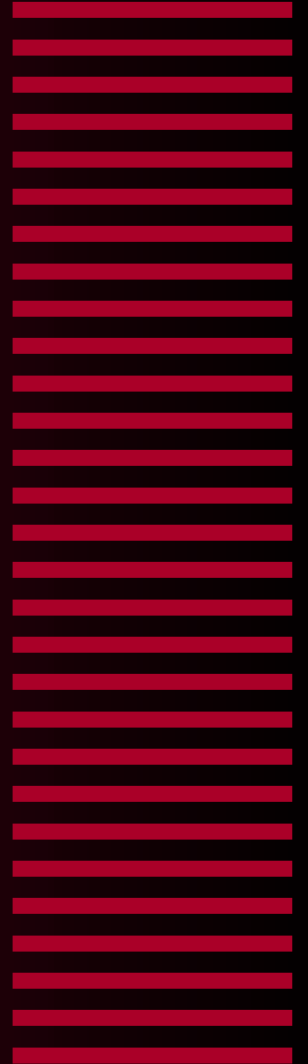
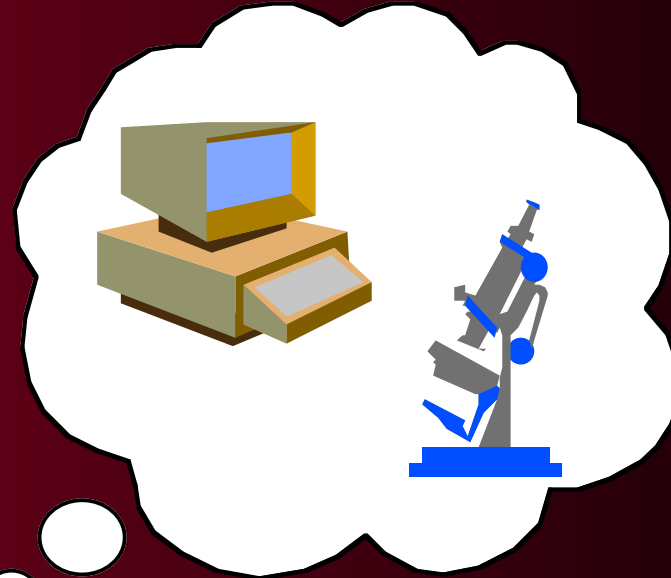
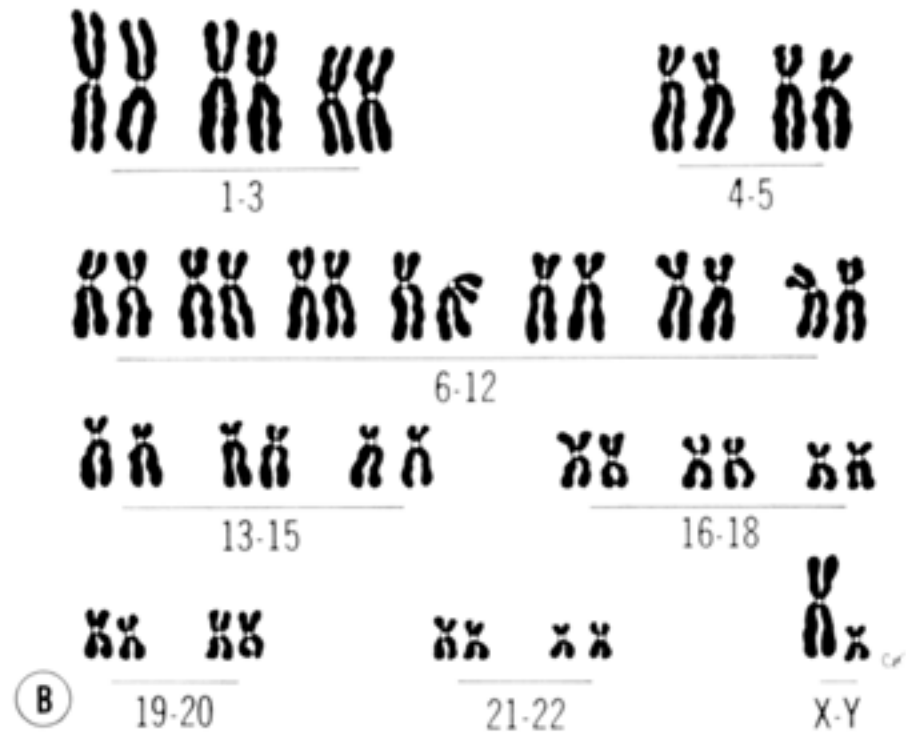


Embryology & Spermatogenesis

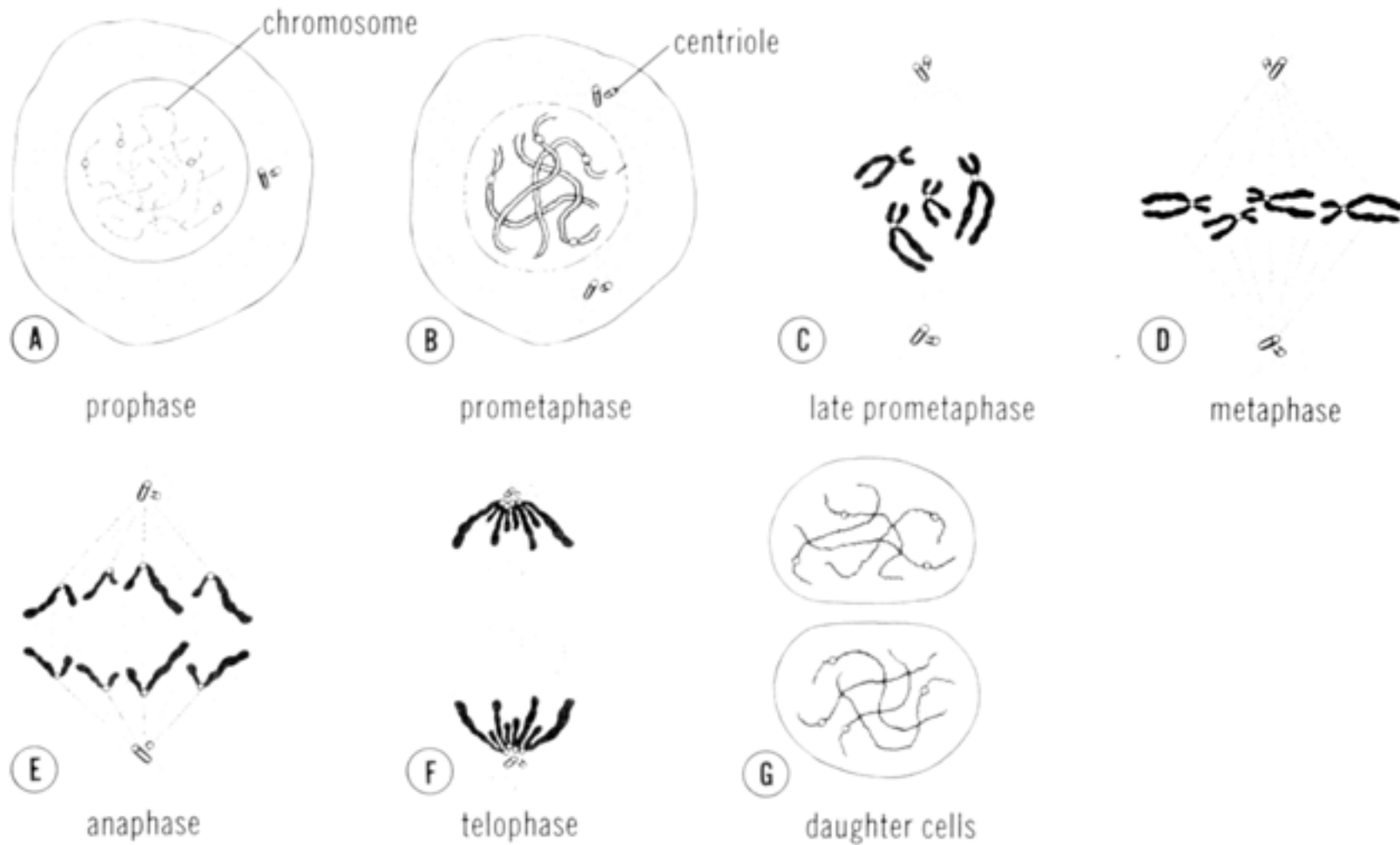
Bruce R. Gilbert, M.D., Ph.D.
Clinical Associate Professor
Weill-Cornell Medical College
Clinical Adjunct Associate Professor
Stony Brook Medical School



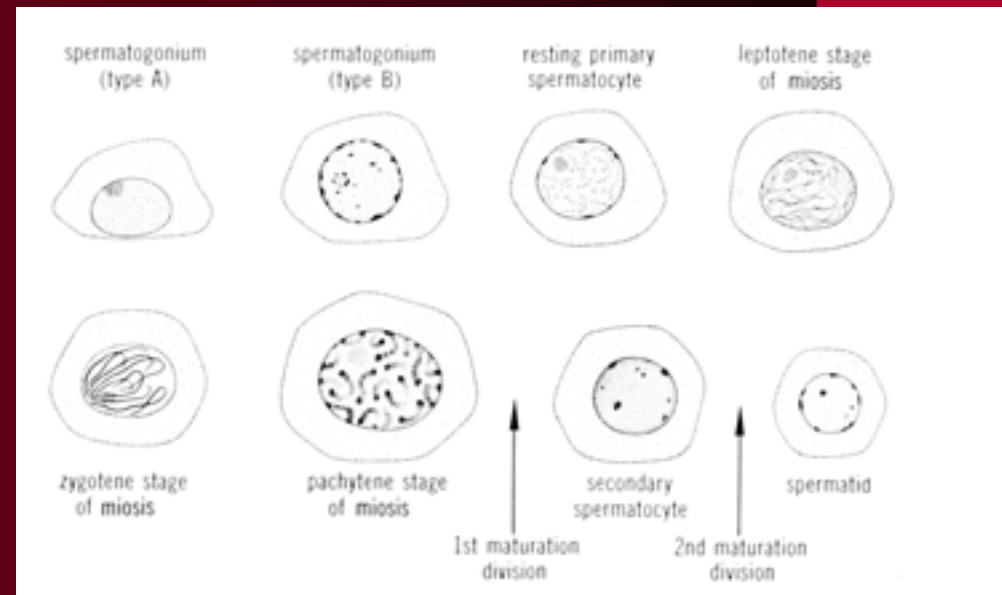
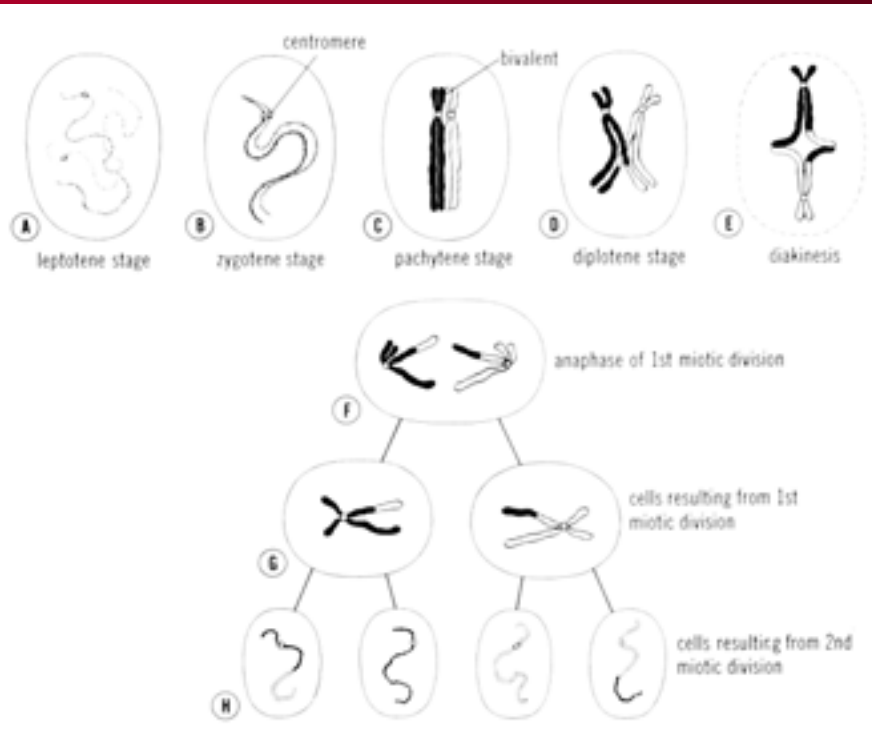
Karyotype



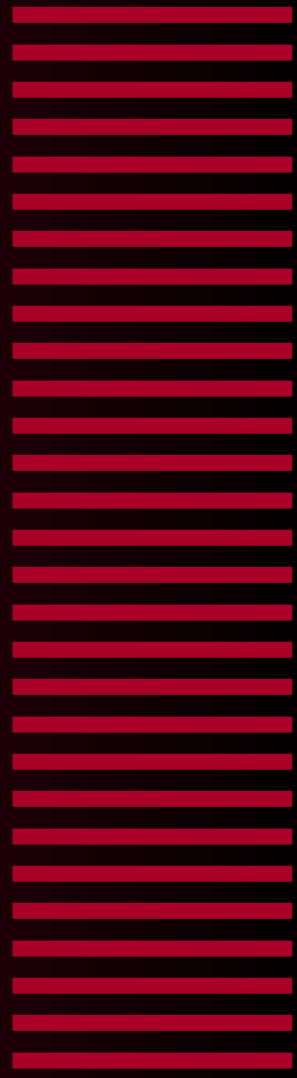
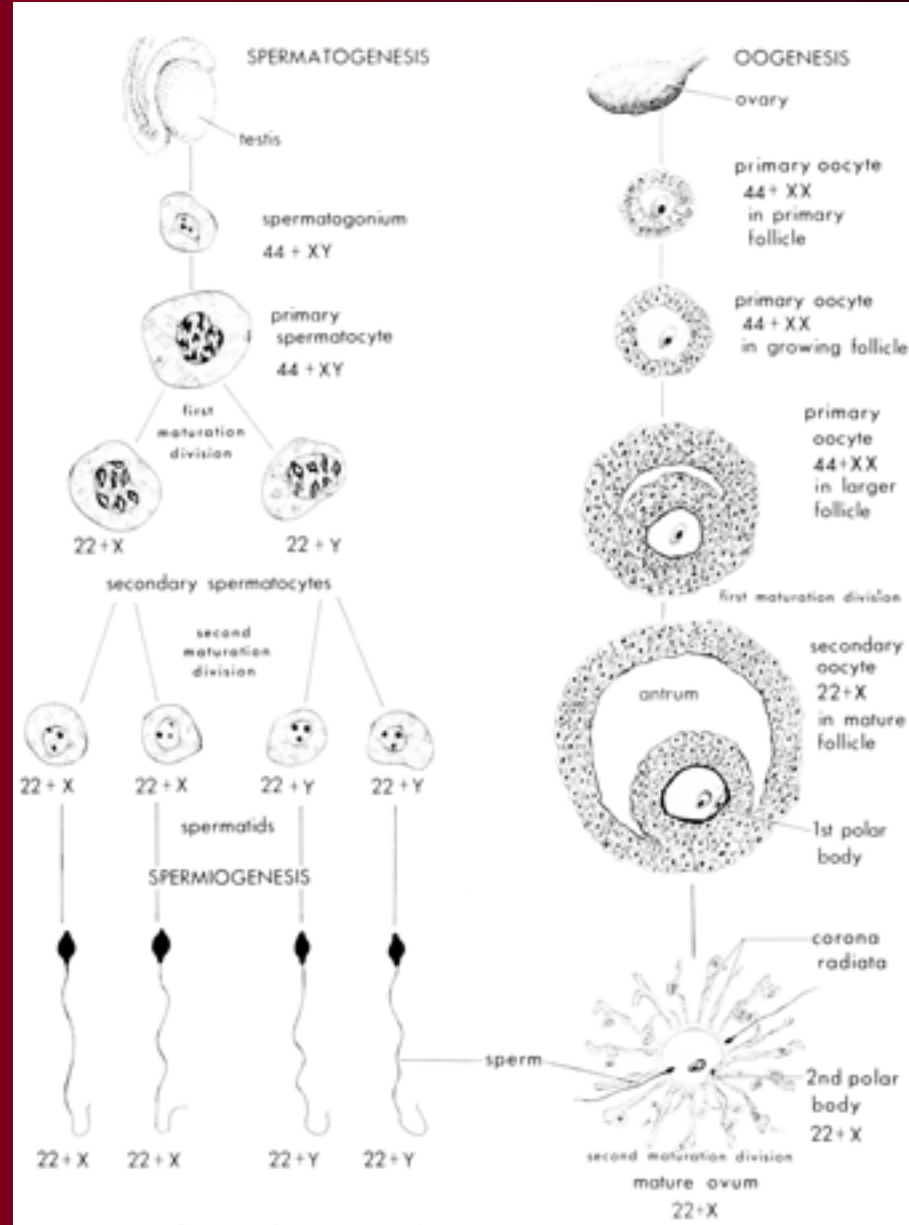
Mitosis



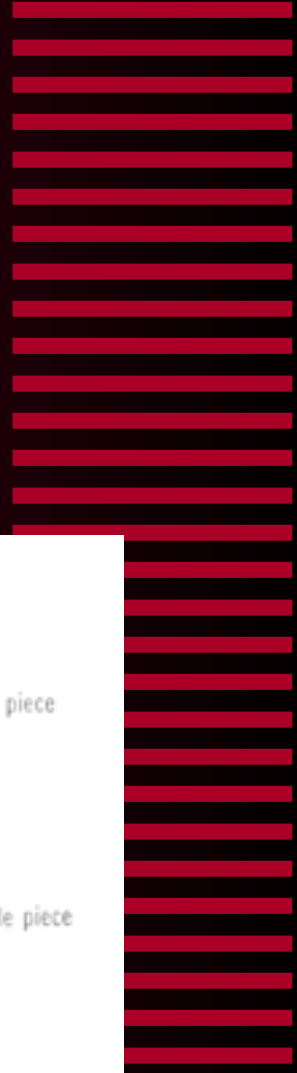
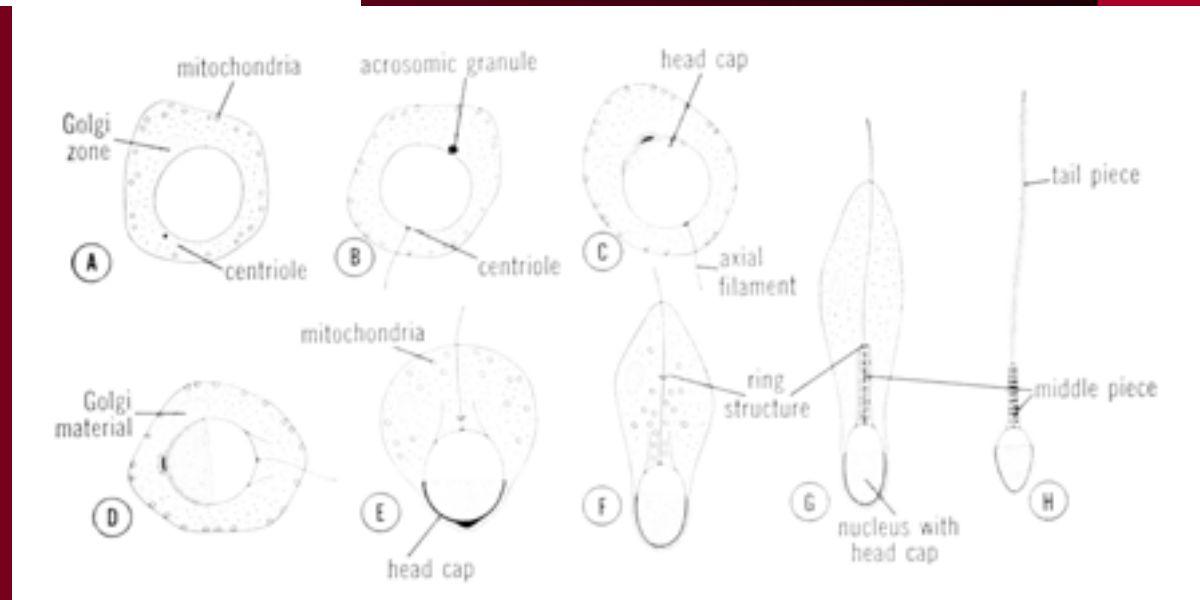
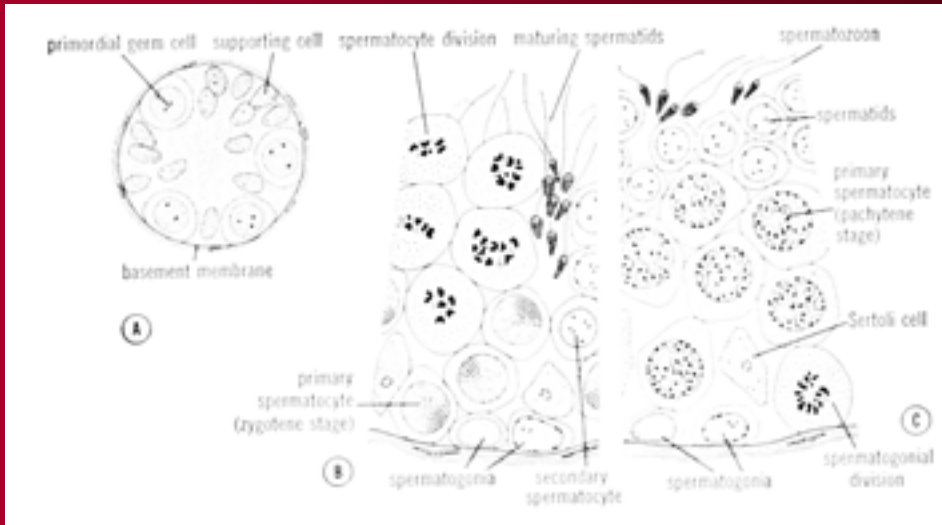
Miosis



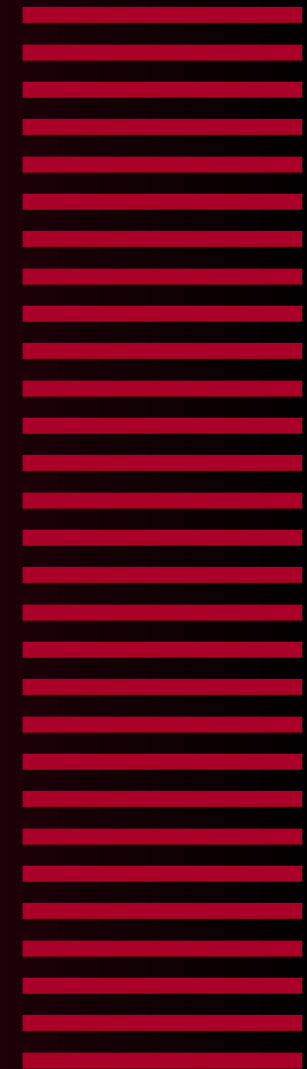
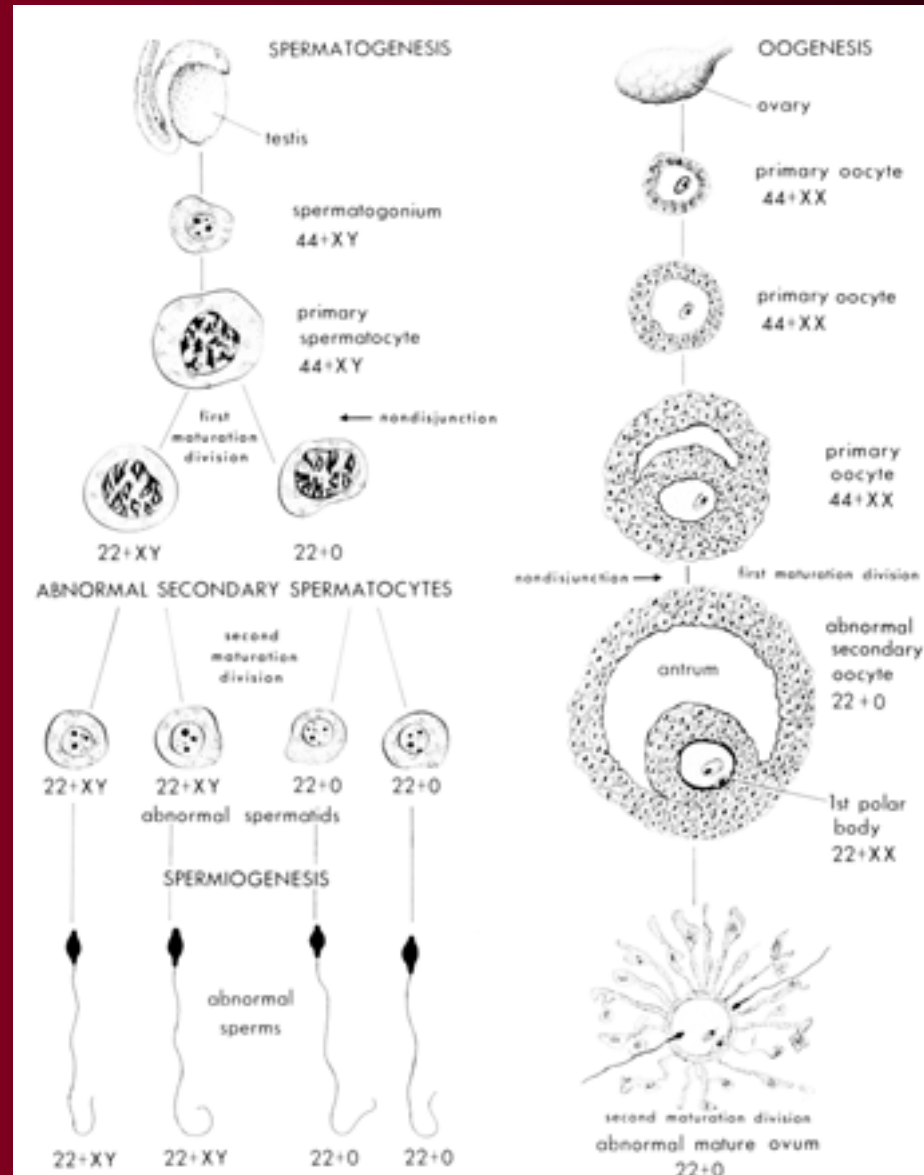
Comparative Miosis



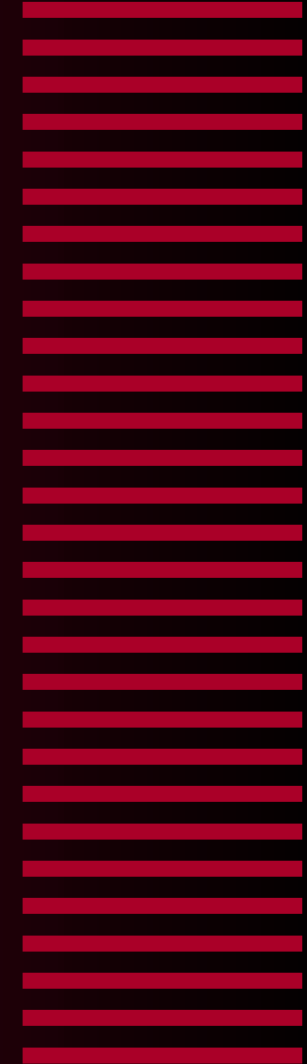
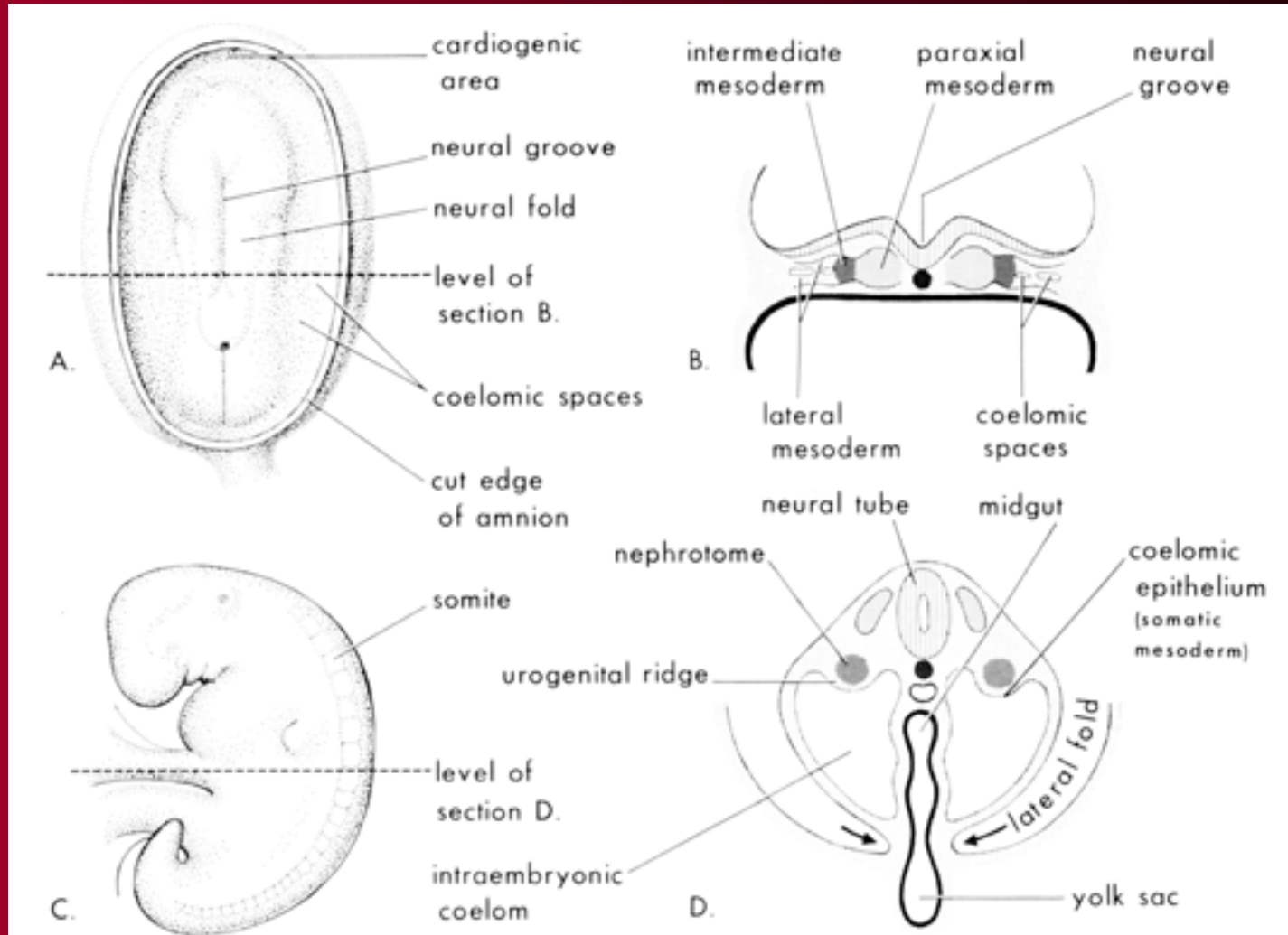
Spermatogenesis



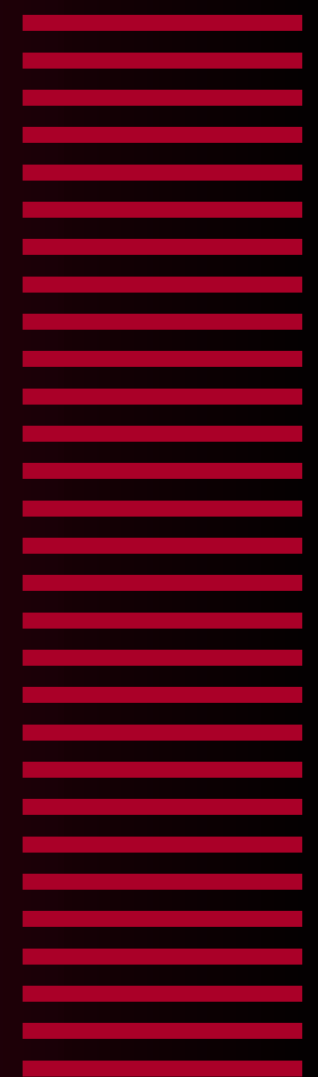
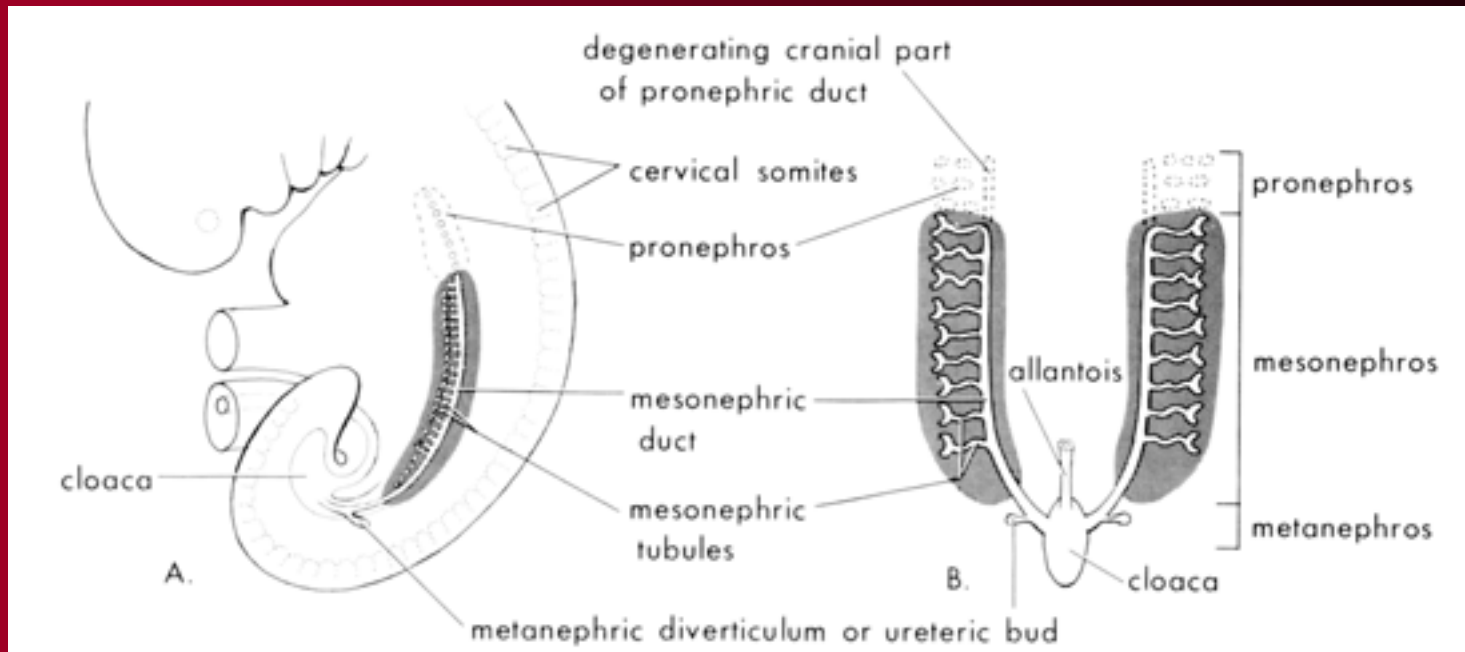
Nondysjunction



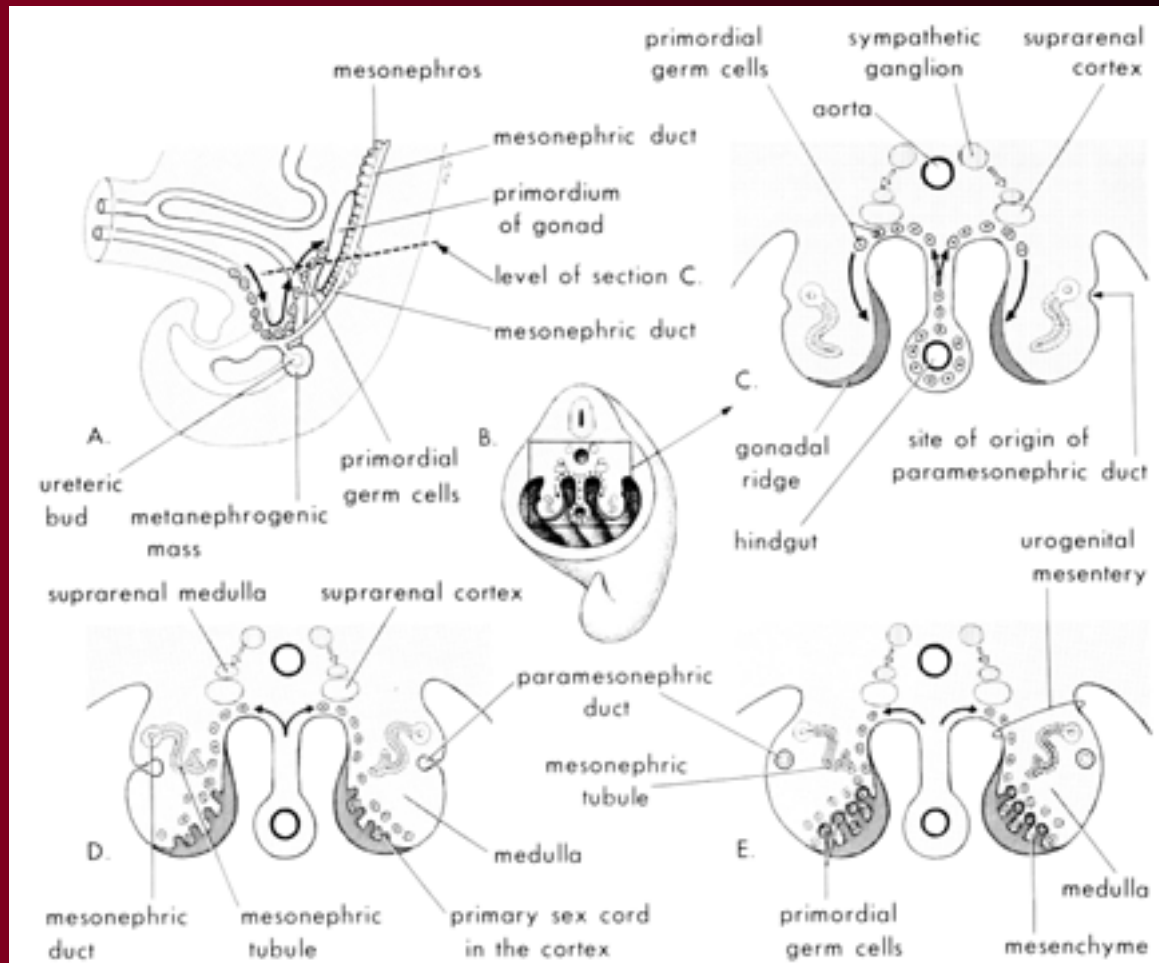
19 Days



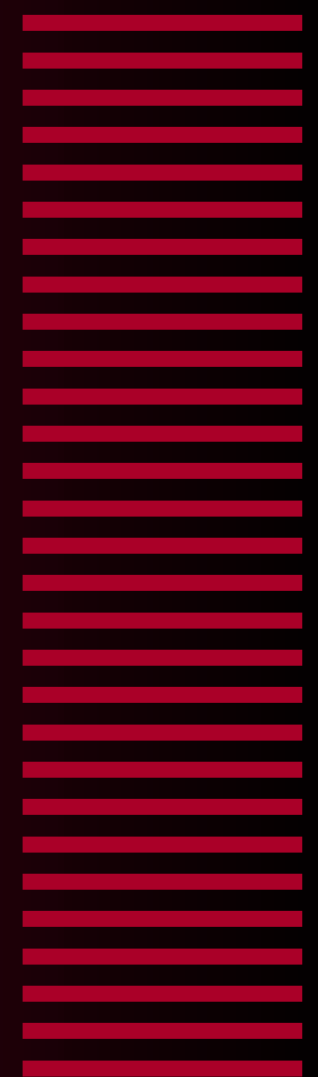
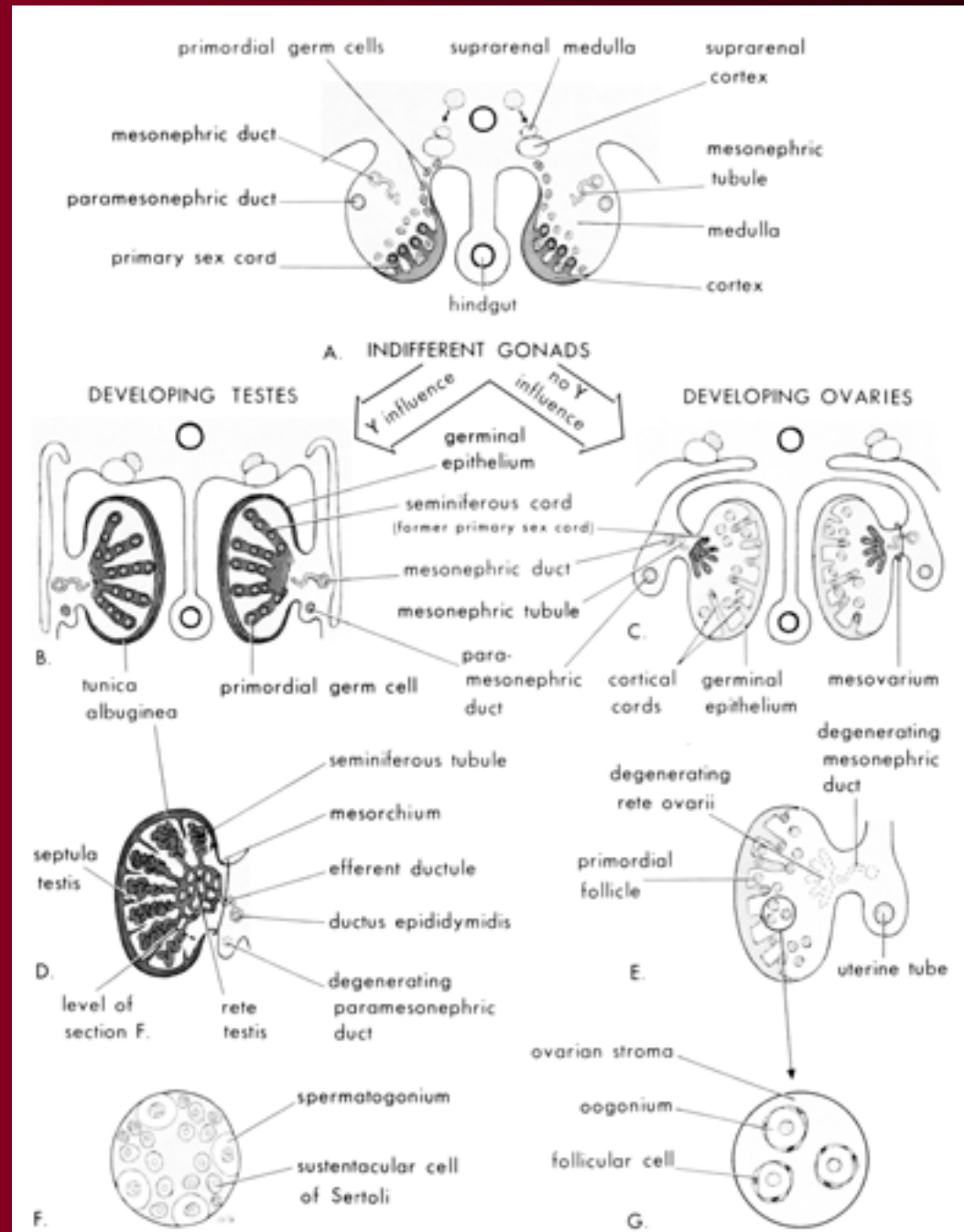
29 Days



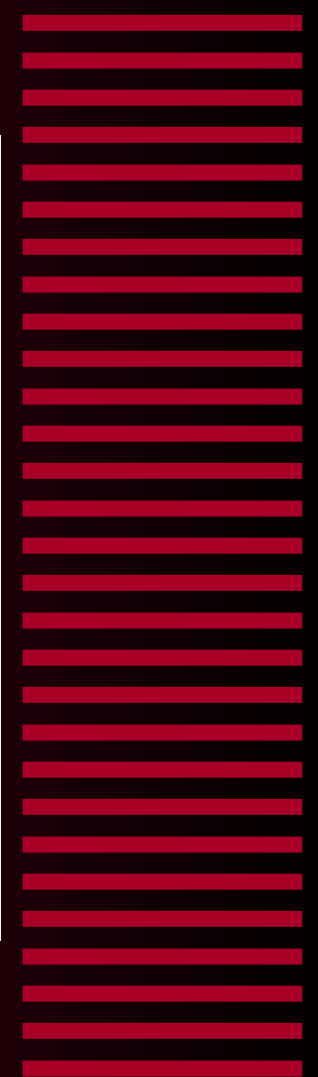
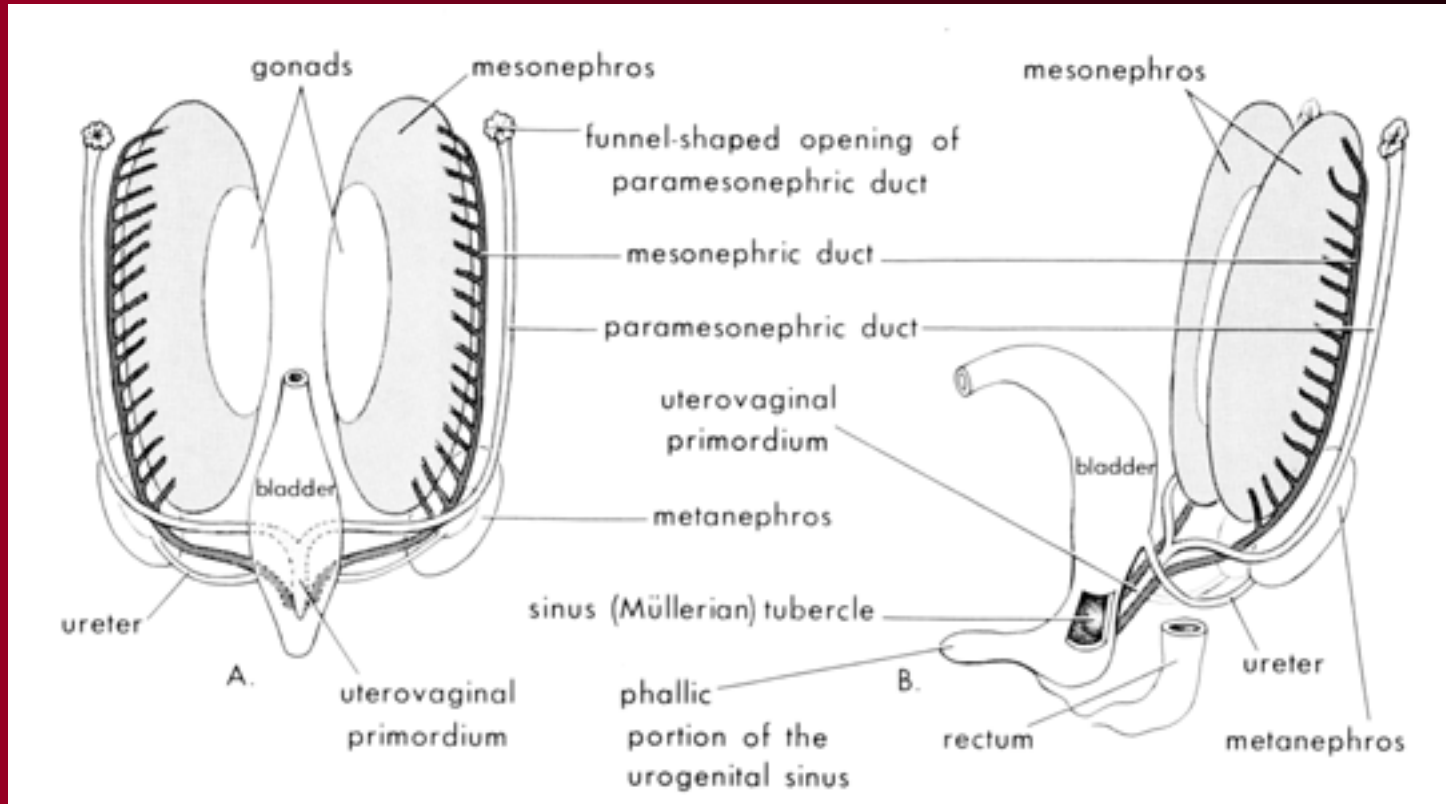
Migration of primordial germ cells



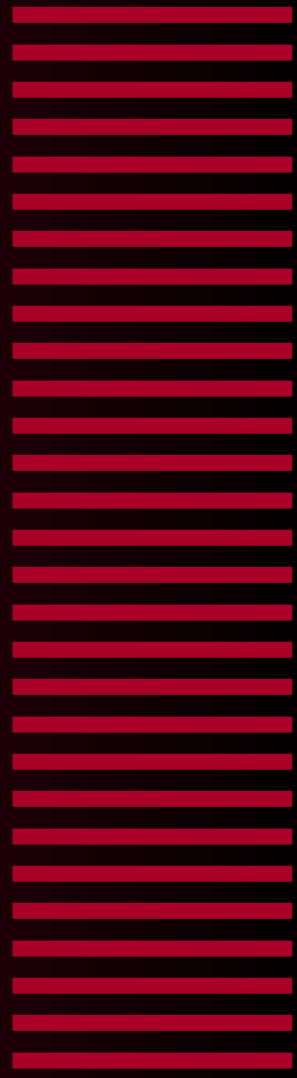
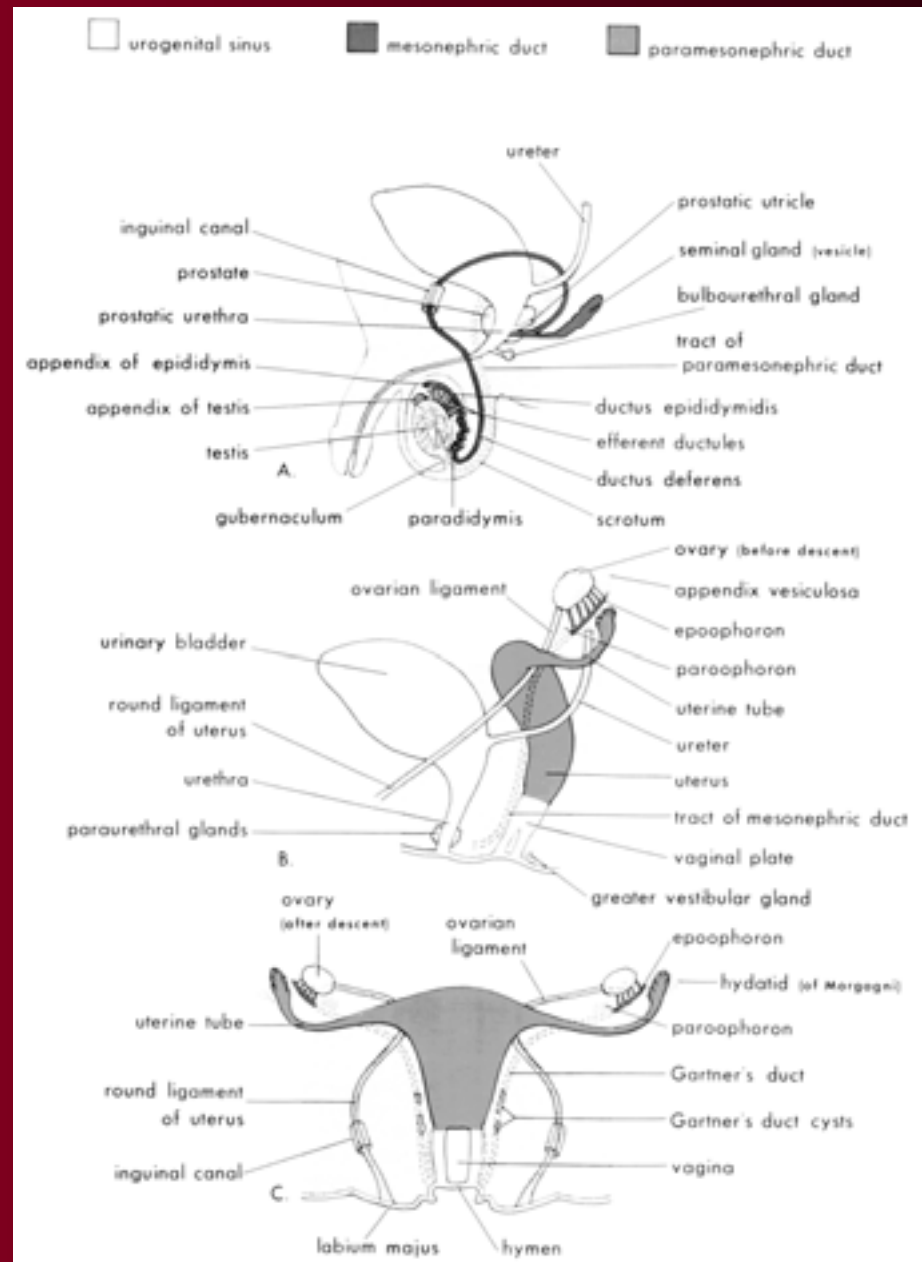
Indifferent gonads (6-20 weeks)



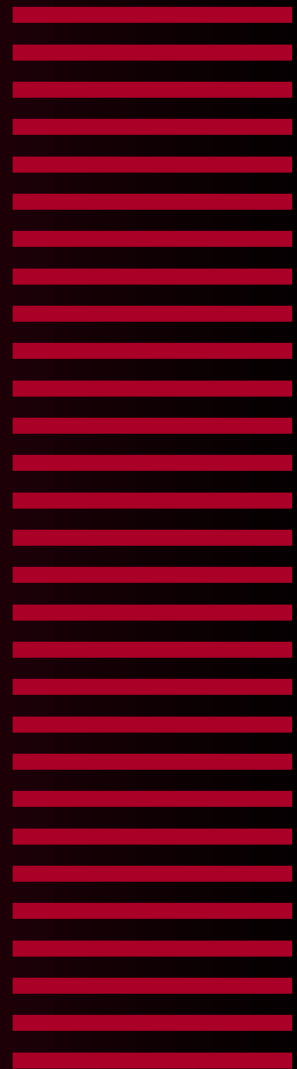
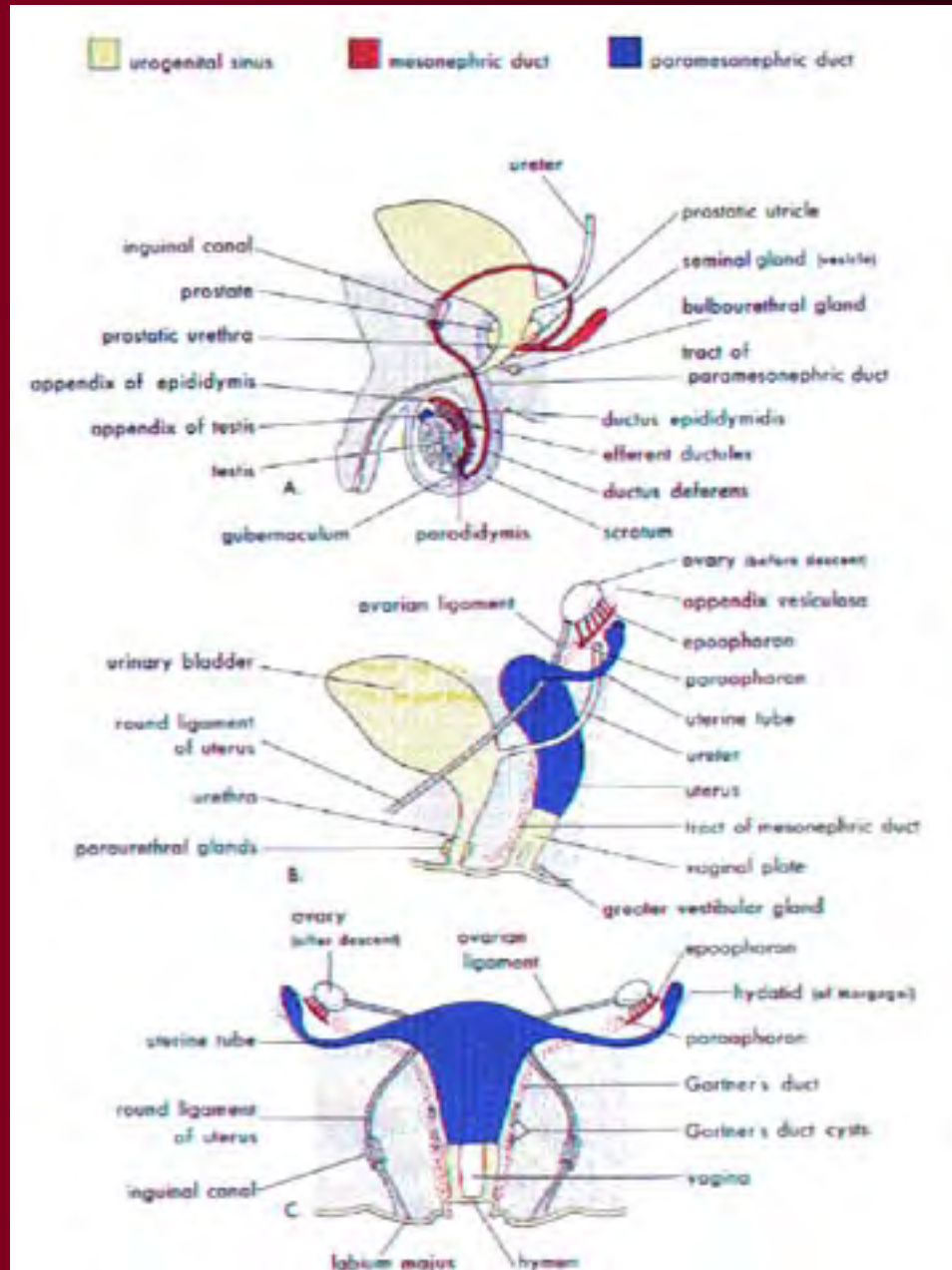
Indifferent gonads (7 weeks)



Vestigial structures



Vestigial structures



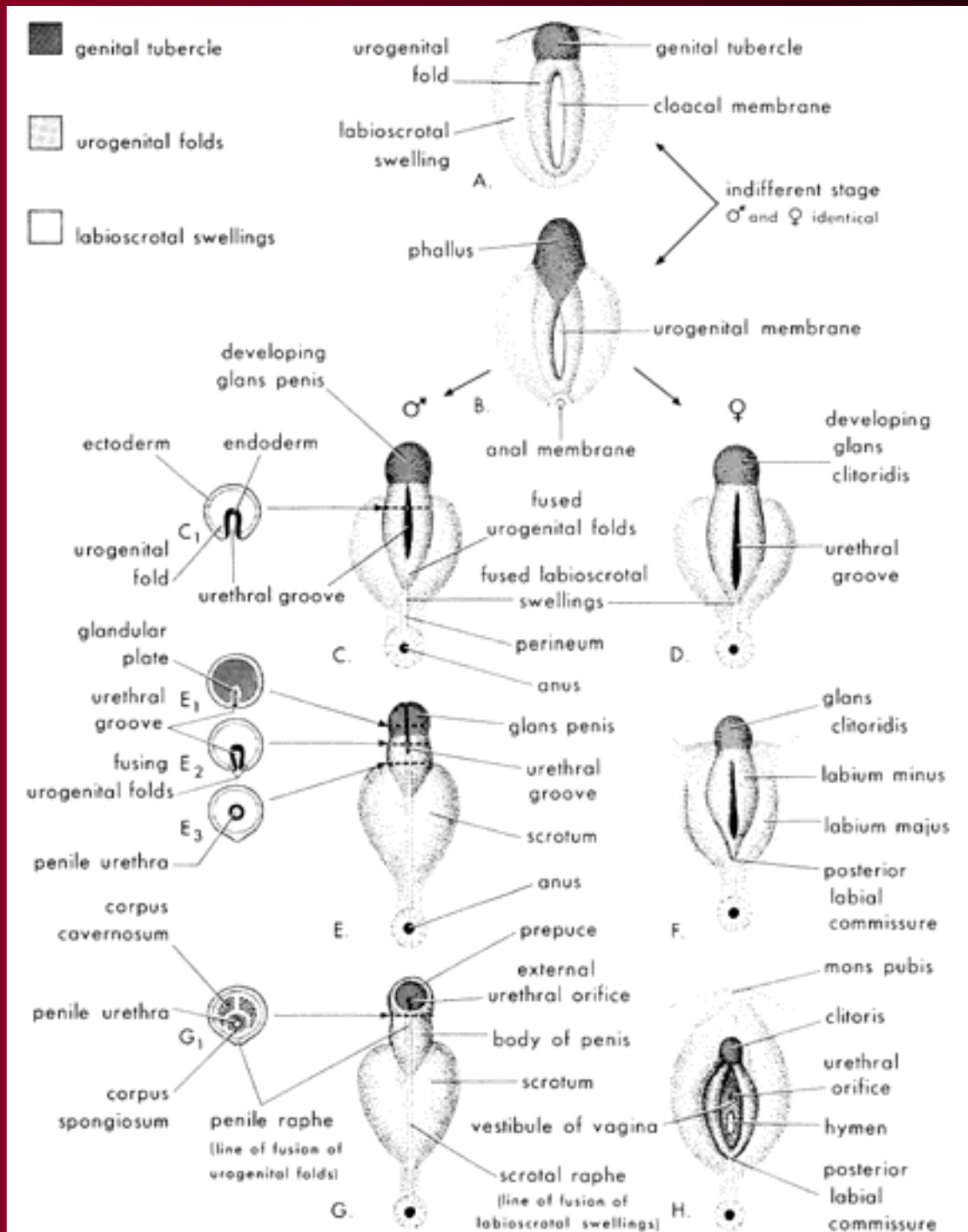
Vestigial structures

ADULT DERIVATIVES AND VESTIGIAL REMAINS OF EMBRYONIC UROGENITAL STRUCTURES*

<i>Male</i>	<i>Embryonic Structure</i>	<i>Female</i>
<i>Testis</i> <i>Seminiferous tubules</i> <i>Rete testis</i>	Indifferent Gonad Cortex Medulla	<i>Ovary</i> <i>Ovarian follicles</i> <i>Medulla</i> <i>Rete ovarii</i>
Gubernaculum testis	Gubernaculum	<i>Ovarian ligament</i> <i>Round ligament of uterus</i>
<i>Ductuli efferentes</i>	Mesonephric Tubules	Epoophoron
Paradidymis		Paroophoron
Appendix of epididymis <i>Ductus epididymidis</i>	Mesonephric Duct	Appendix vesiculosa Duct of epoophoron
<i>Ductus deferens</i>		Duct of Gartner
<i>Ureter, pelvis, calyces and collecting tubules</i>		<i>Ureter, pelvis, calyces and collecting tubules</i>
<i>Ejaculatory duct and seminal gland (vesicle)</i>		
Appendix of testis	Paramesonephric Duct	Hydatid (of Morgagni) <i>Uterine tube</i> <i>Uterus</i>
<i>Urinary bladder</i> <i>Urethra (except glandular portion)</i>	Urogenital Sinus	<i>Urinary bladder</i> <i>Urethra</i>
Prostatic utricle		<i>Vagina</i>
<i>Prostate gland</i>		<i>Urethral and paraurethral glands</i>
<i>Bulbourethral glands</i>		<i>Greater vestibular glands</i>
Seminal colliculus	Sinus or Müllerian Tubercle	Hymen
<i>Penis</i> <i>Glans penis</i> <i>Corpora cavernosa penis</i> <i>Corpus spongiosum</i> <i>Ventral (under) aspect of penis</i>	Phallus	<i>Clitoris</i> <i>Glans clitoridis</i> <i>Corpora cavernosa clitoridis</i> <i>Bulb of the vestibule</i>
	Urogenital Folds	<i>Labia minora</i>
<i>Scrotum</i>	Labioscrotal Swellings	<i>Labia majora</i>

*Functional derivatives are in *italics*.

External genitalia



Fossa navicularis

