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PHARYNX

3

DEVELOPMENT

10

PHARYNX

- PHARYNX
 - Features
 - wide muscular tube
 - situated
 - behind **nose**
 - behind **mouth**
 - behind larynx
 - Parts
 - upper part
 - transmits only **air**
 - widest and non collapsible
 - middle part
 - both **air** and **food**
 - narrow
 - lower part
 - only **food**
 - narrowest part of git (except for vermiform appendix)
 - Boundaries
 - superiorly
 - base of skull
 - including posterior part of **body** of sphenoid
 - basilar part of occipital bone in front of pharyngeal tubercle
 - Inferiorly
 - pharynx is continuous with the oesophagus
 - at level of C6 vertebra
 - corresponding to lower border of cricoid cartilage
 - Posteriorly
 - glides freely on prevertebral fascia
 - Anteriorly
 - communicates with nasal , oral cavity and larynx
 - Structure
 - mucosa
 - submucosa
 - pharyngobasilar fascia or pharyngeal aponeurosis
 - fibrous **sheet** internal to pharyngeal muscles
 - thickest in
 - upper part
 - fills the gap between upper border of superior constrictor and base of skull
 - posteriorly
 - forms pharyngeal raphe
 - superiorly
 - attached to basiocciput , petrous temporal bone , auditory tube
 - inferiorly
 - gradually lost **deep** to muscles
 - hardly extend beyond superior constrictor
 - Cavity of pharynx

- Nasopharynx
 - Vault of pharynx
 - Pharyngeal hypophysis
 - Pharyngeal tonsil
 - Tonsillar pits
 - Tonsillar crypts
 - Lymphoid nodules
 - (Pharyngeal bursa)
 - Pharyngeal opening of auditory tubae
 - Torus tubarius
 - Salpingopharyngeal fold
 - Salpingopharyngeal fold
 - Torus levatorius
 - Tubal tonsil
 - Pharyngeal recess [Rosenmülleri](#)
 - Palatopharyngeal ridge
- Oropharynx
 - Epiglottic vallecula
 - Median glosso-epiglottic fold
 - Lateral glosso-epiglottic fold
- Laryngopharynx; hypopharynx
 - Situation and extent
 - upper border or epiglottis to lower border of cricoid cartilage
 - Walls
 - anterior wall
 - inlet of larynx
 - posterior surface of cricoid and arytenoid cartilages
 - posterior wall
 - supported by c4 and c5 vertebra
 - partly by c3 and c6 vertebra
 - formed by three constrictors
 - superior , middle and inferior
 - lateral wall
 - [depression](#) called as
 - Piriform fossa; piriform recess on each side of inlet of larynx
 - Fold of superior laryngeal [nerve](#)
 - bounded
 - medially by
 - aryepiglottic fold
 - laterally by
 - thyroid cartilage and thyrohyoid membrane
 - beneath mucosa of fossa
 - internal laryngeal [nerve](#)
 - Pharyngo-oesophageal constriction
 - Pharyngobasilar fascia
 - Submucosa
 - Mucosa; mucous membrane
 - Pharyngeal glands
- Pharyngeal muscles; [muscle](#) layer of pharynx
 - Pharyngeal raphe
 - Pterygomandibular raphe

- Superior constrictor
 - Pterygopharyngeal part [Passavanti](#)
 - Buccopharyngeal part
 - Mylopharyngeal part
 - Glossopharyngeal part
- Middle constrictor
 - Chondropharyngeal part
 - Ceratopharyngeal part
- Inferior constrictor
 - Thyropharyngeal part; thyropharyngeus
 - Cricopharyngeal part; cricopharyngeus
- Stylopharyngeus
- Salpingopharyngeus
- Palatopharyngeus
- Buccopharyngeal fascia
- Peripharyngeal space
 - Retropharyngeal space
 - Parapharyngeal space; lateral pharyngeal space

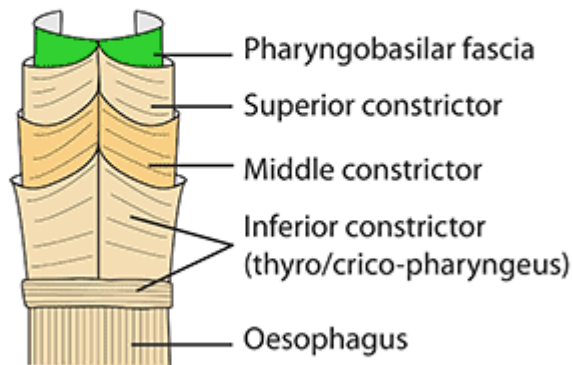
PHARYNX	PHARYNX
Cavitas pharyngis	Cavity of pharynx
Pars nasalis pharyngis	Nasopharynx
Fornix pharyngis	Vault of pharynx
Hypophysis pharyngealis	Pharyngeal hypophysis
Tonsilla pharyngealis	Pharyngeal tonsil
Fossulae tonsillae	Tonsillar pits
Cryptae tonsillae	Tonsillar crypts
Noduli lymphoidei	Lymphoid nodules
(Bursa pharyngealis)	(Pharyngeal bursa)
Ostium pharyngeum tubae auditivae; ostium pharyngeum tubae auditoriae	Pharyngeal opening of auditory tubae
Torus tubarius	Torus tubarius
Plica salpingopharyngea	Salpingopharyngeal fold
Plica salpingopalatina	Salpingopalatine fold
Torus levatorius	Torus levatorius
Tonsilla tubaria	Tubal tonsil
Recessus pharyngeus Rosenmülleri	Pharyngeal recess Rosenmülleri
Crista palatopharyngea	Palatopharyngeal ridge
Pars oralis pharyngis	Oropharynx
Vallecula epiglottica	Epiglottic vallecula
Plica glossoepiglottica mediana	Median glosso-epiglottic fold
Plica glossoepiglottica lateralis	Lateral glosso-epiglottic fold
Pars laryngea pharyngis	Laryngopharynx; hypopharynx
Recessus piriformis	Piriform fossa; piriform recess
Plica nervi laryngei superioris	Fold of superior laryngeal nerve
Constrictio pharyngo-oesophagealis	Pharyngo-oesophageal constriction
Fascia pharyngobasilaris	Pharyngobasilar fascia
Tela submucosa	Submucosa

Tunica mucosa	Mucosa; mucous membrane
Glandulae pharyngeales	Pharyngeal glands
Musculi pharyngis; tunica muscularis pharyngis	Pharyngeal muscles; muscle layer of pharynx
Raphe pharyngis	Pharyngeal raphe
Raphe pterygomandibularis	Pterygomandibular raphe
M. constrictor pharyngis superior	Superior constrictor
Pars pterygopharyngea Passavanti	Pterygopharyngeal part Passavanti
Pars buccopharyngea	Buccopharyngeal part
Pars mylopharyngea	Mylopharyngeal part
Pars glossopharyngea	Glossopharyngeal part
M. constrictor pharyngis medius	Middle constrictor
Pars chondropharyngea	Chondropharyngeal part
Pars ceratopharyngea	Ceratopharyngeal part
M. constrictor pharyngis inferior	Inferior constrictor
Pars thyropharyngea; m. thyropharyngeus	Thyropharyngeal part; thyropharyngeus
Pars cricopharyngea; m. cricopharyngeus	Cricopharyngeal part; cricopharyngeus
M. stylopharyngeus	Stylopharyngeus
M. salpingopharyngeus	Salpingopharyngeus
M. palatopharyngeus	Palatopharyngeus
Fascia buccopharyngealis	Buccopharyngeal fascia
Spatium peripharyngeum	Peripharyngeal space
Spatium retropharyngeum	Retropharyngeal space
Spatium lateropharyngeum; spatium pharyngeum laterale; spatium parapharyngeum	Parapharyngeal space; lateral pharyngeal space

PHARYNX - CARTOON OF MUSCLES & PHARYNGOBASILAR FASCIA

CARTOON
OF MUSCLES
OF PHARYNX

LIKE 4
STACKED
CUPS



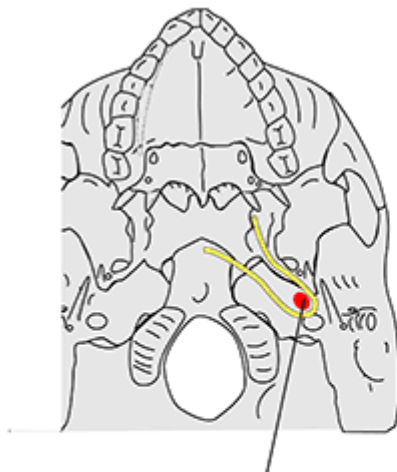
PHARYNGOBASILAR FASCIA

(a rigid membrane with cartilage of auditory tube passing just above it. Shown in yellow)

Arises: Pharyngeal tubercle, back of foramen lacerum, petrous temporal anterior to carotid foramen, cartilage of auditory tube, medial pterygoid plate, pterygoid hamulus then across to opposite side

Lower border: Junction of hard and soft palates (Passavant's ridge)

Note: Levator palati arises within pharynx



Levator palati

PHARYNX - MUSCLES & STRUCTURES ENTERING IT

Superior constrictor

Between superior & middle constrictors are:

1. Glossopharyngeal nerve (IX)
2. Stylopharyngeus (IX)
3. Stylohyoid ligament
4. Lingual nerve (Vc)

Middle constrictor

Between middle & inferior constrictors are:

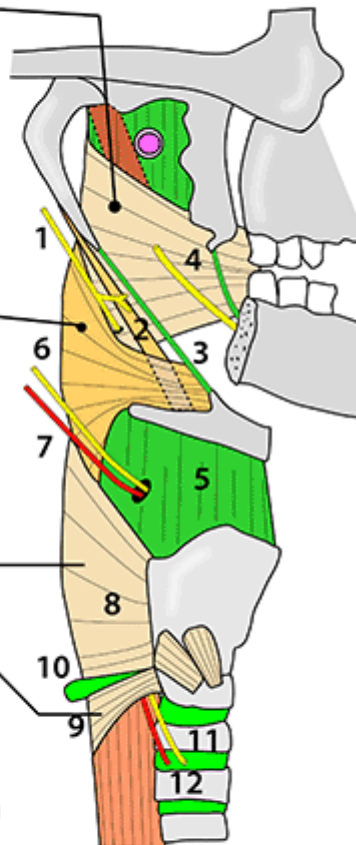
5. Thyrohyoid membrane pierced by:
6. Internal laryngeal nerve
7. Superior laryngeal vessels

Inferior constrictor

(Thyropharyngeus (8) is upper part that behaves like the other constrictors, closing on swallowing. Cricopharyngeus (9) is lower part - a sphincter that opens on swallowing. Between 2 parts is potential pharyngeal pouch (Dehiscence of Killian) (10))

Below inferior constrictor and passing upwards are:

11. Recurrent laryngeal nerve
12. Inferior laryngeal vessels

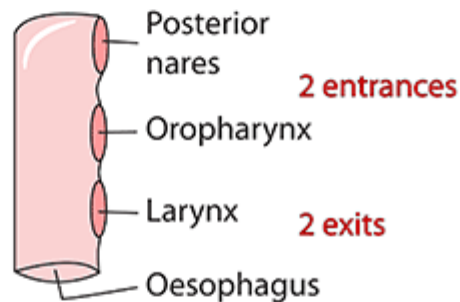


For more details & illustrations, please see relevant section in the book - Instant Anatomy, by R H Whitaker & N R Borley. 4th edition. Wiley-Blackwell 2010

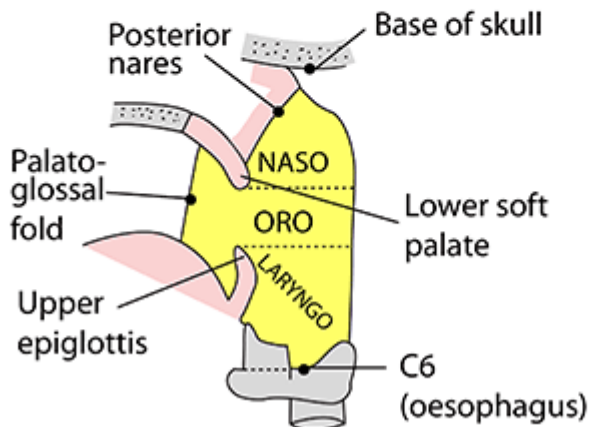
PHARYNX - DIVISIONS

- 5" (13cm) long fibromuscular tube
- Suspended from skull & lies anterior to prevertebral fascia
- Extends from nose to C6 (oesophagus)
- Like a mask applied to back of face
- Walls are mucous membrane, fibrous submucosa, muscle & thin buccopharyngeal fascia
- Muscles are:
 - 3 constrictors
 - Stylopharyngeus, palatopharyngeus, salpingopharyngeus
 - Note: levator palati is wholly intra-pharyngeal

CARTOON
OF PHARYNX

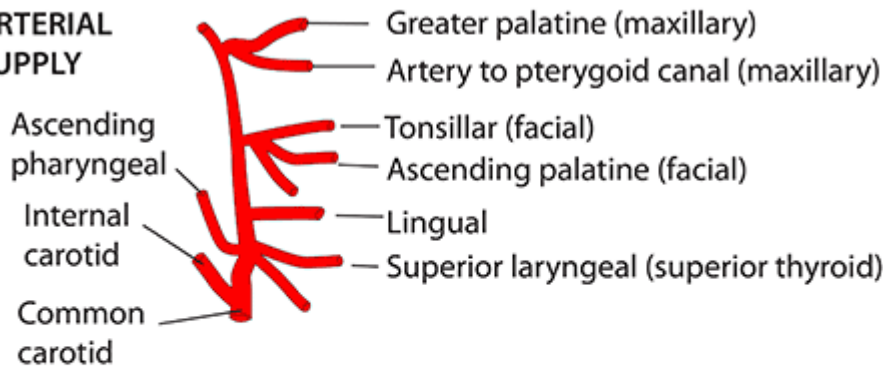


3 PARTS OF THE PHARYNX



PHARYNX - VESSELS & NERVES

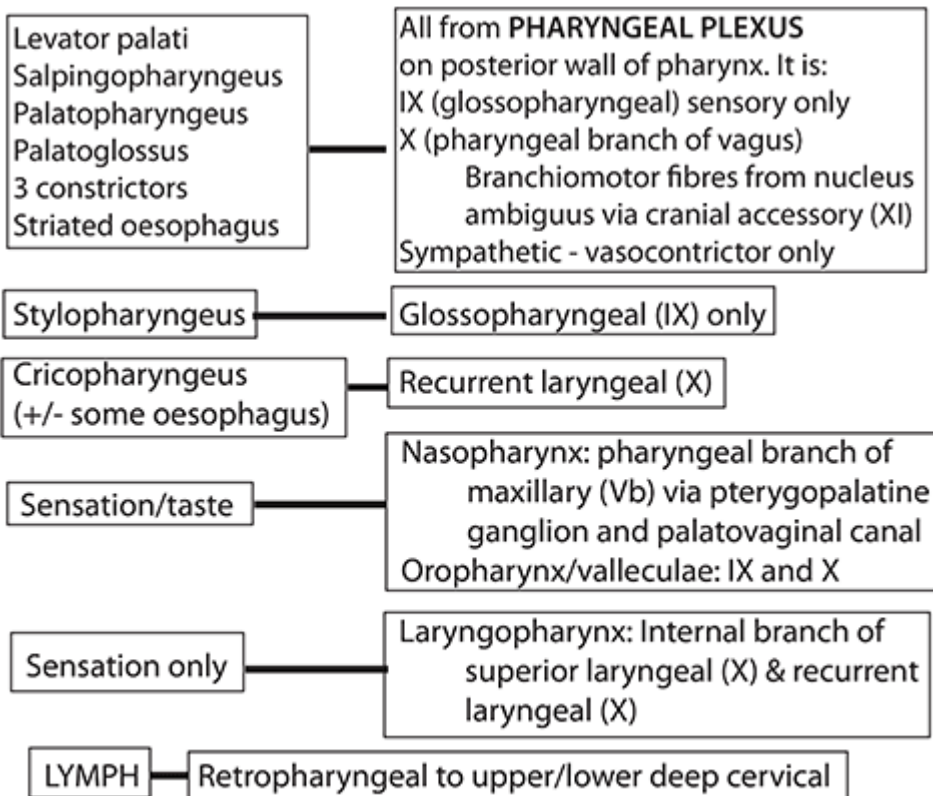
ARTERIAL SUPPLY



VENOUS DRAINAGE

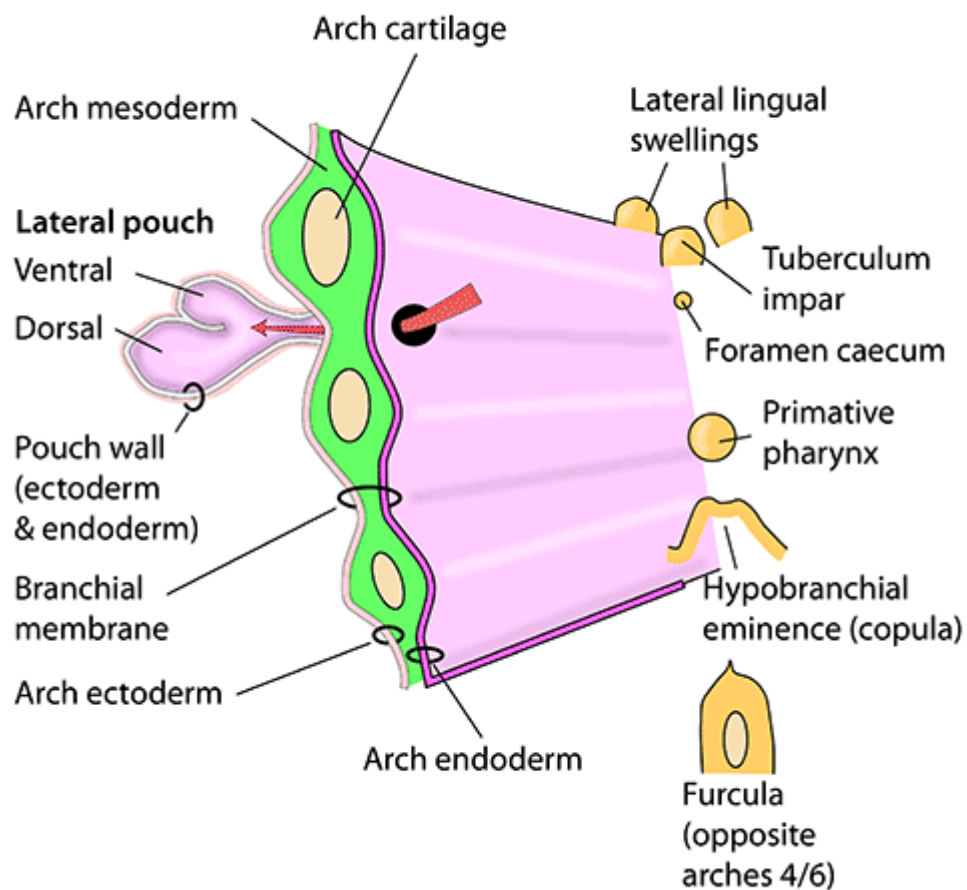
Plexus on middle constrictor draining to:
Pterygoid plexus
Internal jugular vein
Lower pharynx to inferior thyroid veins

NERVE SUPPLY



DEVELOPMENT

PHARYNGEAL (BRANCHIAL) DERIVATIVES



For more details listen to podcast CD on embryology

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