

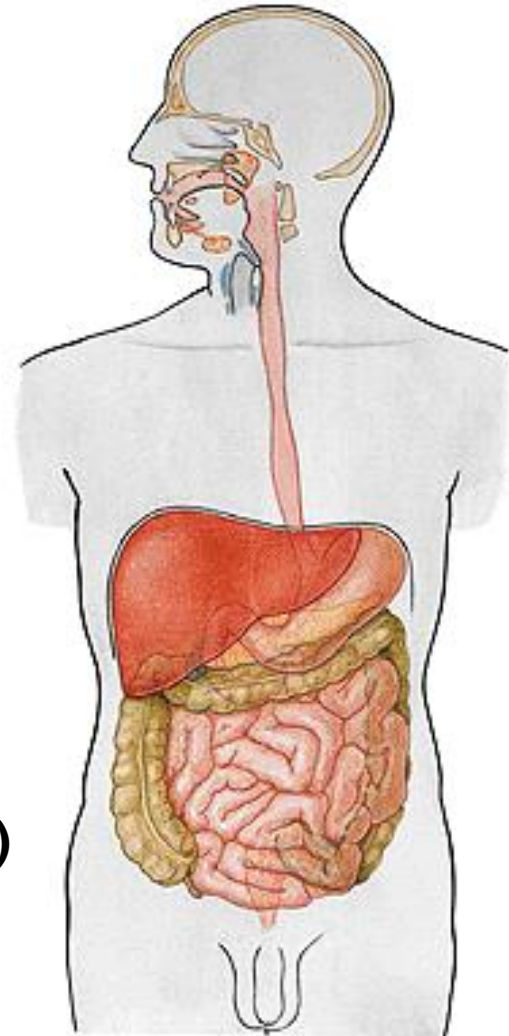
DIGESTIVE SYSTEM

GASTROINTESTINAL TRACT – GIT (APPARATUS DIGESTORIUS)

- **Oral cavity (Cavitas oralis)**
- **Pharynx**
- **Oesophagus**
- **Stomach (Gaster)**
- **Small intestine (Intestinum tenue)**
- **Large intestine (Intestinum crassum)**

GLANDS

- **Salivary glands (Glandulae salivariae)**
- **Liver (Hepar)**
- **Pancreas**



Structure of the digestive tube

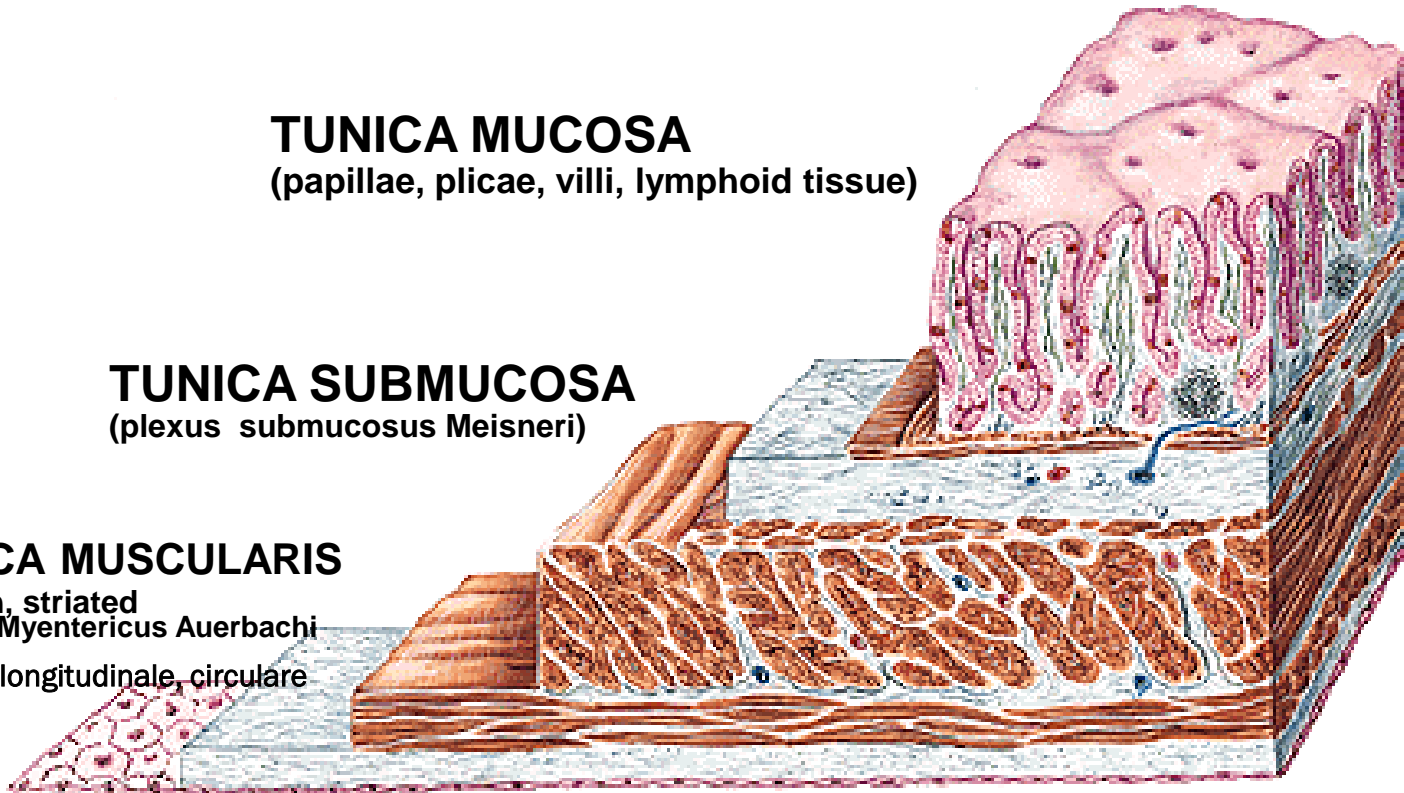
TUNICA MUCOSA
(papillae, plicae, villi, lymphoid tissue)

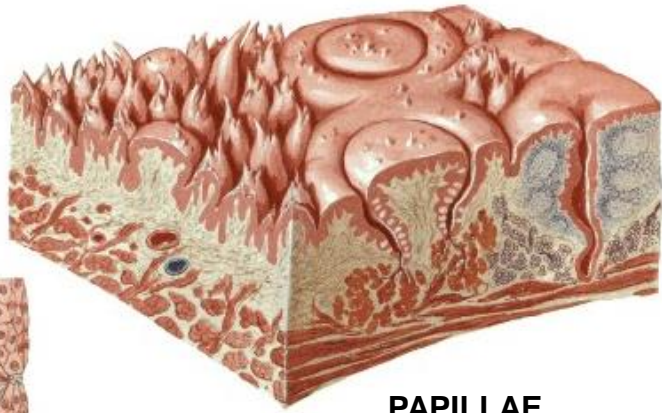
TUNICA SUBMUCOSA
(plexus submucosus Meisneri)

TUNICA MUSCULARIS
Smooth, striated
Plexus Myentericus Auerbachii
stratum longitudinale, circulare

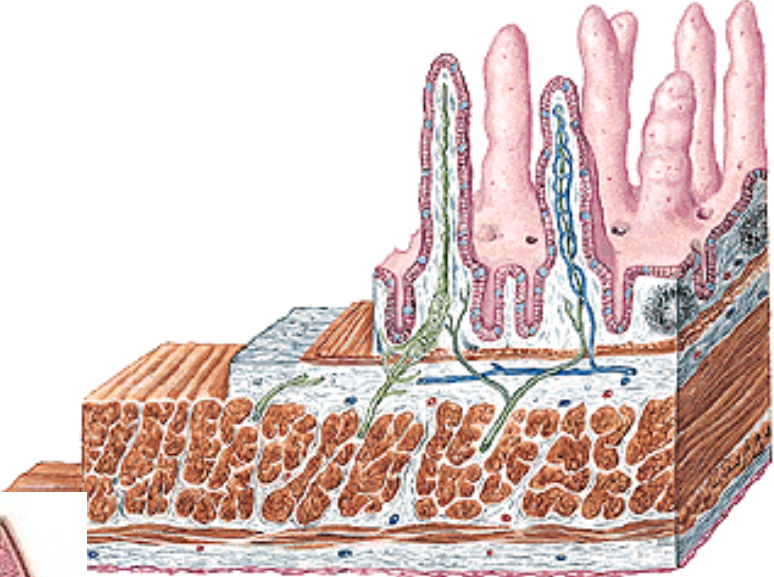
TUNICA EXTERNA (ADVENTITIA)

(SEROA=visceral peritoneum)





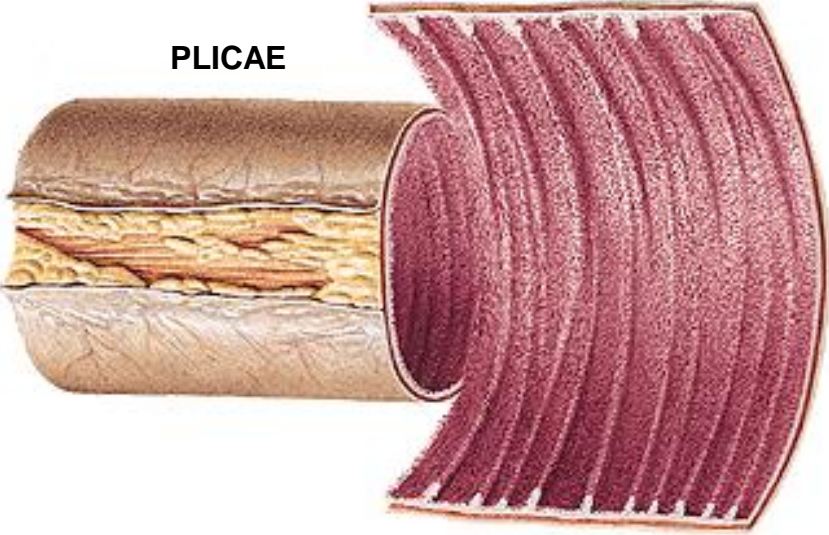
PAPILLAE



VILLI INTESTINALES



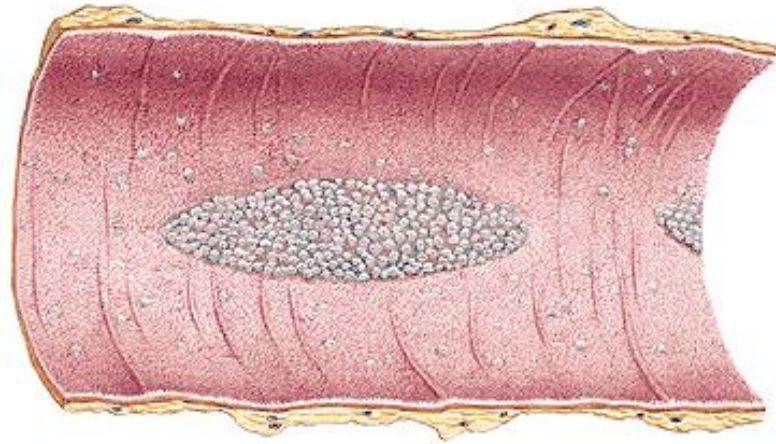
PLICAE



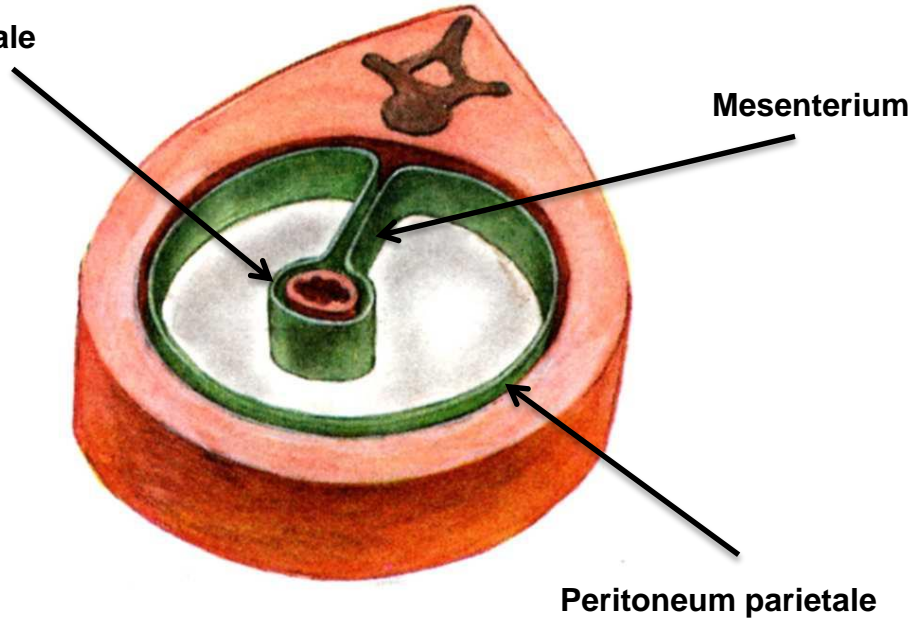


**FOLLICULI
LYMPHATICI SOLITARI**

**FOLLICULI LYMPH. AGGREGATI
- PEYER'S PATCHES**



Peritoneum viscerale



Mesenterium

Peritoneum parietale

Oral cavity – cavitas oris



Borders: Rima oris

Isthmus faucium

Labia, buccae

Palatum (d durum, molle)

Diaphragma oris

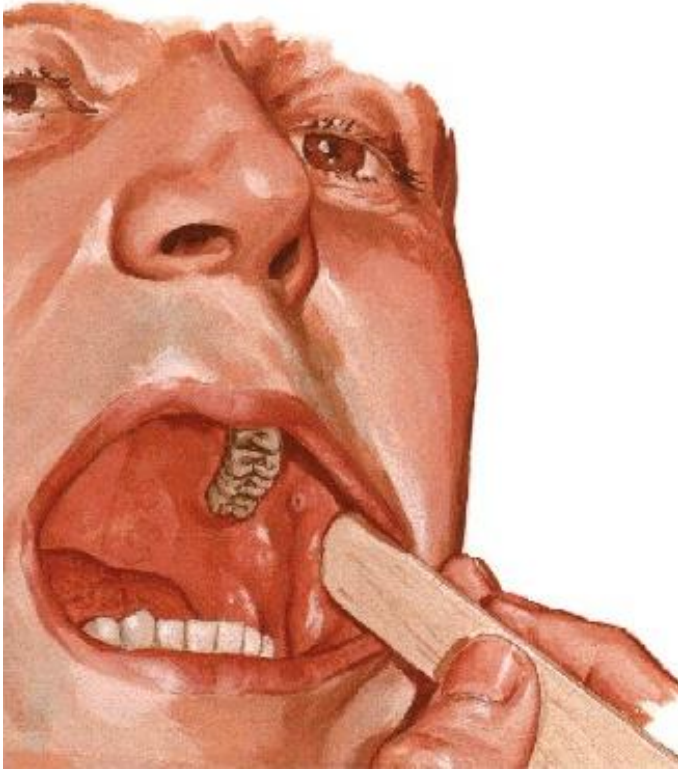
Content: Lingua, dentes

Division: Vestibulum oris

Cavitas oris proprium

(tremata, trigonum retromolare)

Vestibulum oris

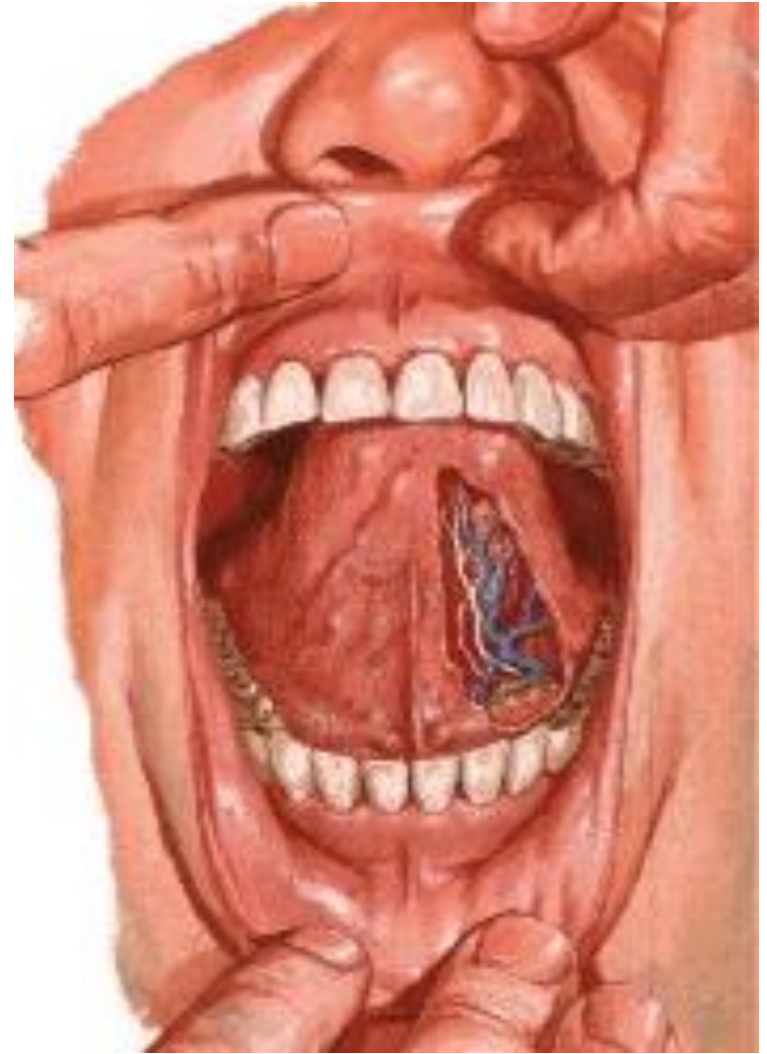


Papilla parotidea

Plica pterygomandibulare

Fornix vestibuli sup. (frenulum labii sup.)

Fornix vestibuli inf. (frenulum labii inf.)



Lips (labia oris), cheeks (buccae, mallae)



Labium superius et inferius

sulcus nasolabialis

sulcus mentolabialis

Rima oris, anguli oris

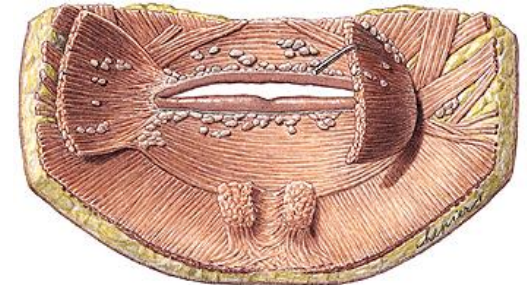
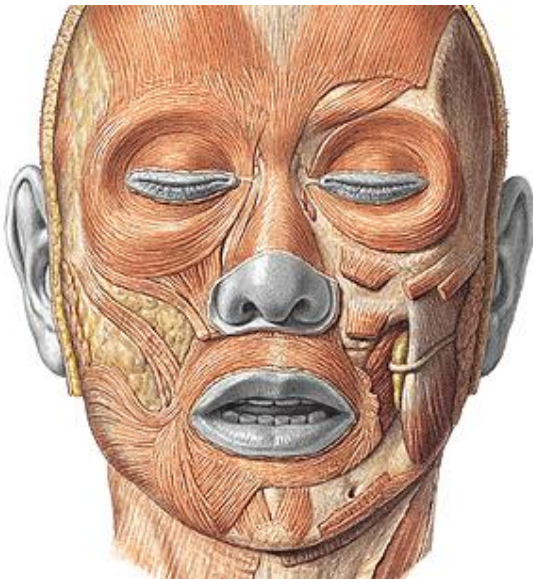
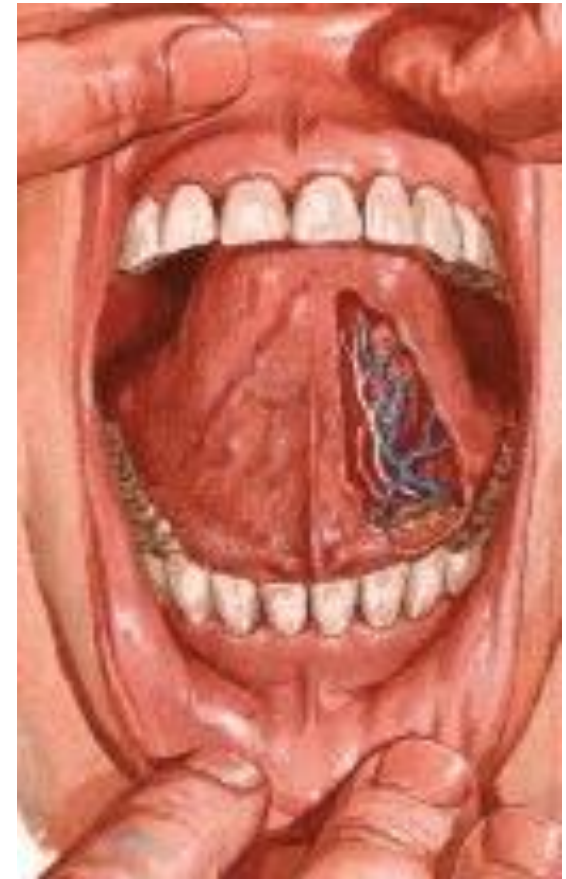
zona intermedia

Frenulum labii sup. et inf.

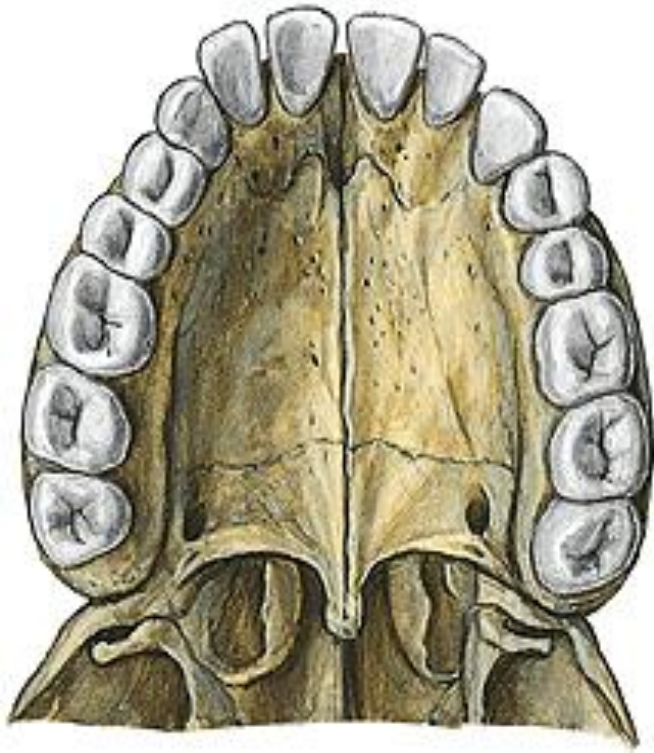
Corpus adiposum buccae

Papilla parotidea

Gingiva (papillae gingivales)



Palatum – durum et molle



Proc. palatini maxillarum

**Laminae horizontales
of the palatine bones**

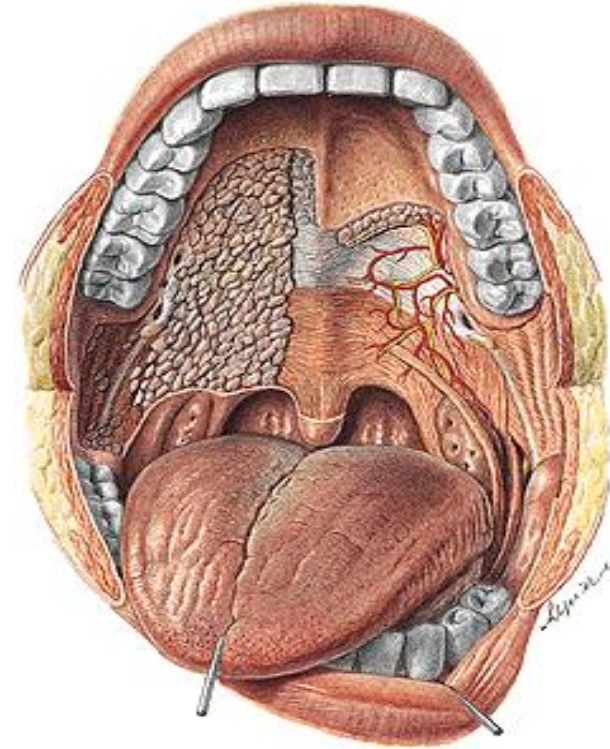


Mukoperiost

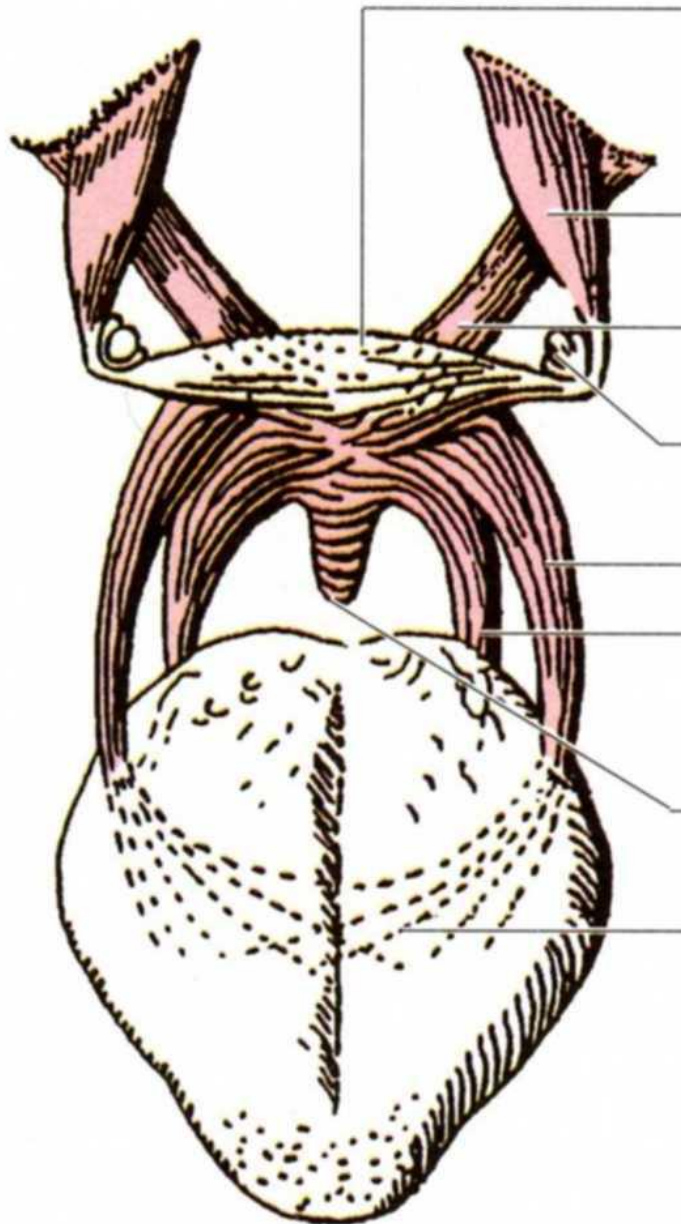
Papilla incisiva (ductus incisivi)

Raphe palati, plicae palatinae trans.

Glandulae palatinae



Muscles of the soft palate



Aponeurosis palatina

M. tensor veli palatini

M. levator veli palatini

M. palatoglossus

M. palatopharyngeus

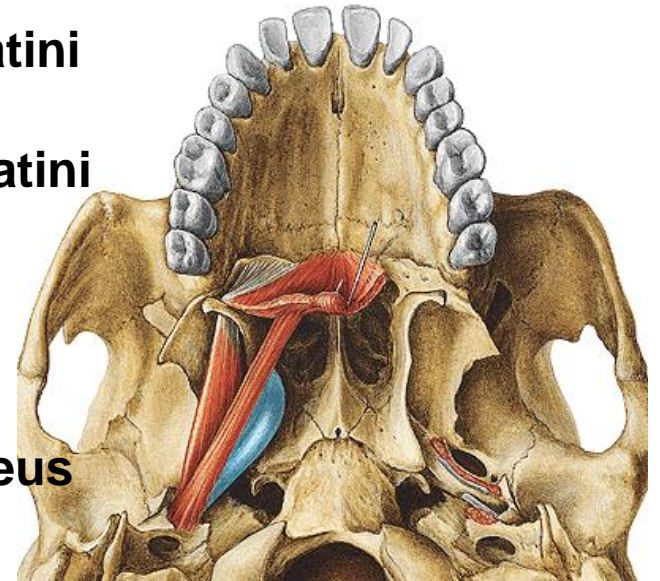
M. uvulae

m.transversus lingue

Plexus pharyngeus

– CN IX, X

Tensor – CN V



Isthmus faucium



Palatum molle

Uvula palatina

**Arcus palatoglossus
(plica triangularis)**

Arcus palatopharyngeus

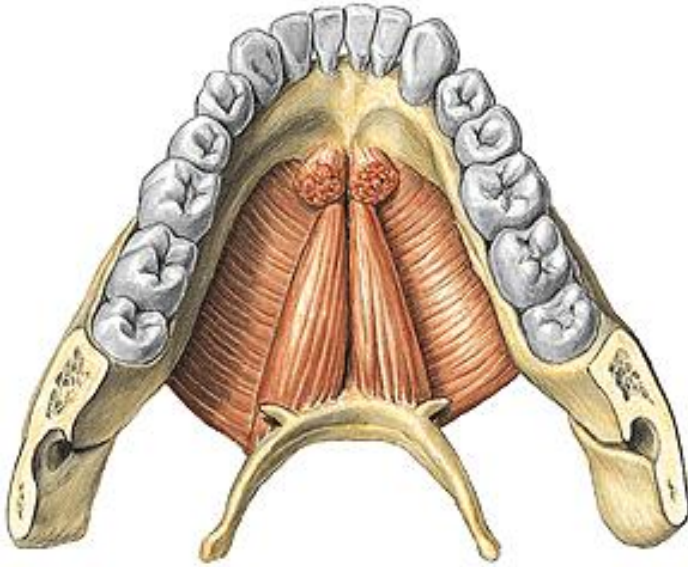
Radix linguae

Sinus tonsillaris

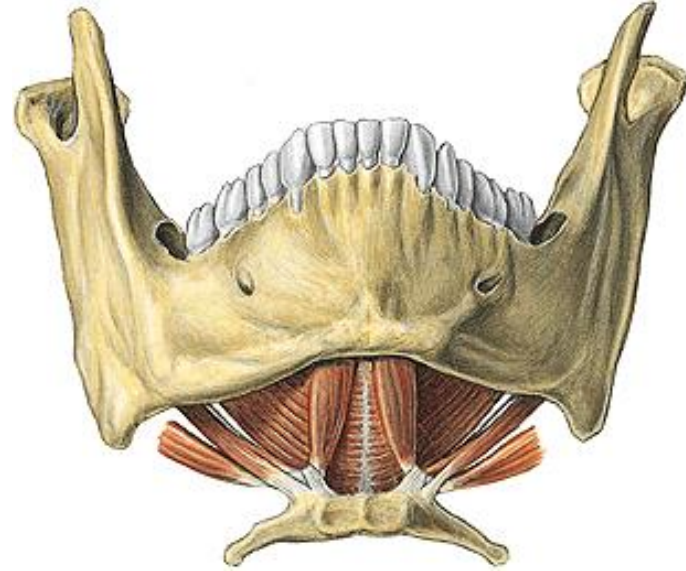
Tonsilla palatina

**(Waldeyer's lymphoepithelial
ring)**

Floor of the oral cavity- diaphragma oris



m. geniohyoideus, m. mylohyoideus



m. digastricus, m. stylohyoideus



plica sublingualis

caruncula sublingualis

frenulum linguae

Tongue (lingua, glossa)



Radix linguae

Corpus linguae

Apex linguae

Margines linguales

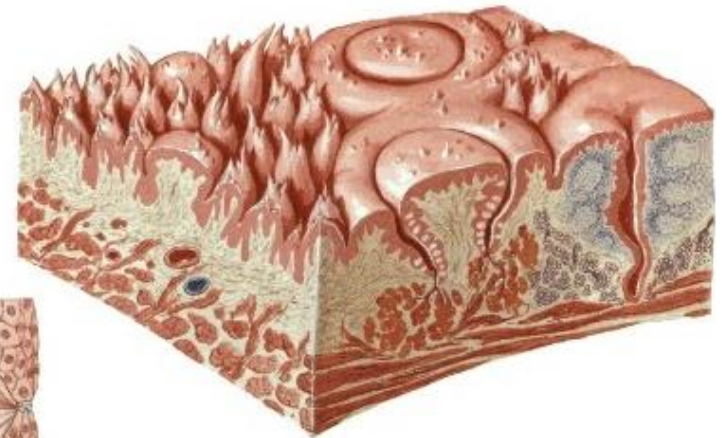
Dorsum linguae

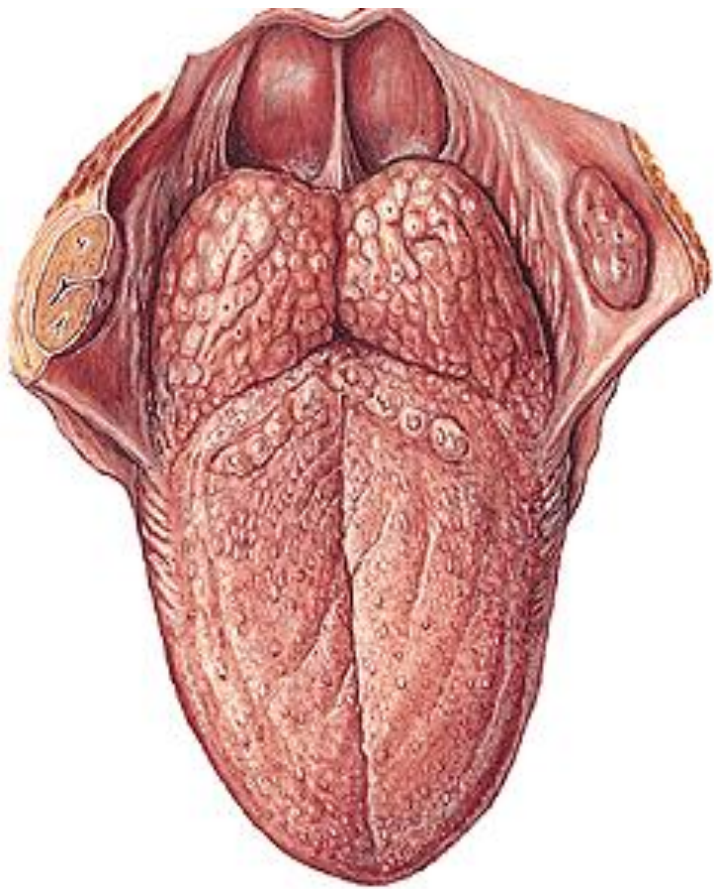
Facies inferior linguae

Papillae linguales:

filiformes, fungiformes, foliatae, vallatae

(calliculi gustatorii)





Radix linguae

Plicae glossoepiglotticae mediana et laterales

Valleculae epiglotticae

Tonsilla lingualis

Corpus linguae

Sulcus medianus, sulcus terminalis

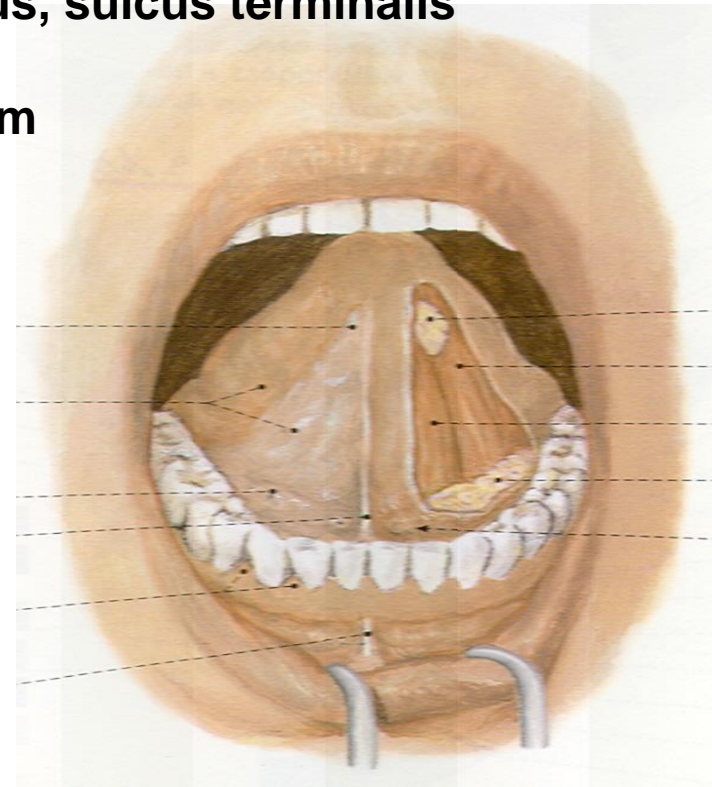
Foramen caecum

Facies inferior linguae

Plica fimbriata

Plica sublingualis (caruncula sublingualis)

Frenulum linguae



Muscles of the tongue

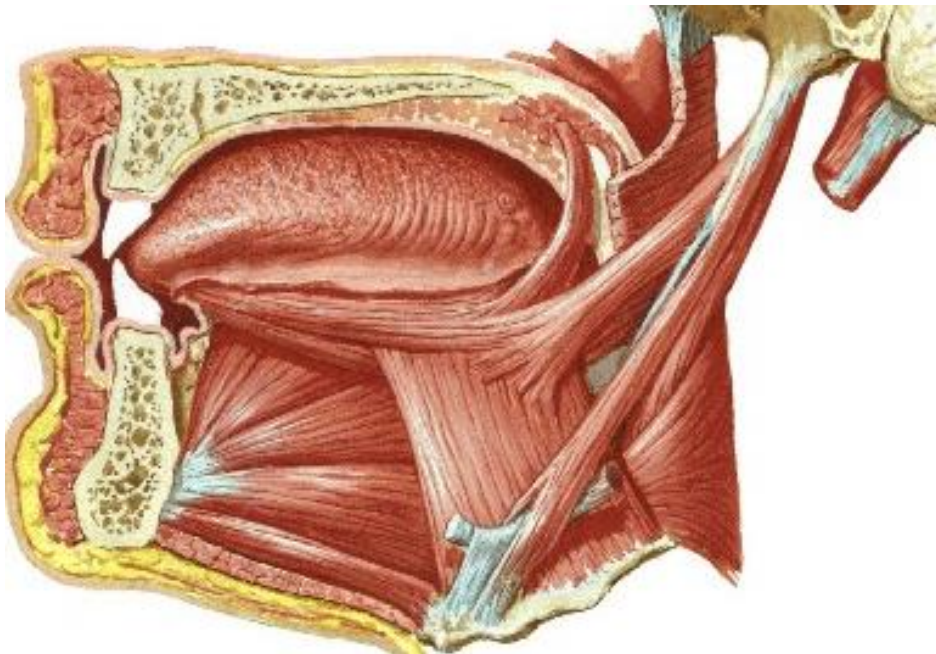
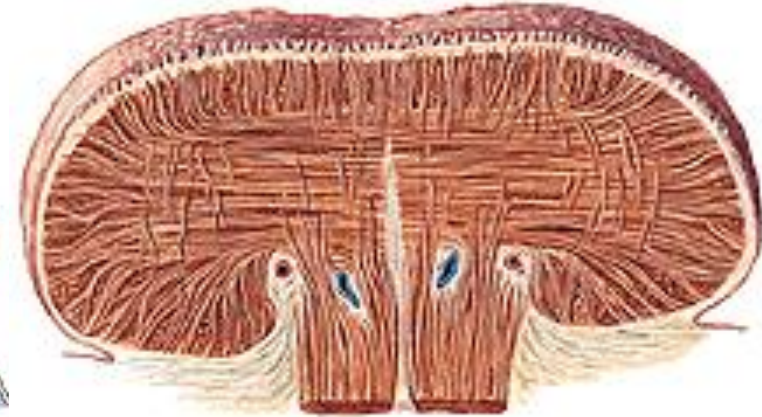
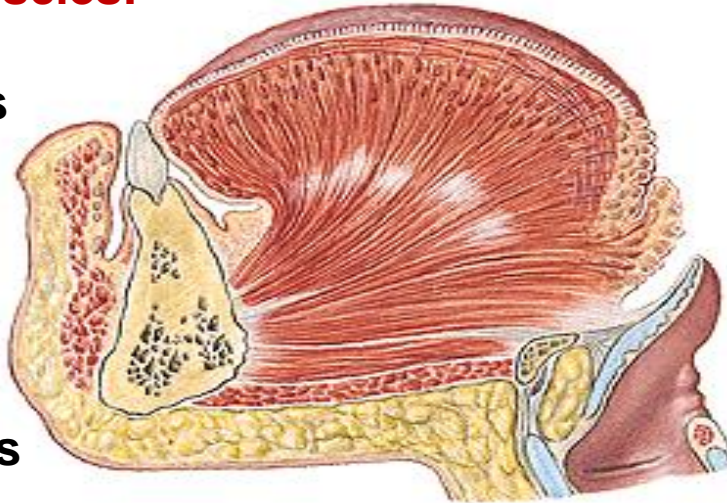
Extraglossal muscles:

M. genioglossus

M. hyoglossus

M. styloglossus

M. palatoglossus



Intraglossal muscles:

M. longitudinalis sup. et inf.

M. transversus linguae

M. verticalis linguae

Aponeurosis et septum linguae

GLANDULAE SALIVARIAE

GLANDULAE SALIVARIAE MINORES

glandulae labiales

glandulae buccales

seromucous

glandulae palatinae

glandulae linguales

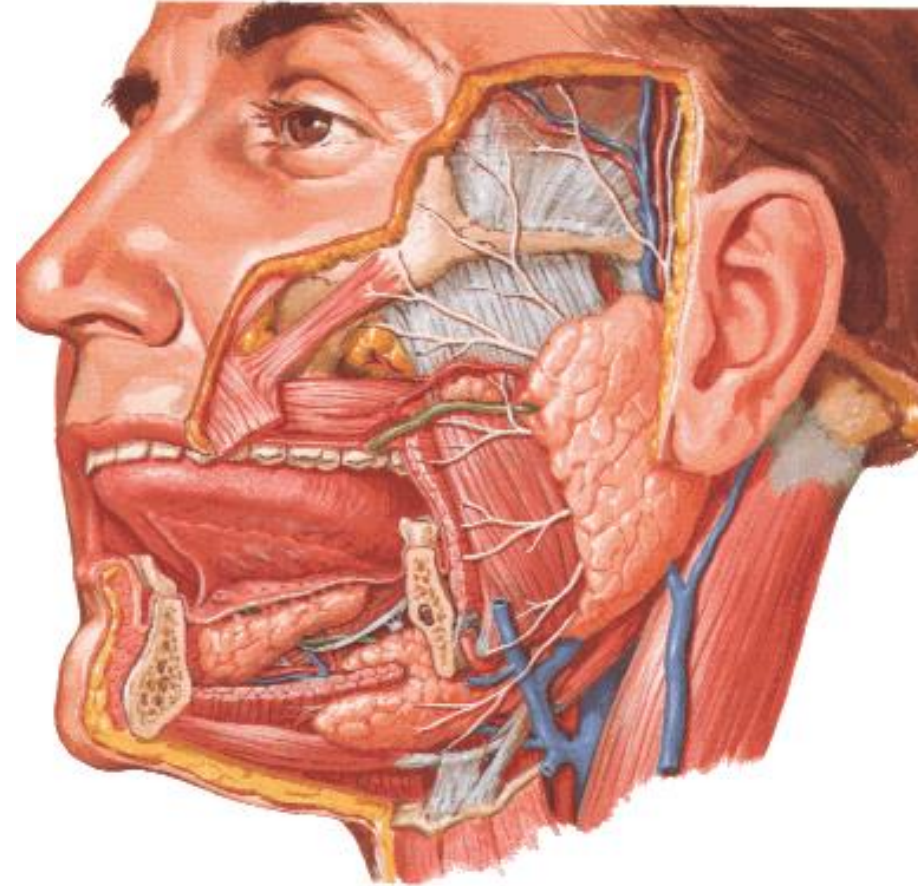
GLANDULAE SALIVARIAE MAJORES

glandula parotidea serous

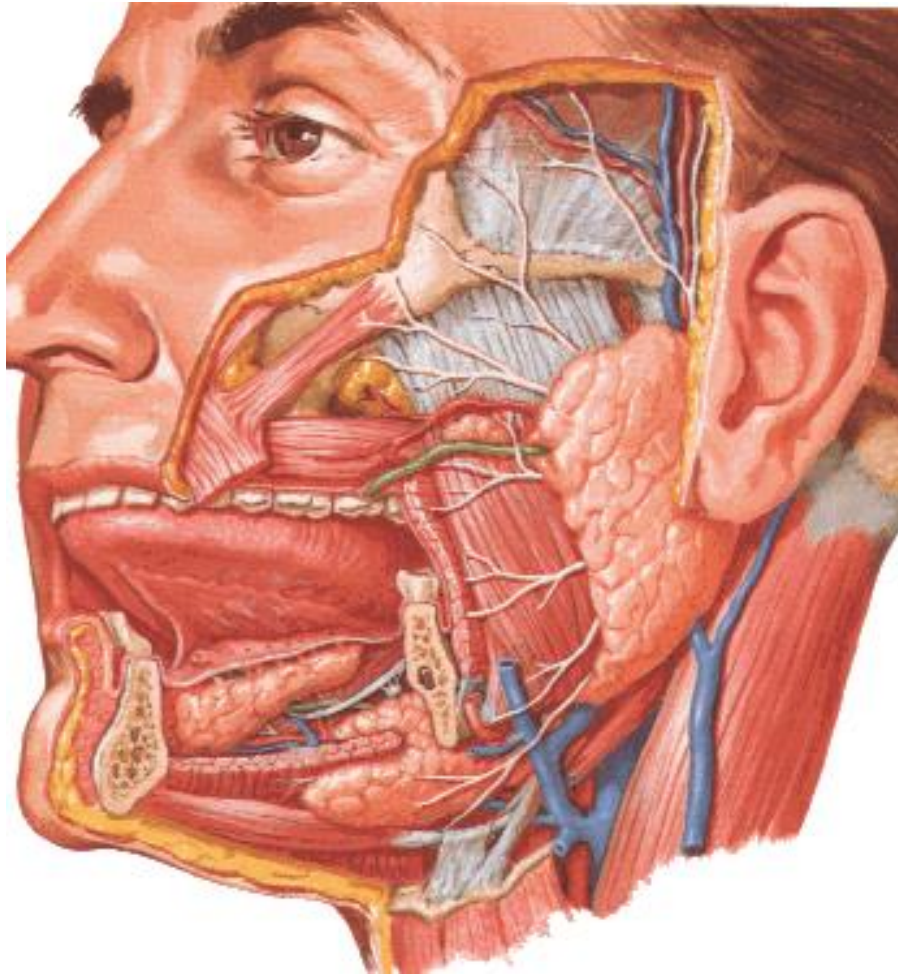
glandula submandibularis seromucous

glandula sublingualis

ant seromucous, post mucous



GLANDULA PAROTIDEA



Reg. parotideomasseterica

Fossa retromandibularis

Fascia parotideomasseterica

Plexus parotideus (n.VII)

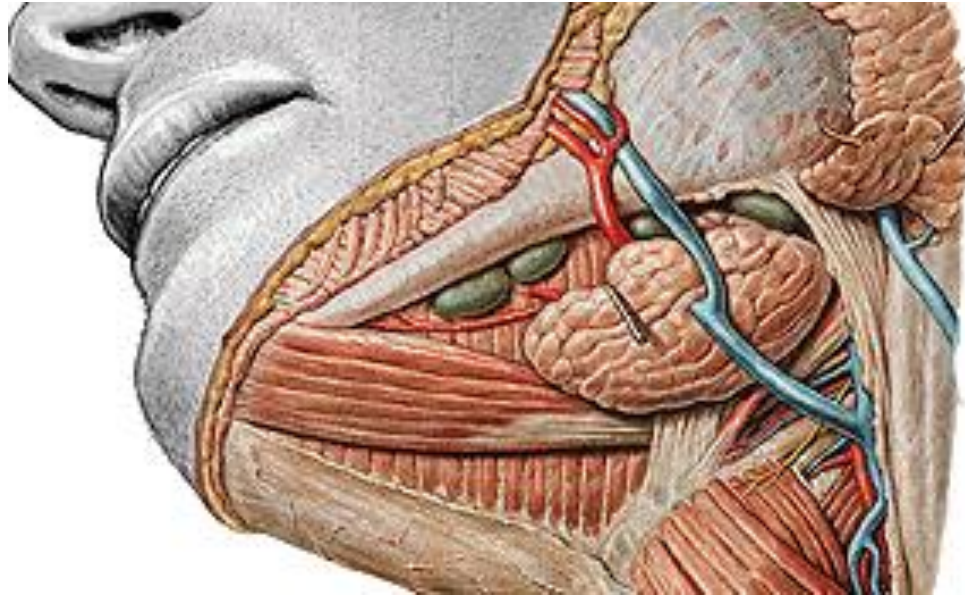
Lobus superficialis et prof.

Ductus parotideus

Papilla parotidea



GLANDULA SUBMANDIBULARIS

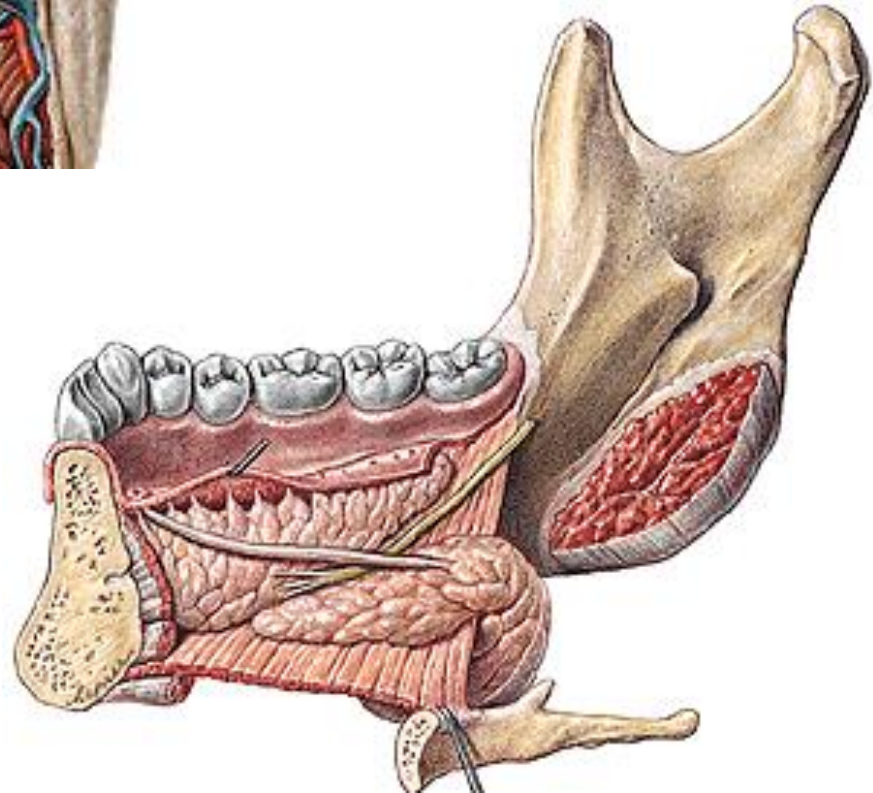
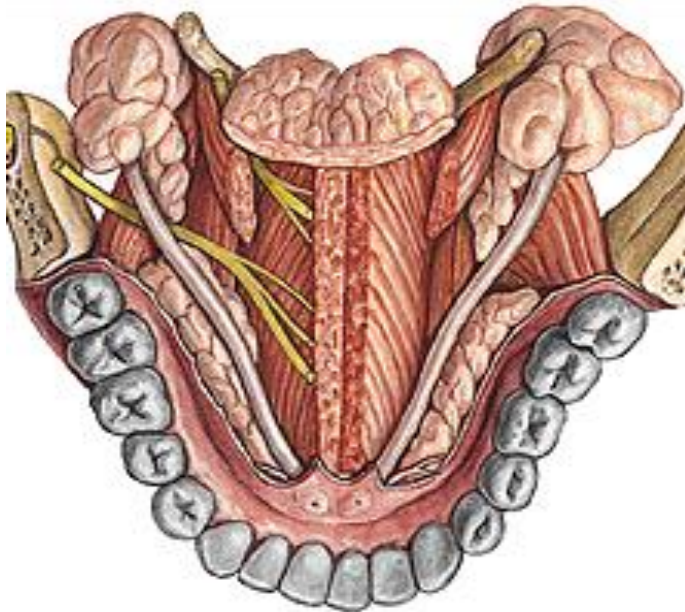


Trigonum submandibulare

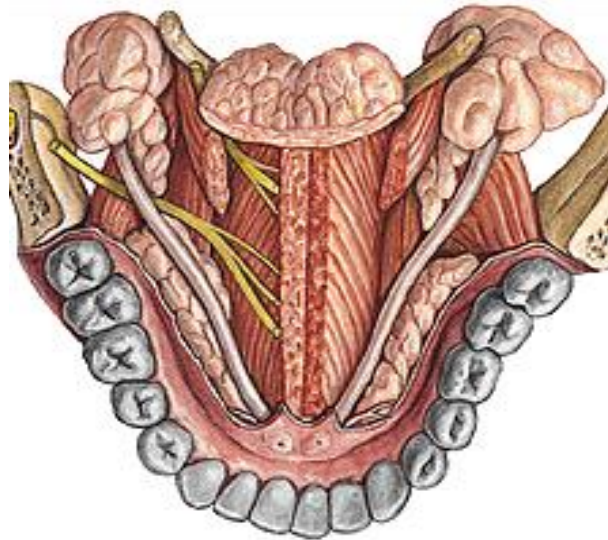
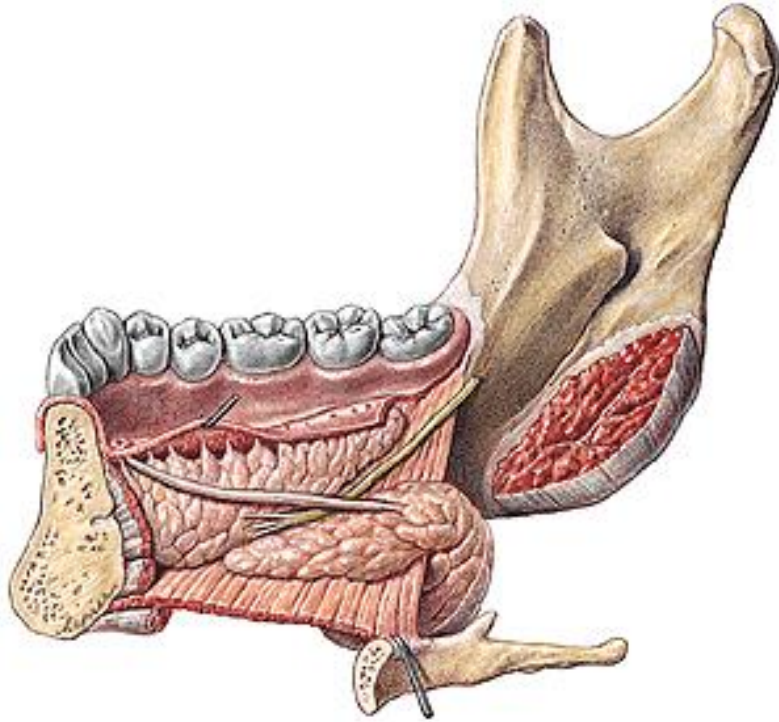
Regio sublingualis

Ductus submandibularis

Caruncula sublingualis



GLANDULA SUBLINGUALIS



Regio sublingualis, 10-12 glands

Ductus sublingualis major

Caruncula sublingualis

Ductus sublinguales minores

Plica sublingualis



Teeth (dentes)

Corona dentis

Collum dentis

Radix dentis (apex radialis dentis)

Cavum dentis

canalis radialis dentis (foramen apicis dentis)

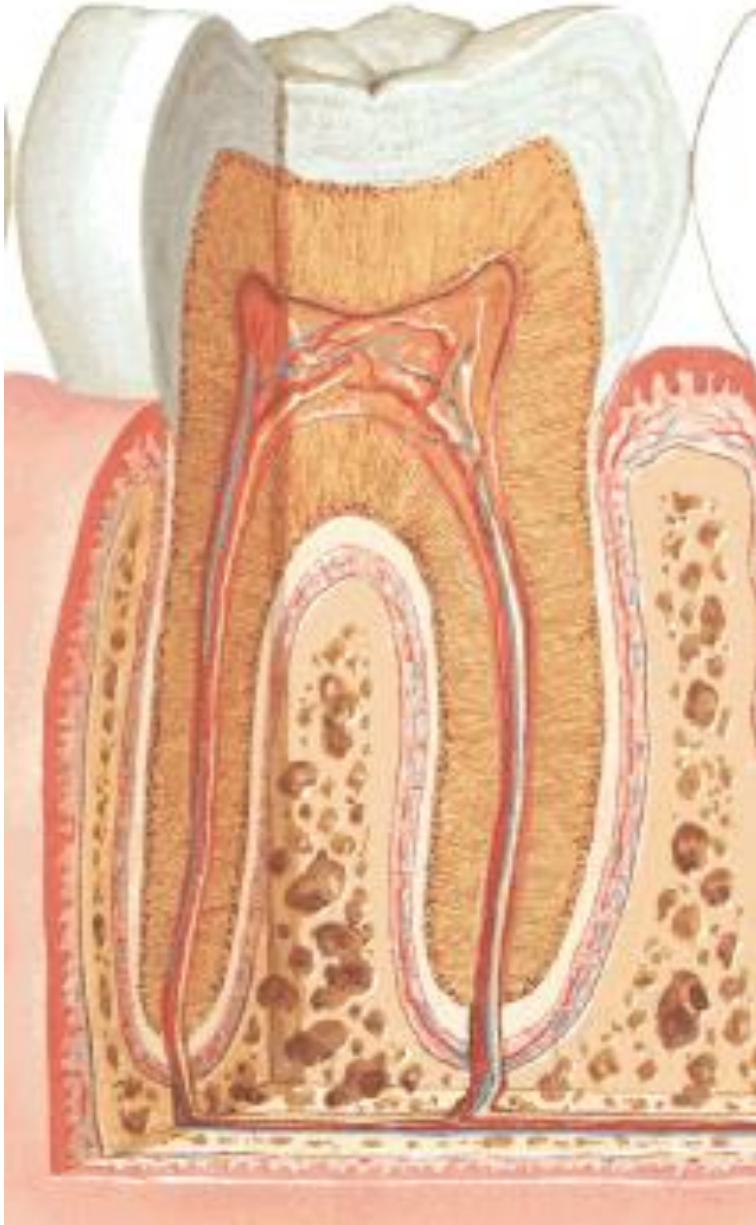
Structure:

Email (enamelum dentis) – 98% Ca soils

Dentinum – 78% Ca soils

Cementum (substantia ossea)

Pulpa dentis



Heterodont dentition

Dentes: incisivi (i, I); canini (c, C); praemolares (P); molares (m, M)

Dentes permanentes (32)



M₃ M₂ M₁ P₂ P₁ C I₂ I₁ | I₁ I₂ C P₁ P₂ M₁ M₂ M₃

M₃ M₂ M₁ P₂ P₁ C I₂ I₁ | I₁ I₂ C P₁ P₂ M₁ M₂ M₃

18	17	16	15	14	13	12	11	21	22	23	24	25	26	27	28
48	47	46	45	44	43	42	41	31	32	33	34	35	36	37	38

Dentes decidui (20)



m₂ m₁ c i₂ i₁ | i₁ i₂ c m₁ m₂

m₂ m₁ c i₂ i₁ | i₁ i₂ c m₁ m₂

55	54	53	52	51	61	62	63	64	65
85	84	83	82	81	71	72	73	74	75

Teeth attachments

Gomphosis

Periodontium

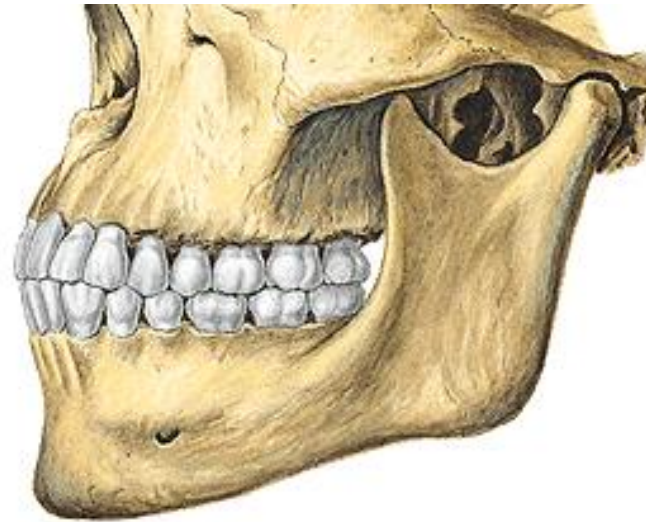
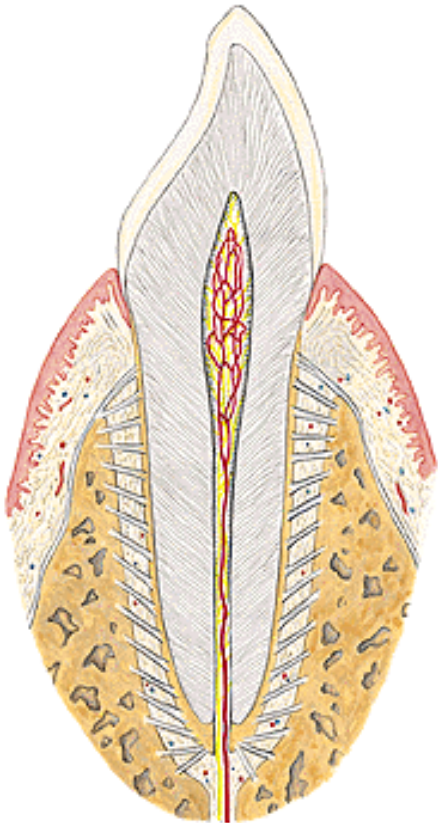
Parodontium



arcus dentalis sup. (ellips)



arcus dentalis inf. (parabola)



Occlusio (bite)

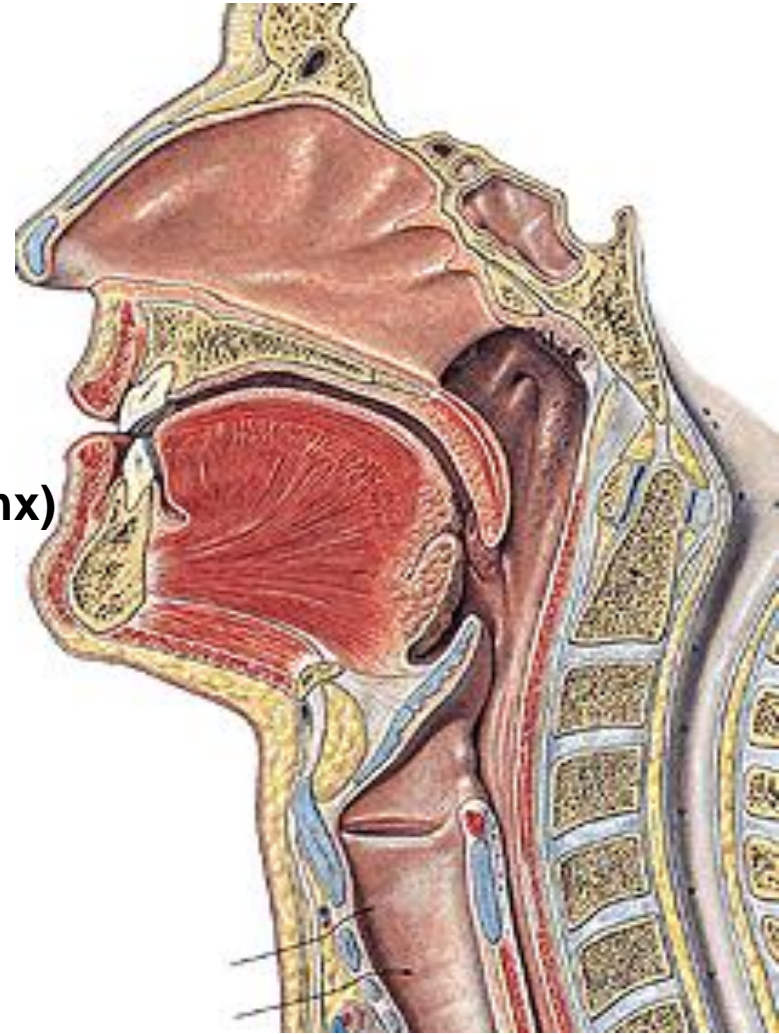
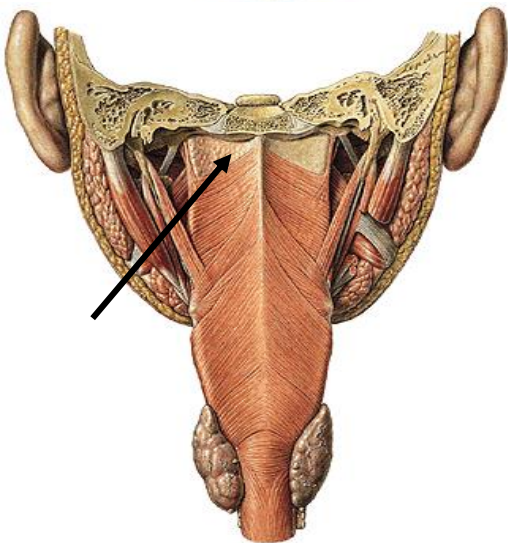
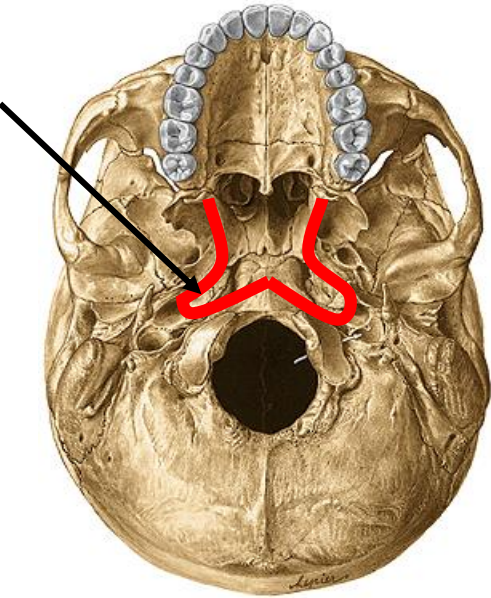
PHARYNX

Basis cranii (fascia pharyngobasilaris) to C₆

Cavum pharygis

Pars:

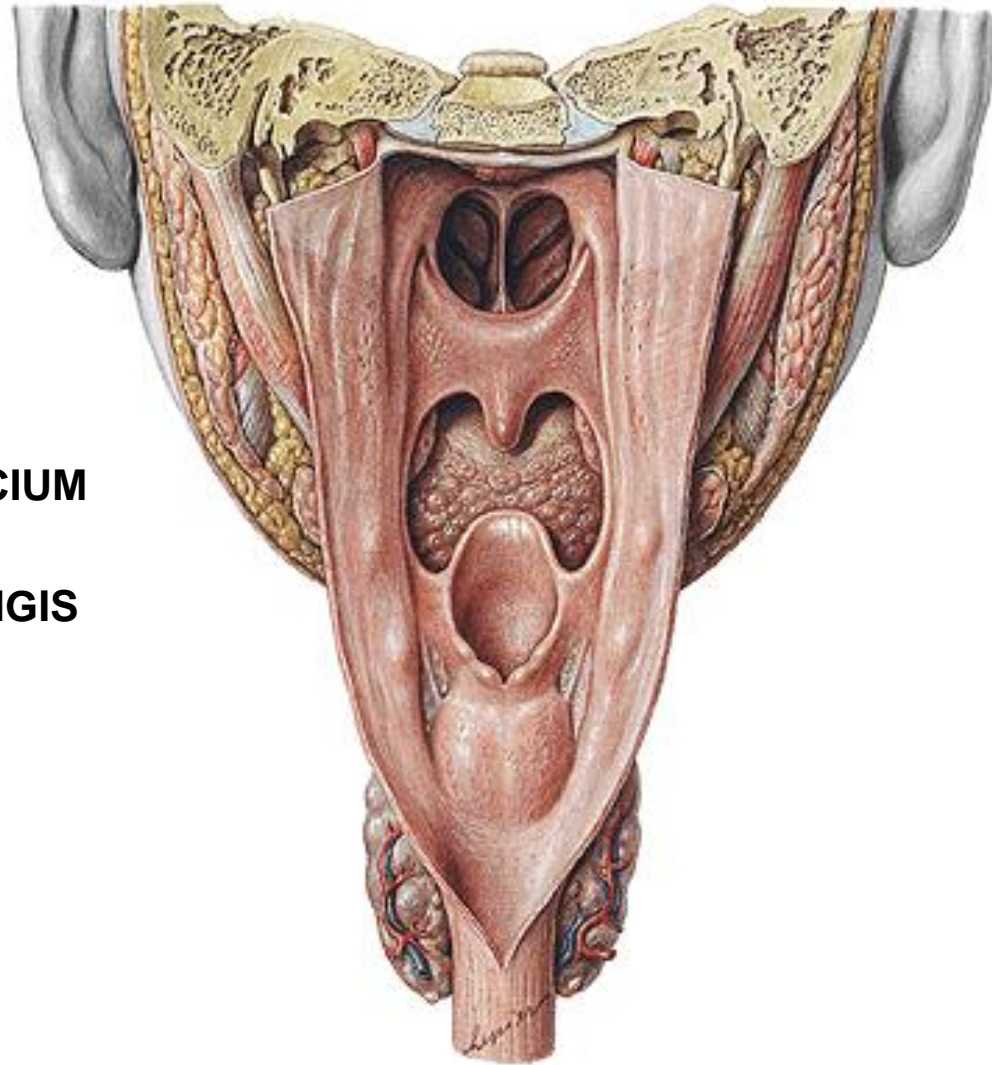
1. nasalis (nasopharynx)
2. oralis (oropharynx)
3. laryngea (laryngopharynx)



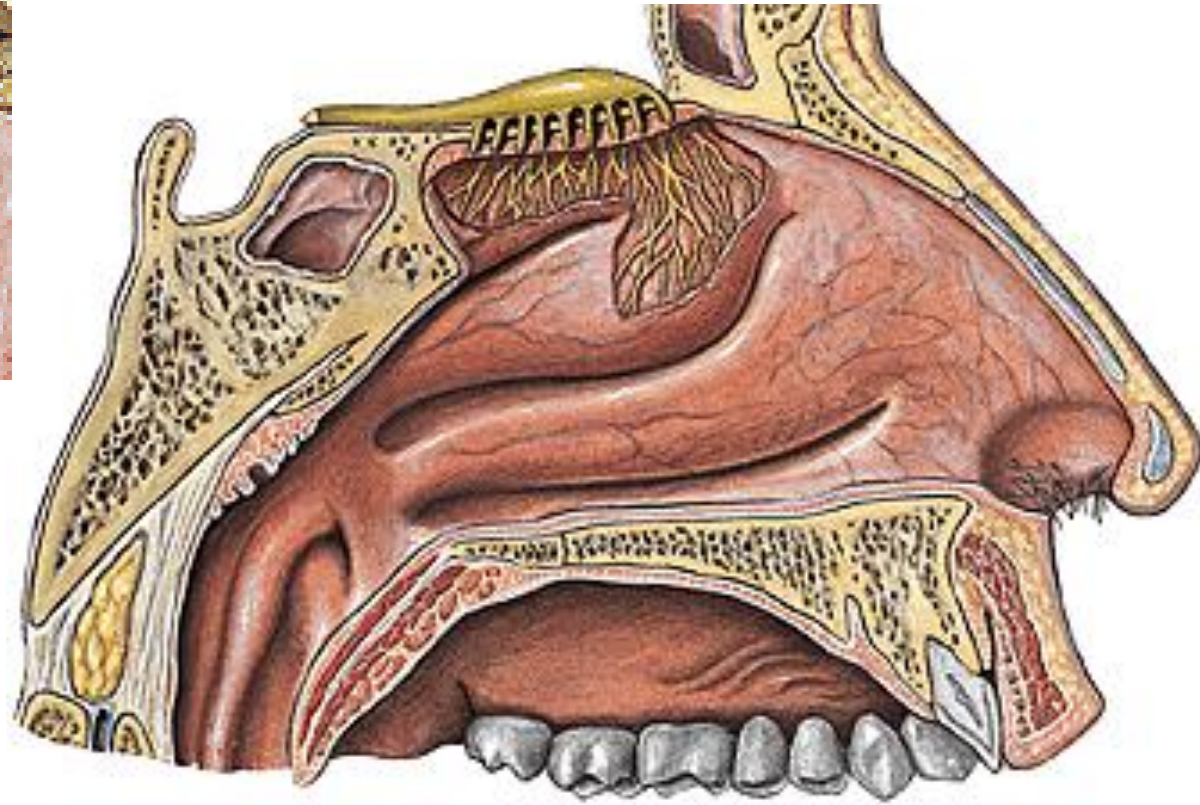
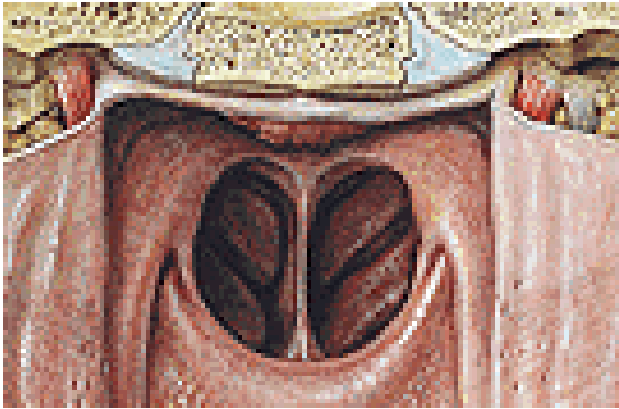
CHOANAE

ISTHMUS FAUCIUM

ADITUS LARYNGIS



Pars nasalis pharyngis (nasopharynx)



Choanae

Fornix pharyngis

Tonsilla pharyngea

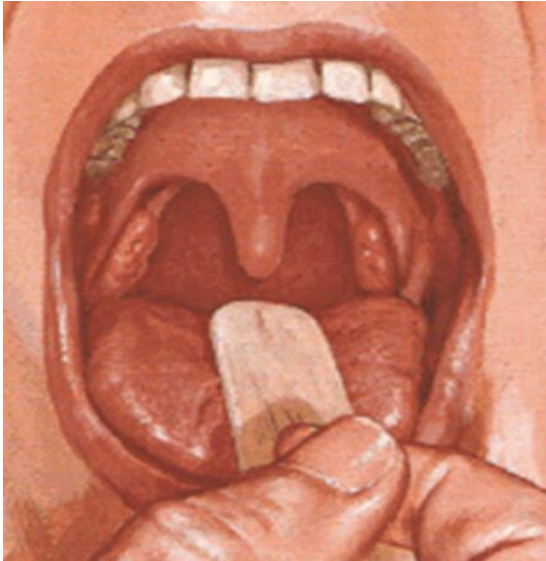
Hypophysis pharyngis

Ostium pharyngeum tubae auditivae

(torus tubarius, torus levatorius, tonsilla tubaria)

Epitel – multicolumnar cylindrical with cilia

Pars oralis pharyngis (oropharynx)



Isthmus faucium: Palatum molle

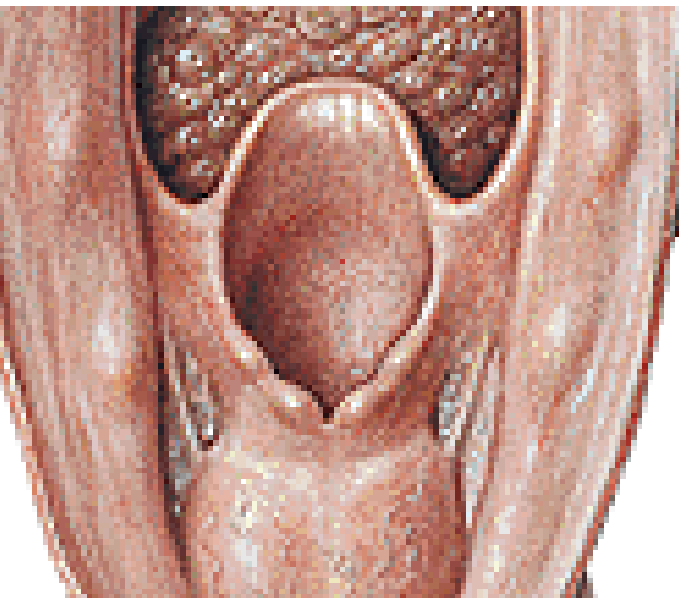
Arcus palatoglossus

Arcus palatopharyngeus

Tonsilla palatina

Radix linguae

Pars laryngea pharyngis (laryngopharynx)



Aditus laryngis:

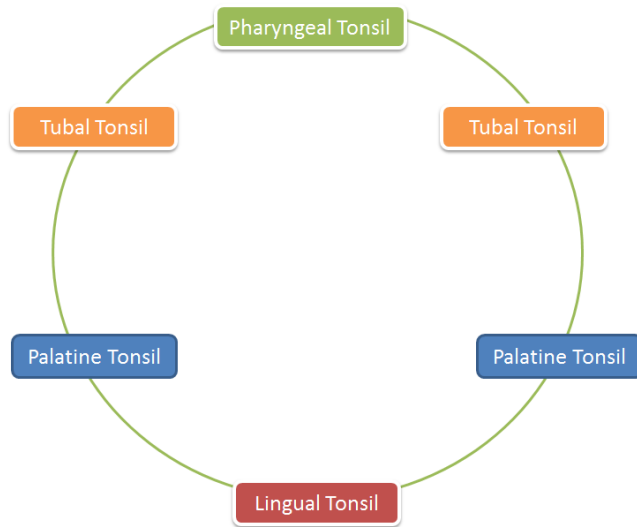
Epiglottis

Plica aryepiglottica
(tuberculum cuneiforme, corniculatum)

Plica (incisura) interarytaenoidea

Recessus piriformis (plica nervi laryngei)

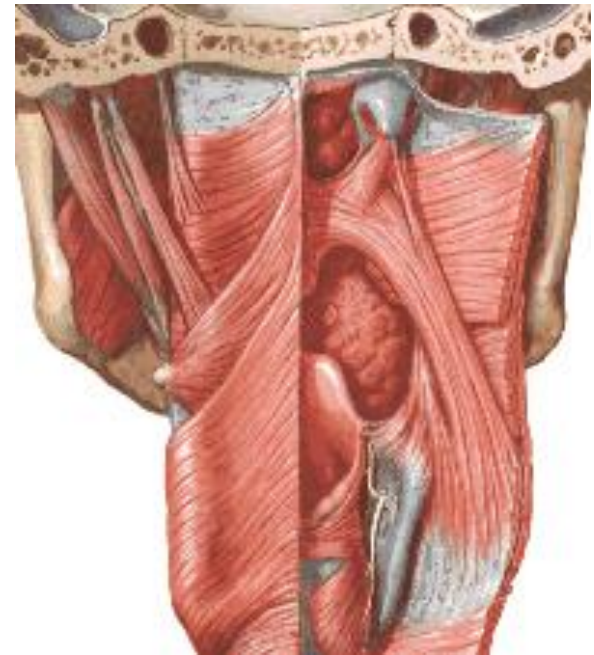
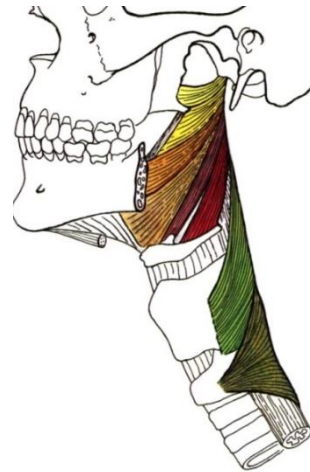
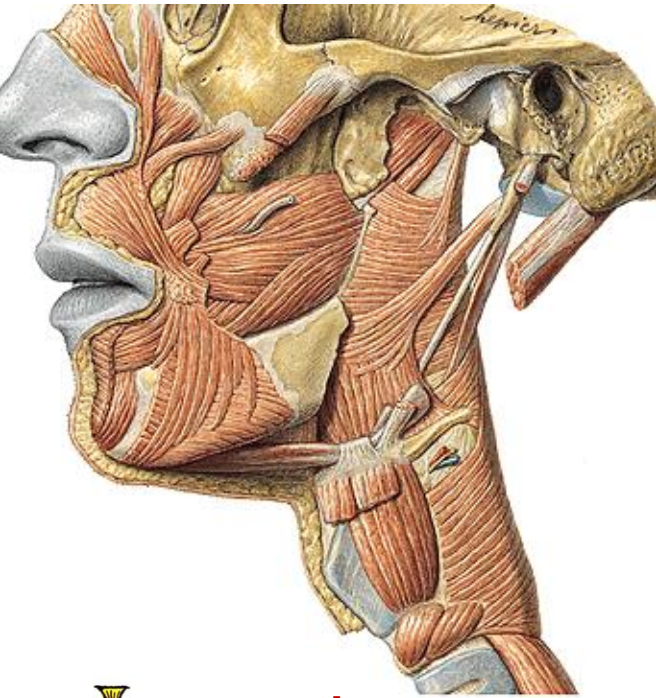
Waldeyer lymphoepithelial ring



Adenoid facies



Muscles of the pharynx– constrictores et levatores laryngis



constrictores:

m. constrictor pharyngis sup. (cranium)

m. constrictor pharyngis med. (hyoid)

m. constrictor pharyngis inf. (larynx)

levatores:

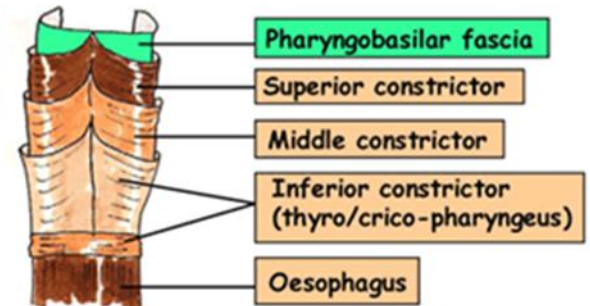
m. stylopharyngeus

m. palatopharyngeus

m. salpingopharyngeus

CARTOON OF MUSCLES OF PHARYNX

LIKE 4 STACKED CUPS



OESOPHAGUS

From C₆ to Th₁₁ (ostium cardiacum of the stomach)

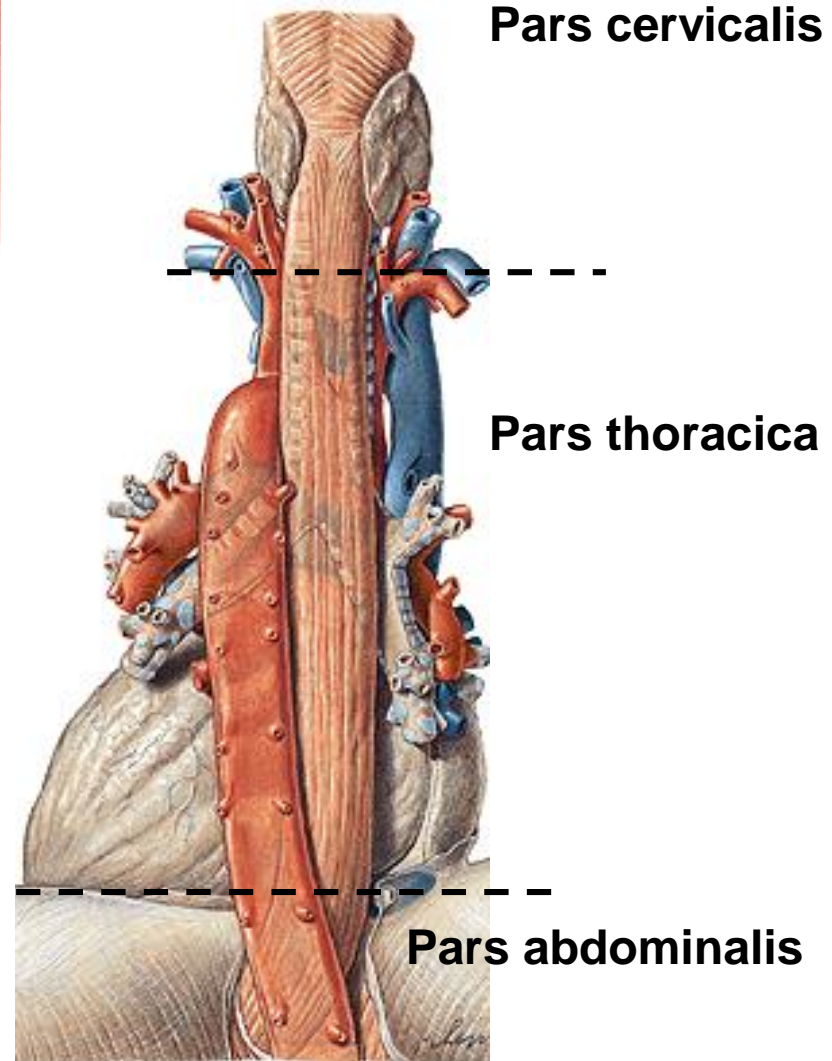
Gastrooesophageal junction



Plicae longitudinales



musculature:
1/3 striated
1/3 transitional
1/3 smooth



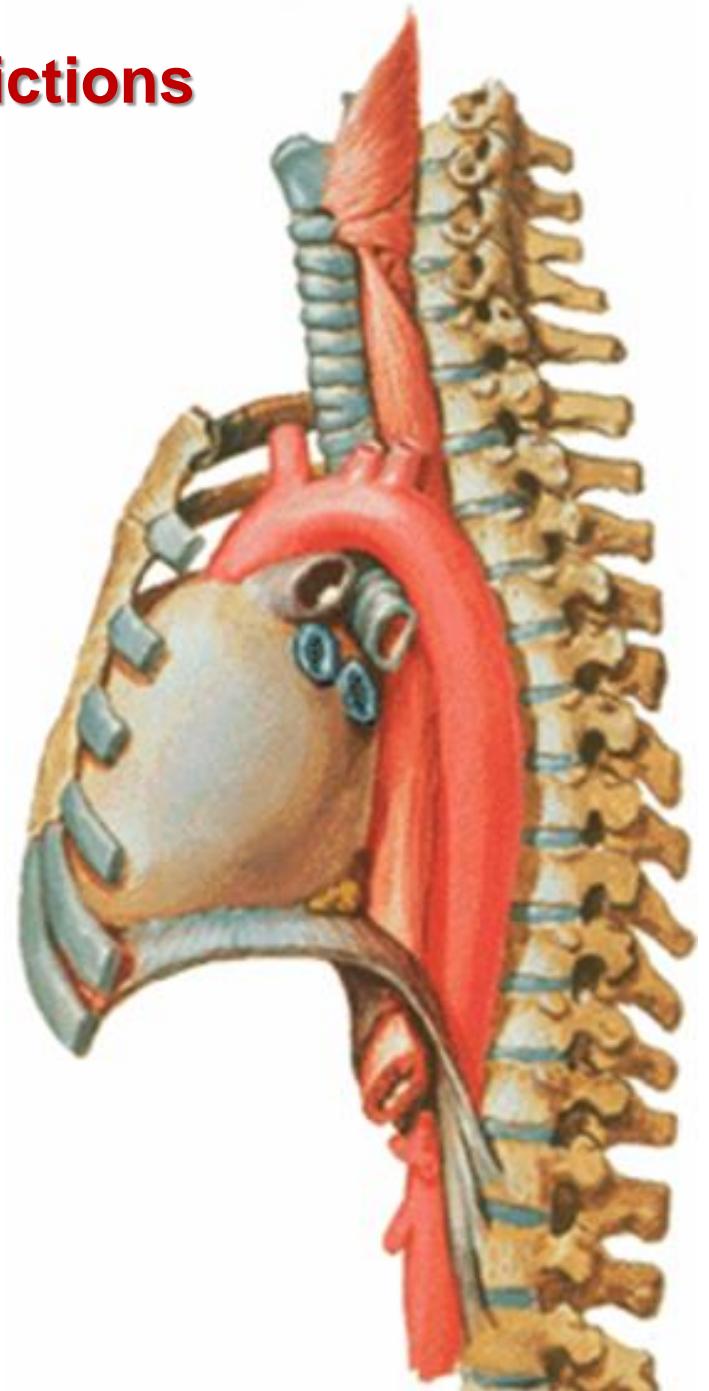
Oesophageal constrictions



C₆

Th₄

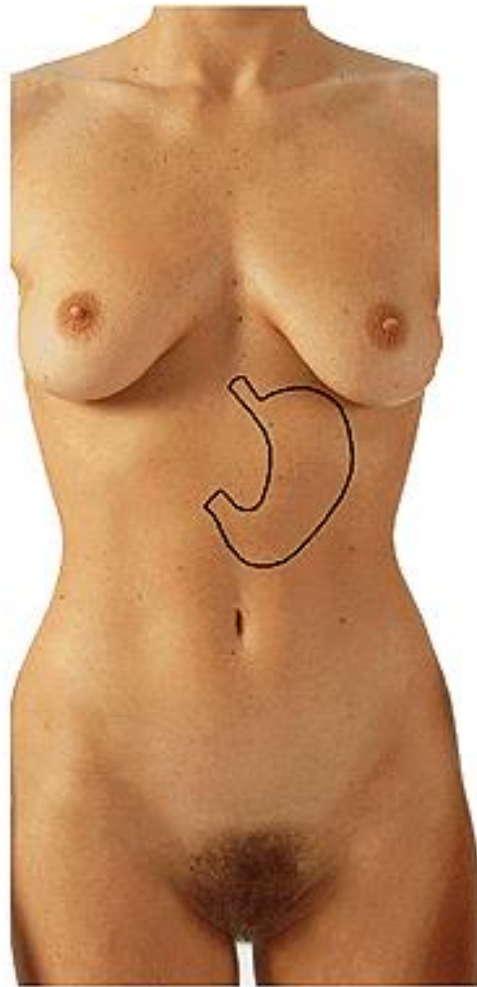
Th₁₁



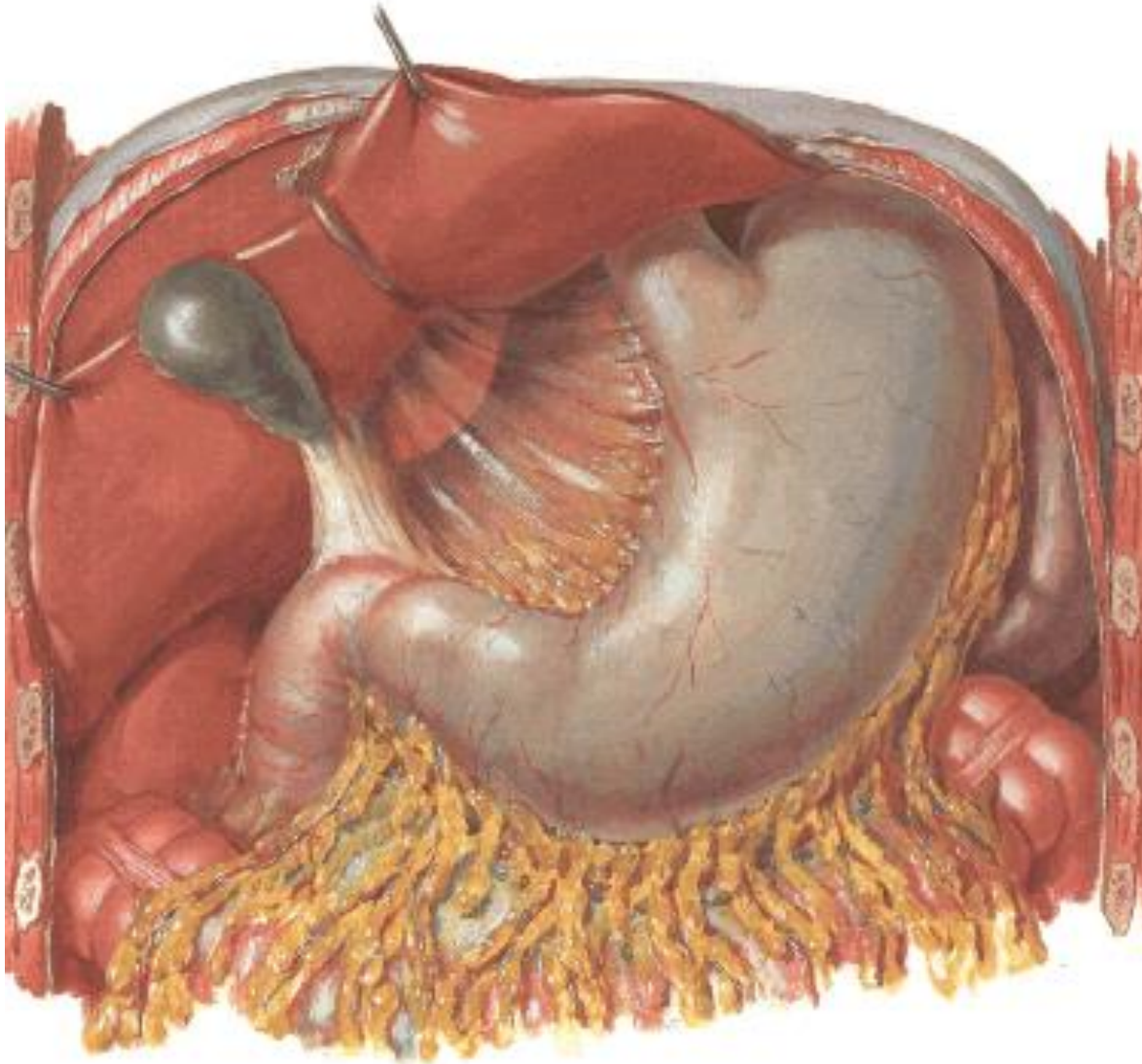
OESOPHAGOGRAPHY



VENTRICULUS, GASTER, STOMACHUS



VENTRICULUS, GASTER, STOMACHUS



Cardia

Fundus (fornix)

Corpus ventriculi

Pars pylorica (pylorus)

Paries ant. et post.

Curvatura major

Curvatura minor

Incisura cardiaca

Incisura angularis

Cavitas ventriculi

Ostium cardiacum

Fornix ventriculi (air bubble)

Corpus ventriculi

plicae gastricae, sulcus salivarius

areae gastricae, gl. gastricae

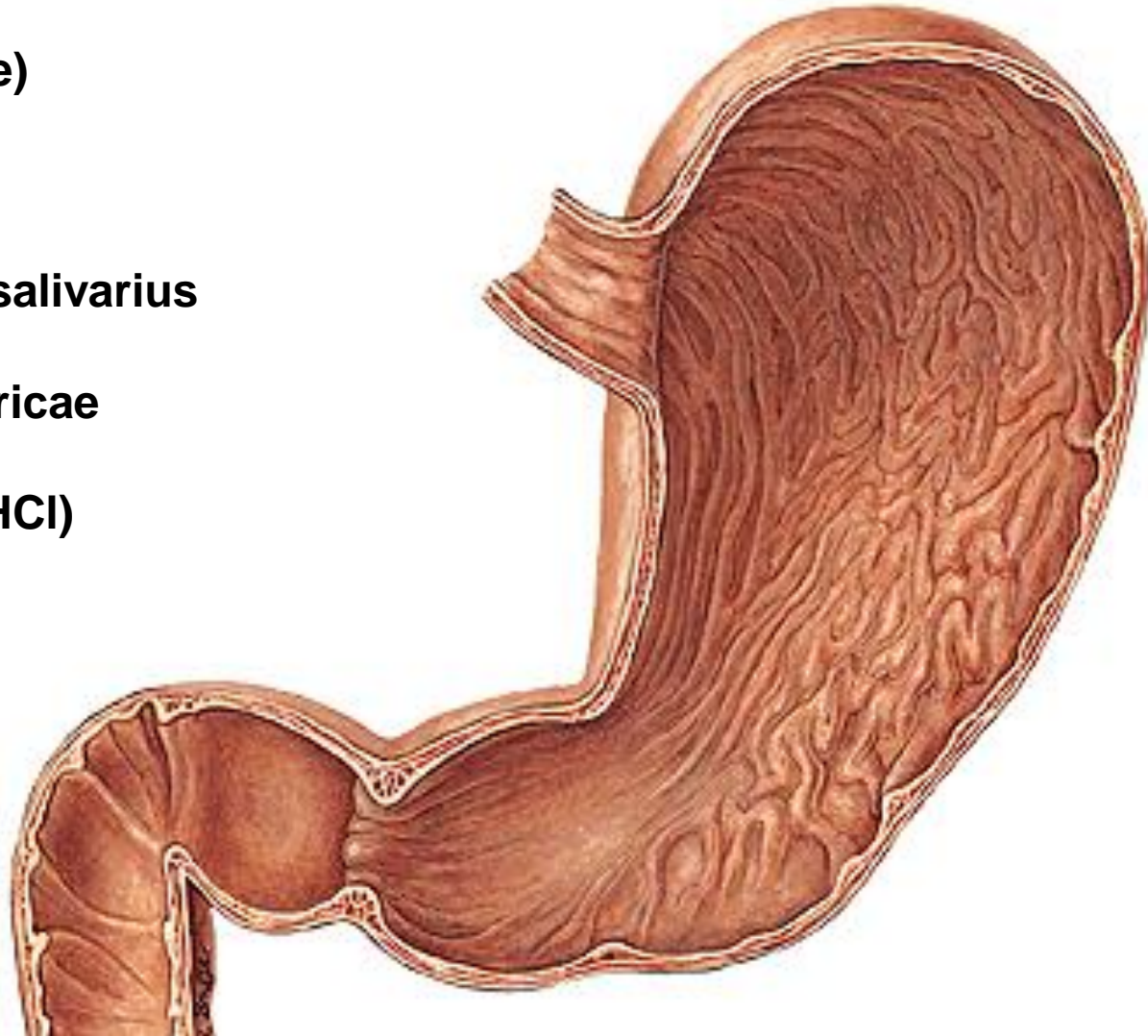
succus gastricus (0.5% HCl)

Pars pylorica

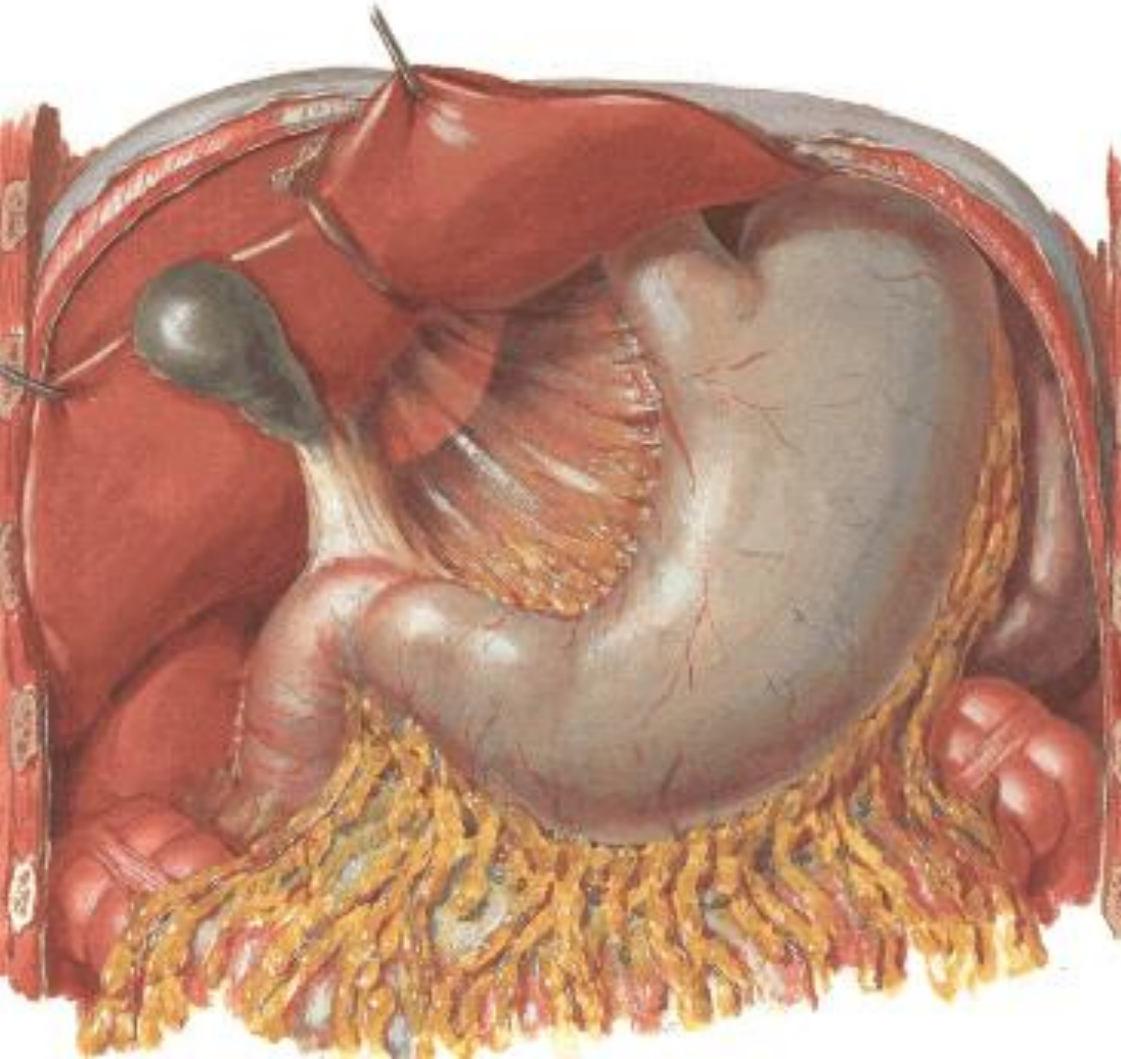
antrum pyloricum

canalis pyloricus

ostium pyloricum



Position of the stomach



Omentum minus

lig. hepatoduodenale

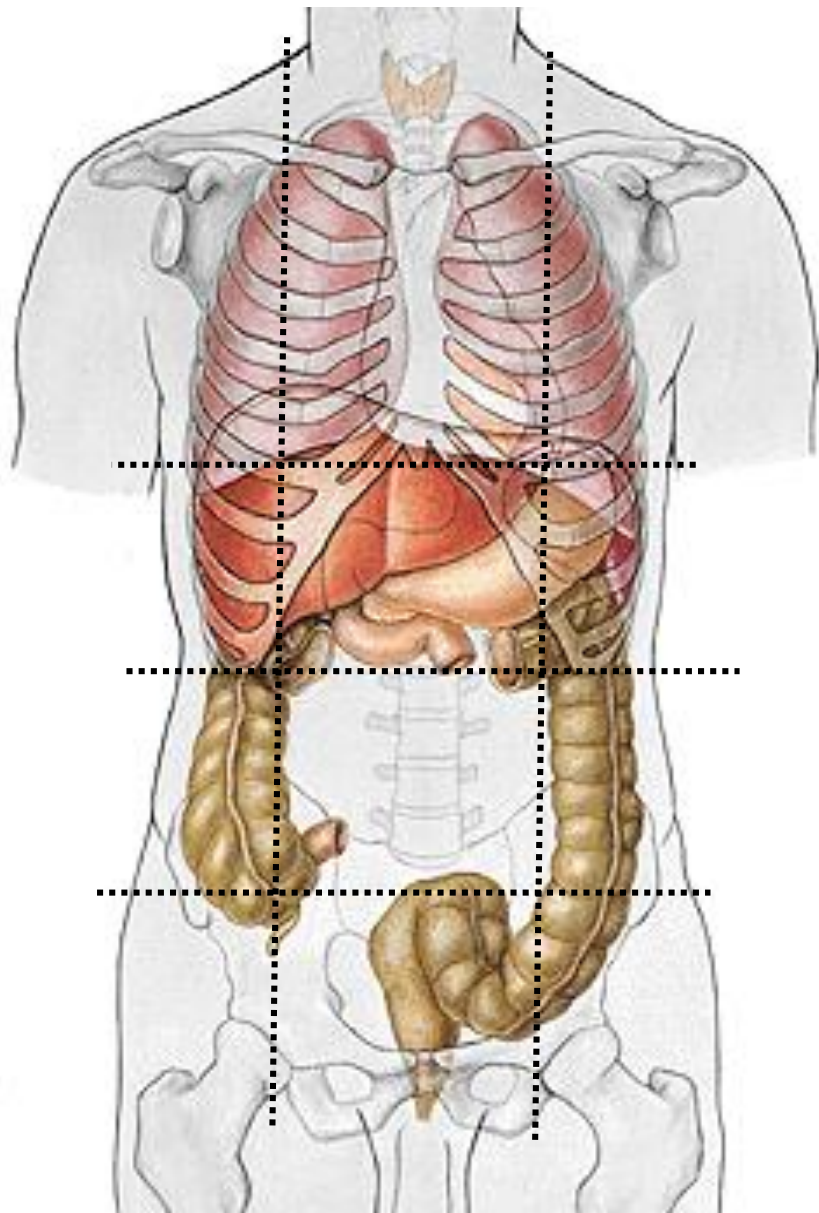
lig. hepatogastricum

Omentum majus

lig. gastrocolicum

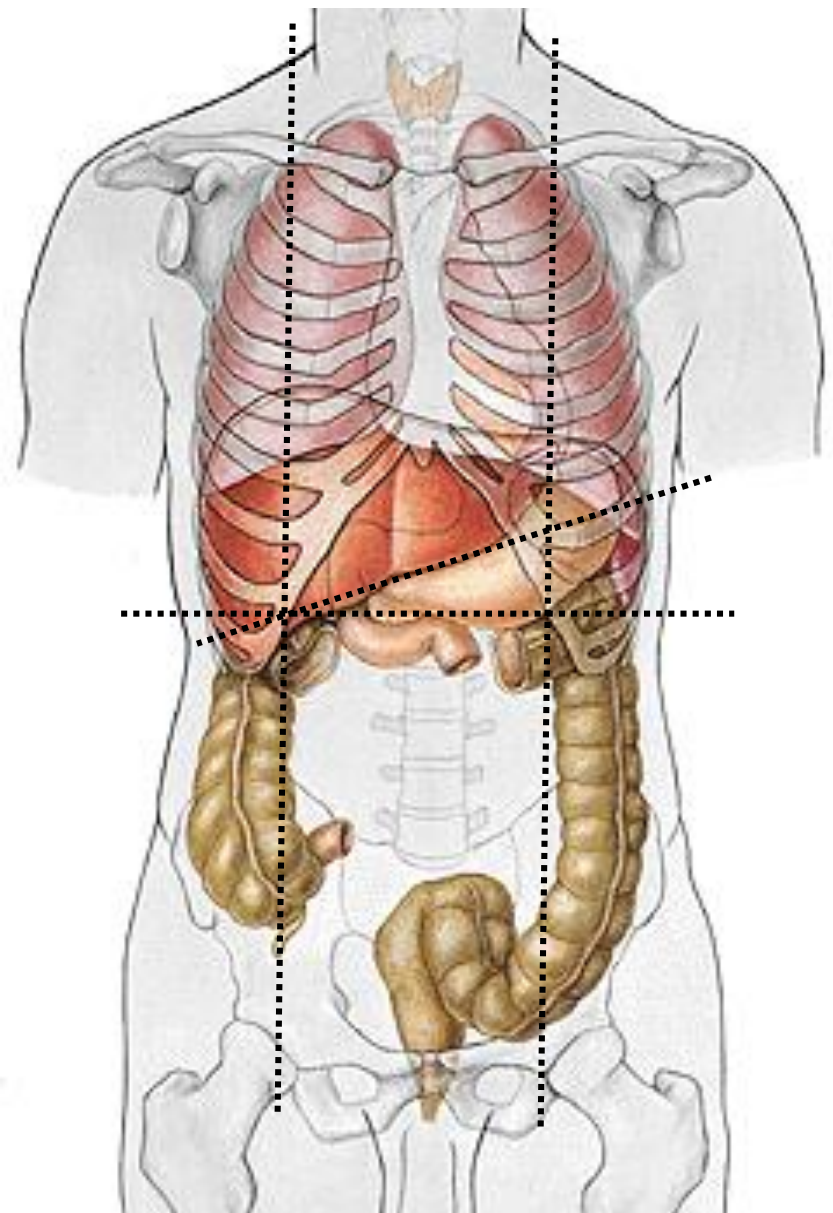
lig. gastrolienale

(splenicogastricum)



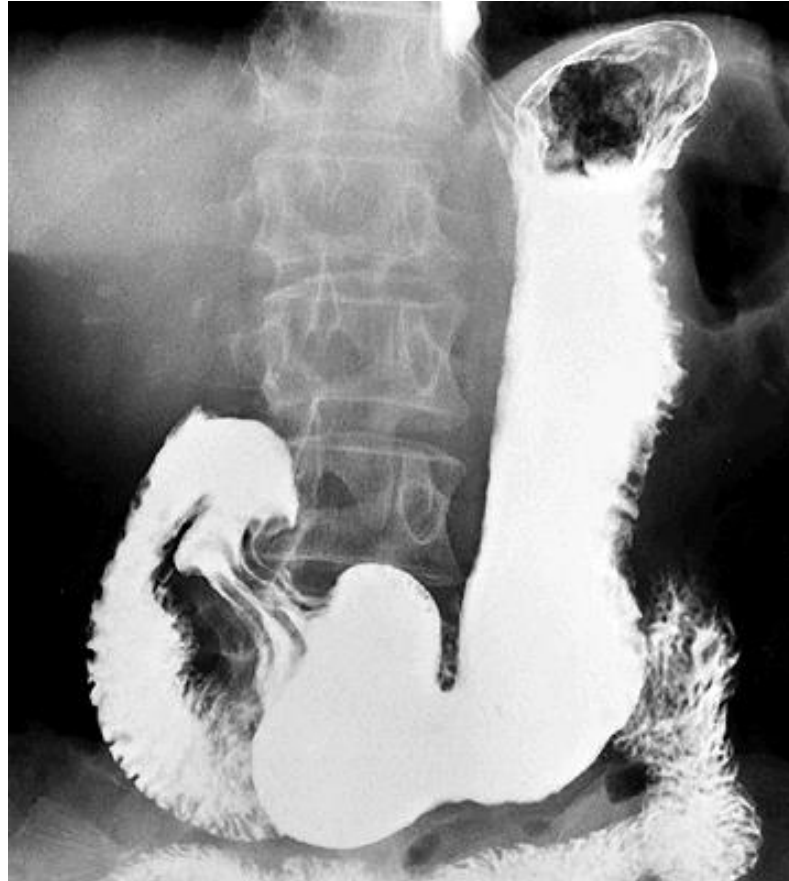
cardia – left from Th_{11} - Th_{12}

pylorus – right 3-4 cm od L_{1-2}



Triangle of Labbé

Incisura angularis



INTESTINUM (TENUE, CRASSUM) small and large intestine

From pylorus to ostium ileocaecale in right iliac fossa

Parts of intestinum tenue: Duodenum

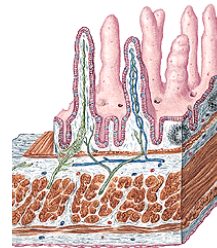
Jejunum

Ileum

3-7 m, ansae intestinales (loops)

Plicae circulares, villi intestinales

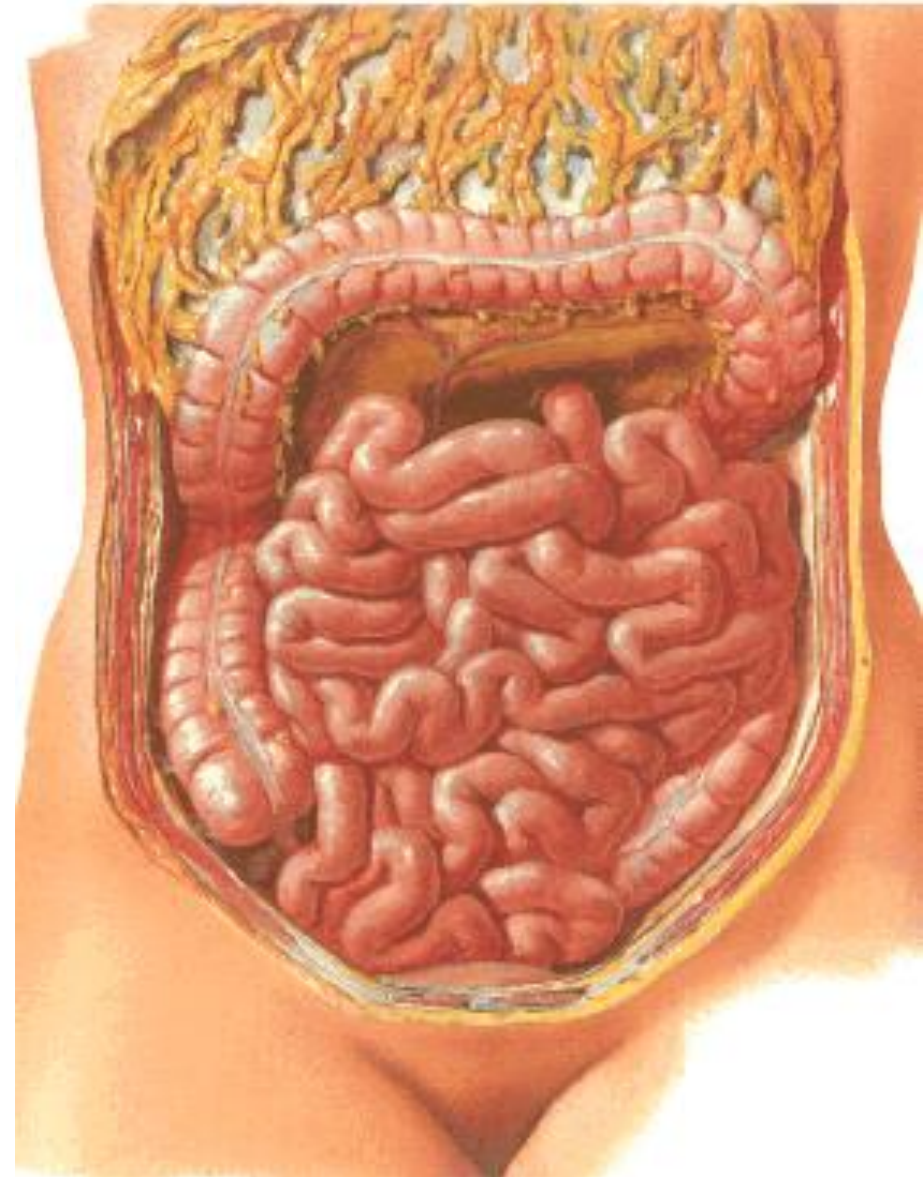
Glandulae intestinales
(alkaline)



Succus entericus

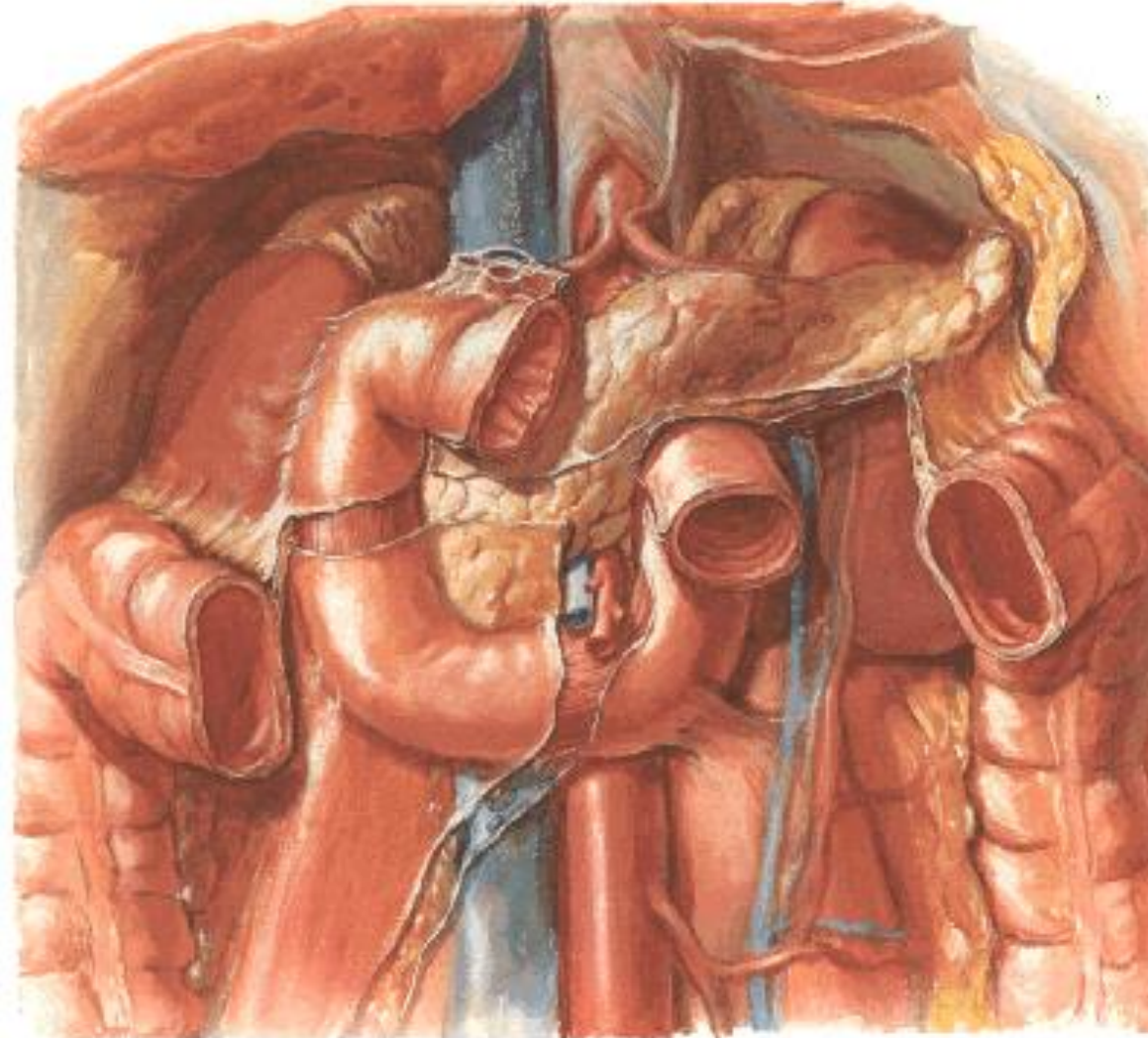
Circular and longitudinal musculature

Mesenterium, radix mesenterii



DUODENUM

from pylorus to flexura duodenojejunalis, around L₂ , lengths (12 inches, 25-30 cm)



Pars superior

(ampulla, bulbus duodeni)

flexura duodeni sup.

Pars descendens

pars supramesocolica

pars inframesocolica

flexura duodeni inf.

Pars horizontalis

Pars ascendens

Flexura duodenojejunalis

Pars descendens duodeni – plica longitudinalis duodeni

Papilla duodeni major (Vateri)

ampulla hepatopancreatica

(m. sphincter ampullae hepatopanc., Oddi)

ductus choledochus

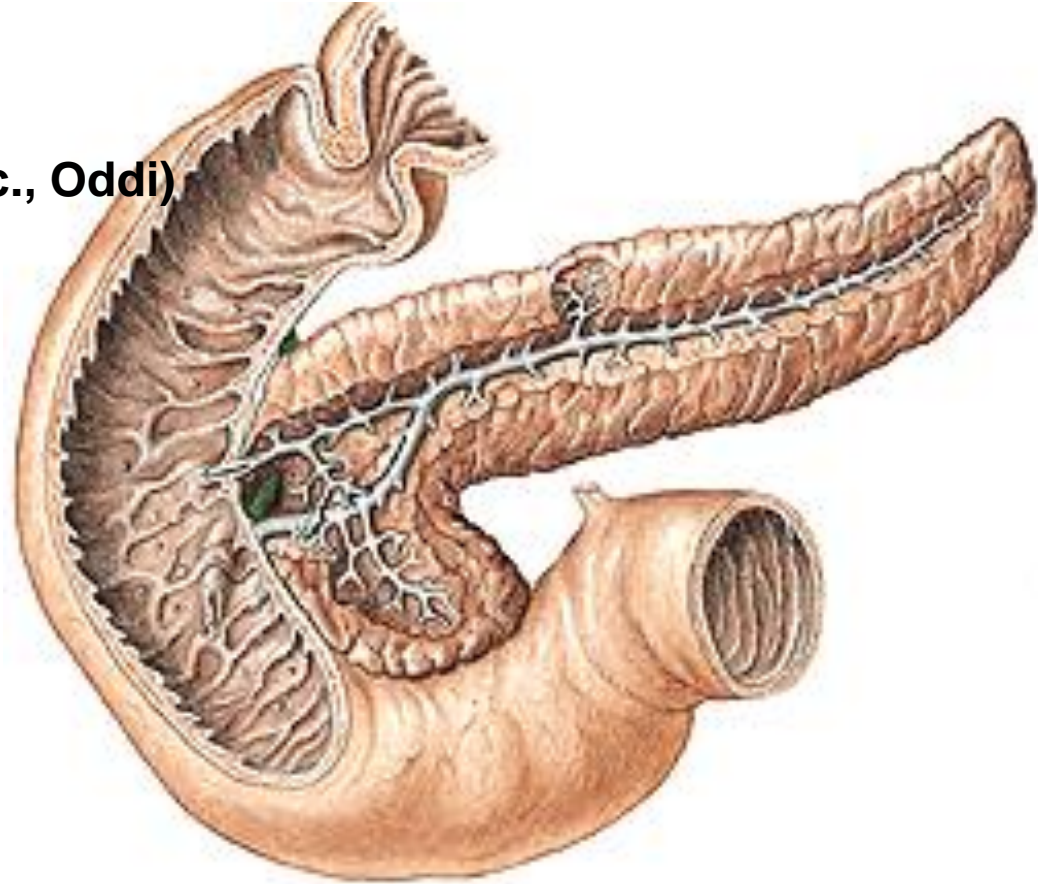
(m. sphincter ductus choledochi)

ductus pancreaticus major

(m. sphincter ductus pancreatici)

Papilla duodeni minor

ductus pancreaticus accesorius

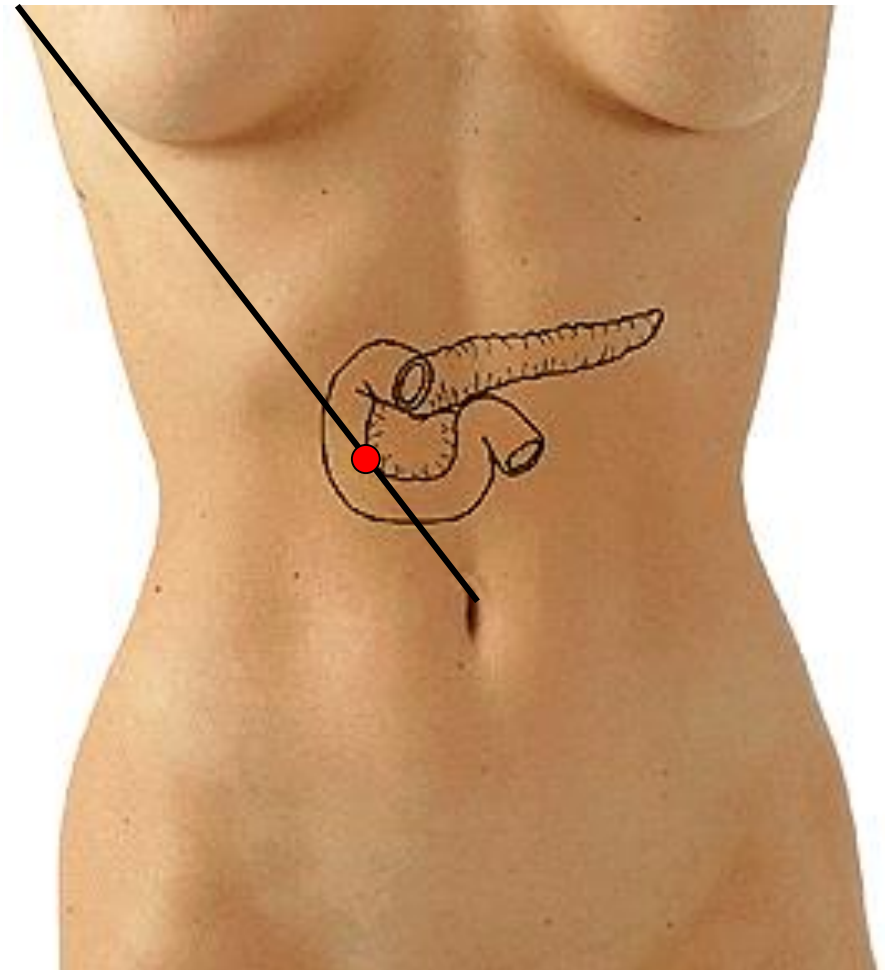
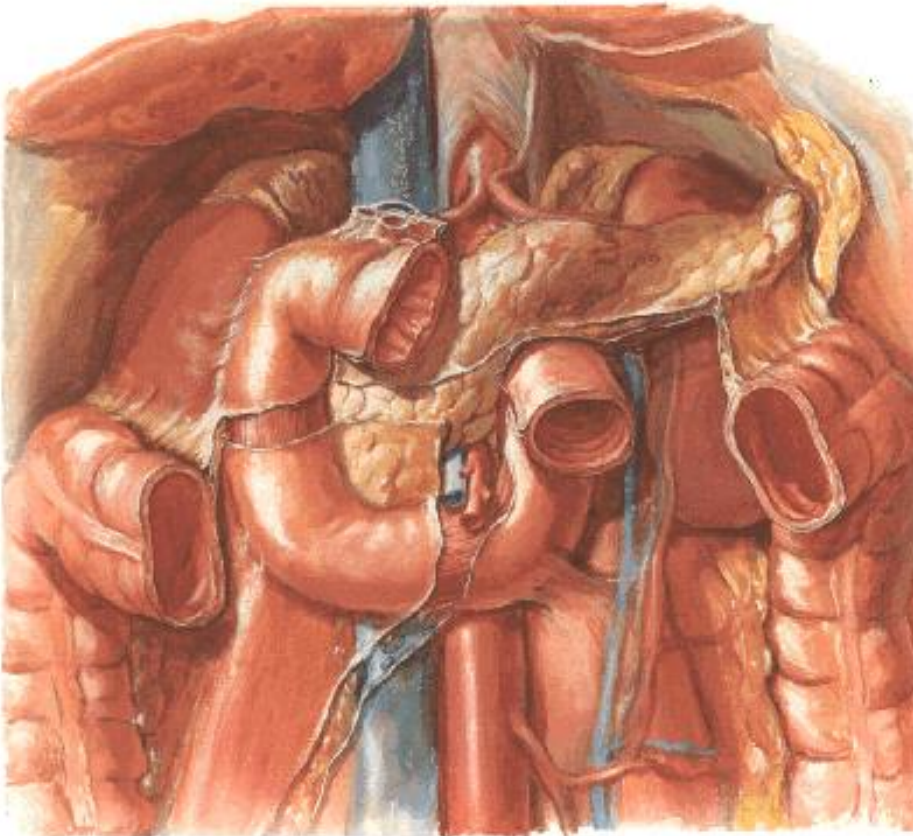


Position of the duodenum

Pars superior – intraperitoneal (lig. hepatoduodenale)

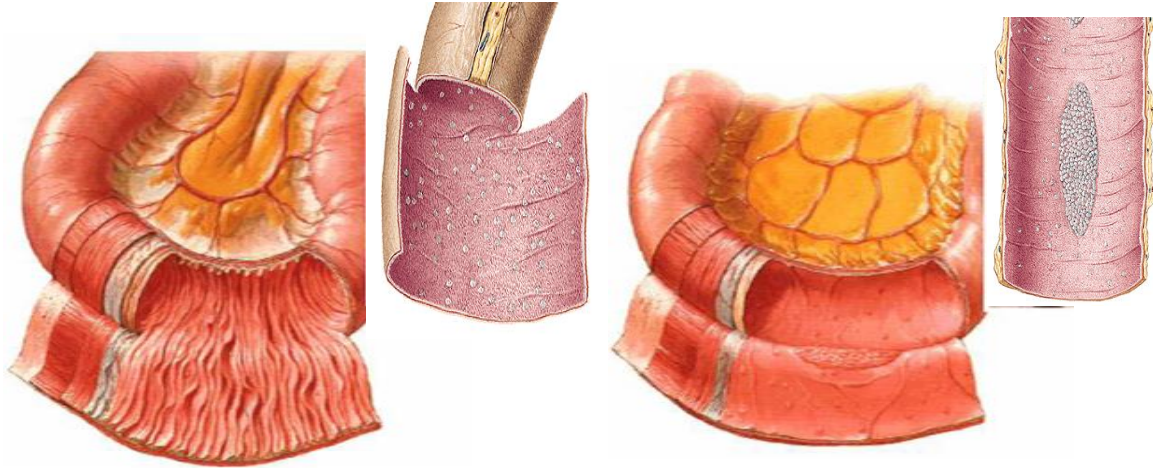
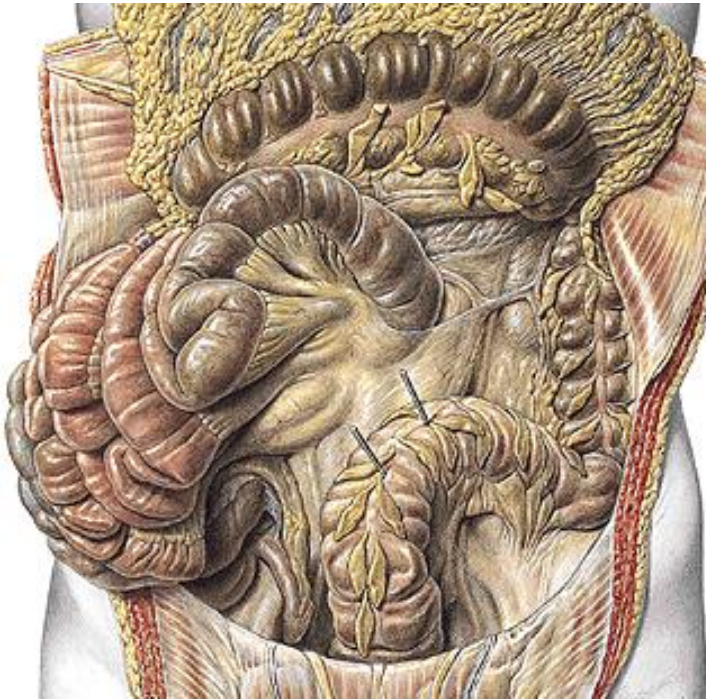
Other parts – secondarily retroperitoneally

Desjardin's pancreatic point – papilla duodeni major (6 cm from umbilicus)



Jejunum et ileum

flexura dudenojejunalis až ostium ileocaecale, 3-5 m

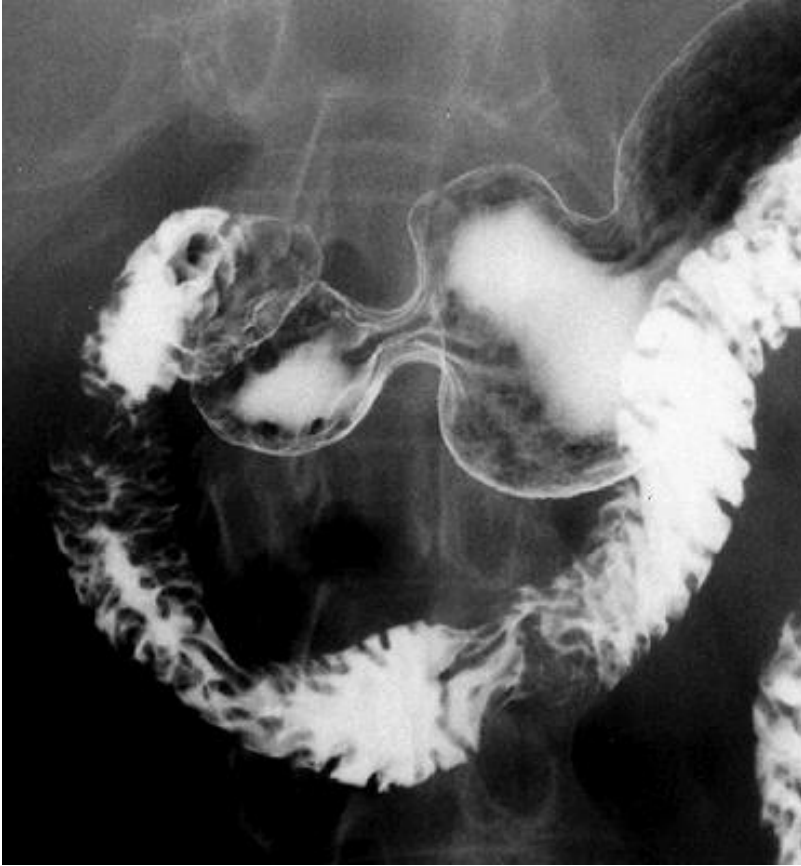


Mesenterium

Radix mesenterii (15 cm)

	Jejunum	Ileum
localisation	Upper left	Lower right
length	3/5	2/5
plicae, villi	more	less
artery arcads	1-2	2-4
foliculi lymphatici	solitarii	agregati

Enteroclysis



LARGE INTESTINE

Intestinum caecum

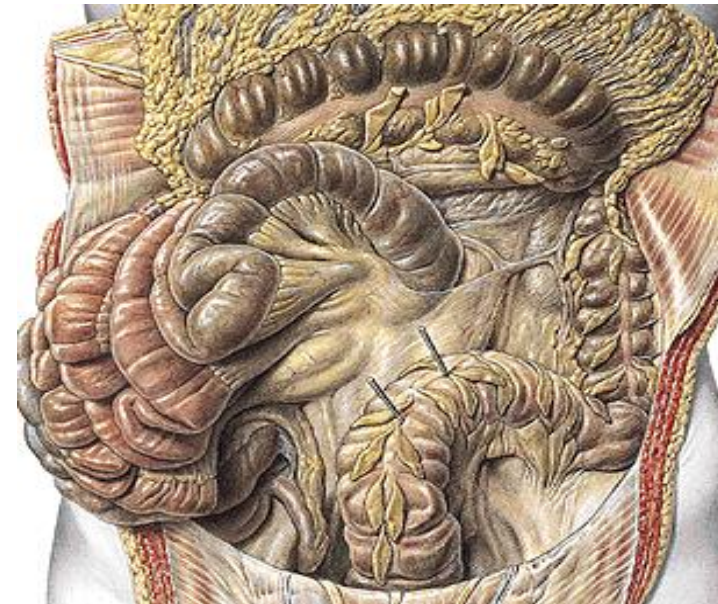
Colon ascendens (flexura coli dextra)

Colon transversum (flexura coli sinistra)

Colon descendens (crista iliaca)

Colon sigmoideum (to the height of S₃)

Rectum



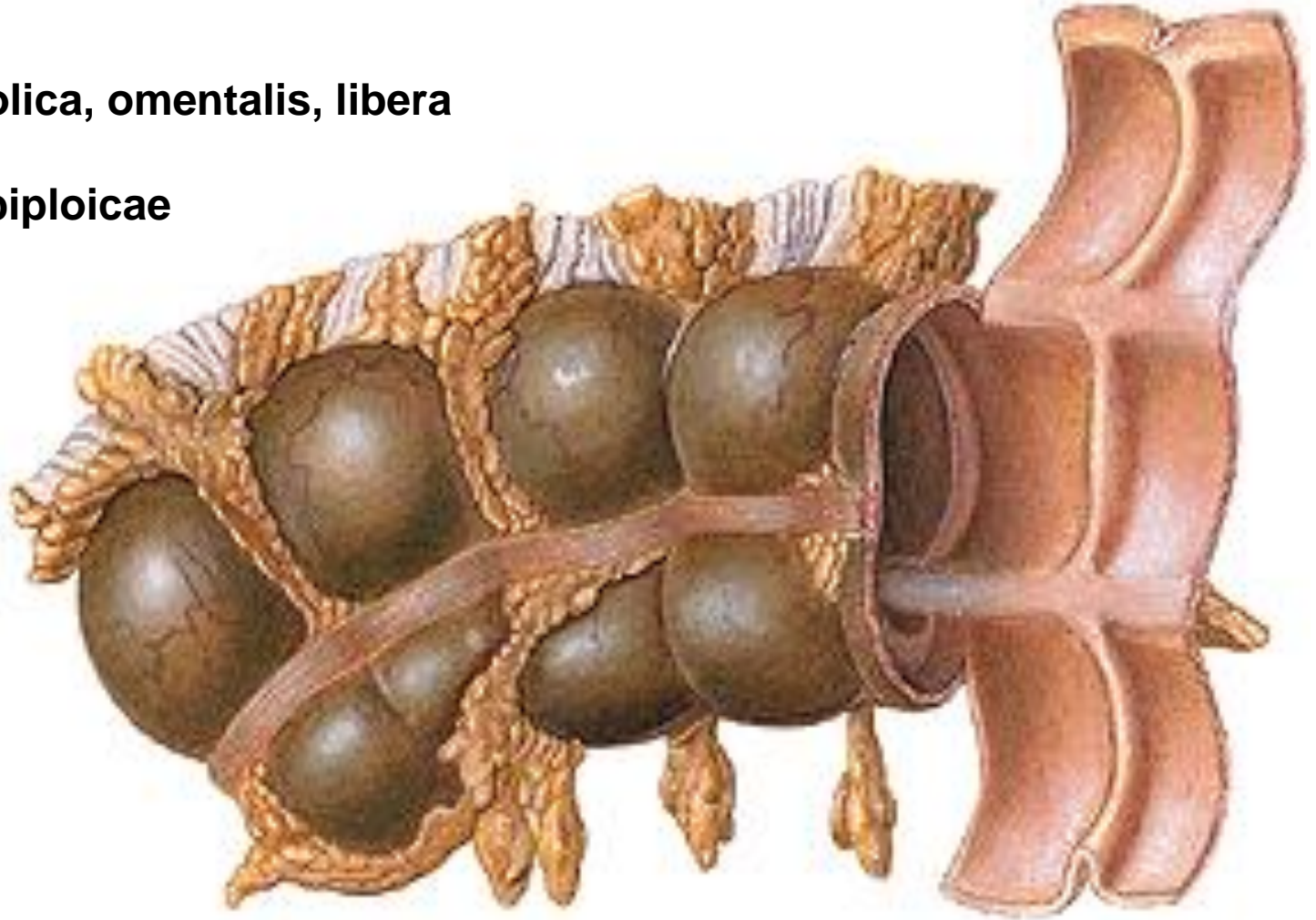
LARGE INTESTINE

Plicae semilunares

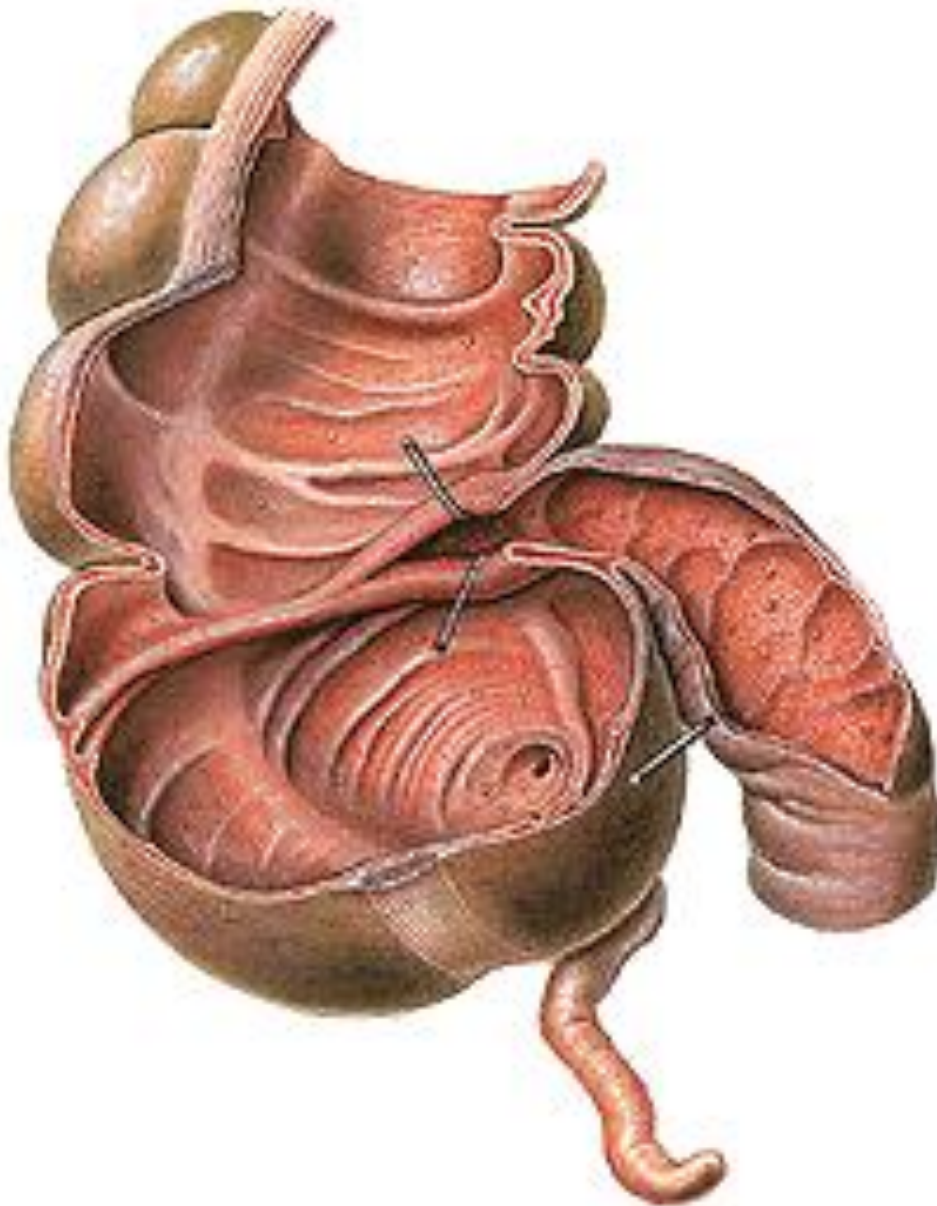
Haustra coli

Taenia mesocolica, omentalis, libera

Appendices epiploicae



CAECUM



Ostium ileocaecale

Valva iliecaecalis

Appendix vermiformis

Ostium appendicis vermiformis

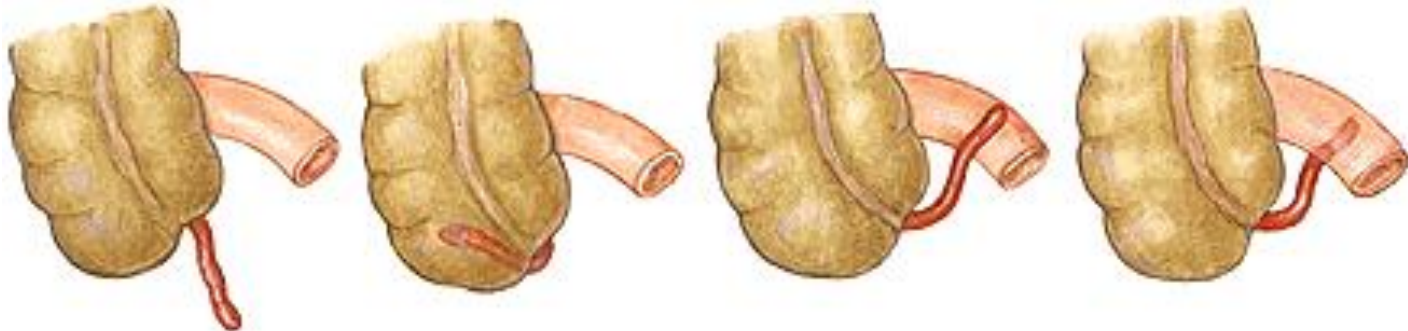
Valva appendicis vermiformis

Tonsilla abdominalis

Mesoappendix



Positions of appendix



Positio pelvina (ovarium)

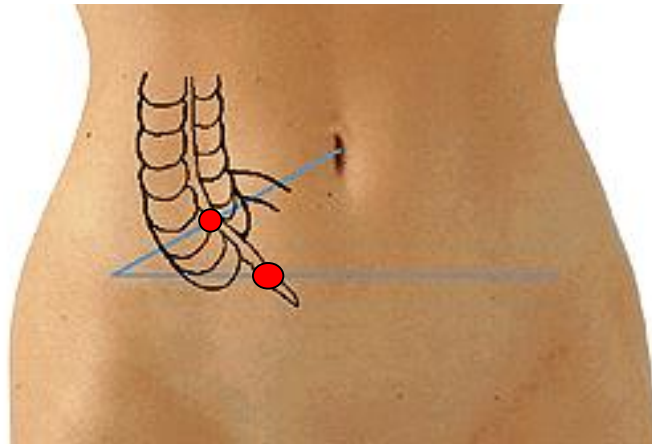
Positio retrocaecalis

Positio ileocaecalis

Positio praecaecalis

Positio laterocaecalis

Positio subcaecalis



Monro's line (linea spinoumbilicalis dx.)

Mac Burney's point (6cm from SIAS)

Linea bispinalis

Lanz's point (between lateral and middle 1/3))

Irigography



RECTUM

From sigmoideum (S₃) to anus in crena ani



Ampulla recti

plicae transversae recti (sup., med., inf.)

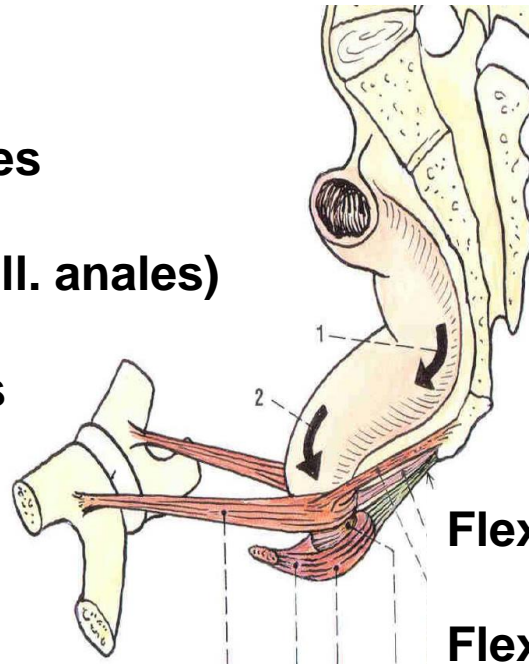
plicae transversa recti media (Kohlrausch), 6-7 cm

Canalis analis

columnae anales

sinus anales (gll. anales)

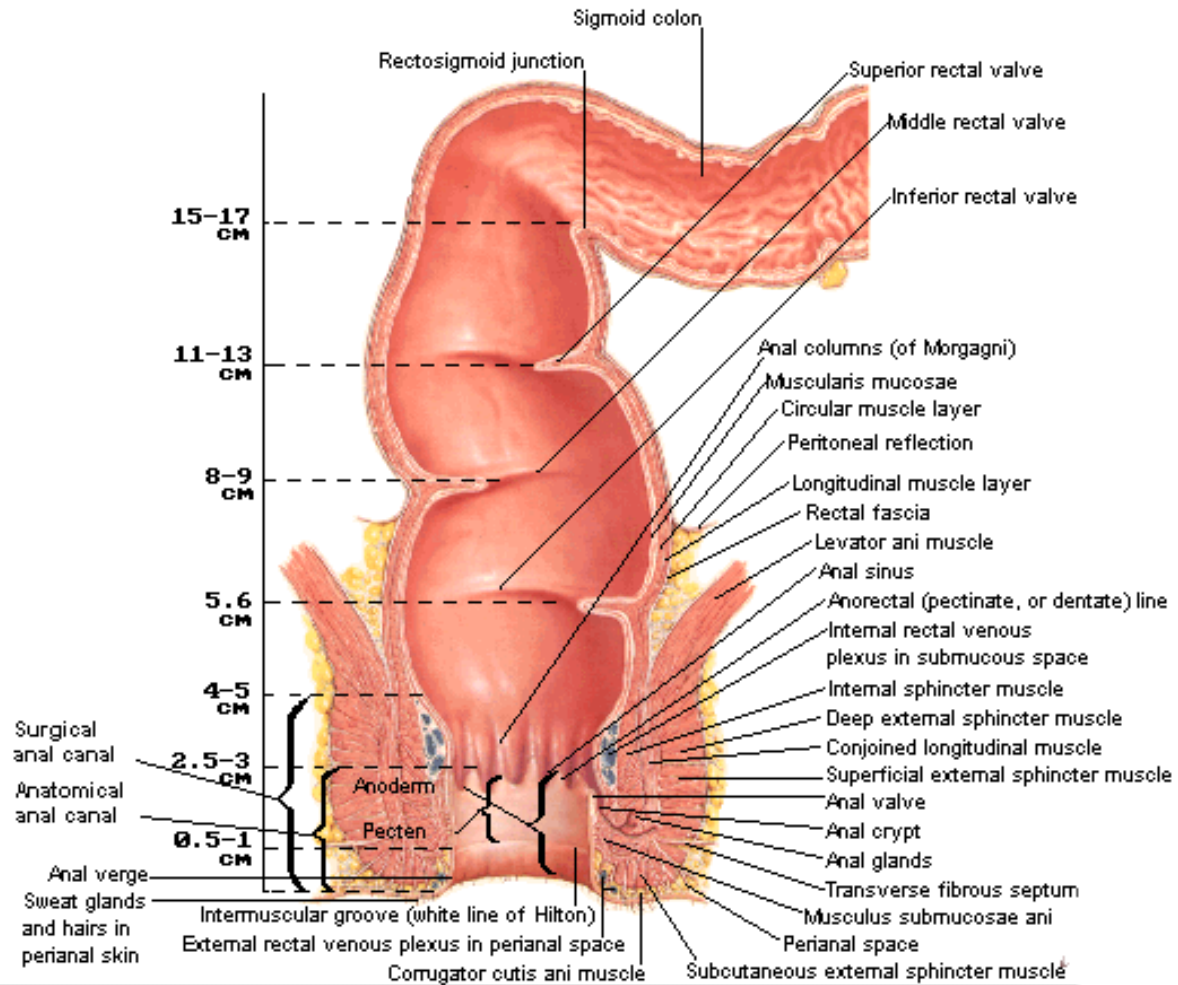
valvulae anales



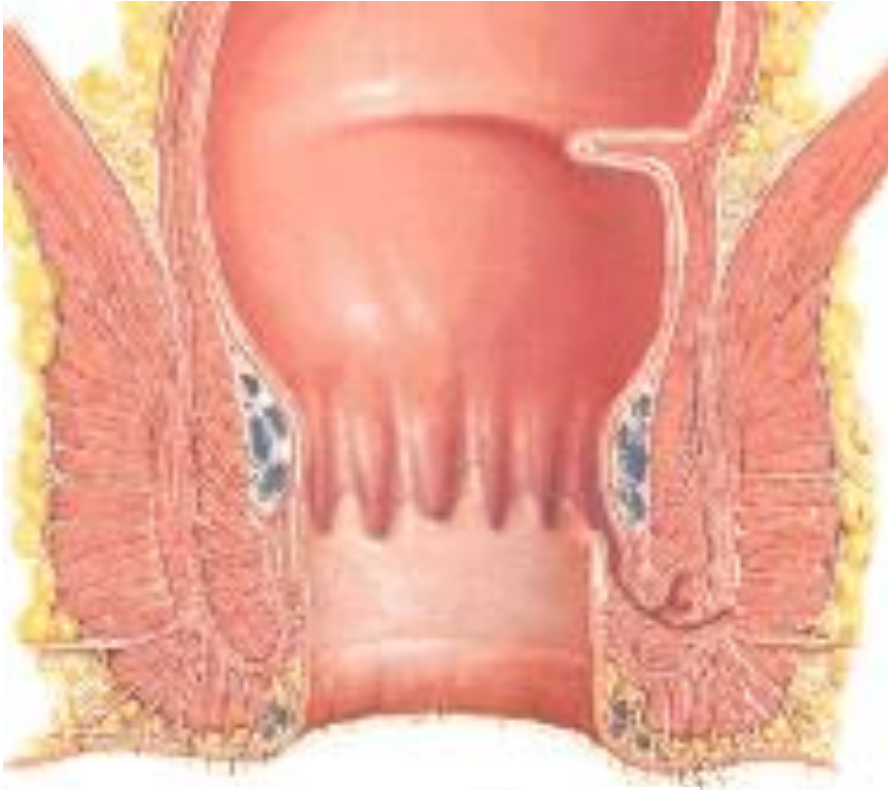
Flexura sacralis

Flexura perinealis

Rectum and Anal Canal



Structure of the wall of canalis analis



Zona haemorrhoidalis

(plexus venosus rectalis)

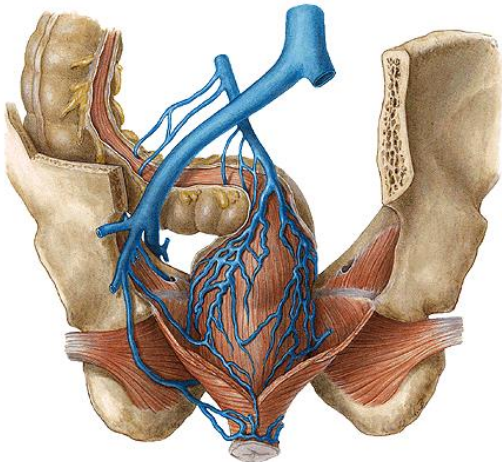
Pecten analis (squamous epithelium)

Linea anocutanea (transition)

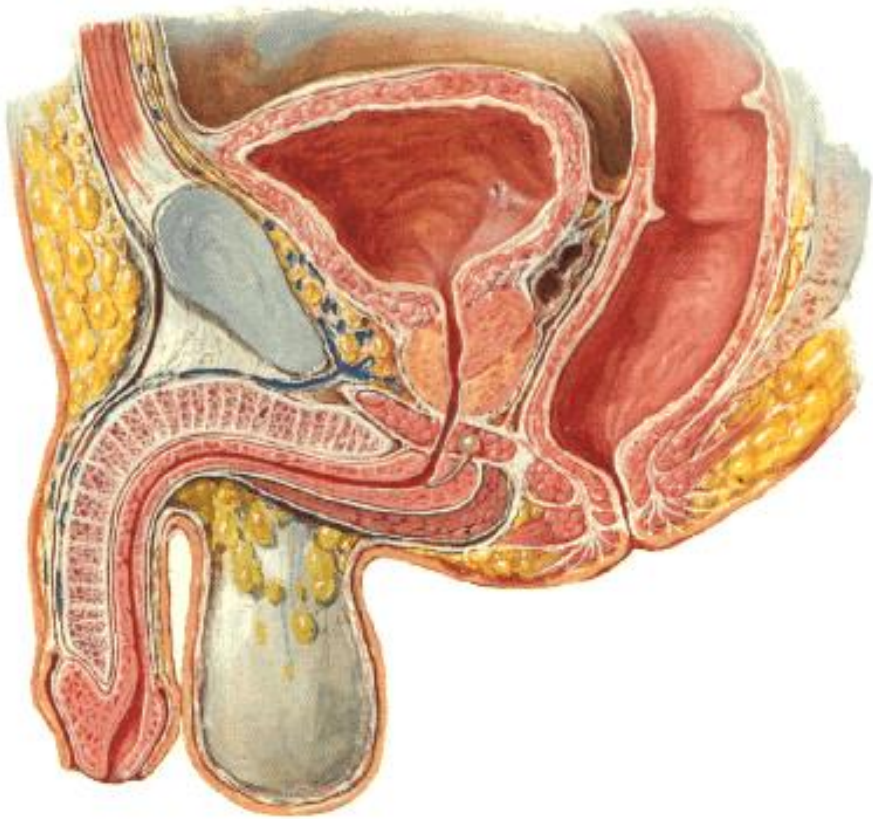
Zona cutanea (skin)

M. sphincter ani int. (smooth m.)

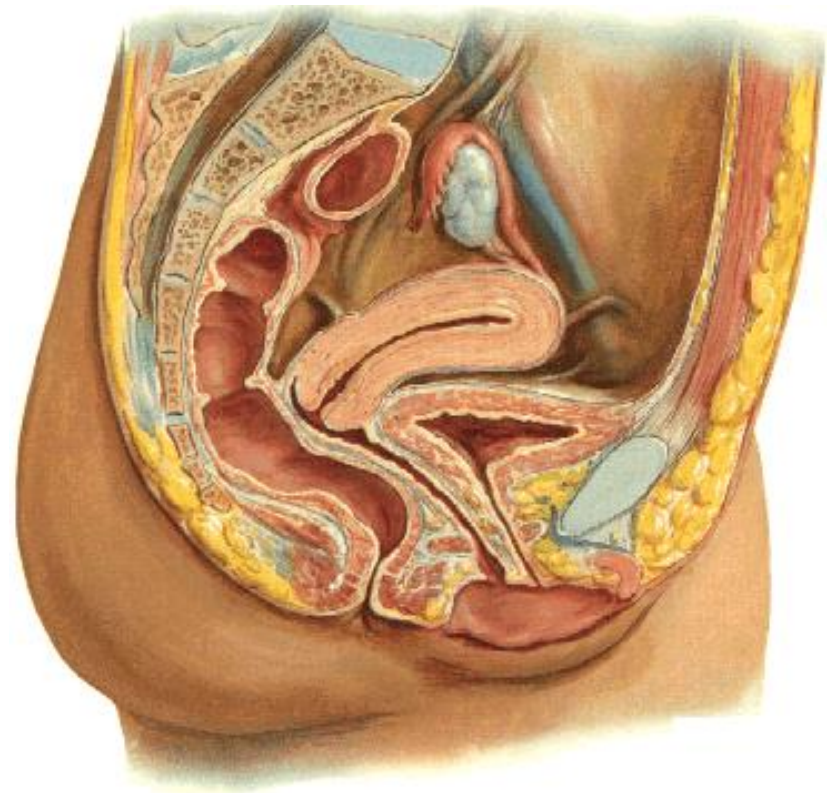
M. sphincter ani ext. (striated m.)



Excavatio rectovesicalis



Excavatio rectouterina



**Illustrations, photographs, and radiographs were copied from:
Atlas der Anatomie des Menschen/Sobotta.
Putz,R., und Pabst,R. 20. Auflage. München:
Urban & Schwarzenberg, 1993)
Netter: Interactive Atlas of Human Anatomy.
Windows Version 2.0**

