

**Deep Muscles of the Back**

"I Love Spaghetti – Some More Ragu": Iliocostalis, Longissimus, Spinalis – Semispinalis, Multifidus, Rotatores

**Brachial Plexus**

"Really Thirsty? Drink Cold Beer" or "Randy Travis Drinks Cold Beers"

Roots, Trunks, Divisions, Cords, Branches

"MARMU" (terminal nerves): Musculocutaneous, Axillary, Radial, Median, Ulnar

**Muscles Inserting into Humerus**

"A lady between two majors"

Pectoralis major attaches to lateral lip of bicipital groove, the teres major attaches to medial lip of bicipital groove, and the latissimus dorsi attaches to the floor of bicipital groove. The "lati" is between two "majors"

**Carpal Bones** (4 proximal, lateral to medial; 4 distal, lateral to medial)

"Some Lovers/Lions Try Positions That They Can't Handle":

Scaphoid, Lunate, Triquetrum, Pisiform, Trapezoid, Trapezium, Capitate, Hamate.

"TrapeziUM at the thUMB"

"TrapeziOID is inSIDE"

"Flexor carpi superficialis splits in two, to permit profundus to pass through"

**Radial Nerve Innervations**

"BEST": Brachioradialis, Extensors, Supinator, Triceps.

**Median Nerve Innervations**

"2LOAF": Lateral 2 Lumbricals, Opponens pollicis, Abductor pollicis brevis, Flexor pollicis brevis.

**Rotator Cuff Muscles** (3 greater tubercle; 1 lesser tubercle)

"SITS": Superspinatus, Infraspinatus, Teres minor, Subscapularis

**Transverse Scapular Ligament**

Army over (bridge), Navy under (bridge)

Artery goes over and Nerve goes under the ligament

**Cubital Fossa** (lateral to medial)

"TAN": Tendon (biceps brachii), Artery (brachial), Nerve (medial)

**Hand**

"PAD": Palmar (hand) muscles ADduct

"DAB": Dorsal (hand) muscles ABduct

"All For One And One For All" (medial to lateral):

Abductor digiti minimi, Flexor digiti minimi, Opponens digiti minimi, Adductor pollicis, Opponens pollicis, Flexor pollicis brevis, Abductor pollicis brevis

**Axillary Artery Branches**

“Save The Lions And Protect Species”: Supreme/Superior Thoracic Artery, Thoracoacromial Artery, Lateral Thoracic, Anterior Circumflex Humeral, Posterior Circumflex Humeral, Subscapular (thoracodorsal and circumflex scapular)

**Thoracoacromial Artery Branches**

"CALifornia Police Department": Clavicular, Acromial, Pectoral, Deltoid

**Pectoral Nerves**

"Lateral is less, medial is more"

Lateral pectoral nerve goes through pectoralis major, while medial pectoral nerve goes through both pectoralis major and minor.

**Deep Posterior Leg Muscles**

“Down The Hatch”: flexor Digitorum longus, Tibialis posterior, flexor Hallucis longus

**Medial Malleolus** (anterior to posterior)

“Tom, Dick, And Very Nervous Harry”: Tibialis posterior, flexor Digitorum longus tendon, posterior tibial Artery, posterior tibial Vein, tibial Nerve, flexor Hallucis longus

**SGT FOS** (connections to pes anserinus)

Sartorius (Femoral nerve), Gracilis (Obturator nerve), SemiTendinosus (Sciatic nerve)

**Femoral Triangle Boundaries**

“So I May Always Love Sally”: Superiorly – Inguinal ligament, Medially – Adductor longus, Laterally – Sartorius

**Order of Structures in Femoral Triangle / Groin** (lateral to medial)

"NAVEL": Nerve, Artery, Vein, Empty space, Lymphatics

**Leg Anterior Compartment**

"The Hospitals Are Not Dirty Places": Tibialis anterior, extensor Hallucis longus, anterior tibial Artery, deep fibular Nerve, extensor Digitorum longus, Peronius tertius

**Cruciate Ligament Paths and Insertions**

“PAMs ApPLes”: Posterior [passes] Anteriorly [and inserts] Medially; Anterior [passes] Posteriorly [and inserts] Laterally

**Terrible (Unhappy) Triad Knee Injury** (American football injury)

“ATM” for money-maker: Anterior cruciate ligament, Tibial (medial) collateral ligament, Medial meniscus

**Leg Nerves**

“FED”: Fibular nerve Everts and Dorsiflexes the foot

“TIP”: Tibial nerve Inverts and Plantarflexes the foot

**AFA 222 FAF** (plantar region of foot)

Layer 1: Abductor Hallucis, Flexor digitorum brevis, Abductor digiti minimi

Layer 2: Two tendons (Flexor Hallucis longus, flexor digitorum longus), Two muscles (lumbricles, quadratus plantae)

Layer 3: Flexor Hallucis brevis, Adductor Hallucis (oblique and transverse heads), Flexor digiti minimi brevis

**Tarsal Tunnel Contents** (superior to inferior)

“Tiny Dogs Are Not Hunters”: Tibialis posterior, flexor Digitorum longus, posterior tibial Artery, tibial Nerve, flexor Hallucis longus

**Inguinal Canal Walls** (superior moving around in order to posterior)

"2MALT: 2M, 2A, 2L, 2T":

Superior wall (roof): 2 Muscles: internal oblique Muscle, transverse abdominus Muscle

Anterior wall: 2 Aponeuroses: Aponeurosis of external oblique, Aponeurosis of internal oblique

Lower wall (floor): 2 Ligaments: inguinal Ligament, lacunar Ligament

Posterior wall: 2Ts: Transversalis fascia, conjoint Tendon

**Tarsal Bones**

"Traverse City (is) Noted (for) MICHIGAN'S LOVELY CHERRIES": Talus Calcaneus (new row), Navicular (new row), Medial Intermediate cuneiforms, Lateral cuneiform, Cuboid

**Hip Lateral Rotators (Femur Greater Trochanter Attachments)**

“P-GO-GO-Q”: Piriformis Gemellus superior Obturator internus Gemellus inferior Obturator externus Quadratus femoris

**Ribs** (superior to inferior), **Neck** and **Sublingual Haitus** (medial to lateral)

“VAN”: Vein, Artery, Nerve

**Vagal Nerve Path Into Thorax**

“Not Left Behind”: Left is anterior (not behind), Right is posterior

**Lung Vessels**

“RALS”: Right lung artery is Anterior to broncus, Left lung artery is Superior to broncus

**Structures Piercing The Diaphragm**

“I 8 10 Eggs At 12”: T8 = IVC, T10 = Esophagus, T12 = Aorta

**Heart Valves**

“RAT, LAMB”: Right Atrial Tricuspid, Left Atrial Mitral (Bicuspid) – or –

“LAB RAT”: Left Atrial Bicuspid, Right Atrial Tricuspid

**Spinal Nerves**

"C3-4-5 keep the phrenic nerve (or diaphragm) alive"

"C5-6-7 raise your arms to heaven" (long thoracic nerve roots innervate serratus anterior)

**Scrotum Layers** (superficial to deep)

"Some Dang Englishman Called It The Testis": Skin, Dartos, External spermatic fascia, Cremaster, Internal spermatic fascia, Tunica vaginalis, Testis

**Innervation of the Penis**

"S2,3,4 keep the penis off the floor"

Refers to the innervation of the penis by branches of the pudendal nerve, which is derived from spinal cord levels S2-4.

Point, Shoot, Score

Parasympathetic for erection, Sympathetic for ejaculation, Somatomotor for ...

**Great Vessels**

"ABC'S": Aortic arch gives off the Brachiocephalic trunk, the left Common carotid, and the left Subclavian artery

"Boston College Stinks": right Brachiocephalic trunk, left Common carotid, left Subclavian artery

**Portal Triad**

"DAV": bile Duct, hepatic Artery, portal Vein

**Liver Lobes**

"GQ": The Gallbladder is next to the Quadrate lobe

**Pathway After Stomach**

"Dow Jones Industrial Climbing Average Closing Stock Report": Duodenum, Jejunum, Ileum, Cecum, Appendix, Colon (ascending/transverse), Sigmoid colon, Rectum

**Spleen**

"1,3,5,7,9,11"; It measures 1x3x5 inches, weighs 7 ounces and lies between ribs 9-11.

**Thoracic Duct**

"The duck is between two geese."

duck = thoracic duct

2 geese = azyGOUS vein and esophaGOUS

**Epidermis**

"Brent Spiner Gained Lieutenant Commander"

Basale, Spinosum, Granulosum, Lucidum, Corneum

**Nasal Cavity Components**

"Never Call Me Needle Nose!": external Nares, Conchae, Meatuses, internal Nares, Nasopharynx

**Scalp Layers** (superficial to deep)

"SCALP": Skin, Connective tissue, Aponeurosis, Loose areolar tissue, Pericranium

**Horner's Syndrome Symptoms**

“SPAM”: Sunken eyeballs/Sympathetic plexus (cervical) affected, Ptosis, Anhydrosis, Miosis

**Bell's Palsy Symptoms (Unilateral)**

“BELL’S Palsy”: Blink reflex abnormal, Earache, Lacrimation (deficient, excess), Loss of taste, Sudden onset, Palsy of VII nerve muscles

**Potentially Absent Muscles**

“5 P's”: Palmaris longus [upper limb] Plantaris [lower limb] Peroneus tertius [lower limb] Pyramidalis [anterior abdominal wall] Psoas minor [posterior abdominal wall]

**Facial Bones**

"Virgil Can Not Make My Pet Zebra Laugh!": Vomer, Conchae, Nasal, Maxilla, Mandible, Palatine, Zygomatic, Lacrimal

**Deep Tendon Reflexes Root Supply** (nursery rhyme)

One, two-- buckle my shoe. Three, four-- kick the door. Five, six-- pick up sticks. Seven, eight-- shut the gate. S1,2 = ankle jerk L3,4 = knee jerk C5,6 = biceps and brachioradialis C7,8 = triceps

**Supraorbital Fissure**

Structures that pass through it:

"Luscious French Tarts Sit Naked In Anticipation Of Sex."

Lacrimal nerve, Frontal nerve, Trochlear nerve, Superior branch of oculomotor nerve, Nasociliary nerve, Inferior branch of oculomotor nerve, Abducent nerve, Ophthalmic veins, Sympathetic nerves

**Cranial Bones**

"Old People From Texas Eat Spiders"

Occipital, Parietal, Frontal, Temporal, Ethmoid, Sphenoid

**Cranial Nerves**

I On (Olfactory)	I Some (Sensory)
II Old (Optic)	II Say (Sensory)
III Olympus (Oculomotor)	III Marry (primarily Motor)
IV Towering (Trochlear)	IV Money, (primarily Motor)
V Tops, (Trigeminal)	V But (Both)
VI A (Abducens)	VI My (primarily Motor)
VII Finn (Facial)	VII Brother (Both)
VIII And (Auditory)	VIII Says (Sensory)
IX German (Glossopharyngeal)	IX Big (Both)
X Viewed (Vagus)	X Bras (Both)
XI Astounding (Accessory)	XI Matter (primarily Motor)
XII Hops (Hypoglossal)	XII More (primarily Motor)

**"You have 1 Nose & 2 Eyes":** I - Olfactory.; II - Optic

### Cranial Nerve Fibers (Phone Number)

1. Write SE SA VE VA SA VE VA SE "SE Save VA Save Vase"
  - a. Make sure there are spaces between the 2 letters
2. Write 4 "S" and 4 "G" before each pair of letters
  - a. Put a "p" after the 2nd G
3. The phone number to remember is 251-5303
4. Fill in with 7, 9, 10 and an 11 on the end for a goal post
5. The remainder involves using your imagination and maybe a little multiplication

SSE	SSA	SVE	SVA	GSA	GVEp	GVA	GSE
8	2	5	1	5	3	0	3
	8	7	7	7	7	7	4
		9	9	9	9	9	12
		10	10	10	10	10	6
							11

### Extraocular Muscles

"LR6 - SO4 - rest3" or "(SO4LR6)3"

LR6 Lateral rectus --> VI abducens

SO4 Superior Oblique --> IV Trochlear

Remaining 4 eyeball movers --> III oculomotor

### Branches of Suclavian Artery

"VT is Cold": Vertebral, Thyrocervical trunk, Costocervical trunk

### External Carotid Artery Branches

"Some Anatomists Like Freaking Out Poor Medical Students" or "Suzy Always Lays Flat On Pillows Making Sweets Terrific": Superior thyroid, Ascending pharyngeal, Lingual, Facial, Occipital, Posterior auricular, Maxillary, Superficial Temporal

### Internal Jugular Vein (inferior to superior)

"Medical Schools Let Confident People In": Middle thyroid, Superior thyroid, Lingual, Common facial, Pharyngeal, Inferior petrosal sinus

### Facial Nerve Branches

"Please, To Zanzibar By Motor Car" or "Ten Zombies Bought My Car"

Posterior auricular, Temporal, Zygomatic, Buccal, Masseteric, Cervical

### Trigeminal Nerve – Where Branches Exit Skull

"Standing Room Only": Superior orbital fissure (V1), foramen Rotundum (V2), foramen Ovale (V3)

### Ansa Cervicalis Nerves

“GHost THought SOmeone STupid SHot Irene”: GenioHyoid, ThyroHyoid, Superior Omohyoid, SternoThyroid, SternoHyoid, Inferior omohyoid

### **Cervical Plexus – Arrangement of Important Nerves**

“GLAST”: 4 compass points, clockwise from north on the right side of neck: Great auricular, Lesser occipital, Accessory nerve (pops out between L and S), Supraclavicular, Transverse cervical

### **CN V – V3 Innervated Muscles (Brachial Arch 1 Derivatives)**

“M.D. My T.V.”: Mastication (masseter, temporalis, pterygoids), Digastric (anterior belly), MYlohyoid, tensor Tympani, tensor Veli palatini

### **V3 Sensory Branches**

“Buccaneers Are Inferior Linguists”: Buccal, Auriculotemporal, Inferior alveolar, Lingual

### **Facial Expression Muscles (Making A Face To Say PSS)**

“PSS”: Posterior belly of digastric, Stapedius, Stylohyoid

### **Lacrimal Nerve Course (Story of 8 L's)**

Lacrimal nerve runs on Lateral wall of orbit above Lateral rectus, then Lets communicating branch join in, then supplies Lacrimal gland, then Leaves it and supplies Lateral upper eye Lid