting
Using all available resources, under the guidance of the senior Urology resident and attending, make **informed decisions about diagnostic and therapeutic interventions** based on patient information, up-to-date scientific evidence and clinical judgment; evaluate and implement priorities in patient care and incorporate preventive measures.

- Under the guidance of the senior Urology resident, attending and other designated Urology related expert personnel, develop and **carry out patient management plans**.

- Under the guidance of the senior Urology resident, attending and other designated Urology related expert personnel, **monitor closely the patient’s clinical progress**, review and react to variances in patient progress or response to therapeutic interventions; **Communicate** the details and changes of patient care, progress and complications to the senior Urology resident and/or attending in a timely manner.

- Under **close and direct** supervision of the senior Urology resident and attending and other designated Urology related expert personnel, **counsel and educate patients** and their families on the state of the patient’s disease, necessary diagnostic tests, operative procedures and medical management.

- Use information technology (hospital computer system) to support patient care decisions and patient education (electronic patient record, electronic radiology studies, online educational resources, including literature research).

- **Work closely with other healthcare professionals**, including those from other disciplines (Nephrology, Endocrinology, Medicine, mid-level providers, nurses, Urology office staff, etc.), to provide patient-focused and optimum outcome driven care.

- Ensure that the **needs of the patient and team supersede individual preferences** when managing patient care; incorporate evidence-based medicine into patient care whenever possible; comply with changes in clinical practice and standards given by the senior Urology resident and/or attending.

**Objectives:**

During the rotation, the resident should:

- Under one-on-one supervision of the Urology attending, **perform competently and/or assist in procedures** (both in the inpatient and outpatient setting) **considered essential for the area of practice**, including:
  
  a. Bladder catheterization, passage of Coudé tips and filiform catheters, meatotomy if necessary for catheterization
  
  b. Suprapubic punch cystostomy and percutaneous nephrostomy
  
  c. Cystoscopy, biopsies (prostate and bladder) and ureteral stenting
  
  d. Operations for varicocele, hydrocele, testicular torsion, orchidopexy, orchietomy (simple, radical), vasectomy
e. Penile and scrotal biopsies and resection of cutaneous lesions
f. Drainage and debridement for scrotal abscess and Fournier’s gangrene
g. Nephrectomy (partial/simple/radical, open/laparoscopic), renal repair for trauma
h. Cystectomy
i. Transurethral, radical and perineal prostatectomy

- Under supervision by the senior Urology resident, experienced Urology mid-level provider(s) and attendings, participate in the pre- and post-operative surgical management of patients before and after urologic procedures; evaluate new emergency and inpatient consultations; participate on daily morning and afternoon patient rounds on the Urology service at Sinai

- Under supervision by the senior Urology resident, experienced Urology mid-level provider(s) and attendings, manage post-operative surgical complications, including wound infection, anastomotic stenoses and leaks, bleeding, etc.

- Attend Urology attending clinic at least once a week; and under one-on-one supervision by the Urology attending, participate in the evaluation of patients in the office setting

Medical Knowledge:

**Goals:**
Residents must demonstrate knowledge about established and evolving biomedical, clinical and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care.

**Objectives:**
At the end of the Urology rotation, the resident should be able to:

- Describe the normal **anatomy and physiology of the genitourinary system** to include the following structures: kidneys, ureters, bladder, prostate, seminal vesicles, vas deferens, urethra (male and female)

- Summarize the **basic science of genitourinary disease** to include the following: anatomy, physiology, biology, biochemistry, microbiology, immunology and embryology of the genitourinary system; pathophysiology of urinary tract disease; endocrine function of kidney

- Discuss the components of a **focused genitourinary history and physical examination** to include:
  a. **History**
     1. Pain (flank/groin/scrotum, quality, duration, etc)
     2. Hematuria (painful/painless, micro/macro, initial/terminal/total, presence of clots
     3. Genitourinary discharge (quality, duration, associated symptoms, etc.) relation
to menses in females
(4) Dysuria/difficulty of urination (initiation/termination/incontinence (stress/urge)
(5) Inguinal/scrotal changes (mass, pain, skin changes)
(6) Sexual history (partners/diseases/dysfunction)
(7) Signs and symptoms of kidney failure/uremia
(8) Previous genitourinary operations

b. Physical examination
(1) Kidneys (flank/abdominal masses or tenderness, peritoneal signs)
(2) Bladder (fullness, pain, etc.)
(3) Penis (deformities, lesions, abnormal urethral opening, etc.)
(4) Scrotum and contents (size, consistency of testis/epididymis/cord, pain, skin changes, etc.)
(5) Rectal examination to include prostate: blood, masses, prostate size/consistency, nodules, pain
(6) Pelvic examination in female (see also GYN goals and objectives)

Develop a fundamental understanding of the following clinical science concepts (pathophysiology, signs, symptoms, differential diagnosis, basic management concepts – medical and operative) as they relate to genitourinary disease:

a. Embryology of genitourinary tract and resultant common variation/abnormality in genito-urinary anatomy, including: renal atresia, horseshoe kidney, ectatic pelvis, ureteral abnormalities, bladder abnormalities, hypospadias, undescended testis, patient processus vaginalis, inguinal hernia and hydrocele, polycystic kidney, hydronephrosis

b. Renal physiology and calculus disease (types of stones, medical conditions, therapeutic options)

c. Genitourinary infectious diseases: urethritis, cystitis, pyelonephritis, epididymitis, infections related to anatomic variation or disease (obstruction, reflux, kidney failure, genitourinary instrumentation), infections related to chronic instrumentation of the GU-tract, scrotal abscess and Fournier’s gangrene, including common bacteriology and antibiotic management

d. Urologic oncology (renal cell, transitional cell, prostate testicular carcinoma, seminoma, teratoma); explain the tumor, nodes and metastases (TNM) classification of genitourinary tumors and basic staging of most common malignancies

e. Urologic trauma (injury to kidney, ureter, bladder, urethra, testicles, including grades and basic diagnosis and operative management)

Discuss treatment options in the management of kidney injuries, including: percutaneous drainage, (partial/total) nephrectomy; implications of renal vascular
injury (complications of the partially revascularized kidney pain, hypertension, etc.)

Discuss treatment options in the management of **bladder injuries**, including: catheter drainage, primary repair

Discuss treatment options in the management of **ureteral injuries**, including: primary repair, ureteroureterostomy, neo-ureterocystostomy, psoas hitch, percutaneous drainage, ureteral stenting

f. **Male urologic problems**: benign prostatic hyperplasia, varicocele, hydrocele impotence, priapism and Peyronie’s disease, testicular torsion

Describe the pathophysiology, signs and symptoms of **benign prostatic hypertrophy** and the rationale for transurethral prostate resection and other endoscopic urologic procedures.

Describe pathophysiology, signs and symptoms, and staging of **cancer of the prostate**, citing disease rates that make it the most commonly diagnosed malignancy in men and second leading cause of cancer death in men; describe different medical and surgical therapy options; outline recommended screening guidelines for prostate cancer

g. **Vesicoureteral reflux and obstructive disease** (ureter, bladder outlet, urethra)

h. **Incontinence** (stress, overflow, neurogenic, urgency)

i. **Venereal disease and external genitourinary skin lesion**

- Develop a fundamental understanding of **urologic problems in the elderly**, including: urinary incontinence (bladder capacity, pelvic floor changes [influence of estrogen, childbirth, surgeries], CNS disorders, involuntary bladder contractions, detrusor motor instability, fluid overload/use of diuretics/congestive heart failure, etc.), urinary retention and overflow incontinence (impaired mobility, prostatic enlargement, obstructed urethra)

- Summarize the indications for **routine diagnostic procedures** in Urology such as:
  
a. Urinalysis, biochemical and radioimmunoassay

b. Bladder catheterization, cystoscopy

c. Radiographic studies, including: cystogram (retrograde ureteropyelogram), intravenous pyelogram, retrograde urethrogram, renal arteriography, renography and renal perfusion scanning (I 131), renal and trans-rectal ultrasound, computed tomography and ultrasound of the GU tract, indications for using MRI

d. Workup for urologic trauma: IVP vs. CT, retrograde urethrocystogram vs. CT or urethro-cystoscopy, renal angiography vs. CT, FAST vs. formal renal
ultrasonography

- Discuss the nature and indication for **routine therapeutic procedures** in genitourinary disease such as:
  a. Bladder catheterization
  b. Passage of Coudé tips and filiform catheters
  c. Meatotomy if necessary for catheterization
  d. Suprapubic punch cystostomy
  e. Percutaneous nephrostomy
  f. Ureteral stent

- Describe the **types of incisions and exposure required for genitourinary surgery**, including those for:
  a. Nephrectomy (partial/simple/radical, open/laparoscopic), renal repair for trauma
  b. Cystectomy
  c. Radical retro-pubic prostatectomy and perineal prostatectomy
  d. Orchidopexy, orchiectomy (simple, radical)
  e. Surgery for varicocele, hydrocele, vasectomy

**Objectives – General:**

- Complete the reading assignment (see literature list)
- Attend all (≥ 85%) conferences, M&M conferences, Grand Rounds/other educational activities of the Department of Urology during the rotation
- Take a post-rotation self-assessment test with at least 75% correct answers

**Practice-based Learning and Improvement:**

**Goals and Objectives:**

Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:

- **Self assessment:** Analyze practice experience during the rotation, as well as own performance, based on interaction with urology fellow, attending(s) and other key transplant staff; accept and use constructive criticism to improve performance in the six core competencies

- **Medical knowledge:** Self-directed and under mentorship of urology fellow and attending staff, locate, appraise and assimilate evidence from scientific studies related to their patients’ health problems; Use evidence based medicine approach to patient care whenever possible; apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness; use information technology to manage information, access online medical information and support their own education; facilitate the learning of students
and other healthcare professionals on the urology service by sharing pre-existing and newly acquired knowledge (general and case-based) on rounds and during formal educational activities. Residents are encouraged to ask/question the Urology fellow, attending staff and/or other Urology surgery related expert providers for clarification of unclear concepts/practices at any time.

- Participate in the **peri-operative management of urologic patients** in the in patient and outpatient setting as outlined in the patient care competency. During the rotation the resident should become familiar/proficient with:
  a. Fundamentals of focused urologic history and exam; urologic diagnostic tests and procedures
  b. Common urologic diseases, benign and malignant and fundamental therapeutic options
  c. Common complications and management thereof

- Perform/participate in **Urology service related operations** as outlined in patient care competency; during the rotation the resident should become familiar/proficient with:
  a. Bladder catheterization in normal and difficult patients
  b. Genitourinary anatomy and simple operations, particularly in the male inguinal, penile and scrotal area
  c. Trans-abdominal, extra-peritoneal and laparoscopic approaches to the genitourinary system
  d. Fundamental (technical) principles of surgery on the kidney (repair, drainage, vascular control), ureter (anastomosis, stenting, drainage), bladder (resection, repair, drainage), penis, testicle and cord

### Interpersonal and Communication Skills:

**Goals and Objectives:**
Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patient’s families and professional associates. Residents are expected to:

- Develop interpersonal skills necessary to **communicate effectively** with patients, patient families, nursing staff, mid-level healthcare providers, ancillary staff, medical students, fellow residents and attending staff in the complex multi-specialty environment that constitutes Urology care

- Contribute to **creating an atmosphere of collegiality and mutual respect** with all providers involved in the care of patients

- Develop **effective listening, questioning and documentation skills**

- Demonstrate **ability to work effectively as a member of a team**

- Demonstrate **ethically sound behavior** (see also Professionalism)
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<th><strong>Professionalism:</strong></th>
<th><strong>Share own knowledge</strong> with other members of the team to foster an environment of learning</th>
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<td><strong>Goals and Objectives:</strong></td>
<td>Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles and sensitivity to a diverse patient population. Residents are expected to:</td>
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<td>• Demonstrate <strong>adherence to institutional and departmental standards and policies</strong></td>
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<td>• Demonstrate <strong>respect, compassion, integrity and ethical behavior</strong> consistent with the <strong>values of the department and institution</strong>; develop and sustain sensitivity toward differences of age, gender, culture, religion, ethnicity or other diversities in both coworkers and patients</td>
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<td>• Demonstrate ability to appropriately take on, <strong>share and delegate responsibilities</strong> with regard to patient care; balance own rights and privileges appropriately with responsibilities and accountability resulting from being a member of a team dedicated to patient care</td>
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<td>• Demonstrate <strong>commitment to excellence and on-going professional development</strong></td>
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<td>• Under attending and other Urology staff guidance, develop skill to <strong>resolve potential problems and conflicts that occur in a complex corporate environment</strong> using the appropriate channels and methods of communication to maximize patient care and surgical service performance</td>
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<td>• Evaluate and formulate a response to <strong>ethical questions</strong></td>
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<th><strong>Systems-based Practice:</strong></th>
<th><strong>Goals and Objectives:</strong></th>
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<td>Residents must demonstrate an awareness of and responsiveness to the larger context and system of healthcare and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:</td>
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<td>• Understand how choices in patient care and other professional practices affect other healthcare professionals, the healthcare organization and the larger society and how these elements of the system affect their own practice</td>
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<td>a. Understand the relevance and components of clinical pathways and how to deal with deviation</td>
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<td>• Practice cost-effective healthcare and resource allocation that does not compromise quality of care</td>
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<td>• Know how to partner with healthcare managers (Urology coordinator, social work, case management, PT/OT and Rehabilitation medicine, etc.) and other healthcare providers (PMD, specialty providers in and out of the hospital) to assess, coordinate and improve healthcare for the individual patient and cohorts of patients.</td>
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