

# EARLY SEXUAL DEVELOPMENT

5/12/83, RVSD 5/22/97, 5/21/98, 8 May 02, 12 May 04, 11 May 05, 19May08, 13May09, 12May10, 16May11  
 Martini's 5<sup>th</sup>: 1016-1034, 1049-, Martini's 6<sup>th</sup>: 1047-1114, 7<sup>th</sup>: 1030-1047, 8<sup>th</sup>: 1042-1051

**Reproductive System purpose:** generate haploid gametes, join them, nourish progeny till birth, then infancy. Evolution...

**EMBRYOLOGY:** (p. 1044)

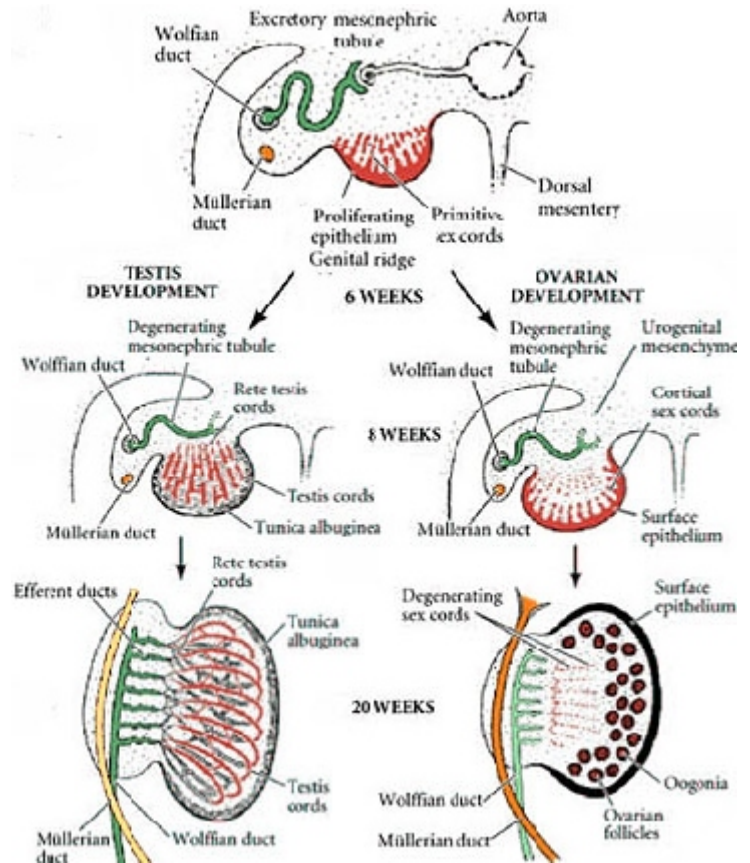
**genital ridges** form medial to **mesonephros** (embryonic kidneys).

Germ cells migrate from yolk sac near allantois (away from development) into genital ridges.

**primordial gonads** develop from genital ridges

**8th week:** Primordial gonads differentiate to **ovaries** or **testes**.

Embryonic structures: differentiate after 8th wk		Effect of Testosterone	No Testosterone
genital ridges form primordial gonad		medulla develops into testes	cortex develops into ovaries
mesonephric duct	(Wolffian duct)	vas deferens	degenerates
paramesonephric duct	(Mullerian duct)	degenerates	fallopian tube
External genitalia:	traits:	testosterone	no testosterone
anterior genital tubercle	(erectile)	glans penis	clitoris
urethral folds	(mucous memb)	penile urethra (close to form tube)	labia minora
labioscrotal swellings	(keratinized, pigmented)	scrotum (dev into pouch)	labia majora



Testes require 3°C lower temperature to function: descend into scrotum, guided by **gubernaculum**, dragging with them vessels, nerves, peritoneum

**SPERMATIC CORD:** (1045)

- arteries from midlumbar region
- veins (L gonadal vein into L renal vein)
- lymphatics
- nerves
- vas deferens** possessing **cilia**
- fold of peritoneum encircles above, 2x layer results

**Sperm anatomy:** (p 1051)

- acrosome, head
- mitochondrial sheath
- main piece of flagellum
- end piece of flagellum

Sperm are motile for 3 days, **fertile for only 24 hrs.**

**SPERMATOGENESIS:** (1047, 1048) (requires ~34C), testes hung in scrotum.

- spermatogonia**
- 1' spermatocytes**
- 2' spermatocytes**
- spermatids**
- spermatozoa**

(primitive germ cells) on basement membrane, mitosis pushes daughter cell away, becomes which begin meiosis I  
 meiosis I completed, enter meiosis II  
 develop: (p 1039) lose cytoplasm **develop acrosome** grows flagellum (centriole's role) Nourished by Sertoli cell, rich in glycogen,  
 shed, mature for 2 weeks in epididymus, 64 days to complete

**capacitation:** spermatozoa become motile when mixed with seminal vesicle secretions

