

ANATOMY

Bones

Vertebral column:

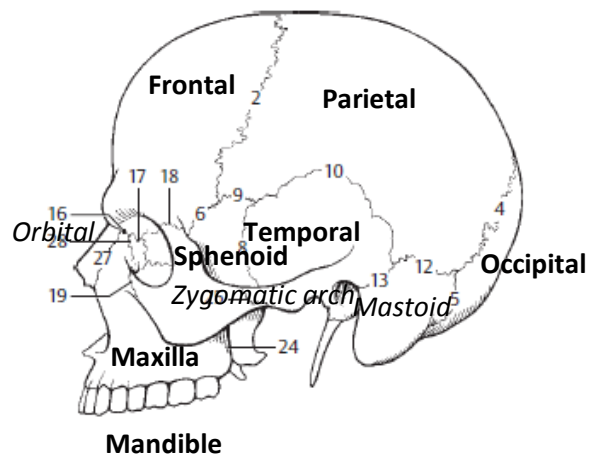
- Vertebral column:
 - o 7 cervical vertebrae
 - o 12 thoracic
 - o 5 lumbar
 - o Sacral bone
 - o 4 coccygeal bone (coccyx)
- Atlas: 1st cervical vertebra, has no body
- Vertebral canal: for spinal cord passage

Thoracic cage (rib cage):

- 7 true ribs (1-7)
- 5 false ribs (8-12)
- No. 11 & 12 = floating ribs
- Costal cartilage
- Sternum
- Xiphoid process
- Intercostal space: between each rib & the next one
- Infrasternal angle: b/w rt & lt costal arch

Skull:

- Cranial bone (top of skull)
- Occipital bone (back of skull:4,5), foramen magnum: for medulla oblongata, mastoid margin
- Sphenoid bone (b/w frontal, occipital, & temporal bones:6,8,9)
- Temporal bone (b/w occipital, sphenoid, & parietal bones:8,10,13): squamous, petrous, tympanic
- Frontal bone
- Maxilla & Mandible
- Zygomatic arch & mastoid portion
- Bregma (Point of intersection of the sagittal and coronal sutures)



Shoulder:

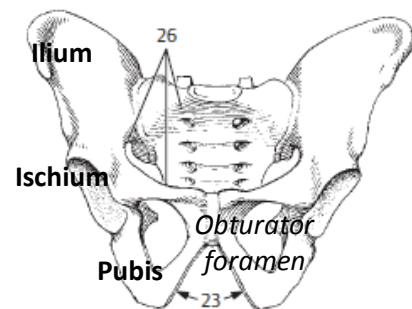
- Shoulder (pectoral) girdle: scapula (shoulder blade)
- Clavicle
- Coracoid process: attach with biceps muscle
- Acromion: projecting over head of humerus
- Glenoid cavity: articular cavity of the shoulder

Upper limb:

- Humerus
- TOP: Head of humerus: greater tubercle & lesser tubercle
- BOTTOM: Condyle of humerus:
 - o Medial epicondyle: attach to flexor ms
 - o Lateral epicondyle: attach to extensor ms
 - o Capitulum: to radius bone
 - o Trochlea: to ulna bone
- Radius (lateral; out):
 - o TOP: Head of radius: attach to capitulum, *articular circumference (w/ ulna)*
 - o Bottom: Ulnar notch, articular carpal surface, styloid process
- Ulna (medial; in):
 - o TOP: Trochlear notch: attach to trochlea, Radial notch
 - o Bottom: Head of ulna, styloid process, *articular circumference (w/ radius)*
- Hand:
 - o 8 Carpal bones (Scaphoid, Lunate, Pisiform, Triquetrum, Trapezium, Trapezoid, Capitate, Hamate) SLPTTCH
 - o Metacarpal bones
 - o Phalanges (proximal, middle, distal phalanx)

Hip:

- Pelvic girdle
- Hip bone (ilium, ischium, pubis)
- Obturator foramen



Lower limb:

- Femur:
 - o TOP: Head of femur: greater trochanter & lesser trochanter
 - o Shaft
 - o Bottom: Medial & lateral epicondyle: attach to knee
- Patella (knee cap)
- Tibia (in):
 - o Bottom: Medial malleolus
- Fibula (out):
 - o TOP: Head of fibula
 - o Bottom: Lateral malleolus
- Foot:
 - o 7 Tarsal bones of the ankle (Talus, Calcaneus, Cuboideum, 3 Cuneiform bones)
 - o Navicular, Cuboid, Medial cuneiform, Intermediate cuneiform, & Lateral cuneiform
 - o Metatarsal bones
 - o Phalanges (proximal, middle, distal phalanx)-base, head, shaft of phalanx

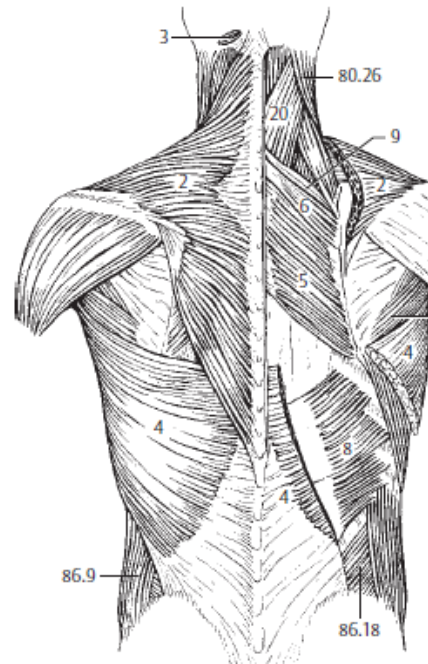
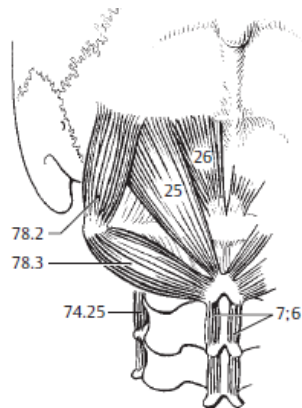
Muscles

Back:

- Trapezius (2)
- Latissimus dorsi (4)
- Rhomboideus major (5) & minor (6)
- Serratus posterior superior (9) & inferior (8)

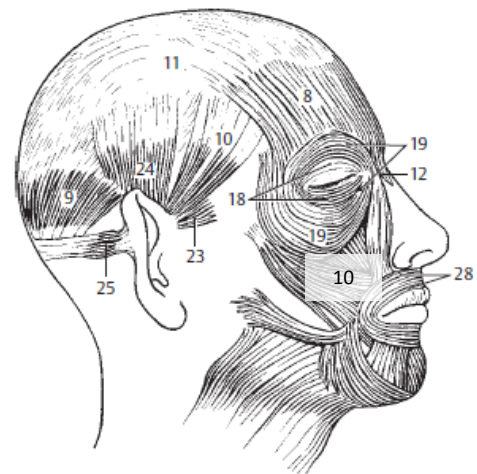
Neck:

- Rectus capitis posterior major (25) & minor (26)
- Sternocleidomastoid muscle (from neck to thorax, p. 80 & 81)



Face:

- Frontal belly (8) & occipital belly (9)
- Orbital (19) & lacrimal (inside)
- Labial (28 & around the mouth)
- Articularis anterior (23)
- Articularis superior (24)
- Articularis posterior (25)
- Temporalis
- Zygomaticus major (bottom) & minor (top) below 19
- Buccinator (10)



Chest (Thorax):

- Pectoralis major & minor
- Subclavius
- Serratus anterior
- External, internal, & innermost intercostals muscles

Abdomen:

- Rectus abdominus & rectus sheath
- Internal & external abdominal oblique muscle
- Transversus abdominus
- Linea alba (tendon)

Upper limb:

- Deltoid
- Biceps brachii with long head & short head
- Triceps brachii with long head, medial head, & lateral head
- Brachioradialis
- Flexor carpi radialis
- Flexor carpi ulnaris
- Extensor carpi radialis longus
- Extensor carpi ulnaris
- Flexor digitorum (fingers & profundus → deep) & Extensor digitorum

Lower limb:

- Gluteus maximus, medius, & minimus
- Anterior of femur:
 - o Adductor longus, brevis, & magnus
- Posterior of femur:
 - o Biceps femoris with long head & short head
 - o Semitendinosus
 - o Quadriceps
- Anterior of lower leg:
 - o Tibialis anterior
 - o Extensor digitorum longus (from leg to fingers)
- Posterior of lower leg:
 - o Plantaris (behind the knee)
 - o Gastrocnemius (البطة)
- Foot: Flexor digitorum brevis

Heart

- Base & apex
- Pericardium:
 - o Fibrous pericardium
 - o Serous pericardium
 - o Pericardial cavity (contains serous fluid)
- Right & Left atria
- Right & Left ventricles
- Interarterial septum
- Interventricular septum
- Atrioventricular septum
- Myocardium
- Conducting system:
 - o Sinoatrial (SA) node
 - o Atrioventricular (AV) node
 - o Trunk (Bundle of HIS, Purkinje fibers)
- Endocardium

Right atrium:

- Opening of (superior & inferior) vena cava
- Valve of inferior vena cava

Right ventricle:

- Tricuspid valve (right atrioventricular valve)
- Pulmonary valve
- Anterior, posterior, & septal papillary muscles

Left atrium:

- Opening of pulmonary veins

Left ventricle:

- Mitral valve (left atrioventricular valve)
- Aortic valve
- Anterior & posterior papillary muscles

Arteries

Pulmonary arteries:

- Pulmonary trunk: rt (behind ascending aorta) & lt pulmonary arteries
- Bifurcation of pulmonary trunk

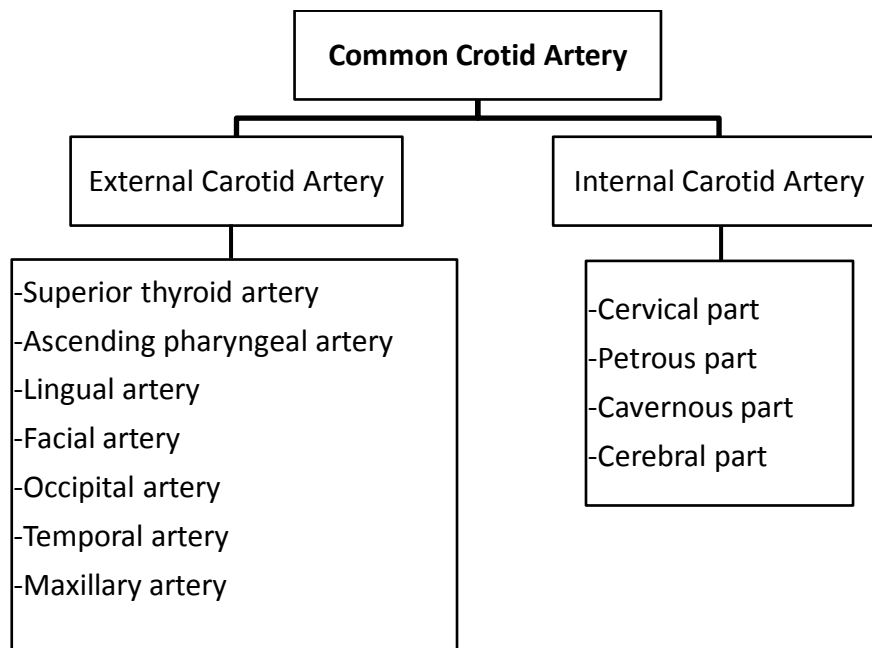
Ductus arteriosus:

Short arterial duct in the **fetus** between the division of the pulmonary trunk and the arch of the aorta. It is patent until birth

Aorta:

Ascending aorta: → rt & lt coronary arteries

- Arch of aorta
- Brachiocephalic trunk
- Common carotid artery:
 - o Carotid body
 - o Carotid sinus (contains baroreceptors)
 - o Carotid bifurcation



Cerebral arteries:

- Anterior, middle, & posterior cerebral arteries
- Cerebral arterial circle (circle of Willis)

Subclavian artery:

- Vertebral artery
- Basilar artery → terminate as posterior cerebral artery

Internal thoracic (mammary) artery

Upper limb arteries:

- Axillary artery
- Brachial artery
- Radial artery
- Ulnar artery
- Palmar & carpal arteries

Descending aorta:

- Thoracic aorta
- Abdominal aorta
 - o Inferior phrenic artery
 - o Lumbar & sacral arteries
 - o Celiac trunk
- Common hepatic artery
- Splenic artery
- Superior & inferior mesenteric arteries
- Suprarenal artery
- Renal artery
- Testicular or ovarian artery
- Bifurcation of aorta
- Common iliac artery:
 - o Internal iliac artery

Lower limb arteries:

- External iliac artery
- Femoral artery
- Popliteal artery:
 - o Anterior & posterior tibial arteries
 - o Peroneal (fibular) artery
 - o Dorsalis pedis artery

Veins

Pulmonary veins:

- Right superior & inferior pulmonary veins
- Left superior & inferior pulmonary veins

Coronary veins

Superior vena cava:

- Right & left brachiocephalic veins
- Internal jugular vein → Facial vein
- External jugular vein

Cerebral veins:

- Superficial & deep cerebral veins
- Veins of brainstem & cerebellum

Upper limb veins:

- Subclavian vein
- Axillary vein
- Brachial veins
- Radial veins
- Ulnar veins

Azygos vein:

Lumbar vein arises from ascending lumbar vein and opens into superior vena cava

Inferior vena cava:

- Inferior phrenic veins
- Hepatic veins
- Suprarenal veins
- Renal veins
- Testicular or ovarian veins

Portal vein of the liver: Right & left branches

- Superior & inferior mesenteric veins → splenic vein & superior rectal vein

Common iliac vein:

- Internal (hypogastric) iliac vein: Rectal venous (hemorrhoidal) plexus: middle & inferior recta veins
- External iliac vein

Lower limb veins:

- Femoral vein
- Great saphenous vein
- Popliteal vein:
 - o Anterior & posterior tibial veins
 - o Small saphenous vein

Digestive System

Oral cavity:

- Lips
- Hard palate & soft palate with palatine raphe (line) in b/w
- Uvula
- Frenulum of upper & lower lips
- Gums (gingiva)
- 3 major salivary glands: sublingual, submandibular, & parotid
- 5 small salivary glands: labial, buccal, molar, palatine, & lingual
- Teeth: incisor, canine, premolar, molar, & wisdom
- Tooth:
 - o Crown of tooth
 - o Neck of tooth
 - o Root of tooth
- Frenulum of tongue (attach the tongue to lower gum)
- Tongue histology: filiform, conical, fungiform, vallate, lenticular, foliate papillae

Pharynx:

- Oropharynx
- Nasopharynx
- Laryngopharynx
- Palatine tonsil
- Nasopharyngeal tonsil (adenoids)

Esophagus:

- Cervical, thoracic, & abdominal parts
- Histology (from top to bottom):
 - o Tunica mucosa (stratified, nonkeratinized squamous epithelium)
 - o Esophageal glands
 - o Tunica muscularis
 - o Tunica adventitia

Stomach:

- Pyloric sphincter
- Anterior & posterior surface
- Great & lesser curvature
- Cardia, fundus, corpus, & pylorus
- Histology (from top to bottom):
 - o Villous folds
 - o Tunica mucosa (simple columnar epithelium)
 - o Tela submucosa
 - o Tunica muscularis
 - o Tela subserosa
 - o Serous membrane

Small intestine:

- Duodenum, jejunum, ileum
- Histology (from top to bottom):
 - o Intestinal villi & glands
 - o Tunica mucosa (simple columnar epithelium)
 - o Tela submucosa
 - o Tunica muscularis
 - o Tela subserosa
 - o Tunica serosa

Large intestine (colon):

- Cecum
- Vermiform appendix
- Ascending, transverse, descending, sigmoid colon
- Rt & Lt colic flexures
- Rectum & anus
- Histology (same as small intestine): Tunica mucosa (simple, goblet-cell rich columnar epithelium)

Pancreas:

- Head, body, & tail
- Pancreatic lobule & duct

Liver:

- Lobes: right, caudate, quadrate, left
- Cardiac, esophageal, gastric, duodenal, colic, renal, & suprarenal impressions
- Groove for vena cava
- Hilum (for portal vein)
- Gallbladder:
 - o Fundus, body, & neck
 - o Cystic duct
 - o Bile duct
 - o Biliary glands

Spleen

- Splenic pulp:
 - o White pulp (lymphoreticular tissue in form of arterial sheaths)
 - o Red pulp (venous sinuses with erythrocytes, reticular tissue)
- Lymphatic nodules (follicles)
- Hilum

Respiratory System

Nose:

- Nasal septum
- Superior, middle, & inferior nasal concha
- Nasal (olfactory) glands
- Paranasal sinuses (name according to location):
 - o Maxillary sinus
 - o Sphenoidal sinus
 - o Frontal sinus
 - o Ethmoidal sinus

Larynx:

- Thyroid cartilage
- Thyroid membrane
- Superior & inferior horns (cornu)
- Cricoid cartilage
- Arytenoid, corniculate, & cuneiform cartilages
- Epiglottis
- Glottis
- Lymph nodes of larynx

Trachea:

- Cervical & thoracic parts
- Tracheal cartilages & muscle
- Bifurcation of trachea (where it divides into rt & lt bronchi)
- Histology: Tunica mucosa (pseudostratified ciliated columnar epithelium with goblet cells)

Bronchi:

- Lobar & segmental bronchi
- Right (superior, middle & inferior) lobar bronchus
- 2 Left inferior lobar bronchi
- Respiratory bronchioles

Lungs:

- Base & apex
- Right lung:
 - o Upper, Middle, & Lower lobes
 - o Oblique & horizontal fissures
- Left lung:
 - o Upper & Lower lobes
 - o Oblique fissure
- Pleura: visceral & parietal pleura
- Pleural cavity
- Mediastinum
- Alveoli: alveolar duct & sac

Urogenital System

Kidneys:

- Renal cortex
- Renal medulla
- Renal pelvis: renal calices (single calyx)
- Renal pyramids
- Nephron:
 - o Renal corpuscle: Glomerulus & glomerular (Bowman's) capsule
 - o Proximal convoluted tubules
 - o Loop of Henle (descending & ascending)
 - o Distal convoluted tubules
 - o Collecting tubule
- Renal arteries & veins:
 - o Interlobar arteries & veins
 - o Arcuate arteries & veins
 - o Afferent arterioles (entering glomerulus)
 - o Efferent arterioles (exiting glomerulus)

Ureters:

- Abdominal & pelvic parts
- Histology (from top to bottom):
 - o Tunica mucosa (transitional epithelium)
 - o Tunica muscularis
 - o Tunica adventitia

Urinary bladder:

- Apex, body, fundus, & cervix
- Histology (from top to bottom):
 - o Tunica mucosa (transitional epithelium)
 - o Tela submucosa
 - o Tunica muscularis
 - o Tela subserosa
 - o Tunica serosa
- Trigone
- Uvula

Male genitalia:

- Scrotum
- Testis:
 - o Lobules
 - o Convoluted seminiferous tubules
- Epididymis
- Paraididymis
- Ductus deferens
- Ejaculatory duct
- Seminal vesicle with excretory duct
- Spermatic cord

- Prostate: base (top) & apex (bottom): rt, lt, & middle lobes
- Bulbourethral (Cowper's) gland
- Penis:
 - o Root
 - o Body (shaft)
 - o Glans
 - o Prepuce (foreskin)
- Urethra:
 - o Prostatic part
 - o Membranous part
 - o Spongy part

Female genitalia:

- Ovary:
 - o Primary ovarian follicles
 - o Vesicular ovarian (Graafian) follicles
 - o Ovum (oocyte)
 - o Corpus luteum (Endocrine gland arising from ruptured follicle)
- Uterine (Fallopian) tube, oviduct:
 - o Fimbriae
 - o Ampulla
 - o Isthmus
 - o Histology: Tunica mucosa (ciliated columnar epithelium with glandular cells)
- Uterus:
 - o Body & fundus
 - o Cervix w/ cervical canal
 - o Histology (from out to in):
 - Tunica serosa "perimetrium"
 - Tela subserosa
 - Tunica muscularis "myometrium"
 - Tunica mucosa "endometrium" (simple columnar epithelium & glands)
- Vagina:
 - o Hymen
 - o Histology:
 - Tunica muscularis
 - Tunica mucosa (glycogen-rich, stratified, nonkeratinized squamous epithelium)
- Clitoris
- Vestibular (Bartholin's) glands
- Urethra

Embryonic terms:

- Umbilical cord
- Placenta (attached to endometrium)
- Amnionic fluid

Endocrine Glands

Pituitary gland (Hypophysis):

- Adenohypophysis (anterior lobe)
- Neurohypophysis (posterior lobe)
- Infundibulum

Pineal body (gland):

In the CNS

Thyroid gland:

- Right & Left lobes
- Isthmus of thyroid gland
- Pyramidal lobe
- Lobules
- Accessory thyroid glands
- Histology:
 - o Stroma
 - o Parenchyma: essential for thyroid function

Superior & inferior parathyroid glands

Adrenal (suprarenal) glands:

- Anterior & posterior surfaces
- Renal surface
- Hilum
- Adrenal cortex
- Adrenal medulla
- Accessory suprarenal glands

Thymus gland:

- Right & left lobes
- Thymic lobules
- Cortex & medulla

Lymphatic System

Lymphatic vessels:

Afferent & efferent lymphatic vessels

Regional lymph nodes:

– Head & neck (10):

- Occipital
- Mastoid
- Parotid (superficial & deep)
- Facial
- Lingual
- Submental
- Submandibular
- Anterior cervical (jugular)
- Thyroid
- Lateral cervical

– Upper limb (5):

- Axillary lymphatic plexus & nodes
- Brachial
- Pectoral
- Cubital
- Supratrochlear

– Thorax (6):

- Paramammary
- Parasternal
- Intercostal
- Paravertebral
- Prepericardial
- Superior phrenic

– Abdomen (3):

- Right, intermediate, & left lumbar
- Inferior phrenic
- Inferior epigastric

– Visceral (10):

- Celiac
- Gastric
- Pyloric
- Pancreatic
- Pancreatoduodenal
- Splenic
- Hepatic
- Cystic
- Mesentric
- Common iliac

– Pelvis (3):

- Parauterine
- Paravaginal
- Pararectal

– Lower limb (4):

- Inguinal
- Popliteal
- Anterior & posterior tibial
- Fibular

NEROUS SYSTEM

Meninges

(From top to bottom)

Cranial dura mater
Subdural space

Cranial arachnoid
Subarachnoid space
Subarachnoid cisterns

Cranial pia mater

Spinal dura mater
Epidural space

Spinal arachnoid
Subarachnoid space

Spinal pia mater

Central Nervous System

Spinal Cord:

- Cervical & lumbosacral enlargements
- Segments of spinal cord (same names of vertebral column segments)
- Central canal
- Gray matter (H-shaped):
 - o Anterior, posterior, & lateral columns & horns
 - o Anterior & posterior gray commissures
- White matter (myelinated nerves):
 - o Anterior & posterior white commissures
 - o Anterior, posterior, & lateral funiculus

Brain (3rd, 4th, & lateral ventricles):

Brainstem:

Hindbrain:

- Medulla oblongata

Metencephalon:

- Pons
- Cerebellum:
 - o Anterior & posterior lobes
 - o Rt & Lt hemispheres
 - o Cerebellar peduncles (fibers provide connections to & from cerebellum)

Midbrain:

- o Cerebral peduncle
- o Substantia nigra

Forebrain (Diencephalon):

- o Epithalamus
- o Pineal gland (body)
- o Dorsal thalamus
- o Metathalamus
- o Ventral thalamus (subthalamus)
- o Hypothalamus (anterior & posterior regions)
- o Pituitary gland

Endbrain:

- Cerebrum (two hemispheres)
 - o Cerebral cortex
 - o Cerebral gyri (s: gyrus): Convulsions of the cerebral hemispheres
 - o Cerebral sulci (s: sulcus): Fissures between gyri
 - o Cerebral lobes (4): frontal, parietal, temporal & occipital
 - o Longitudinal & transverse fissures
 - o Olfactory brain
- Corpus callosum: Massive transverse fibers connecting right & left hemispheres
- Basal nuclei (corpus striatum)

Peripheral Nervous System

Cranial nerves (12 pairs of nerves):

All of them emerge from the base of the brain and exit through the base of the skull, except of the trochlear (IV)

- Olfactory nerve (I)
- Optic nerve (II)
- Oculomotor nerve (III)
- Trochlear nerve (IV)
- Trigeminal nerve (V)
- Abducent nerve (VI)
- Facial nerve (VII)
- Vestibulocochlear nerve (VIII)
- Glossopharyngeal nerve (IX)
- Vagus nerve (X)
- Accessory nerve (XI)
- Hypoglossal nerve (XII)
- Maxillary & mandibular nerves

Spinal nerves (Anterior “ventral” & posterior “dorsal” roots & branches):

Cervix:

- Cervical nerves & plexus (the only posterior nerve)
- Phrenic nerve
- Brachial plexus
- Supraclavicular part:
 - o Dorsal scapular nerve
 - o Long thoracic nerve
 - o Suprascapular nerve
- Infraclavicular part:
 - o Medial & lateral pectoral nerves
 - o Musculocutaneous nerve (for biceps muscle)

Upper limb:

- Ulnar nerve
- Radial nerve
- Palmar nerves (of the hand)

Thorax:

- Subscapular nerve
- Thoracodorsal nerve
- Axillary nerve
- Thoracic nerves:
 - o Anterior branches (intercostal nerves)
 - o Posterior branches

Lumbar:

- Lumbar nerves & plexus:
 - o Anterior & posterior branches
 - o Iliohypogastric nerve
 - o Ilioinguinal nerve
 - o Genitofemoral nerve
 - o Lateral femoral cutaneous nerve
 - o Obturator nerve
- Sacral nerves & Coccygeal nerve:
 - o Anterior & posterior branches

Lower limb:

- Femoral nerve
- Superior & inferior gluteal nerves
- Sciatic nerve (thickest nerve of the body)
- Tibial nerve
- Fibular nerves (superficial & deep)
- Plantar nerves (of the foot)

Genital area:

- Pudendal nerve
- Coccygeal nerve & plexus

Autonomic Nervous System

Autonomic (visceral) plexus: Ganglia of autonomic plexus

Thoracic aortic plexus:

- Cardiac plexus & ganglia
- Esophageal plexus
- Pulmonary plexus

Abdominal aortic plexus:

- Celiac plexus & ganglia
- Aorticorenal ganglia
- Superior & inferior mesenteric ganglia & plexus
- Phrenic ganglia
- Gastric plexus
- Enteric plexus
- Superior rectal plexus
- Hepatic plexus
- Splenic plexus
- Pancreatic plexus
- Suprarenal plexus
- Renal plexus
- Ureteric plexus
- Testicular/ovarian plexus
- Iliac plexus
- Femoral plexus

Superior hypogastric plexus:

- Rt & left hypogastric nerves
- Middle & inferior rectal plexus
- Prostatic plexus
- Uterovaginal plexus

SYMPATHETIC PART (SYSTEM): Sympathetic trunk (ganglia of symp trunk):

- Superior & middle cervical ganglia
- Cervicothoracic ganglion
- Thoracic ganglia
- Lumbar ganglia
- Sacral ganglia

PARASYMPATHETIC PART (SYSTEM):

Cranial part (III, VII, IX, X):

- Terminal ganglion
- Ciliary ganglion
- Otic ganglion
- Submandibular ganglion
- Sublingual ganglion

Pelvic part: Pelvic ganglia

Sense Organs

Eye (Organ of Vision)

- Optic nerve
- Eyeball:
 - o Anterior & posterior poles
 - o Equator
 - o Internal & external axis

Fibrous tunic of eyeball (external wall):

- Sclera
- Canal of Schlemm (involved in the discharge of aqueous humor from the anterior chamber)
- Cornea

Vascular tunic of eyeball (middle layer):

- Choroid (vascular coat lying between the retina and sclera)
- Ciliary body (contains ciliary muscles & processes)
- Iris
- Pupil

Internal (sensory) tunic of eyeball:

- Retina:
 - o Pigmented part
 - o Nervous part
 - o Neuroepithelial (photosensitive) layer: contains rods & cones
 - o Optic disc (البقعة العمياء)
- Retinal blood vessels

Chambers of the eye:

- Anterior chamber:
 - o Aqueous humor (98% water, 1.4% NaCl, & traces of protein & sugar)
- Posterior chamber:
 - o Aqueous humor (secreted from ciliary processes)
- Viterous chamber:
 - o Viterous body (98% water, hyaloyronic acid (make it gelatinous) & traces of protein, NaCl, & fibrils)
 - o Viterous humor (fluid part of the vitreous body)

Lens

Muscles of the eye:

Orbital muscle, superior, medial, lateral, & inferior rectus, superior & inferior oblique

Lacrimal apparatus:

- Lacrimal gland & sac & Nasolacrimal duct

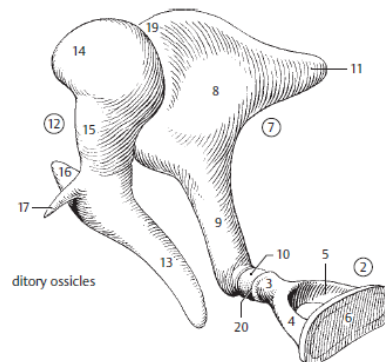
Ear (Vistibulocochlear Organ)

Internal ear:

- Membranous labyrinth:
 - o Endolymph: fluid within memb labyrinth
 - o Perilymph: fluid surrounding memb labyrinth
- Vestibular labyrinth:
 - o Endolymphatic duct & sac
 - o Utriculosaccular duct
 - o Utricle
 - o Semicircular ducts (anterior, posterior, & lateral)
 - o Sacculle
- Cochlear labyrinth:
 - o Cochlear aqueduct (connecting perilymphatic space w/ subarachnoid space)
 - o Spiral organ of Corti (transforms sound waves into nerve impulses)
- Osseous labyrinth:
 - o Vestibule (encloses utricle & sacculle)
- Osseous semicircular canals
- Cochlea
- Internal acoustic (auditory) meatus (canal)

Middle ear:

- Tympanic cavity
- Tympanic membrane (eardrum)
- Auditory ossicles:
 - o Stapes (2)
 - o Incus (7)
 - o Malleus (12)



Auditory (pharyngotympanic, Eustachian) tube:

- Osseous part
- Cartilaginous part

External ear:

- External acoustic (auditory) meatus (canal)
- Auricle (Pinna):
 - o Concha (cavity) of auricle

Olfactory Organ

- Nasal mucosa
- Olfactory gland (of Bowman)

Gustatory Organ

- Taste bud
- Taste pore

Integumentary System

Cutis (epidermis + dermis)

Epidermis (Stratified, keratinized squamous epithelium):

- Stratum corneum (undergoes continual desquamation)
- Stratum lucidum
- Stratum granulosum
- Stratum spinosum (polygonal cells with spinus processes)
- Stratum basale

Dermis “corium” (collagenous and elastic fibers rich in nerves and blood vessels and devoid of fat):

- Papillary layer
- Reticular layer
- Subcutaneous tissue

Cutaneous glands:

- Sweat glands & ducts
- Ceruminous glands
- Sebaceous glands

Hair (Pili) follicle:

- Bulb of hair:
 - o Hair papilla
- Hair root
- Hair shaft

Nails:

- Nail matrix (bed)
- Wall of nail
- Body of nail
- Root of nail
- Lamula

Breast:

- Nipple
- Mammary gland (with lobes & lobules)
- Lactiferous ducts
- Accessory mammary glands

