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## Learning Objectives for Rotations on Urology Year 3 Basic Clerkship

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### 1. Evaluation of Hematuria

With emphasis on:

- Urolithiasis
- GU Trauma
- Renal and Bladder Tumours

### 2. Voiding Dysfunction

With emphasis on:

- Benign prostatic hyperplasia
- Prostate Cancer
- Stress Incontinence

### 3. Pediatric Urology / Erectile Dysfunction / Testes Tumours

- Pediatric urology
- Erectile dysfunction
- Testes tumors

## 1. Evaluation of Hematuria

### Urolithiasis

- Give a differential diagnosis for acute flank pain in an adult. Discuss how to differentiate the possible causes of acute flank pain using history, physical exam, laboratory tests and radiologic studies.
- **Name four different kinds of renal calculi and the factors that predispose some individuals to form stones.**
- Discuss the acute management of a patient with renal colic due to an obstructing ureteral stone.
- Describe the mechanism whereby extracorporeal shock wave lithotripsy (ESWL) is able to fragment stones.

## GU Trauma

- Describe the acute (emergency room) evaluation of a patient with blunt abdominal trauma and gross hematuria.
- State the indications for CT scan of the urinary tract in cases of blunt abdominal trauma.
- **State the indications for surgery in cases of blunt renal trauma.**
- State the two different kinds of bladder rupture and the mechanisms by which they occur.
- Discuss the acute urologic evaluation of a male with a pelvic fracture and blood at the urethral meatus.
- Discuss the acute urologic evaluation of a male with a blunt injury to the perineum (“straddle injury”) and blood at the urethral meatus.

## Renal and Bladder Tumours

- Describe the urologic evaluation of a 50-year-old female with gross, painless hematuria.
- Give a differential diagnosis of a solid mass lesion (seen on ultrasound) arising from one kidney.
- State the TNM staging system for renal cell carcinoma.
- State two situations where a partial nephrectomy may be considered instead of a radical nephrectomy for a solid renal.
- State the TNM staging system for transitional cell carcinoma of the bladder.
- Describe the management of a 50-year-old female with a bladder tumour seen at the time of cystoscopy.
- State two risk factors that predispose some people to TCC of the bladder.
- State two indications for radical cystectomy.

## 2. Voiding Dysfunction

### General Objectives

- Describe the innervation of the detrusor smooth muscle, the bladder neck smooth muscle and the voluntary (striated) urethral sphincter. Describe the effects of anticholinergic,  $\alpha$ -adrenergic agonist and  $\alpha$ -adrenergic antagonist medications on voiding function.

- Describe the typical voiding problems of a patient with a sacral spinal cord injury.
- Describe the typical voiding problems of a patient with a supra-sacral spinal cord injury.
- Describe the typical voiding problems of patients with Parkinson's disease, stroke and brain tumour.
- State four broad categories of urinary incontinence. State at least one example in each category.
- State two broad categories of urinary retention in an adult male and give at least two examples for each category.

### **Benign Prostatic Hyperplasia**

- Describe the typical symptoms of BPH.
- State four complications of untreated BPH.
- Describe the medical therapy for men with symptomatic BPH. Describe the physiologic basis for the use of these drugs in men with BPH.
- State four indications for surgical resection of the prostate in men with BPH.

### **Prostate Cancer**

- Give a differential diagnosis for a firm prostate nodule detected by digital rectal exam.
- State the normal PSA values for a 50-year-old male and a 70-year-old male.
- Give a differential diagnosis for an elevated PSA in a 60-year-old man.
- **State the TNM staging for prostate cancer.**
- State three types of "curative" therapy for clinically localized prostate cancer.
- State two important complications of each therapy.
- Describe the various hormonal therapies for patients with locally advanced or metastatic prostate cancer.

### **Stress Incontinence**

- Describe two mechanisms underlying genuine stress urinary incontinence in women.
- Describe the technique of Kegel's exercises.
- **Discuss how to differentiate stress incontinence from urgency incontinence by history, physical examination and basic urodynamic studies.**
- State the surgical procedures available for the correction of stress incontinence and cystocele in women.

### 3. Pediatric Urology / Erectile Dysfunction / Testes Tumours

#### Pediatric Urology

- Describe the acute (emergency room) evaluation of a male child/adolescent with acute testicular pain and scrotal swelling and give a differential diagnosis.
- Discuss the urologic evaluation of a child with recurrent UTI.
- **State the grading system for vesicoureteral reflux. Know the indications for surgery to correct vesicoureteral reflux.**
- Give a differential diagnosis of a palpable abdominal mass in a newborn.
- State 4 causes of antenatal hydronephrosis.

#### Erectile Dysfunction

- Understand the neurologic control of penile erection and detumescence including neurotransmitters released by intracavernosal nerve terminals.
- State four broad categories of erectile dysfunction and give one example for each category.
- State the mechanism of action of sildenafil (Viagra<sup>®</sup>), side effects and possible drug interactions. State two other therapies for erectile dysfunction.

#### Testes Tumours

- Give a differential diagnosis of a painless scrotal mass in an adult. Describe how to differentiate these conditions by physical examination.
- State the typical age of presentation for germ cell testis tumours. State the most important risk factor for the development of germ cell testis tumours.
- State three different histologic types of germ cell testis tumours. Describe the site(s) of lymph node metastases from testicular tumours.
- Describe the urologic evaluation and management of an adult male with a solid, intratesticular mass.