Reproductive System

1. Overview
    1. what's it all about
        1. homeostatic mechanisms, organ & system function, all exist to enable reproduction
    2. the pieces
        1. gonads
        2. gametes
        3. sex hormones
        4. accessory reproductive organs
2. Male Anatomy
    1. testes & plumbing
        1. epididymus
        2. ductus deferens
        3. urethra
        4. penis
    2. accessory glands
        1. seminal vesicles
            1. 60 % volume
                1. alkaline
                2. fructose
                3. coagulating enzyme
                4. prostaglandins
        2. prostate
            1. 30% volume
            2. citrate
            3. enzymes
            4. activates sperm
            5. pathology
                1. BPH
                2. prostatitis
                3. PSA
        3. bulbourethral glands
            1. thick, clear mucus
            2. released prior to ejaculation
            3. neutralizes acid in urine traces
    3. scrotum
        1. dartos muscle (causes wrinkles)
        2. cremaster (elevation of testes)
        3. pampiniform plexus (heat exchanger)
        4. temperature regulation
    4. figures
    5. testes
        1. tunica vaginalis & albuginea
            1. septal extensions
            2. lobules
                1. seminiferous tubules
                2. interstitial cells
                    1. androgen secretion (T)
        2. cancer note
        3. figure
    6. duct system
        1. epididymis
            1. sperm maturation
            2. sperm storage
        2. ductus or vas deferens
            1. ampulla
            2. ejaculatory duct
            3. vasectomy
        3. urethra
            1. prostatic
            2. membranous
            3. spongy (penile)
            4. external urethral orifice
        4. figure
    7. penis
        1. shaft
            1. corpora cavernosa
            2. corpora spongiosum
                1. urethra
        2. glans
        3. foreskin
        4. figure
3. Male Physiology
    1. erection
        1. stimulation
        2. parasympathetic reflex
        3. NO release
        4. vasodilation
    2. ejaculation
        1. sympathetic control
        2. gland contraction
        3. bladder sphincter constricts
        4. bulbospongiosus muscles contract
        5. systemic changes
    3. spermatogenesis
        1. gamete formation
            1. diploid to haploid
            2. figure
        2. spermiogenesis
    4. hormonal regulation
        1. GnRH
        2. FSH & LH
        3. FSH stimulates ABP (androgen binding protein) release in sustentacular cells (Sertoli Cells), makes them receptive to Testosterone
        4. LH binds to interstitial cells & stimulates Testosterone production
        5. inhibin provides negative feedback