Disorders of Male Reproductive System

Conditions of the Penis-CONGENITAL

Epispadias – urethra located on top of penis; assoc. w/other defects; surgery to correct location done early childhood

Hypospadias – urethra located on bottom side of penis; anywhere from corona to perineum; hormonal influences in utero, environmental, and genetics; don't treat unless experiencing chordee (WHAT DOES THIS MEAN?), problems urinating, or interfering with intercourse; may have surgery for emotional well being

Conditions of Penis-ACQUIRED (most conditions not seen due to circumcision- unless religions/cultural reasons)

Phimosis: is constriction of penile foreskin preventing retraction; Results from: edema, inflammation, poor hygiene, chronic irritation, smegma

- Tx: circumcision (if left = decreased blood supply); conservative: manual retraction, ice, topical steroid cream

Paraphimosis: tightness of foreskin from edema, preventing normal return of foreskin

- Tx: abx, warm soaks, circumcision or dorsal split of prepuce (also known as??)
- Prevention: careful cleaning and replacement of foreskin

Posthitis: inflammation of the foreskin
Balanitis: inflammation of the glans penis

Tx for both above: identify cause- STI? Allergen? Possible circumcision

Urethritis: inflammation of urethra

Penile Ulcerations: lesions of external genitalia that require medical attention; no self-treatment; present with a variety of conditions (STI's, benign skin lesions, external catheters….etc)

Priapism: painful erection lasting > 6 hrs; may be an emergency (compromised circulation and inability to void)
Two types: **ischemic and non-ischemic**; tx depends on type

-Conservative tx: prostatic massage, sedation, smooth muscle relaxant injected into corpora cavernosa (need to know your anatomy*)

-Other tx: aspiration and irrigation of corpora cavernosa or surgery (shunts); emotional support!!!!!

Cancer of Penis: rare; more in uncircumcised males and poor hygiene; non-tender warty lesion that invades

-Risk factors: lack of circumcision, HPV, chronic irritation, smoking, tanning beds….
-Dx: bx
-s/sx: penile lesions can be brown, blue, black, raised, or flat, with asymmetrical borders (think melanoma)
-Treatment: topical chemo, cryotherapy, laser ablation; if mets- systemic chemo or rad; partial penectomy with grafts; total penectomy- total amputation with perineal urethrostomy (sit to pee) – psychosocial impact!!!!

Conditions of the Scrotum (scrotal skin thin with rugae)

Skin conditions: fungal, dermatitis, scabies, lice; exposure: moisture, rubbing = prone to infection; need good hygiene

Epididymitis: Most common of all intra-scrotal infections; infection of epididymis; usually < 40 yrs of age; GC or chlamydia, or established infection (urine, prostate, urethra)

S/sx: affected testicle- severe swelling, tenderness, pain, hot to touch scrotum, increased temperature; 'duck waddle', rarely bilat

Tx: abx (if STI, who else needs to be treated?); bedrest; **elevate and support** scrotum; intermittent ice; prn pain meds; older men- removal of epididymis with chronic infection

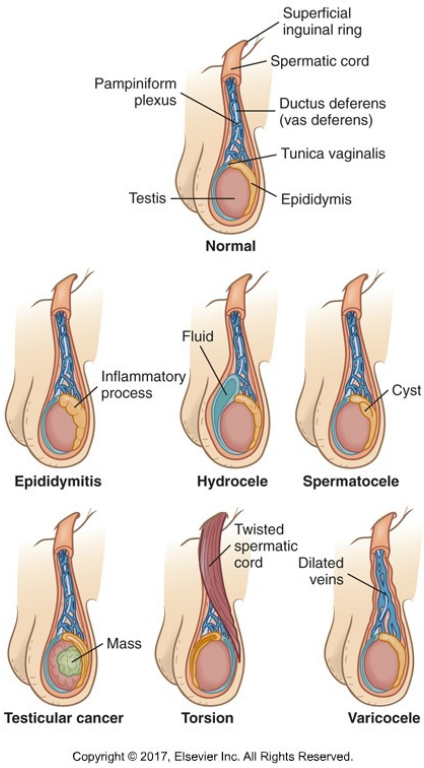
Complications: abscess formation

Edu: tenderness will decrease in 1 week but swelling may last weeks or months; avoid lifting, avoid sex until infection controlled, drink fluids, may cause sterility, often in conjunction with orchitis

Orchitis: - inflammation of the testicle. Occurs after episode of bacterial or viral infection such as mumps, pneumonia, TB, or syphilis; can occur as side effect of epididymitis, prostatectomy, trauma, infectious mono, influenza, catheterization, or complicated UTI.

Mumps orchitis: 4-7 days after mumps; bilateral orchitis; inc. r/f sterility; infertility increases if bilat

Tx: abx, pain meds prn, bedrest with scrotal support, ice



Hydrocele: *painless collection of clear fluid* anywhere along spermatic cord, results from interference with lymphatic drainage & swelling of tunica vaginalis that surrounds testes; **seen with transillumination**; may be 2° epididymitis and orchitis

s/sx: vary (size and amount of tension); **painless until fluid accumulated**

tx: surgical drainage if excessive and causing pain; scrotal support; avoid surgery for r/f subfertility or infertility

Varicocele: *abnormal dilatation of veins*. Increase incidence on left side; Often become asymptomatic or disappear after sexual intercourse; ages 15-25; infertility; 'bag of worms'

s/sx: dragging, pulling sensation, dull pain

tx: surgery if severe or for fertility

Spermatocele: is a firm sperm containing cyst of epididymis. It is visible with transillumination. Unknown cause. Tx with surgical removal

Testicular Torsion: *twisting of the spermatic cord* that supplies blood to the testes and epididymis on a pedicle resulting in venous thrombosis and occlusion; males < 20 yrs; *follows physical exercise*

s/sx: intrascrotal pain radiating to groin on same side; testicular tenderness, N/V, edema, irregular, twisted & drawn up.

Dx: scans and US – assess blood flow – absence or decrease of blood flow = dx

tx: Pain is not relieved by scrotal support; lay on affected side and leg flexed; usually resolved on own, if not (emergency)- surgery to untwist the cord and restore blood flow

Tumors of the Testes (Testicular Cancer)

- Incidence: One of the most frequently occurring cancers in **young adult men** between 15-35 years old.
- Less common in African Americans & Asian men
-Increase incidence in men with undescended testicles (cryptorchidism); family hx or anomalies; hx mumps orchitis, HIV, DES exposure, testicular ca in the contralateral testis or inguinal hernia
- Can affect either testicle

Pathology: slow or rapid growth

Embryonic germ cells – 2 types

- seminomas- most common, *least aggressive*
- non-seminomas- rare but *aggressive*

s/sx: often asymptomatic; painless enlargement; heaviness in lower abd, dull ache, hydrocele, firm mass (irregular or oval shape), epididymitis, **not transilluminated;** epididymitis often occurs also

(back pain, cough, dyspnea, gynecomastia, hemoptysis, dysphagia, seizures, vision change, mental status change ➔ **mets**)

Diagnosis: ***early detection with self-exam monthly***

- PE: palpation, transillumination (helps with dx)

- US: testes, locates lesion

-blood test markers: alphafetoprotein (AFP) and human chorionic gonadotropin (HCG); helps determine type of tumor

- CT scans, LFT's ➔ r/o mets
- **NO BIOPSY –** highly metastatic; local lymph drainage;

ANY TESTICULAR MASS IS CONSIDERED MALIGNANT UNTIL PROVEN OTHERWISE

Staging:
Stage 1 tumor confined to testicles
Stage 2 spread to lymph nodes
Stage 3 metastasized beyond retroperitoneal lymph nodes, usually lung

Treatment: **Depends on type & stage**

- Radical orchiectomy; prosthesis implanted
- Radiation & Chemotherapy – type / stage
- Chemo agents: Cisplatin, Vinblastine, Vincristine – testicular germ cells are more sensitive to systemic chemo that any other adult solid tumor

Effects on sexuality:
-Affected testicle is all that is removed; the surviving testicle will retain sexual function and fertility leading to hypertrophy of testicle to produce sufficient testosterone
-Radical dissection of lymph nodes may = unavoidable nerve damage- retain sexual function but be infertile and problems with ejaculation
-Discuss fertility options: (sperm bank - arrange for semen storage as soon as possible after dx; complete sperm collection before tx)

Prognosis:

- Earlier detection will increase cure rate
- Monthly TSE
- Meticulous F/U care (CXR, CT, HCG, AFP – detect relapse)

DES sons:
DES administered to women during 1940's-1970's to prevent miscarriages; 30-70% have developed abnormalities; questionable risk of testicular cancer

Erectile Dysfunction

-Inability to attain or maintain erect penis
-Experienced by almost all males at some point to some degree
-Not common under age 30 (ex- etoh and substance abuse)

Primary dysfunction: never experienced adequate erection

Secondary dysfunction: has lost the ability or can only perform in specific situations; intact nerve innervation & hormone balance

Causes: psychogenic

Classes of ED

Organic- *gradual deterioration of function, decrease firmness and decrease in frequency of erections*

-Inflammation- prostatitis, urethritis
-OR related- prostatectomy
-Pelvic Fractures
-Lower spinal injuries
-HTN, DM, Thyroid, MS, Parkinson's
-Smoking, ETOH
-Certain medications- antihypertensive's, antidepressants
-Poor health

Functional: psychological cause, normal nocturnal erection with AM secretions; sudden onsetvand after period of high stress

Diagnosis:

PE: BP, peripheral pulses, sensation of genitalia

Screening Tool*: International Index of Erectile Function*: Identifies 5 key areas of sexual function: (erectile function, orgasmic function, sexual desire, intercourse satisfaction, overall satisfaction)

H&P: past medical history, stress levels, environment, financial situation, sexual history, psychological

Lab studies: hormonal levels, thyroid, glucose- r/o DM

Nocturnal penile tumescence & rigidity testing: noninvasive; continuous measurement of penile circumference and axial rigidity during sleep; helps differentiate- physiologic vs psychogenic; two rings: one at the base, one distal, checks number, tumescence, duration, rigidity)

Vascular flow studies: penile arteriography, penile blood flow study, and duplex doppler to assess blood flow in and out; r/o vascular issues interfering with erection

Treatment: *medications, vacuum constriction, injections, implants, counseling*

Medications:

- phosphodiesterace - type 5 (PDE) inhibitors (class of drugs)
  (i.e. – sildenafil=Viagra, tadalafil-Cialis)
  increase arterial blood flow with corporal venocclusion = erection
- take one hour before sexual activity, only once a day

Vacuum constriction device: applied to flaccid penis to pull blood into the corporeal bodies; ring placed around base to maintain blood

Penile injections: 2nd line intervention; self-injection of medication (prostaglandin) intracavernosal; medication pellet inserted into urethra (erection within 10 minutes, lasts 30-60 min)- transurethral suppository;
Injections contraindicated in men with: *vascular problems, intolerance of transient hypotension, psychiatric disease, poor dexterity, poor vision, on anticoag's*

Penile implants: 3rd line intervention; surgical implant (non-inflatable and inflatable parts);
- **semirigid**- plastic rods into corpus cavernosa; most common; semi-permanently rigid
- **inflatable**- reservoir in the abdomen and scrotum allows for inflation of cylinders and a release valve.

Sexual Counseling:
Should start before medical treatment
Include the partner
Address psychologic & interpersonal factors

Categories of Sexual Dysfunction:

Alteration in sexual desire: low desire and sexual aversion (negative reaction to sex)
Low sexual desire is r/t frequency of self-pleasuring and partner activity, frequency of fantasies, erotic dreams, and erotic stimuli
With both (low desire & aversion): may still have lubrication & erections

Causes- medications- narcotics, sedatives, alcohol, some antihypertensive's, testosterone antagonists; illness; depression; severe stress; anger fear anxieties; interpersonal interactions.
Treatment: sex therapist

Alterations in sexual arousal: decrease in subjected arousal, ED, difficulty attaining or maintaining, (body-mind interaction, physiological)
- implants may help

Alterations in orgasm: premature, inhibited, or no ejaculation; psychological
Treatment: decrease anxiety