

List of Three's in Anatomy

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General

- 3 body planes: frontal- sagittal- transverse
- 3 layers of skin: epidermis- dermis- hypodermis
- 3 general venous circulations: systemic- pulmonary- portal

Embryology

- 3 germ layers: endoderm- mesoderm- ectoderm
- 3 divisions of somites: sclerotome- dermatome- myotome
- 3 definitive kidneys: pronephros- mesonephros- metanephros
- 3 derivatives of skull: desmo/dermatocranium- splanchno/viscerocranium- chondrocranium
- 3 initial embryonic divisions of the brain: prosencephalon- mesencephalon- rhombencephalon

Back

- 3 parts of the erector spinae m.: iliocostalis- longissimus- spinalis (each are divided again into 3 parts)
- 3 parts of the transversospinalis m.: semispinalis m.- multifidus m.- rotator m.
- 3 coverings of the spinal cord: dura mater- arachnoid process- pia mater
- 3 spaces surrounding spinal cord: epidural- subdural- subarachnoid
- 3 borders of the scapula: medial (vertebral)- lateral- superior
- 3 angles of the scapula

Neck

- 3 parts of the axillary artery
- 3rd part has 3 branches: subscapular- anterior humeral circumflex- posterior humeral circumflex

Brachial plexus

- 3 trunks: upper- middle- lower
- 3 posterior divisions
- 3 anterior divisions
- 3 cords:
 - Lateral-
 - Medial- (3 branches off medial cord): medial brachial- medial antebrachial- medial pectoral posterior
 - 3 branches off posterior cord: upper subscapular- lower subscapular- thoracodorsal
- 3 branches off the thyrocervical trunk: transverse cervical- suprascapular- inferior thyroid
- 3 veins drain the thyroid gland:
 - superior (into internal jugular)
 - middle (into internal jugular)
 - inferior (into left brachiocephalic)
- 3 scalene muscles: anterior- middle- posterior
- 3 muscles attach to spine of C2: semispinalis cervicis- obliquus capitis inferior- rectus capitis posterior major
- 3 constrictor muscles: superior- middle- inferior
- 3 parts of the pharynx: nasopharynx- oropharynx- laryngeopharynx
- 3 parts to the hyoid bone: body- greater horn- lesser horn
- 3 structures inside carotid sheath: common carotid artery- internal jugular vein- vagus nerve
- 3 ganglia in sympathetic cervical chain: superior (magnum)- middle- inferior (stellate)

Head

- 3 parts of the maxillary artery: mandibular- pterygoid- pterygopalatine
- 3 divisions of the trigeminal n.:
 - V1 - ophthalmic (has 3 branches): frontal- nasociliary- lacrimal
 - V2 - maxillary
 - V3 - mandibular- has 3 parts:
 - undivided trunk
 - anterior division
 - posterior division (has 3 branches): auriculotemporal- lingual- inferior alveolar
- 3 cranial fossae: anterior- middle- posterior
- 3 nuchal lines: inferior- superior- highest
- 3 layers to calvarium: outer table- diploe- inner table
- 3 clinoid processes of the sphenoid bone: anterior- middle- posterior
- 3 cranial nerves pass through jugular foramen: C.N. IX- C.N. X- C.N. XI
- 3 cranial nerves travel in the wall of the cavernous sinus: C.N. III- C.N. IV- C.N. V
- 3 cranial nerves carry parasympathetics to the head: C.N. III- C.N. VII- C.N. IX
- 3 nasal conchae: superior- middle- inferior
- 3 principal components of the temporal bone: squama- petro/mastoid- tympanic ring
- 3 bones of the upper jaw/palate: premaxilla- maxilla- palatine
- 3 salivary glands: parotid- submaxillary- sublingual
- 3 muscles innervated by 3 cranial nerves attach to the styloid process:
 - stylohyoid - C.N. VII
 - stylopharyngeus - C.N. IX
 - styloglossus - C.N. XII
- 3 layers in tympanic membrane [ear drum] (derived from 3 germ layers)
- 3 cranial nerves innervate the external tympanum: C.N. V- C.N. VII- C.N. X
- 3 middle ear bones: incus- malleus- stapes
- 3 parts of the ear: outer- middle- inner
- 3 semicircular canals (used for equilibrium)
- 3 membranes of the cochlea: Reissner- Tectorial- Basilar (3 turns to the cochlea is upper limit.)
- 3 compartments to the cochlea
- 3 intrinsic muscles of the tongue: longitudinal- vertical- transverse
- 3 muscles elevate the mandible: masseter m.- temporalis m.- medial pterygoid m.
- 3 branches of the posterior auricular artery: stylomastoid branch- auricular branch- occipital branch
- 3 branches of the ophthalmic nerve (VI): nasociliary n.- frontal n.- lacrimal n.
- 3 superior alveolar nerves:
 - anterior superior alveolar n.
 - middle superior alveolar n.
 - posterior superior alveolar n.
- 3 types of deciduous teeth: incisors- canine- molars
- 3 layers of dentition: enamel- dentin- pulp
- 3 general layers of the eye: retinal- choroidal/ciliary body- scleral/corneal
- 3 color receptors in cone cells: red- blue- yellow
- 3 nerves to the larynx: external laryngeal n.- internal laryngeal n.- recurrent laryngeal n.
- 3 cerebral arteries: anterior- middle- posterior
- 3 arteries supply the cerebellum: superior cerebellar- anterior inferior cerebellar- posterior inferior cerebellar

Shoulder

- 3 muscles attach to coracoid process: coracobrachialis- pectoralis minor- short head of biceps
- 3 parts of the axillary a.: 3rd part has 3 branches:
 - subscapular a.
 - anterior circumflex humeral a.
 - posterior circumflex humeral a.
- 3 muscles of the rotator cuff are rotators
- 3 glenohumeral ligaments: superior- middle- inferior

Arm

- 3 muscles in anterior compartment: biceps brachii- coracobrachialis- brachialis
- 3 heads of triceps brachii m.: long- lateral- medial
- 3 muscles attach to greater tubercle of the humerus: supraspinatus- infraspinatus- teres minor
- 3 parts of the ulnar collateral ligament of the elbow: anterior- posterior- oblique

Forearm

- 3 muscles in deep anterior compartment: flexor digitorum profundus- flexor pollicis longus- pronator quadratus

Hand

- 3 muscles in thenar eminence: opponens pollicis- flexor pollicis brevis- abductor pollicis brevis
- 3 muscles in hypothenar compartment: flexor digiti minimi- abductor digiti minimi- opponens digiti minimi
- 3 phalanges in fingers: proximal- middle- distal
- 3 palmar interossei

Thorax

- 3 compartments: mediastinum- left pleural cavity- right pleural cavity/li>
- 3 branches off the aortic arch: brachiocephalic a.- left common carotid a.- left subclavian a.
- 3 parts of the aorta: ascending- arch- descending
- 3 principal surfaces of the pleura: costal- diaphragmatic- mediastinal *the cupola is the superior extension
- 3 lobes of the right lung: superior- middle- inferior
- 3 bronchopulmonary segments of the upper right lobe: apical- posterior- anterior
- 3 muscles of interthoracic wall: external intercostal- internal intercostal- intercostalis intimus
- 3 false ribs on each side
- 3 cusps of the semilunar aortic and pulmonary valves of the heart
- 3 cusps of the tricuspid valve
- 3 main arteries of the heart: circumflex- anterior interventricular- right coronary
- 3 splanchnic nerves: greater- lesser- least

Abdomen

- 3 folds in anterior abdominal wall:
 - median (obliterated urachus)-
 - medial (obliterated umbilical a.)-
 - lateral (inferior epigastric a.)
- 3 muscles contribute to linea semilunaris/rectus abdominus aponeurosis:
 - internal oblique
 - external oblique
 - transversus abdominus
- 3 openings in diaphragm: aortic- esophageal- inferior vena cava
- 3 arcuate ligaments of diaphragm:
 - median over aorta
 - medial over psoas major m.
 - lateral over quadratus lumborum m.
- 3 parts of the stomach: fundus- body- pylorus
- 3 smooth muscle layers of the stomach: oblique- longitudinal- circular
- 3 unpaired branches of the abdominal aorta: celiac a.- superior mesenteric a.- inferior mesenteric a.
- 3 branches of celiac a.: left gastric a.- splenic a.- common hepatic a.
- 3 branches of common hepatic a.: right gastric a.- proper hepatic a.- gastroduodenal a.
- 3 arterial branches supply adrenal glands: inferior phrenic- aorta- renal
- 3 structures lie within porta hepatis: proper hepatic a.- portal vein- common bile duct
- 3 principal veins contribute to the portal vein: splenic v.- superior mesenteric v.- inferior mesenteric v.
- 3 parts of the small intestine: duodenum- jejunum- ileum
- 3 parts of large intestine: ascending- transverse- descending
- 3 tenia of large intestine
- 3 coverings of the spermatic cord: external spermatic fascia- cremasteric fascia- internal spermatic fascia
- 3 vessels in the umbilical cord, mbilical vein, 2 umbilical arteries

Pelvis and Perineum

- 3 bones in os coxae: pubis- ilium- ischium
- 3 parts of the pubis: body- ischium- ramus- inferior ramus
- 3 foramina in the pelvis: obturator foramen- greater ischiadic foramen- lesser ischiadic foramen
- 3 gluteus muscles: gluteus maximus- gluteus medius- gluteus minimus
- 3 rectal arteries:
 - superior rectal from inferior mesenteric a.
 - middle rectal from internal iliac a.
 - inferior rectal from internal pudendal a.
- 3 branches of the posterior division of internal iliac a.: iliolumbar- lateral sacral- superior gluteal
- 3 openings in the urinary bladder: left ureter- right ureter- urethra
- 3 parts of the urethra: prostatic- membranous- spongy
- 3 parts of the uterus: fundus- body- cervix
- 3 erectile compartments of the penis: corpus spongiosum- left corpus cavernosum- right corpus cavernosum
- 3 muscles in superficial perineal pouch: bulbospongiosus- ischiocavernosus- superficial transverse perineus
- 3 arteries supply the rectum:
 - superior rectal (from inferior mesenteric)
 - middle rectal (from internal iliac)
 - inferior rectal (from internal pudendal)
- 3 valves in the rectum: superior- middle- inferior

Gluteus

- 3 gluteal muscles: gluteus maximus- gluteus medius- gluteus minimus
- 3 muscles innervated by superior gluteal n.: gluteus medius- gluteus minimus- tensor fascia lata

Thigh

- 3 hamstring muscles: biceps femoris- semitendinosus- semimembranosus
- 3 compartments in the femoral sheath
- 3 muscular compartments of the thigh: anterior- medial- posterior
- 3 branches of the lateral femoral circumflex a.: descending branch- transverse branch- ascending branch
- 3 muscles contribute to the pes anserinus: sartorius- semitendinosus- gracilis

Leg

- 3 compartments in the leg
- 3 muscles in anterior compartment: tibialis anterior- extensor digitorum- extensor hallucis
- 3 branches of the peroneal artery in the leg: anterior tibial a.- posterior tibial a.- peroneal a.
- 3 peroneal muscles in the leg: peroneus longus m.- peroneus brevis m.- peroneus tertius m.
- 3 muscles that comprise the triceps surae: gastrocnemius m.- soleus m.- plantaris m.
- 3 muscles in the deep posterior compartment:
 - tibialis posterioris m.
 - flexor hallucis longus m.
 - flexor digitorum longus m.

Foot

- 3 cuneiform bones: medial- intermediate- lateral
- 3 phalanges in toes: proximal- middle- distal
- 3 plantar interossei
- 3 described arches: medial- lateral- transverse

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