

# **INTRODUCTION TO HUMAN ANATOMY**

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# DEFINITION

➤ THE STUDY OF THE STRUCTURE OF THE BODY

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# HUMAN BEINGS?

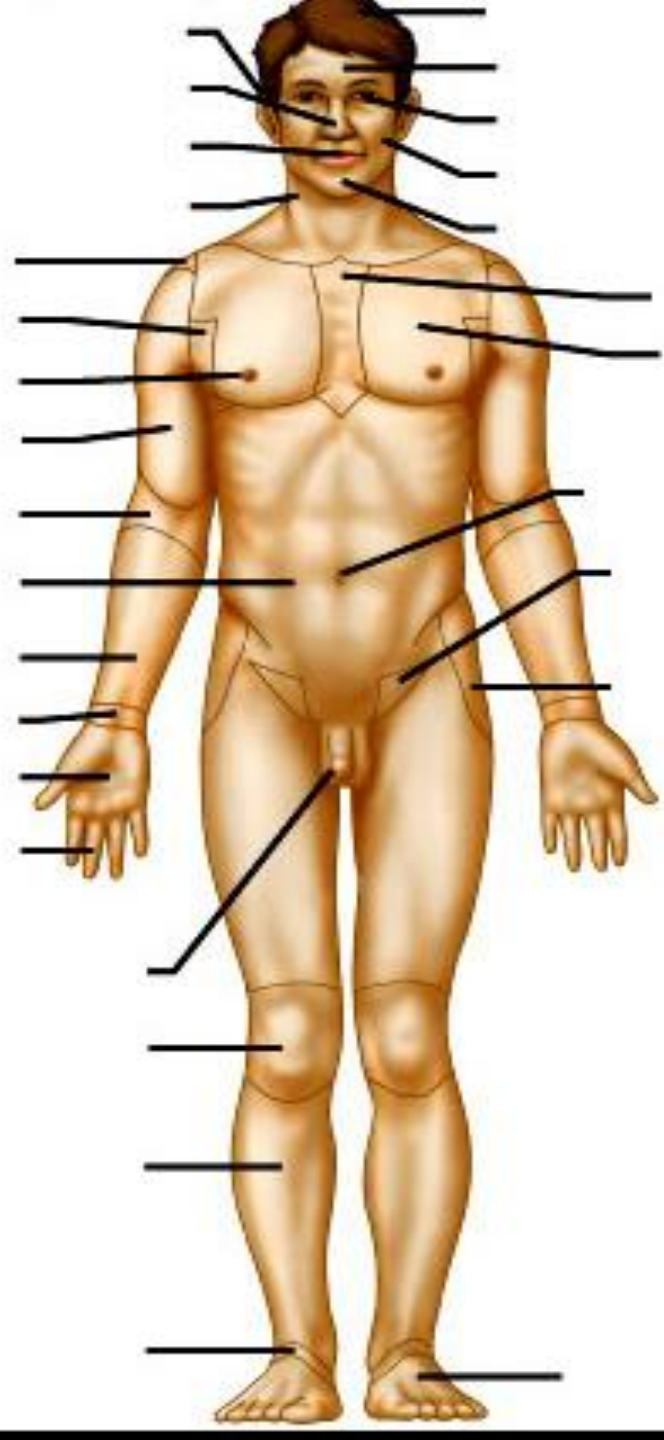
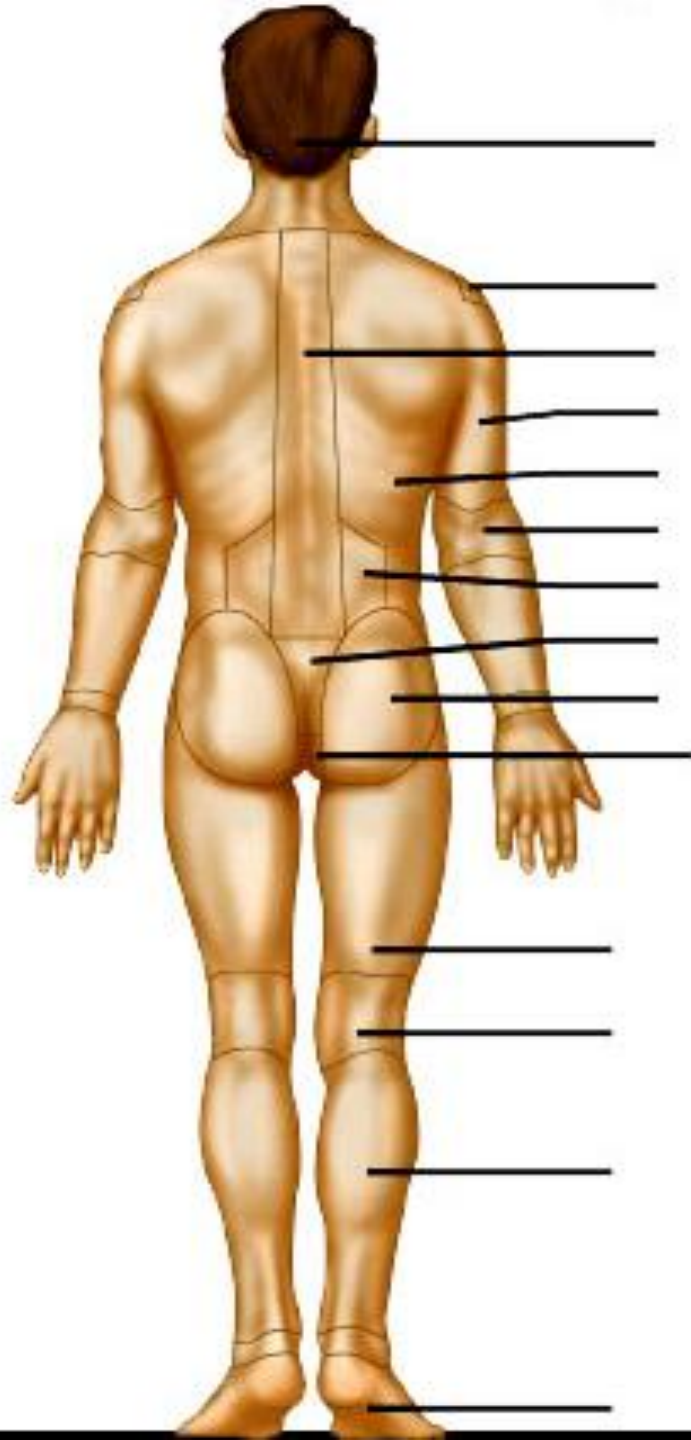
- UNIQUE ANATOMICAL FEATURES
-

# DIVISIONS

- GROSS
  - MICROSCOPIC
  - DEVELOPMENTAL
-

# GROSS ANATOMY

- STUDY OF BODY PARTS AS SEEN WITH THE NAKED EYE
  - TWO APPROACHES TO THE STUDY OF GROSS ANATOMY:  
TOPOGRAPHIC & SYSTEMIC
-



# Posterior Body Region Terms

Vertebral  
(spinal column)

Dorsum (back)

Lumbar  
(lower back)

Gluteal (buttocks)

Femoral (thigh)

Crural (leg)

Occipital  
(back of head)

Acromial  
(point of shoulder)

Brachial (arm)

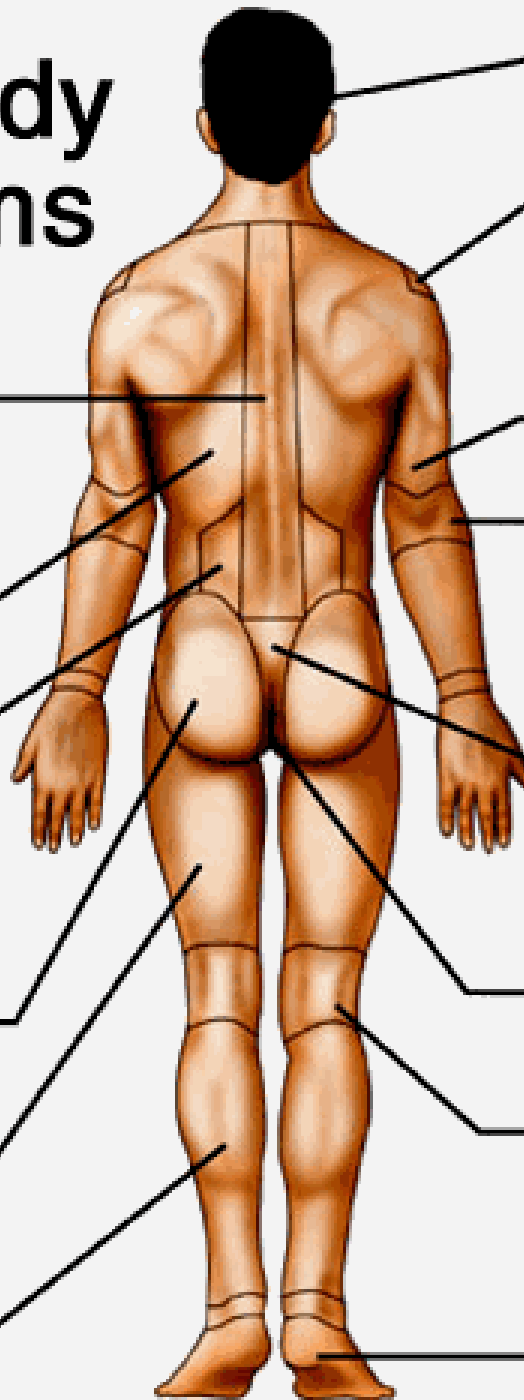
Cubital (elbow)

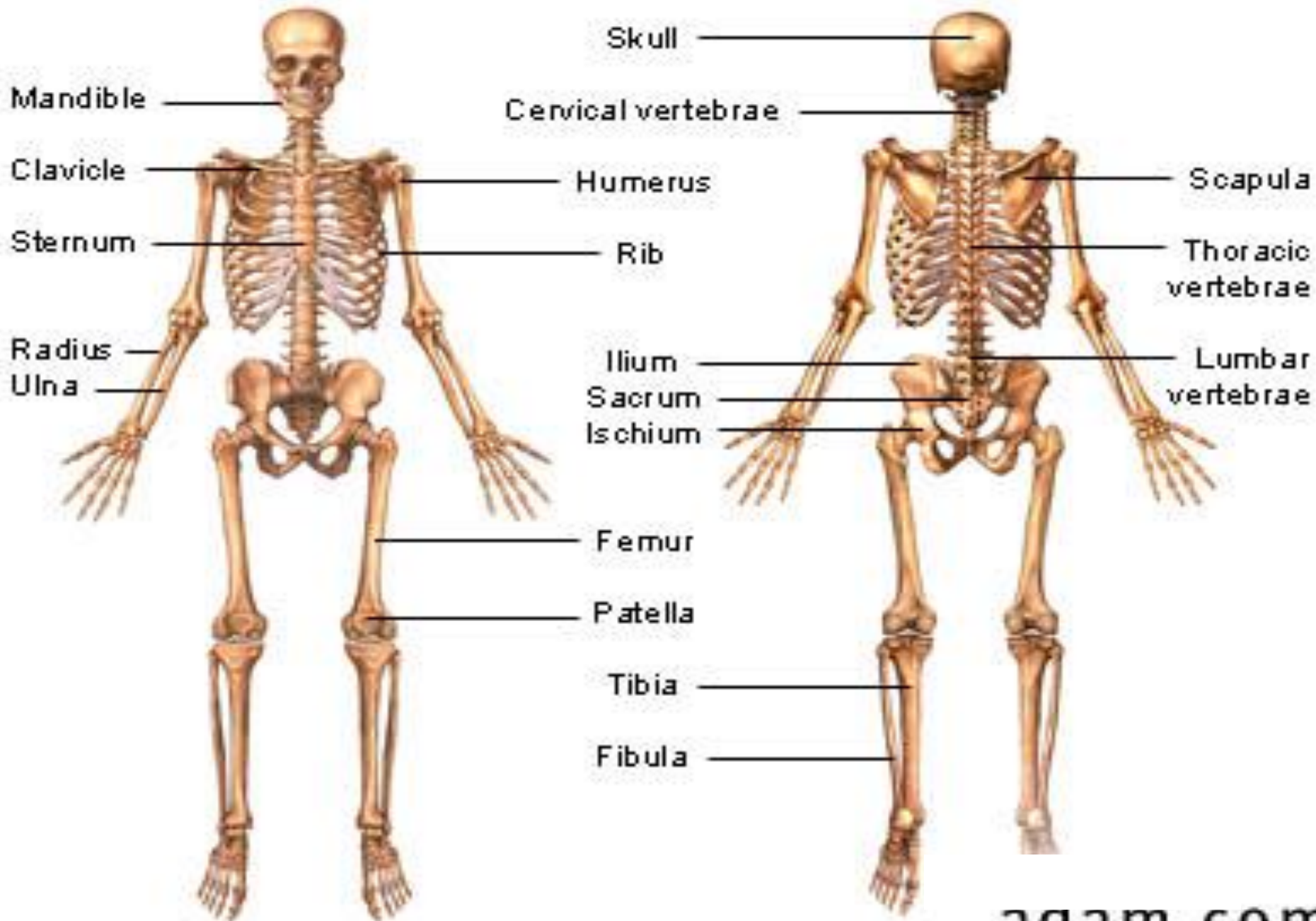
Sacral  
(between hips)

Perineal

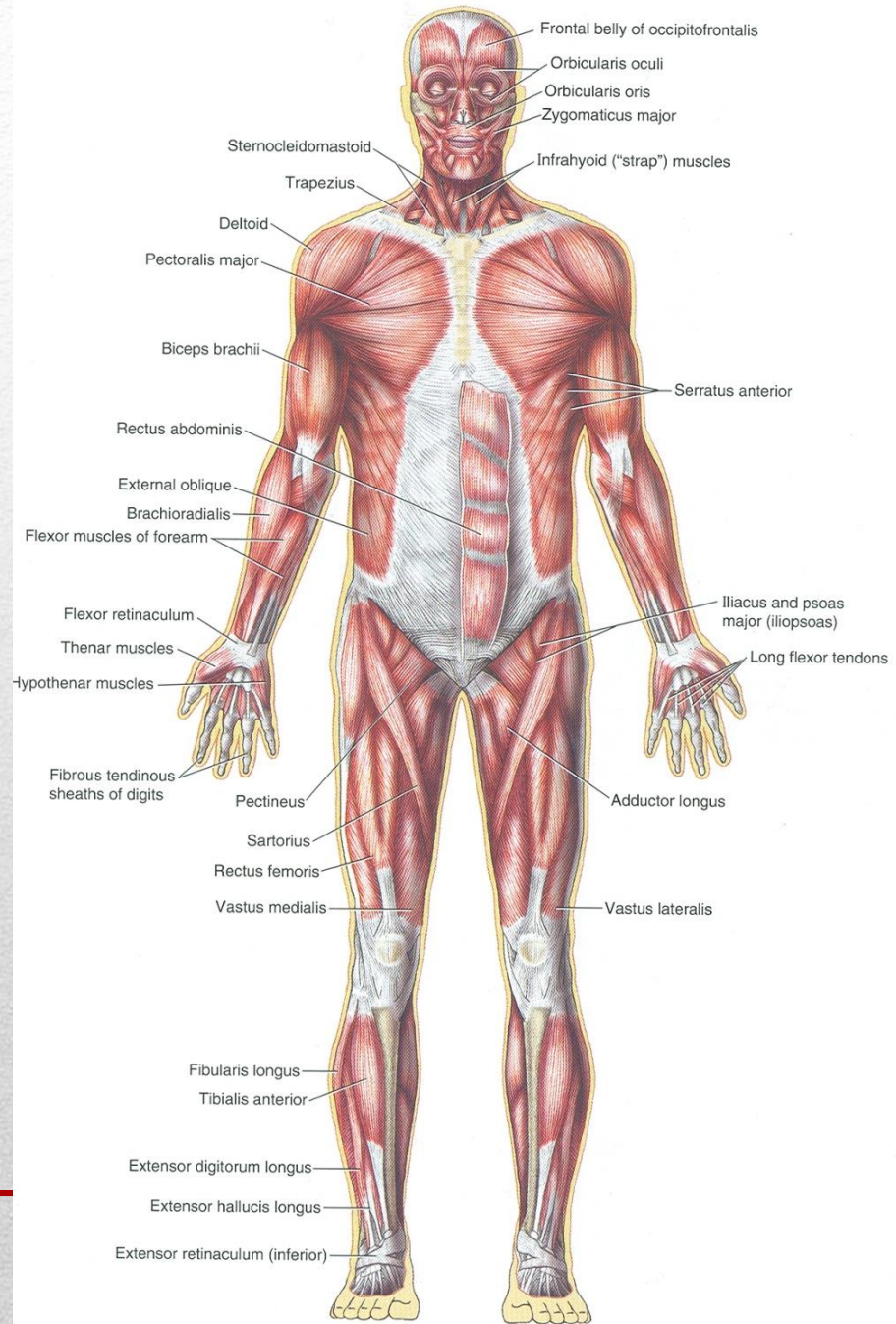
Popliteal  
(back of knee)

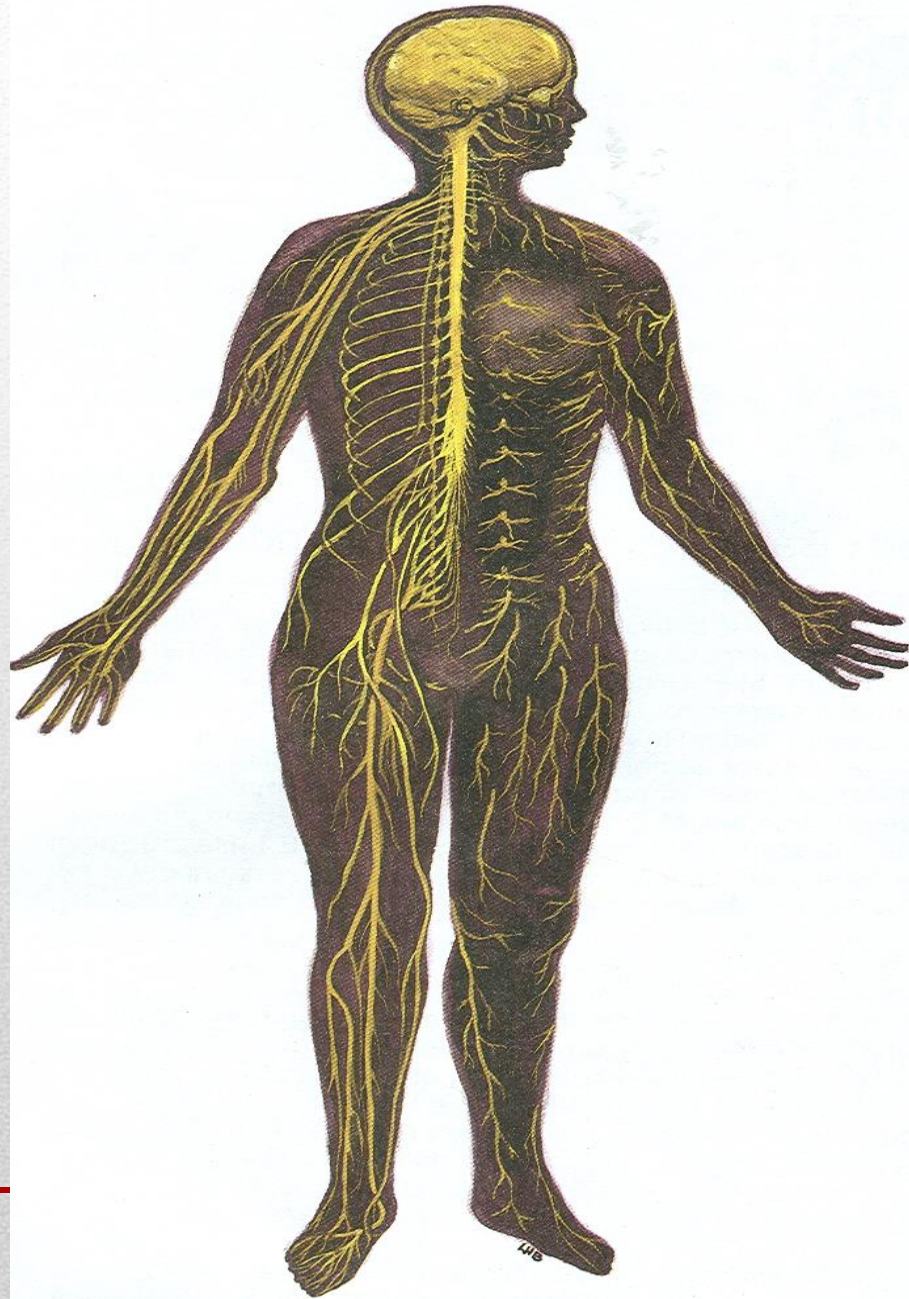
Plantar (sole)

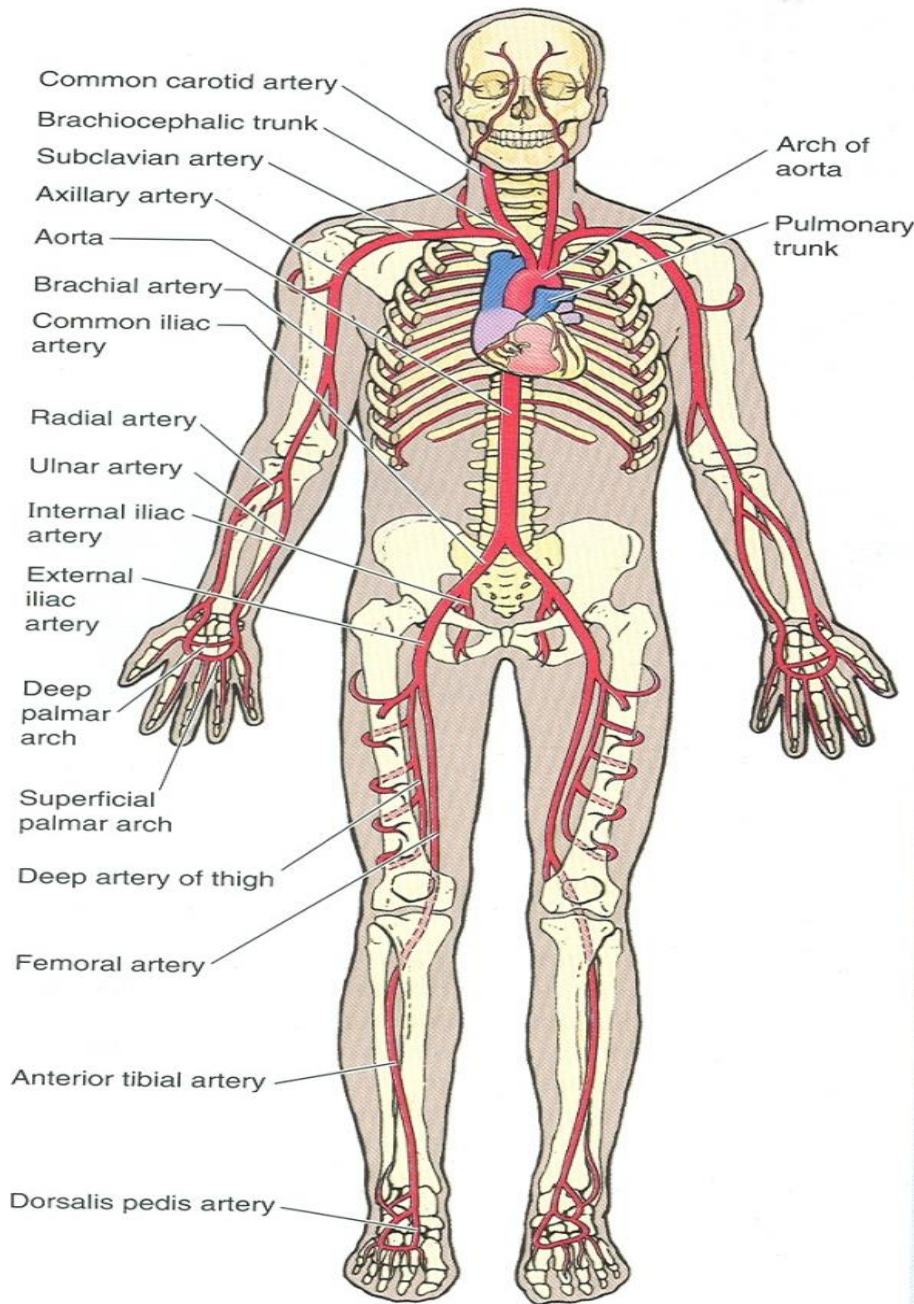






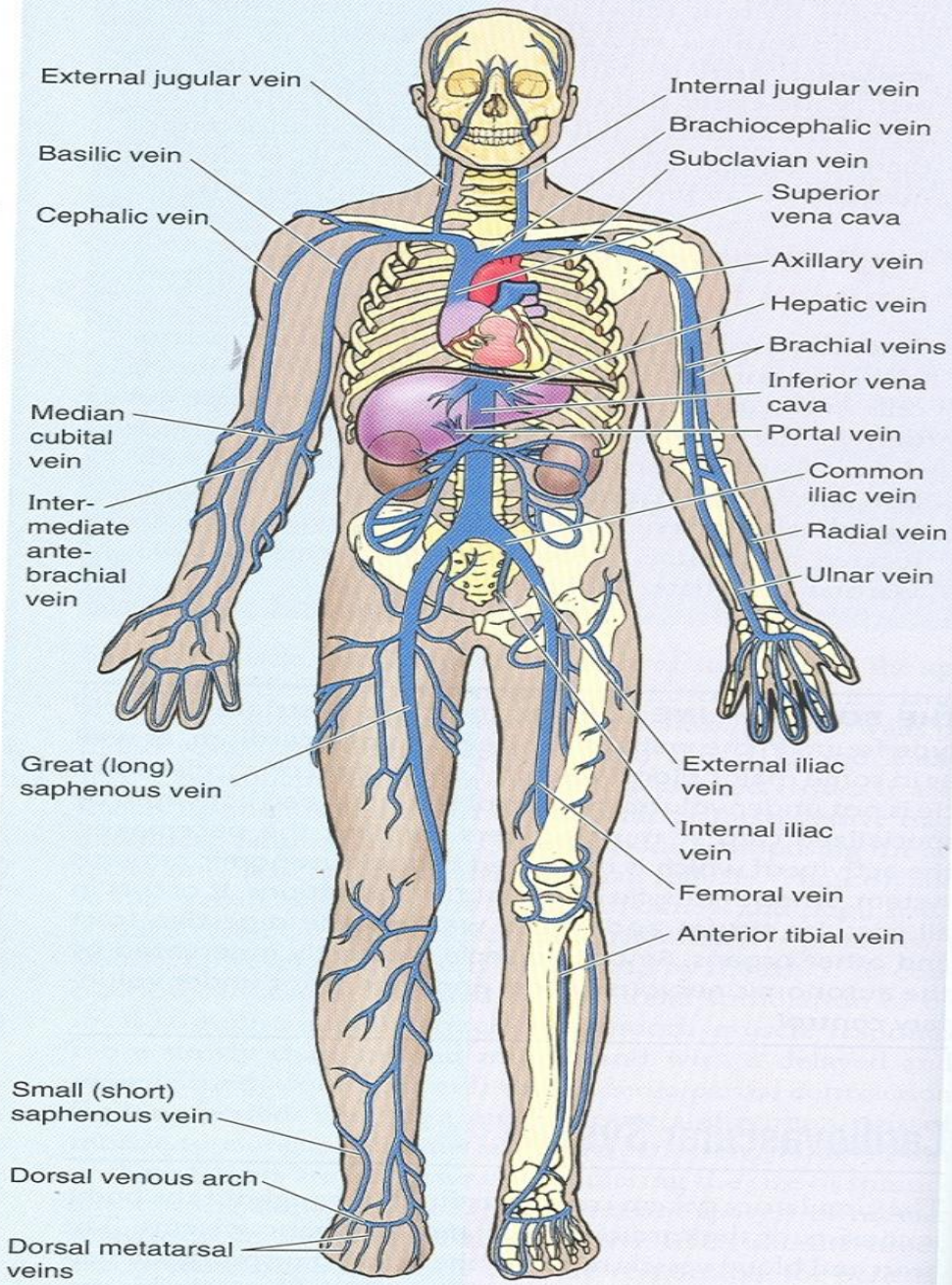




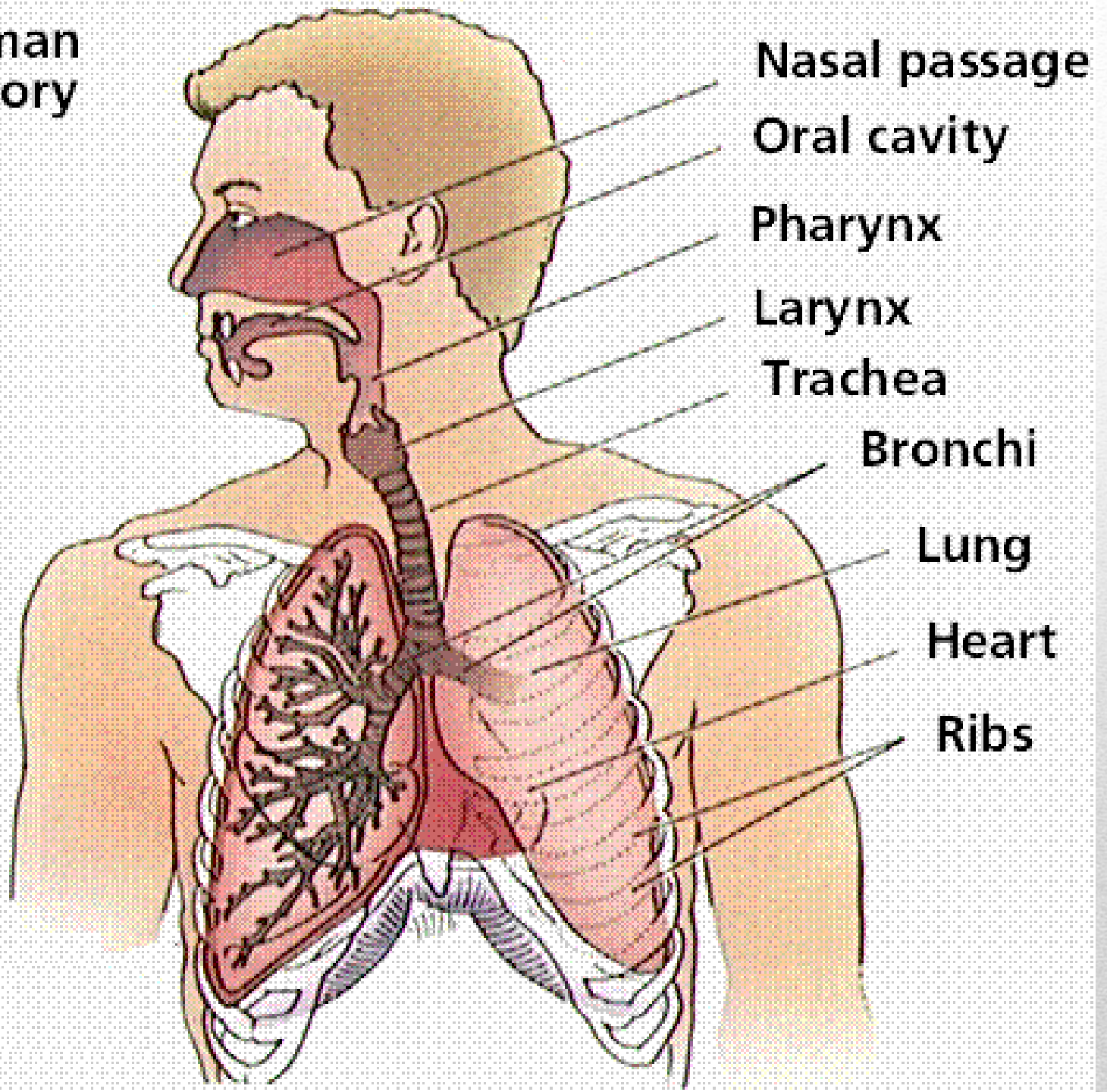


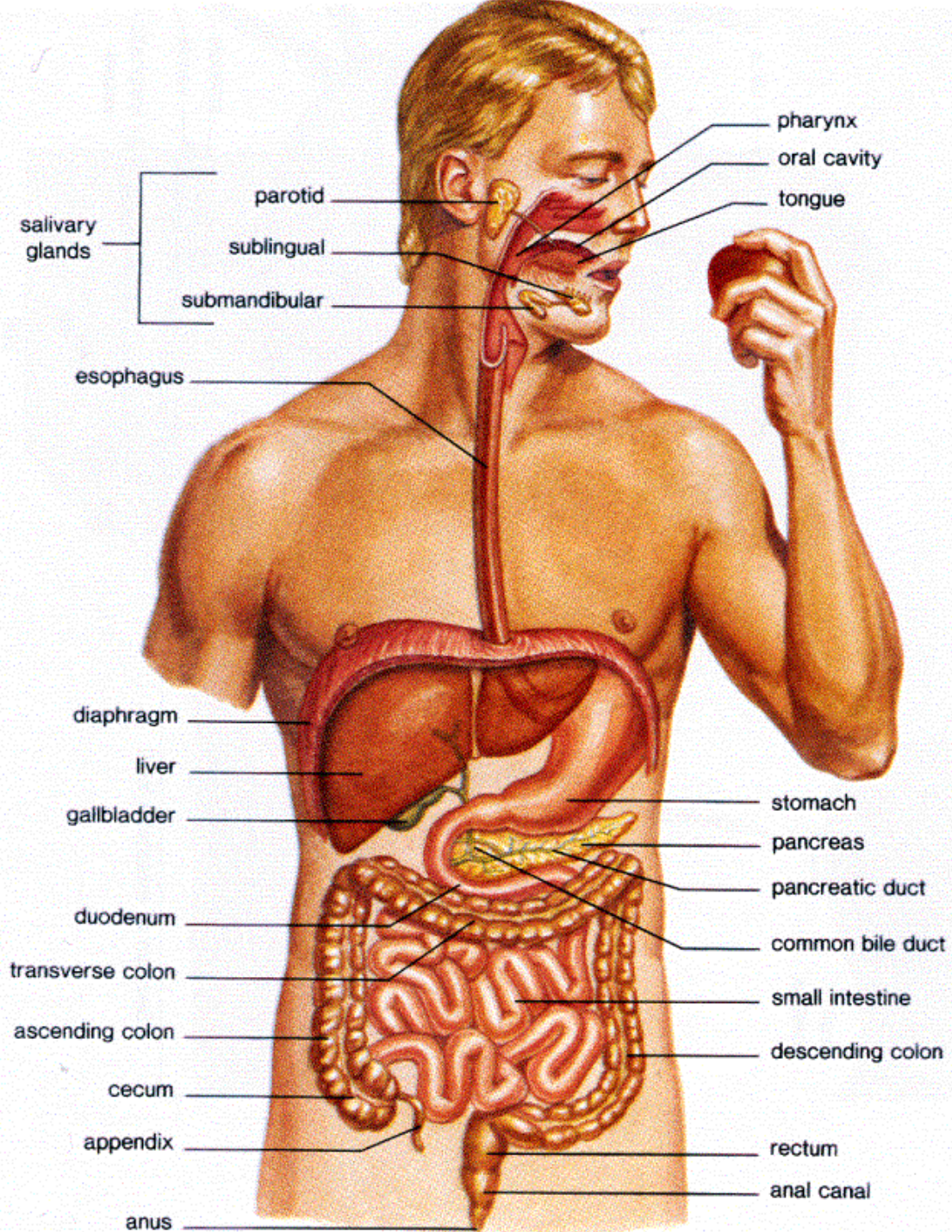
**Superficial veins**

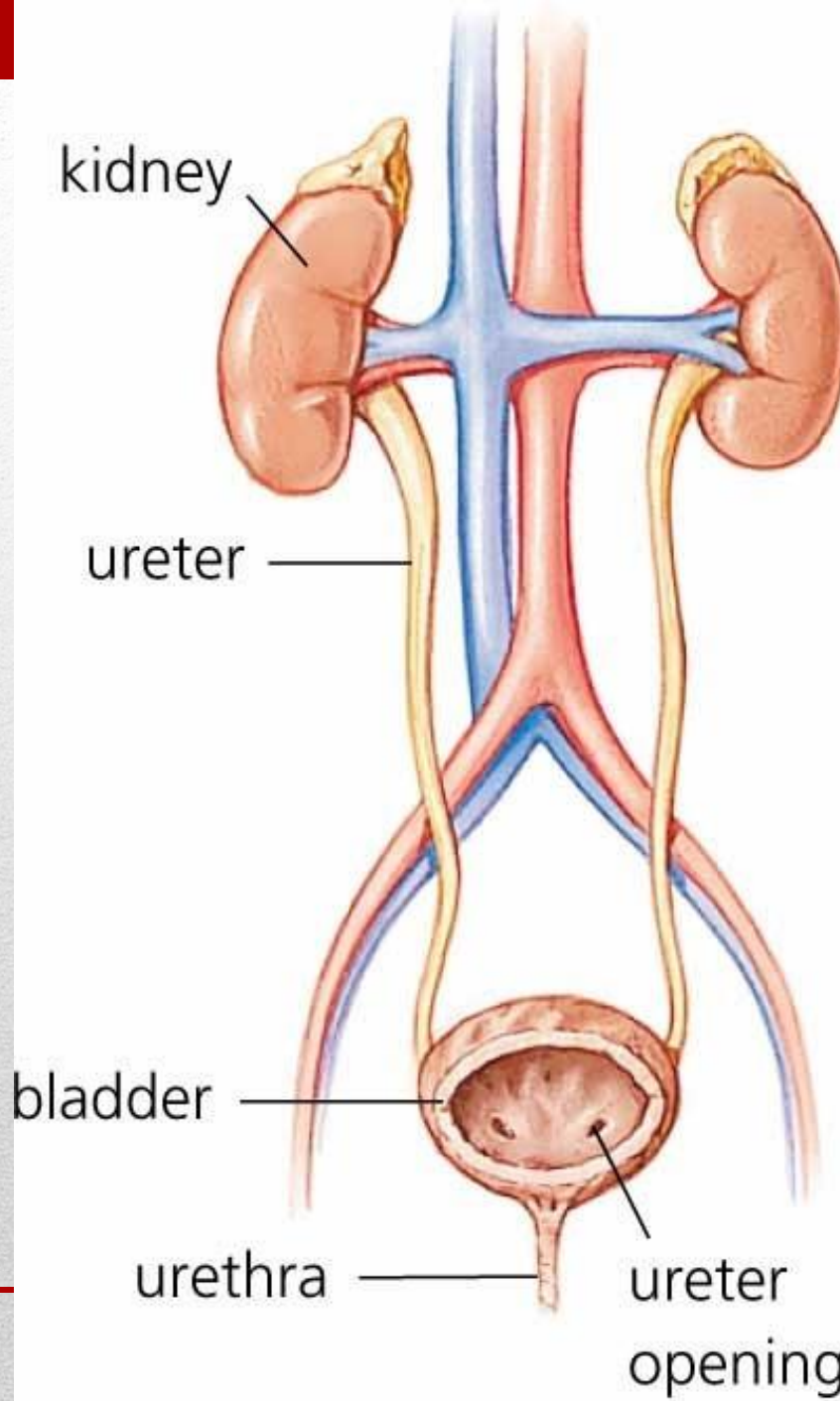
**Deep veins**



# The Human Respiratory System







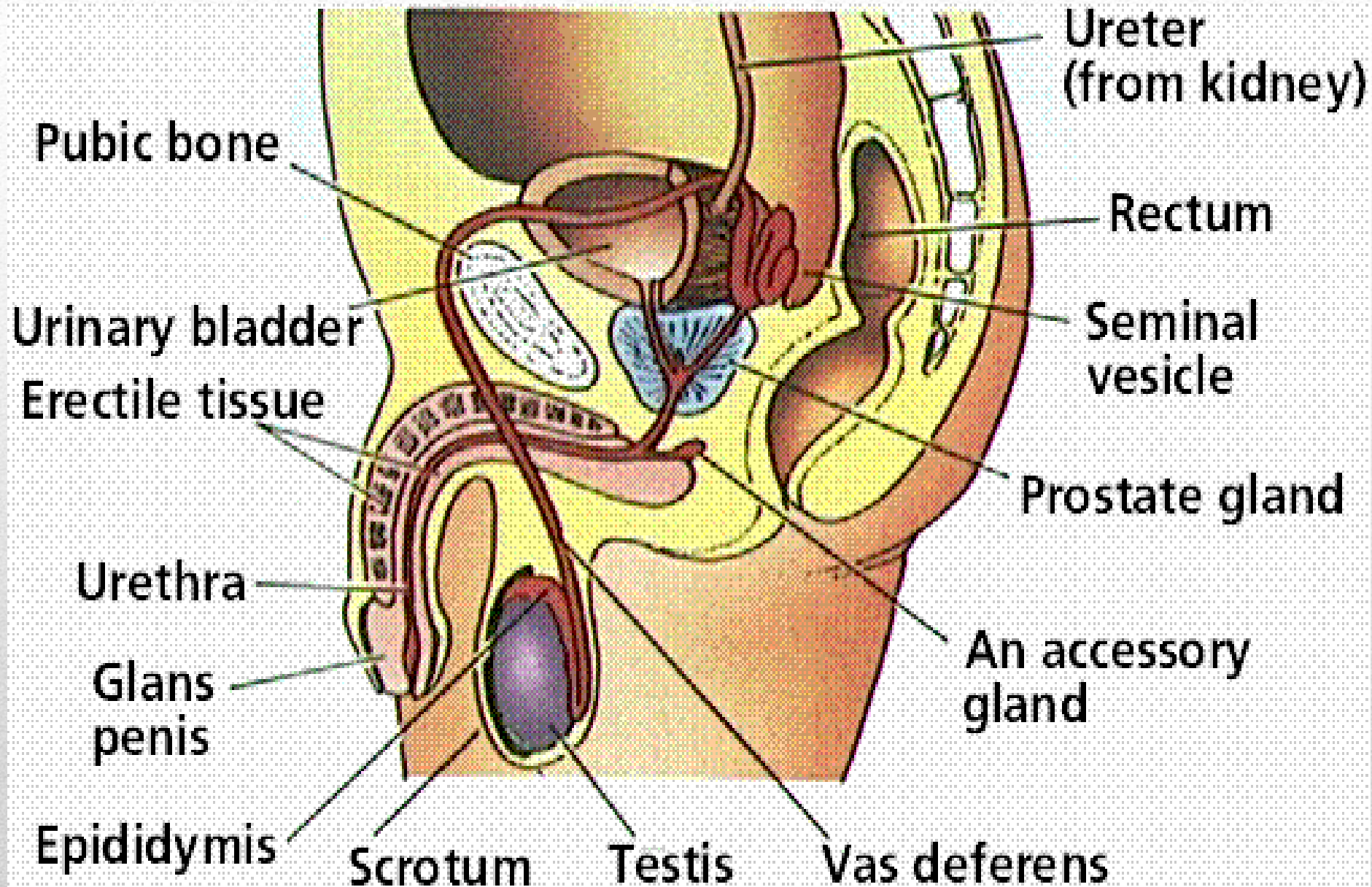
kidney

ureter

bladder

urethra

ureter  
opening



# MICROSCOPIC

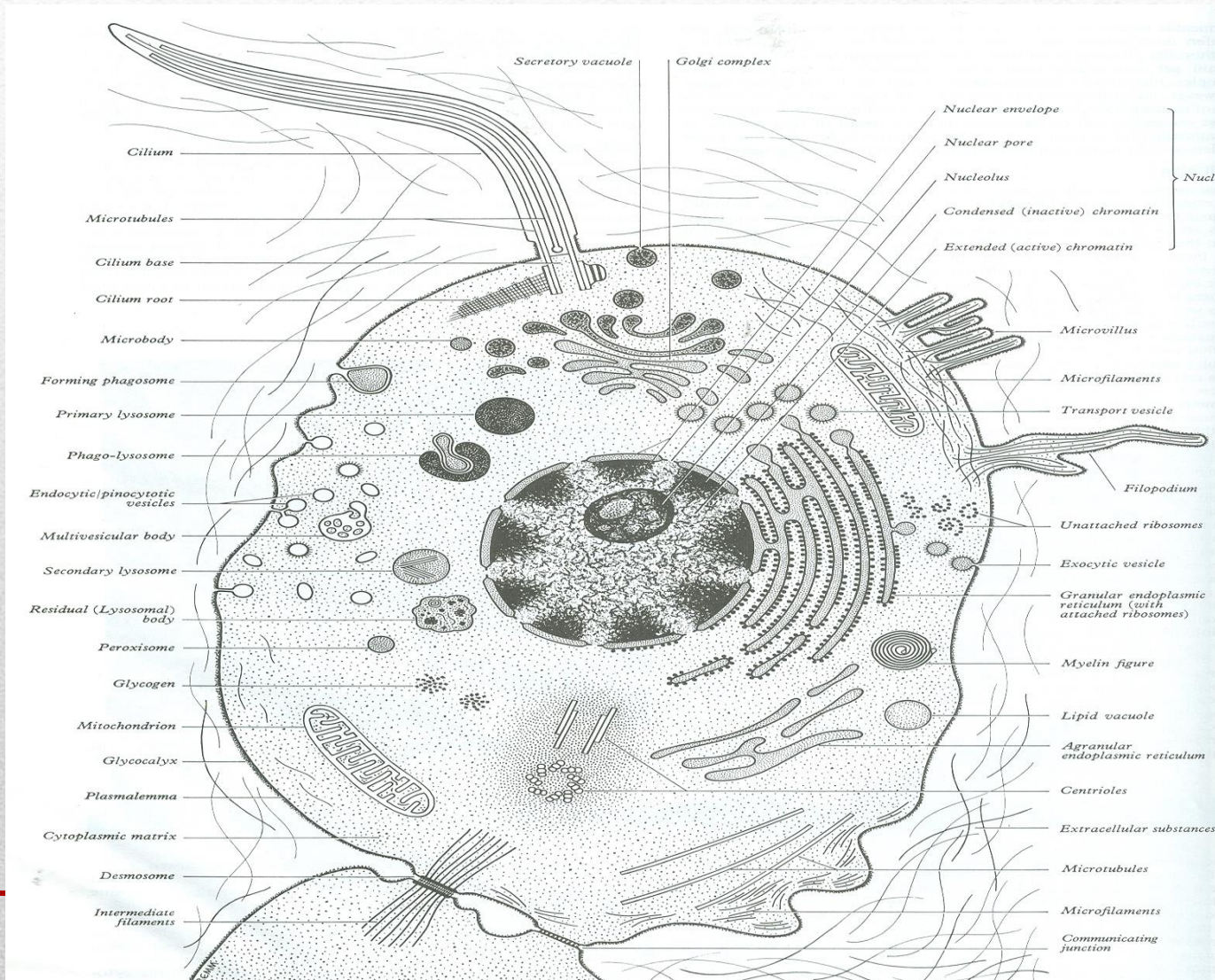
- CYTOLOGY
  - HISTOLOGY
-



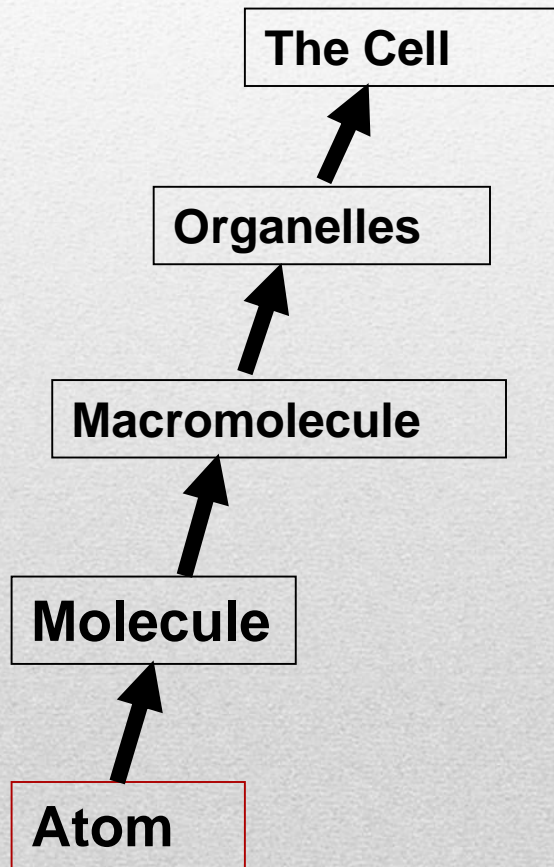
# CYTOLOGY

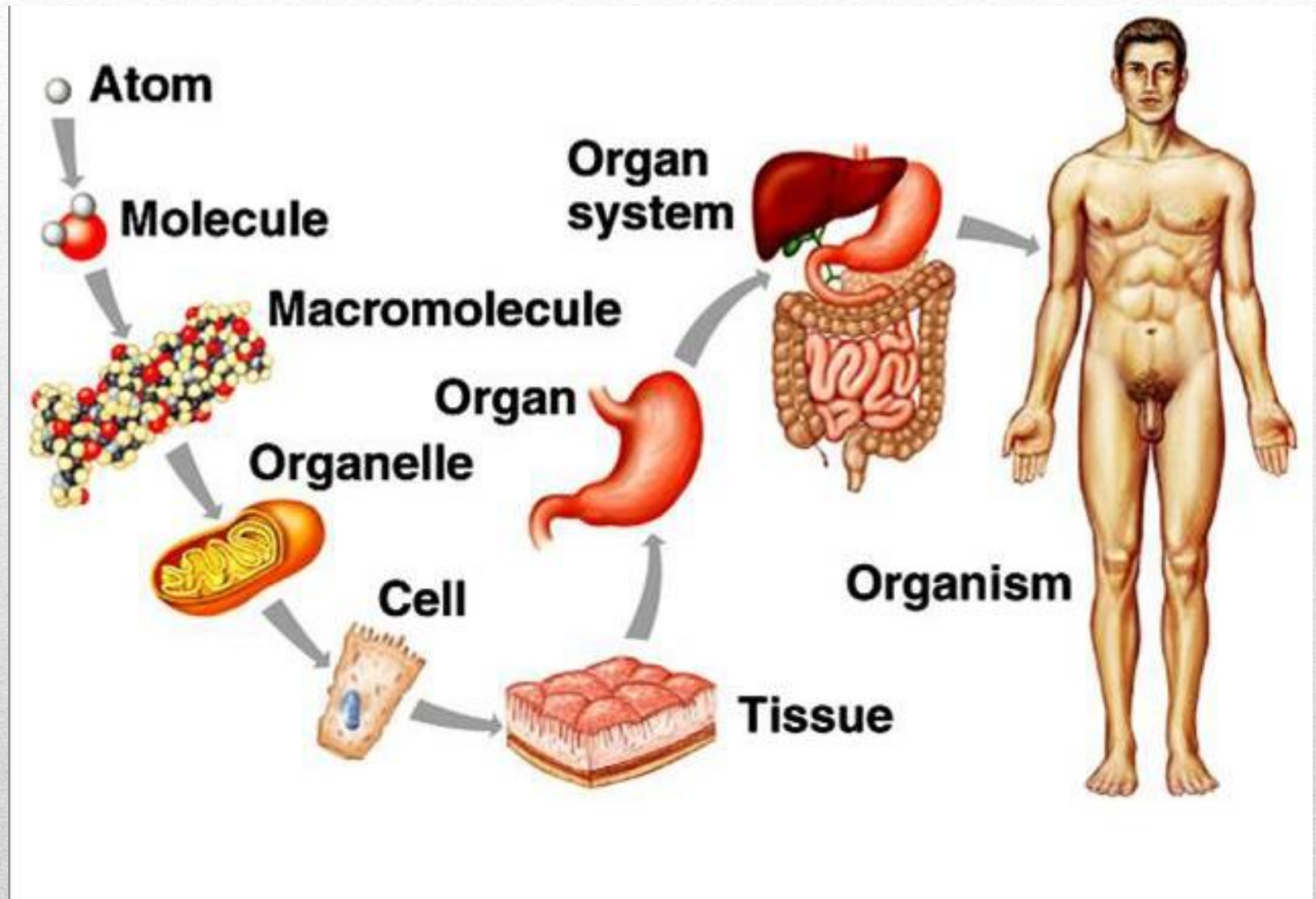
- STUDY OF CELLS; FOCUSES ON:
  - CELL STRUCTURE
  - CELL FUNCTIONAL SPECIALIZATION
  - CELL CYCLE
  - CELL DIVISION
-

# THE CELL



# Hierarchical organization





# HISTOLOGY

- STUDY OF TISSUES
  - BASIC TISSUES
  - HISTOLOGICAL STRUCTURE OF VARIOUS BODY ORGANS – ACCORDING TO ORGAN SYSTEMS
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# COMPONENTS OF TISSUES

✓ CELLS

✓ MATRIX

✓ TISSUE FLUID

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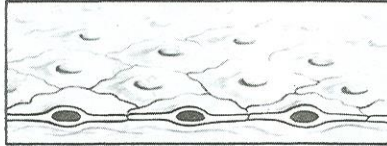
# THE FOUR BASIC TISSUES

1. EPITHELIAL
  2. MUSCLE OR PROPULSION
  3. CONNECTIVE OR SUPPORTING
  4. NERVOUS
-

# EPITHELIAL TISSUE

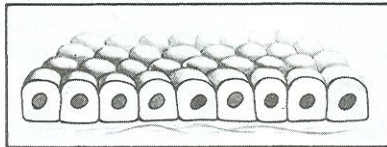
## E P I T H E L I A L T I S S U E S

SQUAMOUS

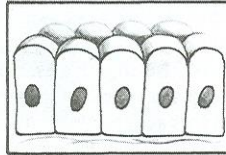


... see also: mesothelium – lining coelomic surfaces;  
endothelium – lining vascular channels.

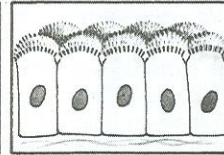
CUBOIDAL



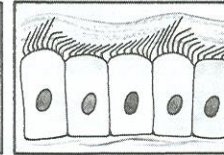
COLUMNAR



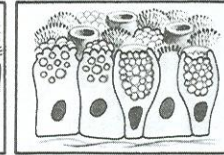
Without surface  
specialization



With microvilli  
(brush/striated border)

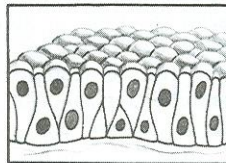


Ciliated



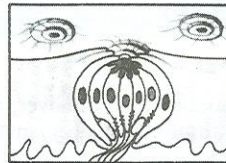
Glandular

UNILAMINAR  
(SIMPLE)

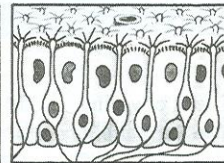


Pseudostratified

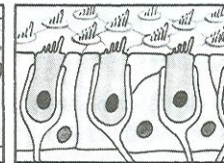
SENSORY



Gustatory



Olfactory



Stato-acoustic

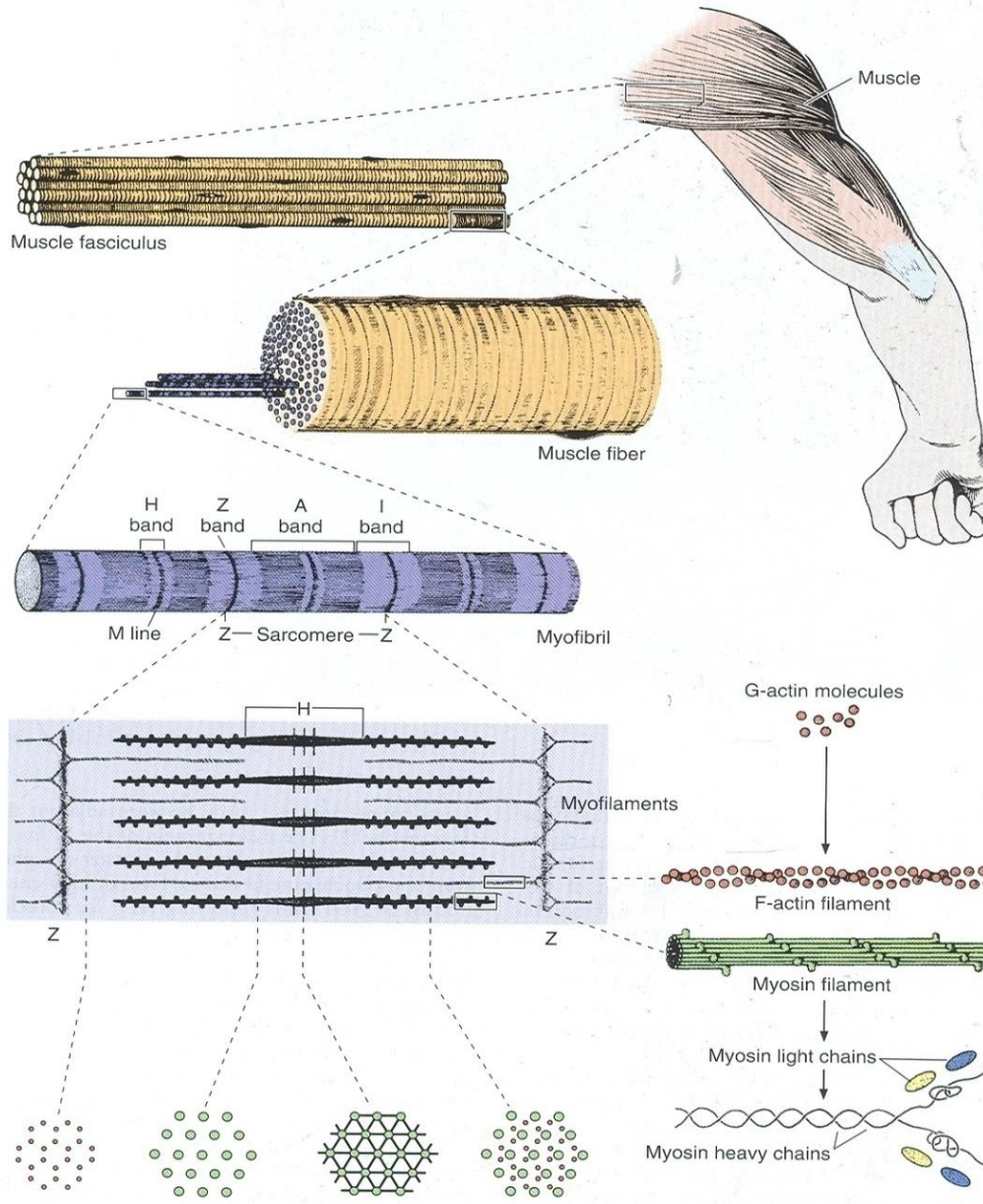
MYOEPITHELIOCYTE



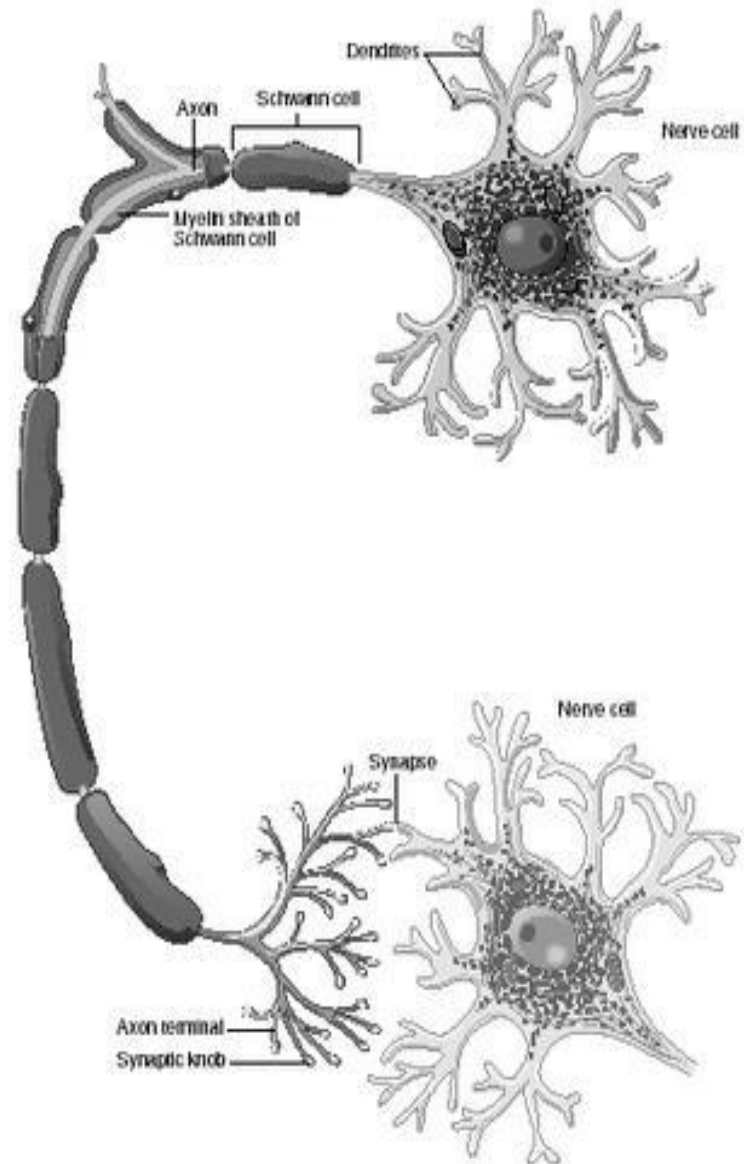
PC:MM

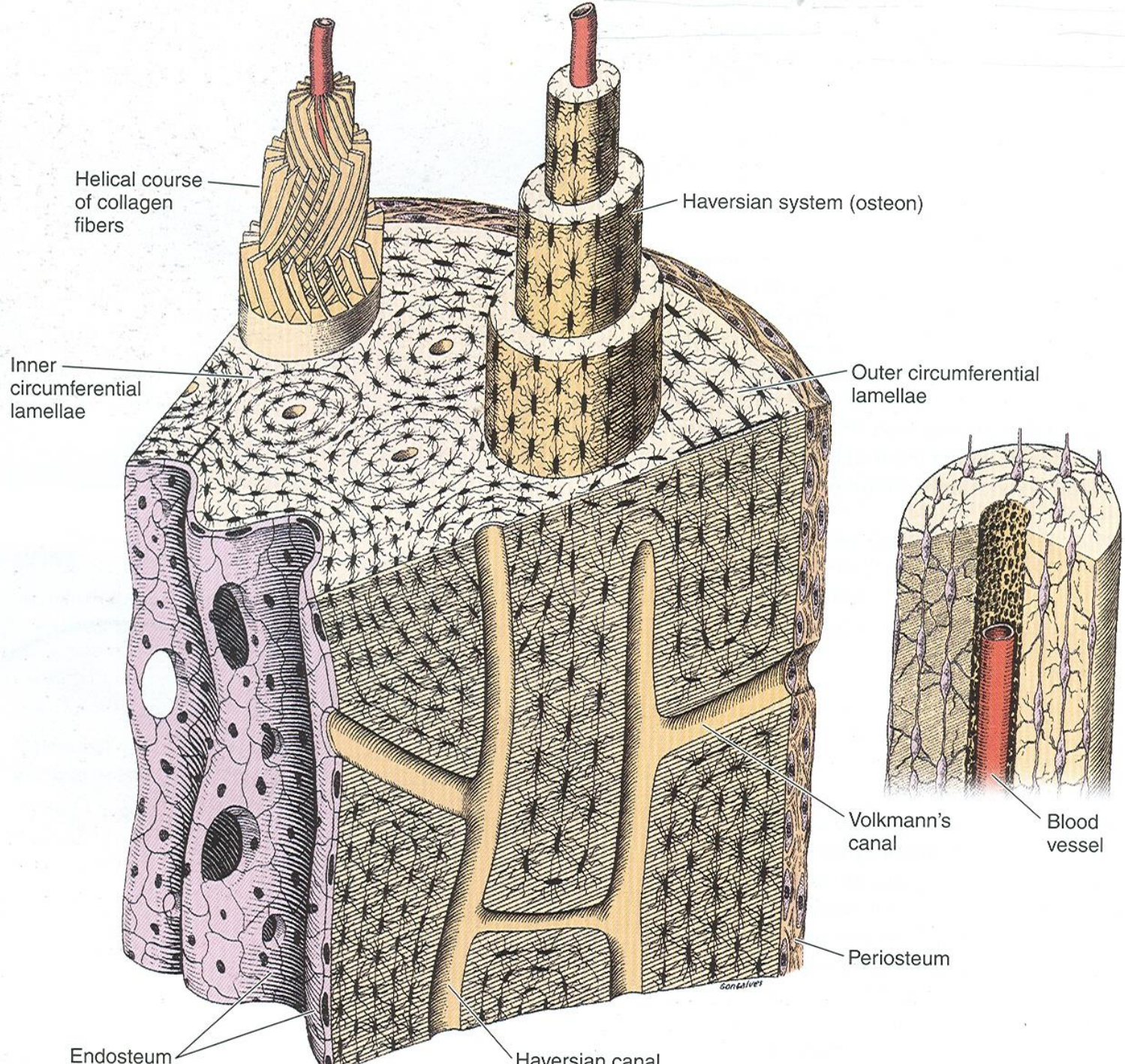


# PROPULSION TISSUE



# NERVOUS TISSUE I







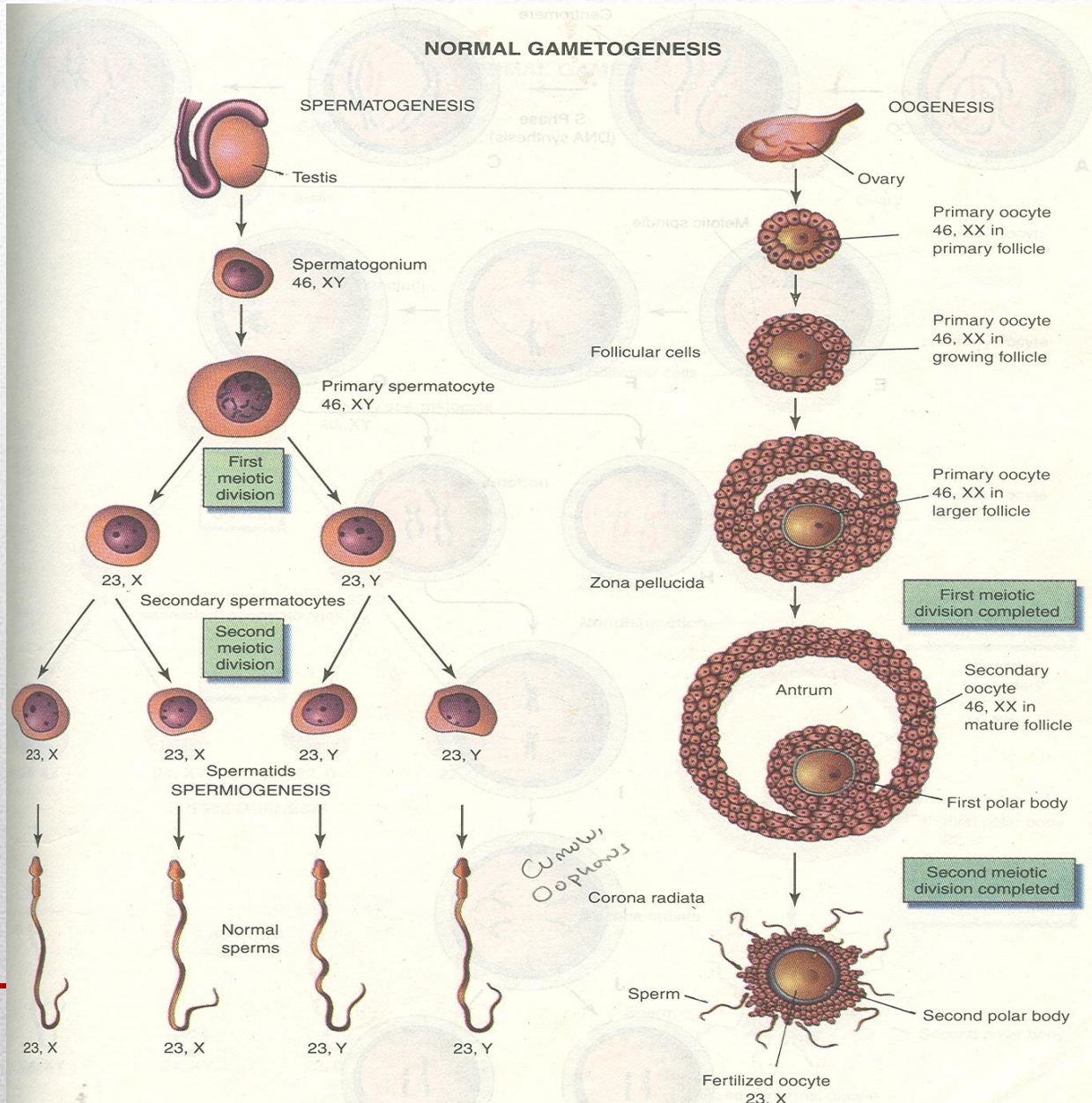
**DEVELOPMENTAL**

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# DEVELOPMENTAL PERIODS

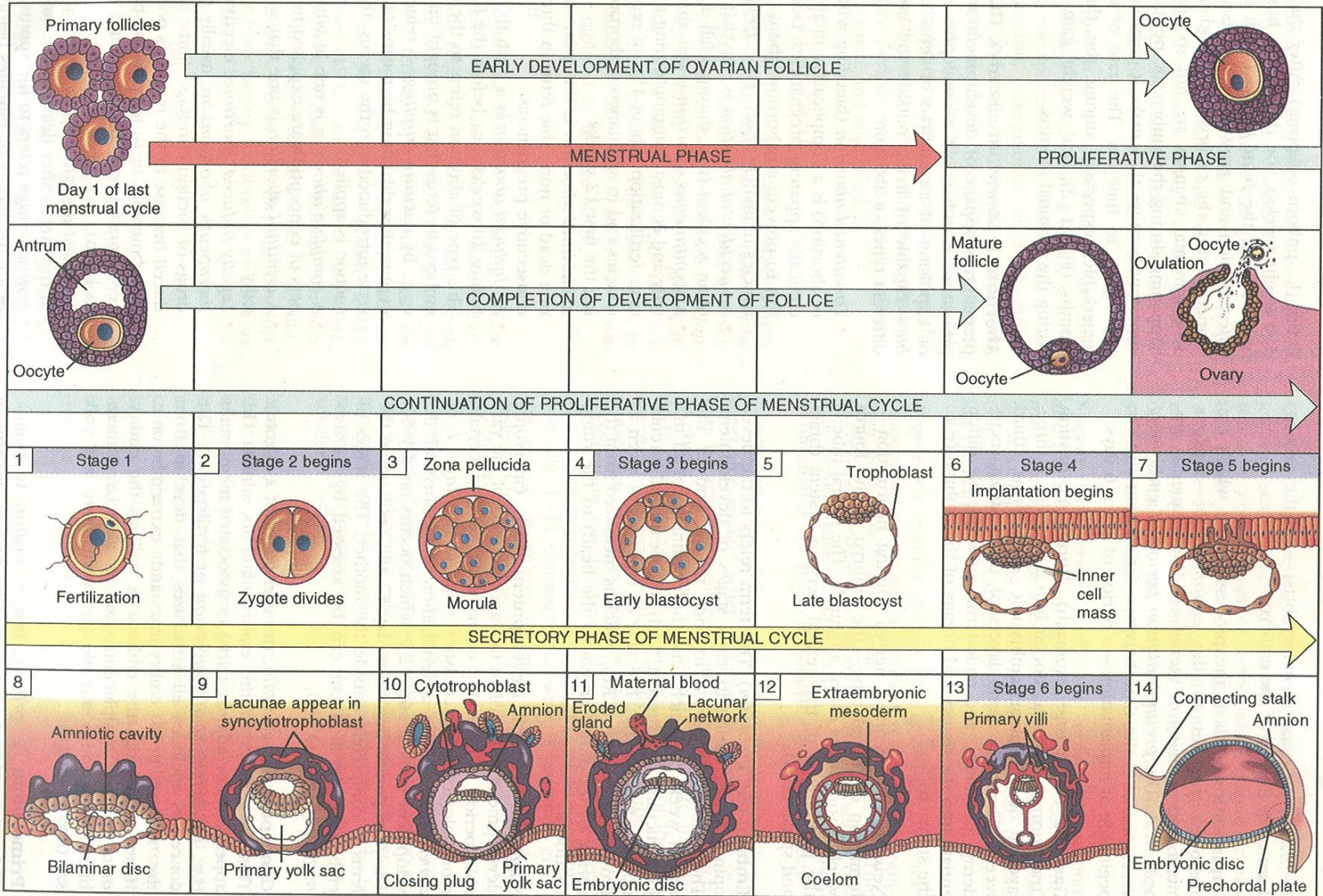
- GAMETOGENESIS: OOGENESIS AND SPERMATOGENESIS
  - FERTILIZATION
  - EARLY DEVELOPMENT (WEEKS 1 AND 2) AND IMPLANTATION
  - EMBRYONIC PERIOD (WEEKS 3 – 8)
  - FOETAL PERIOD (WEEK 9 UNTIL BIRTH)
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# DEVELOPMENT I

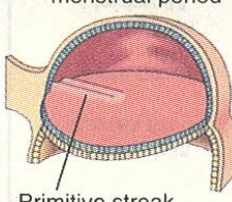
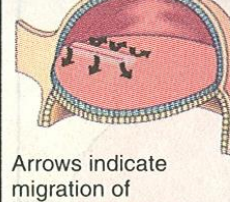
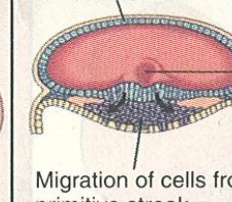
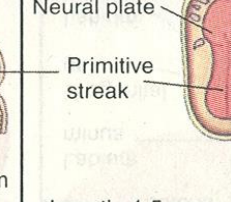
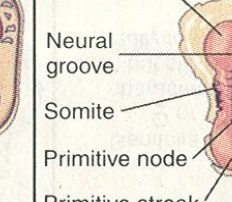
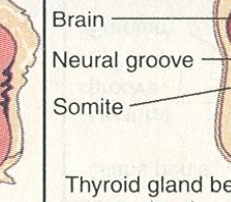
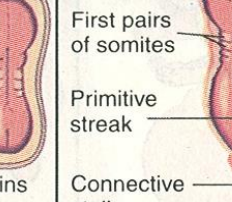
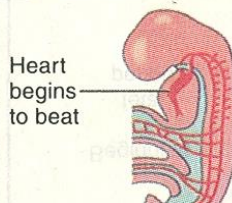
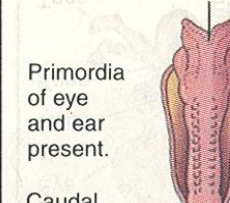
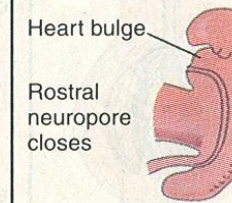
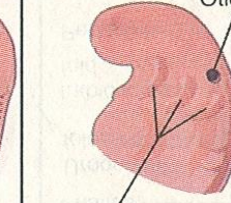
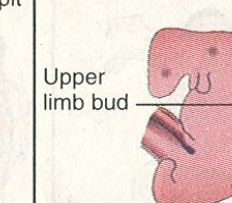
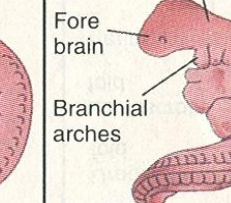
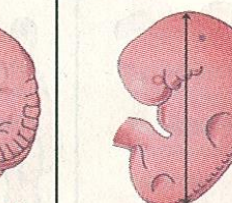
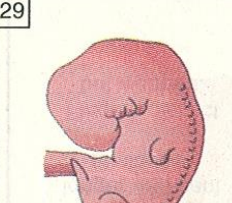
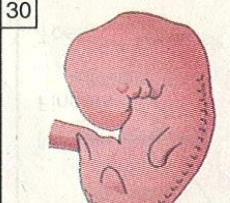
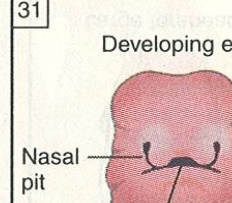
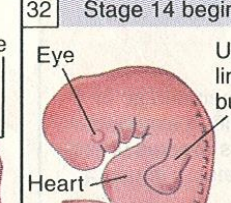
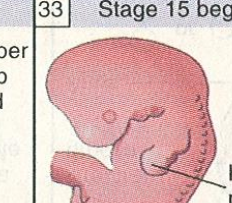
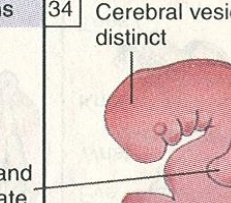
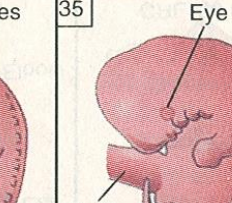
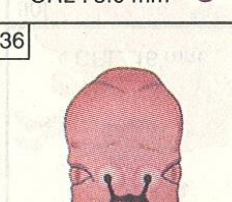
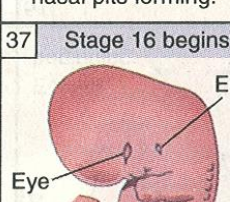
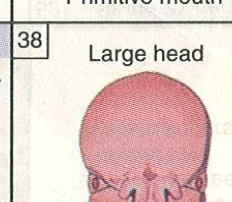
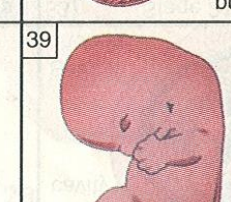
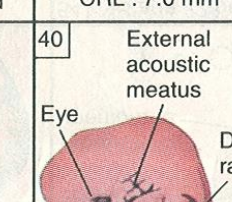
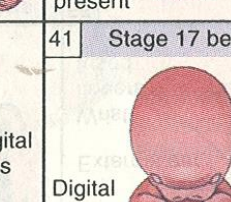
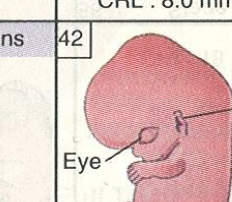


# DEVELOPMENT II

1 TO 6 WEEKS



# DEVELOPMENT III

15	<p>First missed menstrual period</p>  <p>Primitive streak</p>	16	<p>Stage 7 begins</p>  <p>Arrows indicate migration of mesenchymal cells.</p>	17	<p>Trilaminar embryo</p>  <p>Amnion</p> <p>Migration of cells from primitive streak.</p>	18	<p>Stage 8 begins</p>  <p>Neural plate</p> <p>Primitive streak</p> <p>Length: 1.5 mm</p>	19	 <p>Neural plate</p> <p>Neural groove</p> <p>Somite</p> <p>Primitive node</p> <p>Primitive streak</p>	20	<p>Stage 9 begins</p>  <p>Brain</p> <p>Neural groove</p> <p>Somite</p> <p>Thyroid gland begins to develop.</p>	21	 <p>Neural groove</p> <p>First pairs of somites</p> <p>Primitive streak</p> <p>Connective stalk</p>
22	<p>Stage 10 begins</p>  <p>Heart begins to beat</p> <p>Neural folds fusing.</p>	23	<p>Rostral neuropore</p>  <p>Primordia of eye and ear present.</p> <p>Caudal neuropore</p>	24	<p>Stage 11 begins</p>  <p>Heart bulge</p> <p>Rostral neuropore closes</p> <p>2 pairs of pharyngeal arches</p>	25	 <p>Otic pit</p> <p>3 pairs of pharyngeal arches</p>	26	<p>Stage 12 begins</p>  <p>Upper limb bud</p> <p>Indicates actual size →</p>	27	<p>Site of otic (ear) pit</p>  <p>Fore brain</p> <p>Branchial arches</p> <p>CRL = crown-rump length.</p>	28	 <p>CRL : 4.0 mm</p>
29	 <p>CRL : 5.0 mm</p>	30	 <p>Lens pits, optic cups, nasal pits forming.</p>	31	 <p>Developing eye</p> <p>Nasal pit</p> <p>Primitive mouth</p>	32	<p>Stage 14 begins</p>  <p>Eye</p> <p>Upper limb bud</p> <p>Heart</p> <p>Lower limb bud</p>	33	<p>Stage 15 begins</p>  <p>Hand plate</p> <p>Foot plate present</p> <p>CRL : 7.0 mm</p>	34	<p>Cerebral vesicles distinct</p>  <p>Foot plate present</p>	35	 <p>Eye</p> <p>Cord</p> <p>CRL : 8.0 mm</p>
36	 <p>Oral and nasal cavities confluent.</p>	37	<p>Stage 16 begins</p>  <p>Ear</p> <p>Eye</p> <p>Foot plate</p> <p>CRL : 9.0 mm</p>	38	<p>Large head</p>  <p>Upper lip and nose formed.</p>	39	 <p>CRL : 10.0 mm</p>	40	<p>External acoustic meatus</p>  <p>Eye</p> <p>Digital rays</p> <p>Foot plate</p>	41	<p>Stage 17 begins</p>  <p>Digital rays</p> <p>Ventral view</p>	42	 <p>Ear</p> <p>Eye</p> <p>CRL : 13.0 mm</p>





# **ANATOMICAL TERMS**

LANGUAGE OF ANATOMY

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# OBJECTIVES

➤ ANATOMICAL POSITION

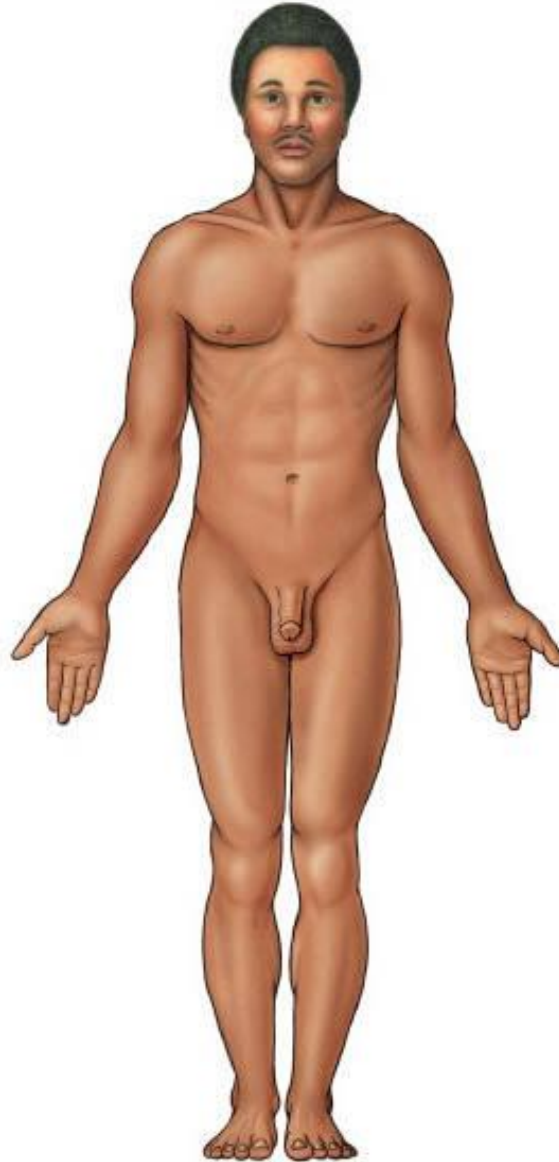
➤ BODY PLANES

➤ TERMS OF POSITION

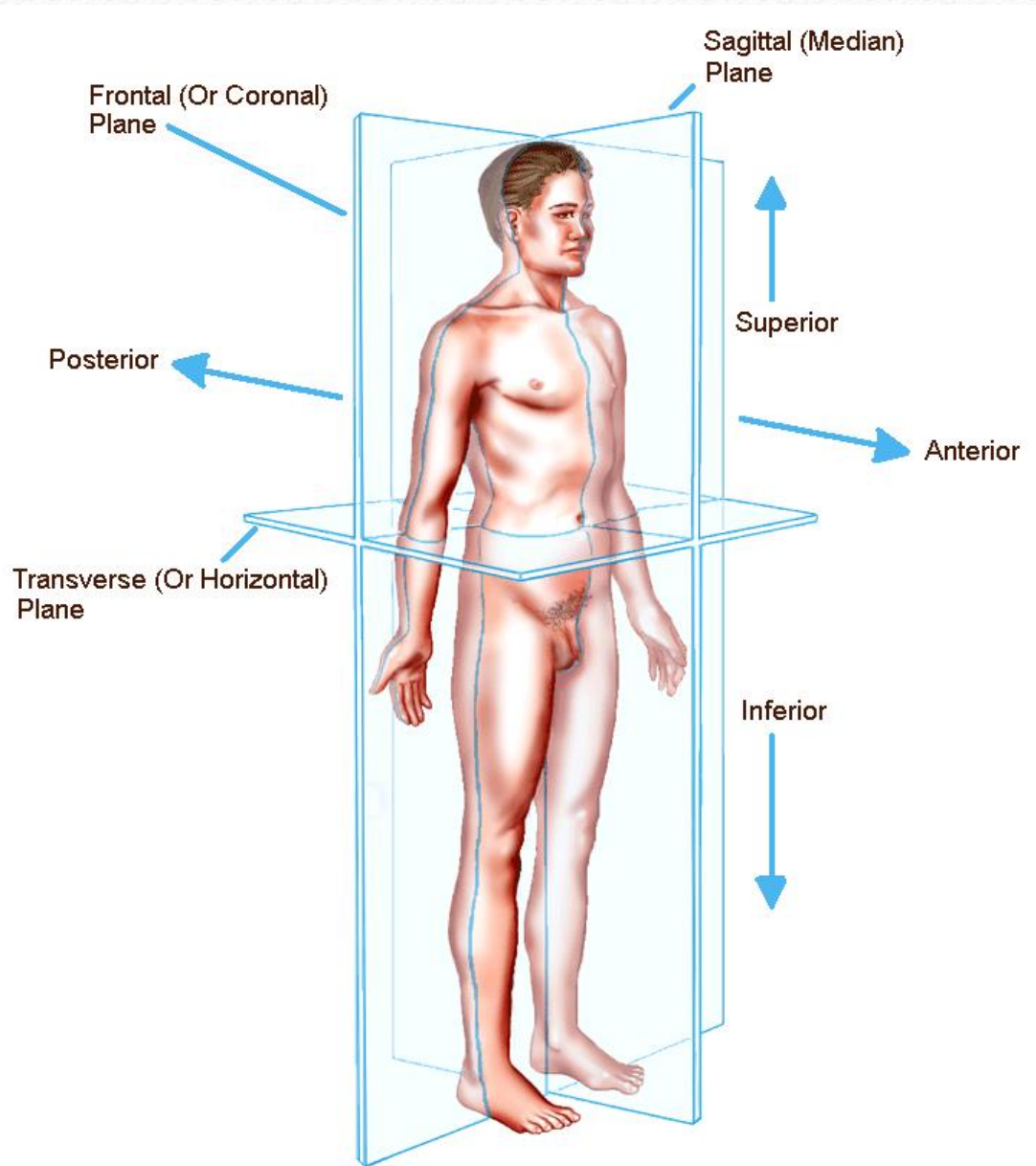
➤ TERMS OF MOVEMENT

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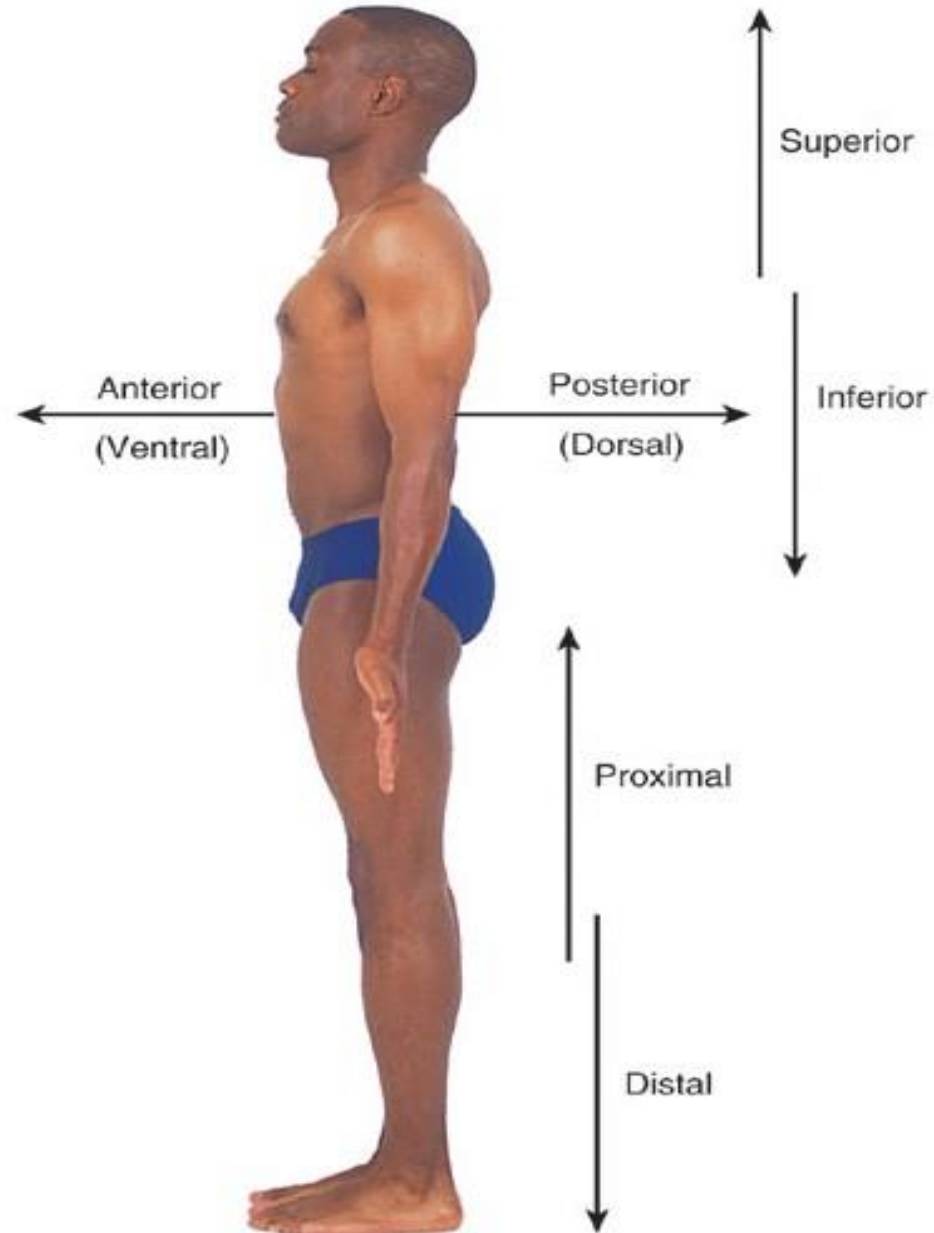
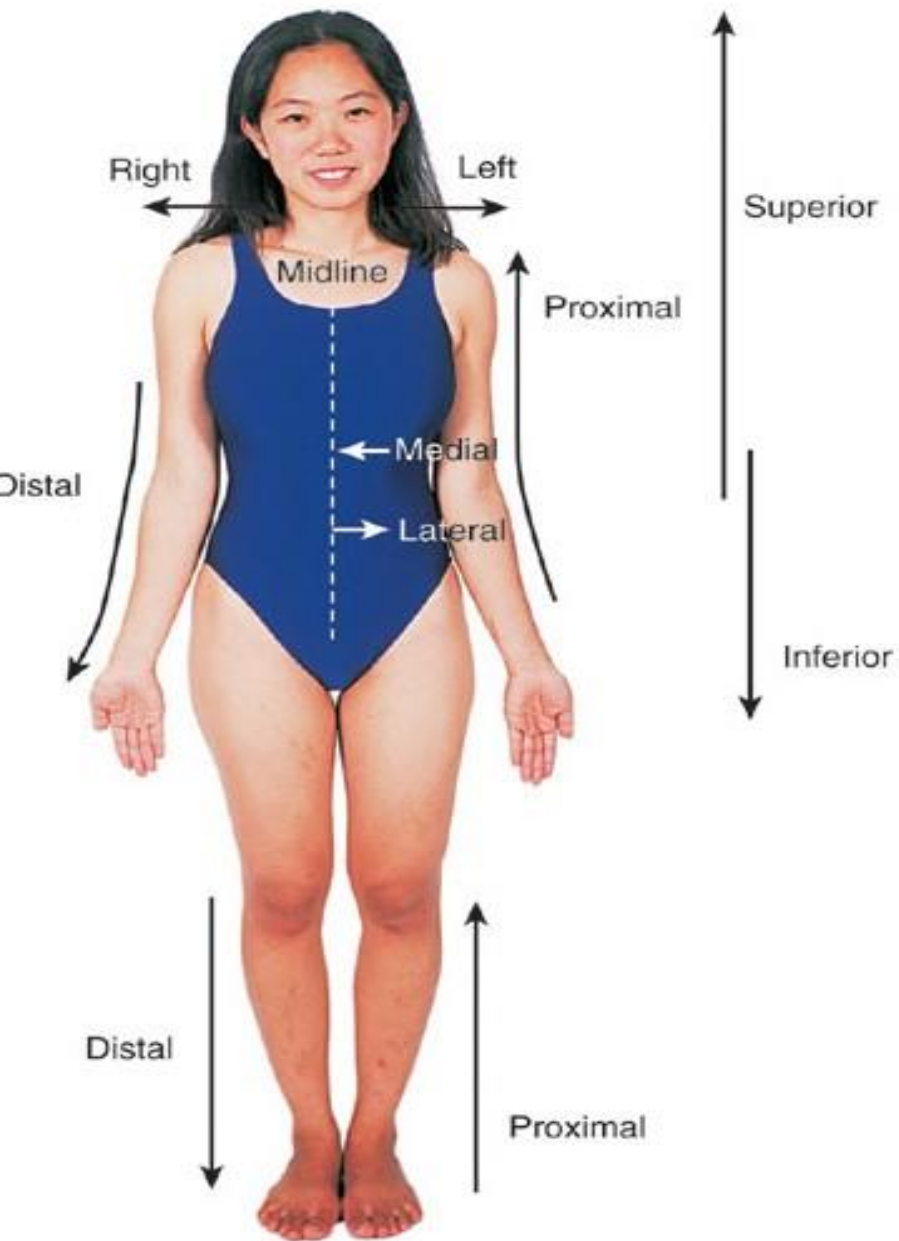
# THE ANATOMICAL POSITION OF MAN



# BODY PLANES



# TERMS OF POSITION/LOCATION





SUPERFICIAL - DEEP

**TERMS OF POSITION**

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# TERMS OF MOVEMENT

**Flexion**



**Extension**



# TERMS OF MOVEMENT

➤ FLEXION – EXTENSION

➤ ADDUCTION – ABDUCTION

➤ MEDIAL ROTATION – LATERAL ROTATION

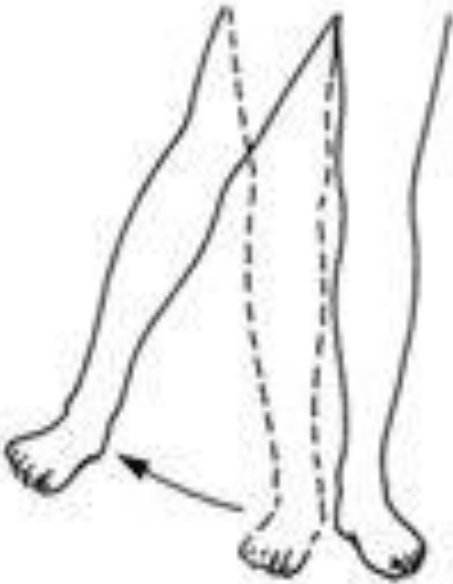
➤ CIRCUMDUCTION

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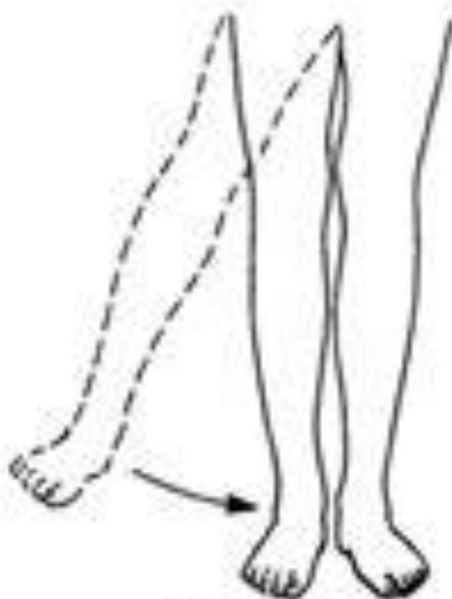


# TERMS OF MOVEMENT II

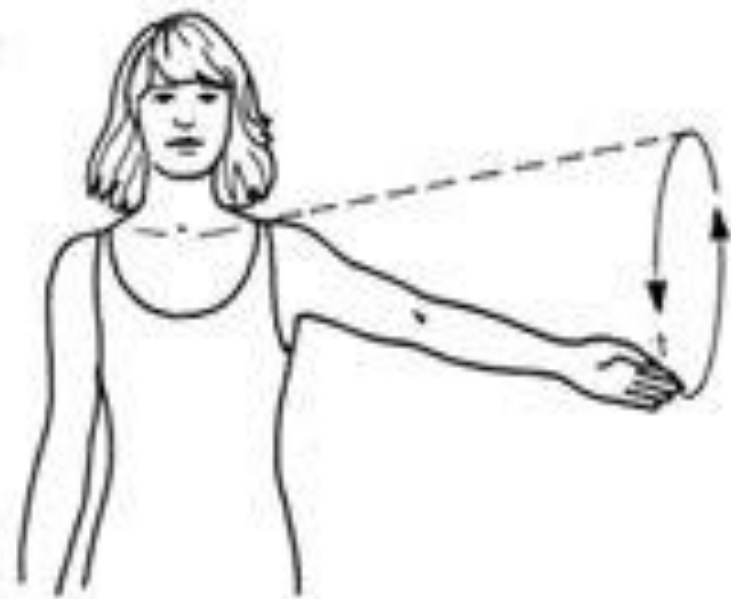
- SUPINATION – PRONATION
  - OPPOSITION – REPOSITION
  - ELEVATION – DEPRESSION
  - PROTRACTION – RETRACTION
-



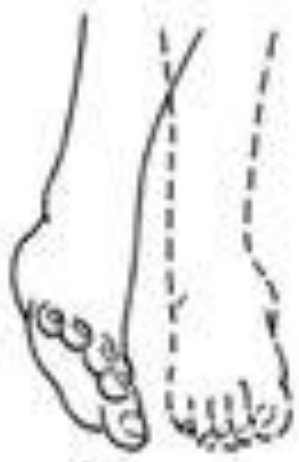
abduction



adduction



circumduction



eversion



inversion



dorsiflexion



plantar flexion



**THE END**

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