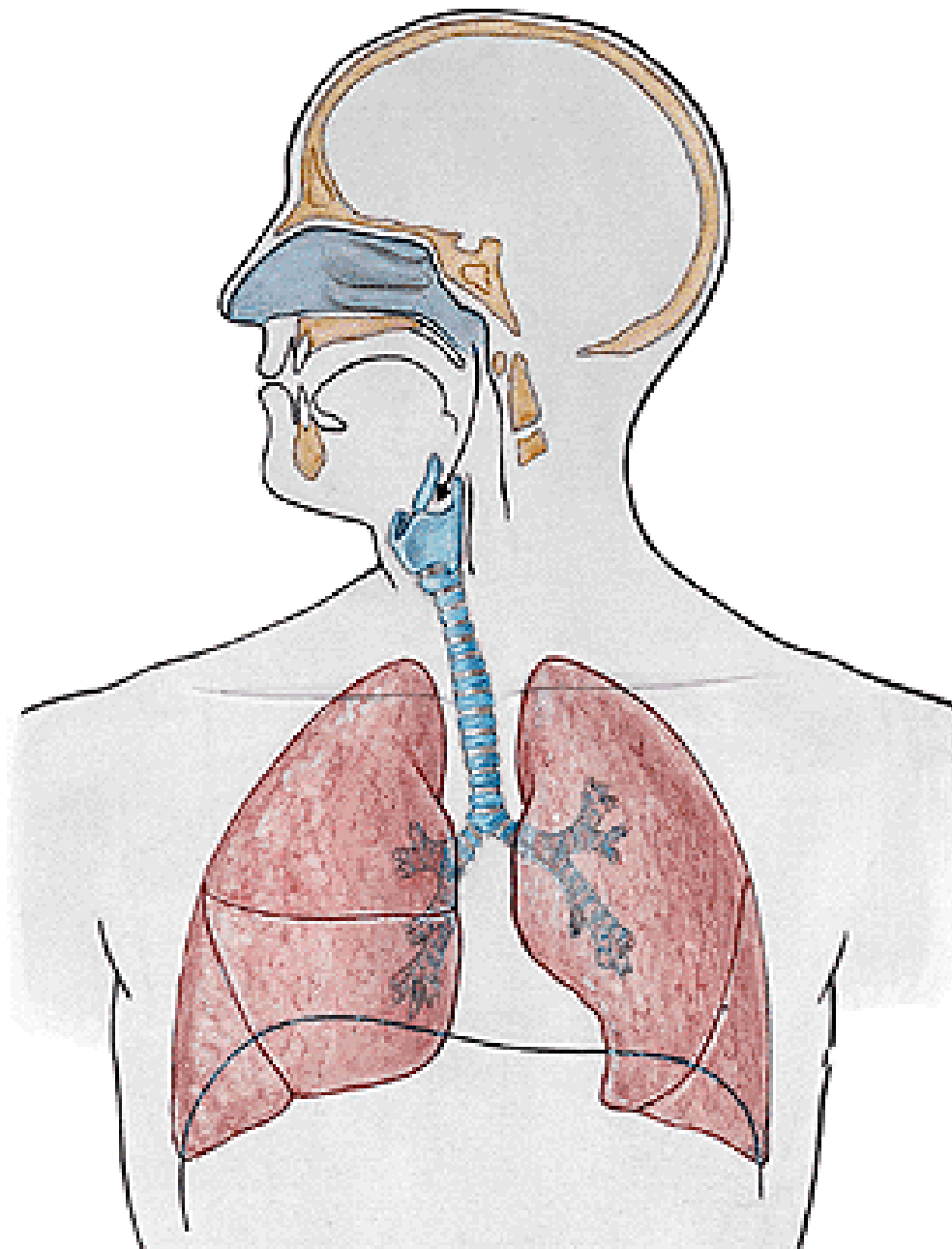


RESPIRATORY SYSTEM I.

**UPPER RESPIRATORY TRACT,
LARYNX**



NASUS EXTERNUS

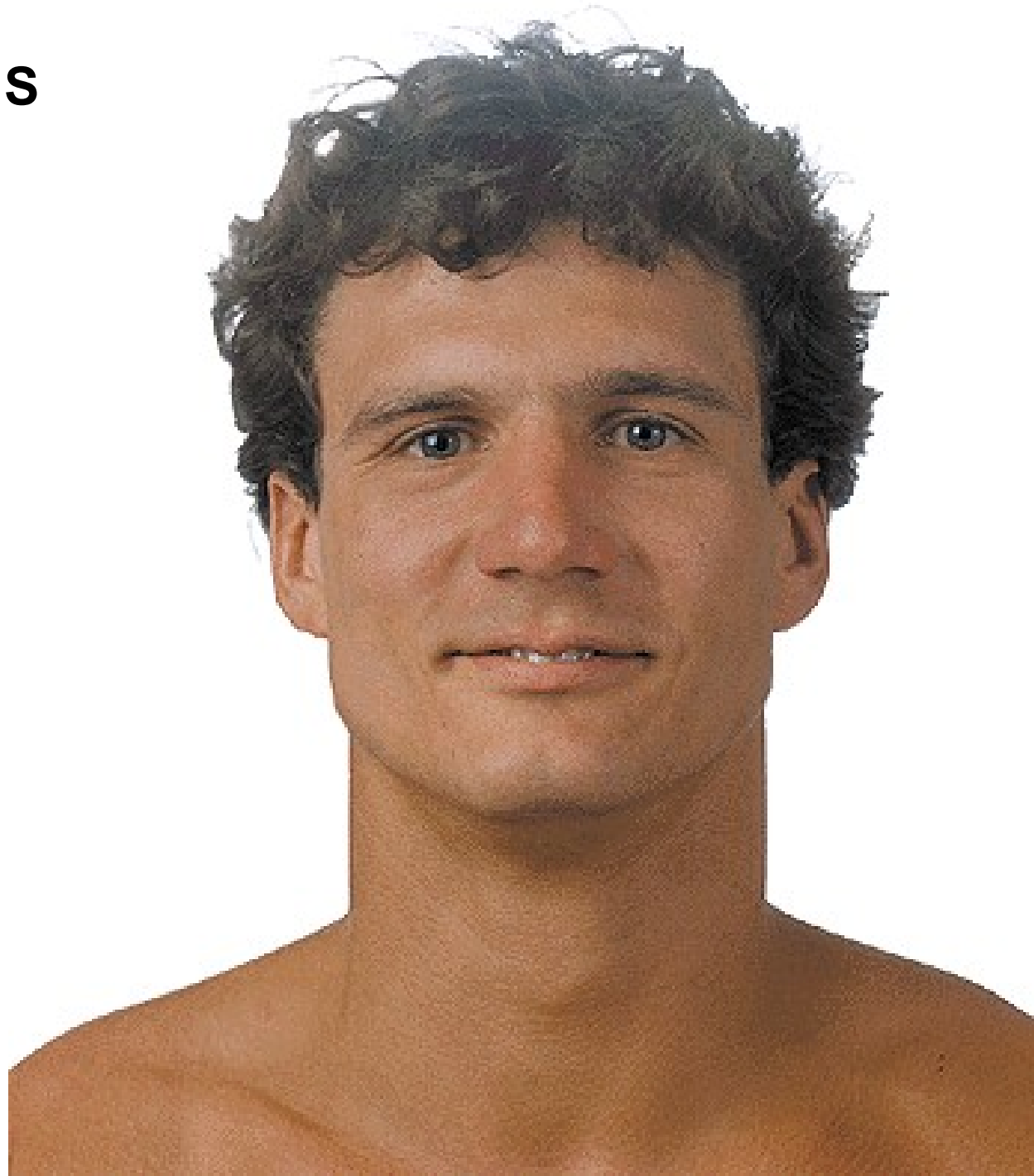
Radix nasi

Dorsum nasi

Apex nasi

Nares

Alae nasi



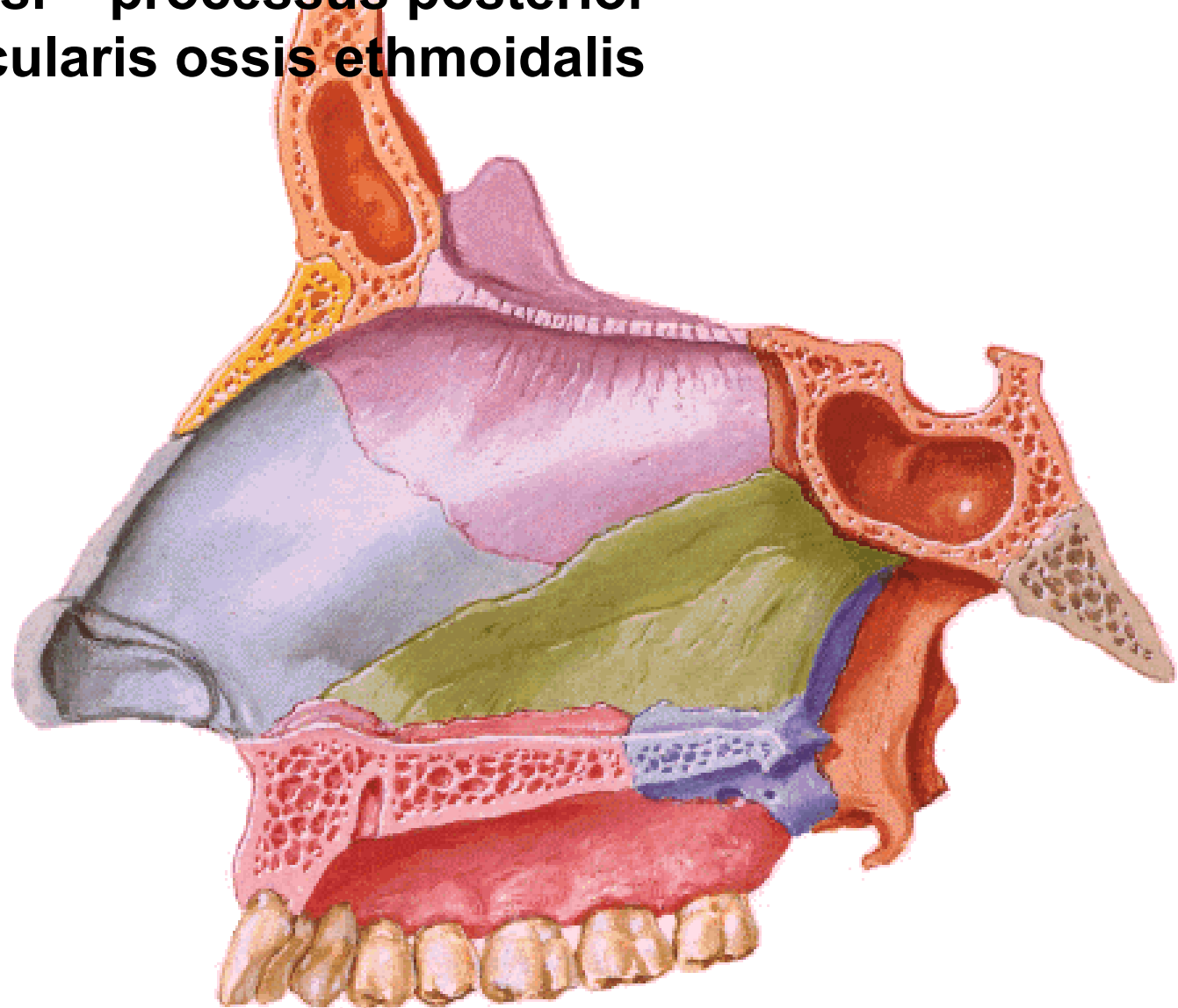
SEPTUM NASI

Cartilago alaris major – crus mediale

Cartilago septi nasi – processus posterior

Lamina perpendicularis ossis ethmoidalis

Vomer



Cartilago nasi lateralis

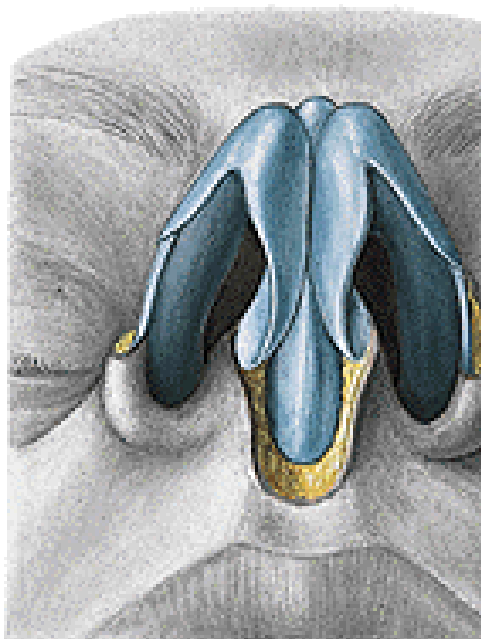
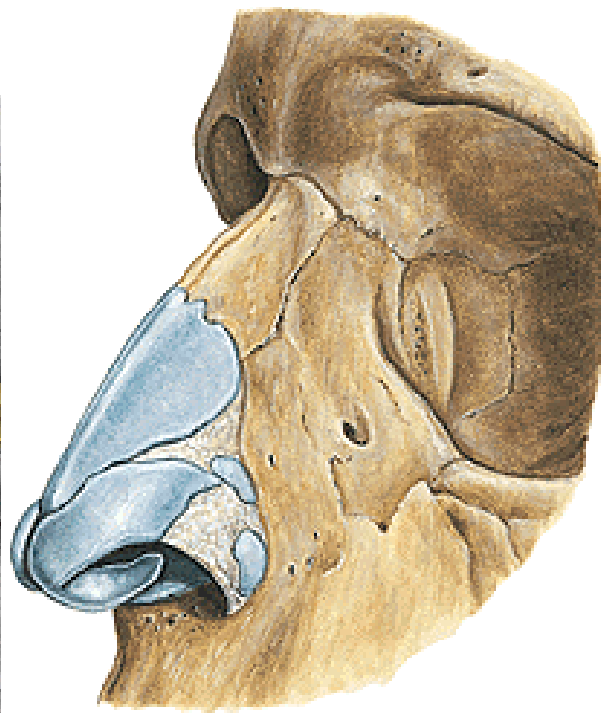
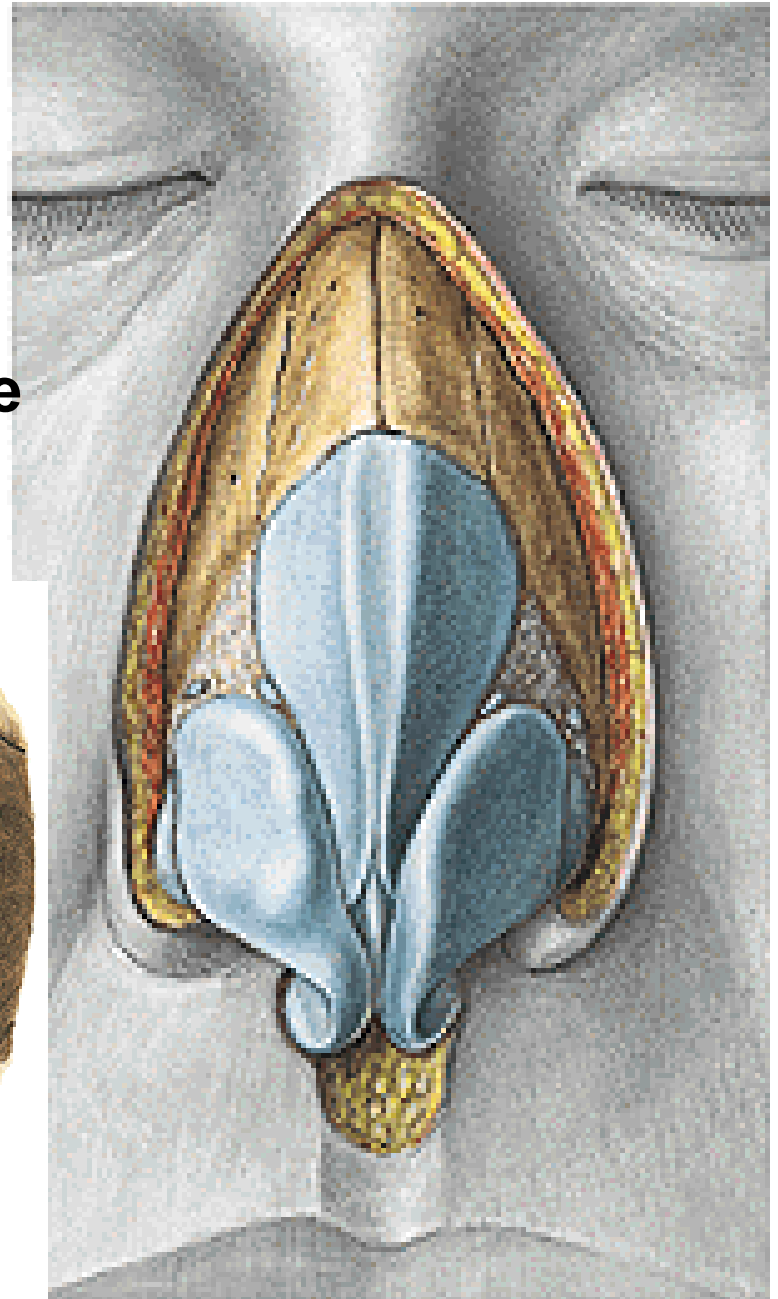
Cartilago alaris major

- crus laterale

- crus mediale

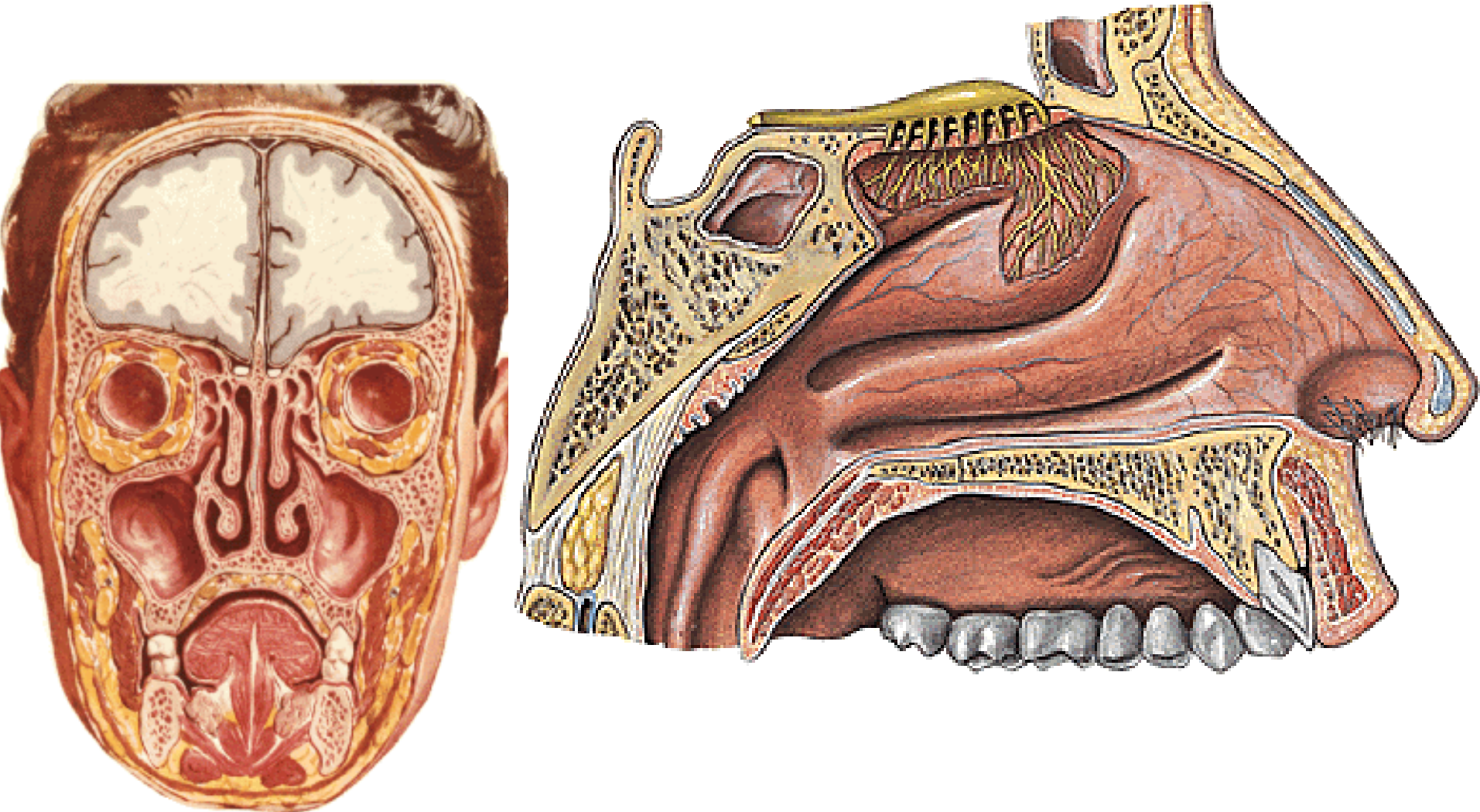
Cartilagine alares minores

Cartilagine nasales accessoriae



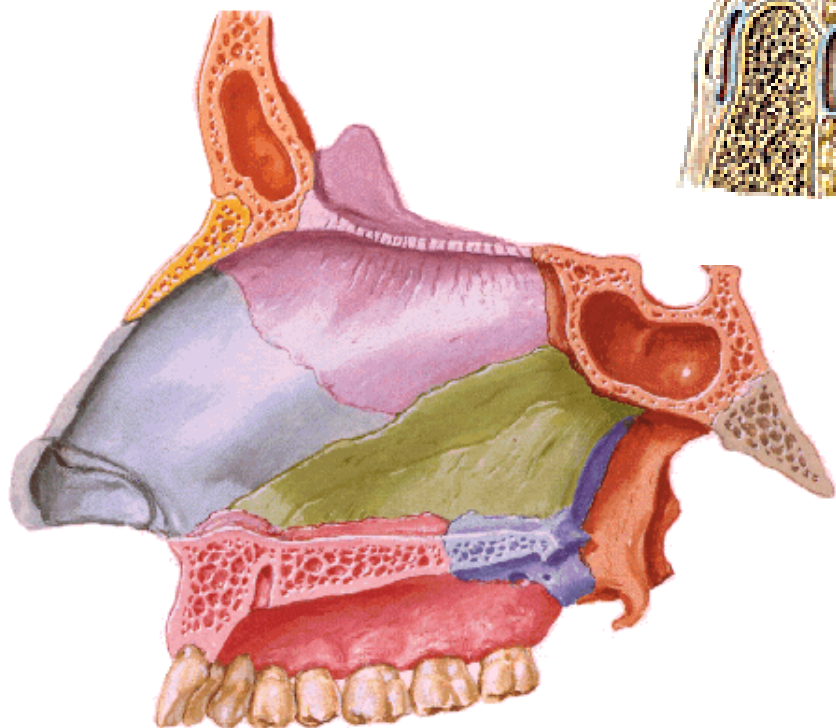
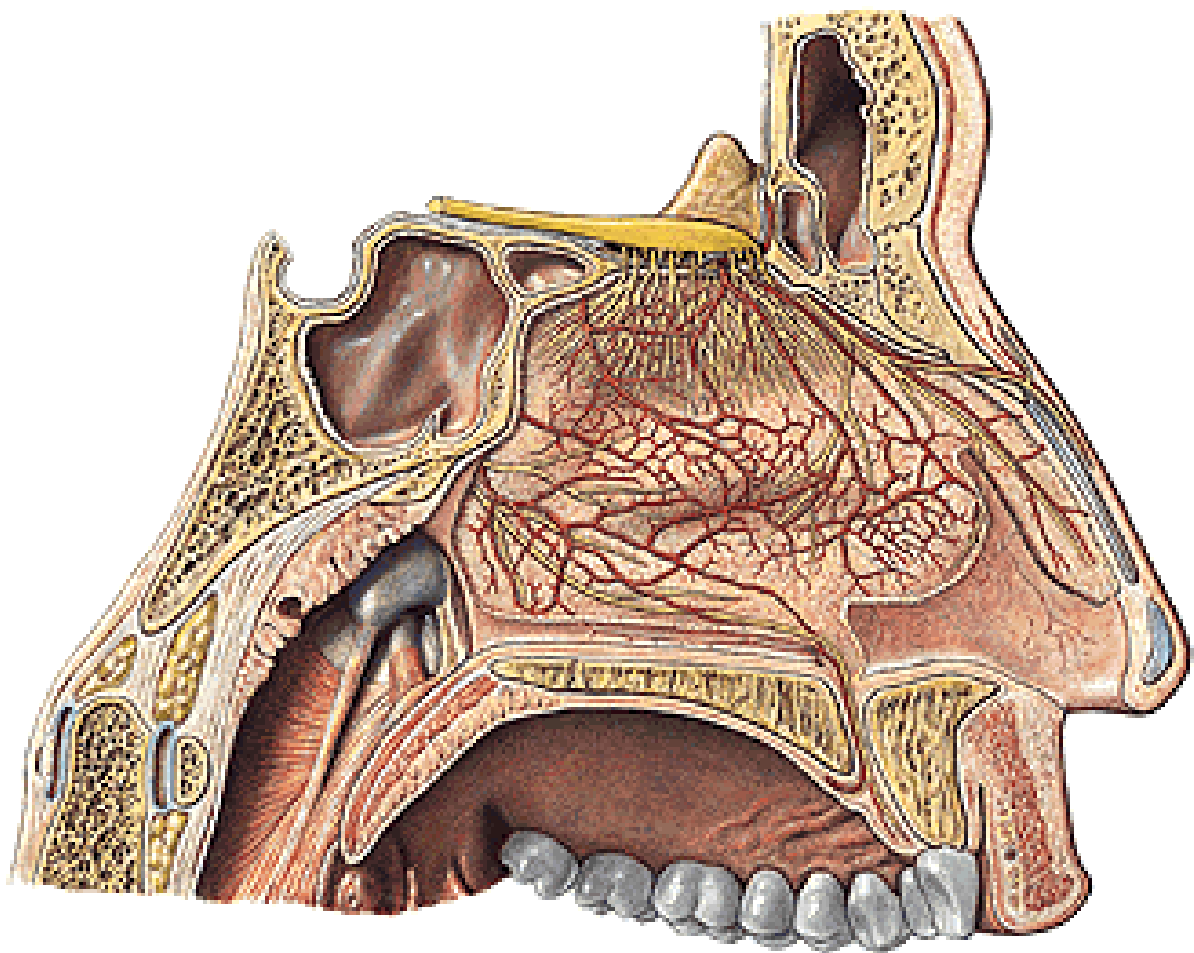
CAVITAS NASI

- vestibulum – limen, vibrisae, recessus apicis nasi
- cavitas nasi propria – meatus nasi sup., medius, inf.
meatus nasi communis, meatus nasopharyngeus, choanae



Septum nasi

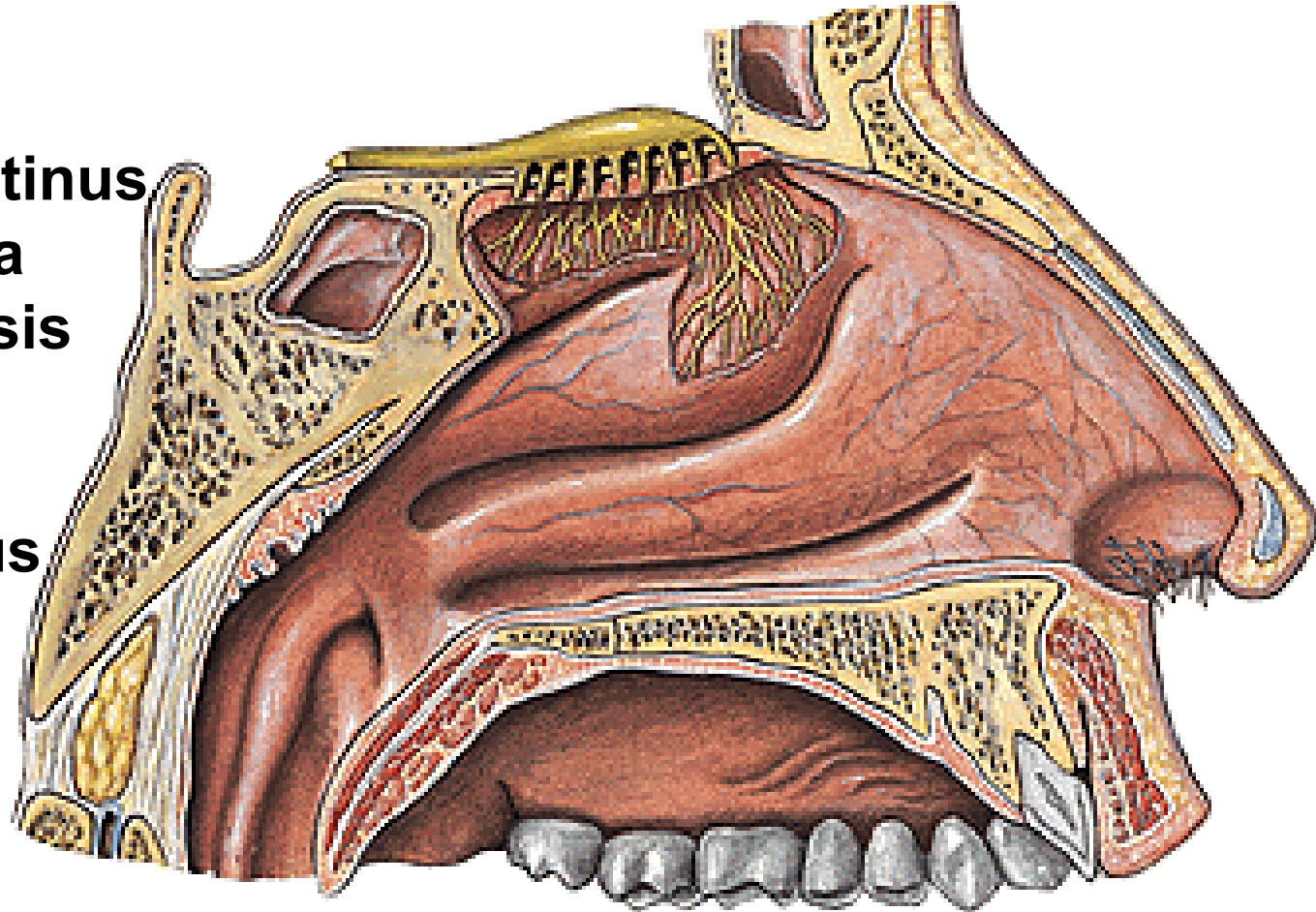
- pars membranacea
- pars cartilaginea
- pars ossea



**Superior wall: cartilago nasi lateralis, os nasale,
pars nasalis ossis frontalis, lamina cribrosa
ossis ethmoidalis, corpus ossis sphenoidalis**

**Inferior wall:
processus palatinus
maxillae, lamina
horizontalis ossis
palatini**

canalis incisivus

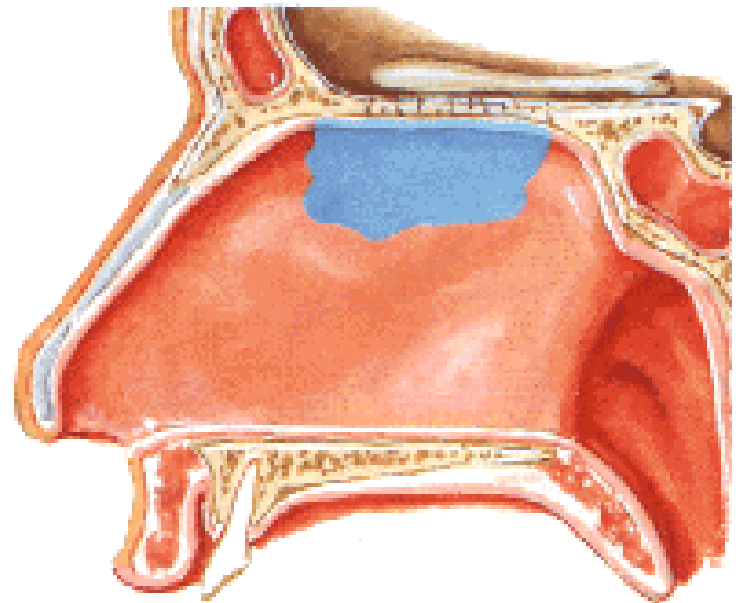
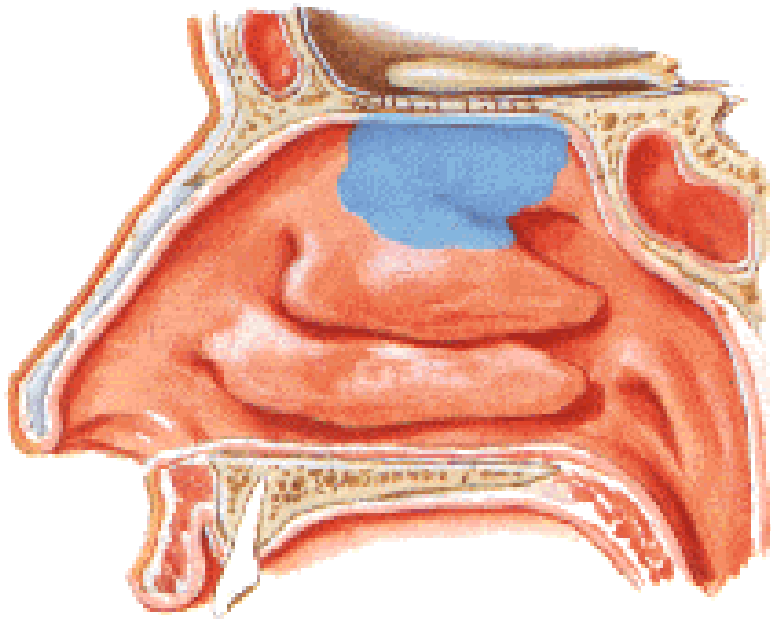


NASAL MUCOSA

Regio respiratoria

plexus cavernosi - epistaxis

Regio olfactoria



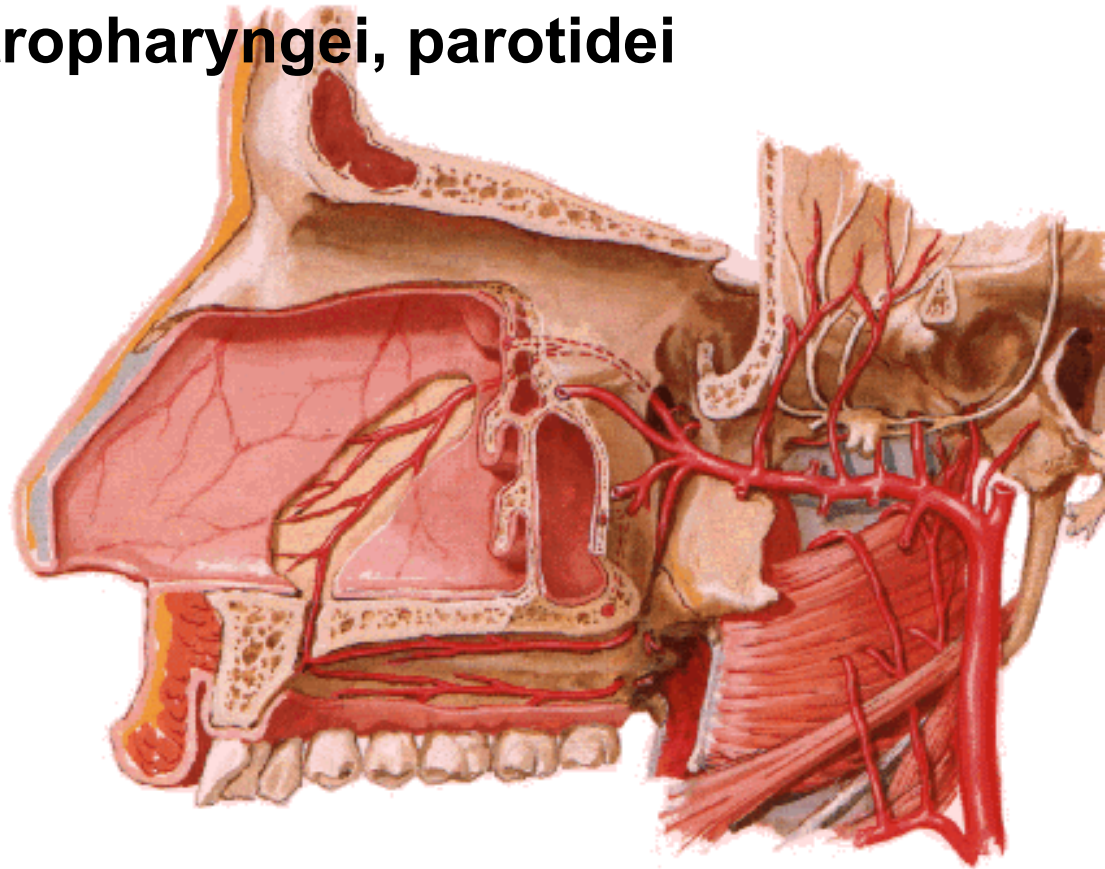
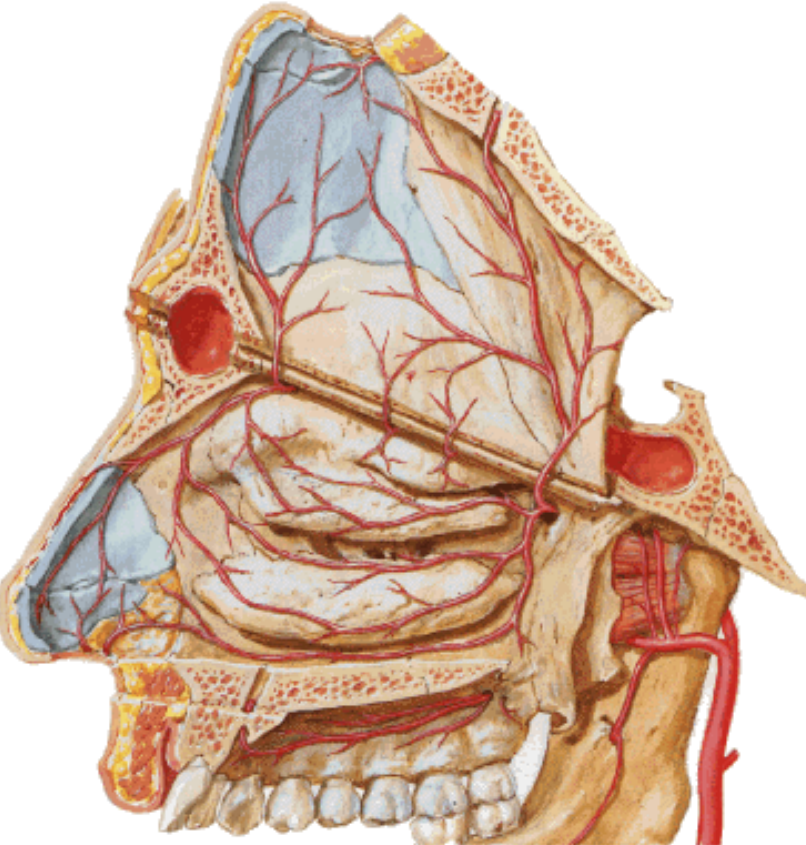
A. sphenopalatina, a. palatina major (a. maxillaris)

A. ethmoidalis ant., post. (a. ophthalmica)

R. septalis a. labialis sup. (a. facialis)

V. sphenopalatina, facialis, vv. ophthalmicae

NII. submandibulares, retropharyngei, parotidei

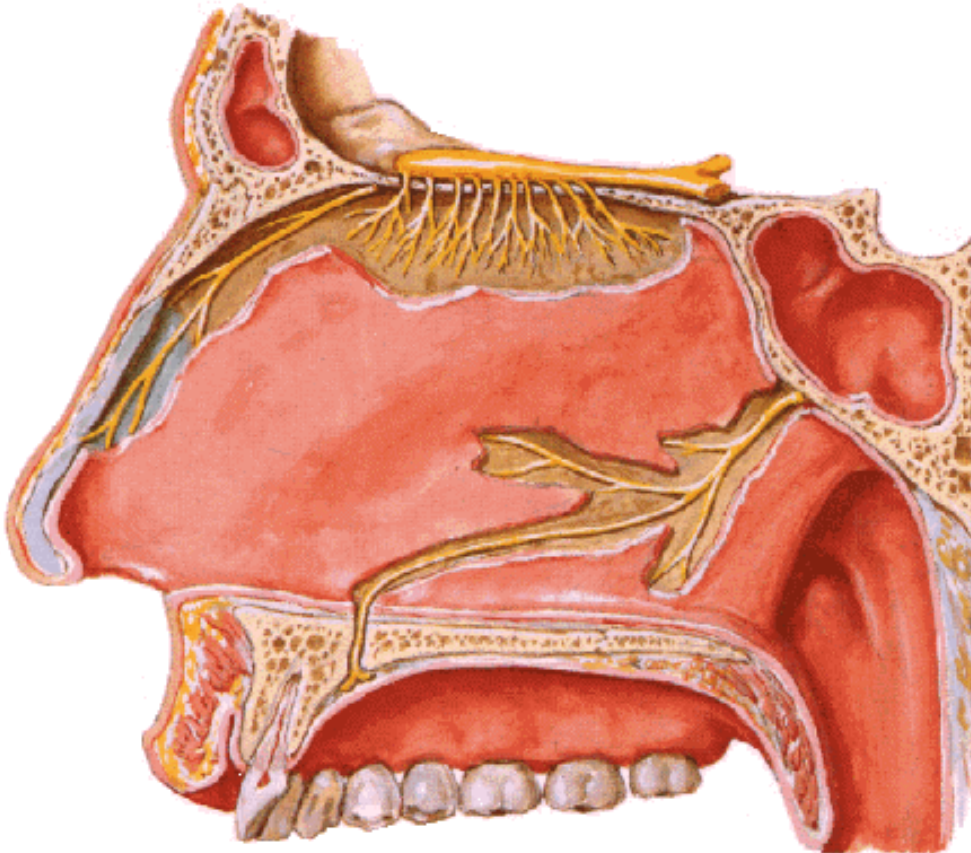
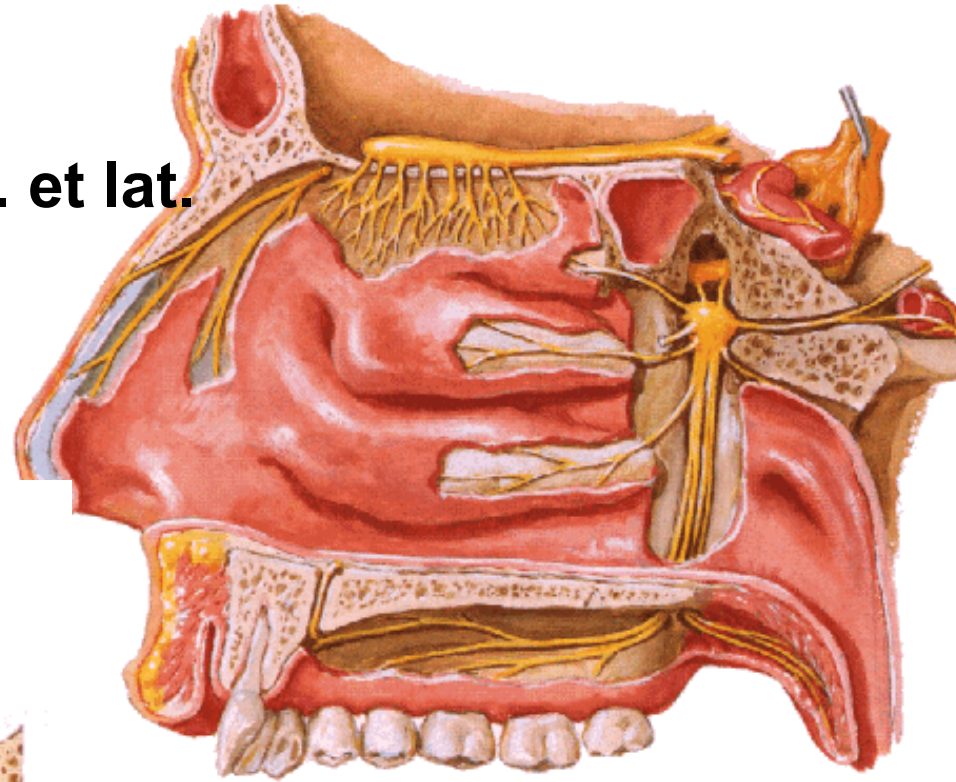


Kiesselbach area

N. trigeminus (CN V)

- n. ethmoidalis ant. (V1)
- rr. nasales posteriores med. et lat. (n. nasopalatinus) (V2)

Nn. olfactorii



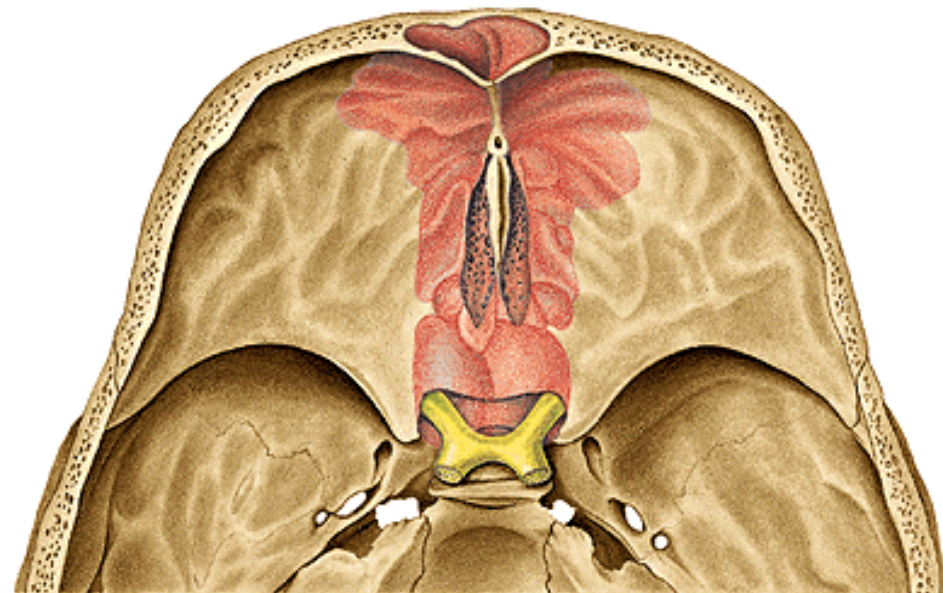
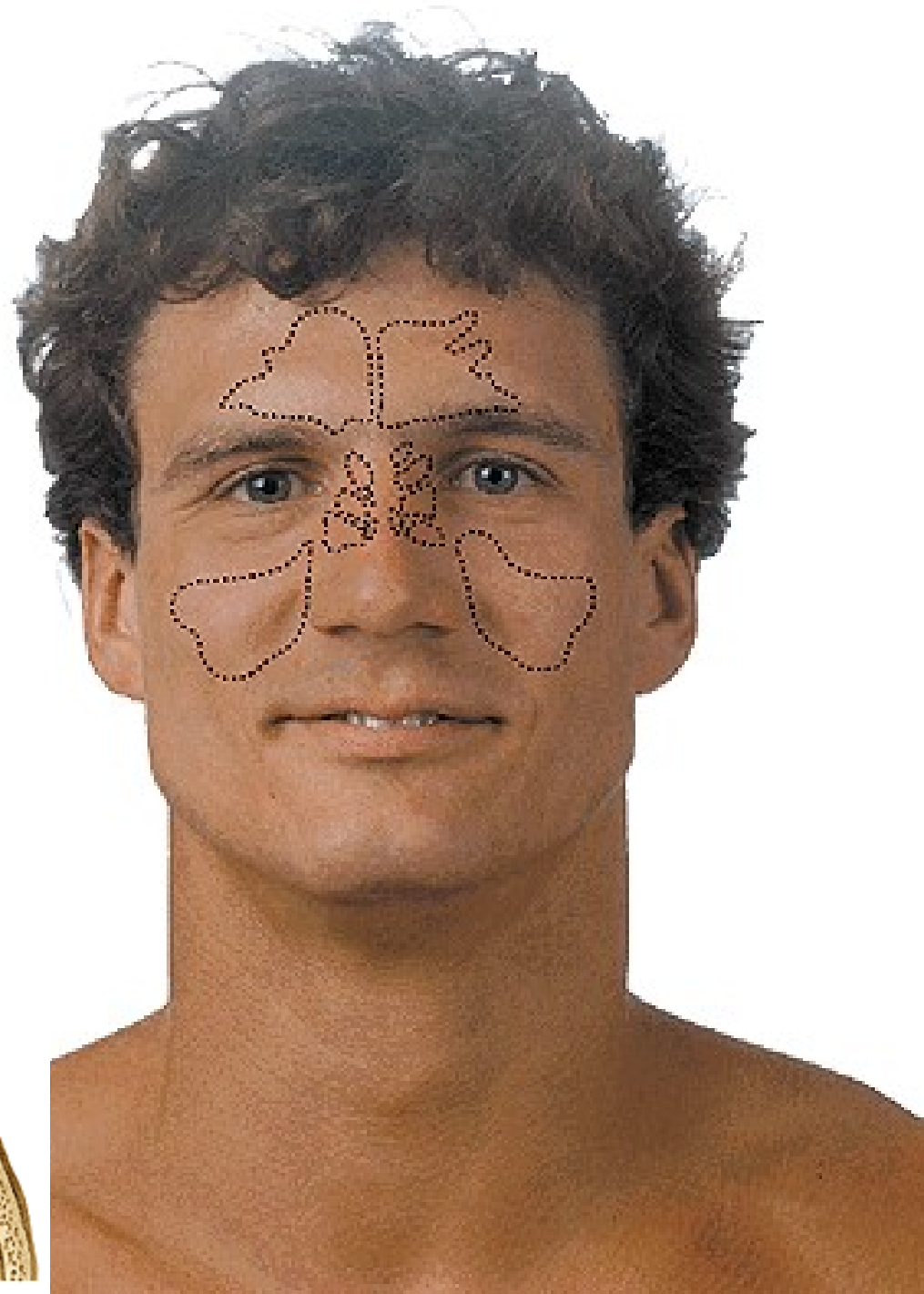
SINUS PARANASALES

Sinus maxillaris

Sinus frontalis

Sinus ethmoidales

Sinus sphenoidalis



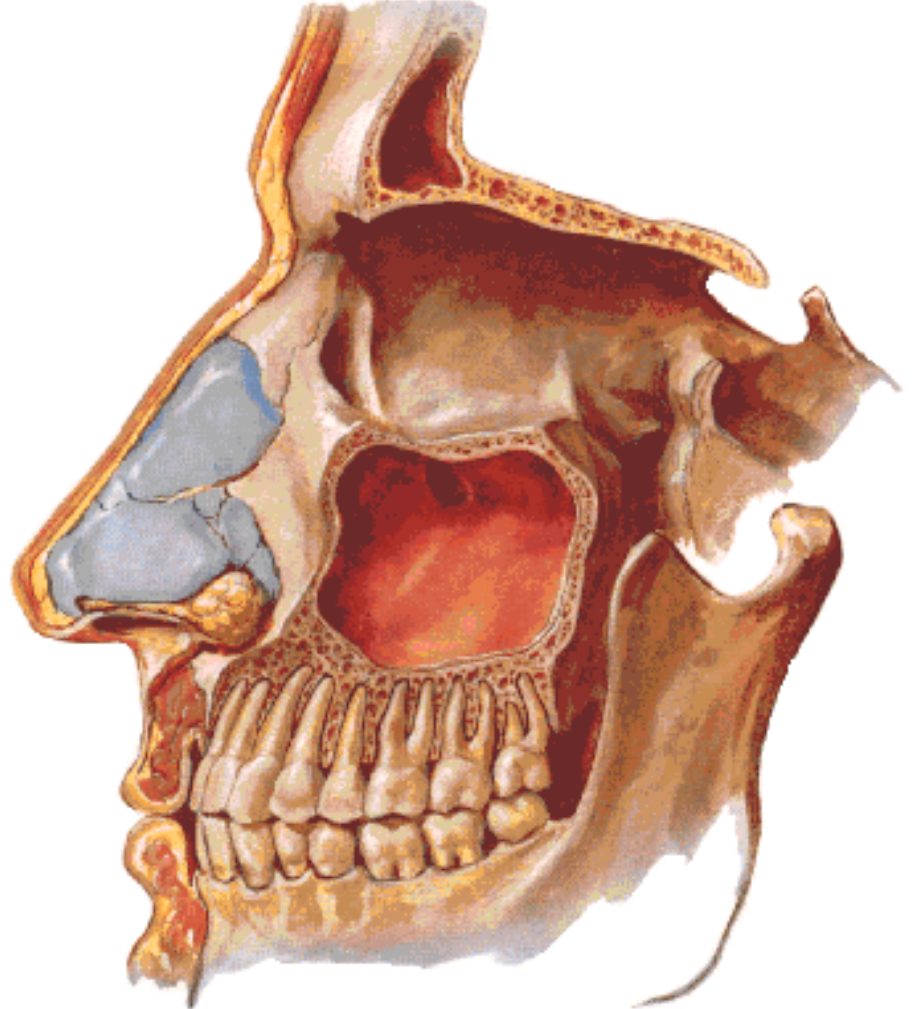
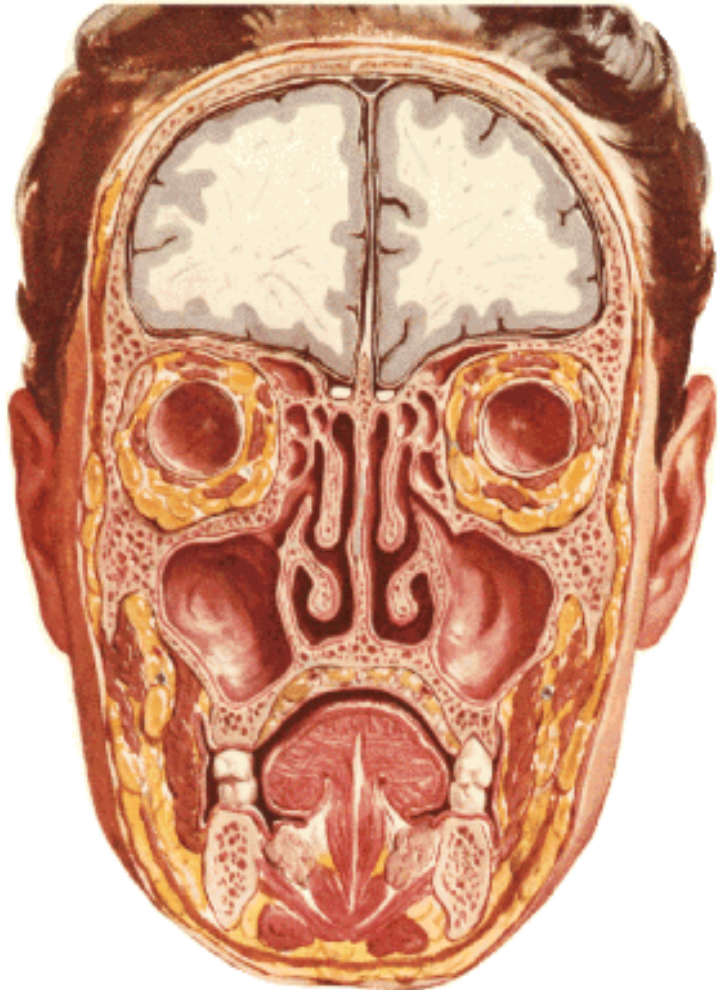
**SINUS MAXILLARIS
(Antrum of Highmore)**

Aa. et vv. facialis, palatina major, infraorbitalis

NII. submandibulares

**– hiatus sinus maxillaris
infundibulum ethmoidale
hiatus semilunaris**

Nn. alveolares sup. (V2)



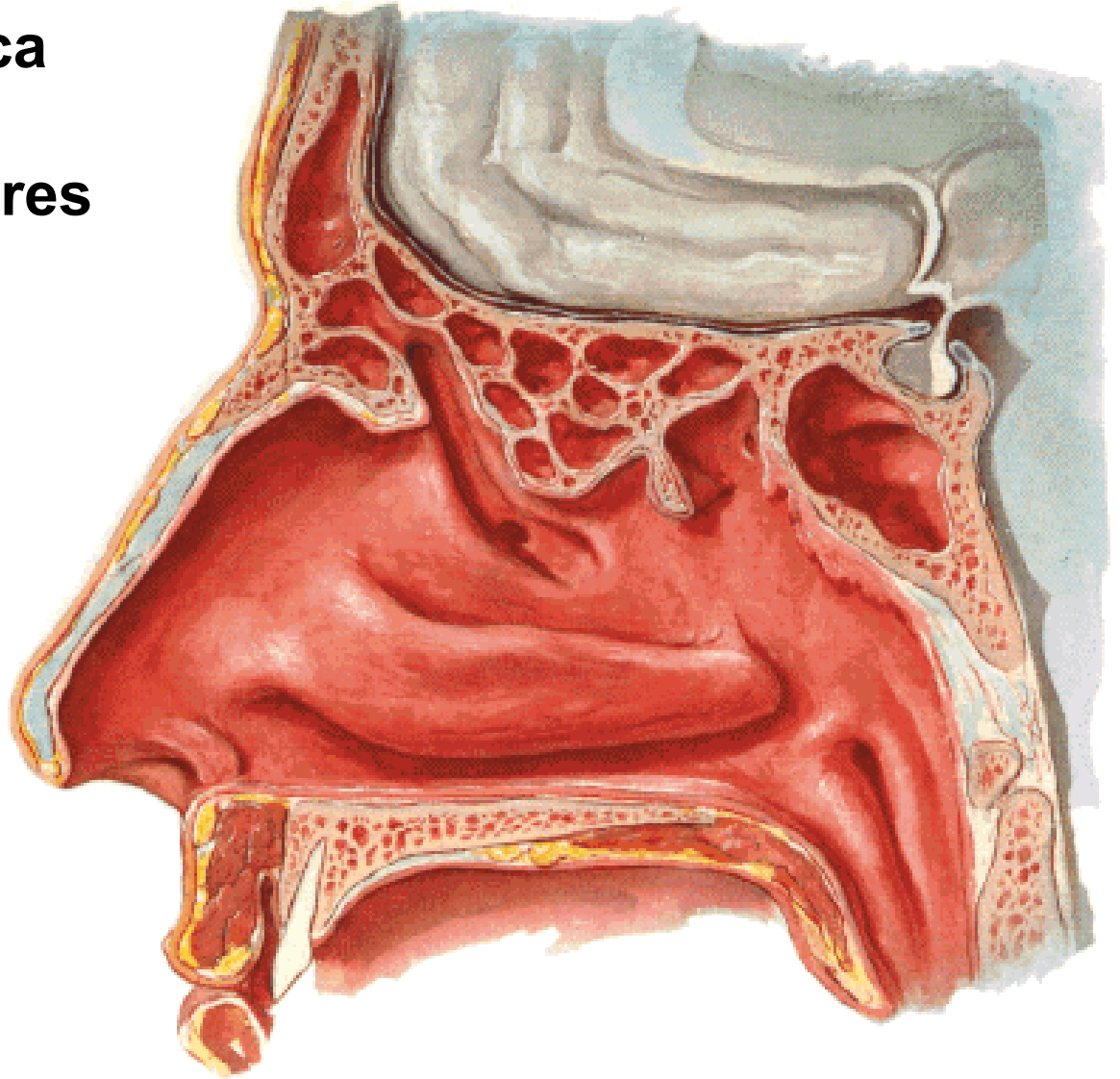
SINUS FRONTALIS

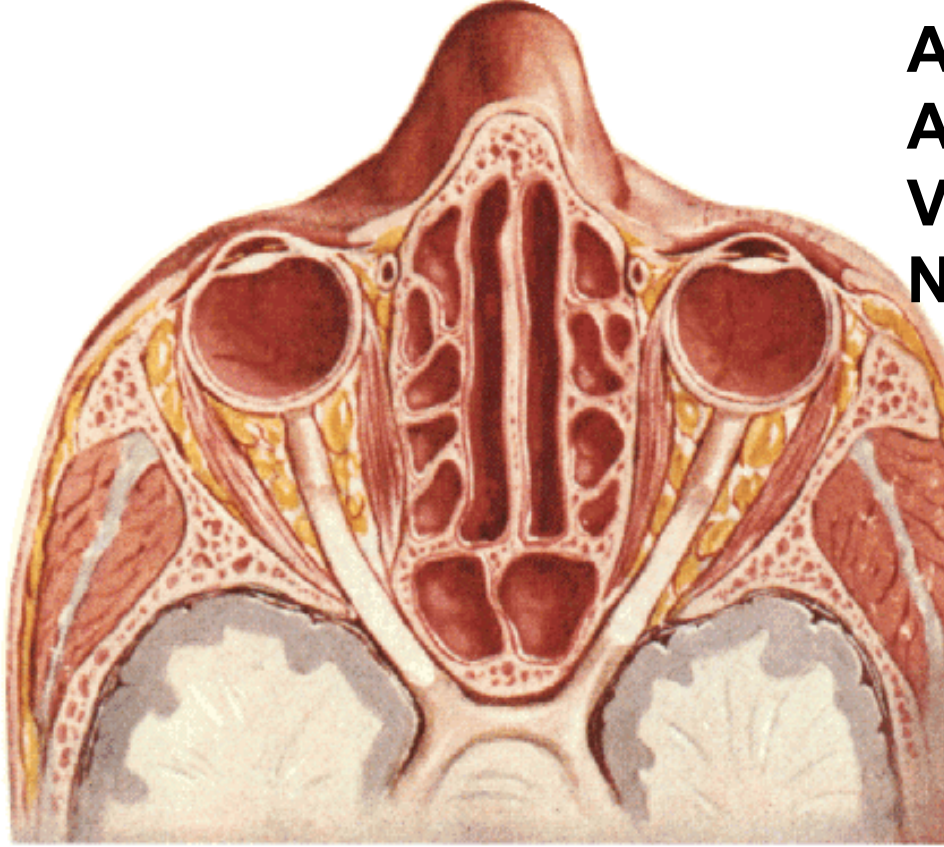
septum sinuum frontalem

A. et v. ophthalmica

V1

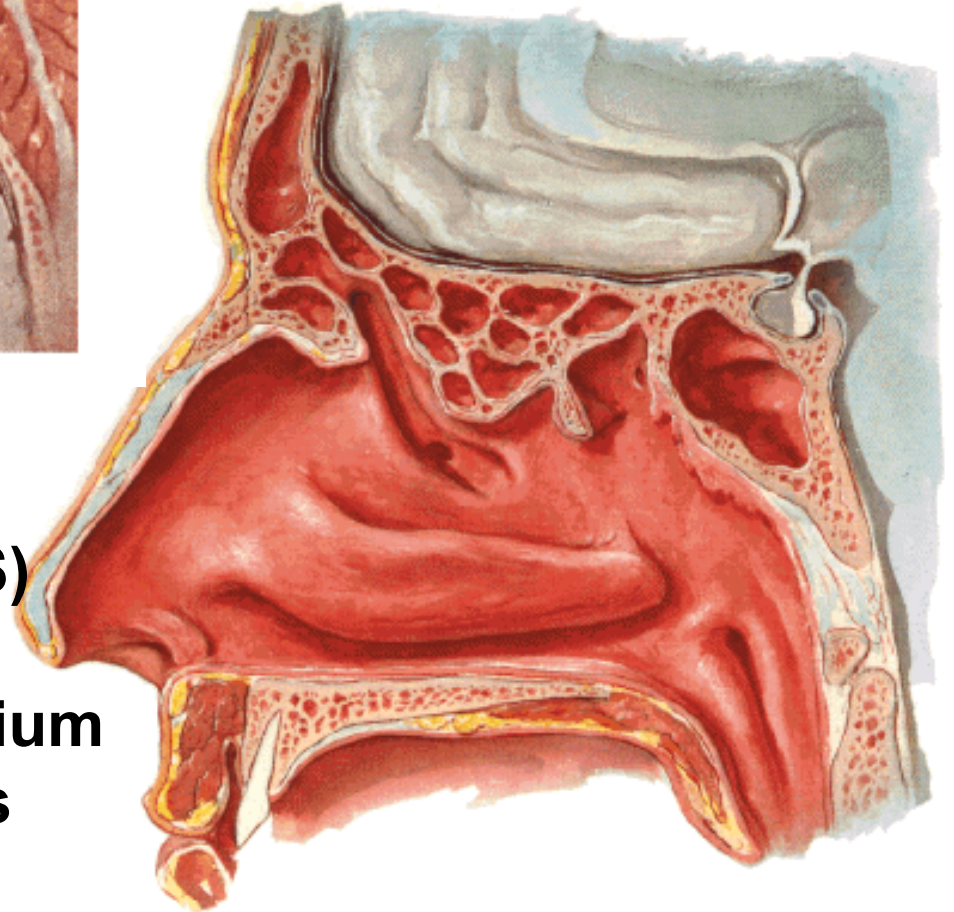
NII. submandibulares





A. et v. ethmoidalis ant. et post.
A. et v. sphenopalatina
V1, V2
III. submandibulares,
retropharyngei

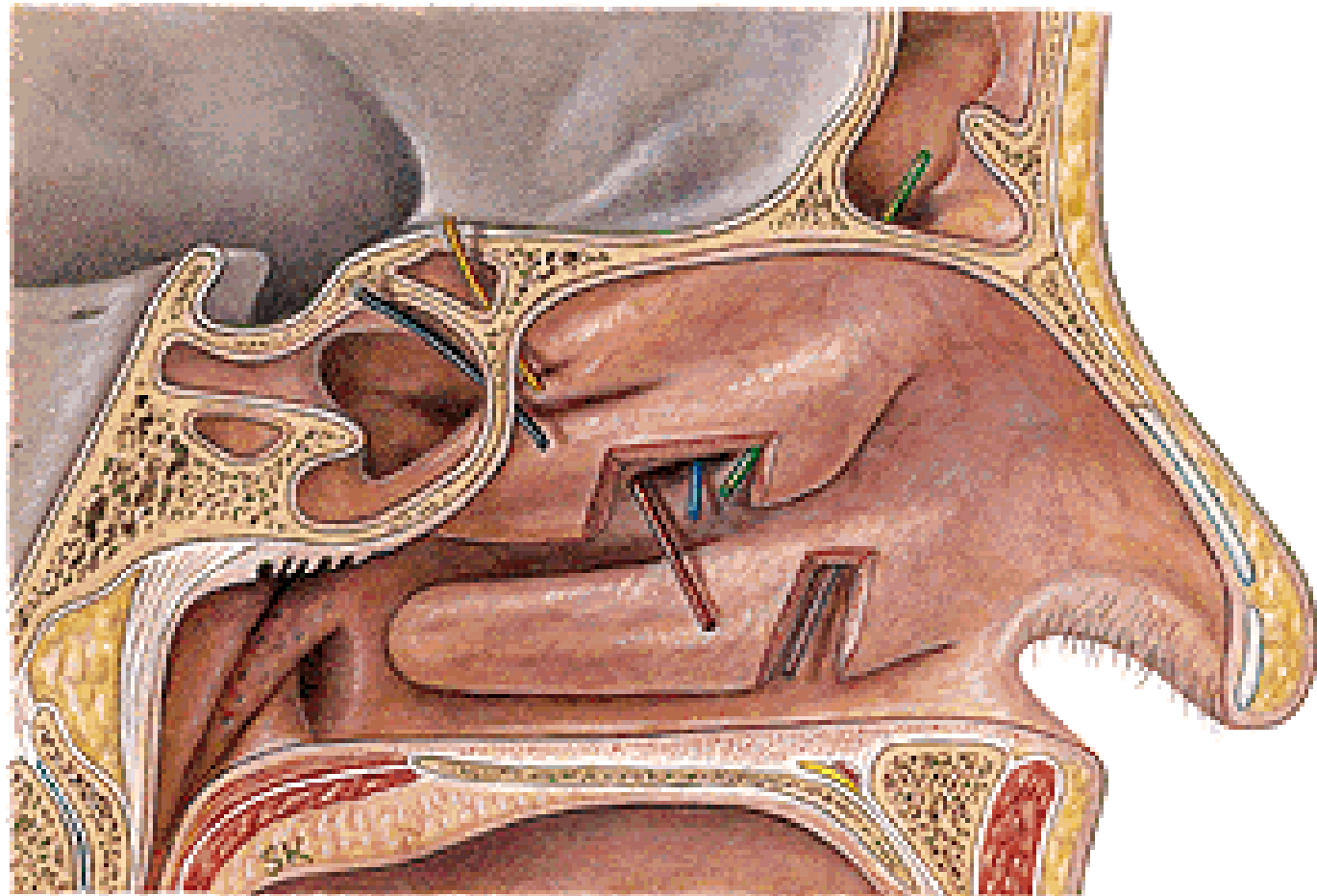
SINUS ETHMOIDALES
(CELLULAE ETHMOIDALES)
SINUS SPHENOIDALIS
septum sinuum sphenoidalium
apertura sinus sphenoidalis

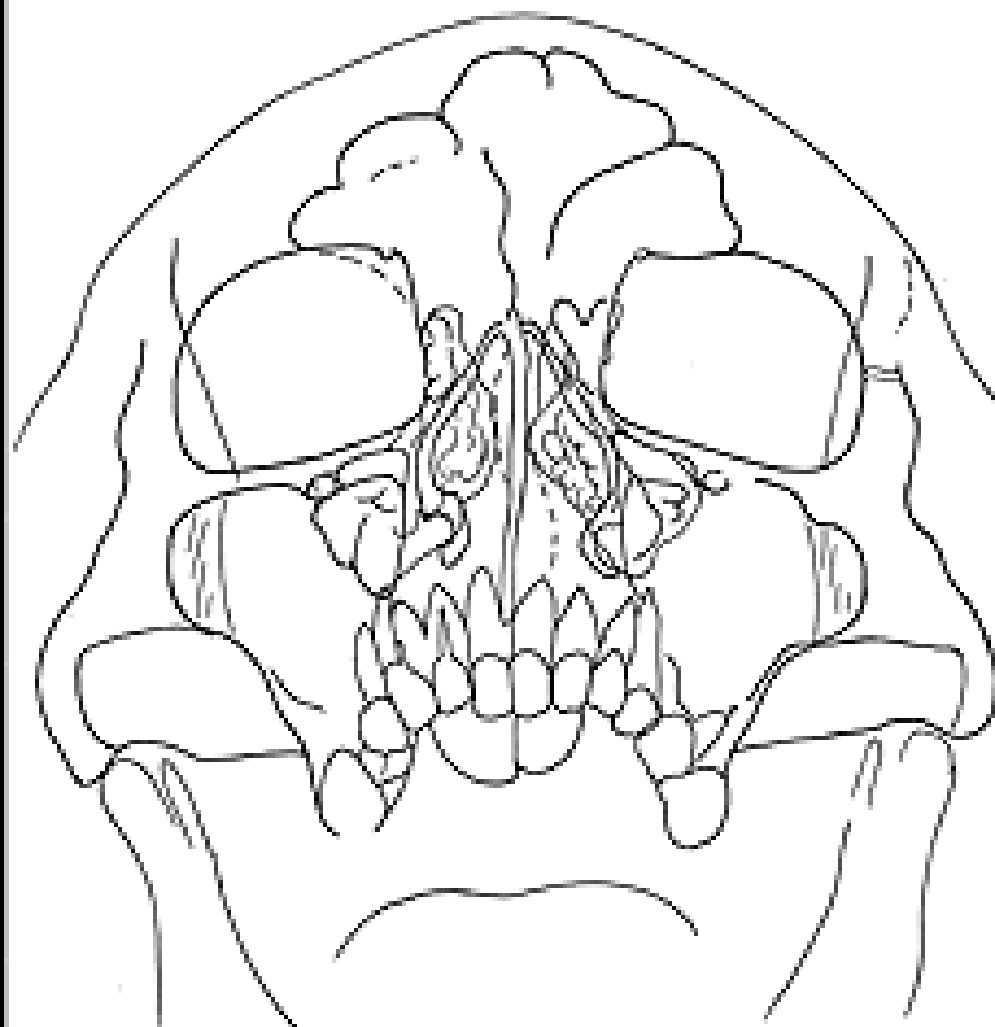


Meatus nasi inf. – ductus nasolacrimalis

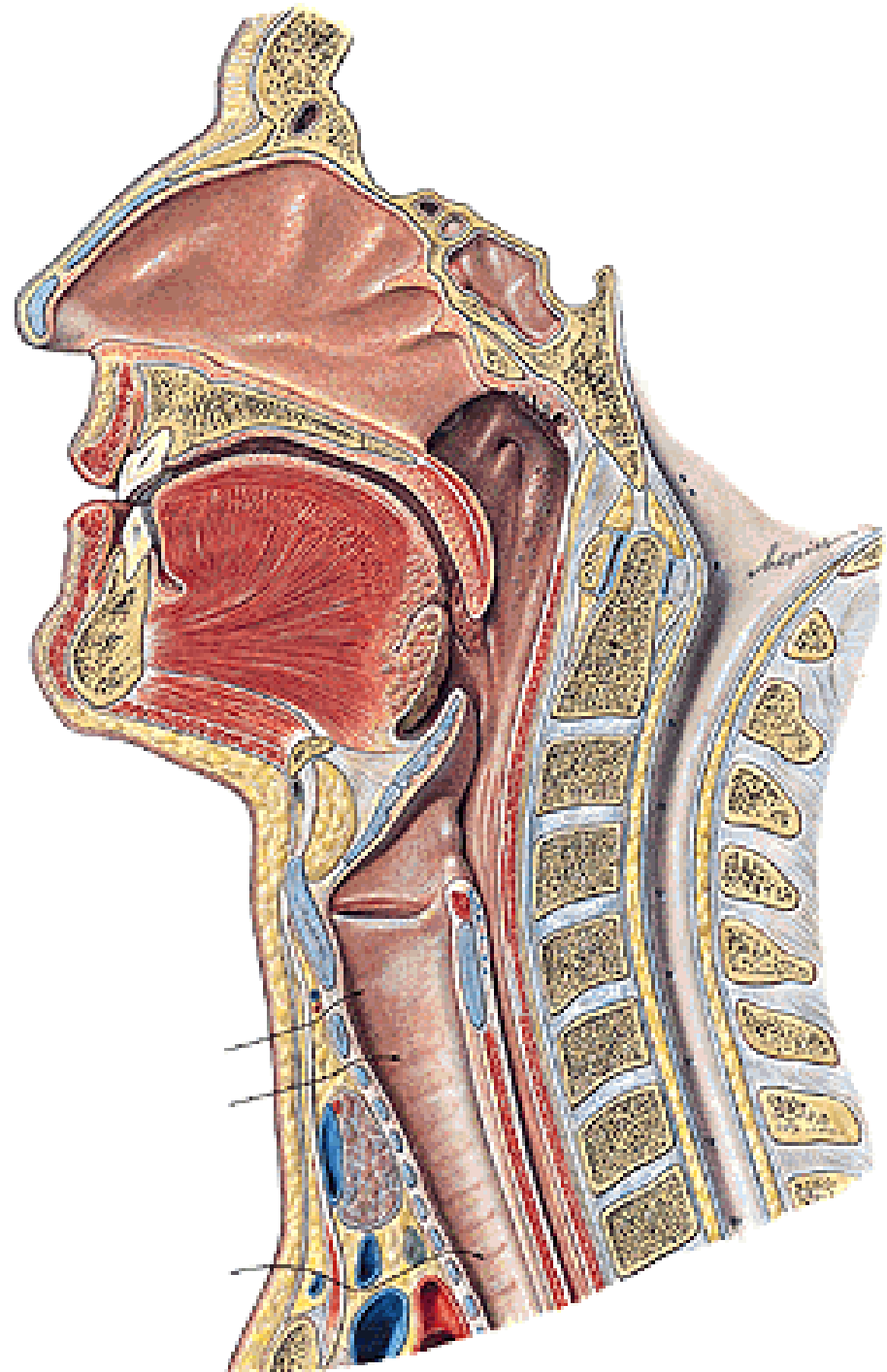
**Meatus nasi medius – hiatus semilunaris – sinus maxillaris,
sinus frontalis, cellulae ethmoidales anteriores et mediae**

**Meatus nasi sup. – cellulae ethmoidales posteriores, sinus
sphenoidalis**





PHARYNX



NASOPHARYNX

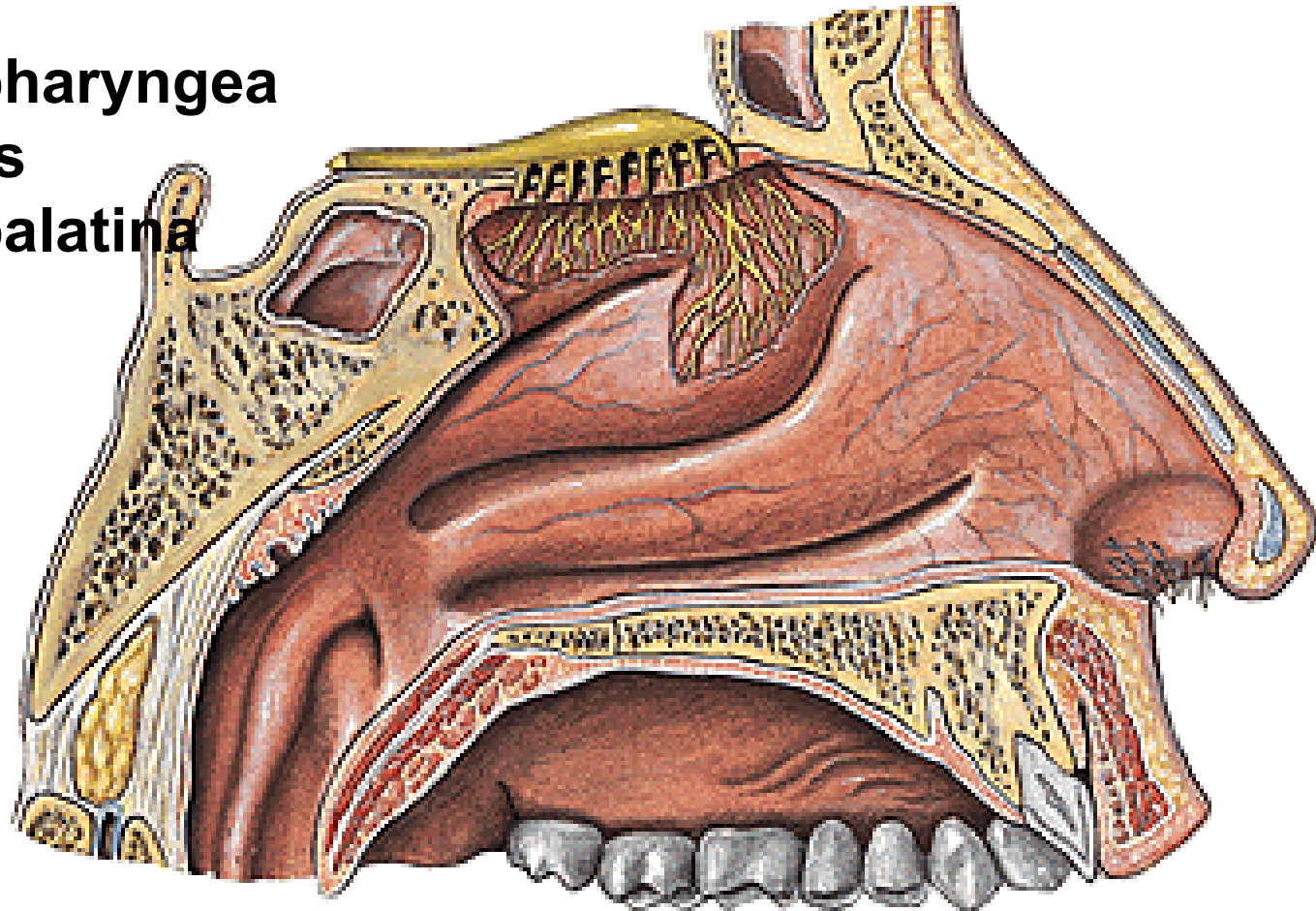
Ostium pharyngeum
tubae auditivae:

Torus tubarius

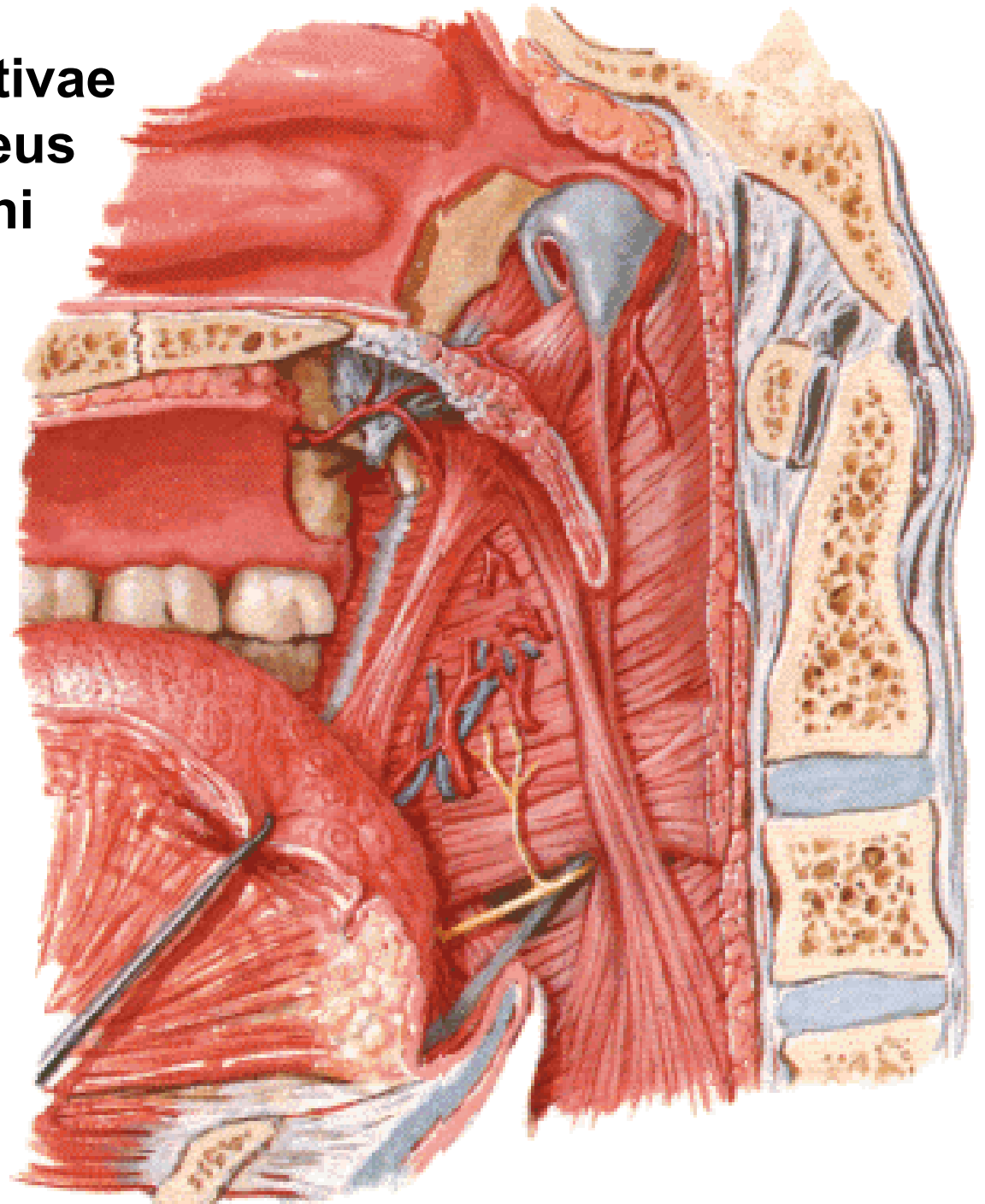
Plica salpingopharyngea

Torus levatorius

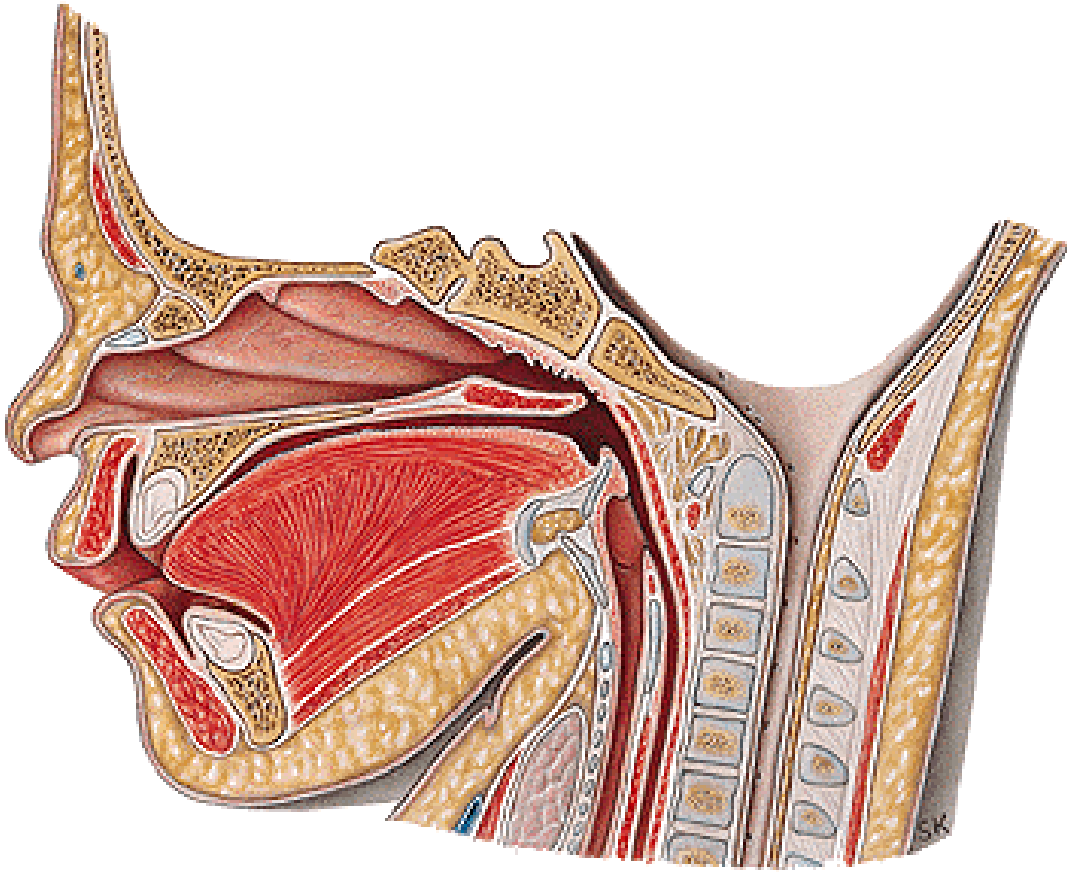
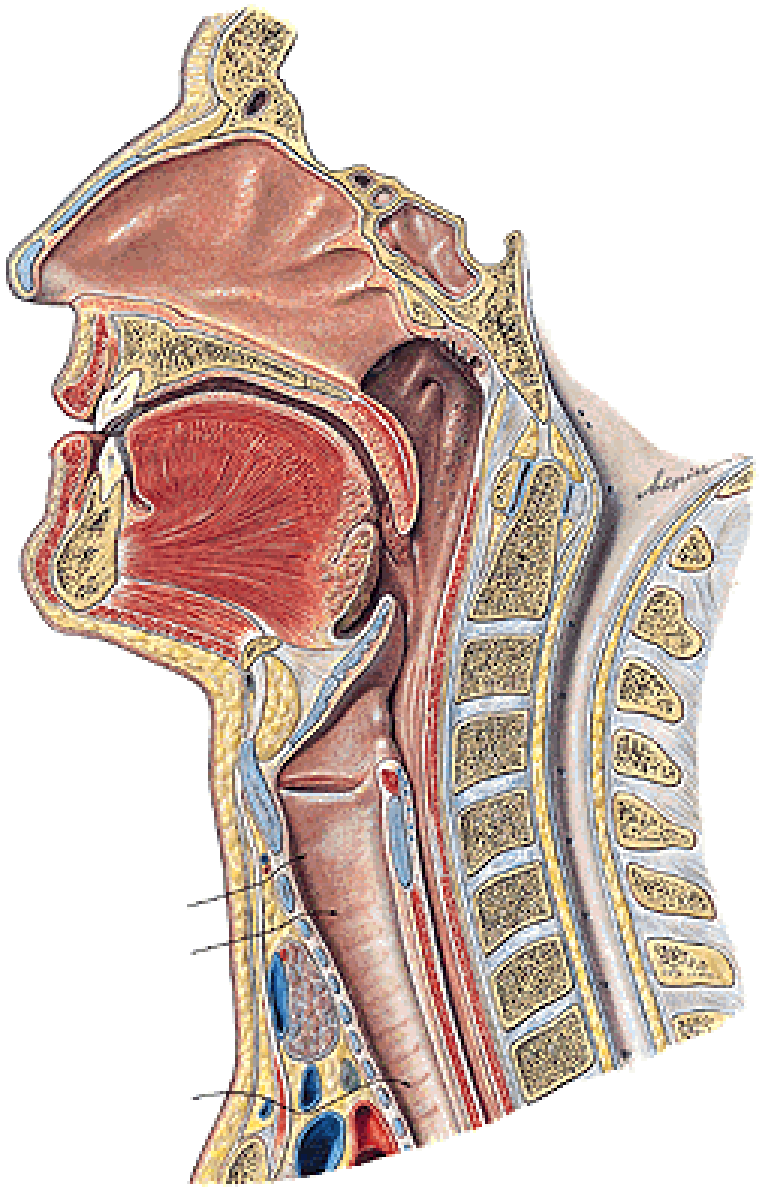
Plica salpingopalatina



Cartilago tubae auditivae
M. salpingopharyngeus
M. levator veli palatini



LARYNX

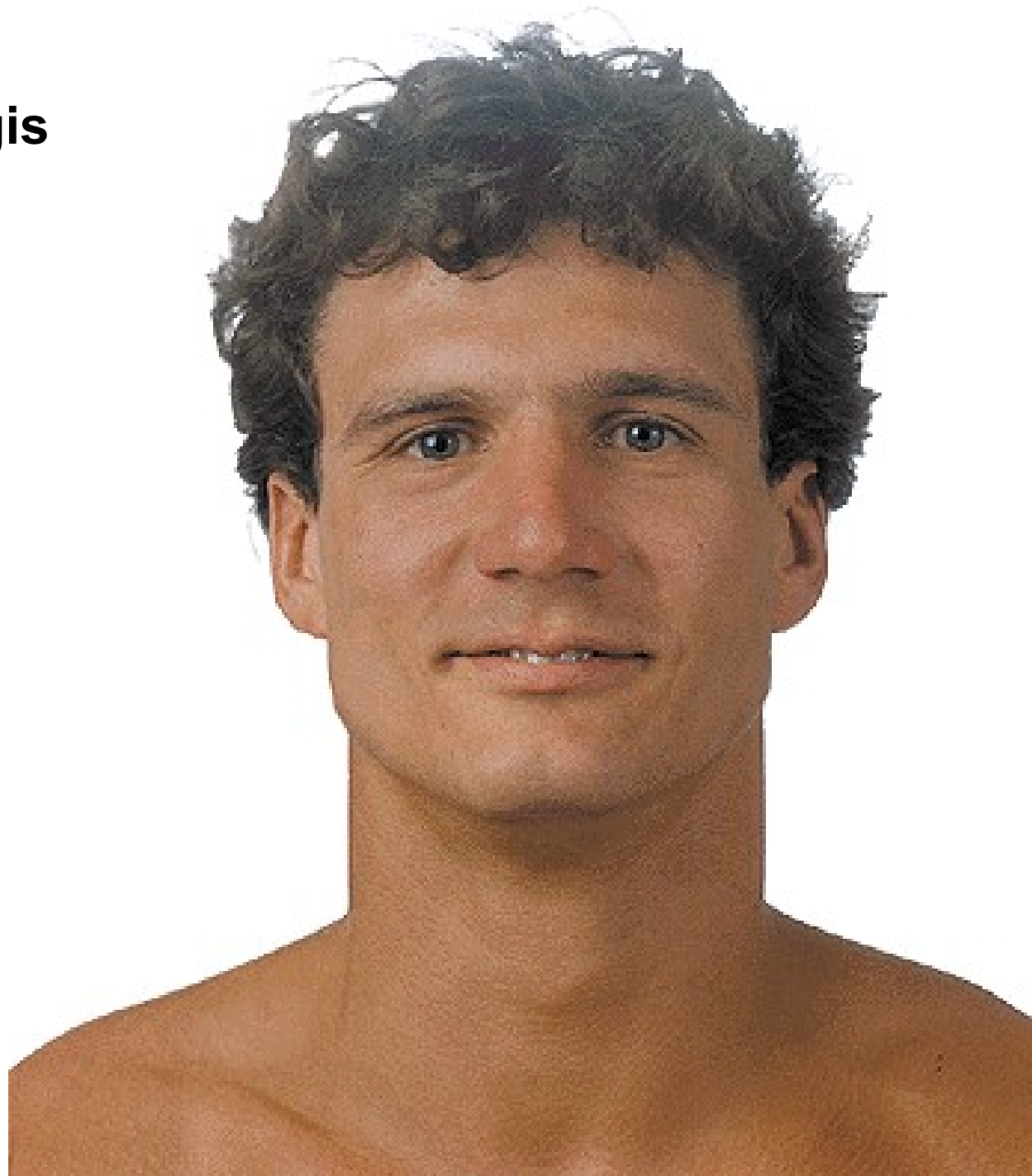


NEONATE



ADULT

Prominentia laryngis



CARTILAGINES LARYNGIS:

Cartilago thyroidea

Cartilago cricoidea

Cartilago arytenoidea

Cartilago epiglottica

Cartilago corniculata

Cartilago cuneiformis

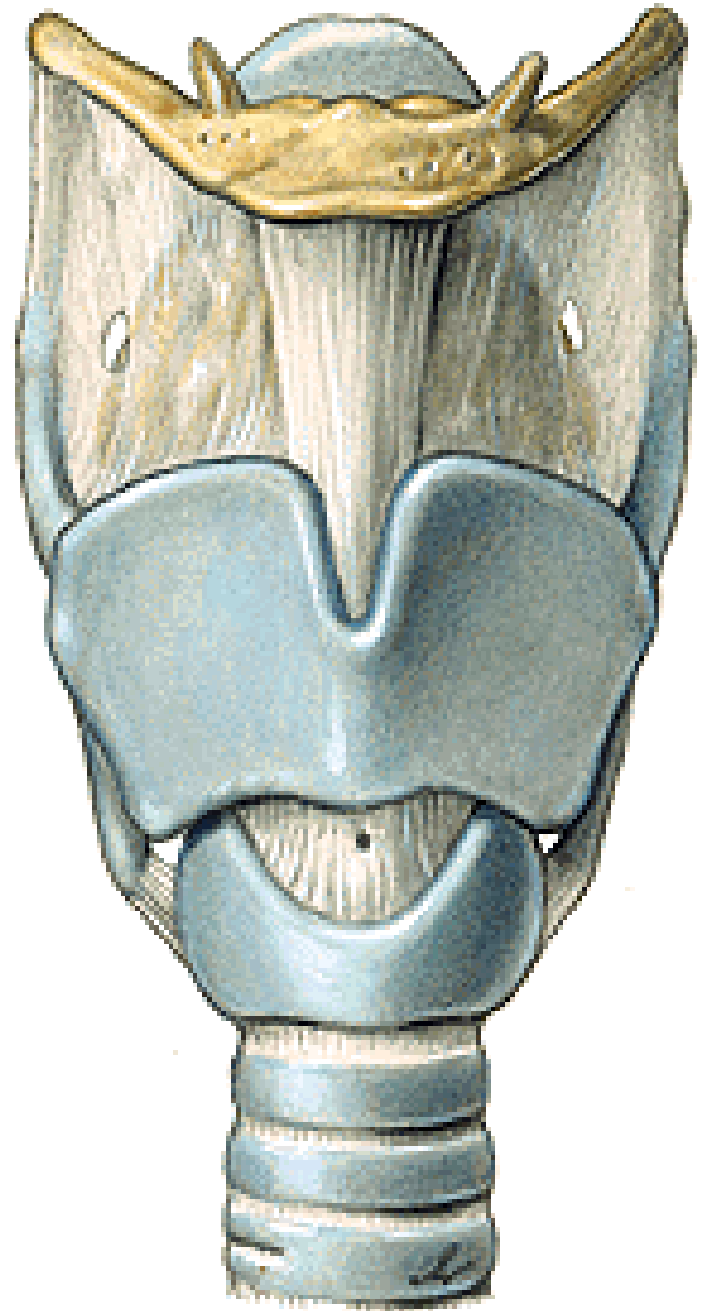


LARYNX

**Membrana thyrohyoidea
(thyroidea)**

Cartilago thyroidea

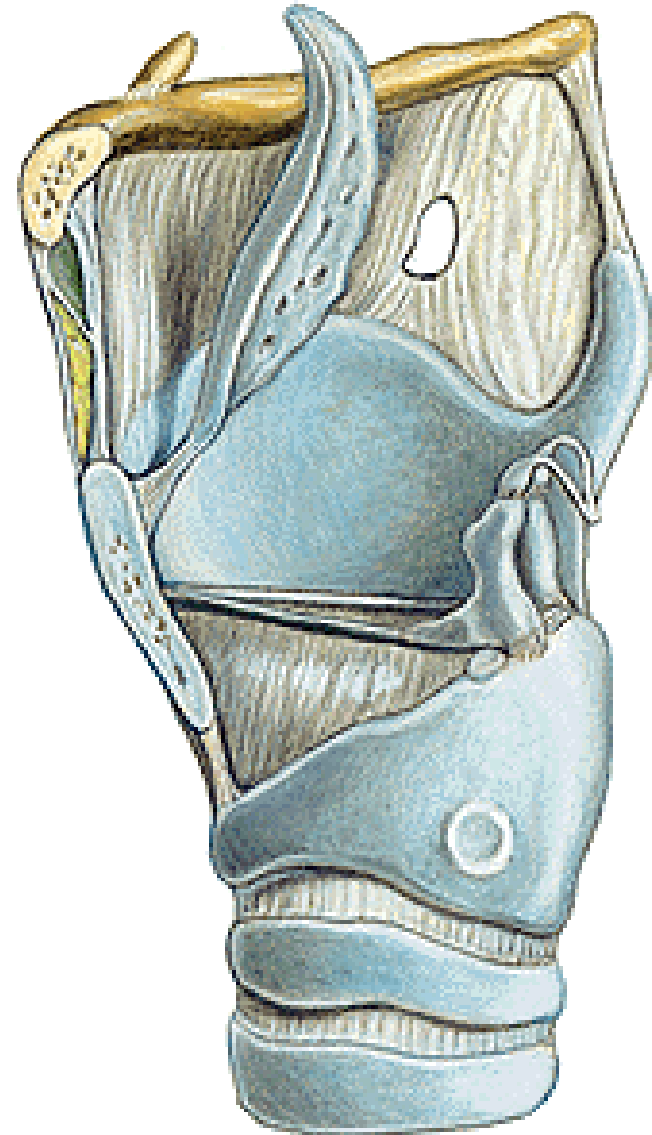
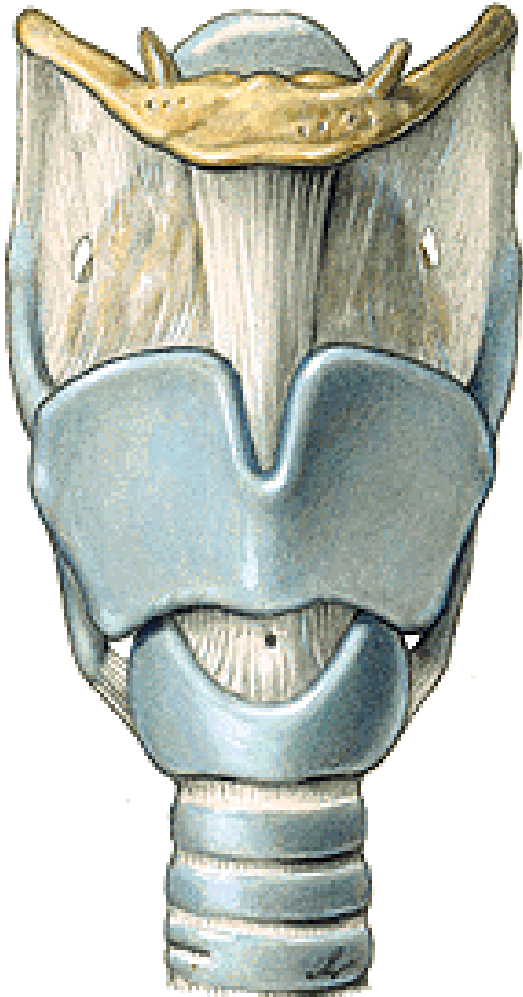
- lamina dextra
- lamina sinistra
- incisura thyroidea sup.
- incisura thyroidea inf.
- cornua superiora
- ligg. thyroidea lateralia
- cornua inferiora
- facies art. cricoidea
- linea obliqua
- foramen thyroideum





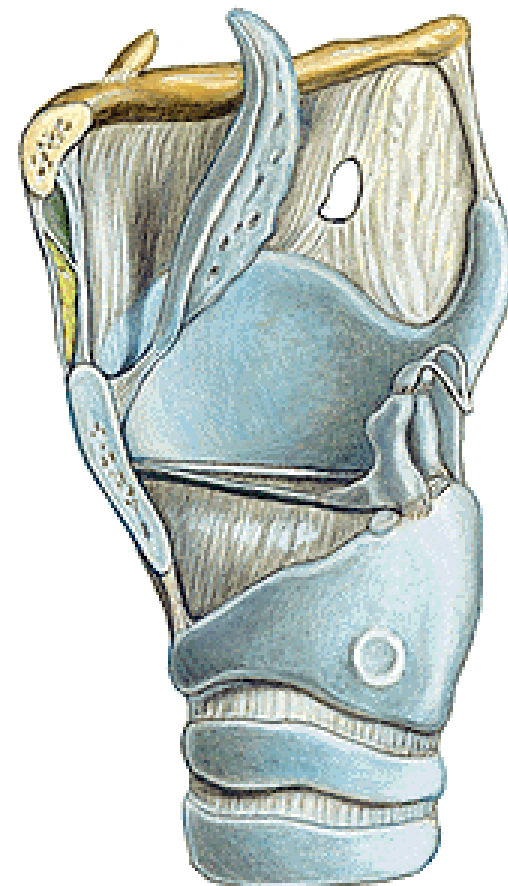
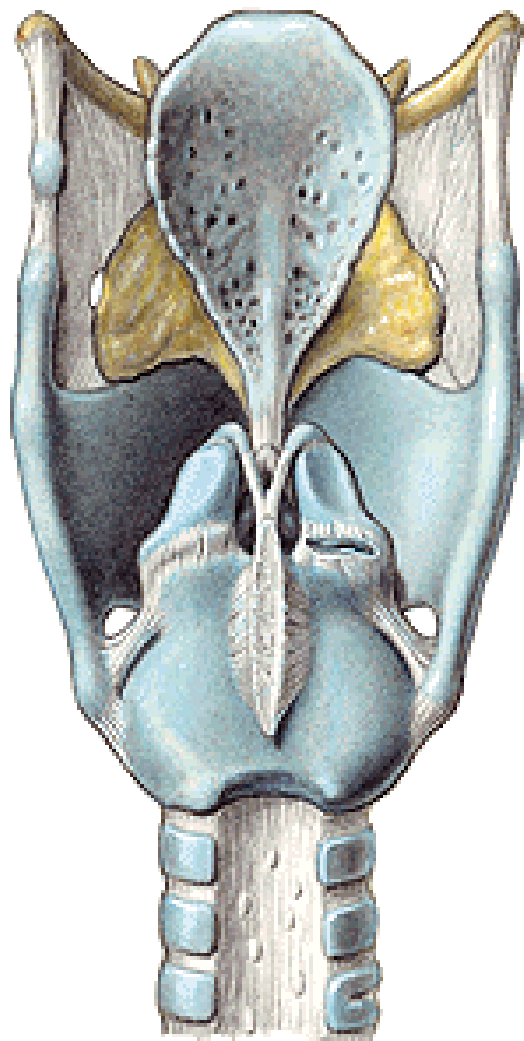
CARTILAGO CRICOIDEA

- arcus
- lamina
- facies articularis arytenoidea
- facies articularis thyroidea



CARTILAGO ARYTENOIDEA

- apex
- basis
 - facies art. cricoidea
- processus vocalis
- processus muscularis
- facies anterolateralis
 - colliculus
 - crista arcuata
 - fossa triangularis
 - fovea oblonga
- facies medialis
- facies posterior



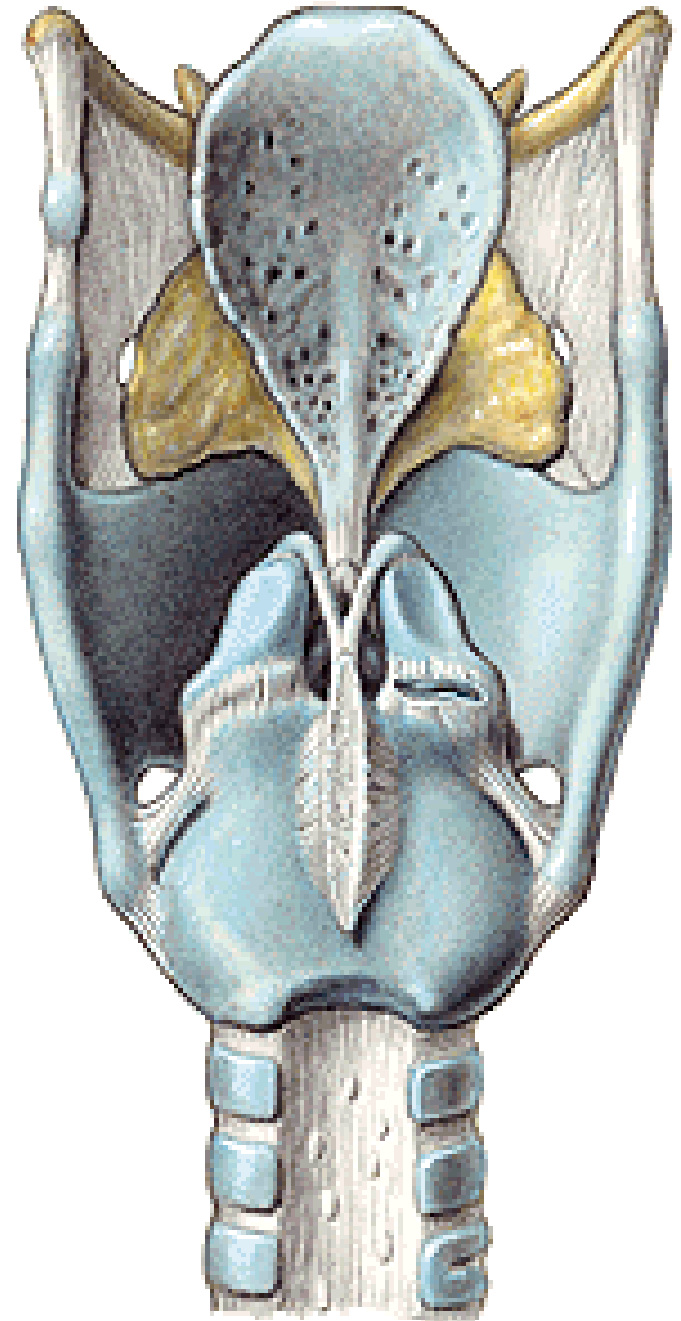
CARTILAGO EPIGLOTTICA

-petiolus epiglottidis

-lamina

CARTILAGO CORNICULATA

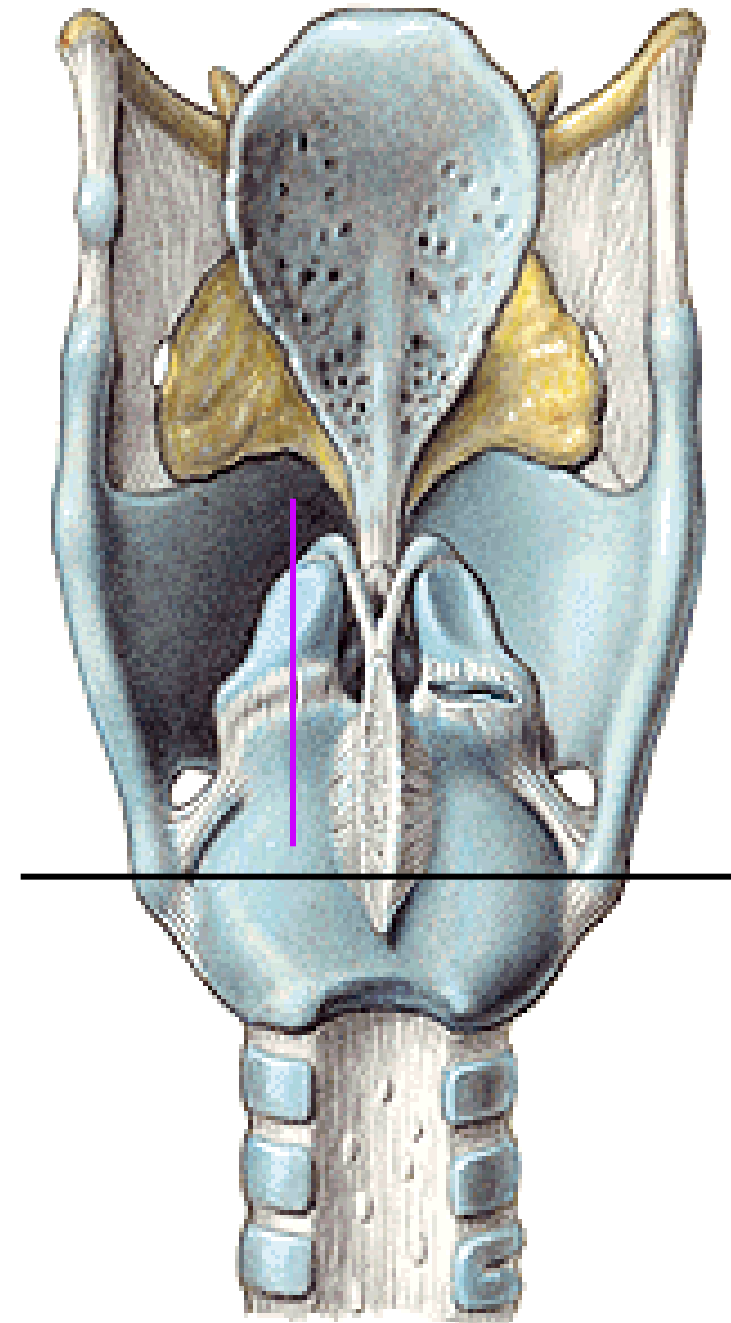
CARTILAGO CUNEIFORMIS



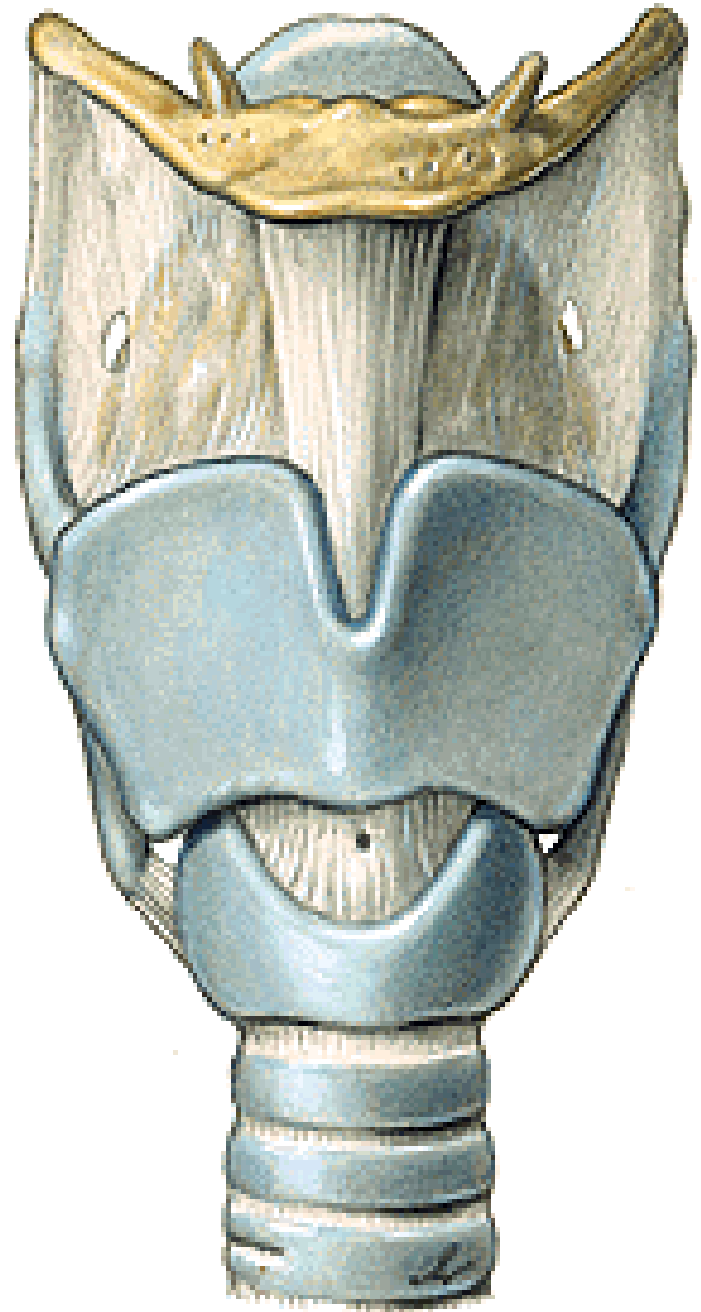


ARTICULATIO CRICOARYTENOIDEA
-lig. cricoarytenoideum post.

ARTICULATIO CRICOTHYROIDEA



MEMBRANA THYROIDEA
lig. thyroideum laterale
lig. thyroideum medianum

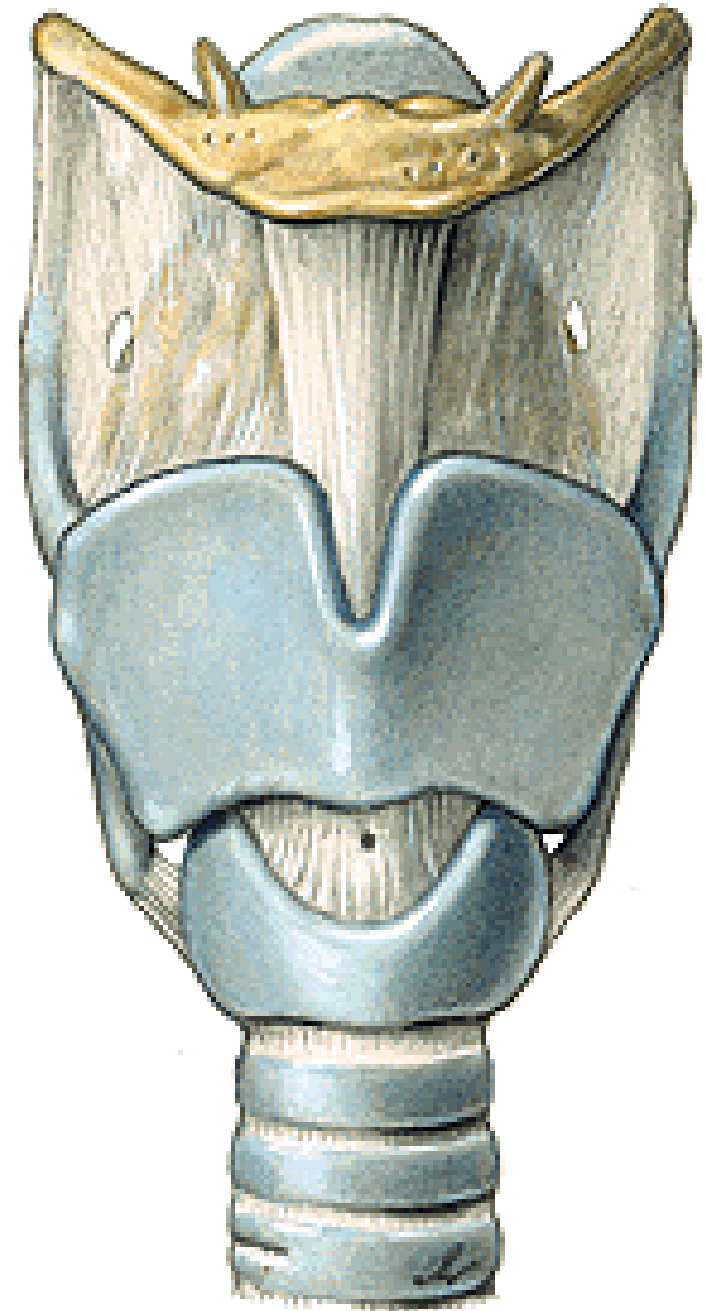


CONUS ELASTICUS

-lig. cricothyroideum- coniotomy

-lig. vocale – plica vocalis

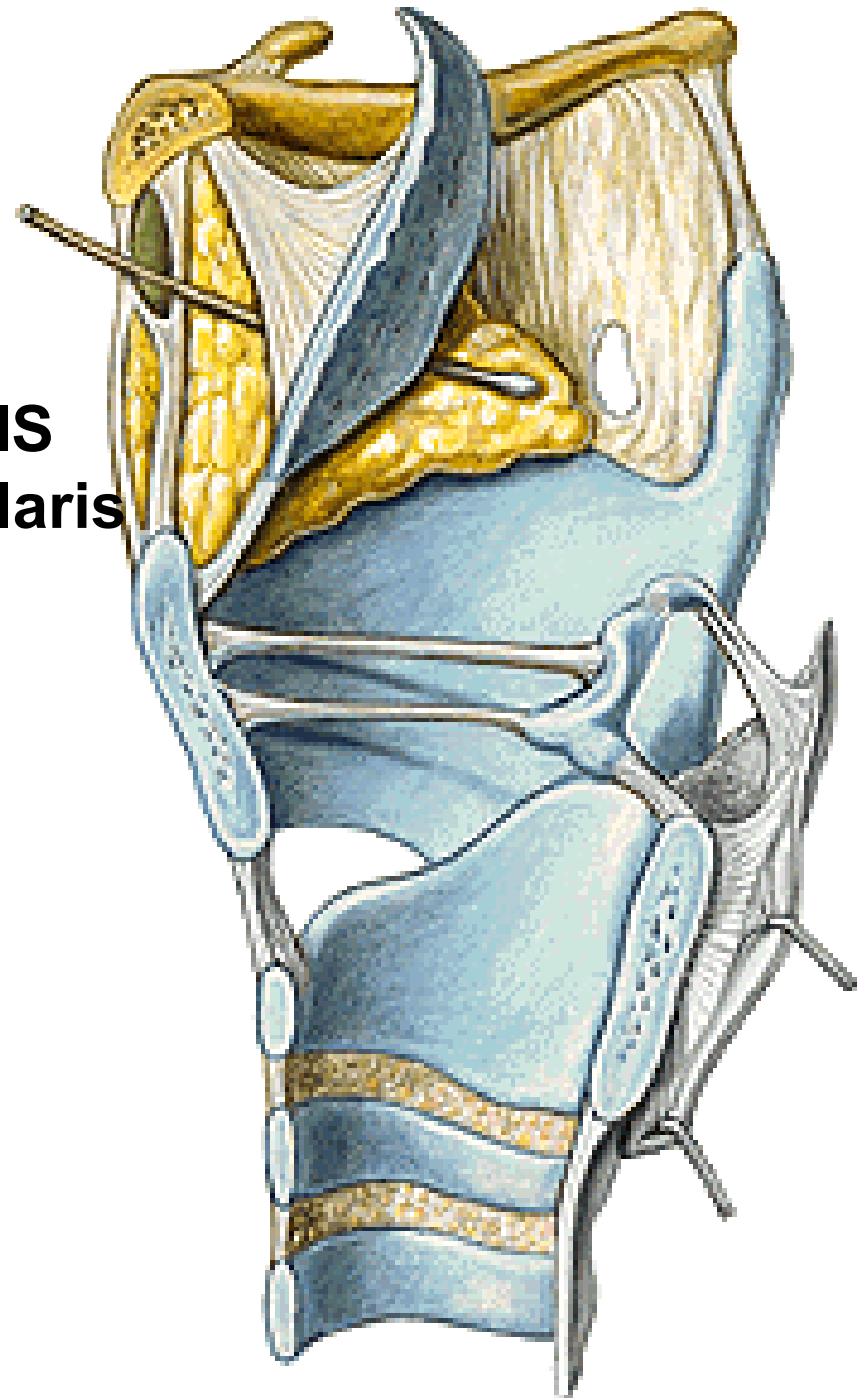
Lig. cricotracheale



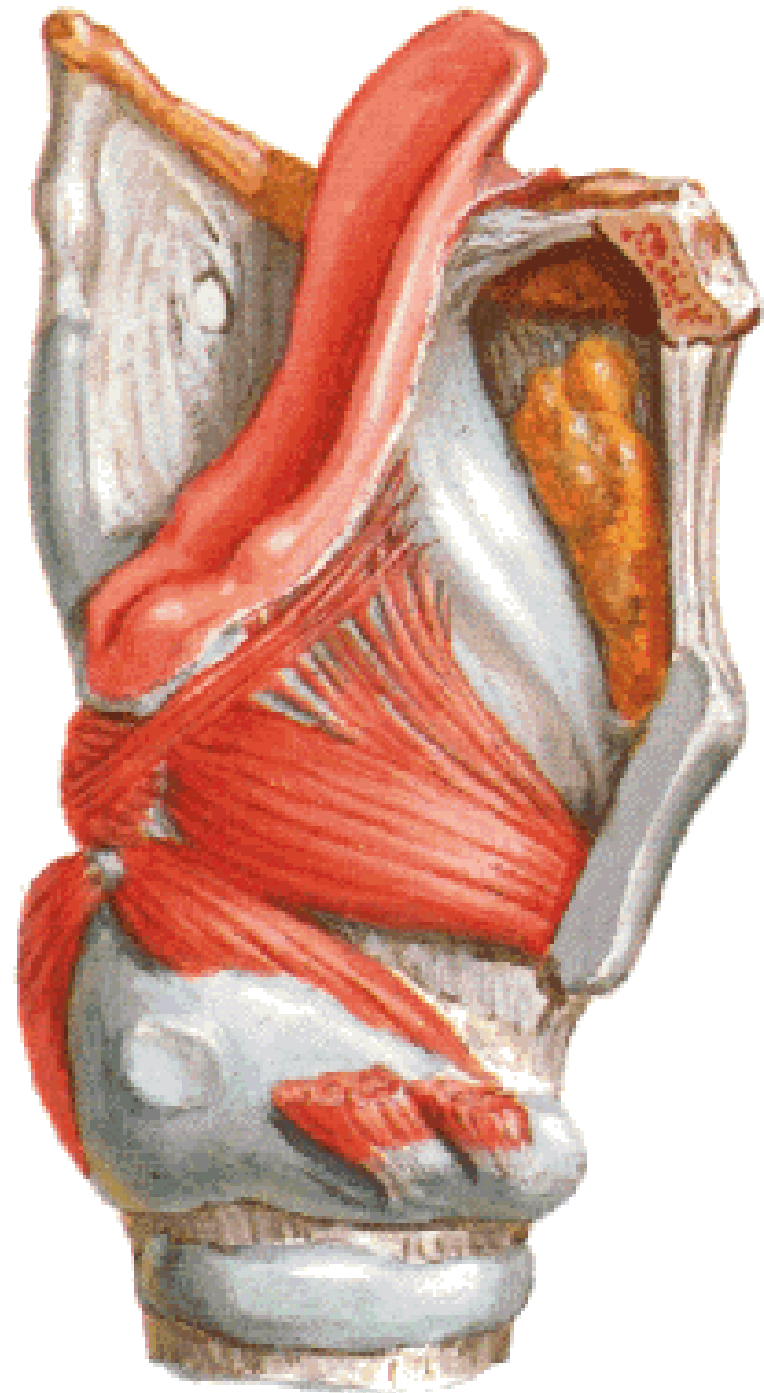
Lig thyroepiglotticum
Lig. hyoepiglotticum
Spatium praepiglotticum

MEMBRANA QUADRANGULARIS
-lig. ventriculare – plica vestibularis

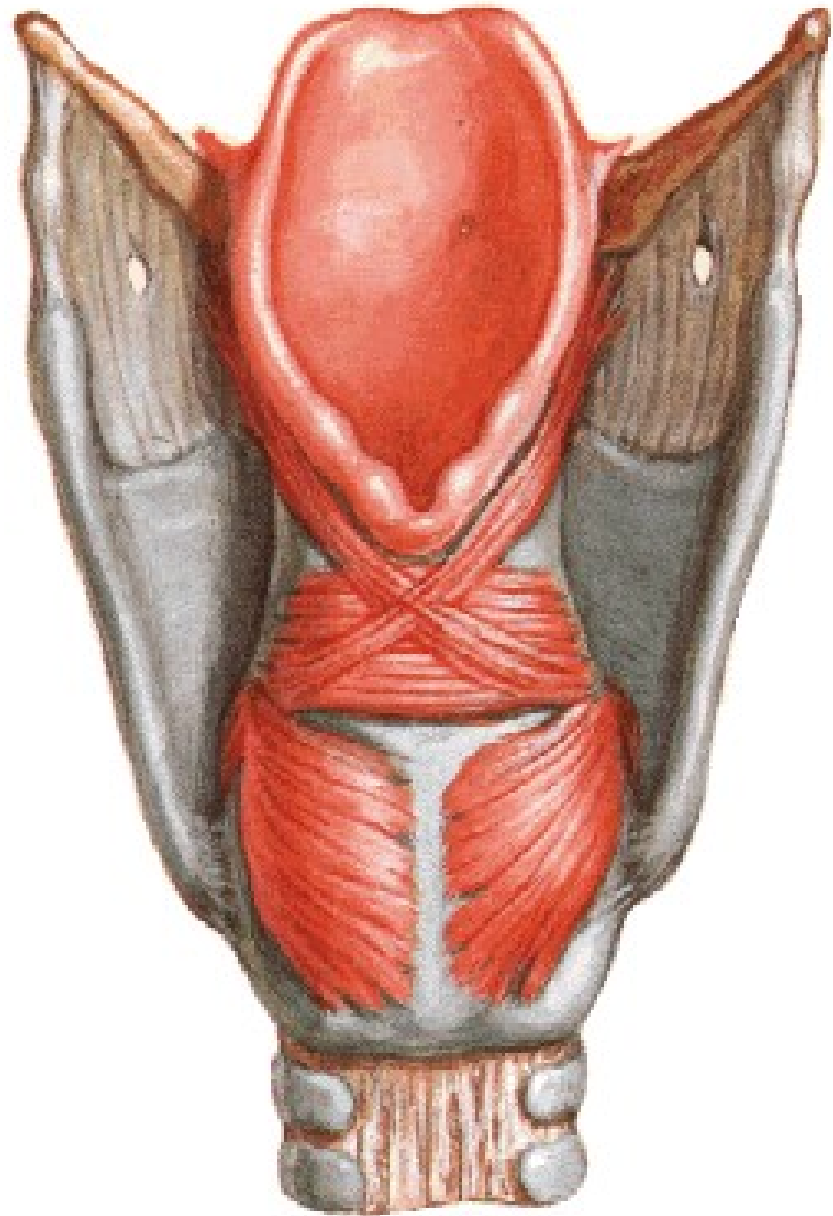
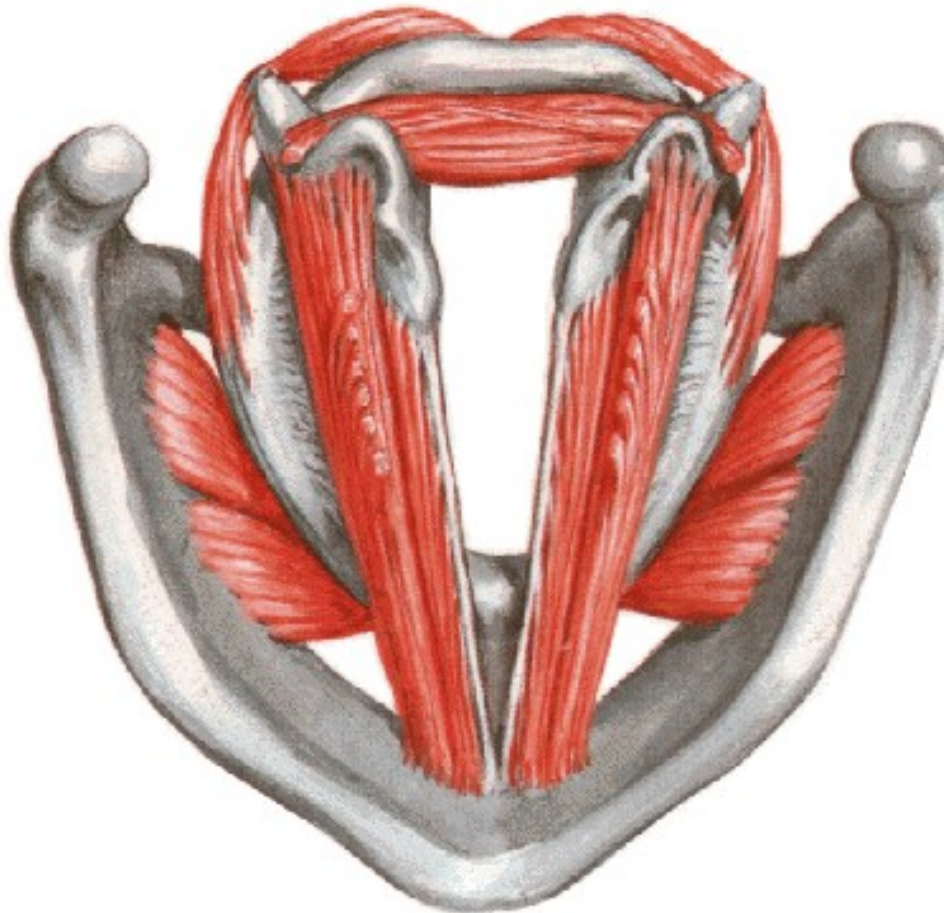
MEMBRANA FIBROELASTICA
LARYNGIS



M. thyroepiglotticus
M. aryepiglotticus

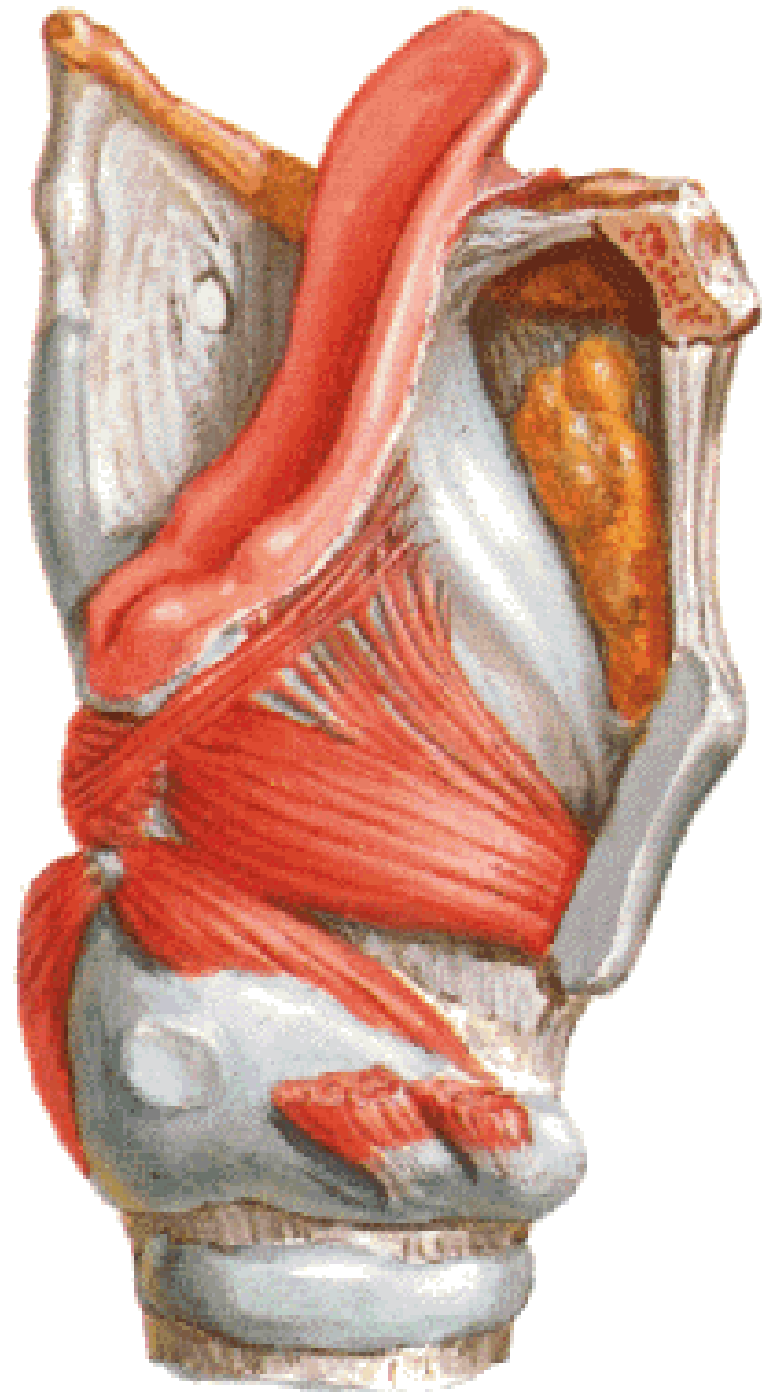
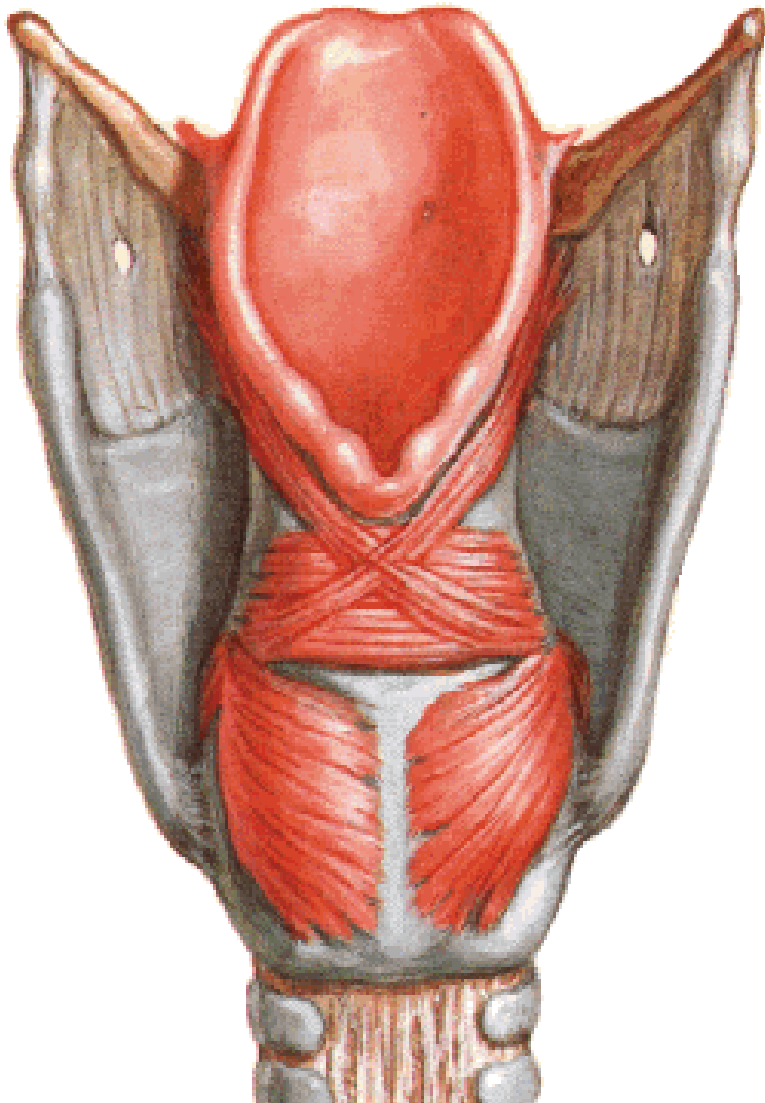


**M. cricoarytenoideus post.
(posticus) - respiration**

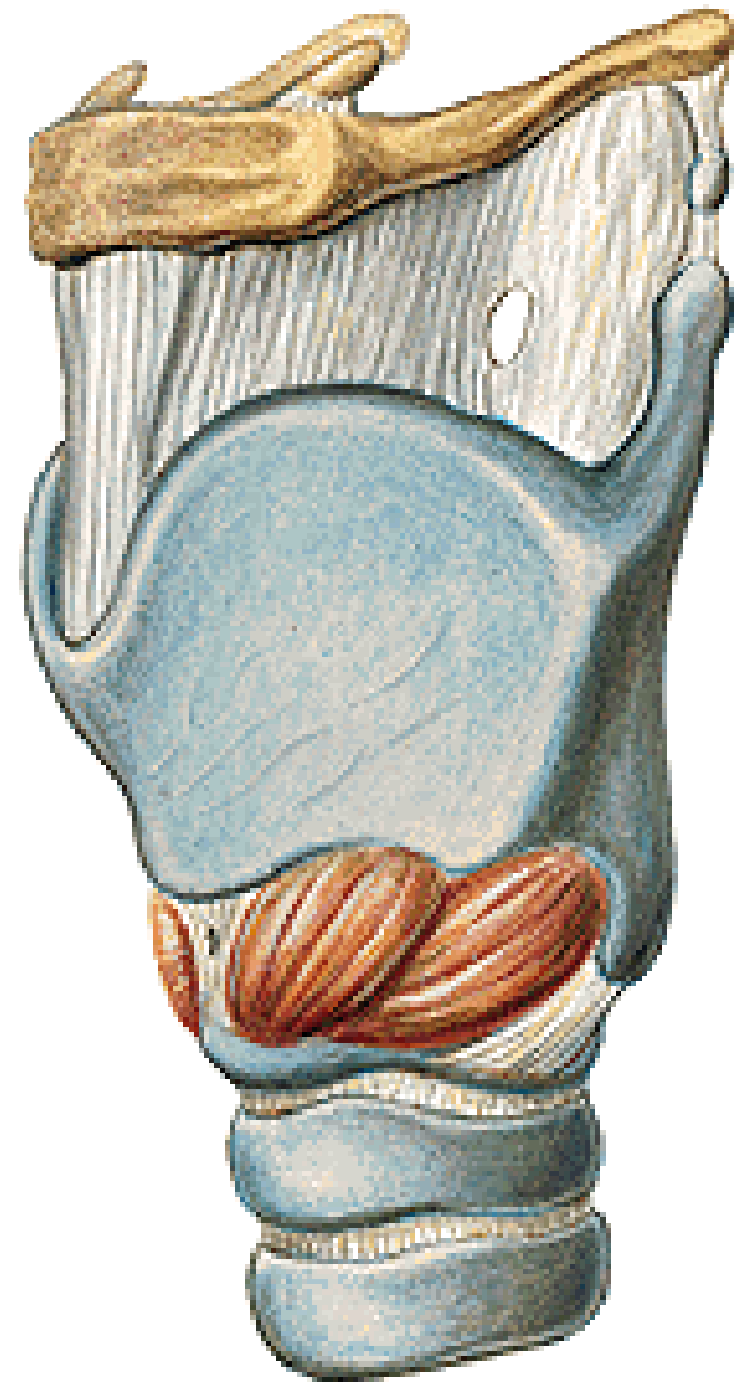


M. cricoarytenoideus lateralis
- phonation

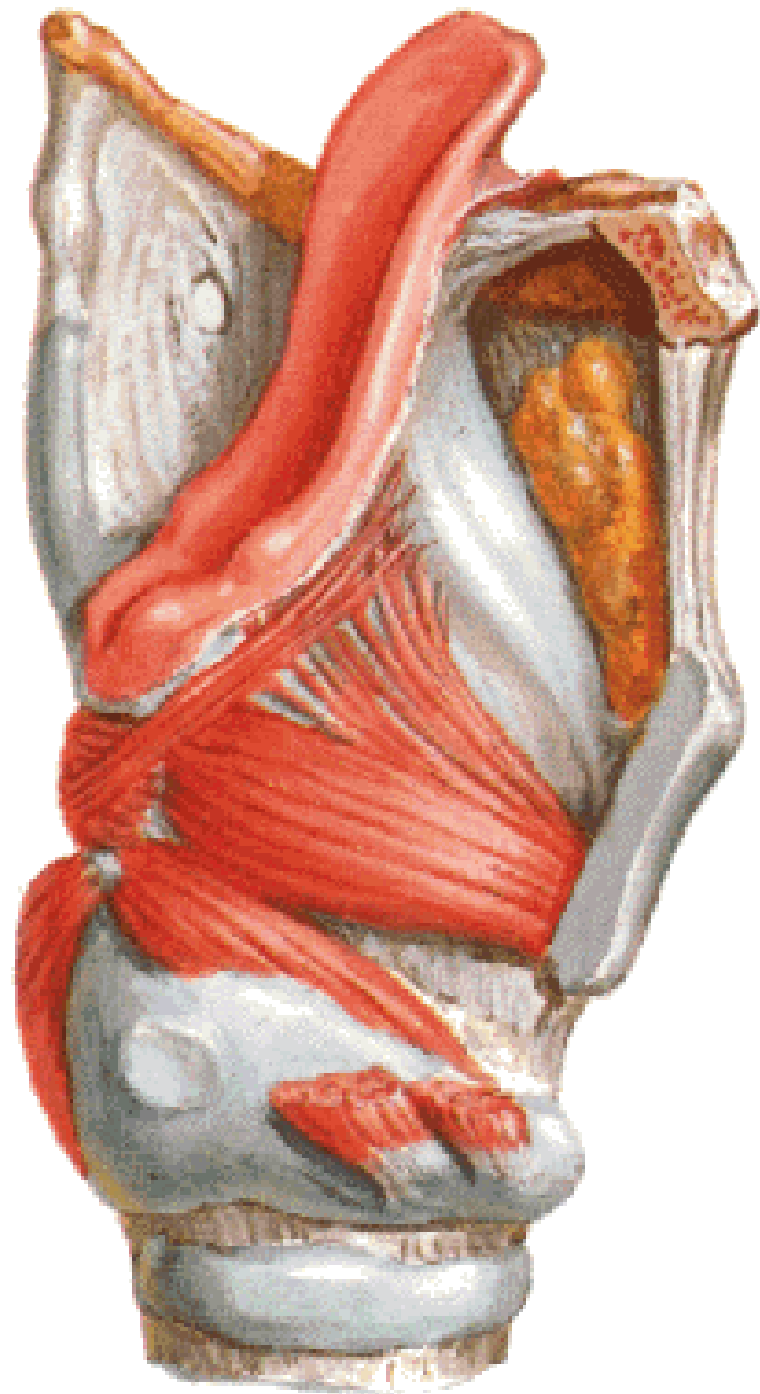
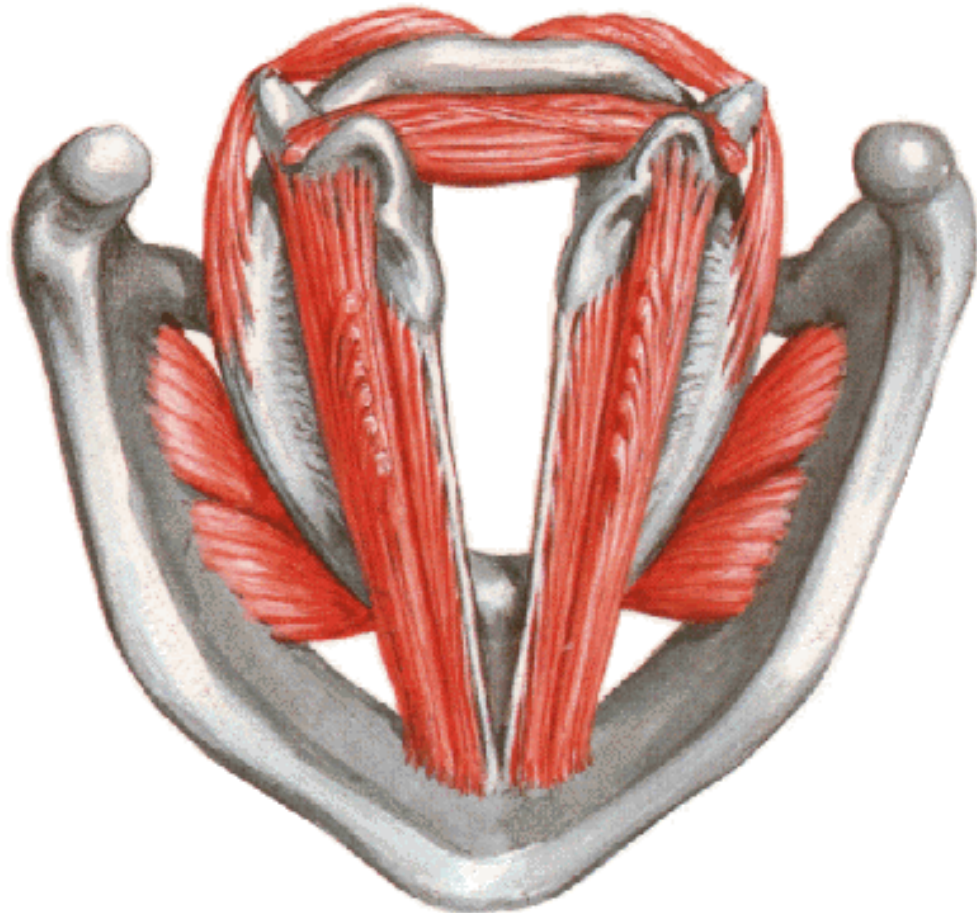
M. arytenoideus – phonation



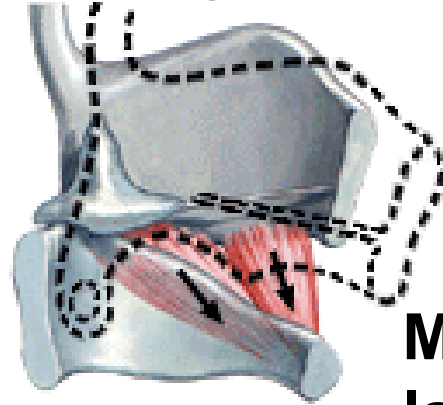
M. cricothyroideus



M. thyroarytenoideus
M. vocalis



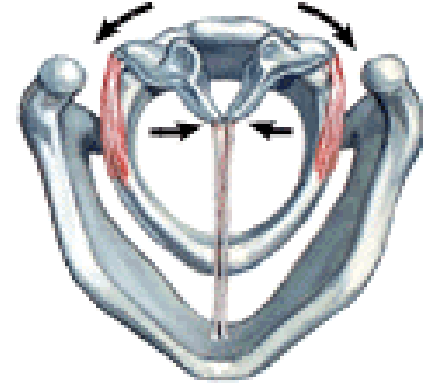
M. cricothyroideus



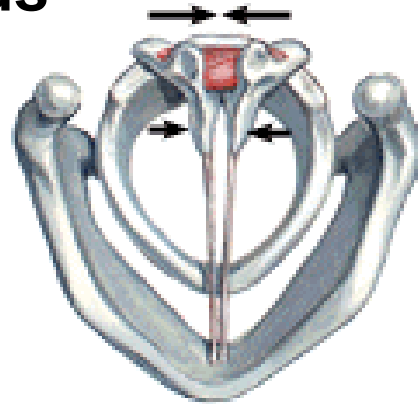
M. cricoarytenoideus post.



M. cricoarytenoideus lateralis



M. arytenoideus

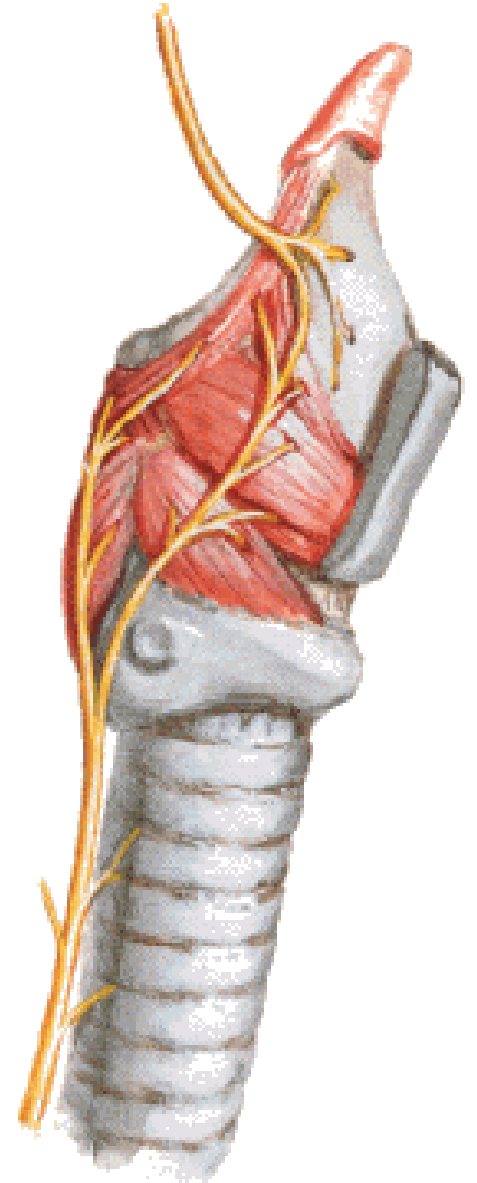
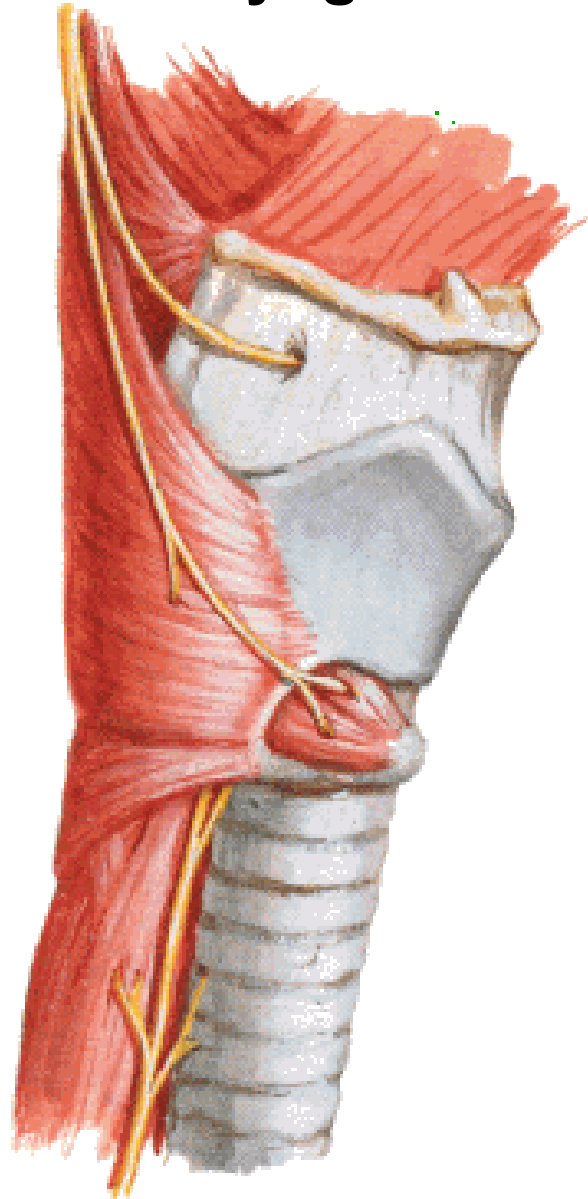


M. thyroarytenoideus

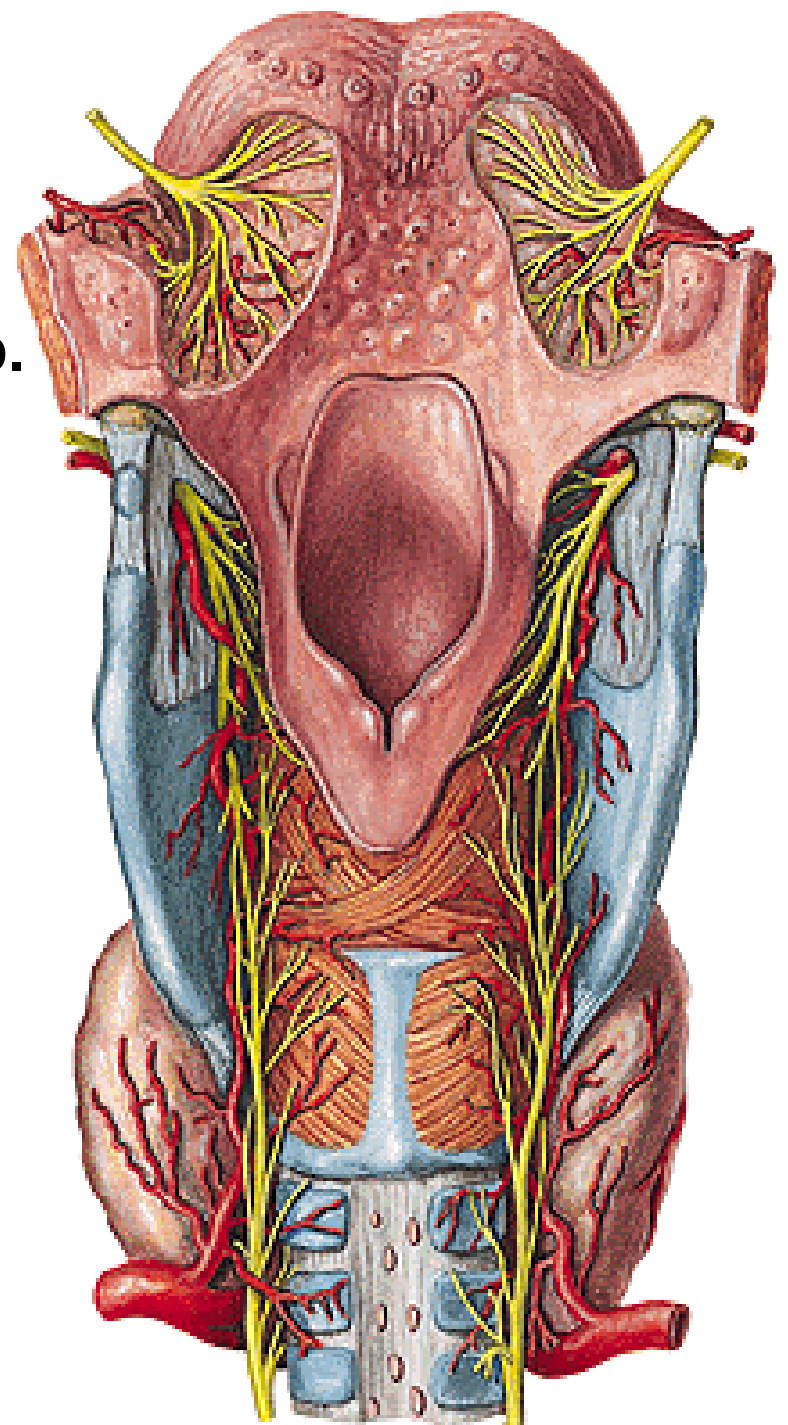


N. laryngeus sup.

N. laryngeus inf. – N. laryngeus recurrens

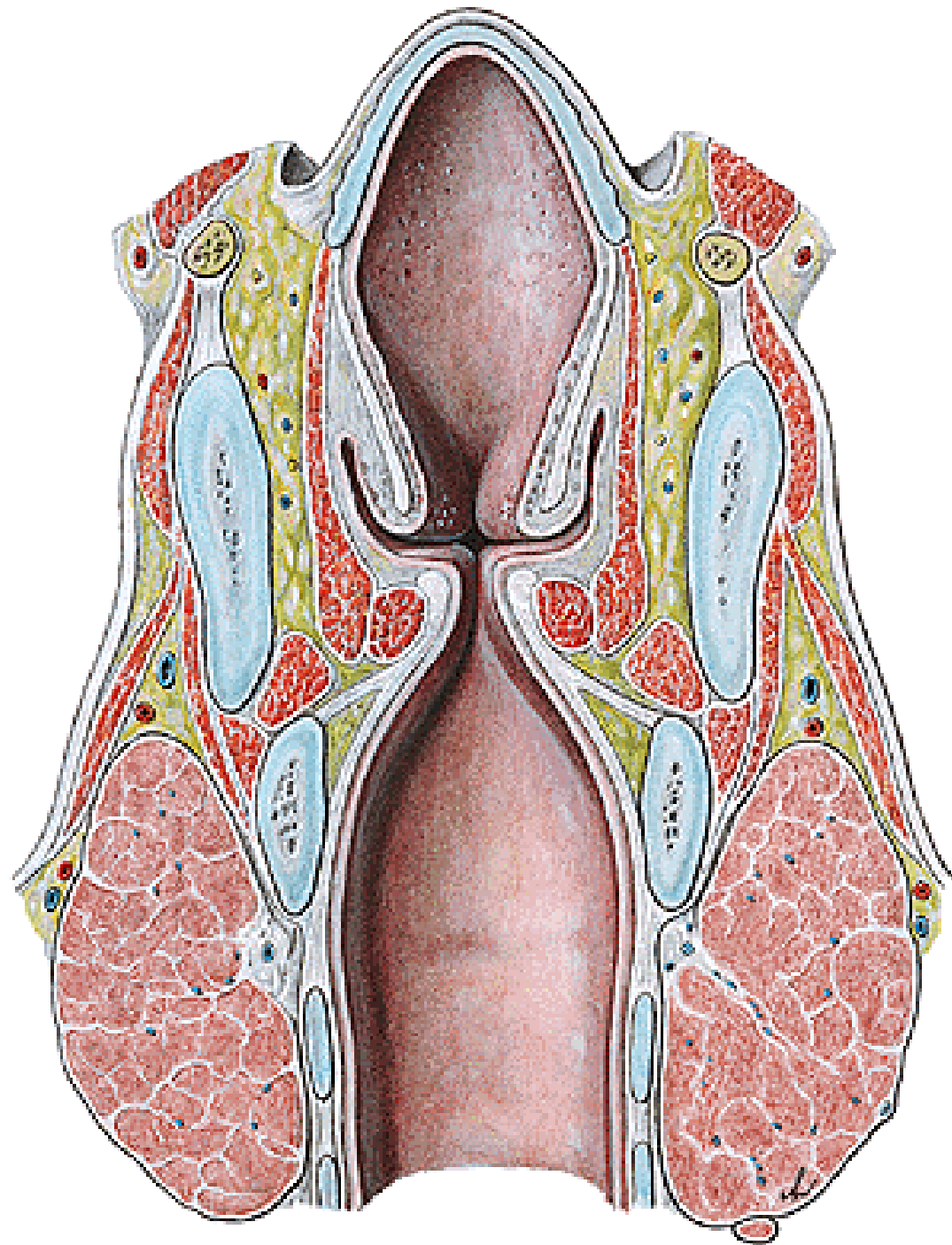


A. laryngea sup. - A. thyroidea sup.
A. laryngea inf. – A. thyroidea inf.



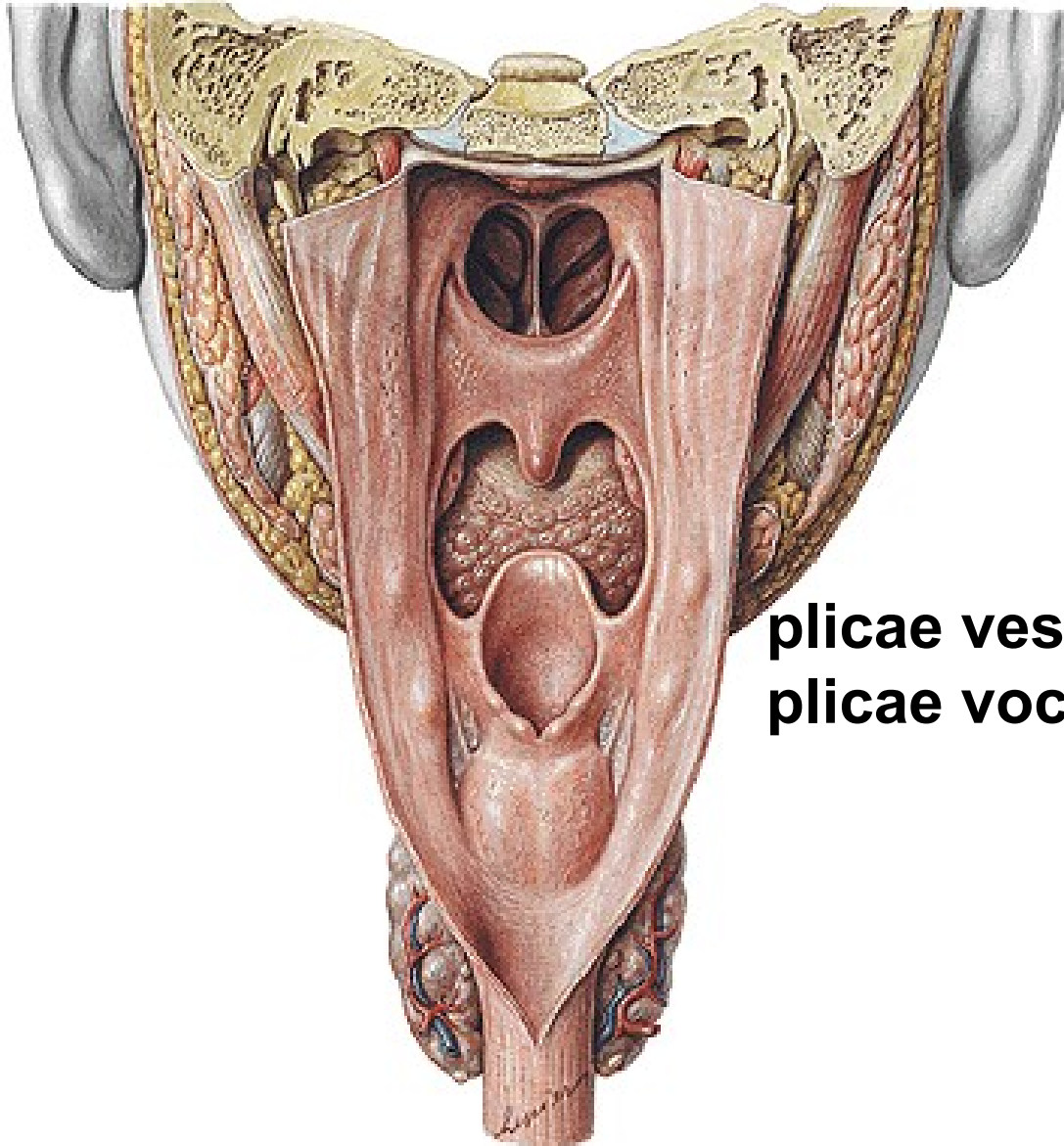
CAVITAS LARYNGIS

- vestibulum laryngis**
- plicae vestibulares**
- rima vestibuli**
- plicae vocales**
- rima glottidis**
- glottis**
- ventriculus laryngis**
- sacculus laryngis**
- cavitas infraglottica**

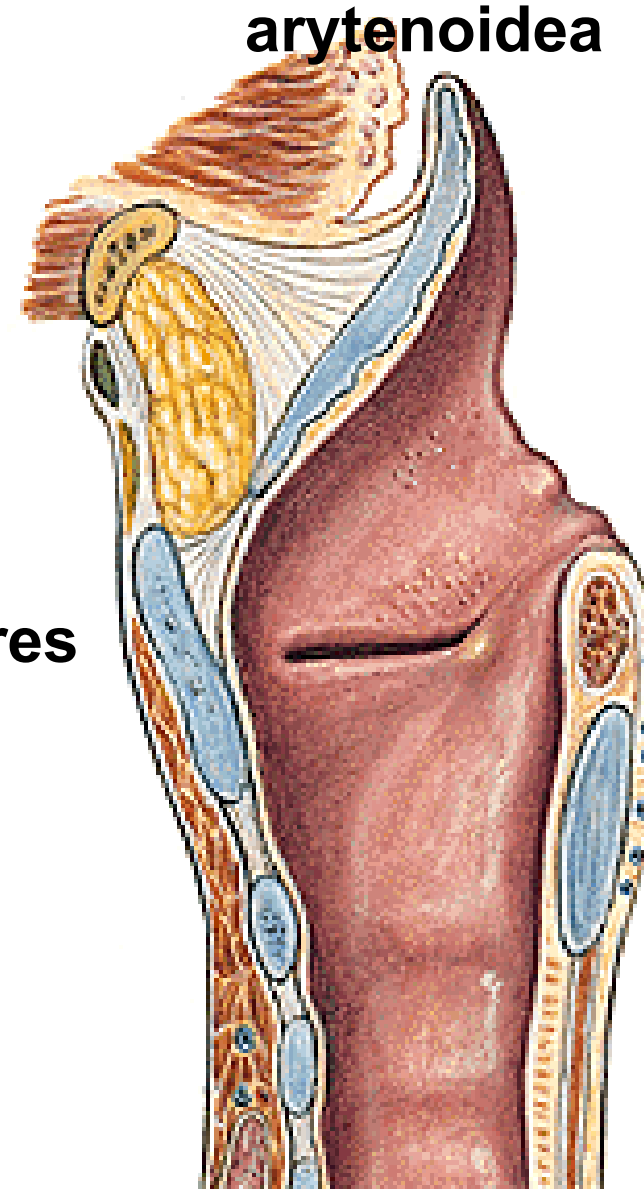


CAVITAS LARYNGIS

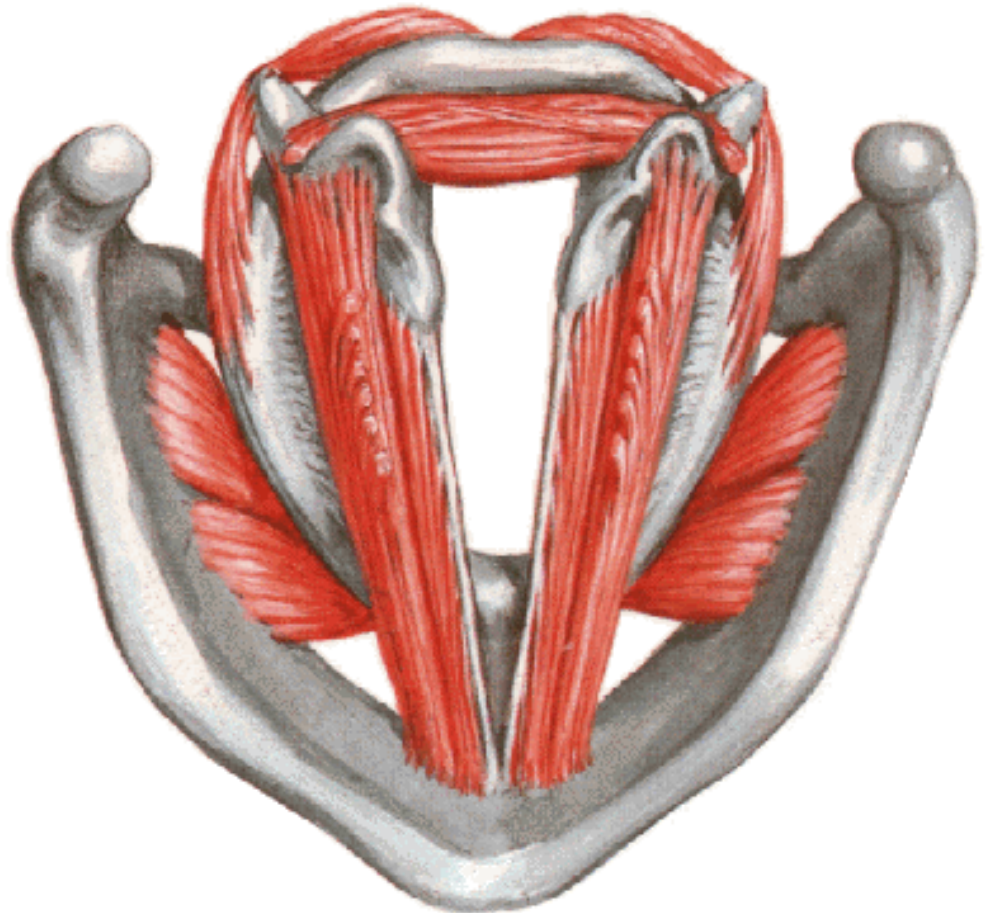
-aditus laryngis-plicae aryepiglotticae (tuberculum cuneiforme et corniculatum), plica interarytenoidea, incisura interarytenoidea

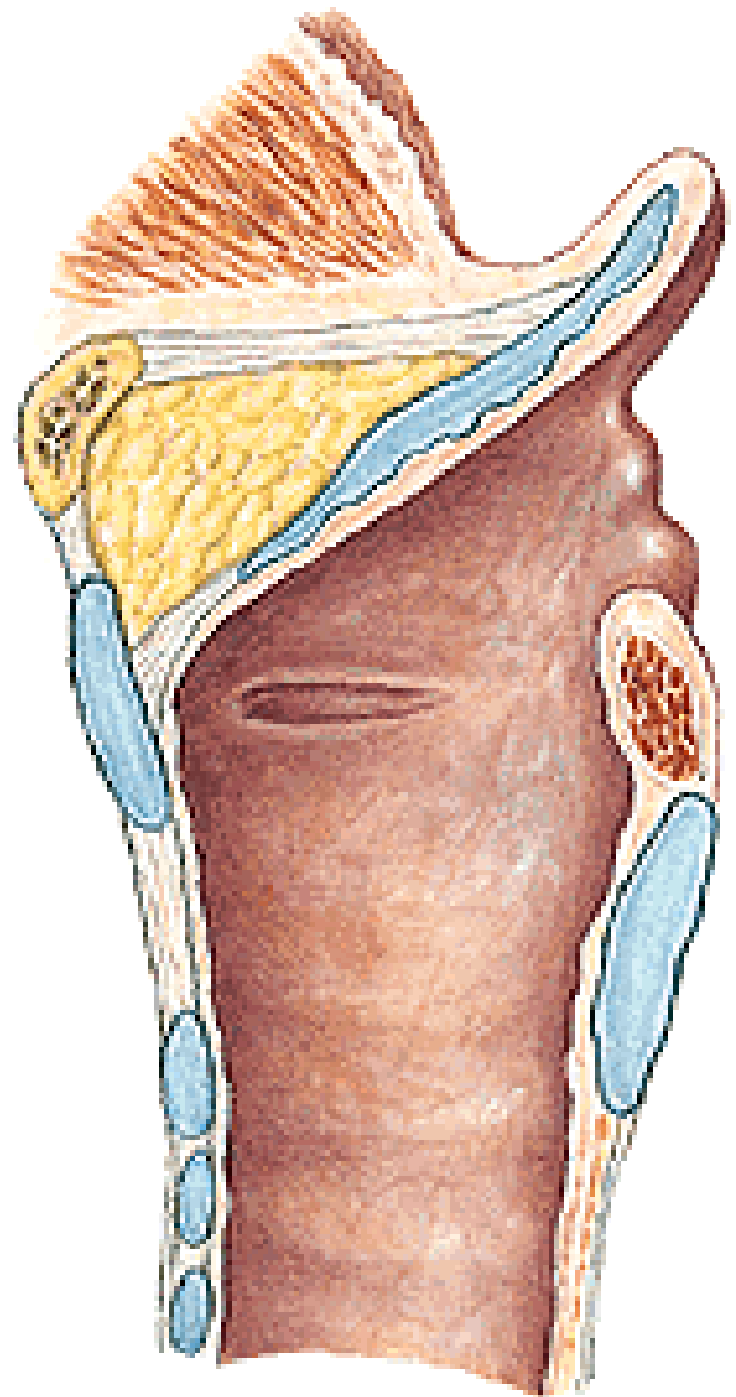
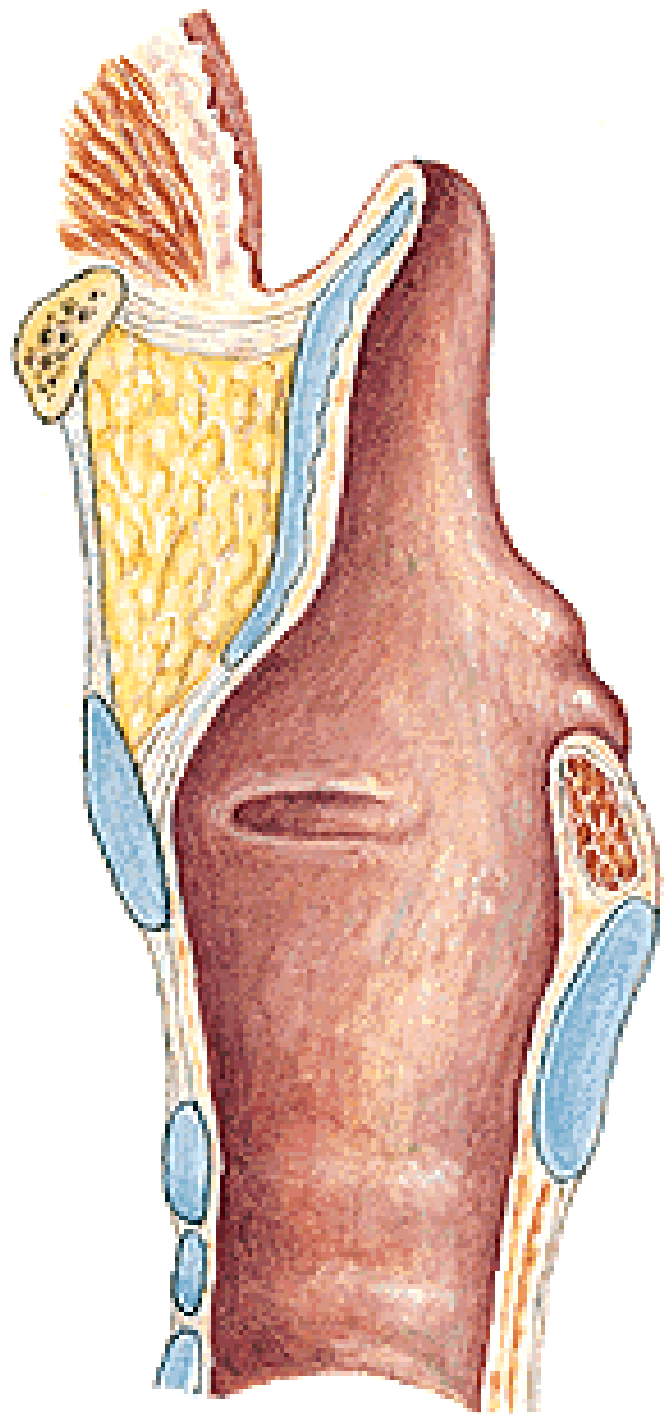


plicae vestibulares
plicae vocales



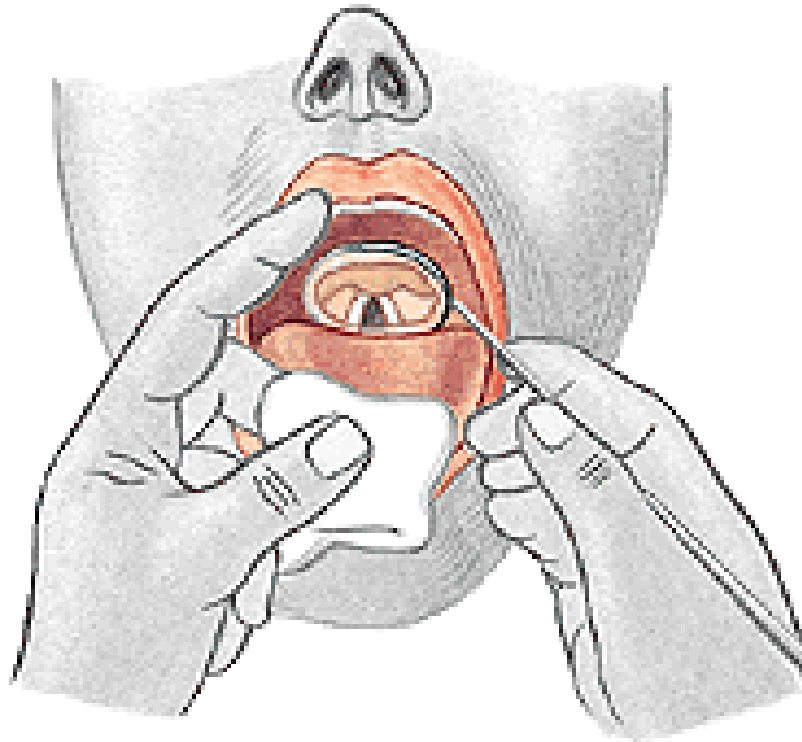
Rima glottidis
pars inter-
membranacea
pars inter-
cartilaginea



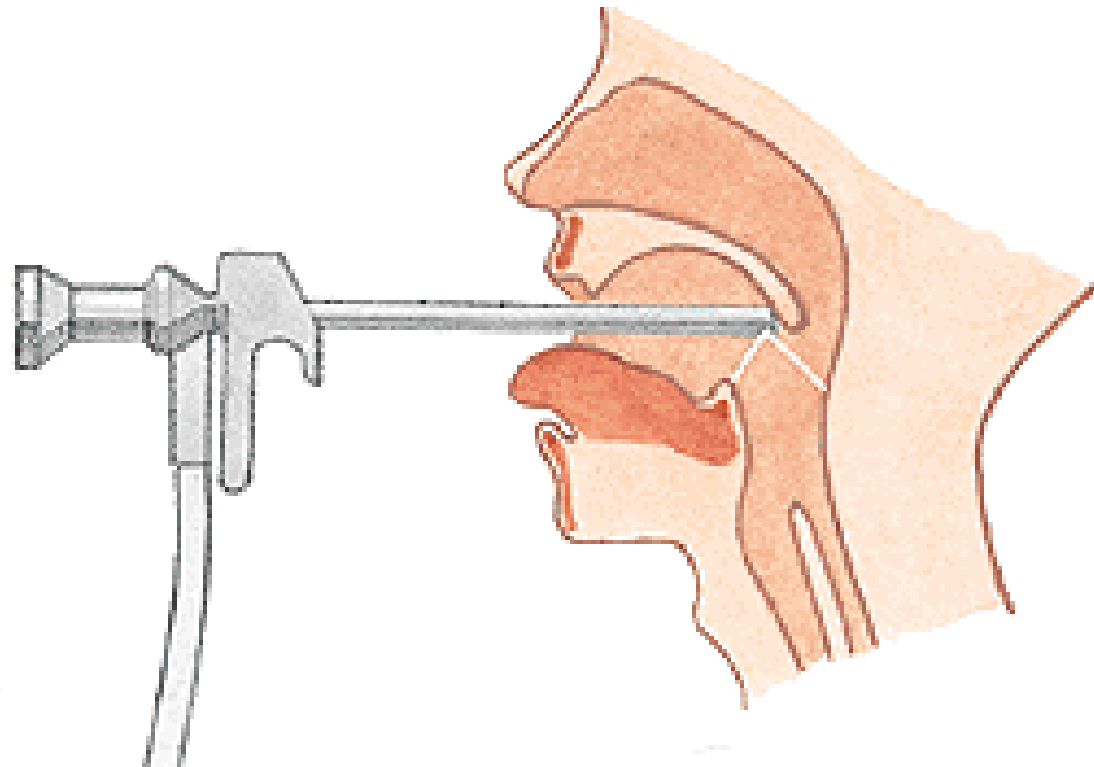


LARYNGOSCOPY

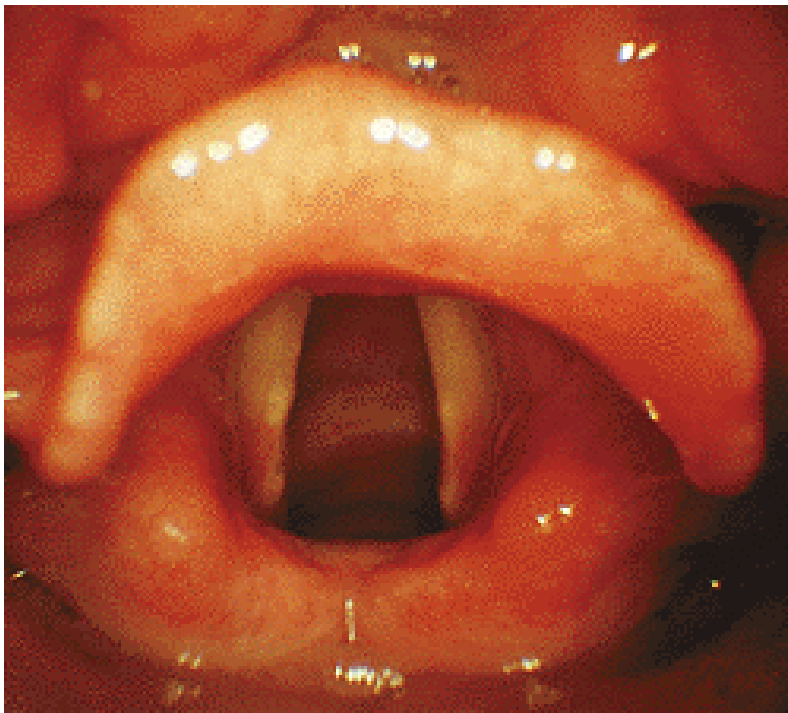
indirect



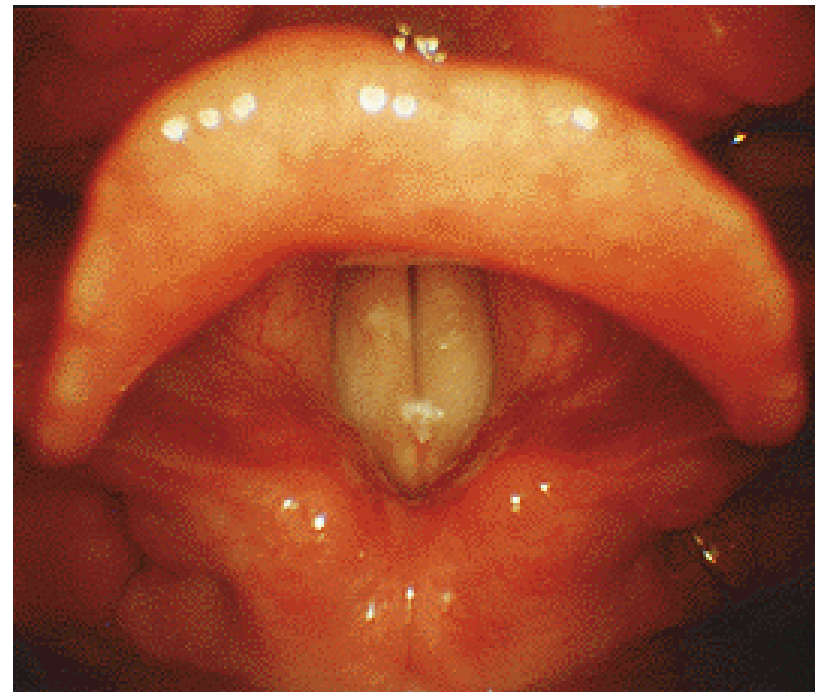
direct

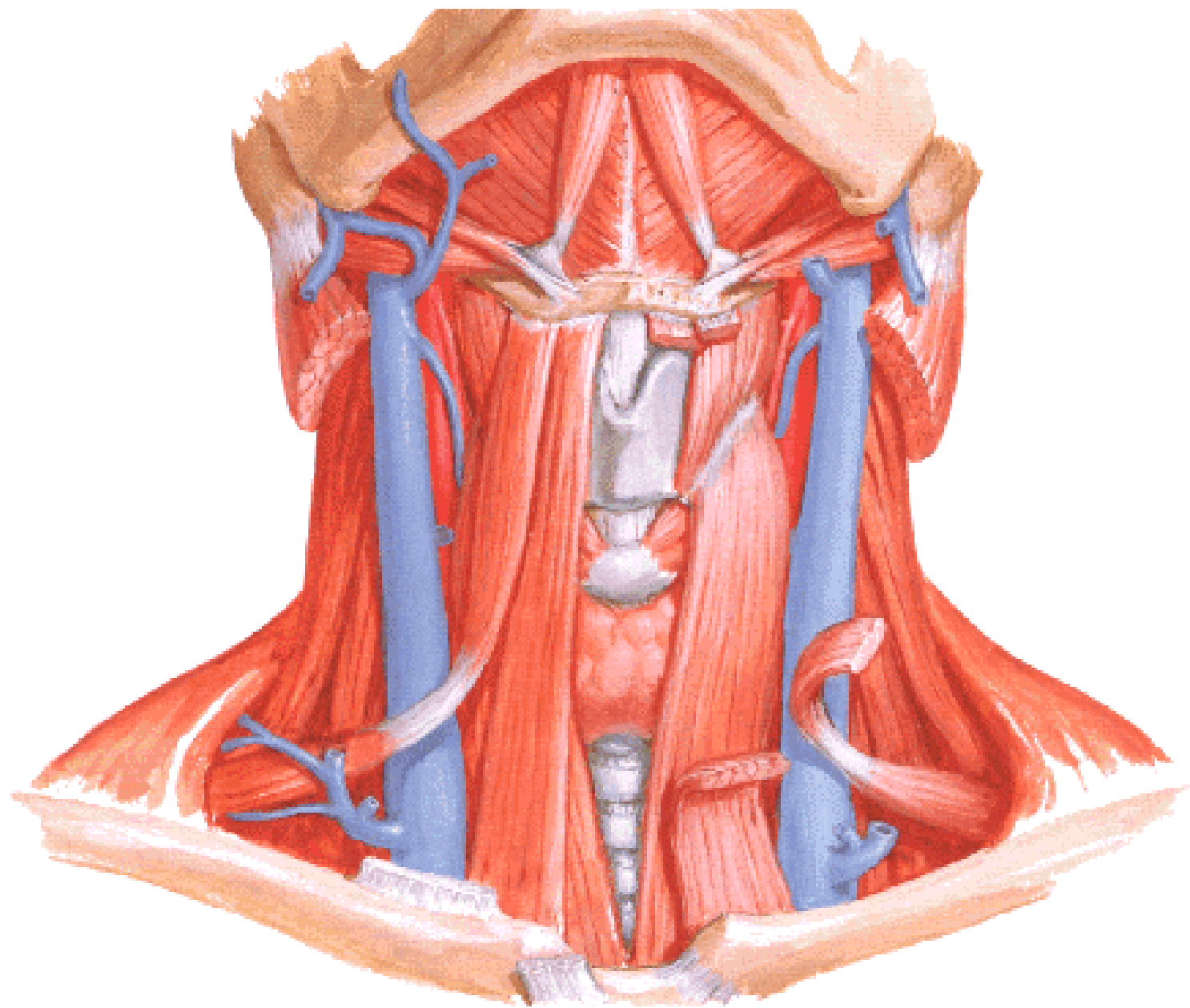


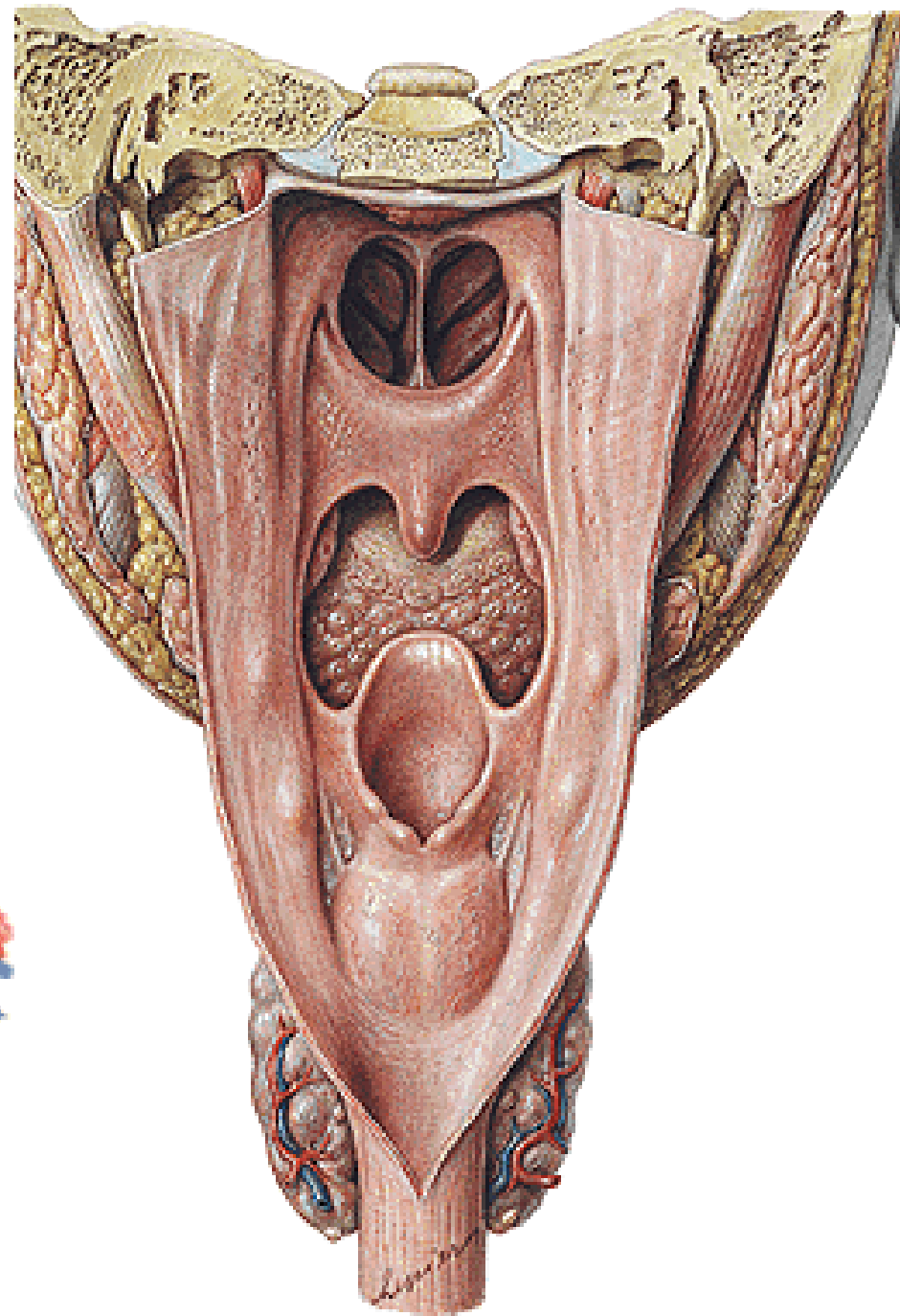
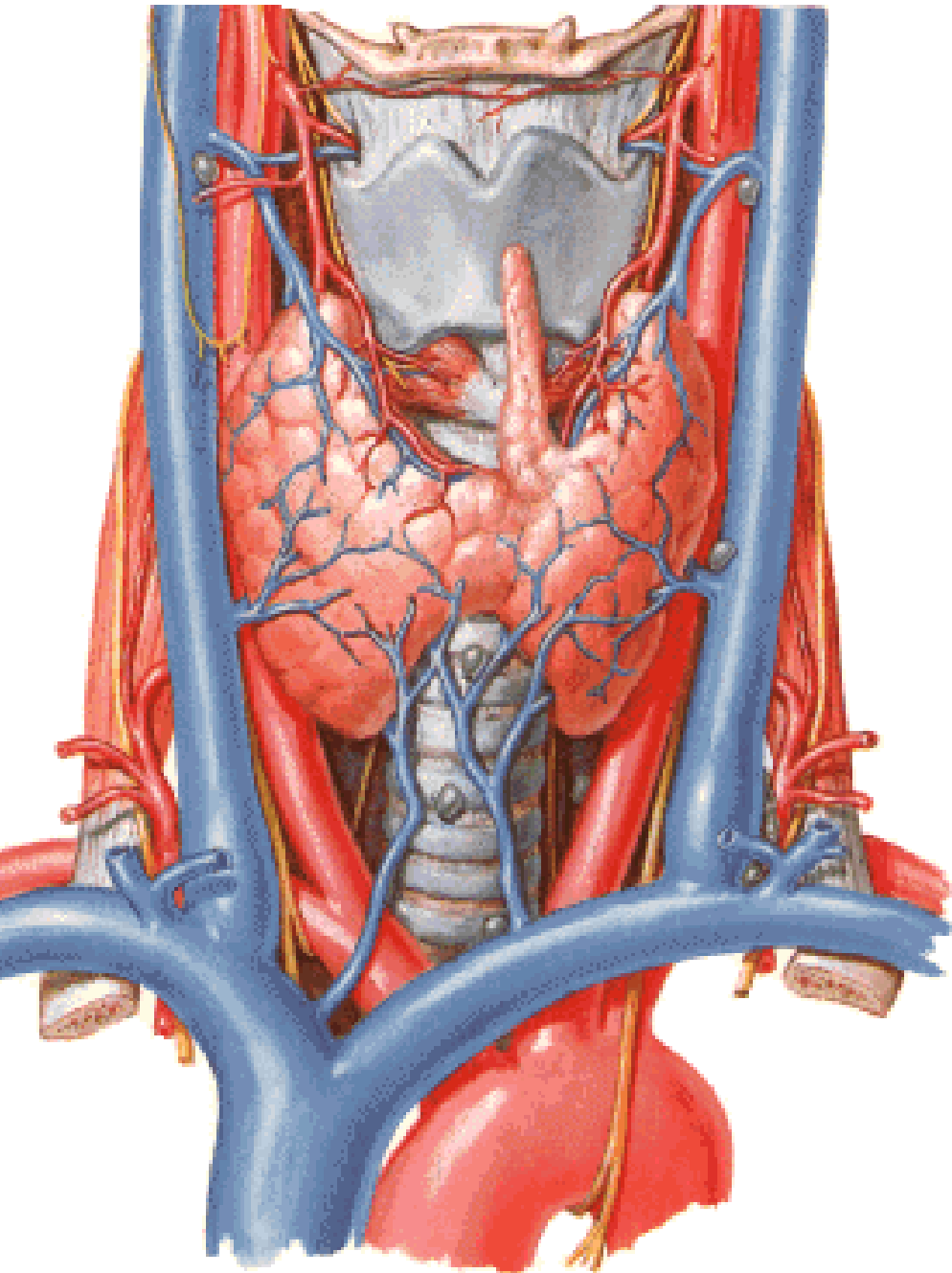
RESPIRATION



PHONATION

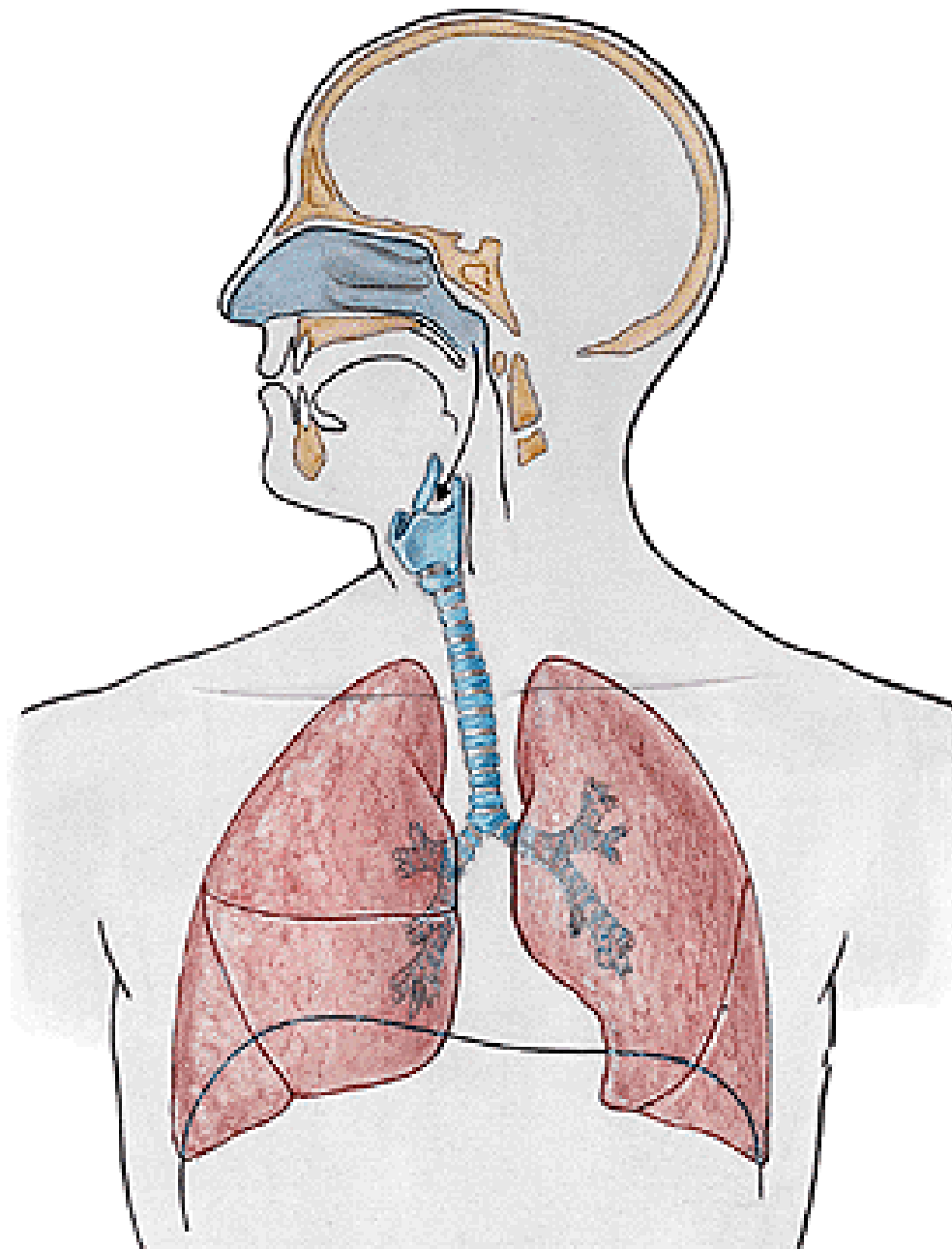






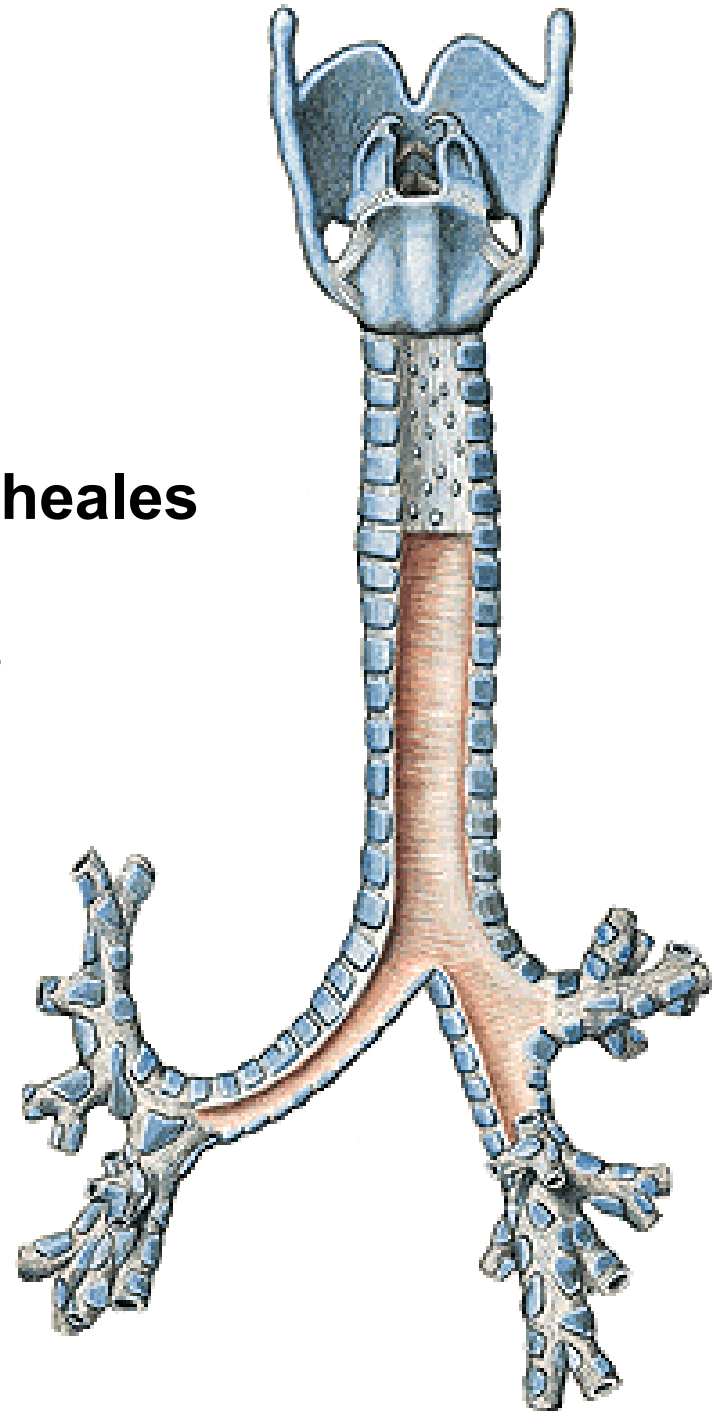
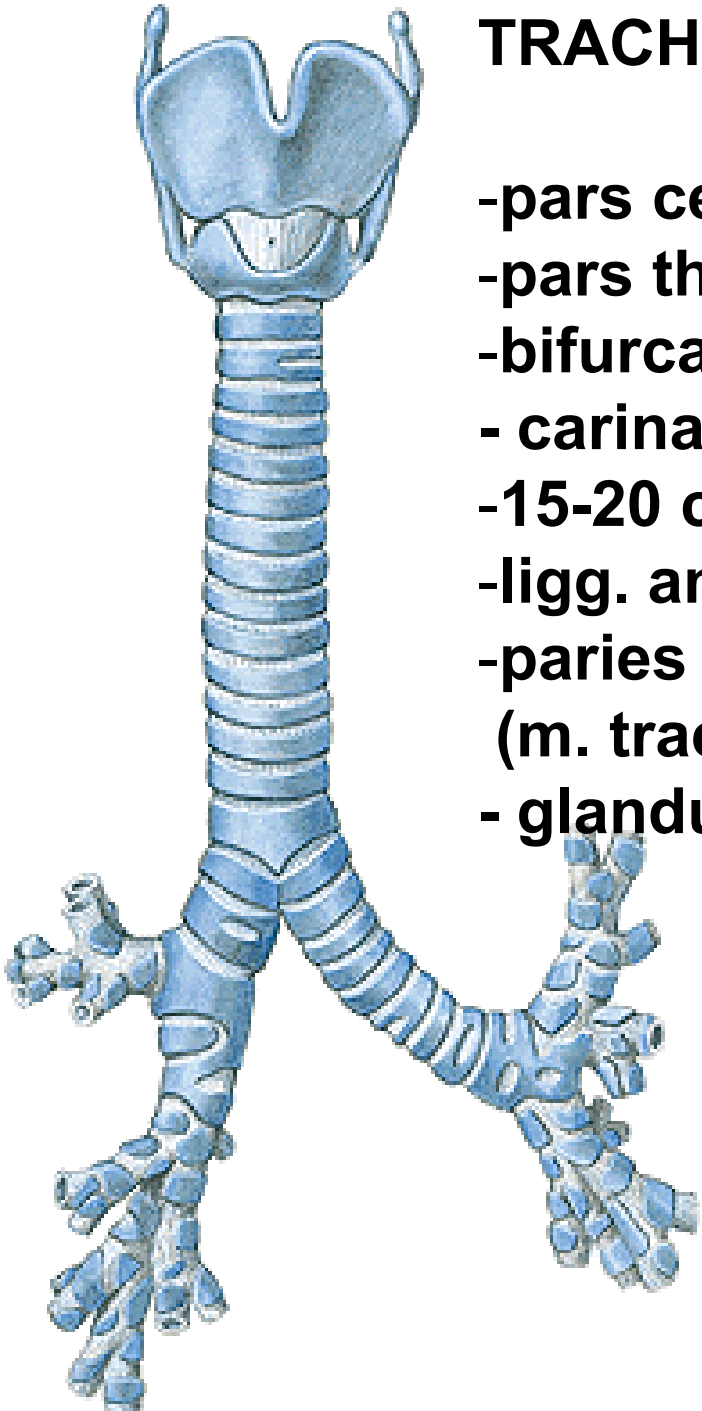
RESPIRATORY SYSTEM II.

LOWER RESPIRATORY TRACT, LUNGS



TRACHEA

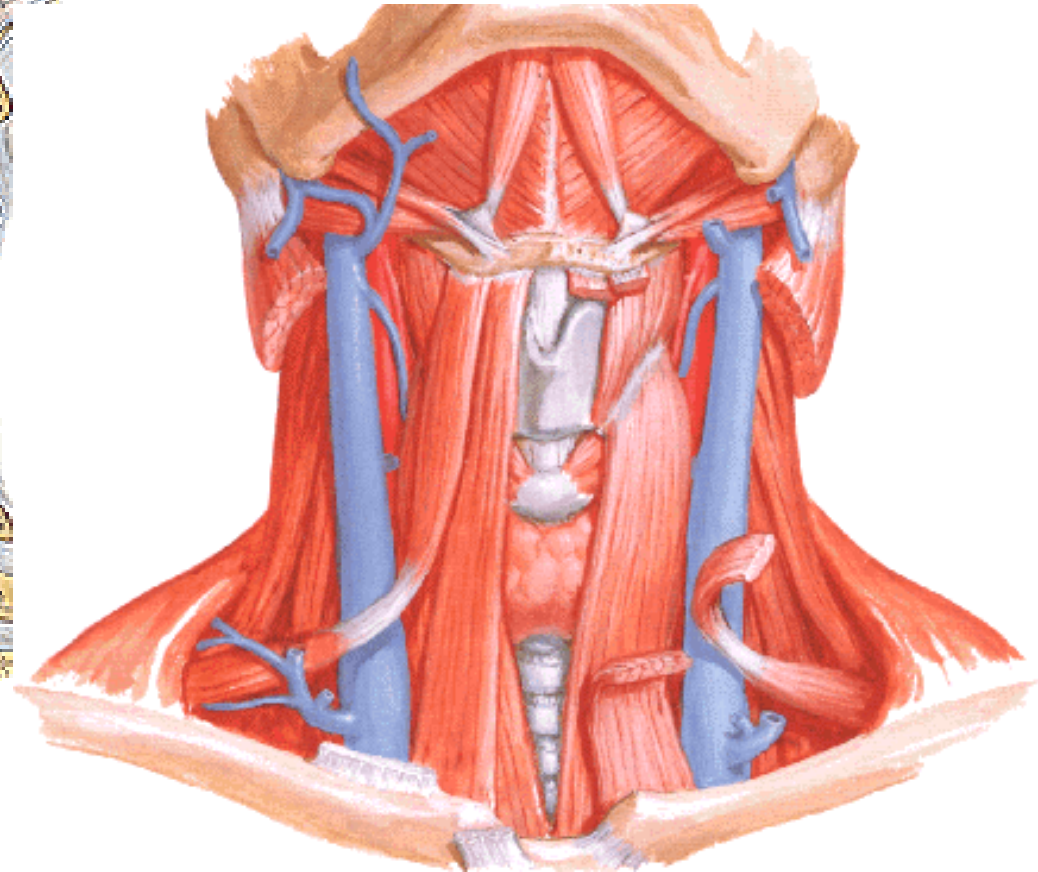
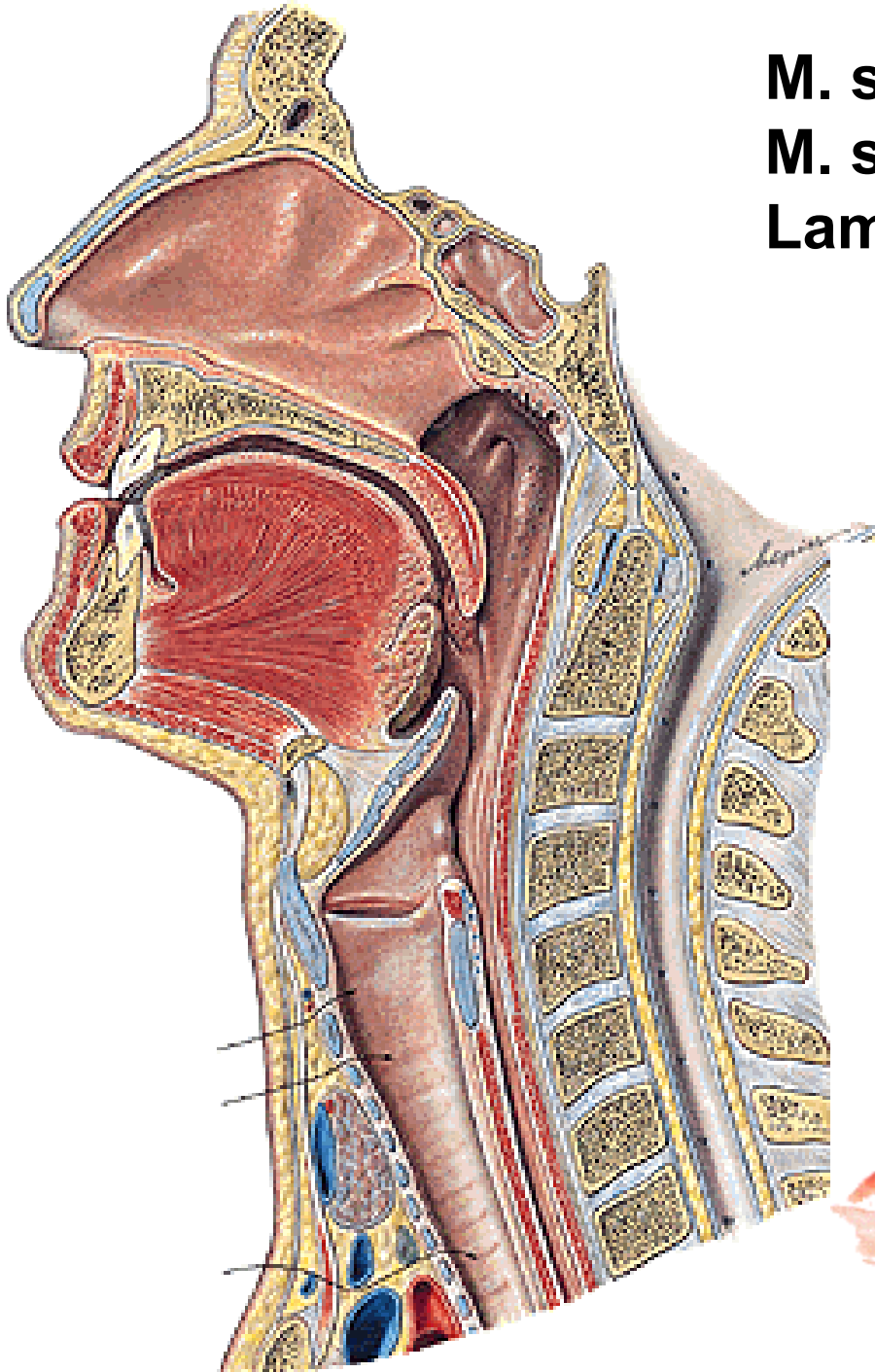
- pars cervicalis
- pars thoracica
- bifurcatio tracheae
- carina tracheae
- 15-20 cartilagineae tracheales
- ligg. anularia
- paries membranaceus (m. trachealis)
- glandulae tracheales



M. sternohyoideus

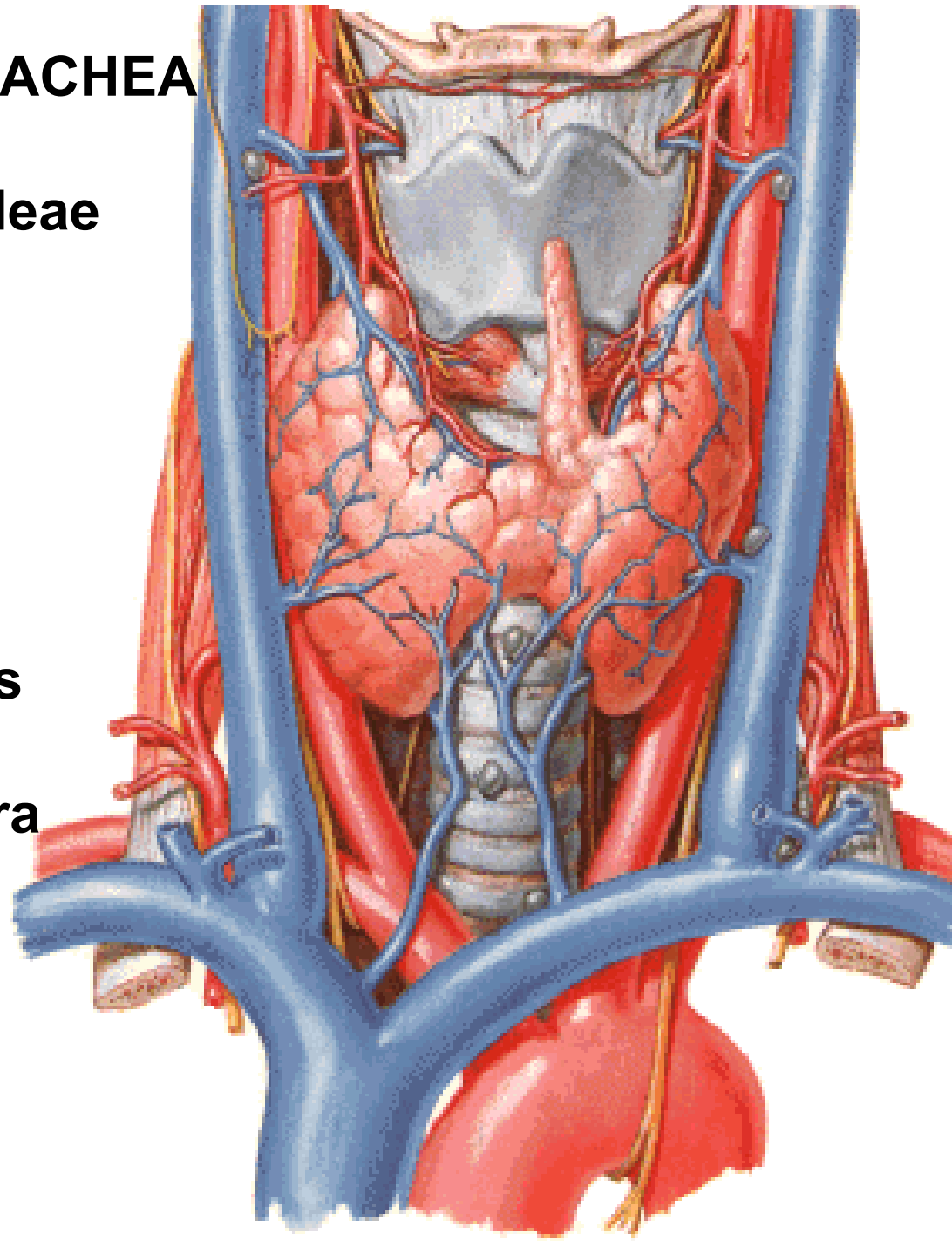
M. sternothyroideus

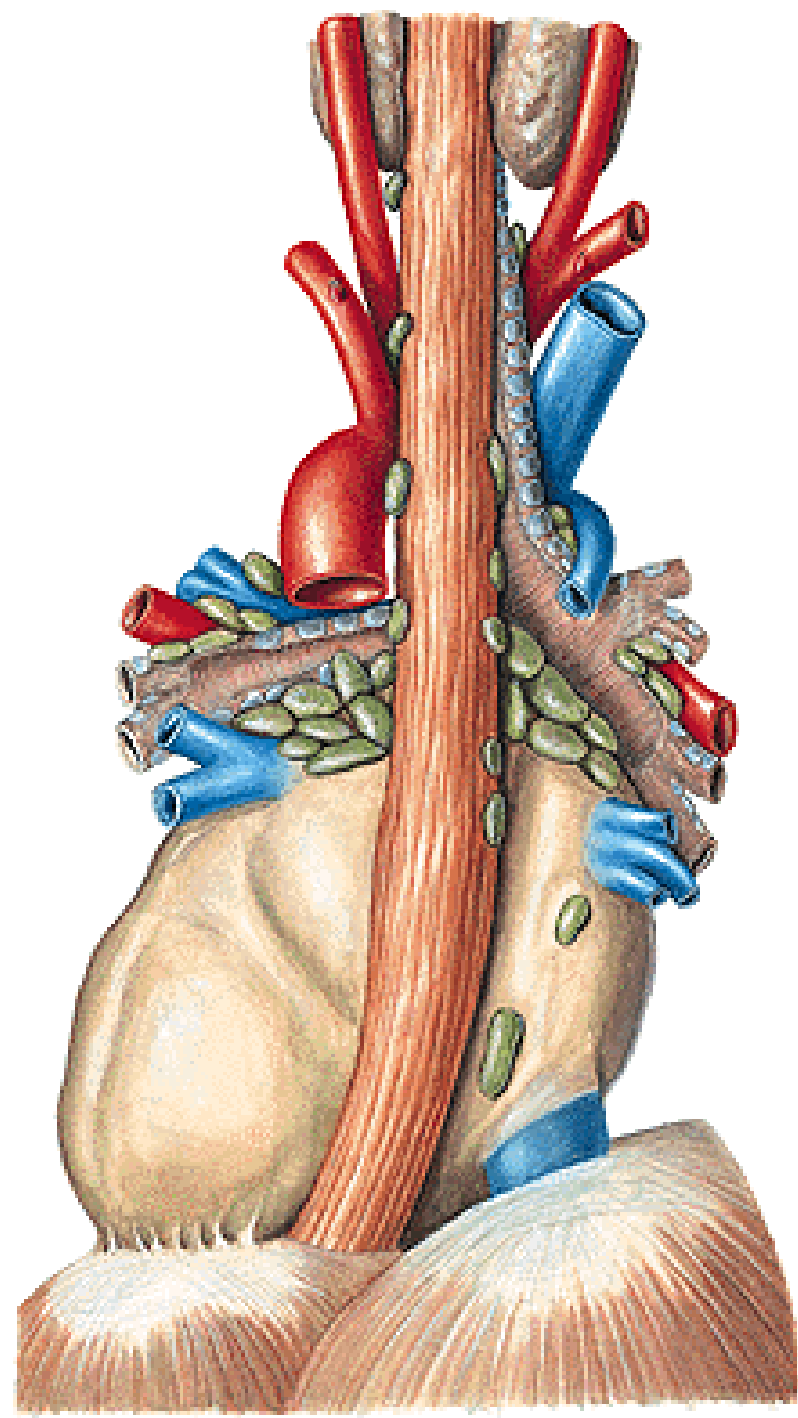
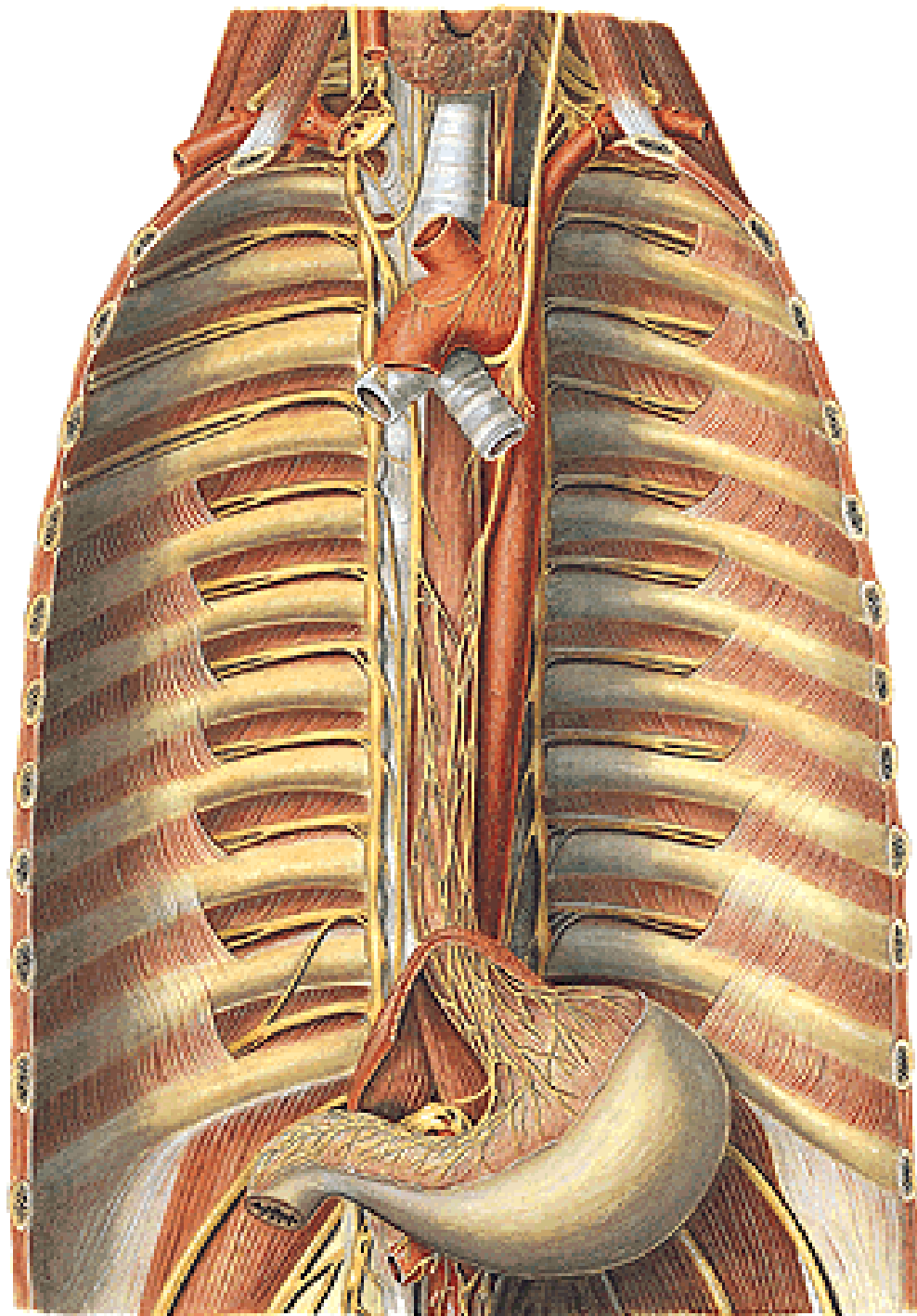
Lamina pretrachealis fasciae colli



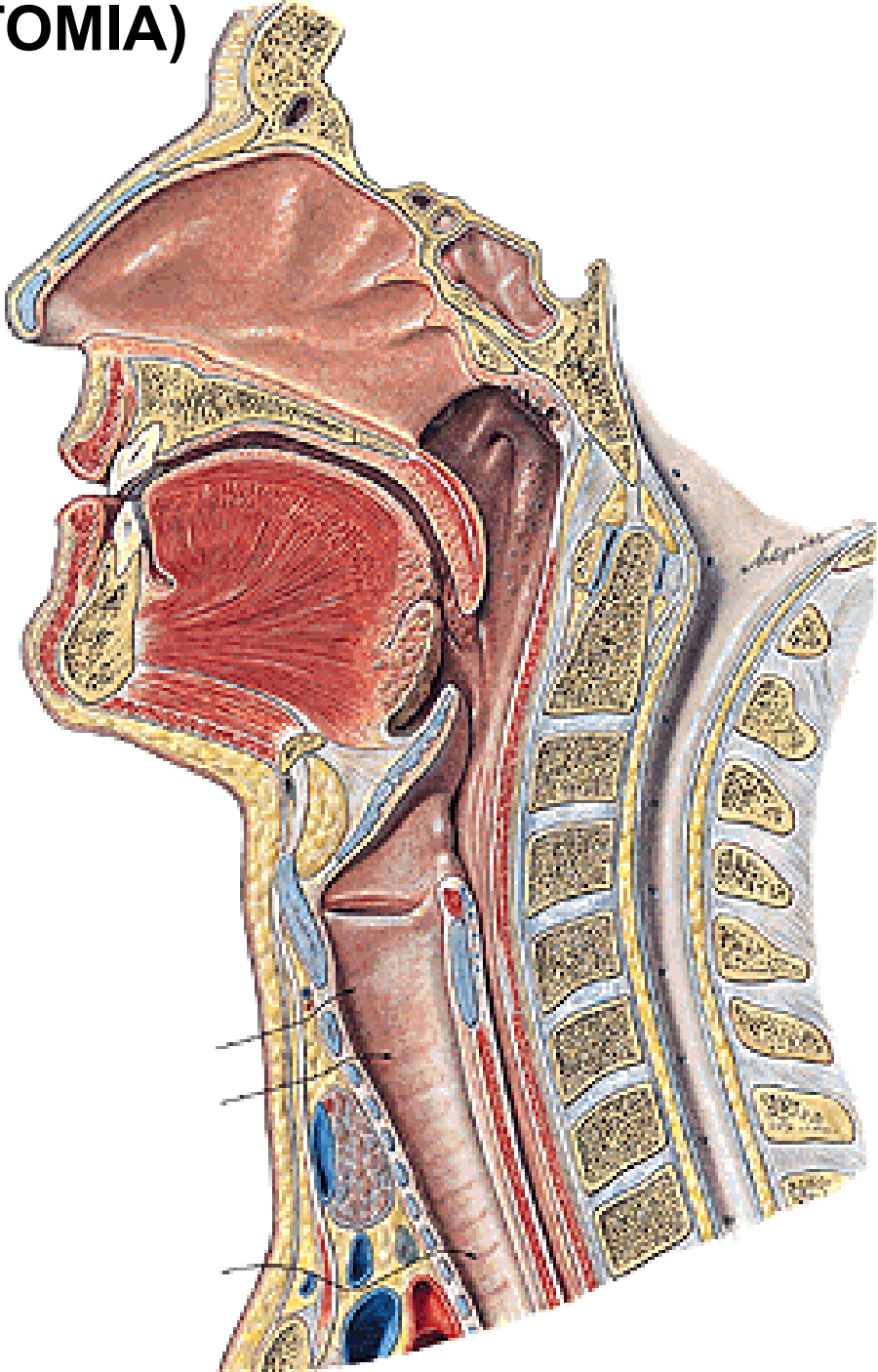
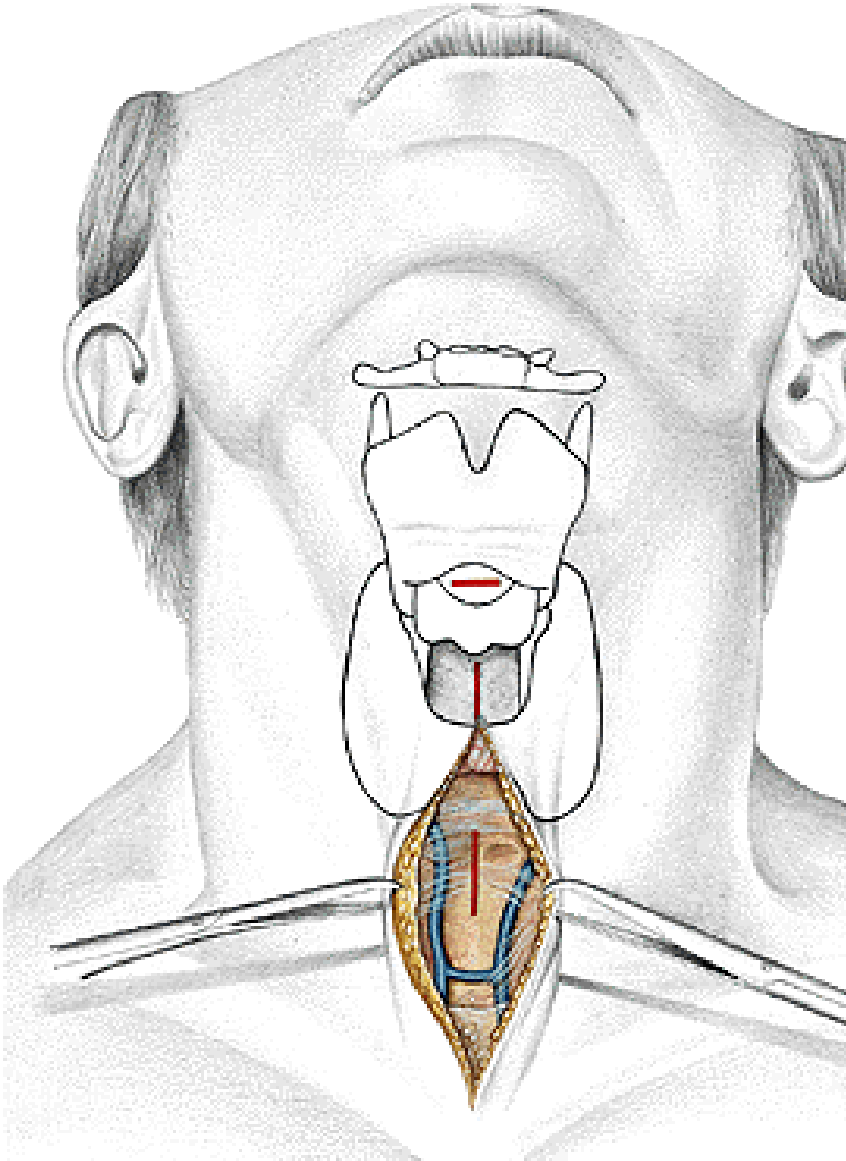
TOPOGRAPHY OF THE TRACHEA

- isthmus glandulae thyroideae
- vv. thyroideae inferiores
- a. carotis communis
- v. jugularis int.
- n. vagus
- oesophagus
- n. laryngeus recurrens
- truncus brachiocephalicus
- v. cava sup.
- v. brachiocephalica sinistra
- arcus aortae





**CONIOTOMIA (CRICOTHYROTOMIA)
TRACHEOTOMIA SUPERIOR
TRACHEOTOMIA INFERIOR**

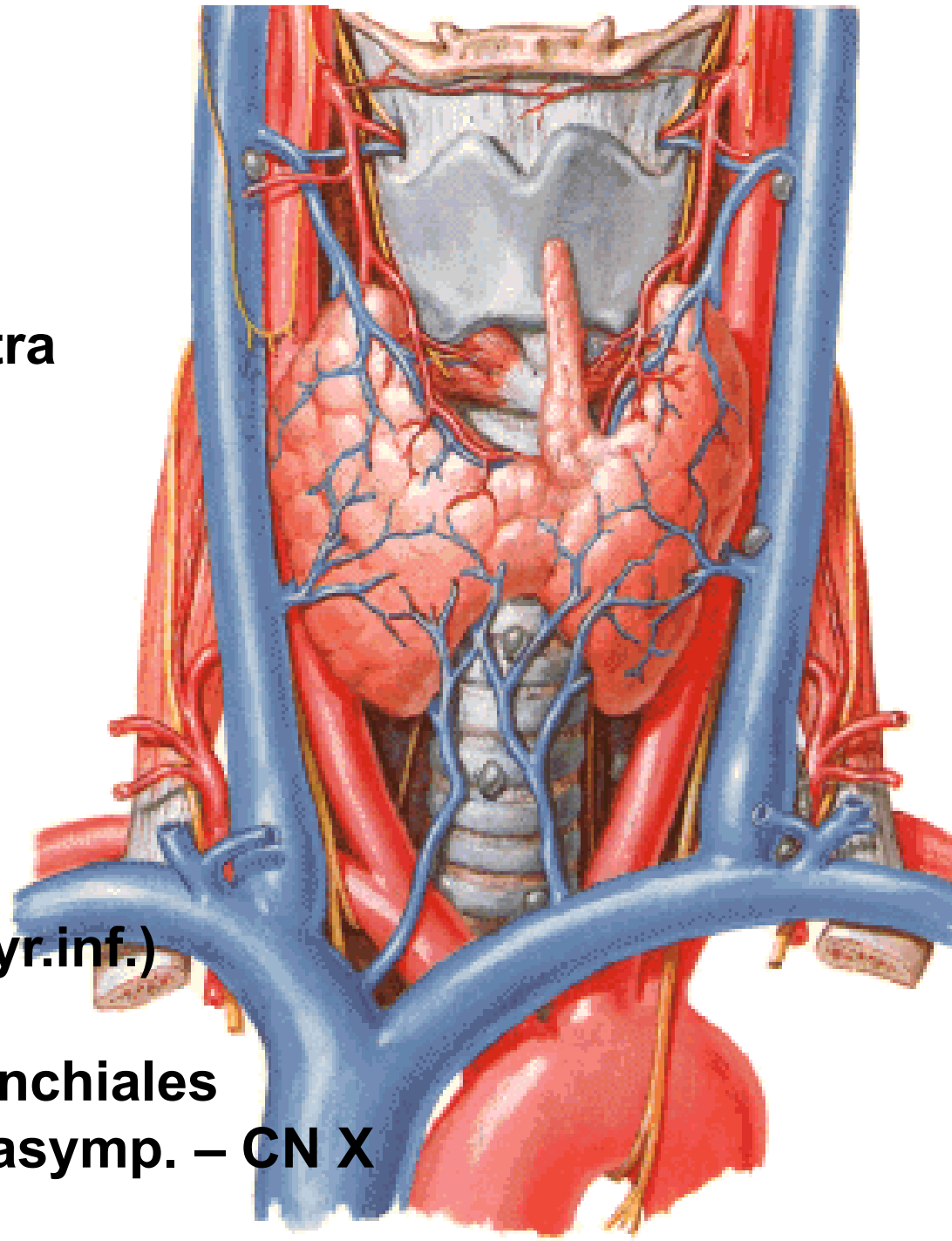


INFERIOR TRACHOTOMY

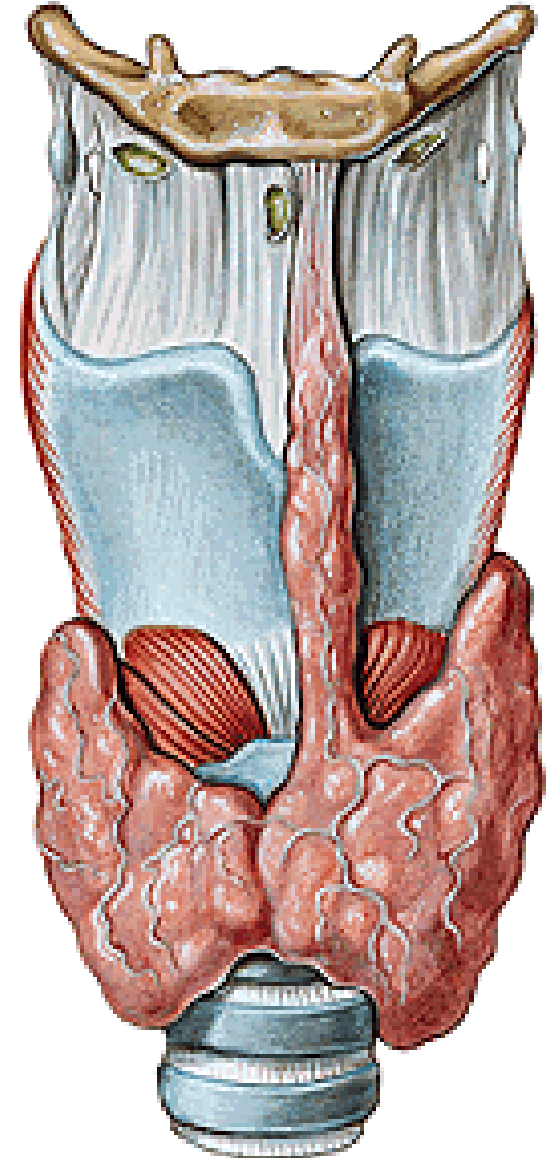
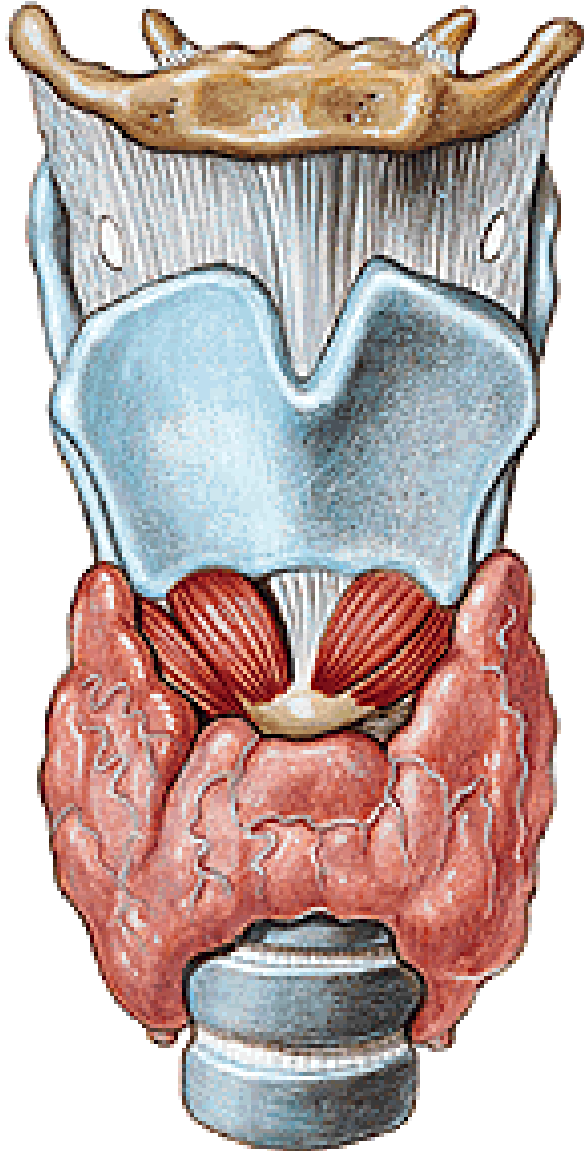
- vv. thyroideae inferiores
- a. thyroidea ima
- v. brachiocephalica sinistra
- arcus venosus juguli
- pleura
- thymus

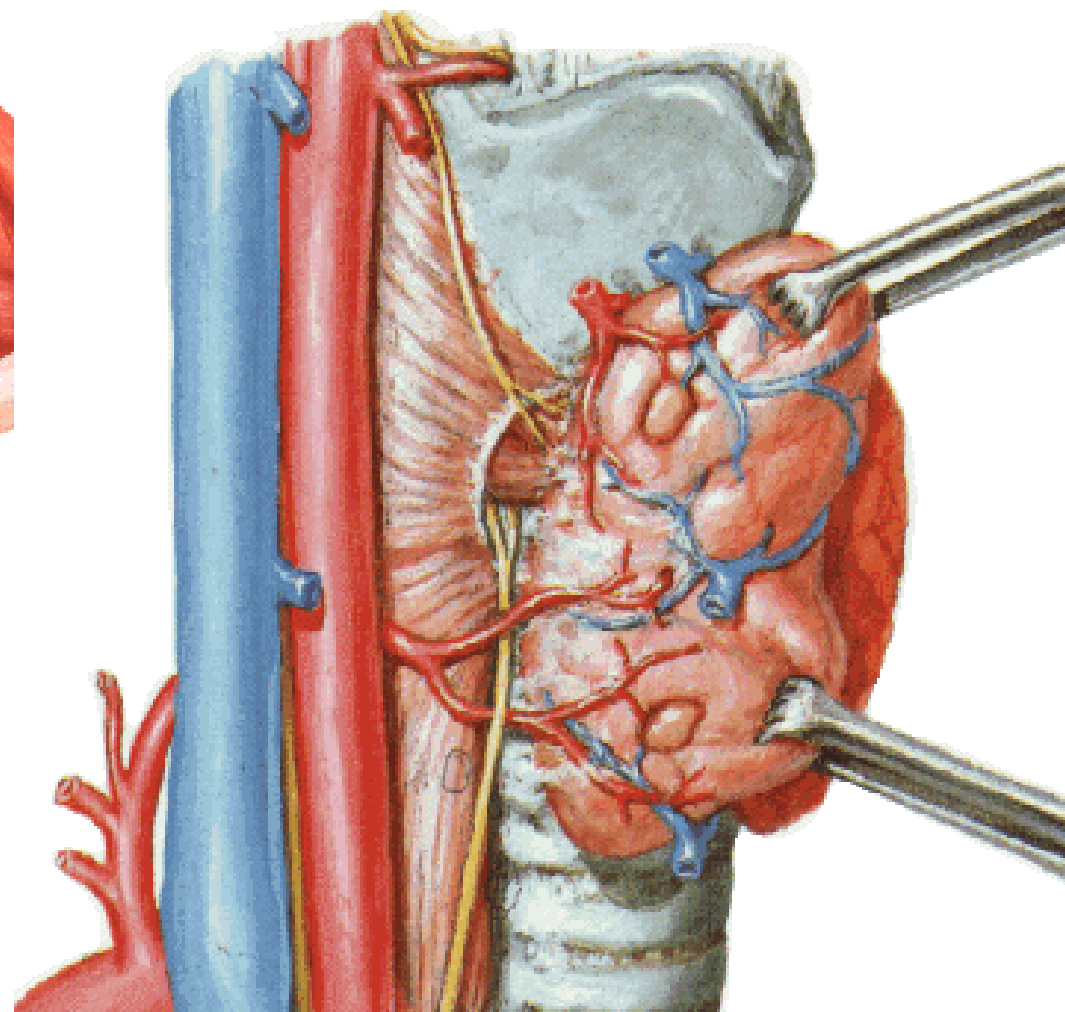
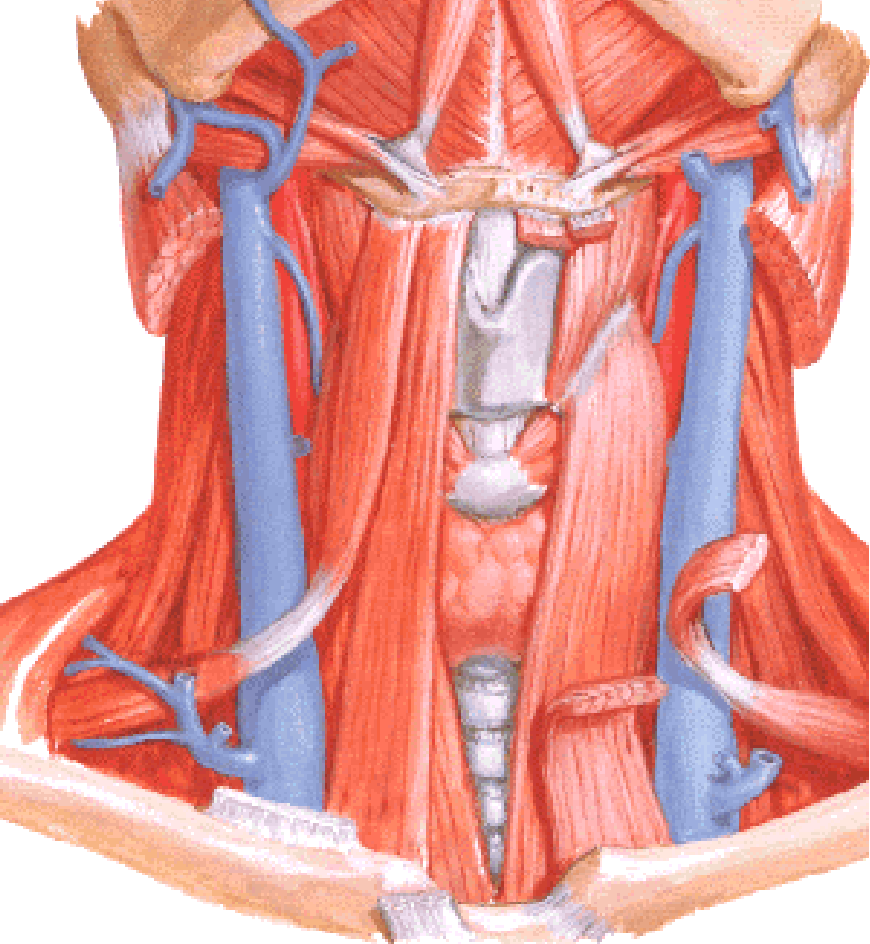
TRACHEOSTOMY

- Aa. tracheales (aorta, a. thyр. inf.)
- V. brachiocephalica sin.
- Nll. tracheales, tracheobronchiales
- Truncus sympathicus, parasymp. – CN X

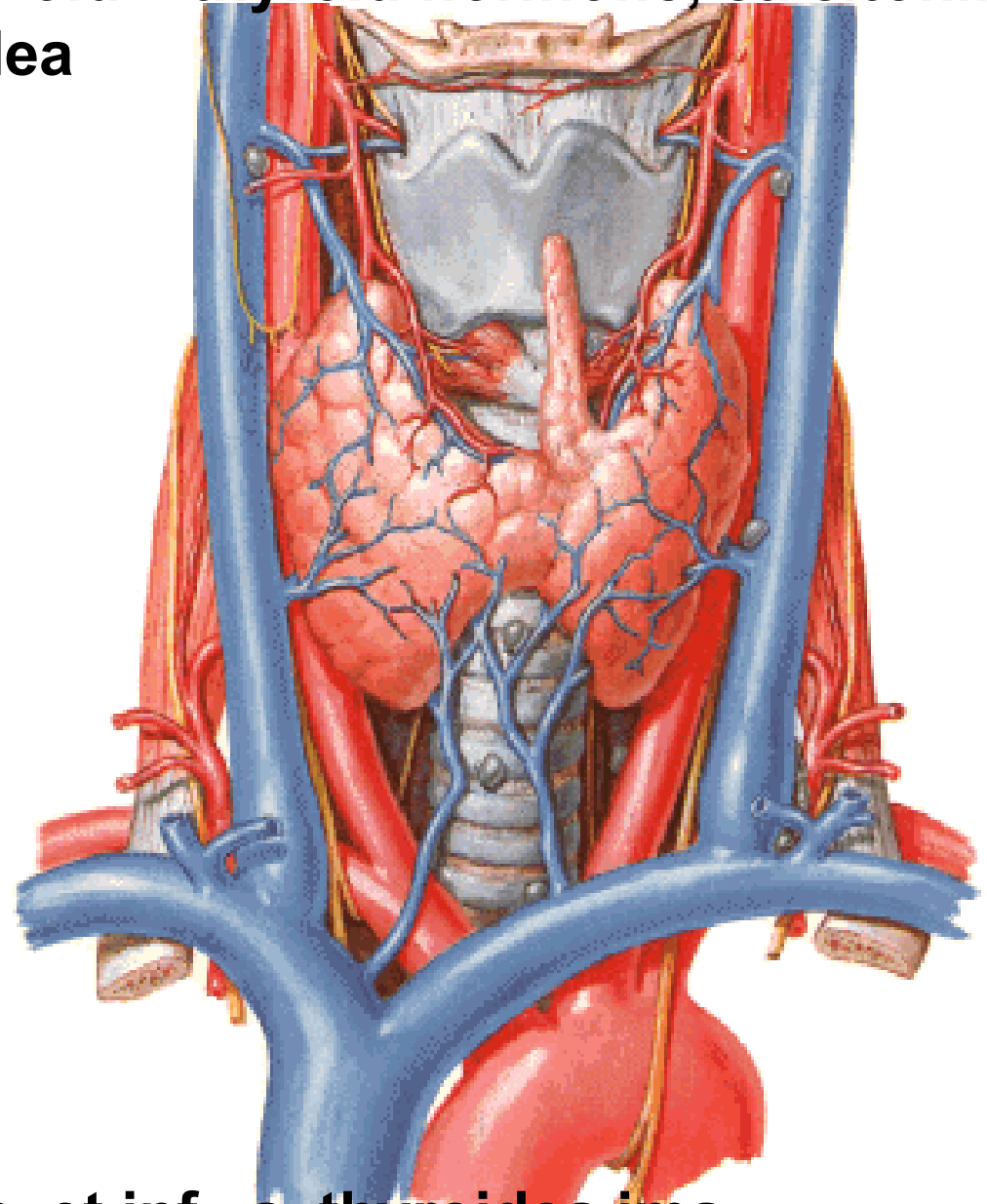
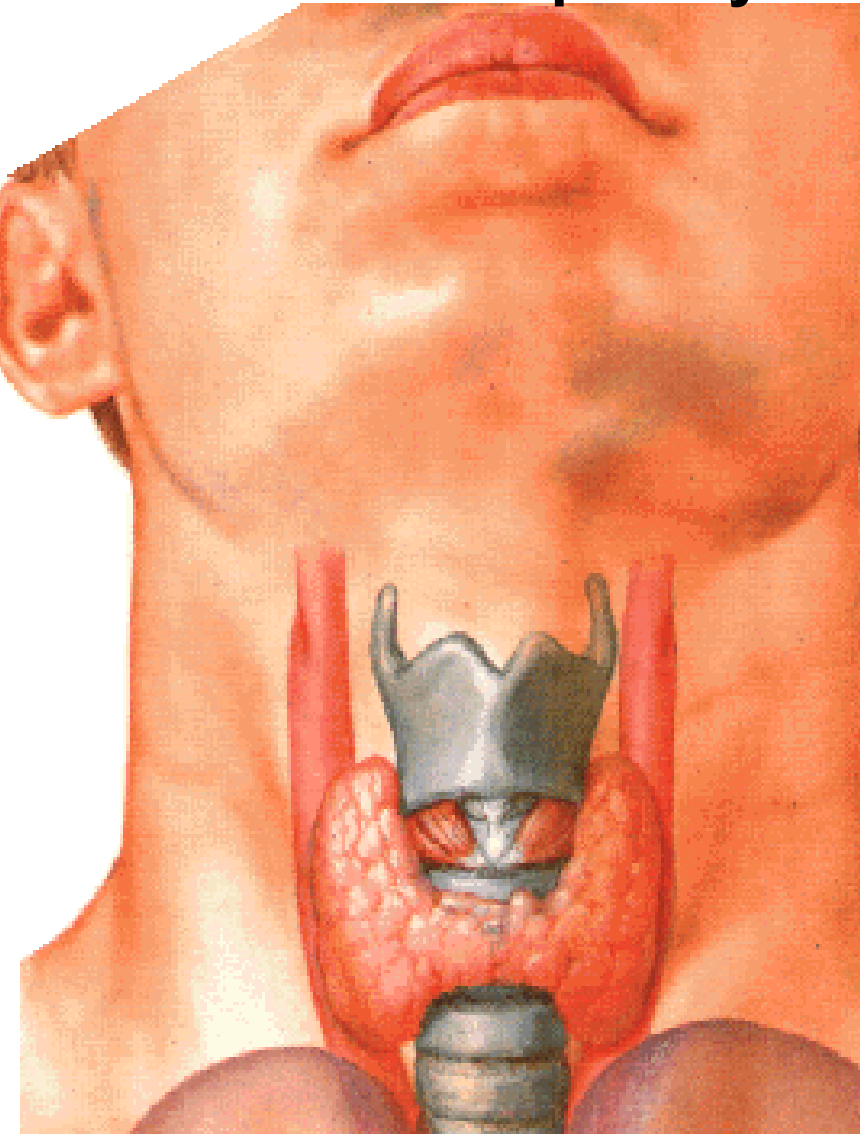


GLANDULA THYROIDEA – lobus dexter
- lobus sinister
- isthmus
- lobus
pyramidalis



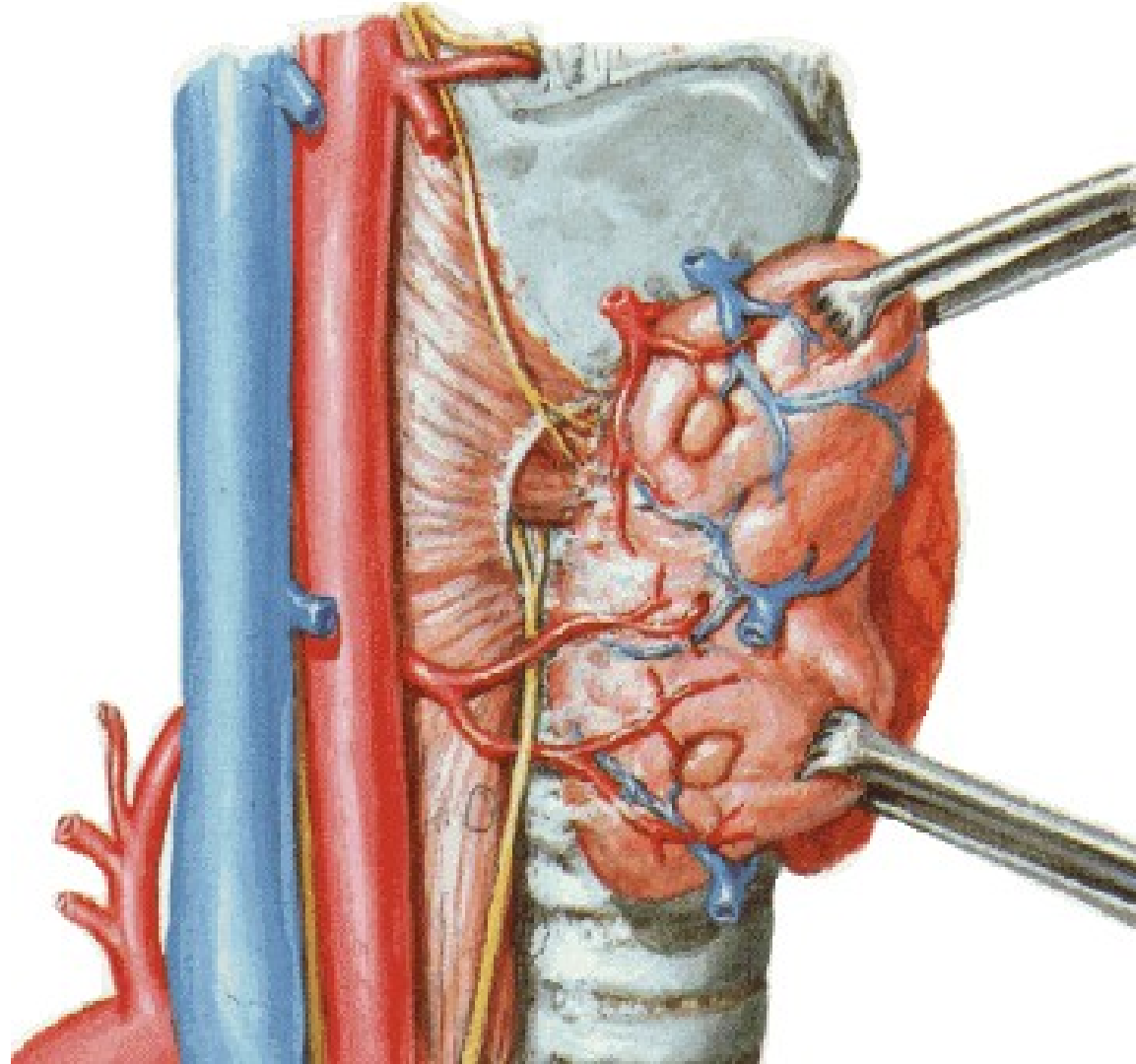
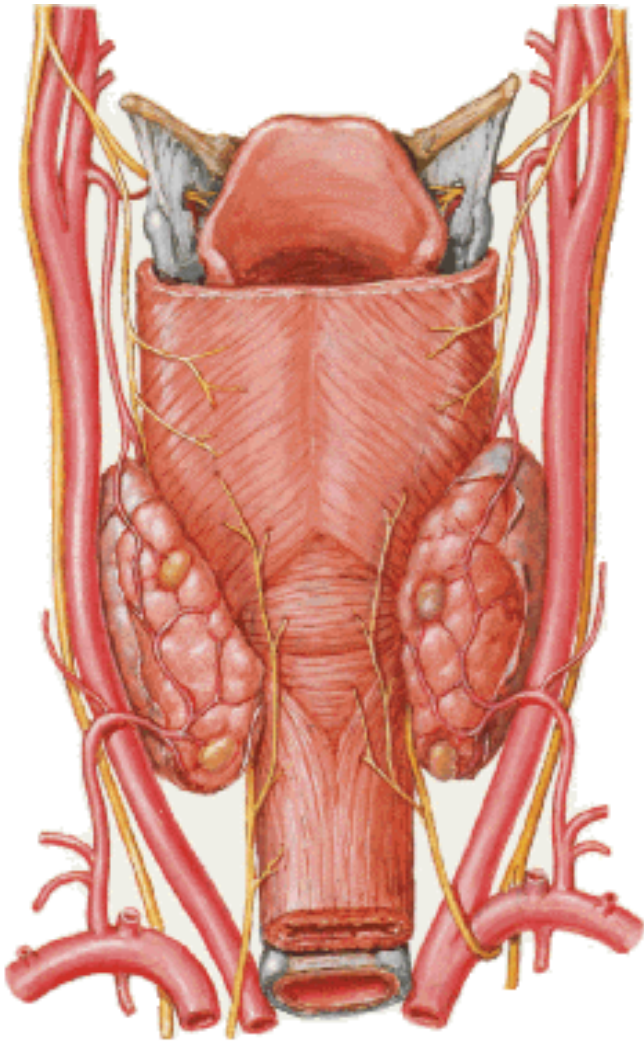


Capsula propria, folliculi, colloid – thyroid hormone, calcitonin
Fascia externa s. perithyroidea



**A. et v. thyroidea sup. et inf., a. thyroidea ima,
nll. cervicales prof., nll. paratracheales**

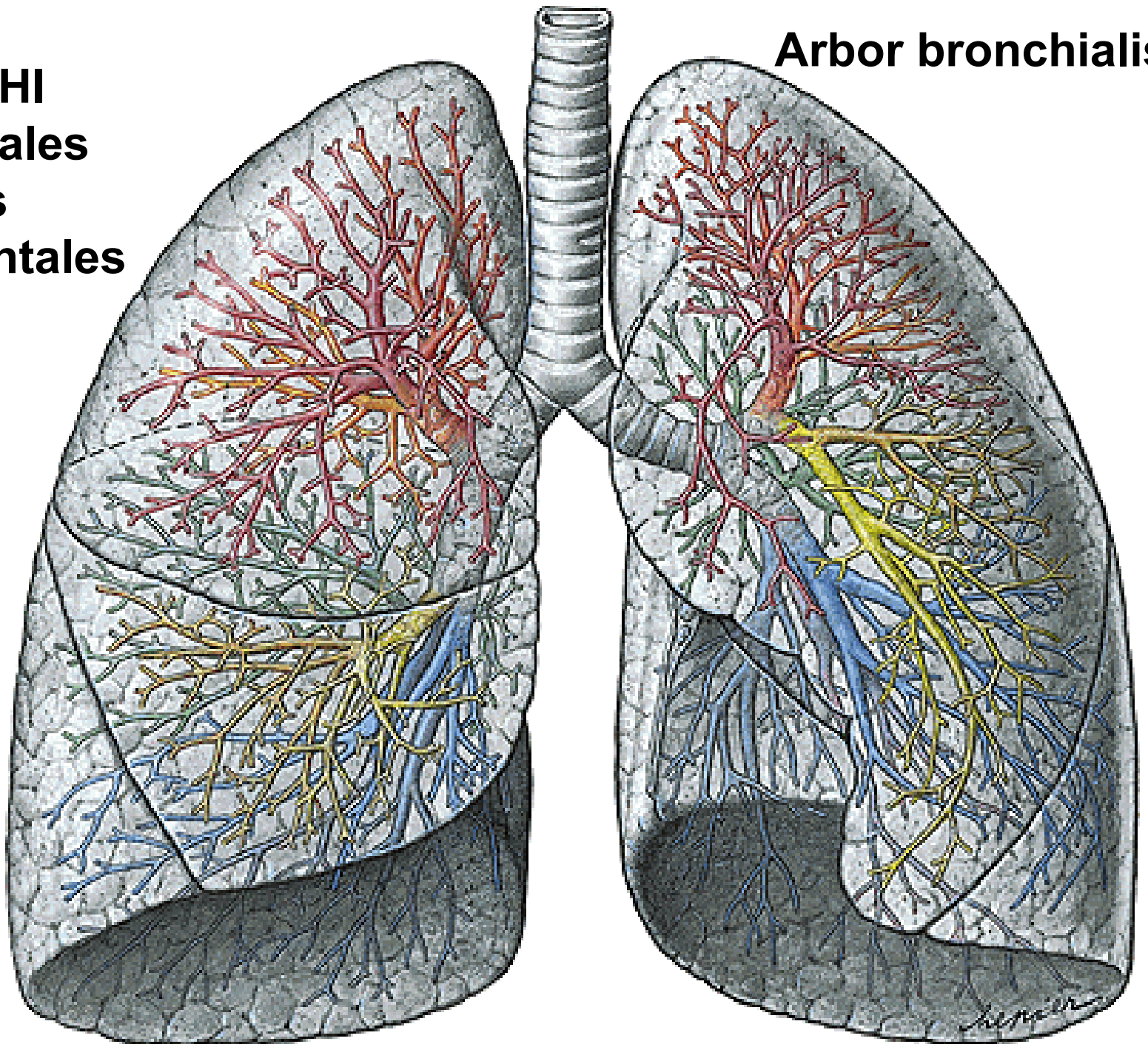
**GLANDULAE PARATHYROIDEAE –sup. et inf.
Parathormone (parathyroid hormone; PTH)**



BRONCHI

- principales
- lobares
- segmentales

Arbor bronchialis



PULMO DEXTER

**lobus superior
medius
inferior
fissura obliqua
fissura horizontalis**



**apex pulmonis
basis pulmonis
(facies diaphragmatica)
facies costalis
margo anterior
inferior
posterior**

PULMO SINISTER

**lobus superior
inferior
fissura obliqua
incisura cardiaca
lingula pulmonis sinistri**



FACIES MEDIASTINALIS

hillum pulmonis

radix pulmonis

lig. pulmonale

sulcus a. subclaviae

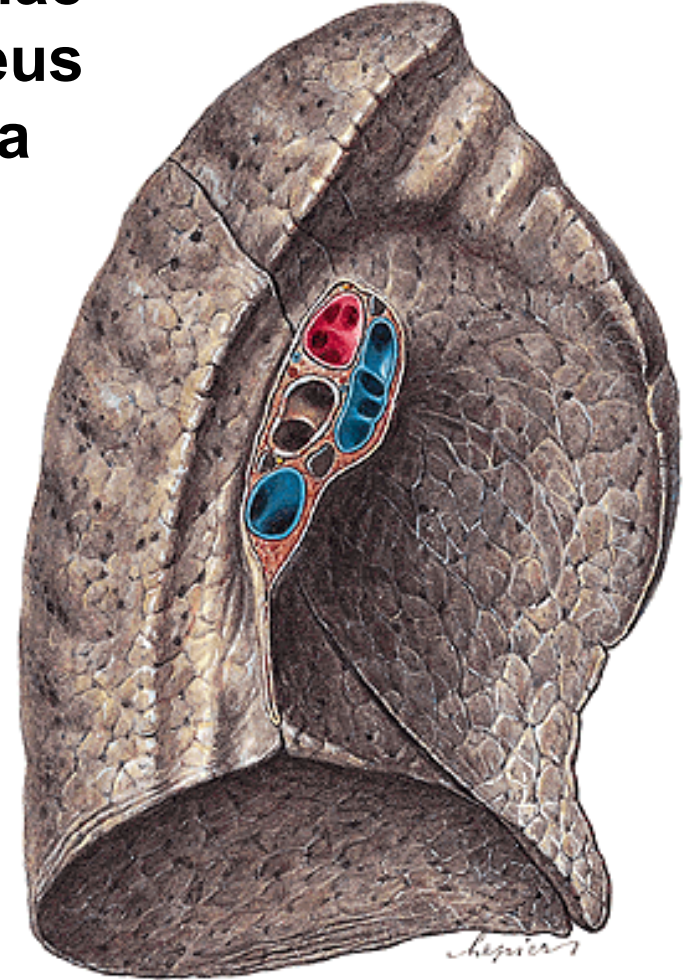
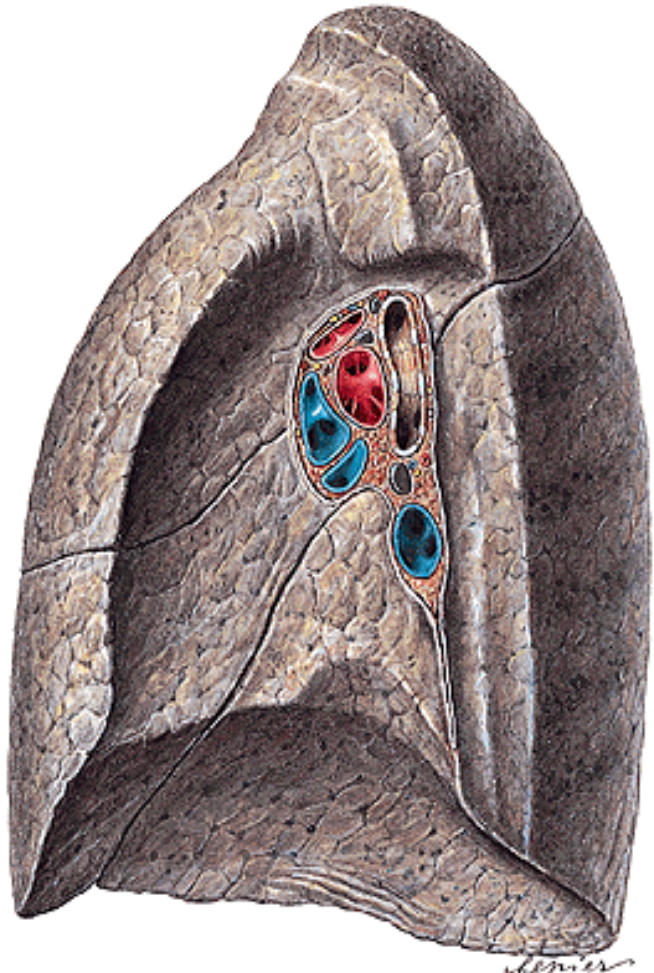
sulcus costae primae

sulcus oesophageus

impressio cardiaca

sulcus v. cavae sup.
sulcus v. azygos

sulcus aorticus



SEGMENTA BRONCHOPULMONALIA DEXTRA

1. s. apicale

2. s. posterius

3. s. anteriorus

4. s. laterale

5. s. mediale

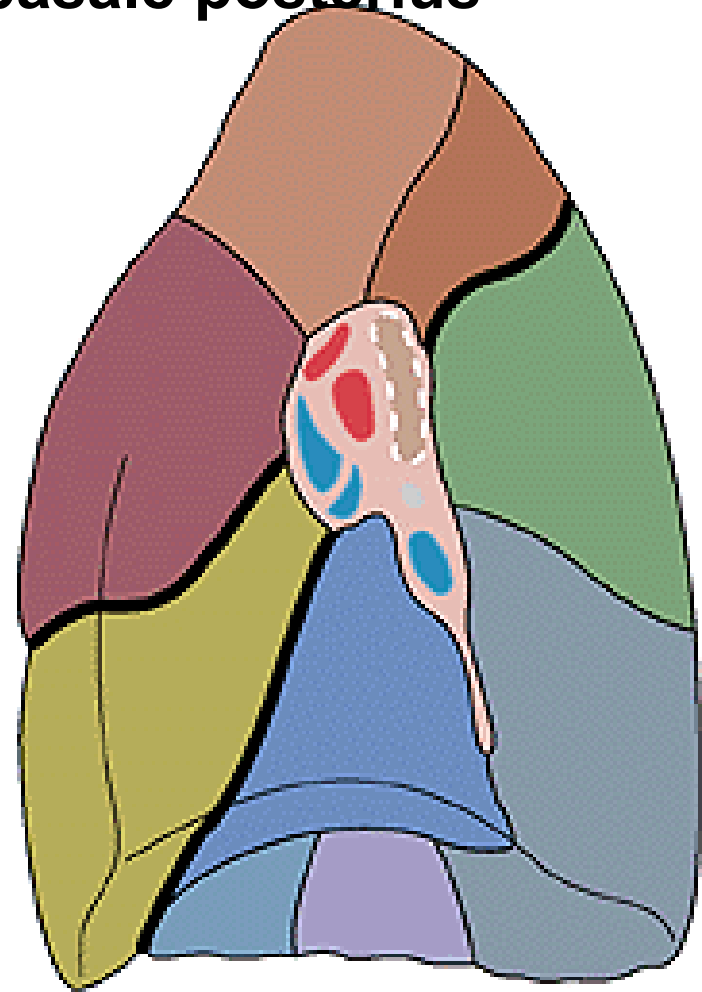
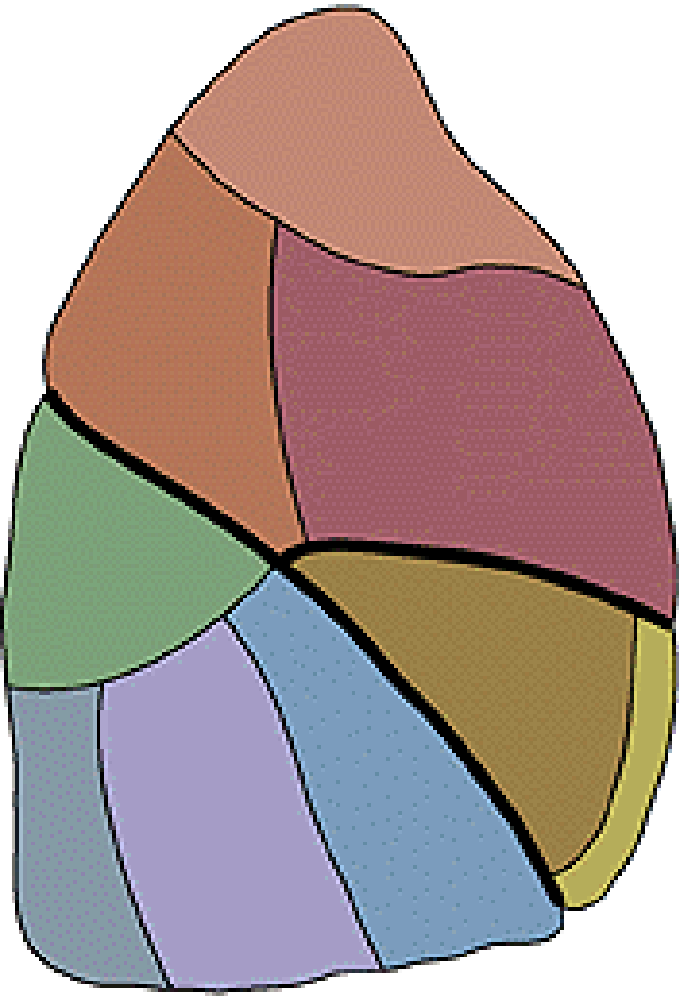
6. s. apicale

7. s. basale mediale

8. s. basale anteriorus

9. s. basale laterale

10. s. basale posterius



SEGMENTA BRONCHOPULMONALIA SINISTRA

1. s. apicoposterius

2. s. apicalis

3. s. anterior

4. s. lingulare superius

5. s. lingulare inferius

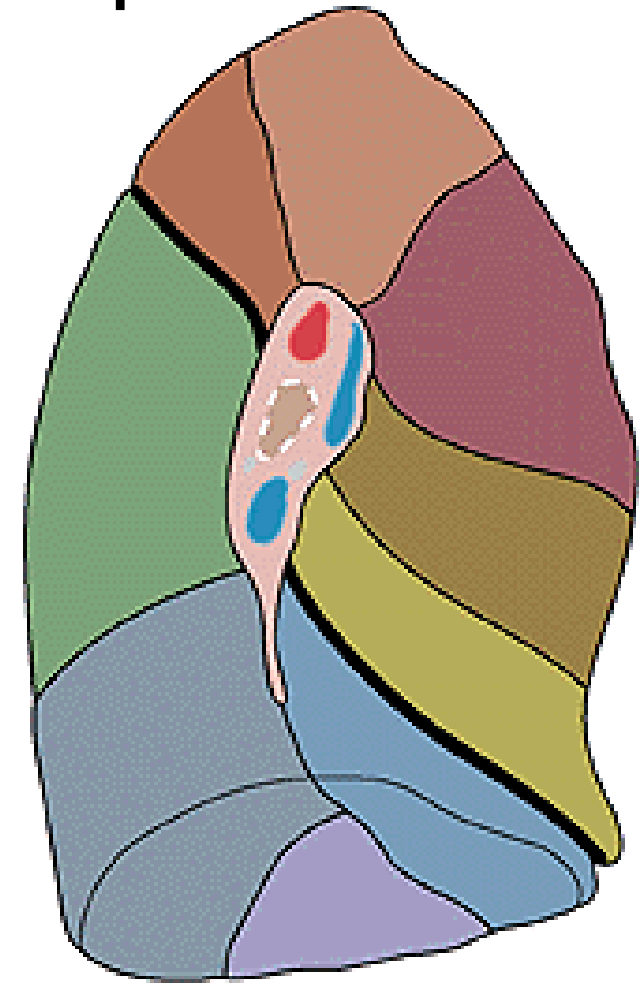
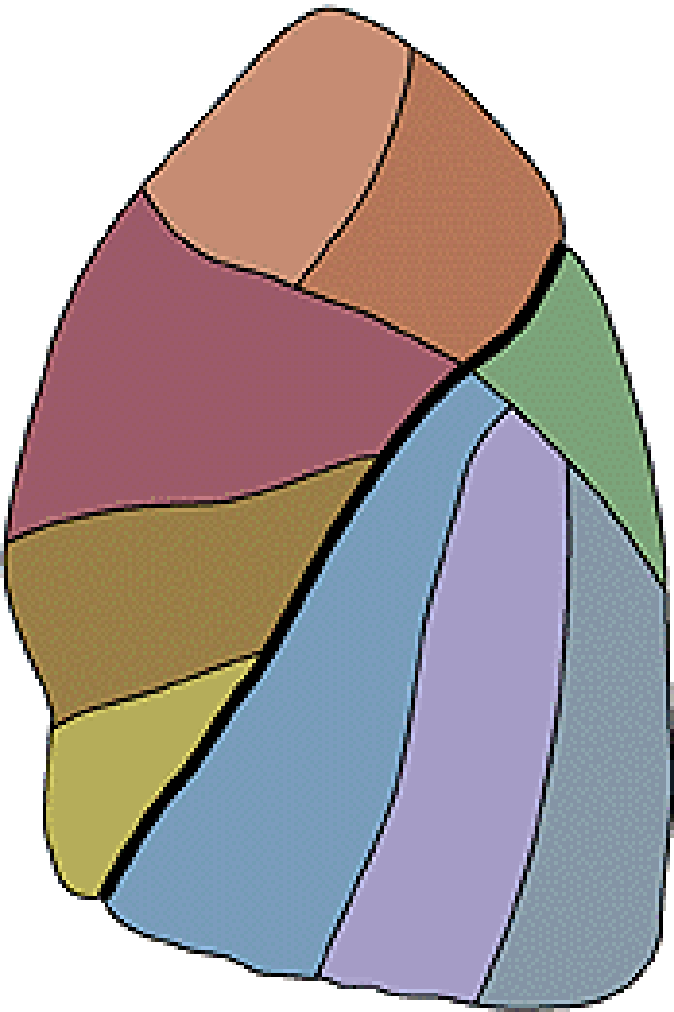
6. s. apicale

(7. s. basale mediale)

8. s. basale anterior

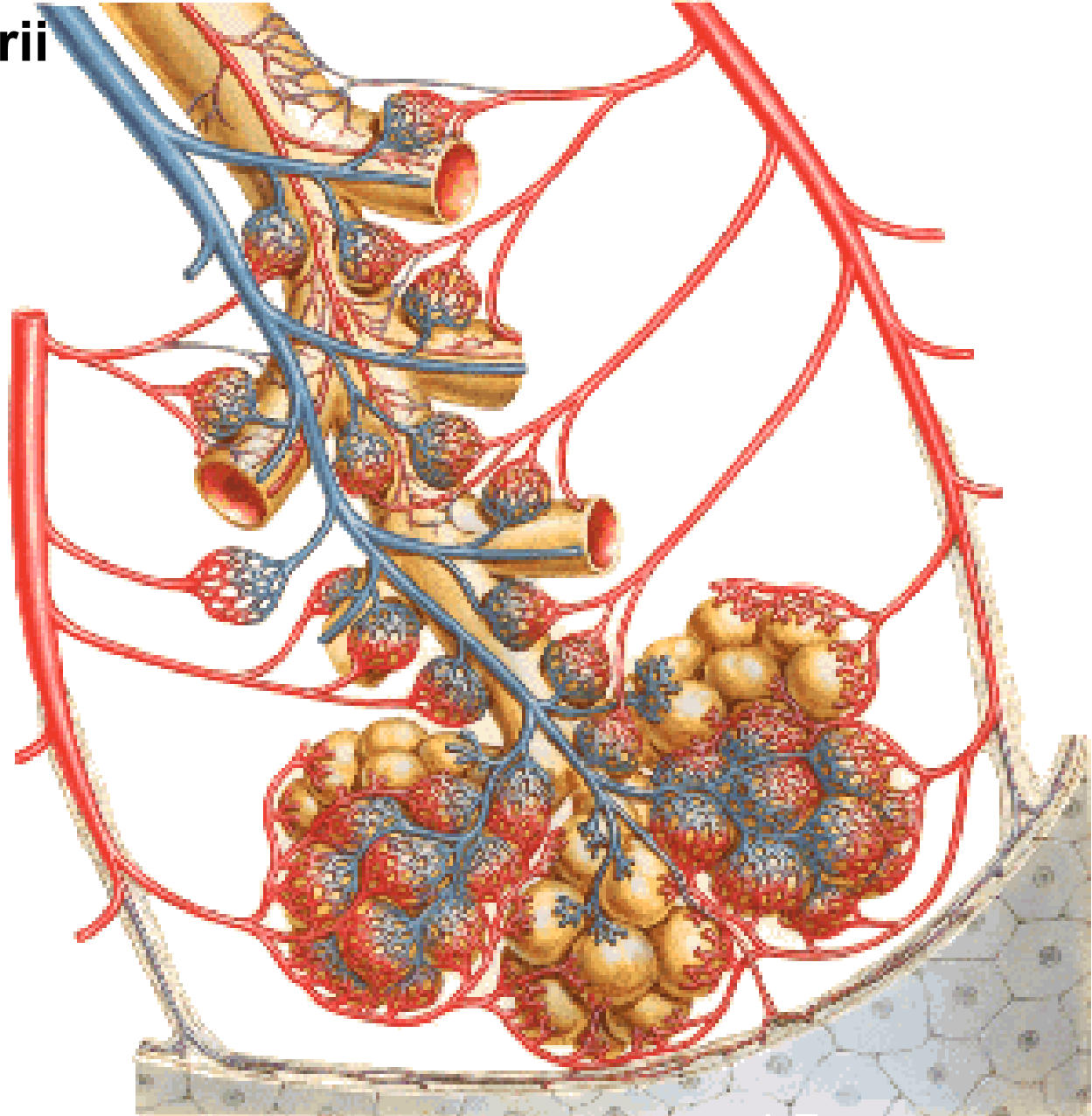
9. s. basale laterale

10. s. basale posterius



Bronchioli terminales
Bronchioli respiratorii
Ductuli alveolares
Sacculi alveolares
Alveoli pulmonis

Asthma bronchiale

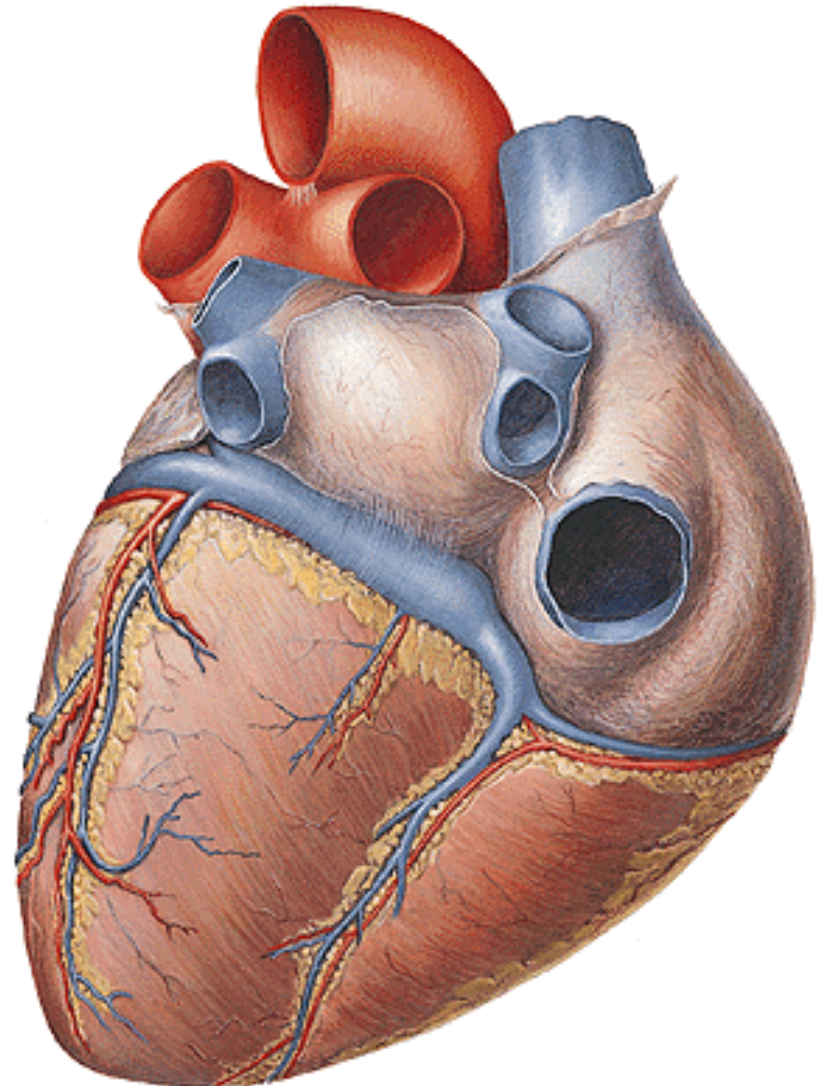
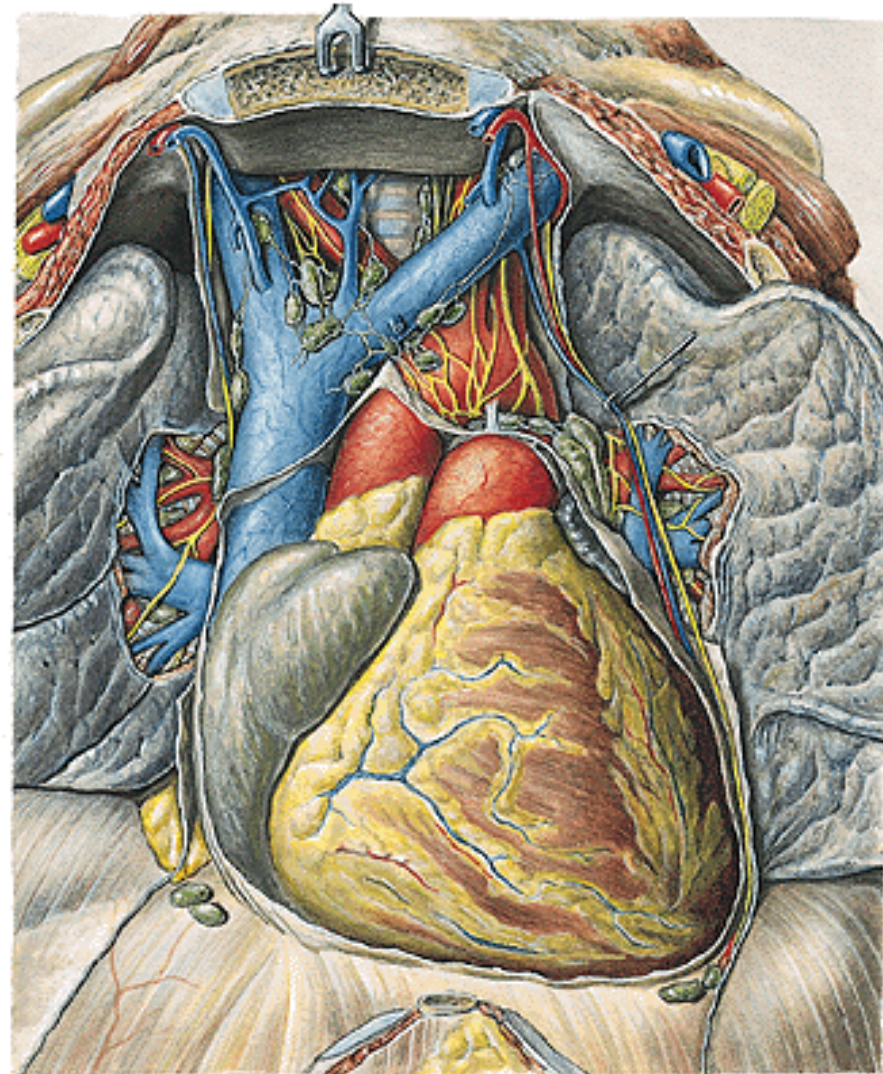


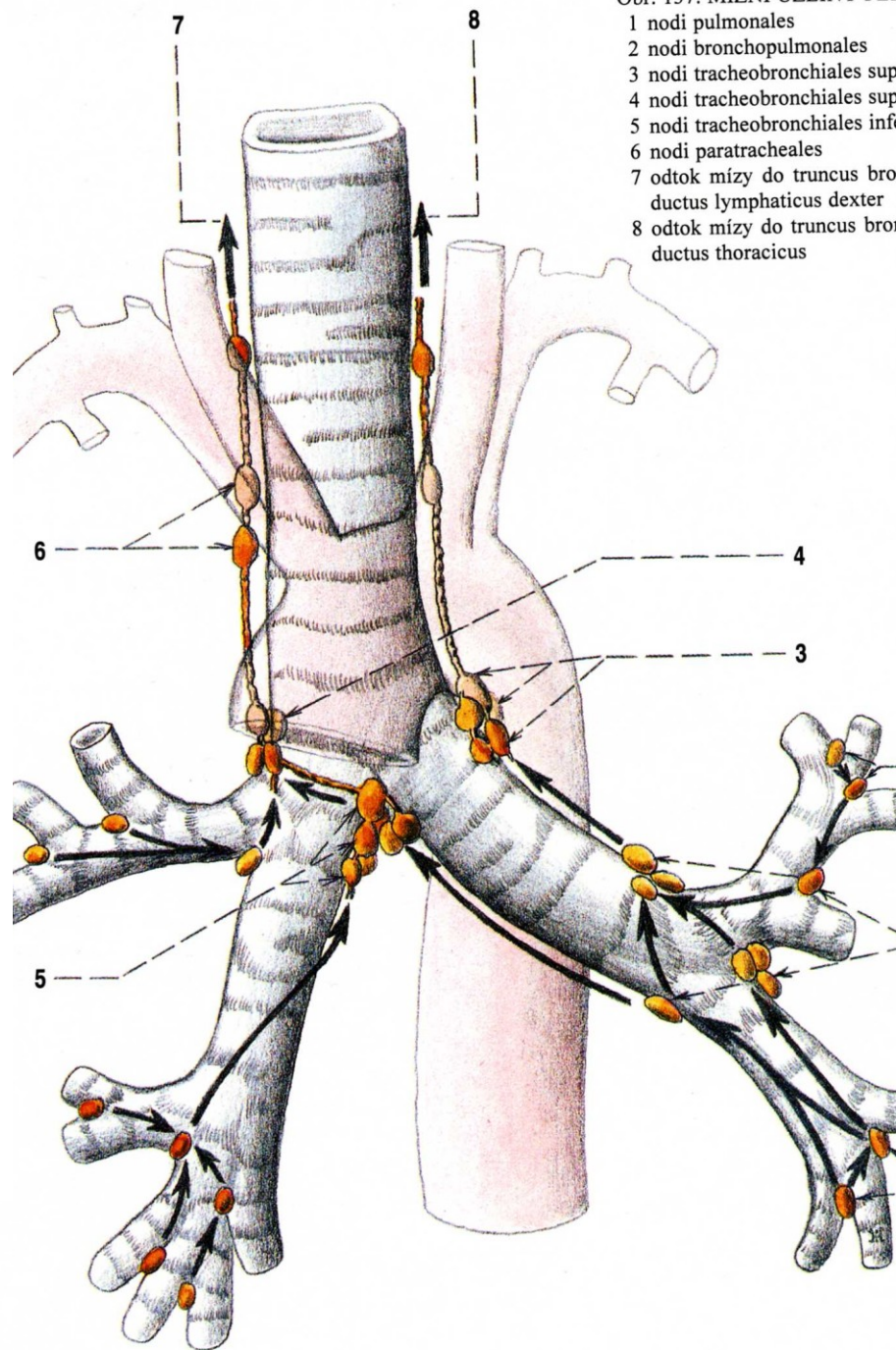
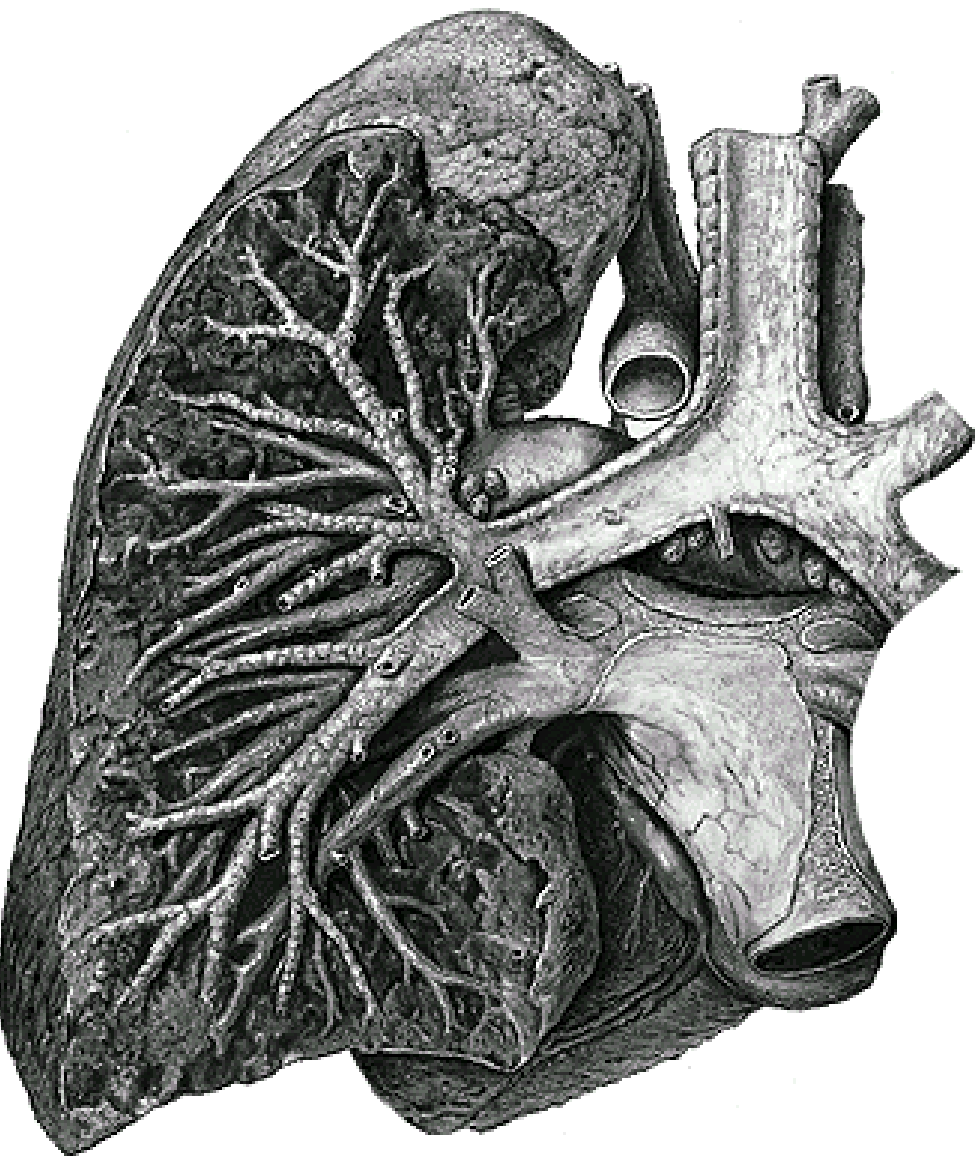
Truncus pulmonalis → a. pulmonalis dx. et sin.

Vv. pulmonales → atrium sinistrum

Aorta thoracica → aa. bronchiales

Vv. bronchiales → v. azygos, v. hemiazygos accessoria





Obr. 137. MÍZNÍ UZLINY PLÍ

- 1 nodi pulmonales
- 2 nodi bronchopulmonales
- 3 nodi tracheobronchiales sup
- 4 nodi tracheobronchiales sup
- 5 nodi tracheobronchiales inf
- 6 nodi paratracheales
- 7 odtok mízy do truncus bronchialis
ductus lymphaticus dexter
- 8 odtok mízy do truncus bronchialis
ductus thoracicus

PLEURA - visceralis

- parietalis - costalis

- diaphragmatica

- mediastinalis

Cavitas pleuralis

Cupula pleurae – lig. scaleno-, vertebro-, costopleurale

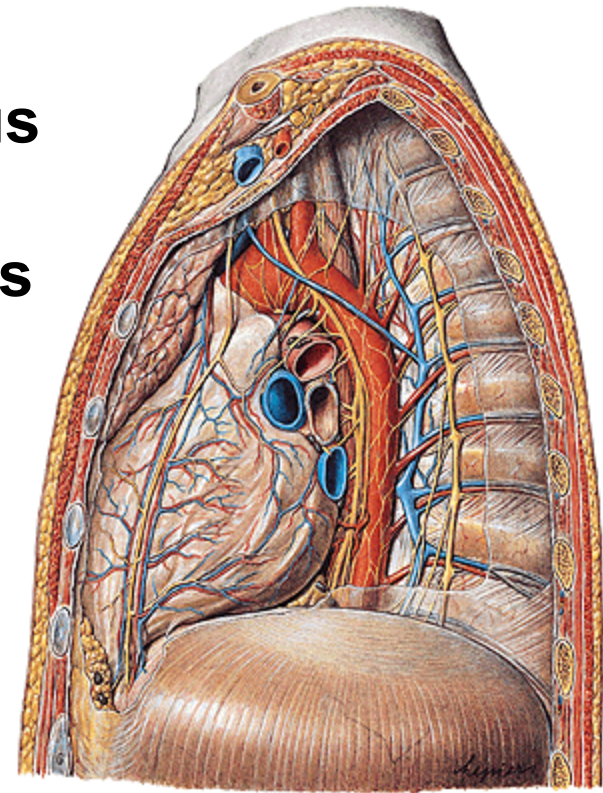
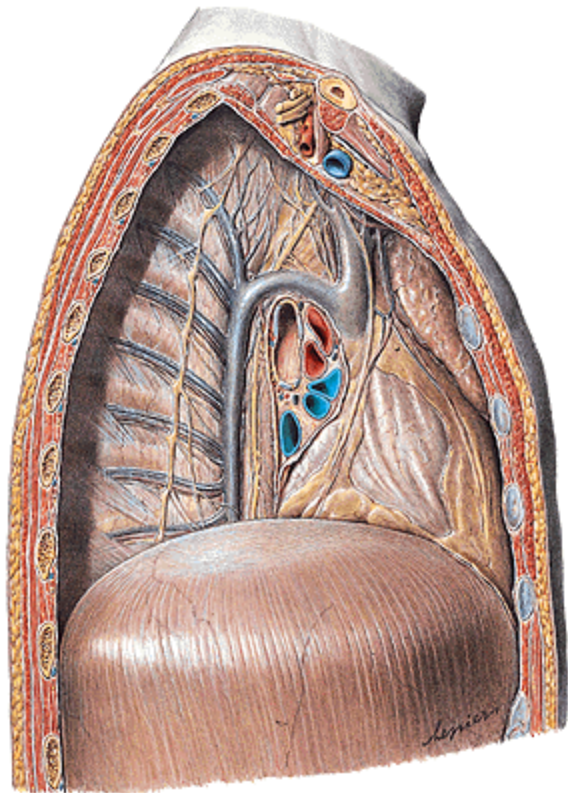
Recessus pleurae:

r. costodiaphragmaticus

r. costomediastinalis

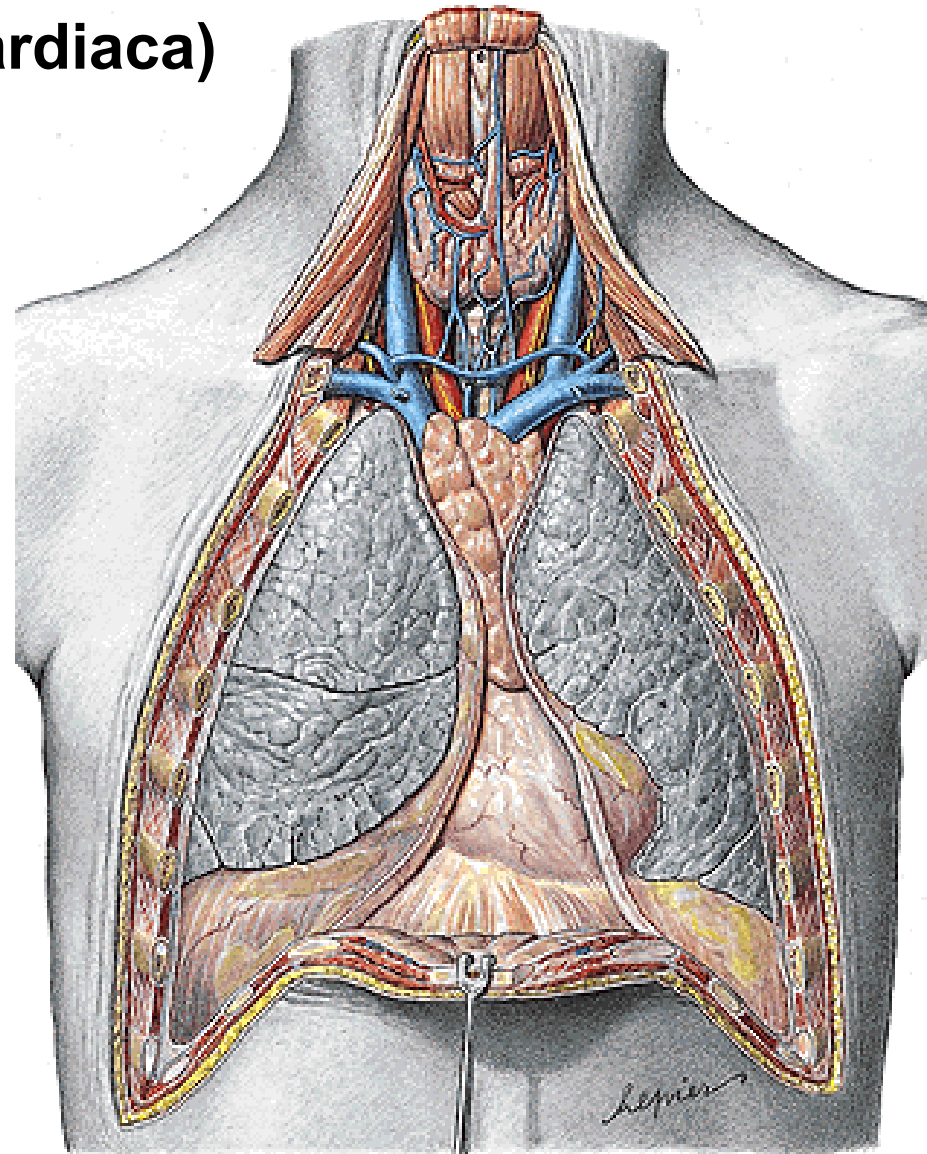
r. phrenicomediastinalis

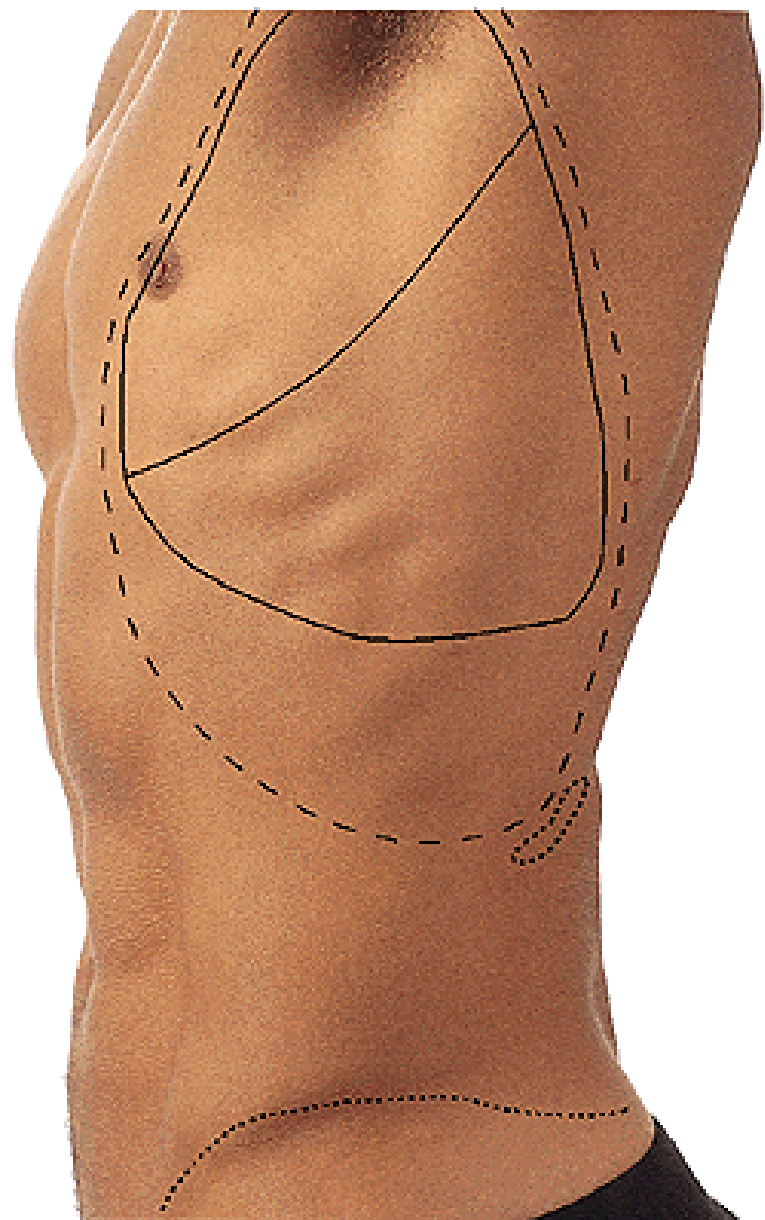
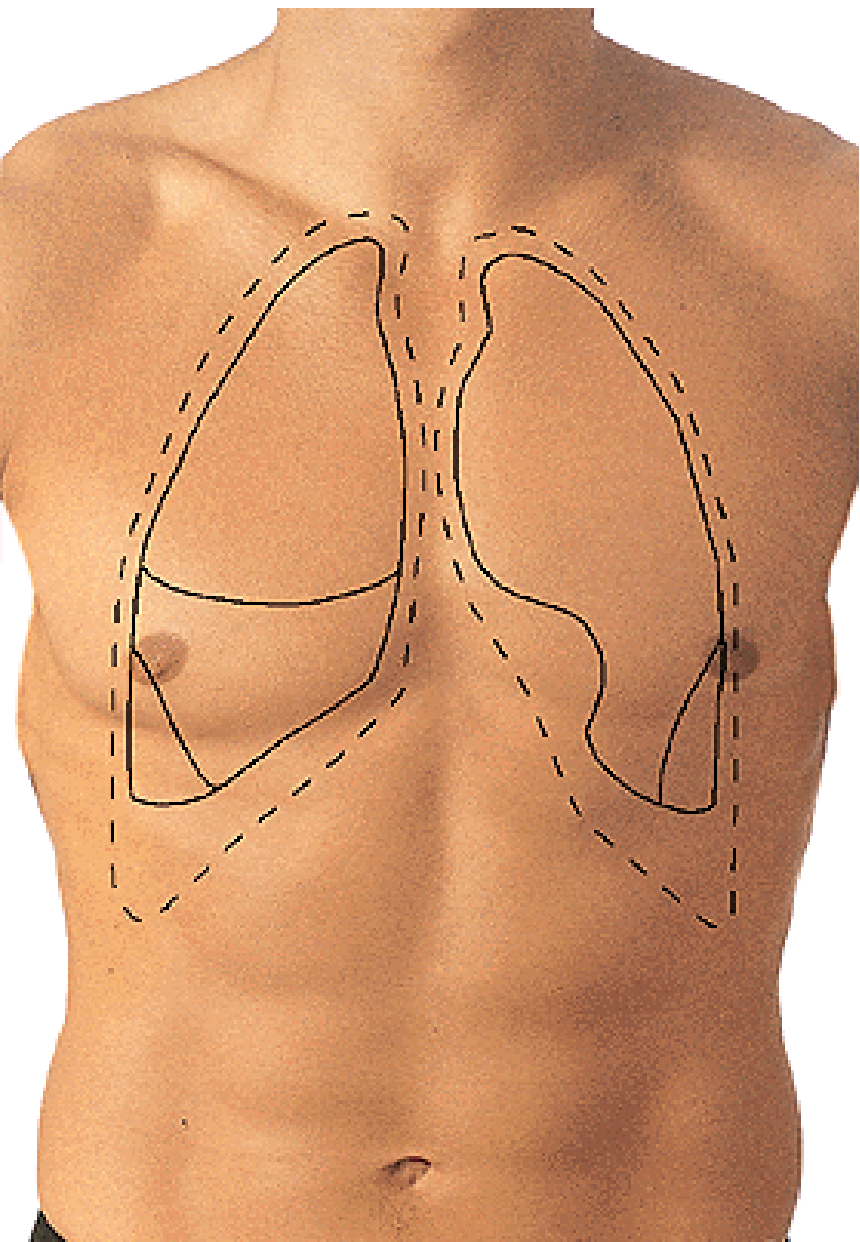
Pneumothorax

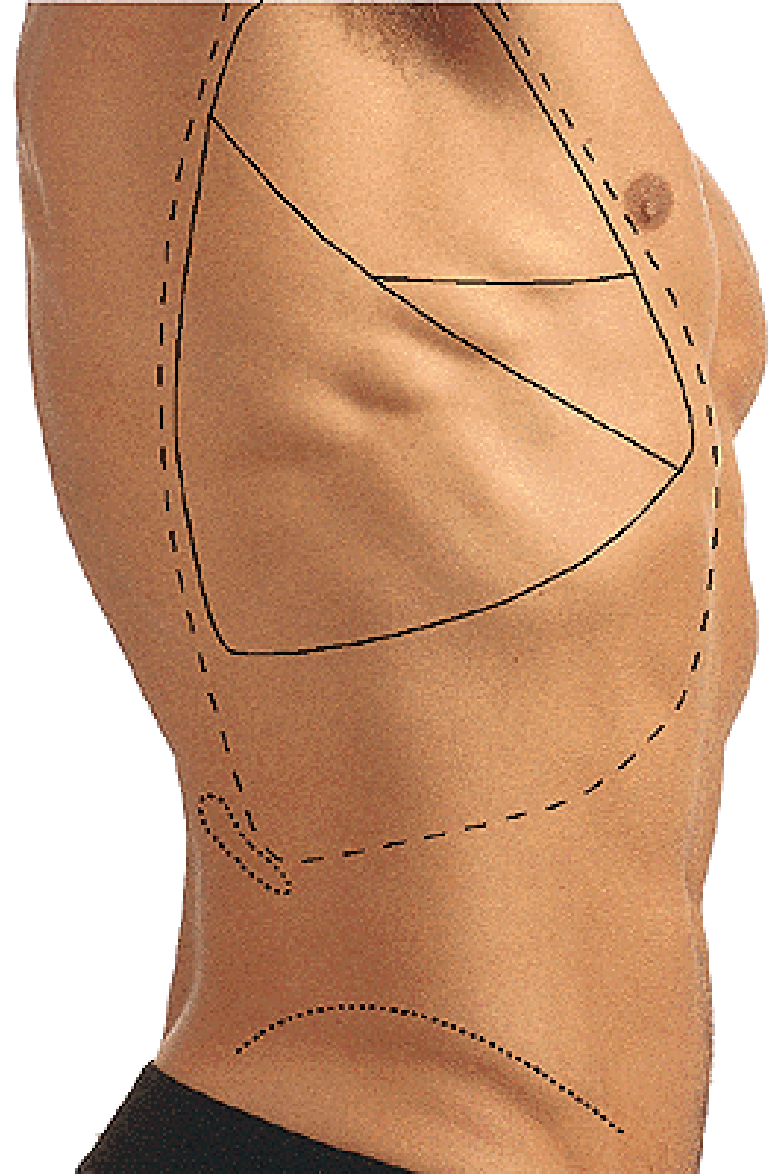


Area interpleuralis sup. (thymica)

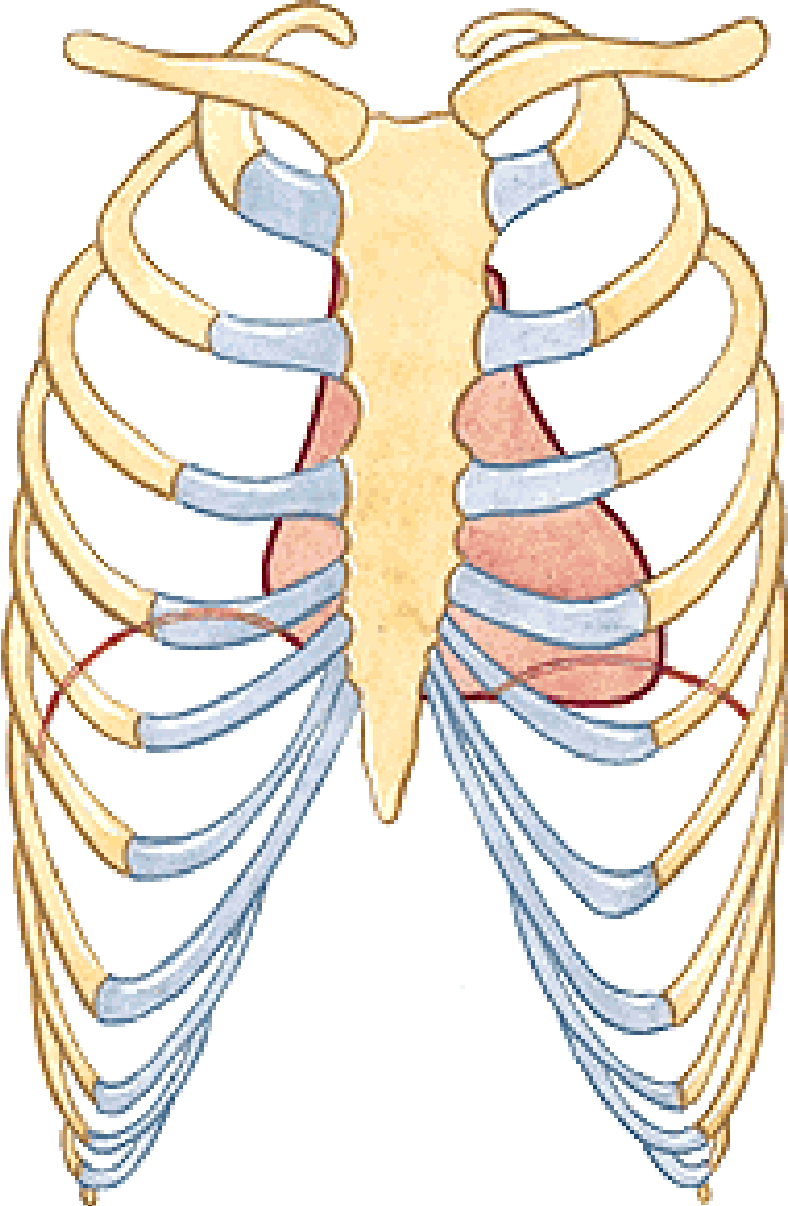
Area interpleuralis inf. (pericardiaca)



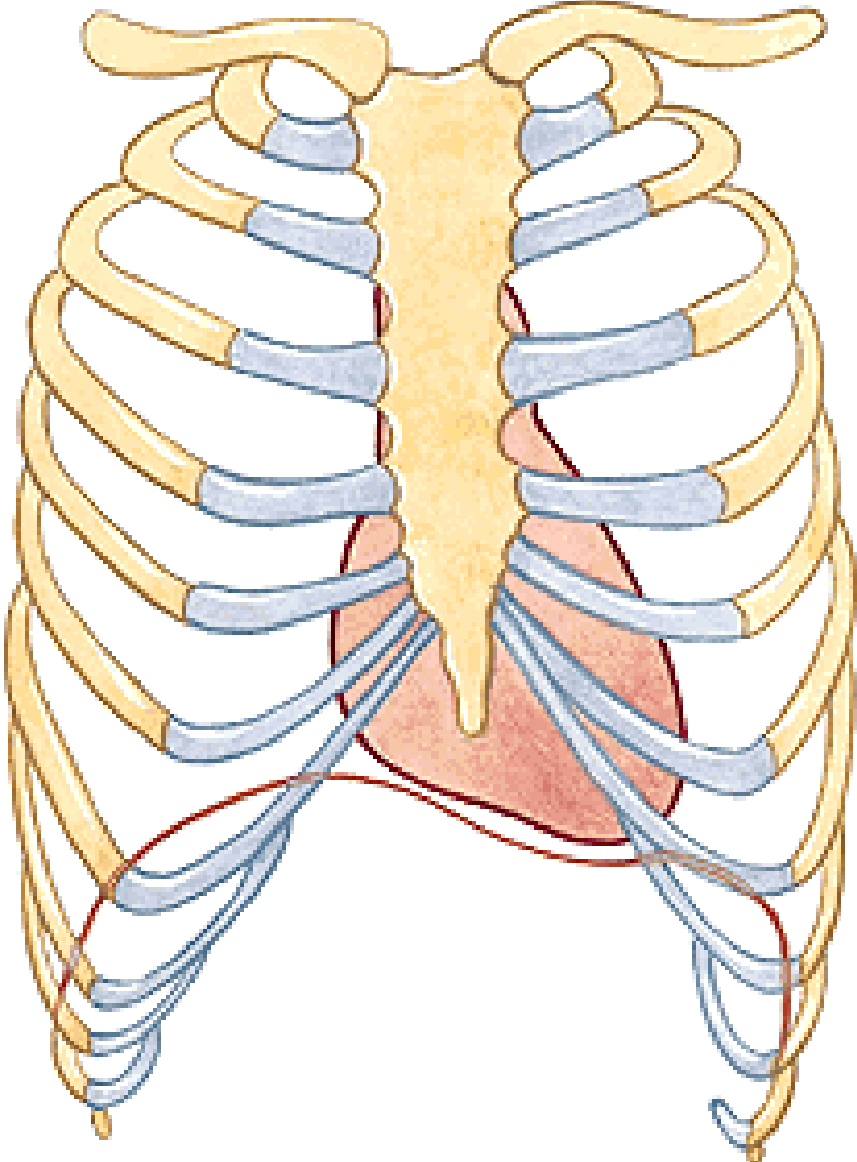




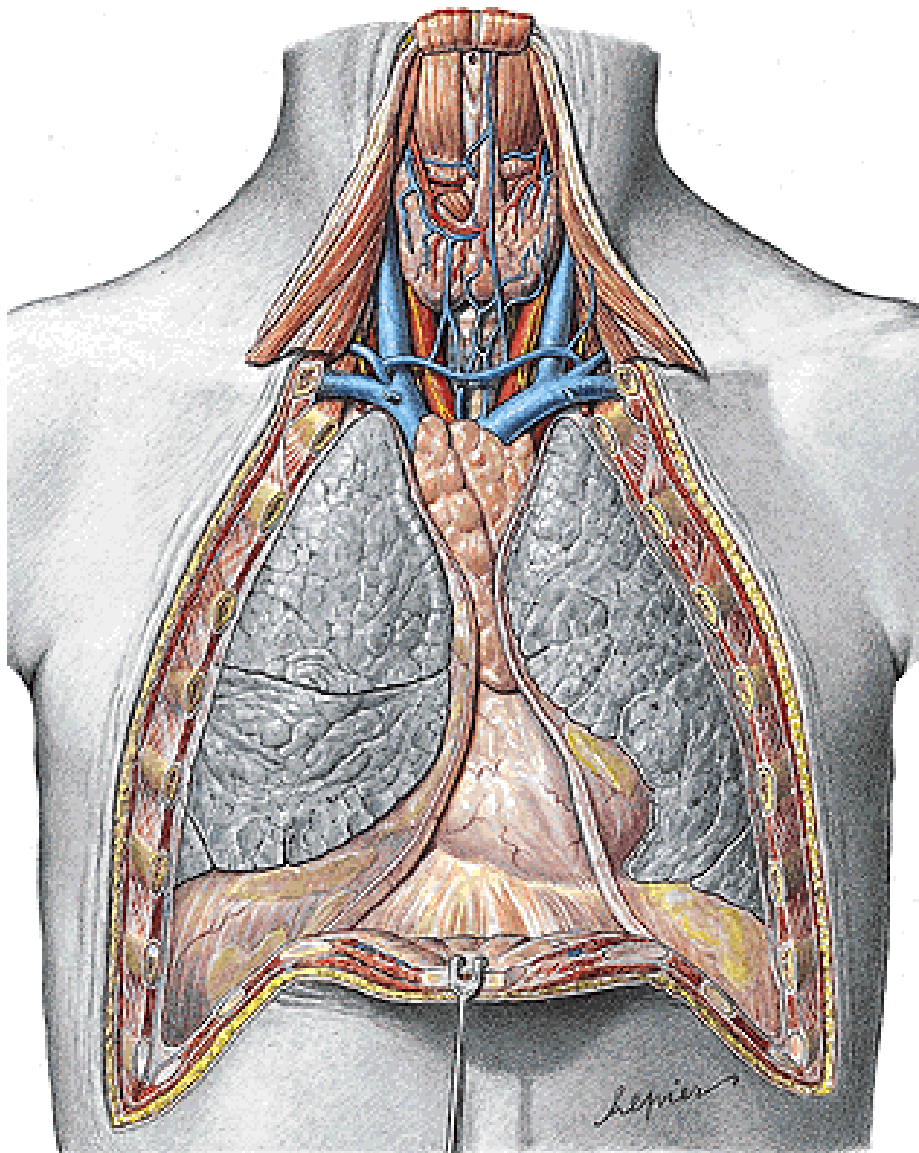
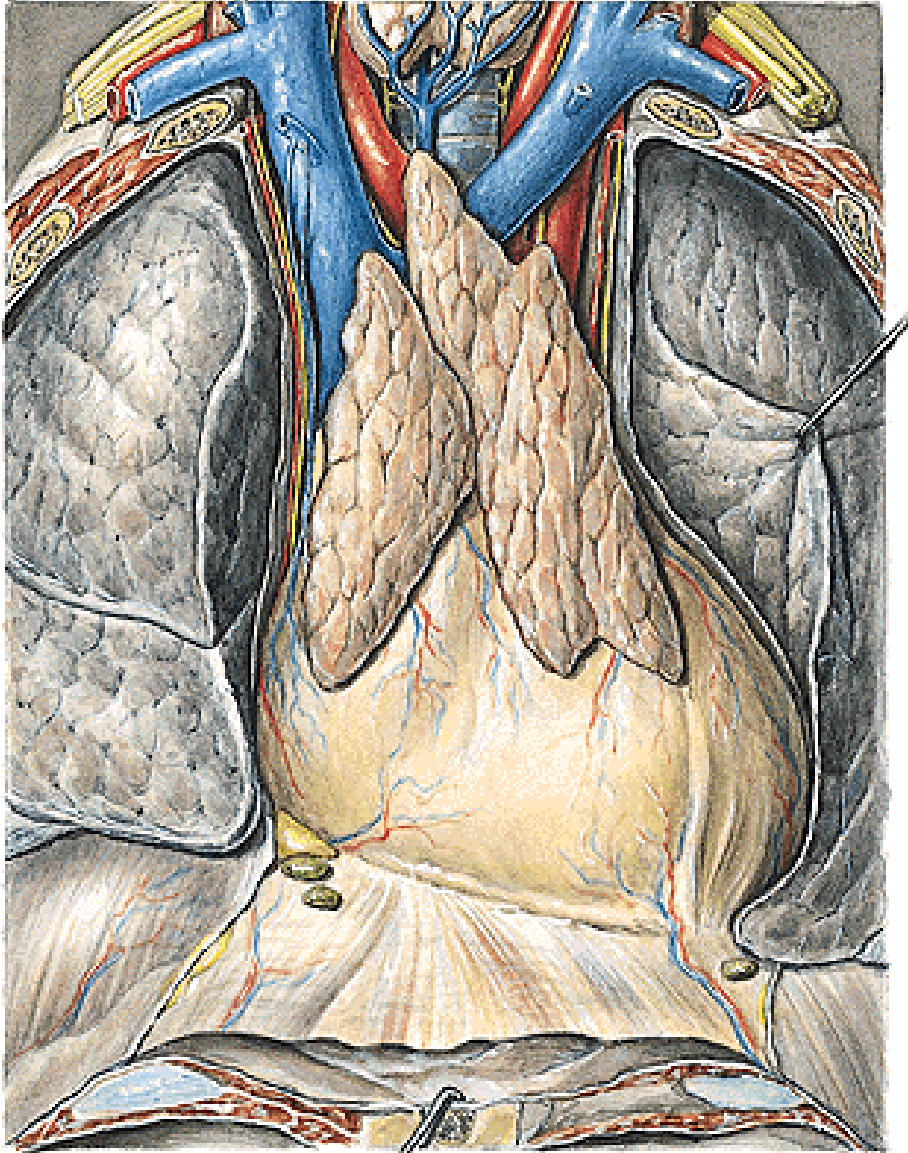
EXPIRATION



INSPIRATION

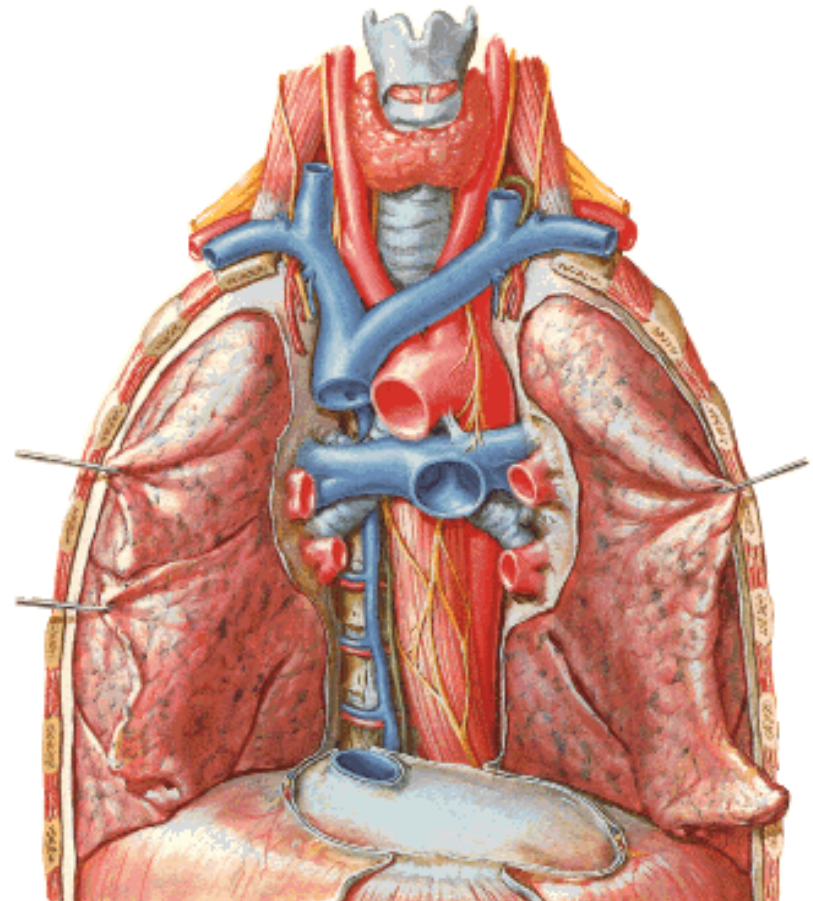
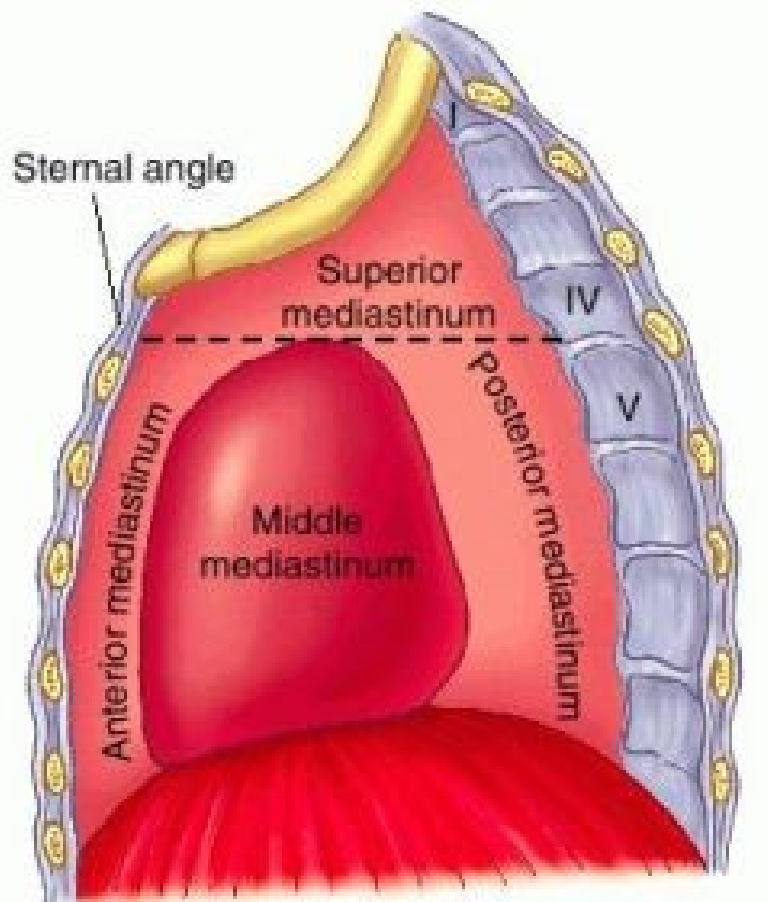
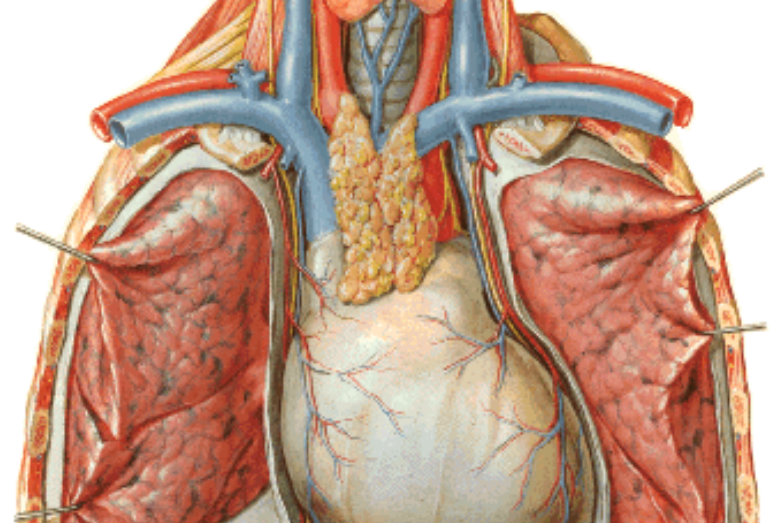


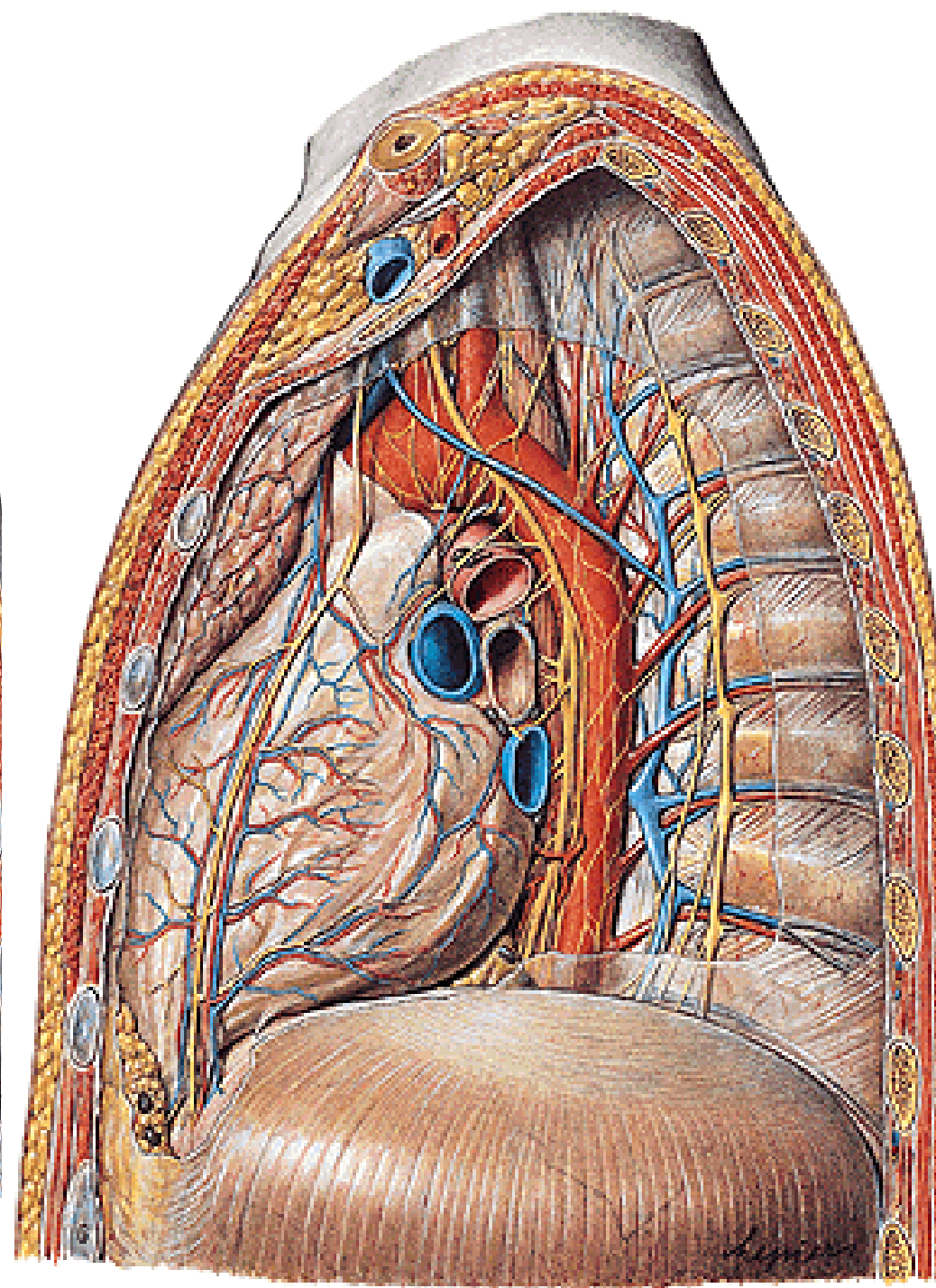
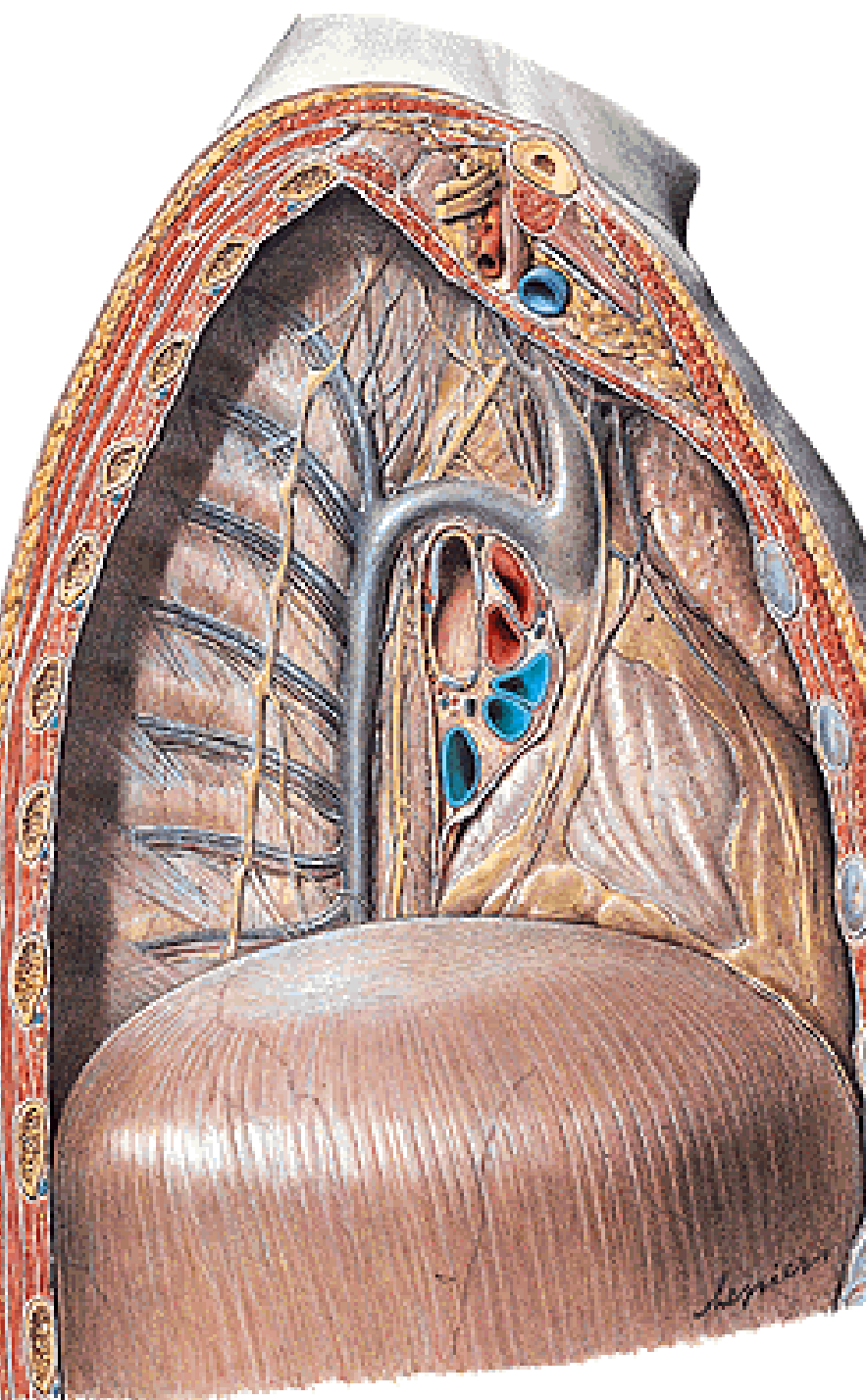
THYMUS

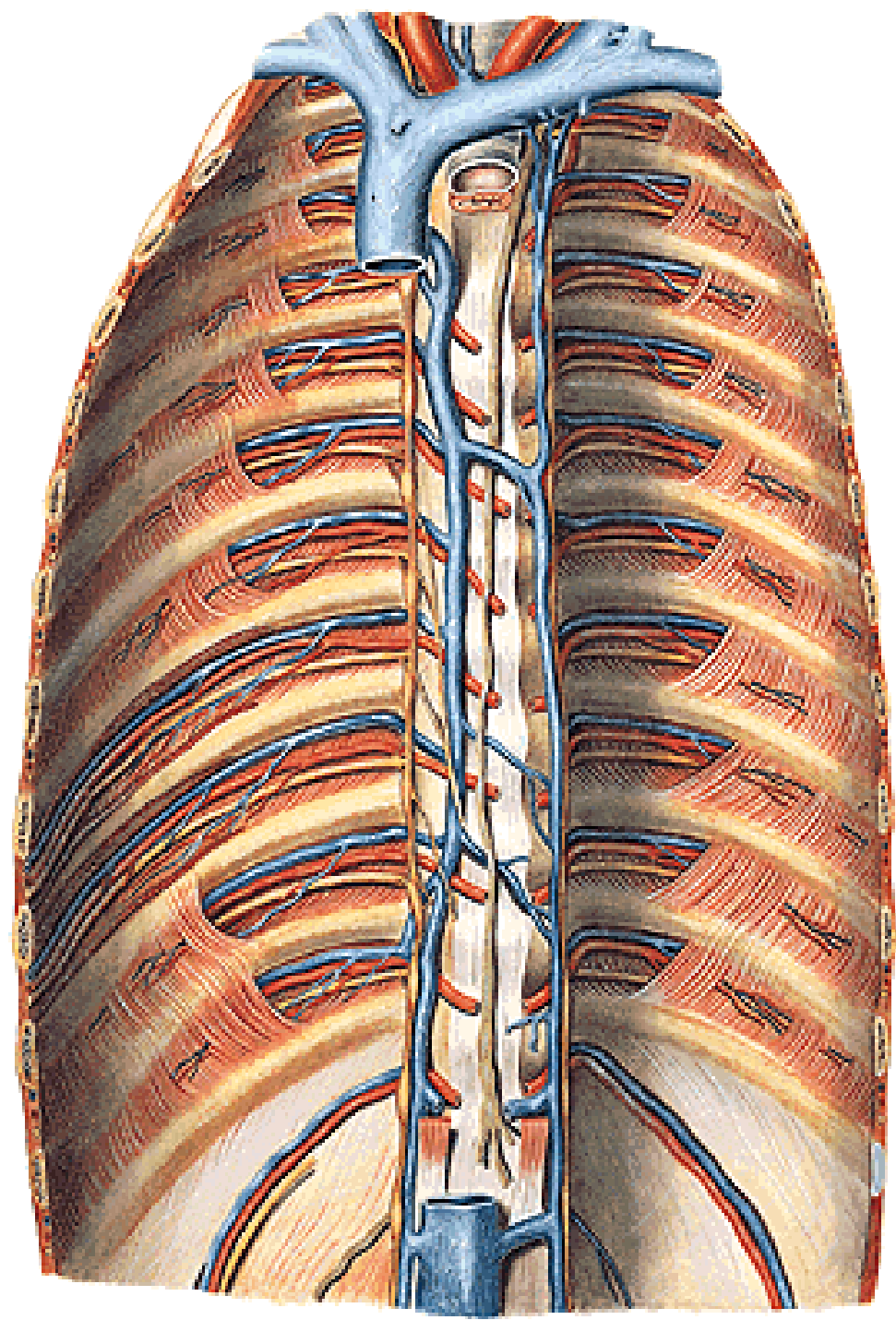
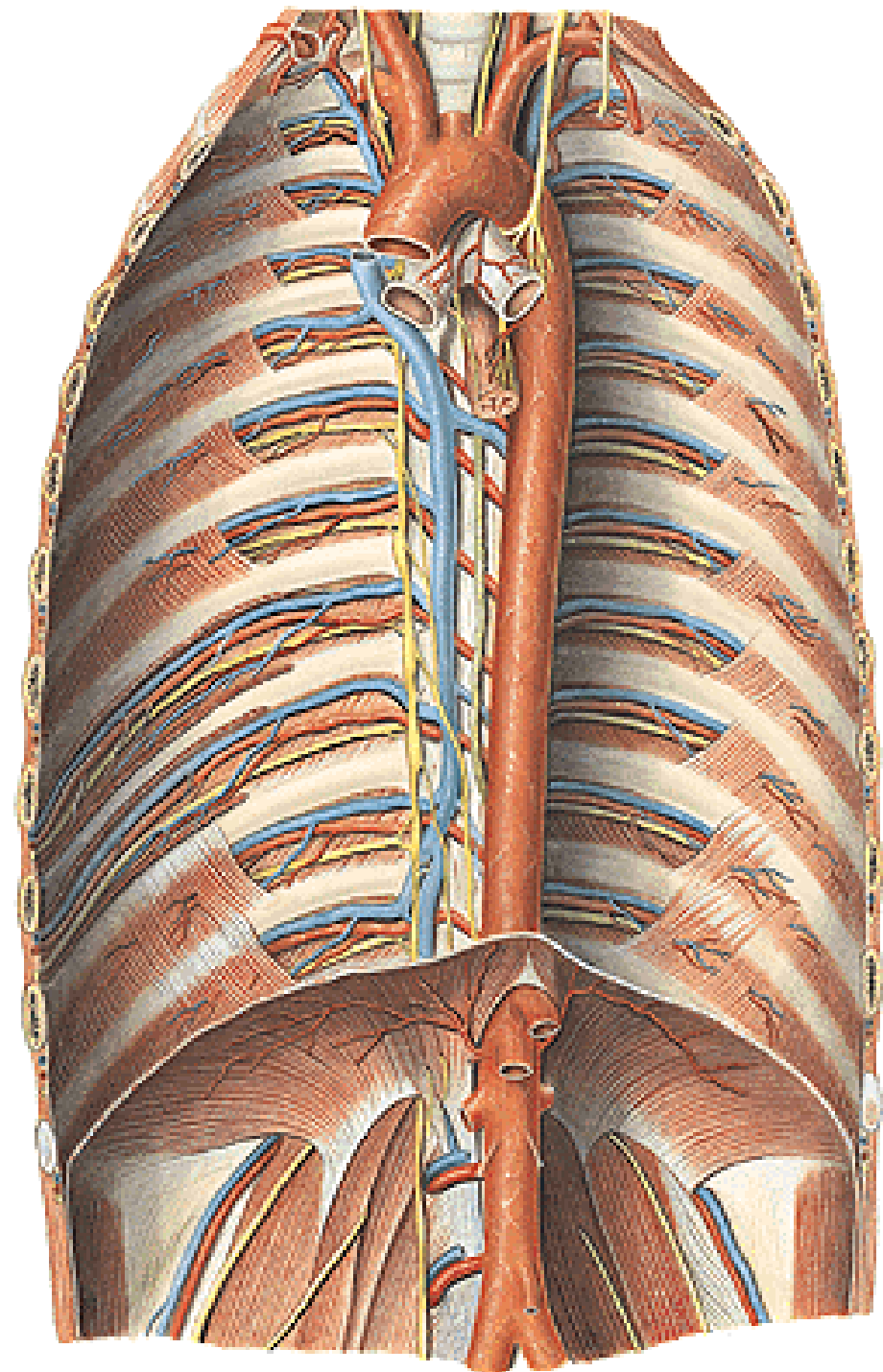


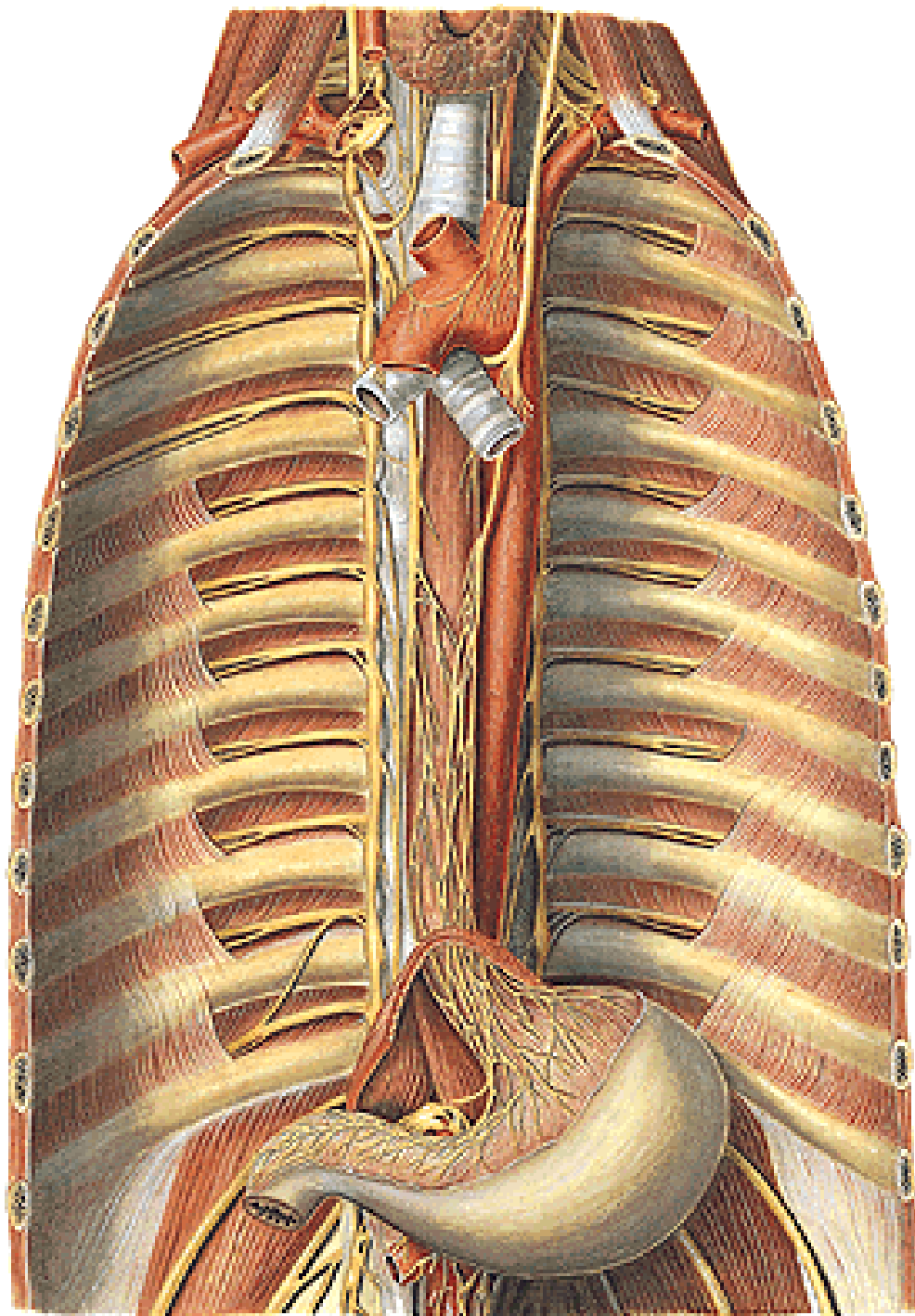
MEDIASTINUM

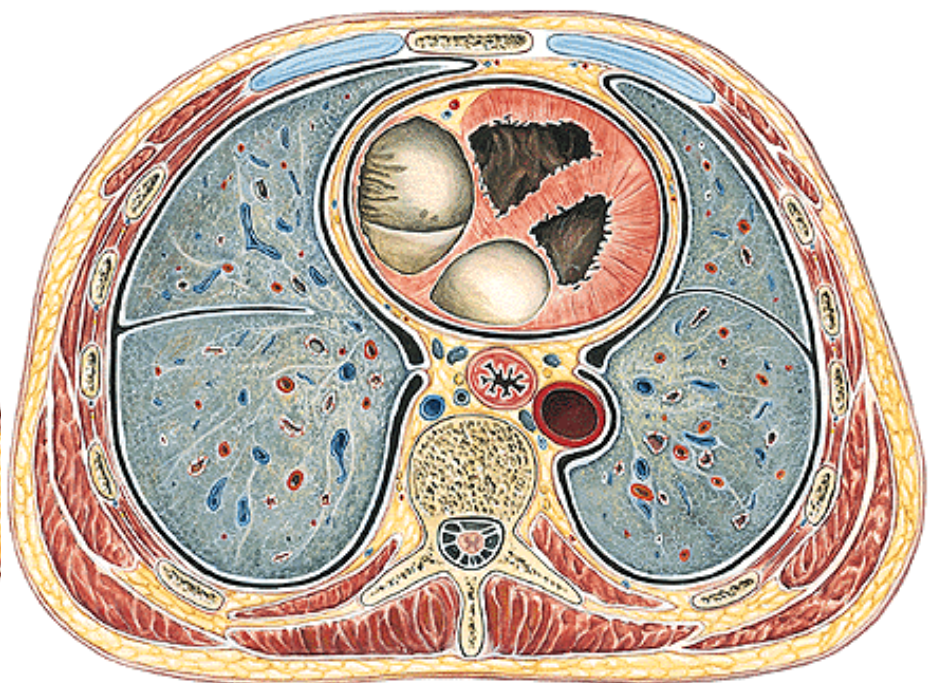
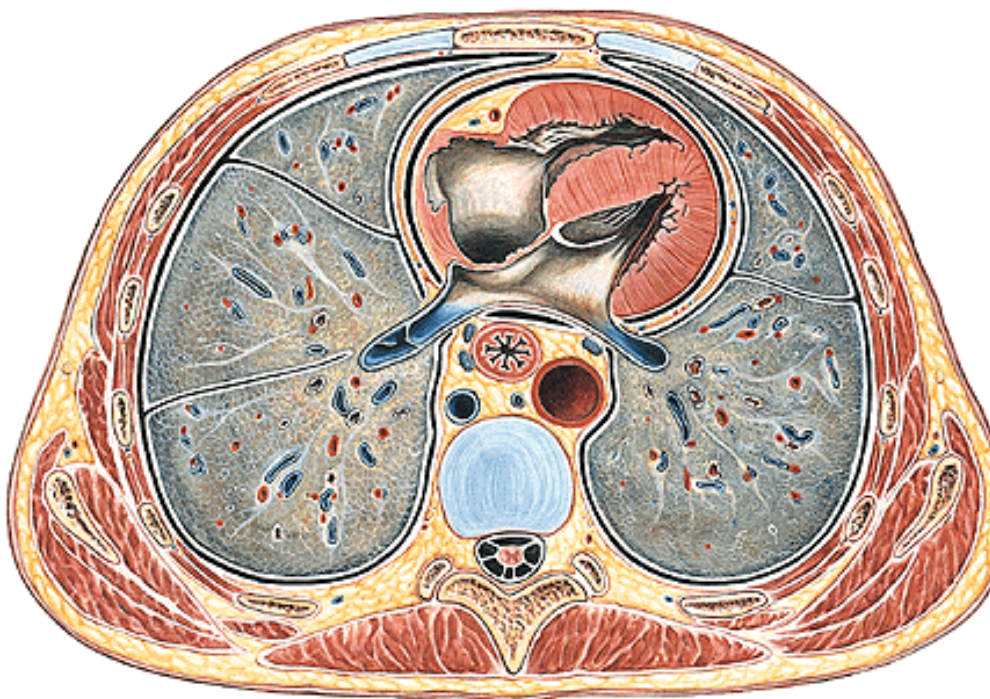
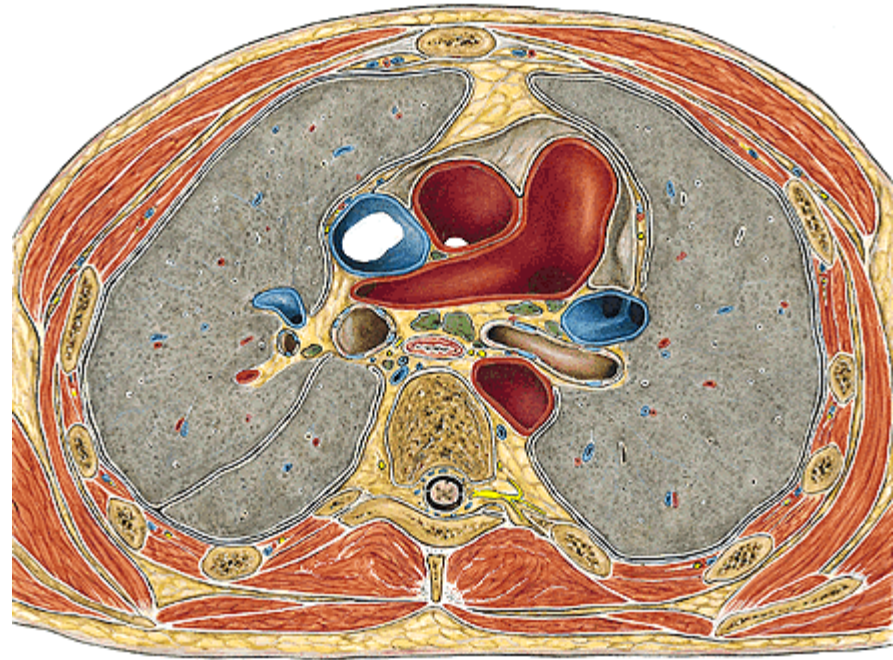
- superius
- inferius - anterius
 - medium
 - posterius

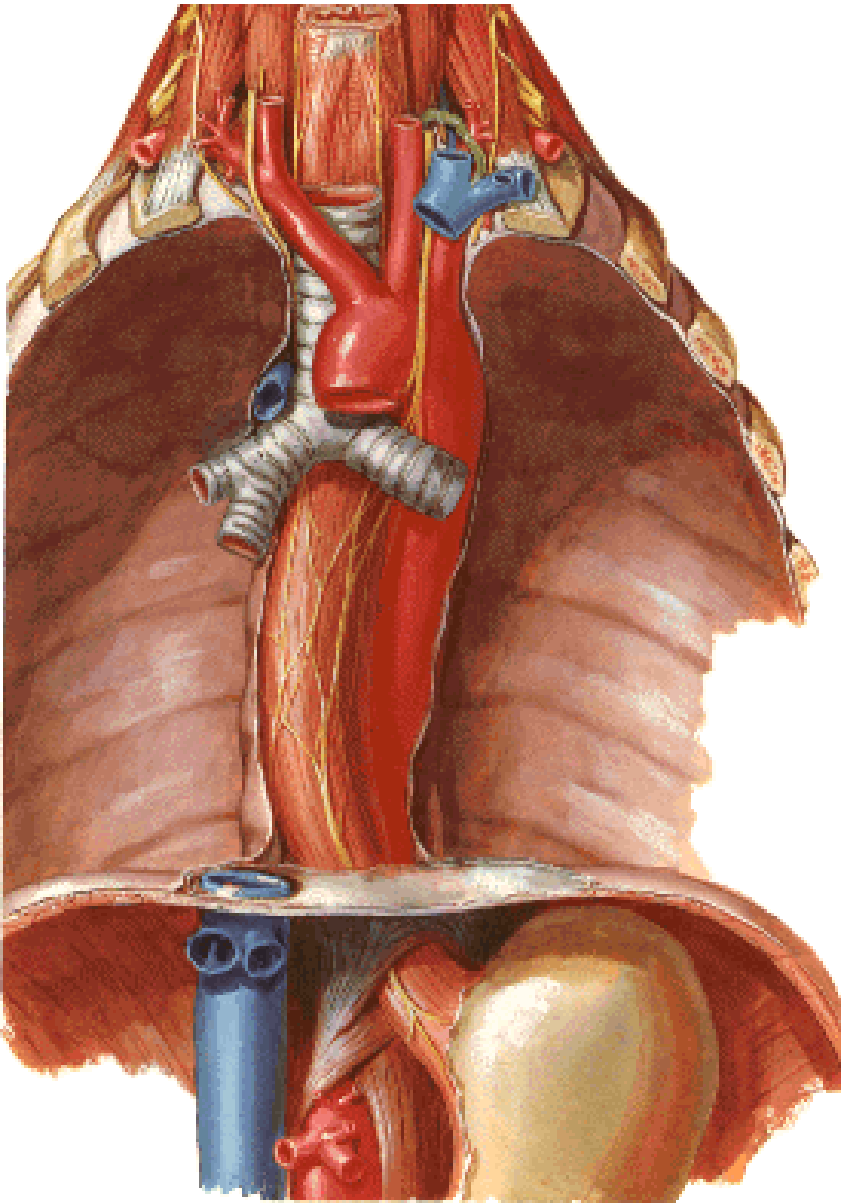


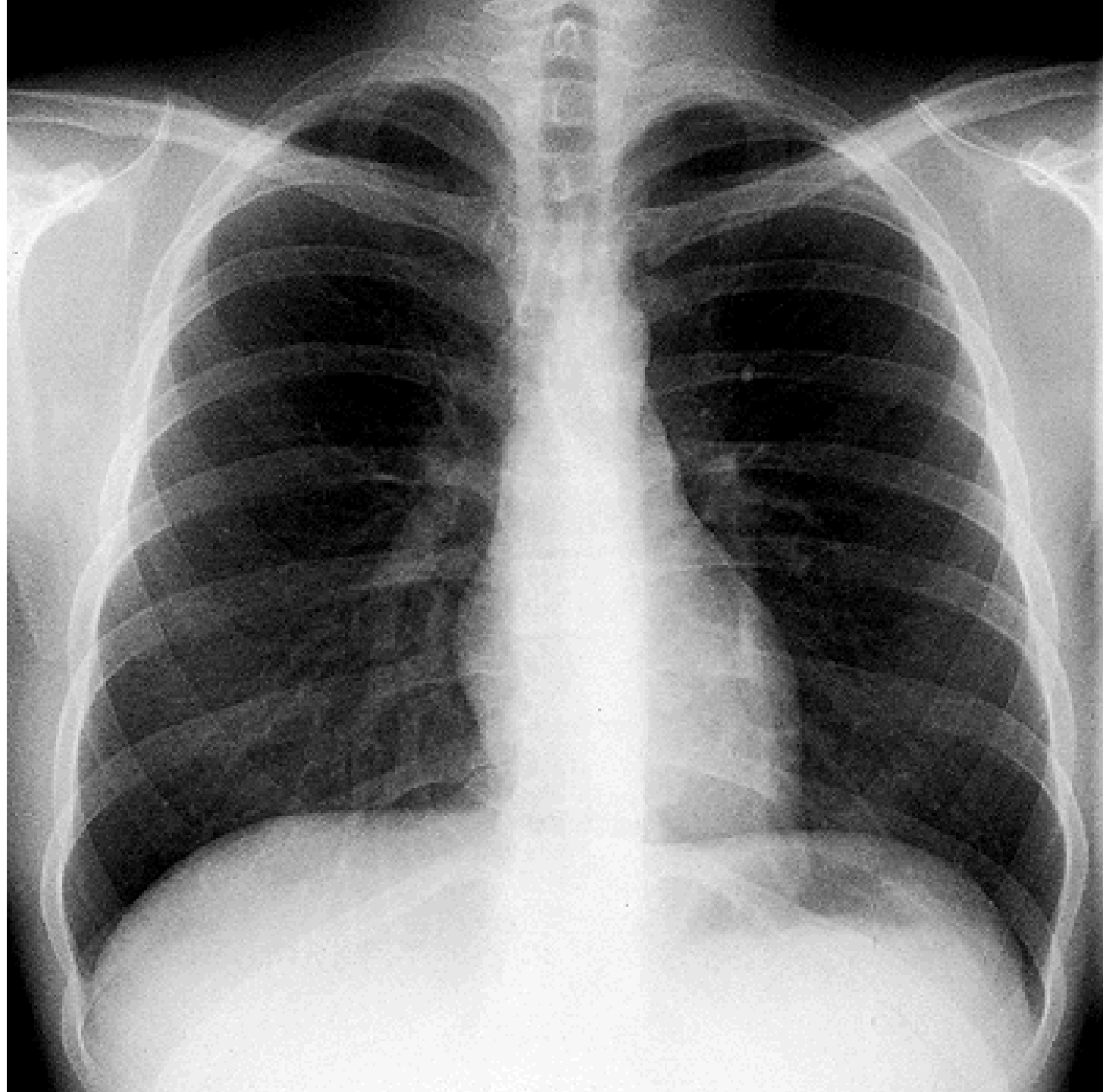








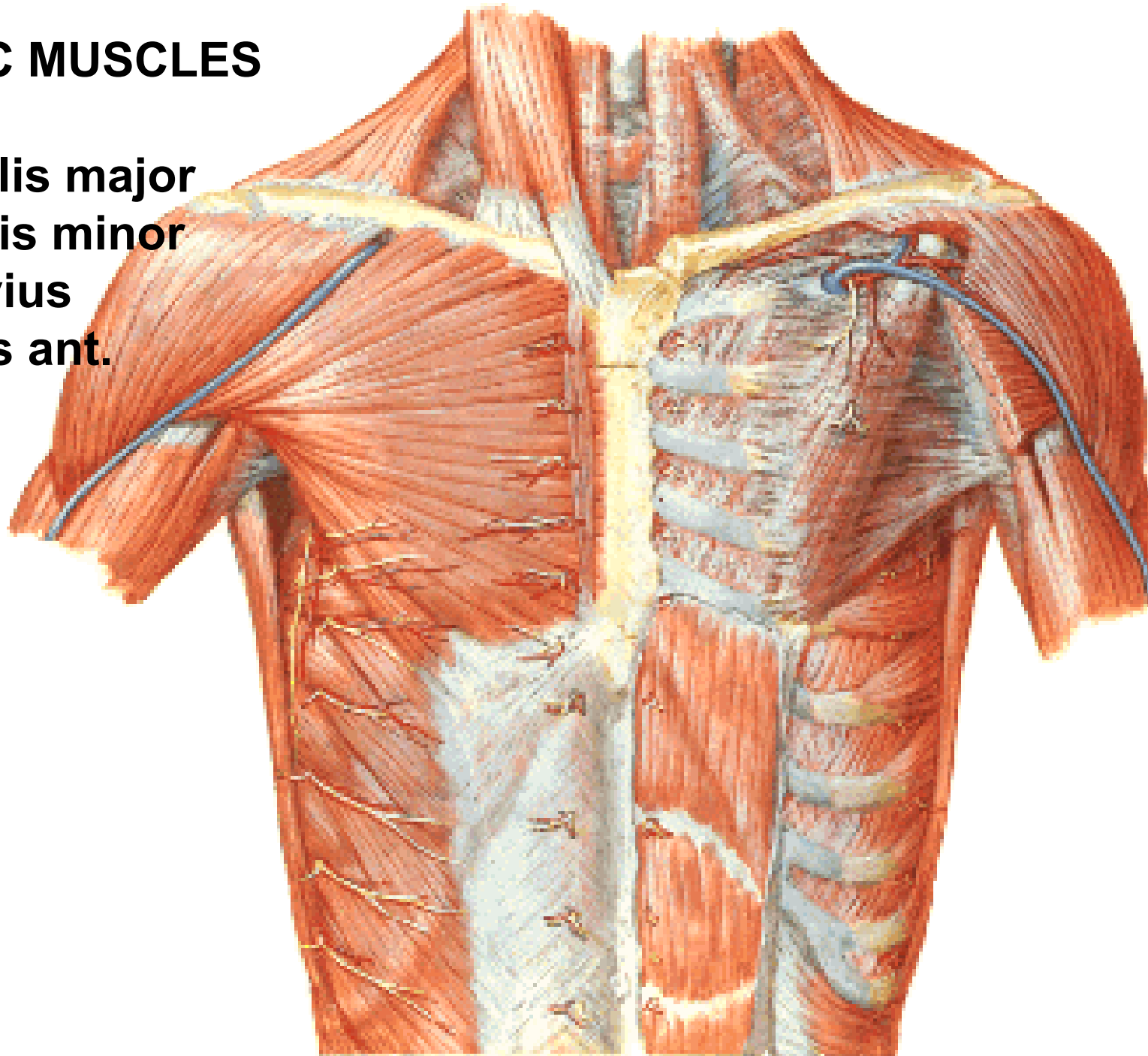


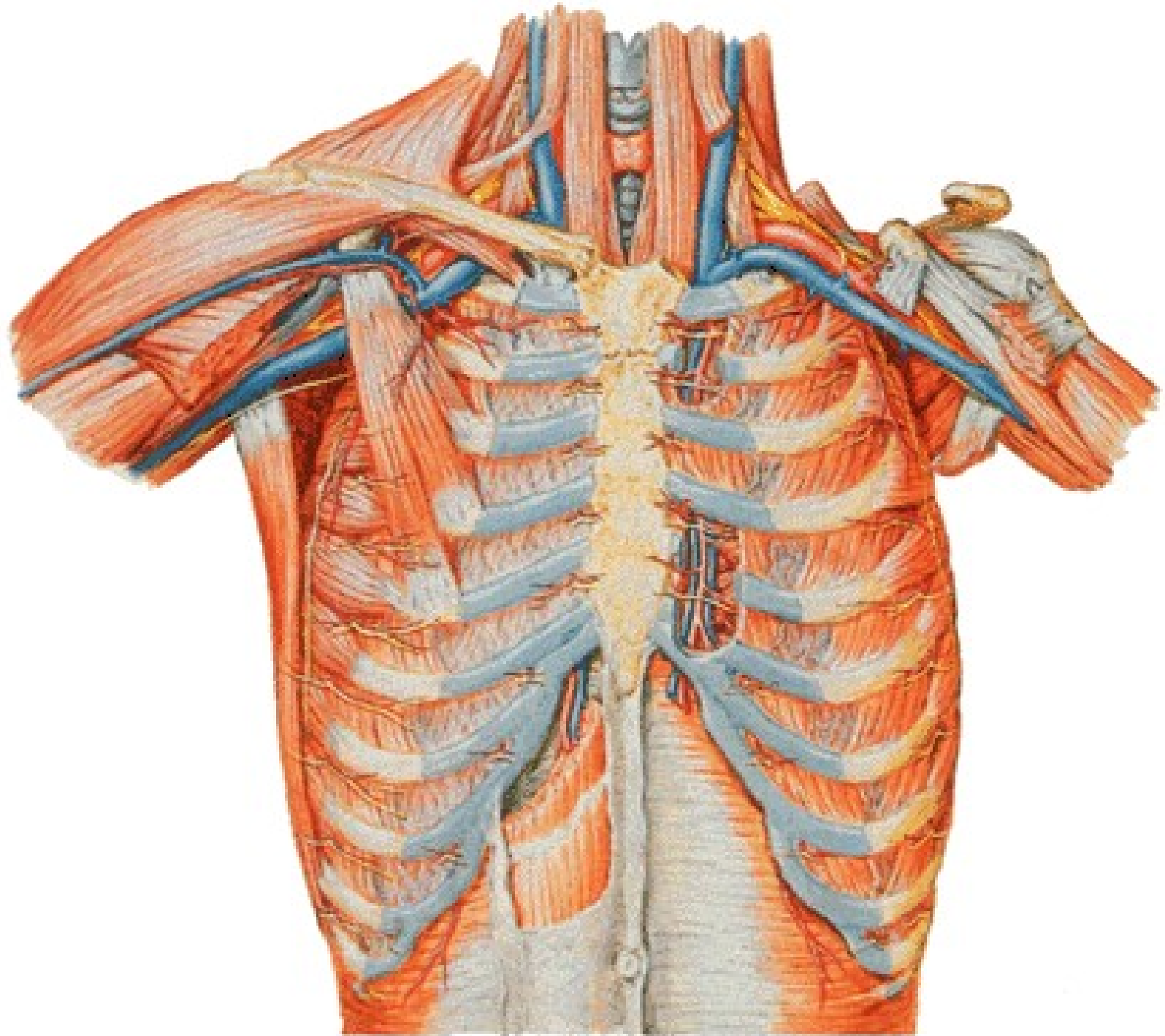


MUSCULI THORACIS

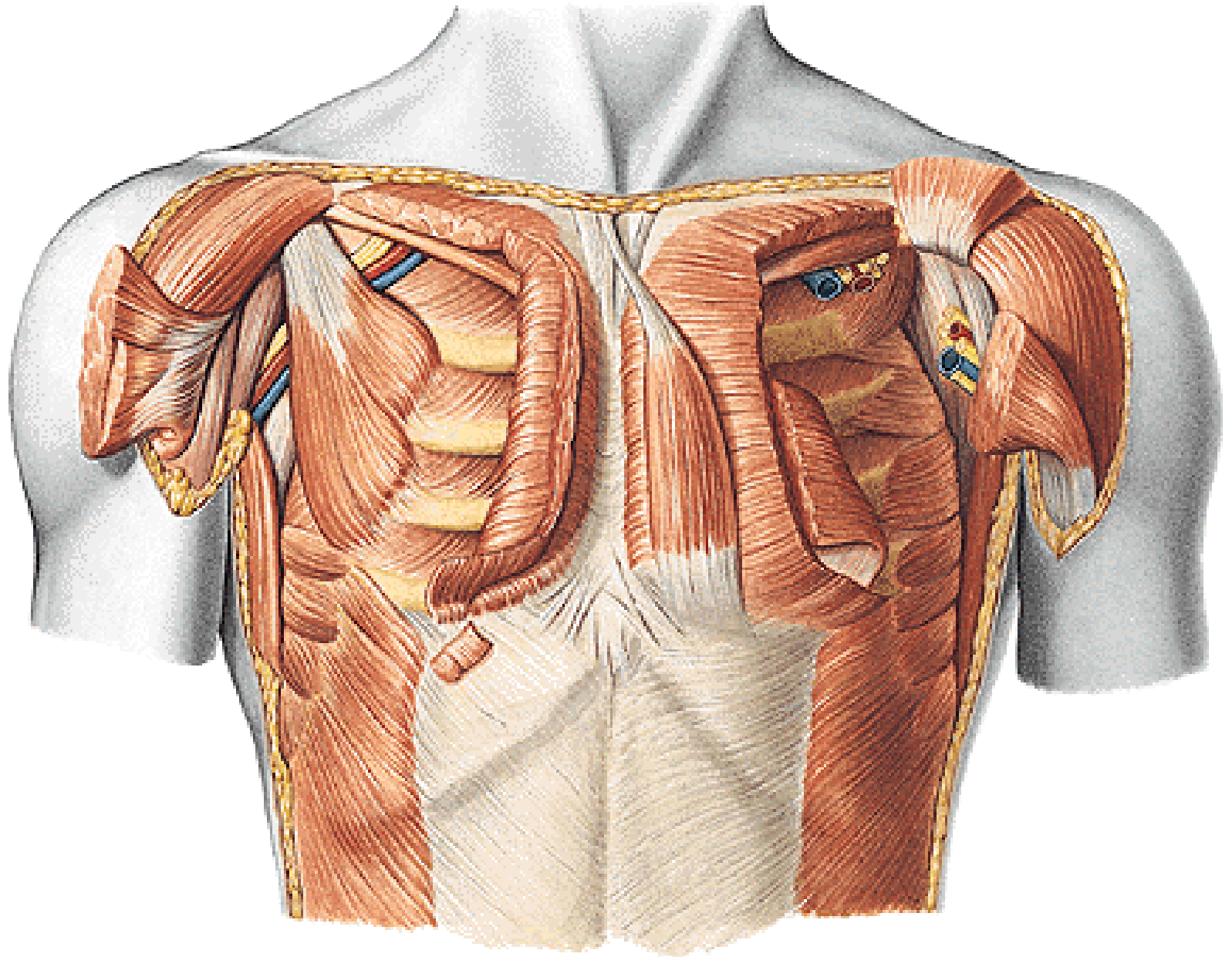
EXTRINSIC MUSCLES

- M. pectoralis major**
- M. pectoralis minor**
- M. subclavius**
- M. serratus ant.**





M. sternalis



INTRINSIC MUSCLES

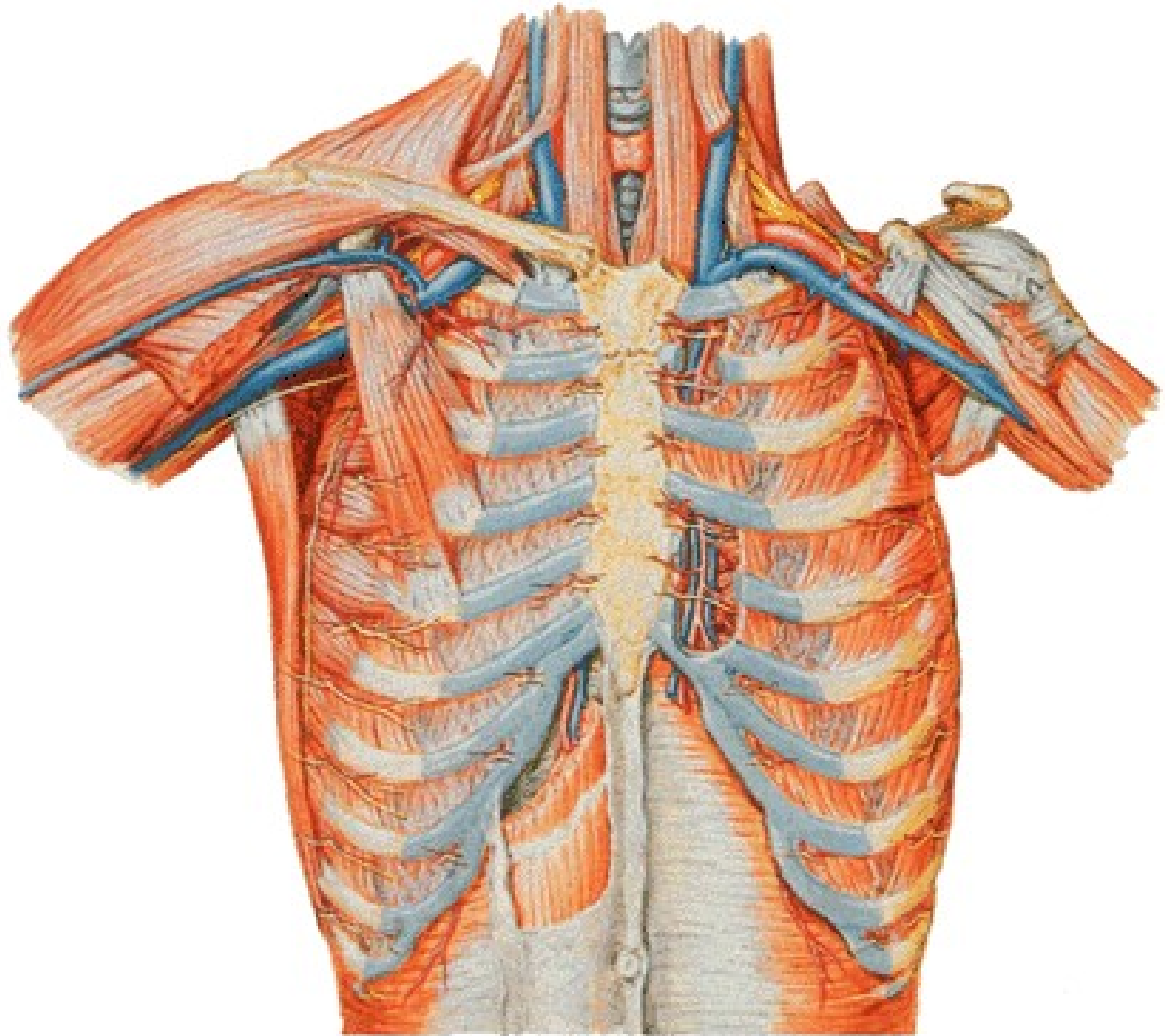
M. intercostales externi

M. intercostales interni

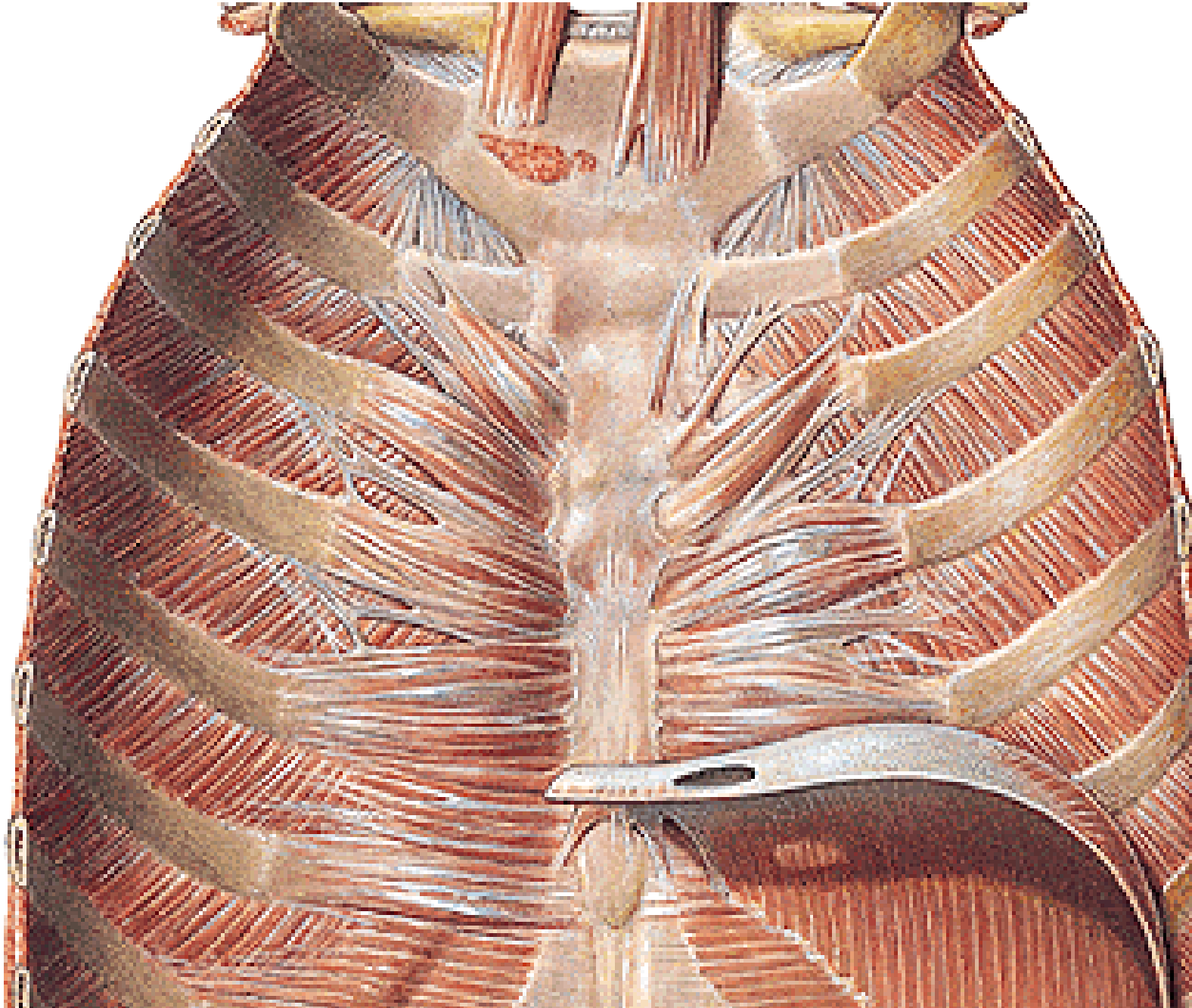
M. intercostales intimi

M. subcostales





M. transversus thoracis



DIAPHRAGM

Centrum tendineum

- foramen VCI

Pars sternalis

Pars costalis

Pars lumbalis

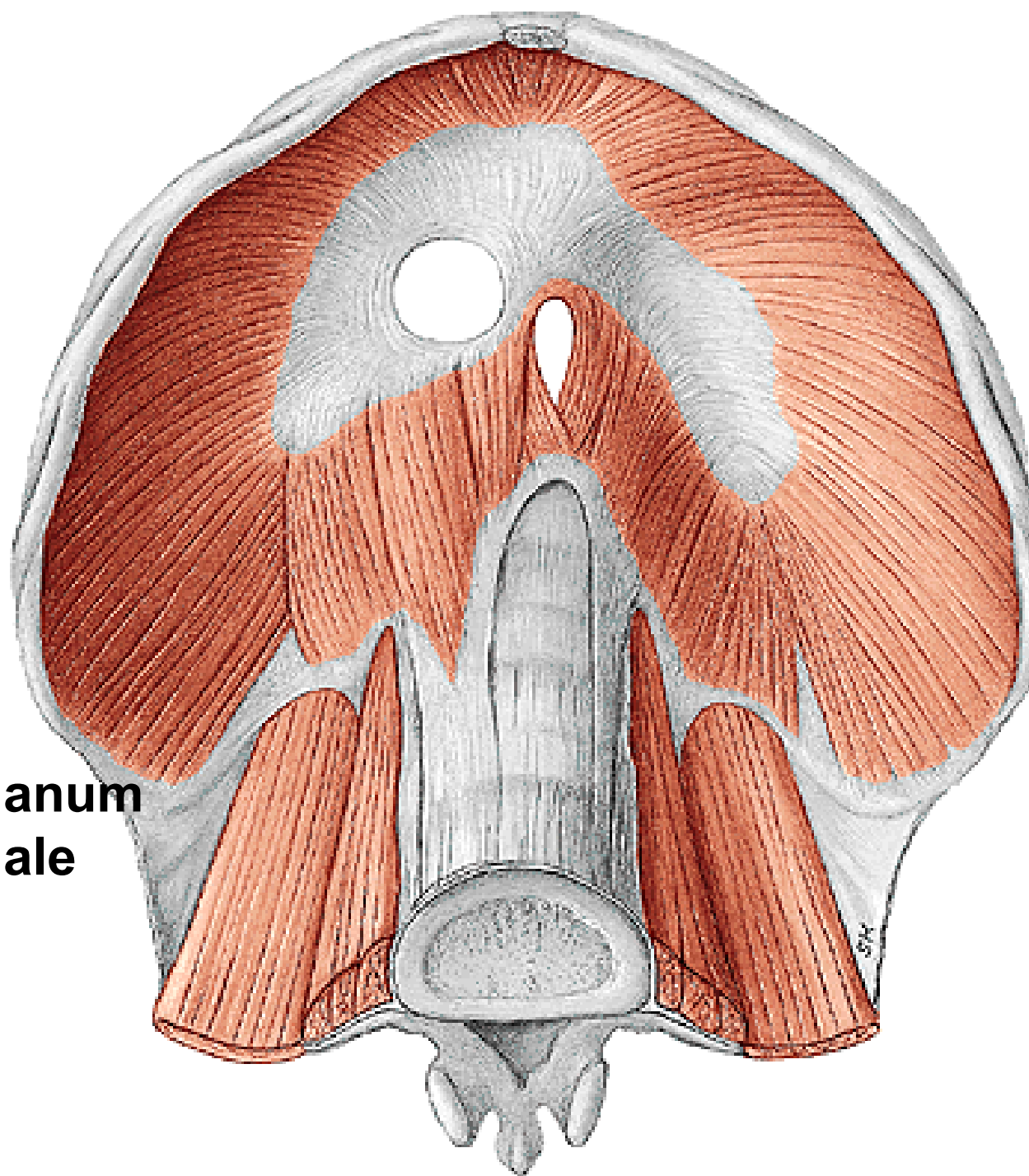
- crus dextrum

- crus sinistrum

- lig. arcuatum medianum

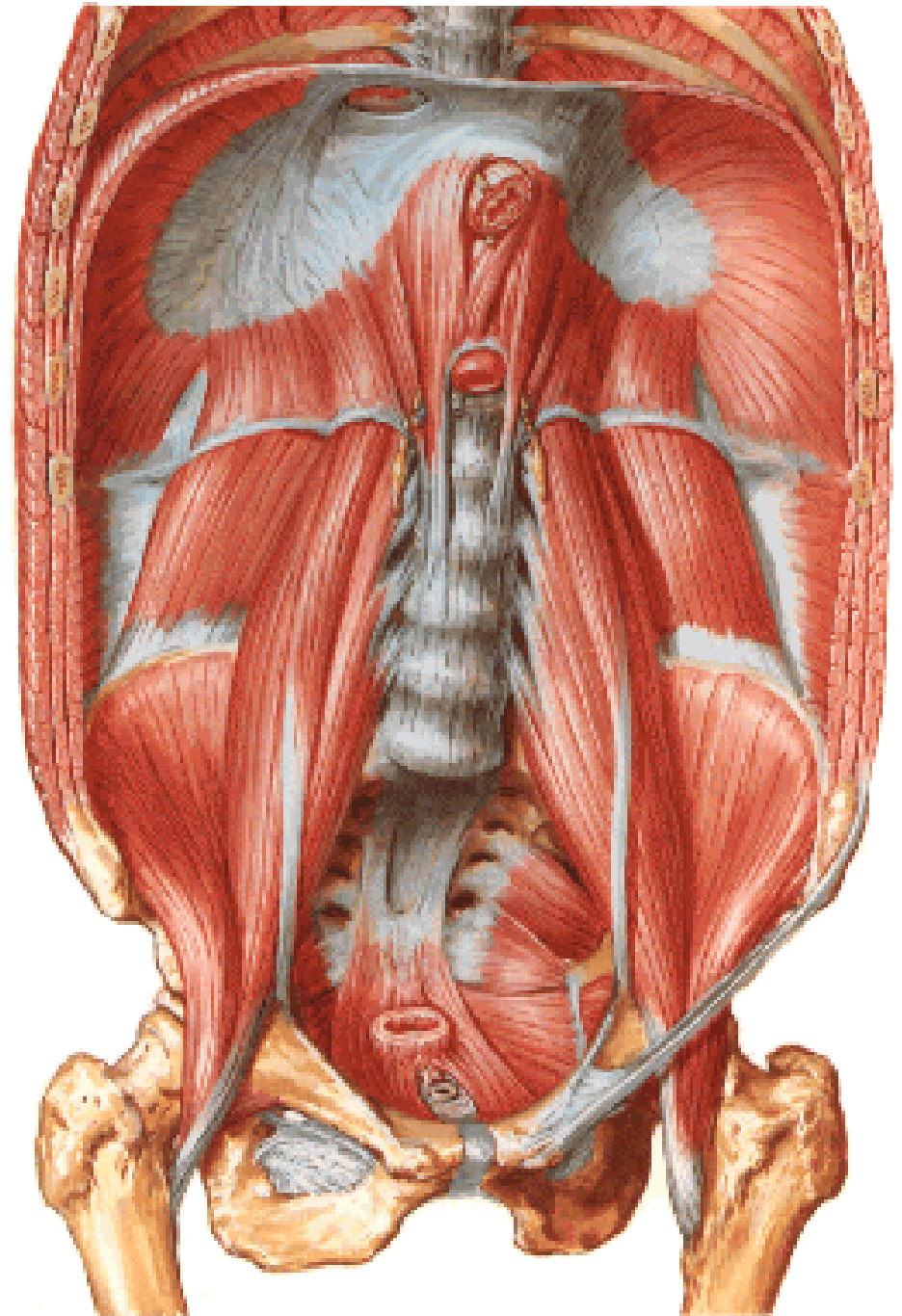
- lig. arcuatum mediale

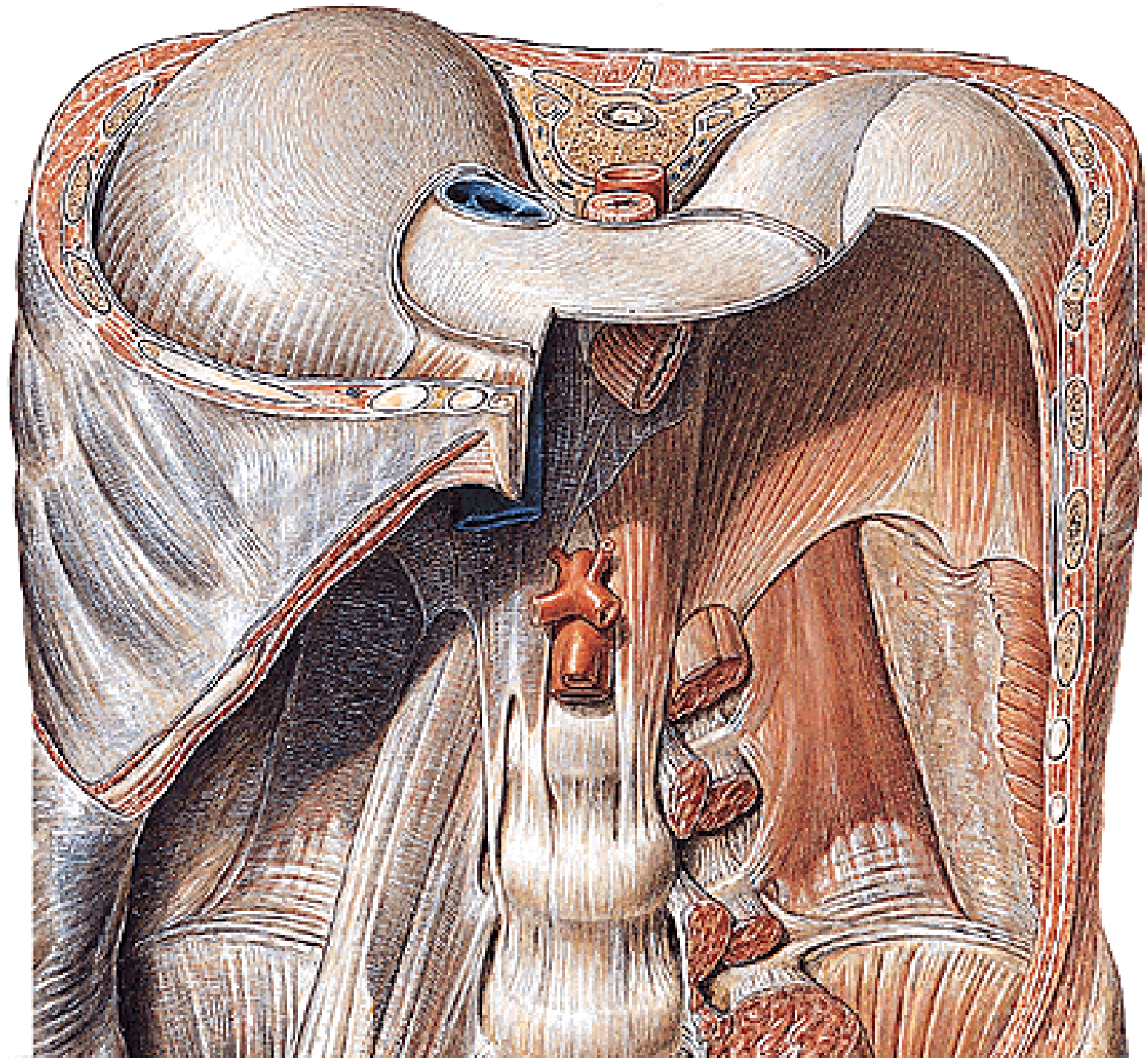
- lig. arcuatum lat.



Hiatus esophageus

Hiatus aorticus





**Illustrations and photographs 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**