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\*deep fascia of the neck start posteriorly to vertebral column give three layers:1-outer investing fascia 2- middle prevertebral fascia 3-inner pretracheal fascia

\*deep fascia begin from posterior of vertebral then give outer layer investing fascia (it is spilt in some area and unit some area and holding some structure inside it) in

\*We follow the direction of arrows from posterior:

Deep fascia>>>> spilt outer layer then unit >>> so holding inside trapezius>>>>> then from anterior border of trapezius to floor of posterior triangle (because we said muscles of the posterior triangle cover by investing fascia) >> one layer >>> repeated sequence (spilt, unit)>>>holding inside (sternomastoid muscle)>>>one layer

\*Deep fascia>>> middle layer (prevertebral fascia) Surrounded vertebral column and muscles that surround it(splenius M, scalenus M, levator scapula M)

The last inner layer pre trachea fascia has from anterior to posterior :\*

 Respiratory tract ( 1-thyroid gland 2-layrnx) 3-recurrent laryngeal nerve GIT (4-pharynx 5- esophagus) this is allow the thyroid to move up and down during swallowing and talking from this can doctor examine thyroid enlargement during swallowing

\*also we can found arteries and nerves: carotid sheath is tubular extend from deep cervical fascia and upper axillary sheath has axillary nerve and artery

\*Boundaries of muscular triangle: inferior: midline of the neck

\*contents:

Four thin strap muscles: from sternum 1-sternohyoid M 2-sternothyroid M (below) 3-thyrohyoid (above) 4- omohyoid M superior and inferior belly digastric Ms

\*pic in page no.3:

From inferior border of mandible appear 1-digastric fossa and intermediate tendon 2-hyoid bone 3-thyroid cartilage Adam's apple

\*Adam's apple: has right and left two lamina united anterior but spilt posterior by muscles are behind esophagus; so on both outer sides of the thyroid lamina found oblique line for attached muscles

\*action of sternohyoid M: depress hyoid down during swallowing and speaking

\* Four thin strap muscles :

1-they are name depend on origin and insertion

2-they are supplied by ansa cervicalis except thyrohyoid M is supplied by C1 (hypoglossal N )

3-they move thyroid and hyoid cartilage during swallowing and speaking

\*Omohyoid M :

Inferior belly of digestive from upper border of scapula and suprascapular lig origin of

 \*note: suprascapular notch convert to 2 foramens by lig, artery pass through superior forearm and nerve pass through inferior foreman (suprascapular nerve origin from upper trunk of brachial plexus supply two muscles 1-supraspinatus M 2-infraspinatus M )

\*insertion of omohyoid M is appear anchor no attach ,it is similar anchor ship , it held to medial end of clavicle by fascial sling

\*Ansa cervicalis : loop form when contact two roots superior root from C1 hypoglossal N and inferior root from C2+3

\*thyroid gland located below larynx and anterior to neck ,has 2 capsules inner and outer (from thick deep pretracheal fascia for swallow and speaking

\*embryology of thyroid gland:

 1/3 posterior dorsal of the tongue and 2/3 anterior dorsal of tongue is separated by V shape apex sulcus terminalis has foramen cecum from this point start embryo of thyroid gland>>>>> start at 4 week thyroid bud then it is convert to thyroid duct, at 7 week duct begin distillation, so if mother during this three months (4-7) drink alcohol, smoke, eat nuts ,sick or malnutrition will affect on thyroid gland remain above "remin thyroid gland under tongue when baby" or descend to below from normal position

\*remnant of thyroglossal duct >>>> pyramidal lobe

\*surgical doctor make opening to trachea from pyramidal lobe or from supramanubrial notch is name >>> tracheostomy

\*superior thyroid artery combine with external laryngeal nerve

Inferior thyroid artery combine with recurrent laryngeal nerve

\*thyrocervical trunk branches to 1-inferior thyroid A go to lower part of isthamus 2- supraclavical A 3-transvercervical A

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