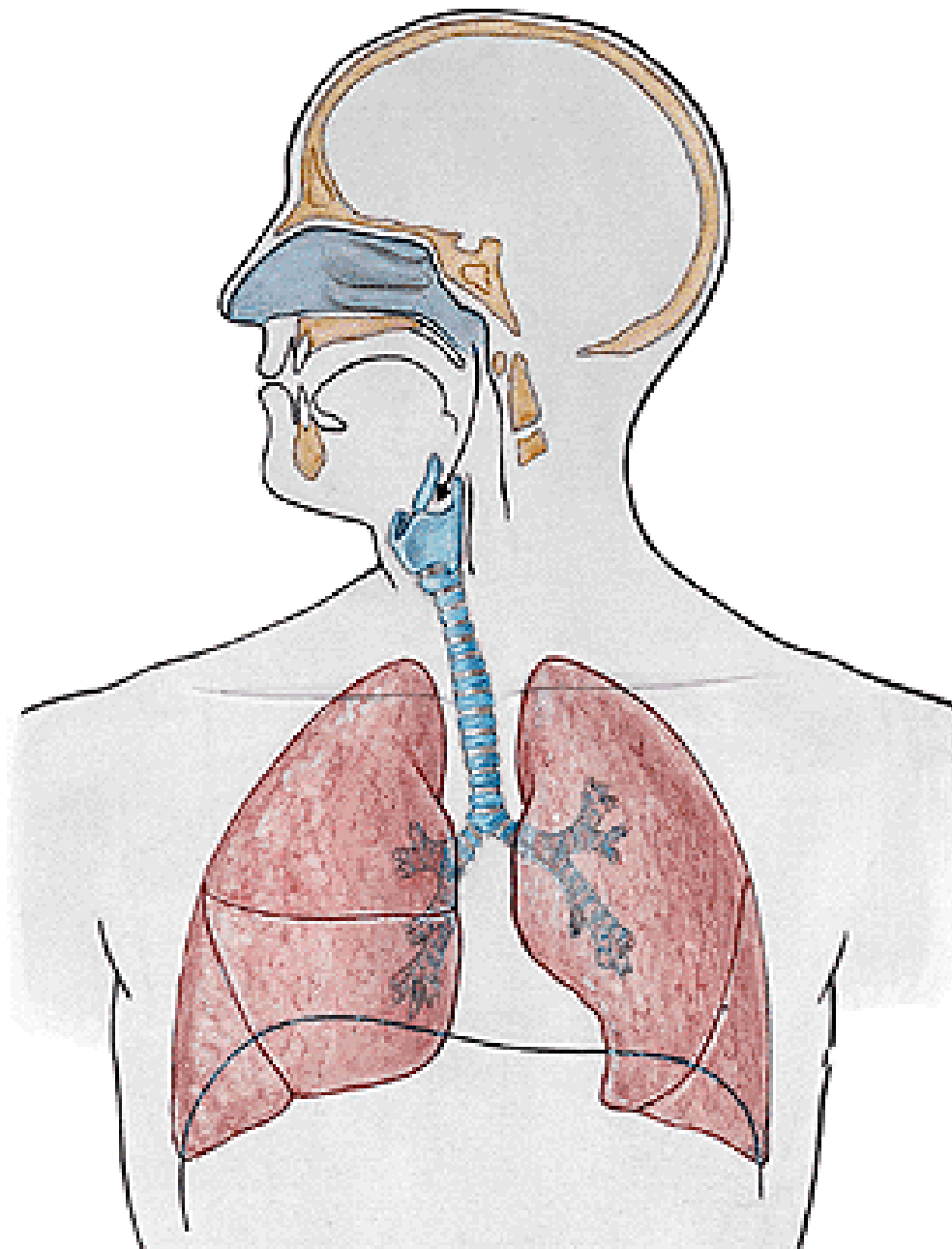


# **RESPIRATORY SYSTEM I.**

**UPPER RESPIRATORY TRACT,  
LARYNX**



# **NASUS EXTERNUS**

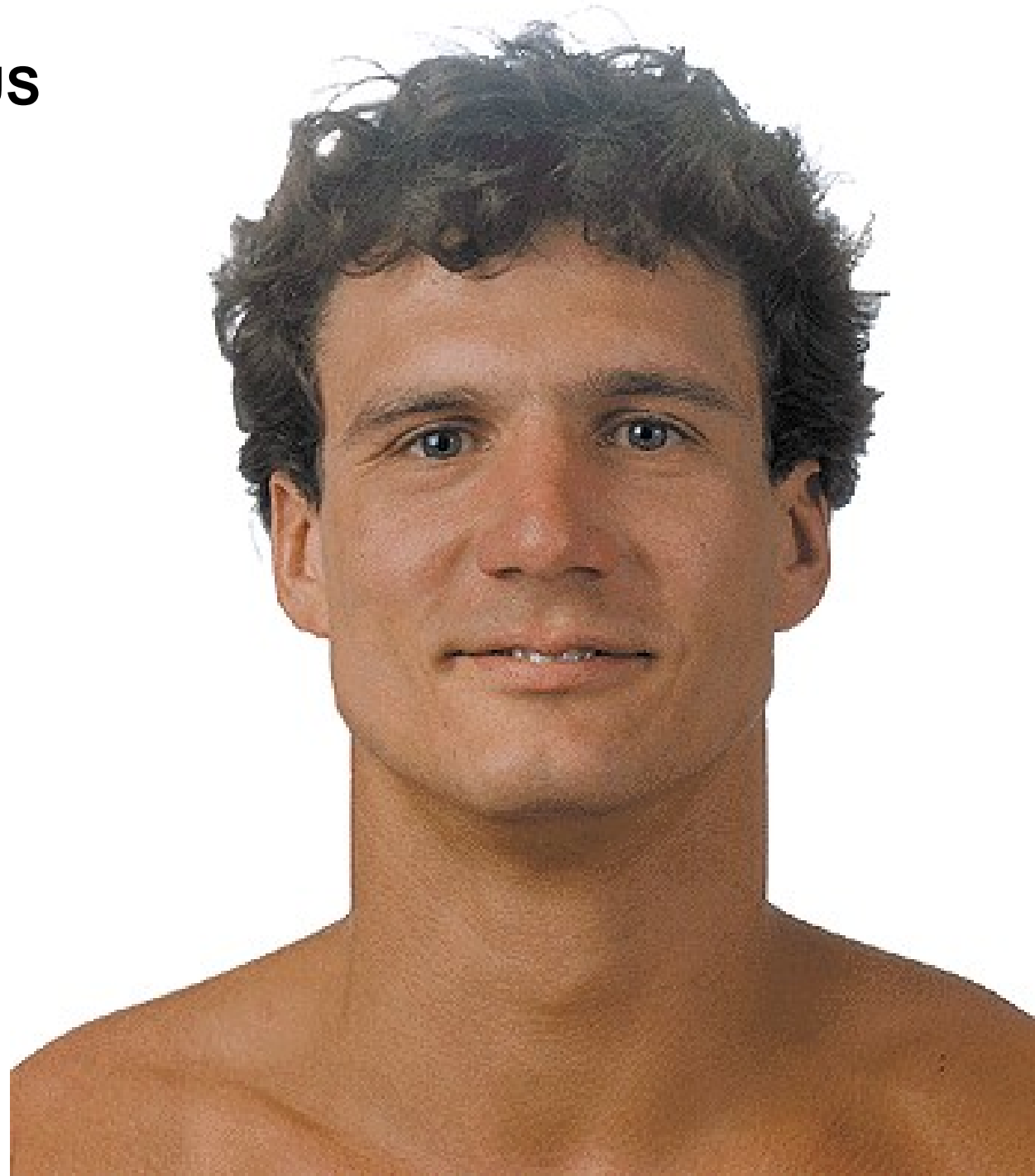
**Radix nasi**

**Dorsum nasi**

**Apex nasi**

**Nares**

**Alae nasi**



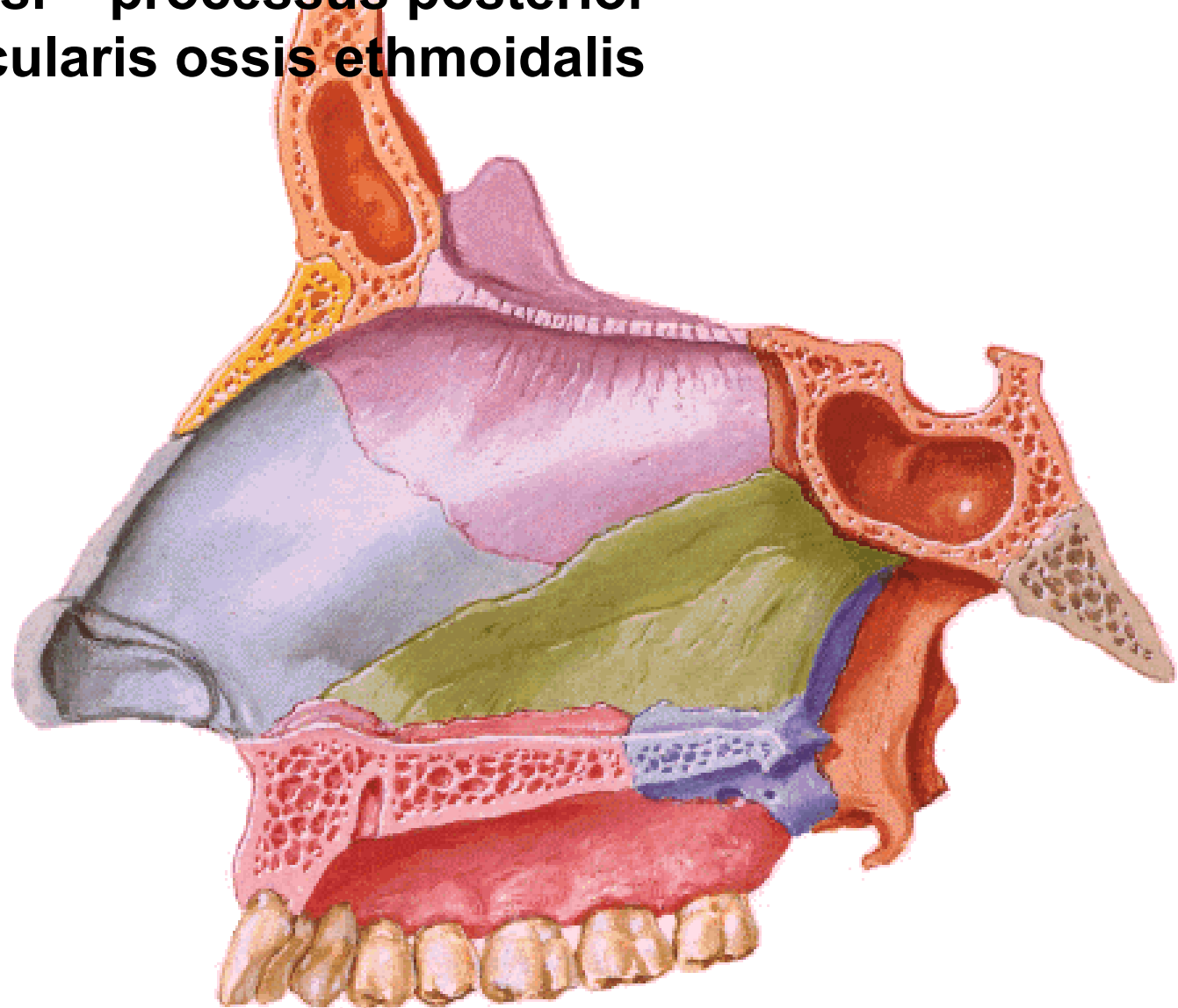
# SEPTUM NASI

Cartilago alaris major – crus mediale

Cartilago septi nasi – processus posterior

Lamina perpendicularis ossis ethmoidalis

Vomer



**Cartilago nasi lateralis**

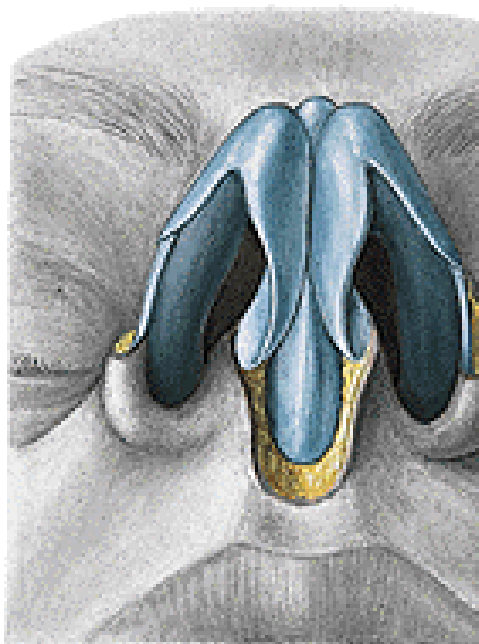
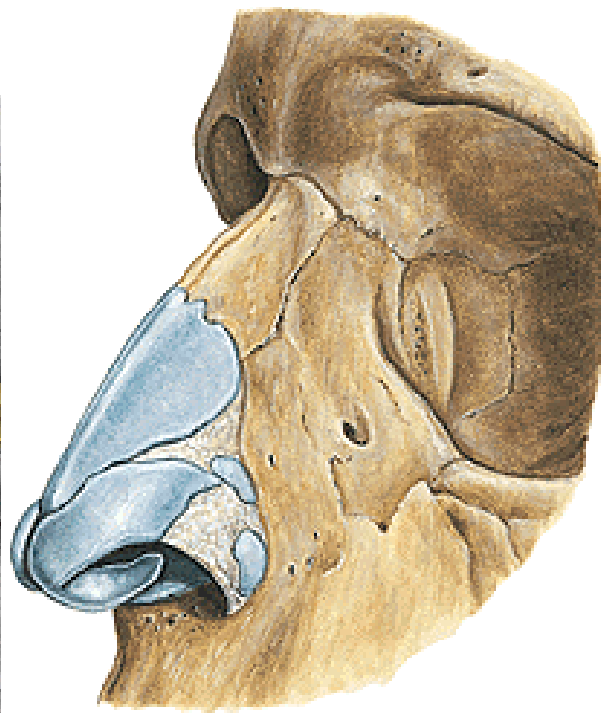
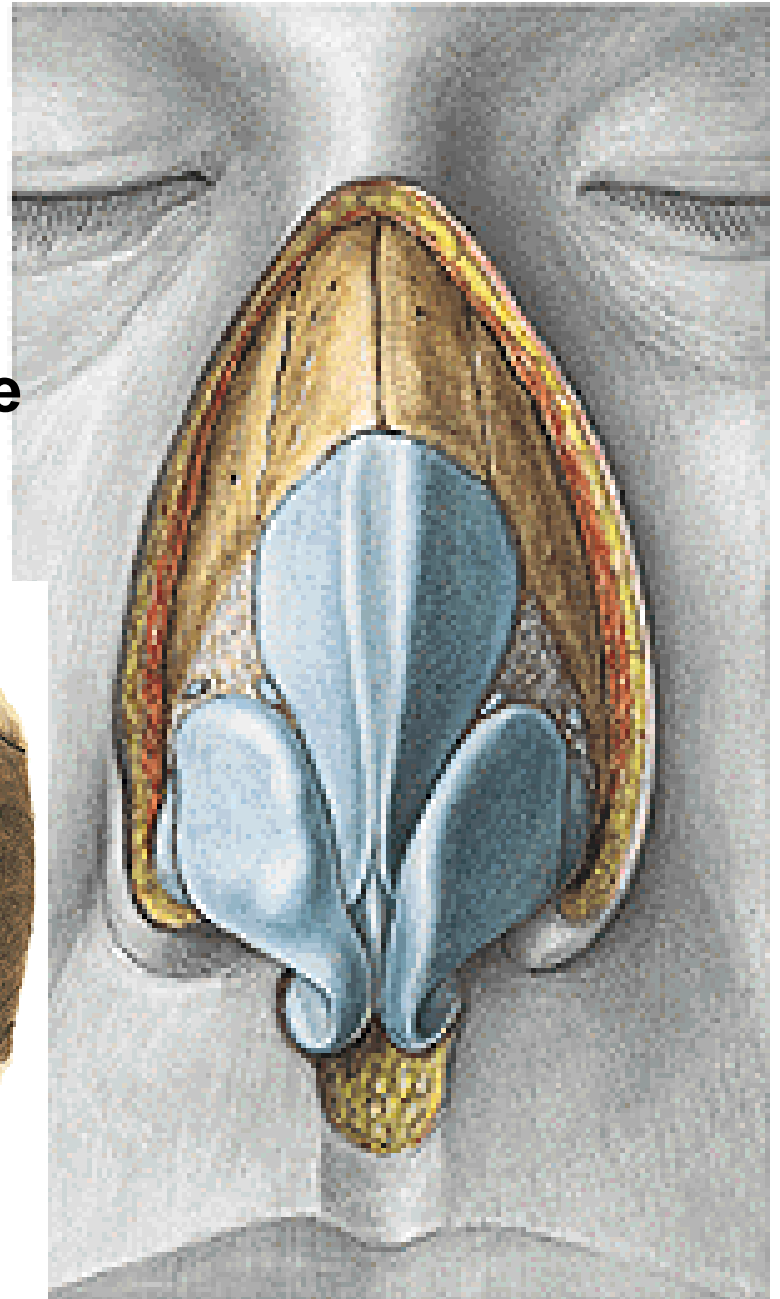
**Cartilago alaris major**

- crus laterale

- crus mediale

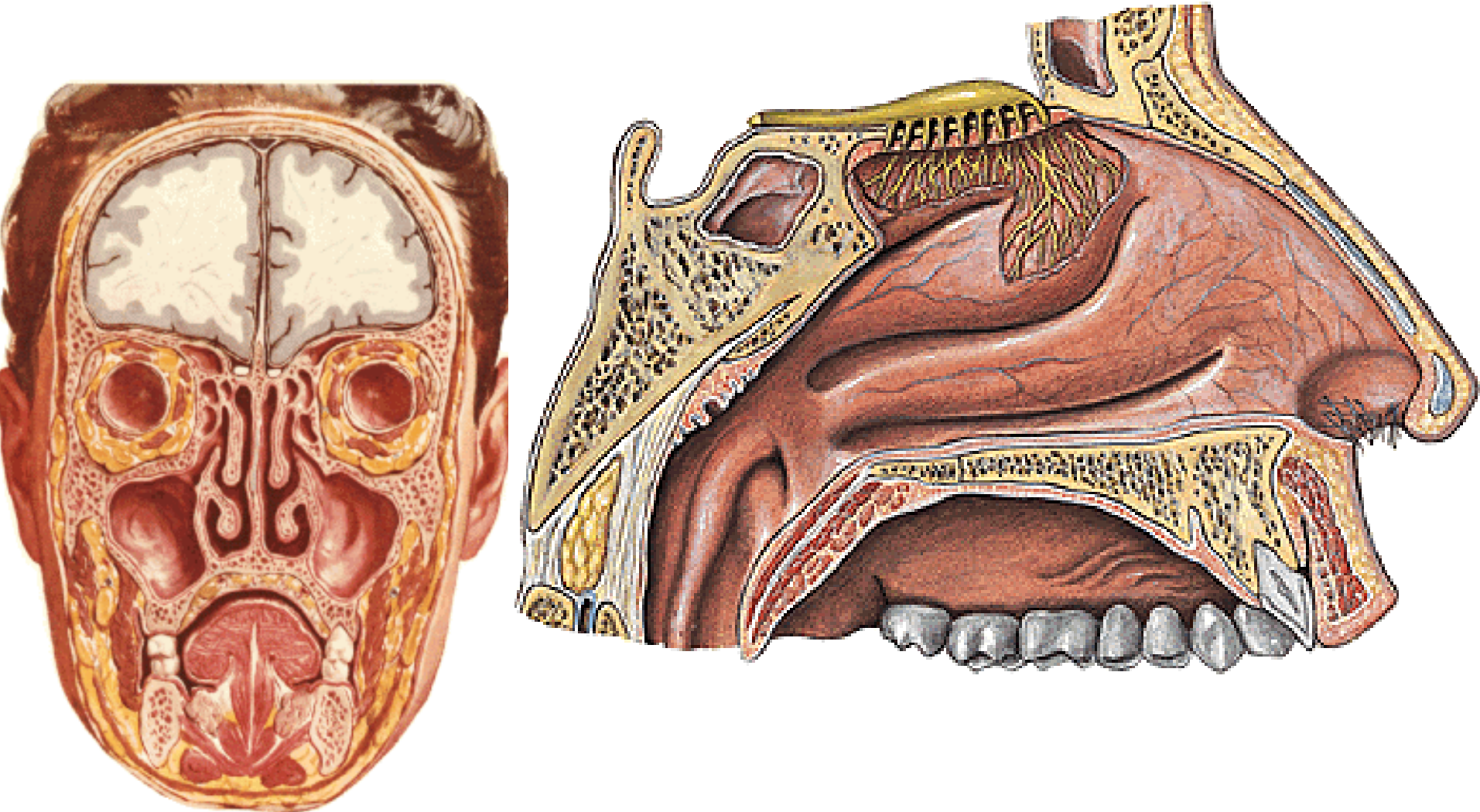
**Cartilagine alares minores**

**Cartilagine nasales accessoriae**



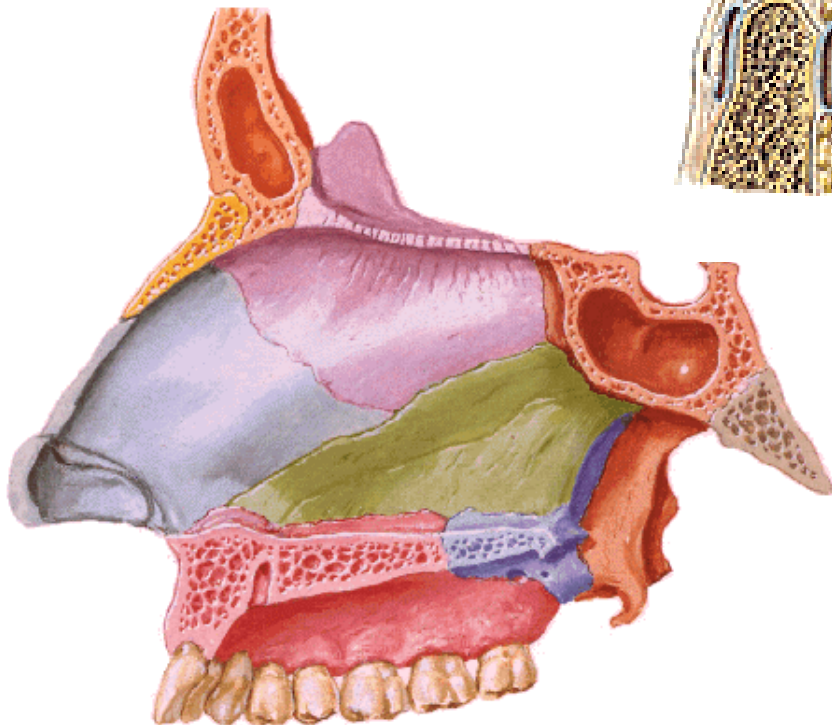
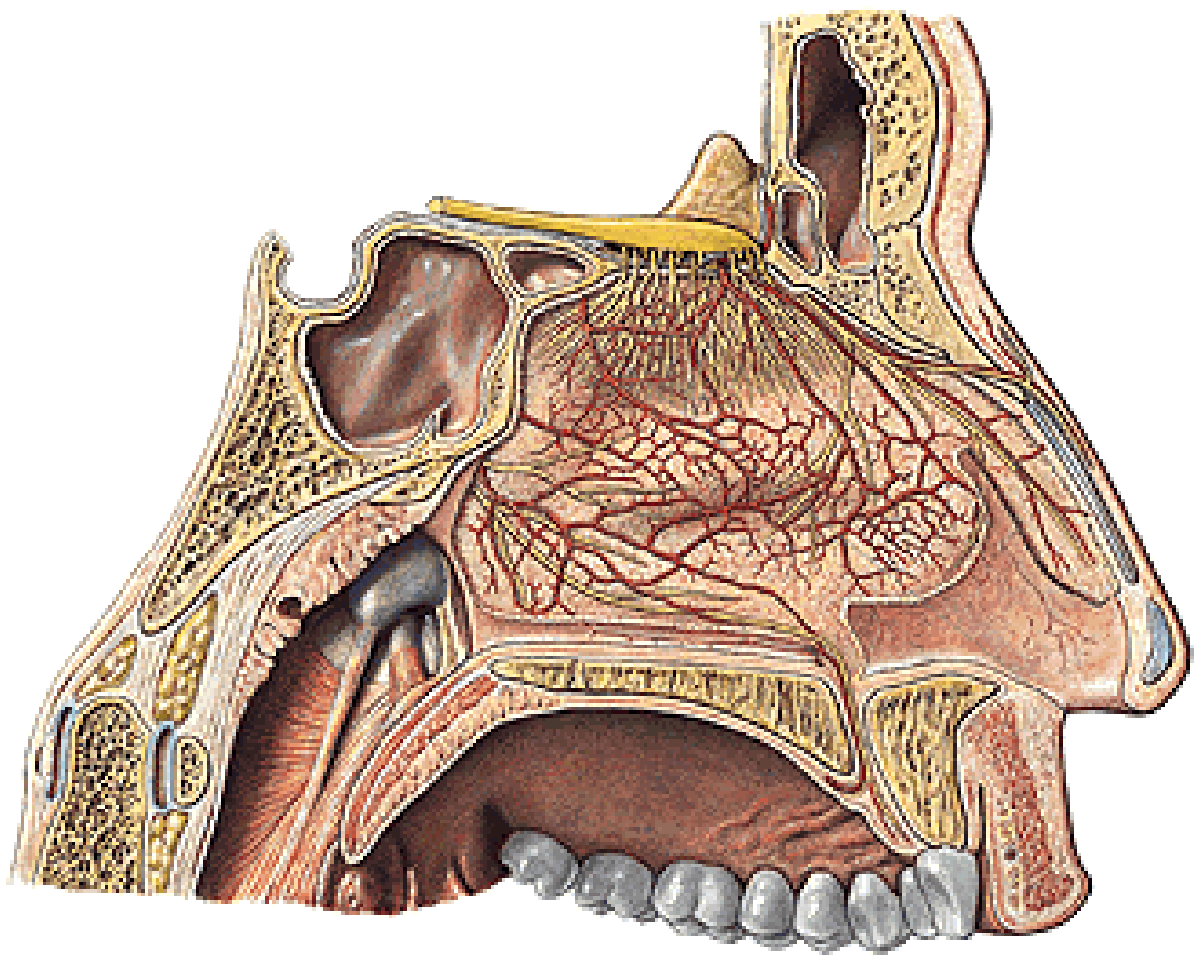
# CAVUM NASI

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



## Septum nasi

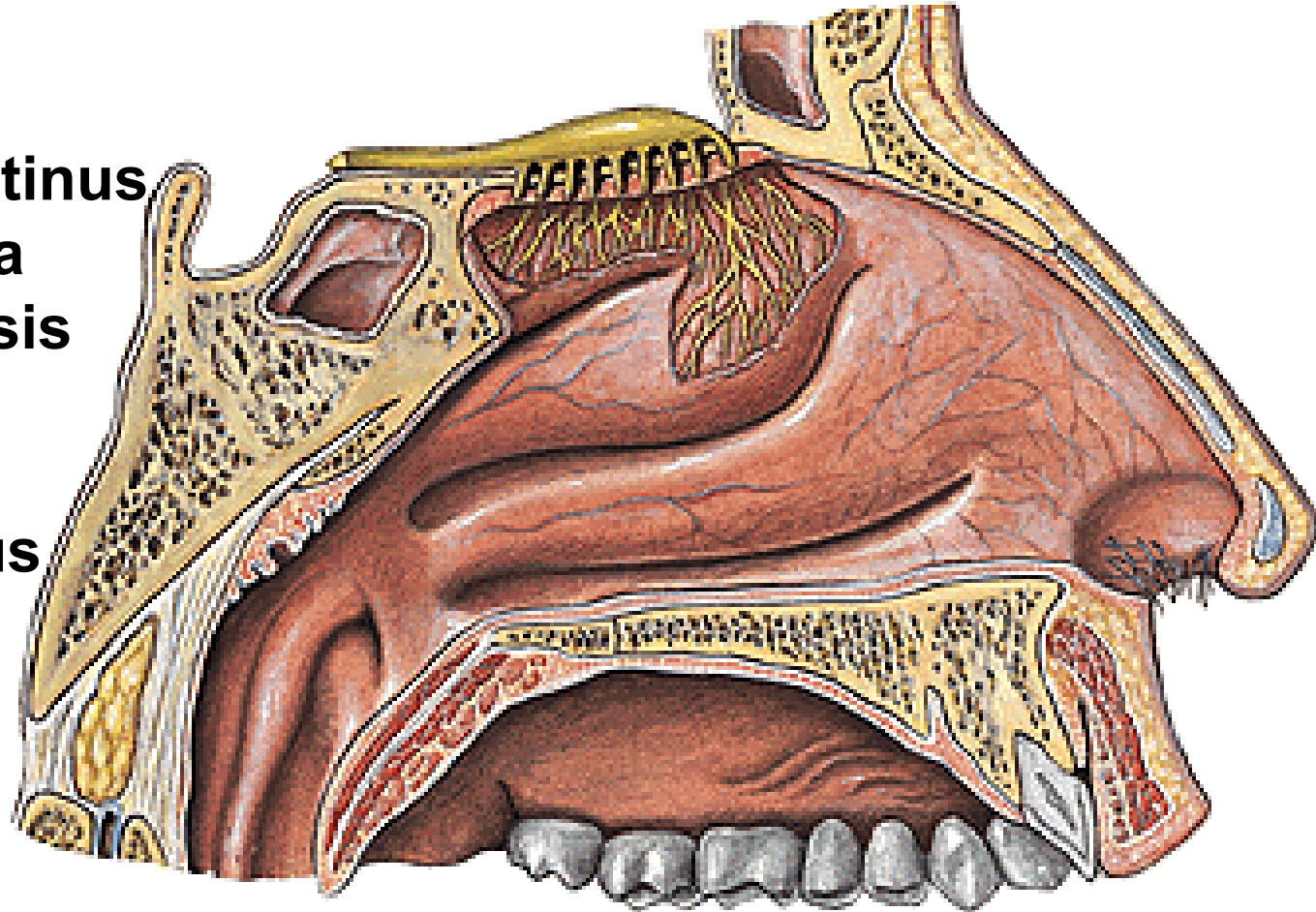
- pars membranacea
- pars cartilaginea
- pars ossea



**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**



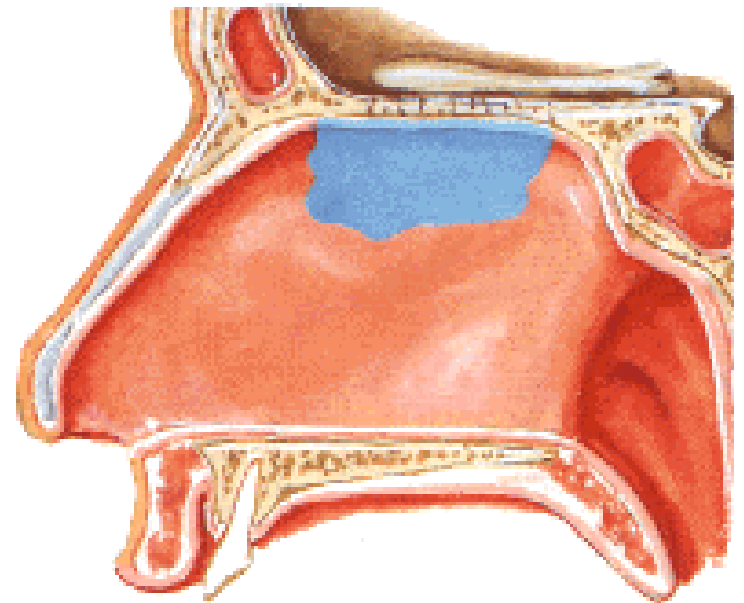
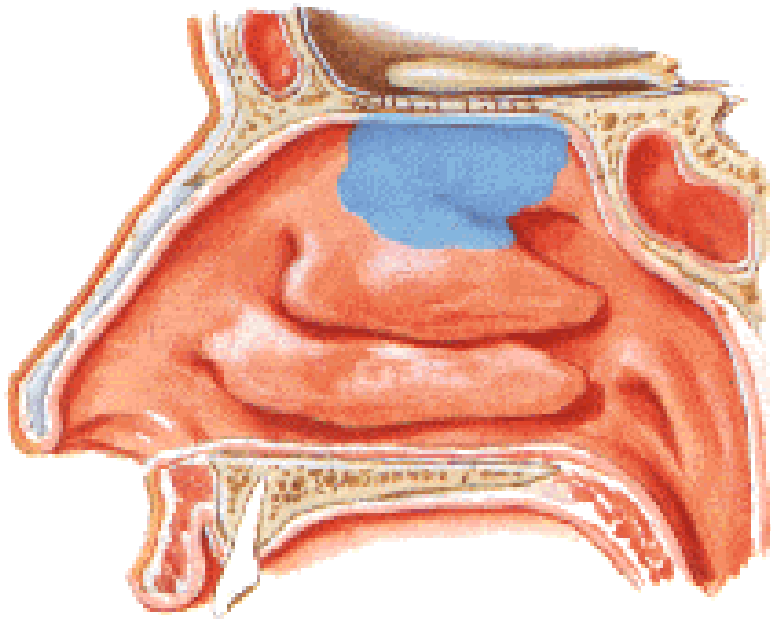


# NASAL MUCOSA

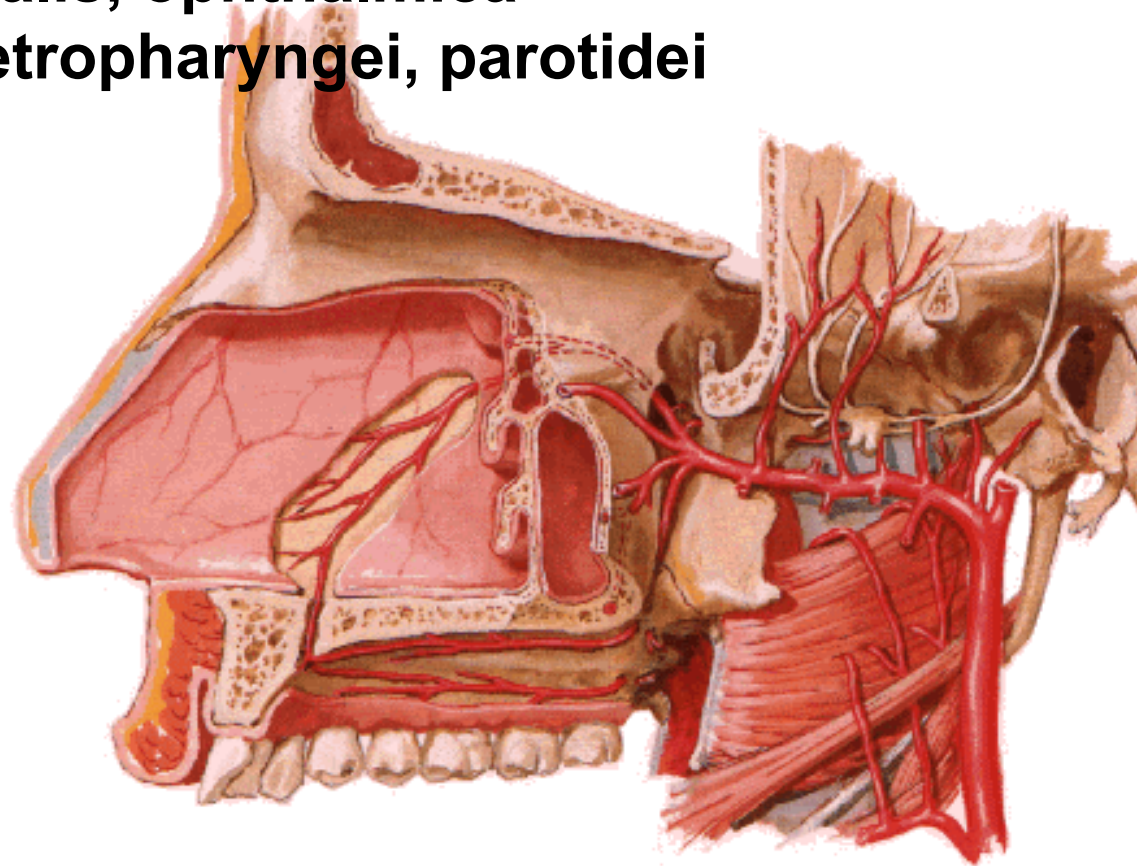
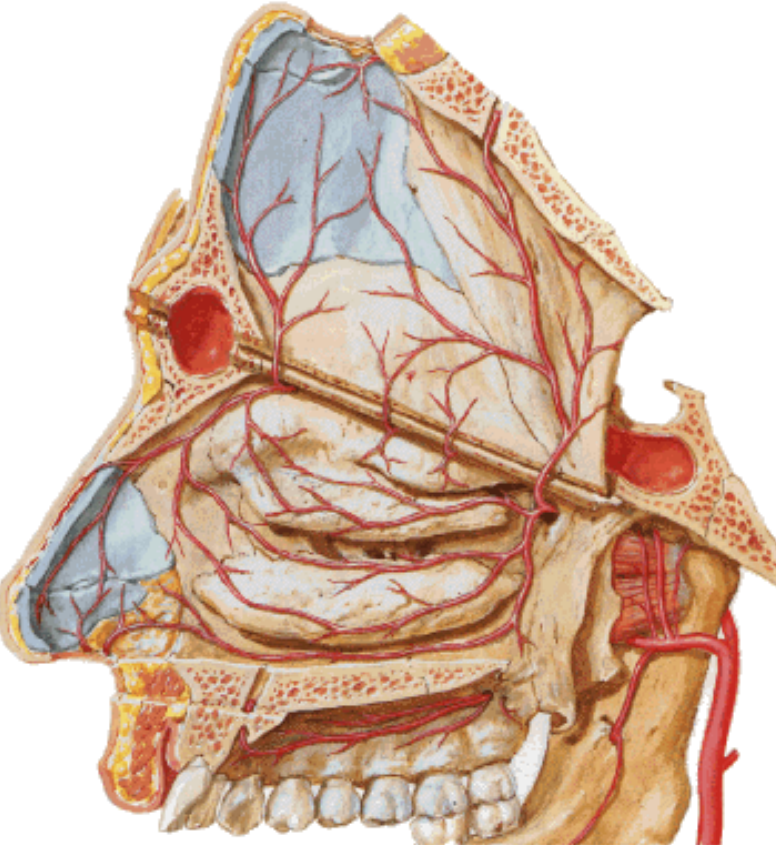
Regio respiratoria

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. submandibularis, facialis, ophthalmica**
- NII. submandibulares, retropharyngei, parotidei**

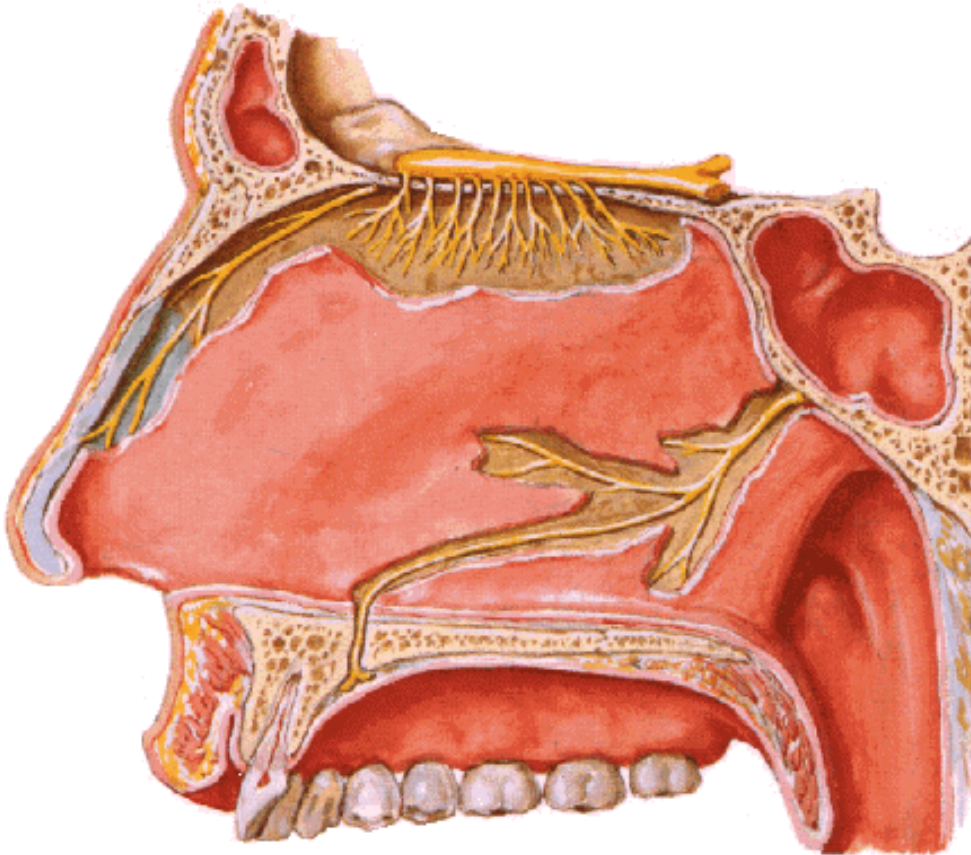
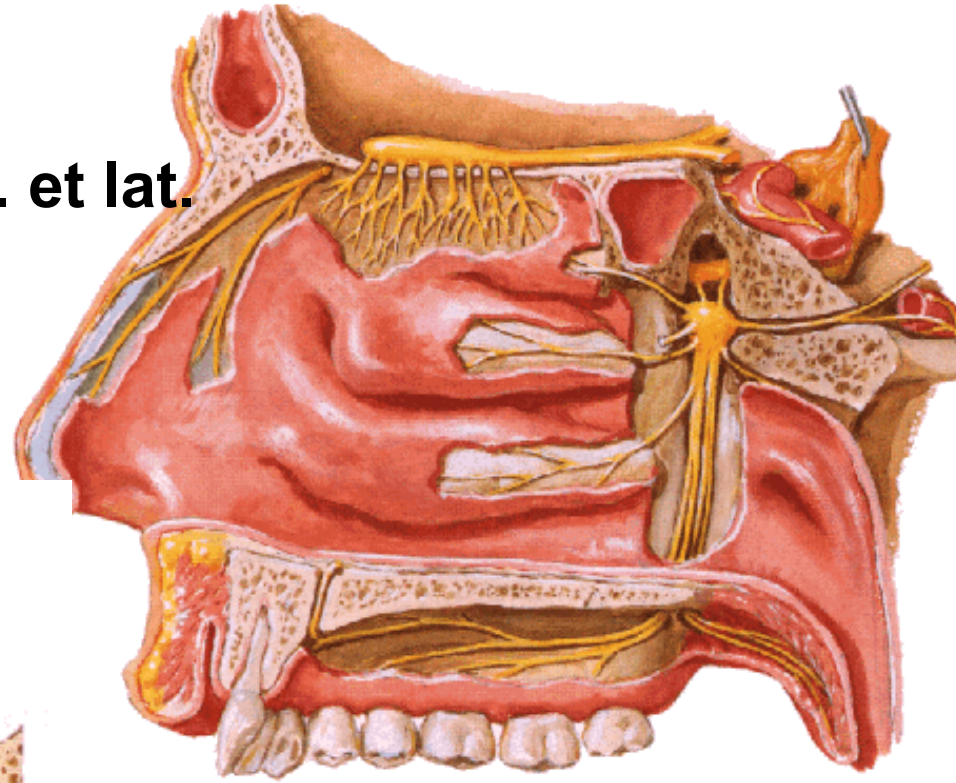


**Kiesselbach area**

## **N. trigeminus (CN V)**

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

## **Nn. olfactorii**





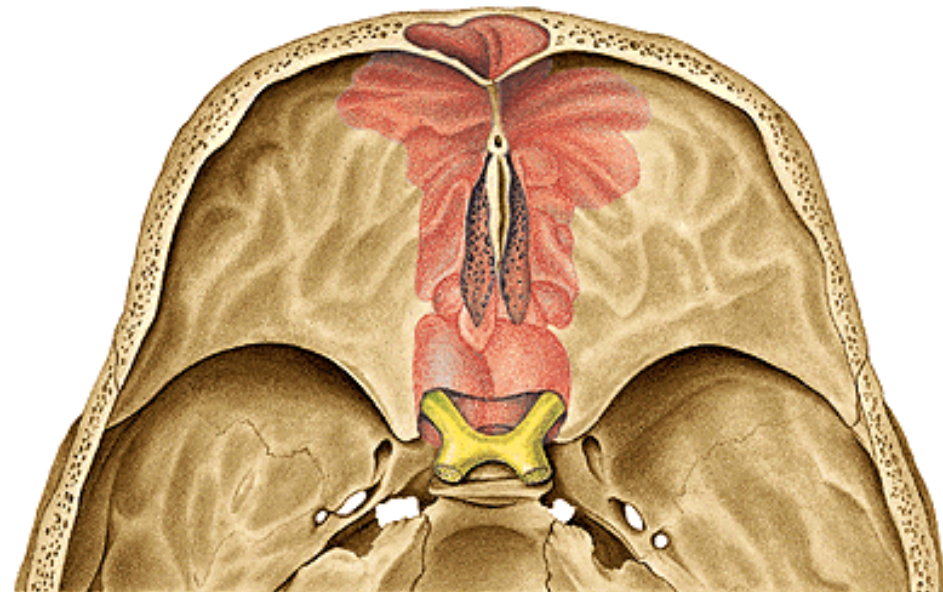
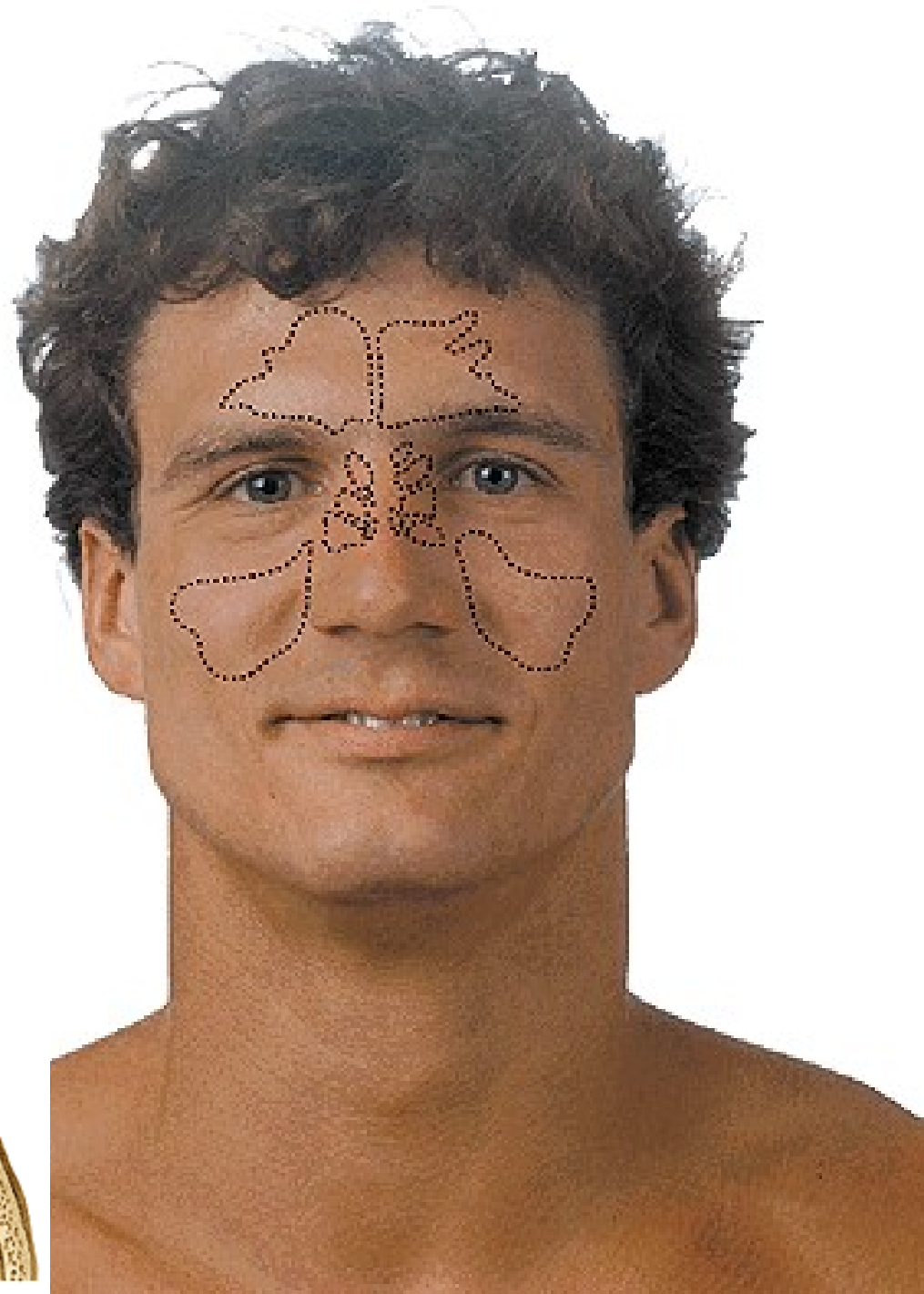
# SINUS PARANASALES

**Sinus maxillaris**

**Sinus frontalis**

**Sinus ethmoidales**

**Sinus sphenoidalis**



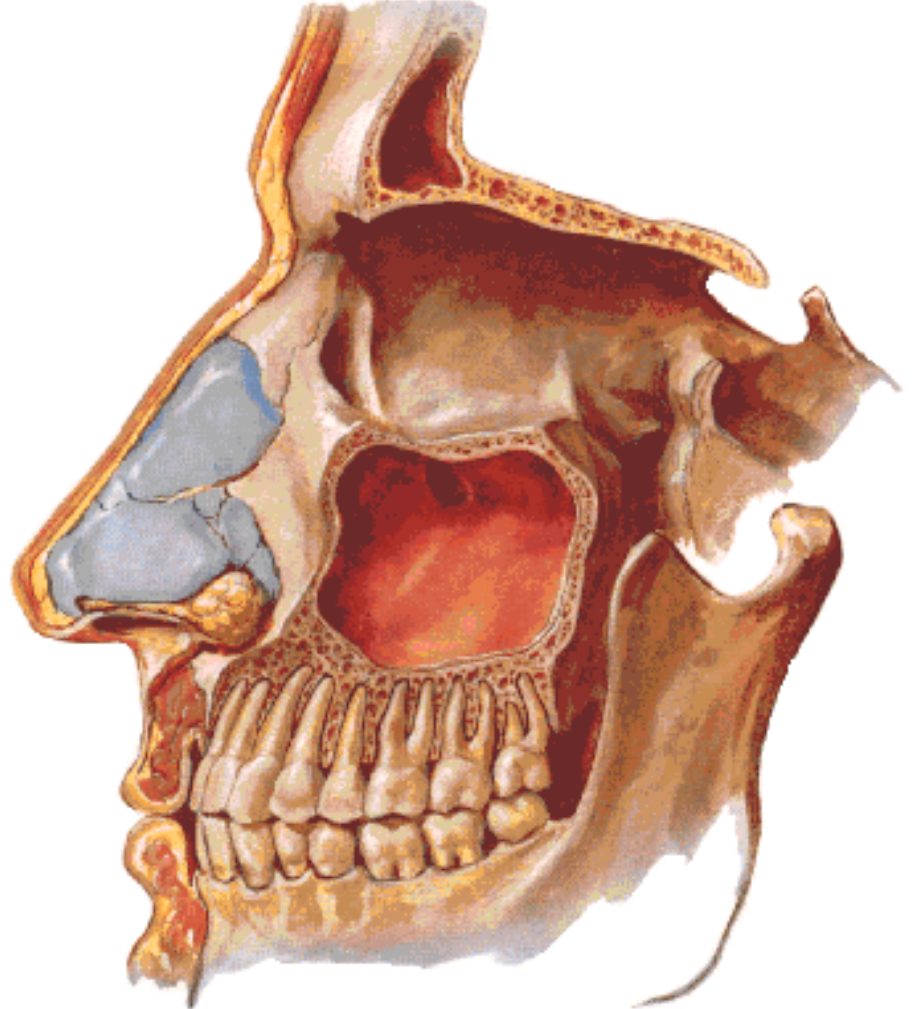
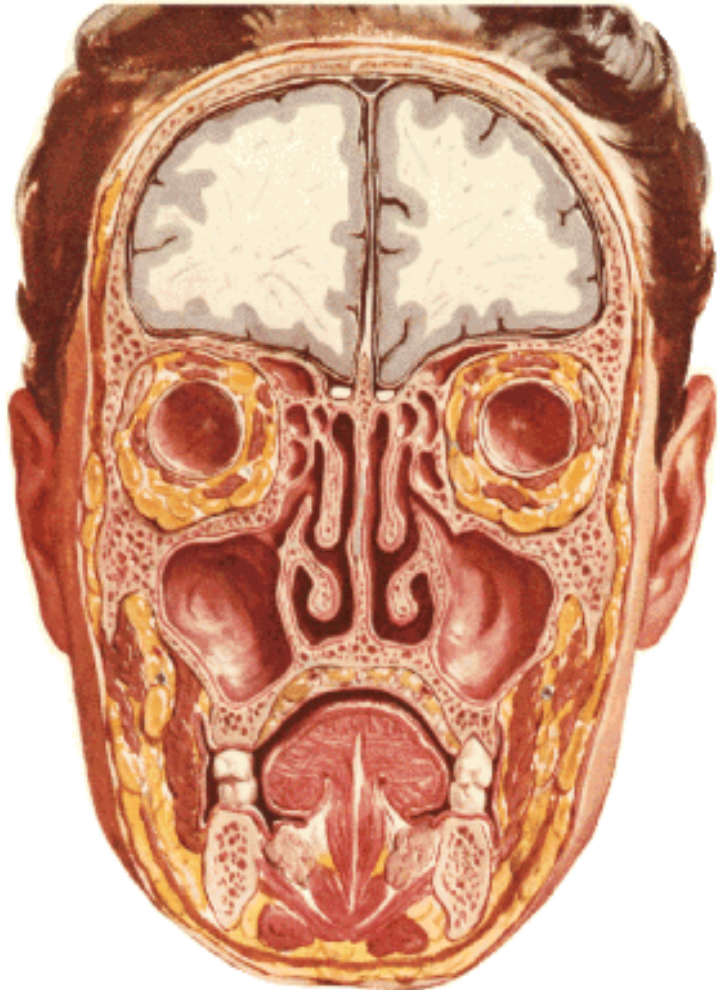
**SINUS MAXILLARIS  
(Antrum of Highmore)**

**Aa. et vv. facialis, palatina major, infraorbitalis**

**NII. submandibulares**

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

**Nn. alveolares sup. (V2)**



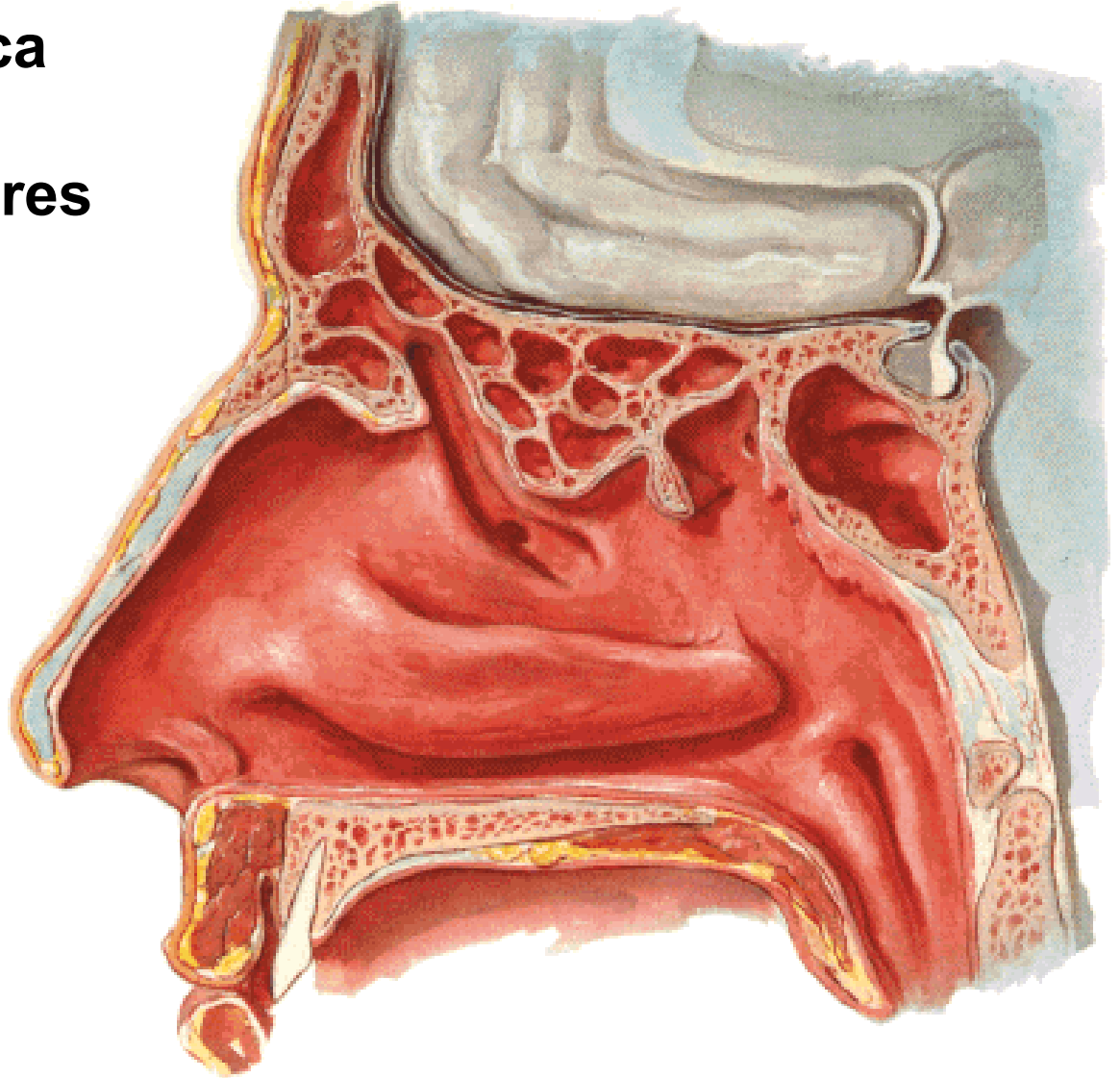
# SINUS FRONTALIS

septum sinuum frontalem

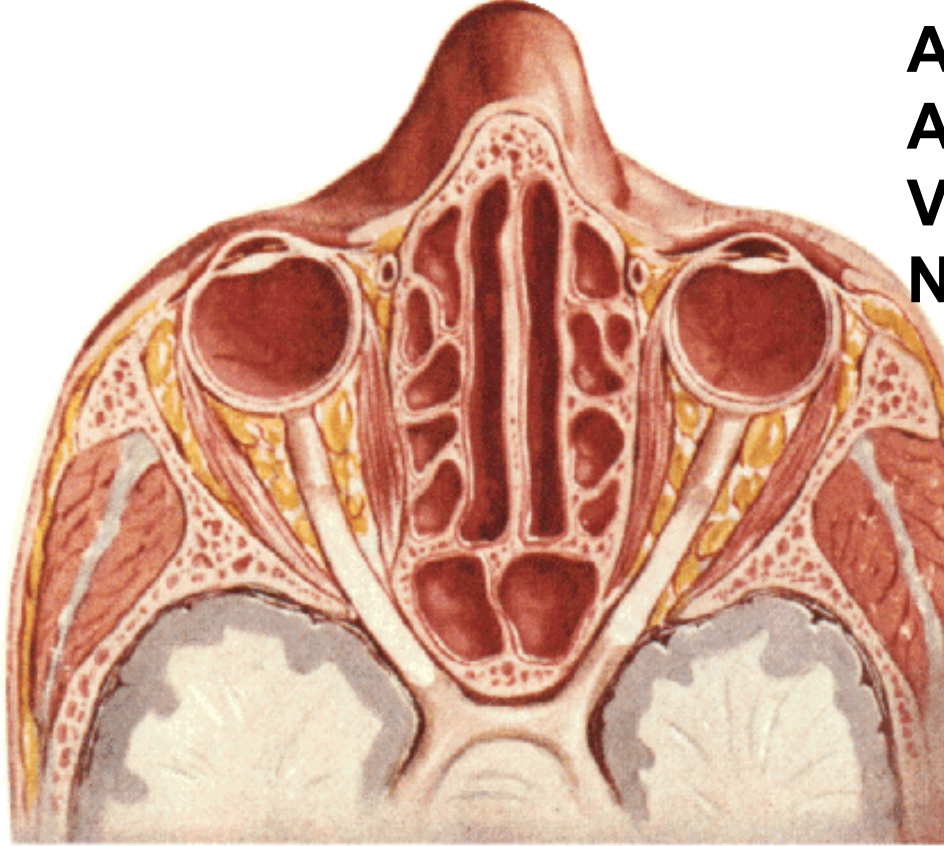
A. et v. ophthalmica

V1

NII. submandibulares

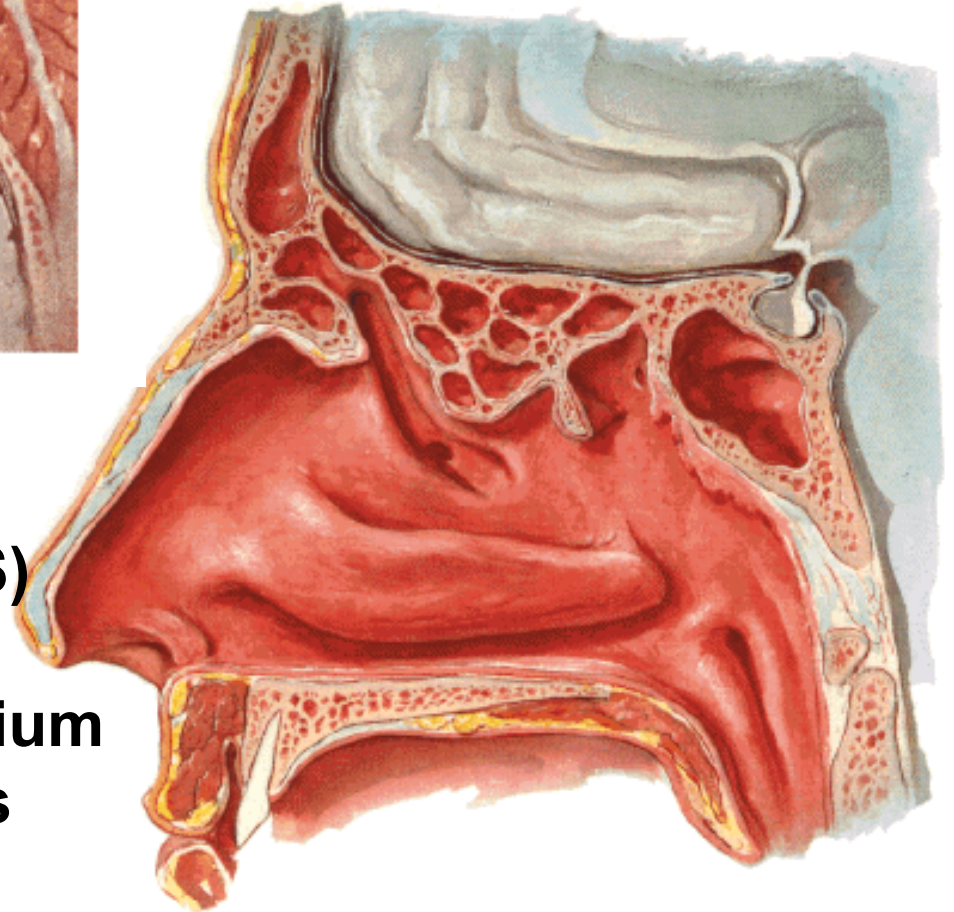






**A. et v. ethmoidalis ant. et post.**  
**A. et v. sphenopalatina**  
**V1, V2**  
**III. submandibulares,**  
**retropharyngei**

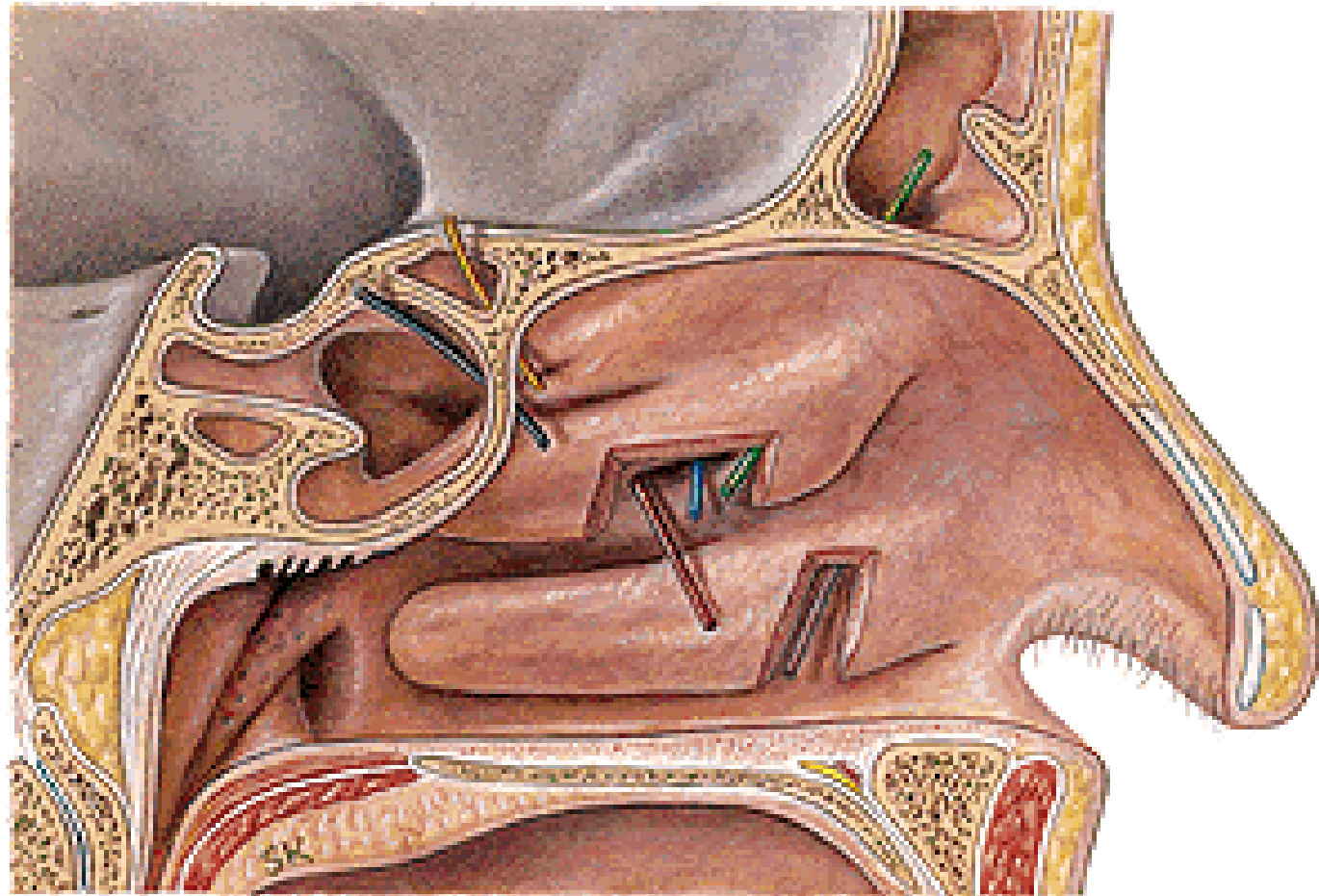
**SINUS ETHMOIDALES**  
**(CELLULAE ETHMOIDALES)**  
**SINUS SPHENOIDALIS**  
**septum sinuum sphenoidalium**  
**apertura sinus sphenoidalis**



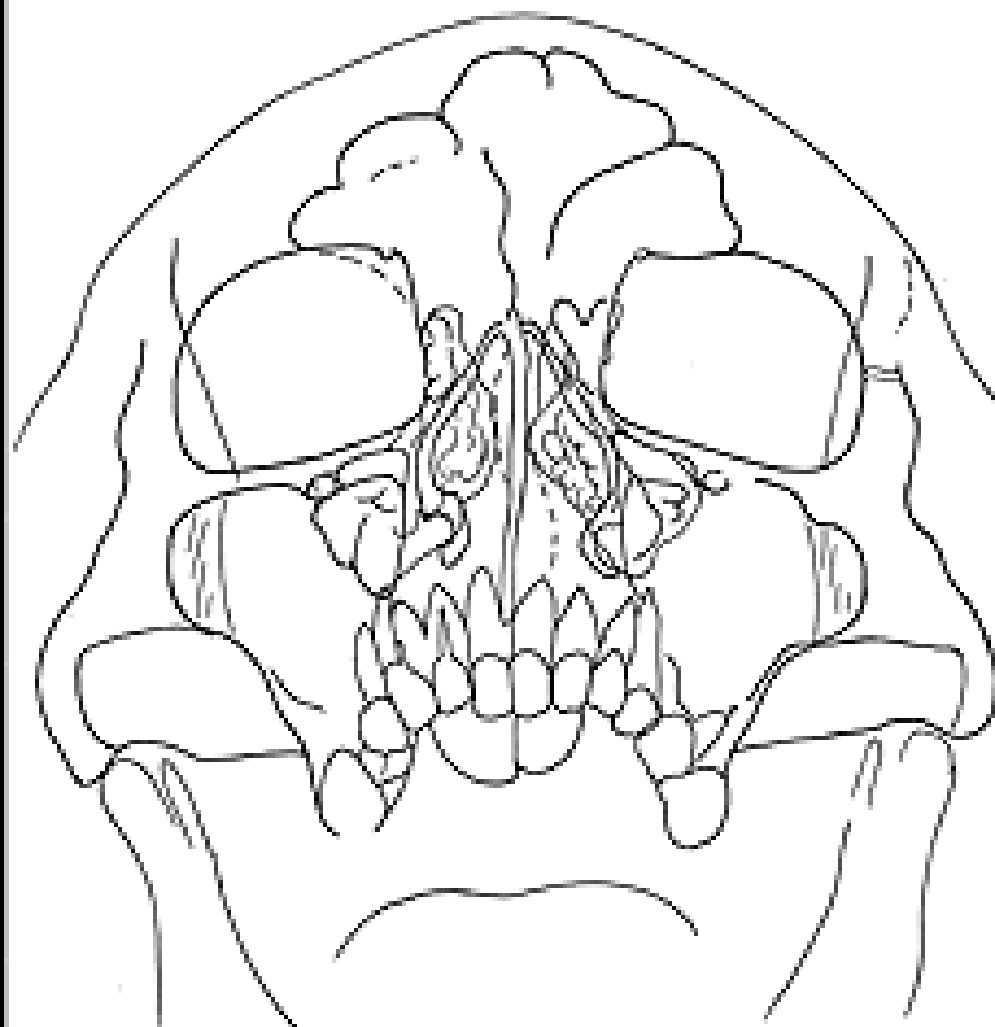
**Meatus nasi inf. – ductus nasolacrimalis**

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

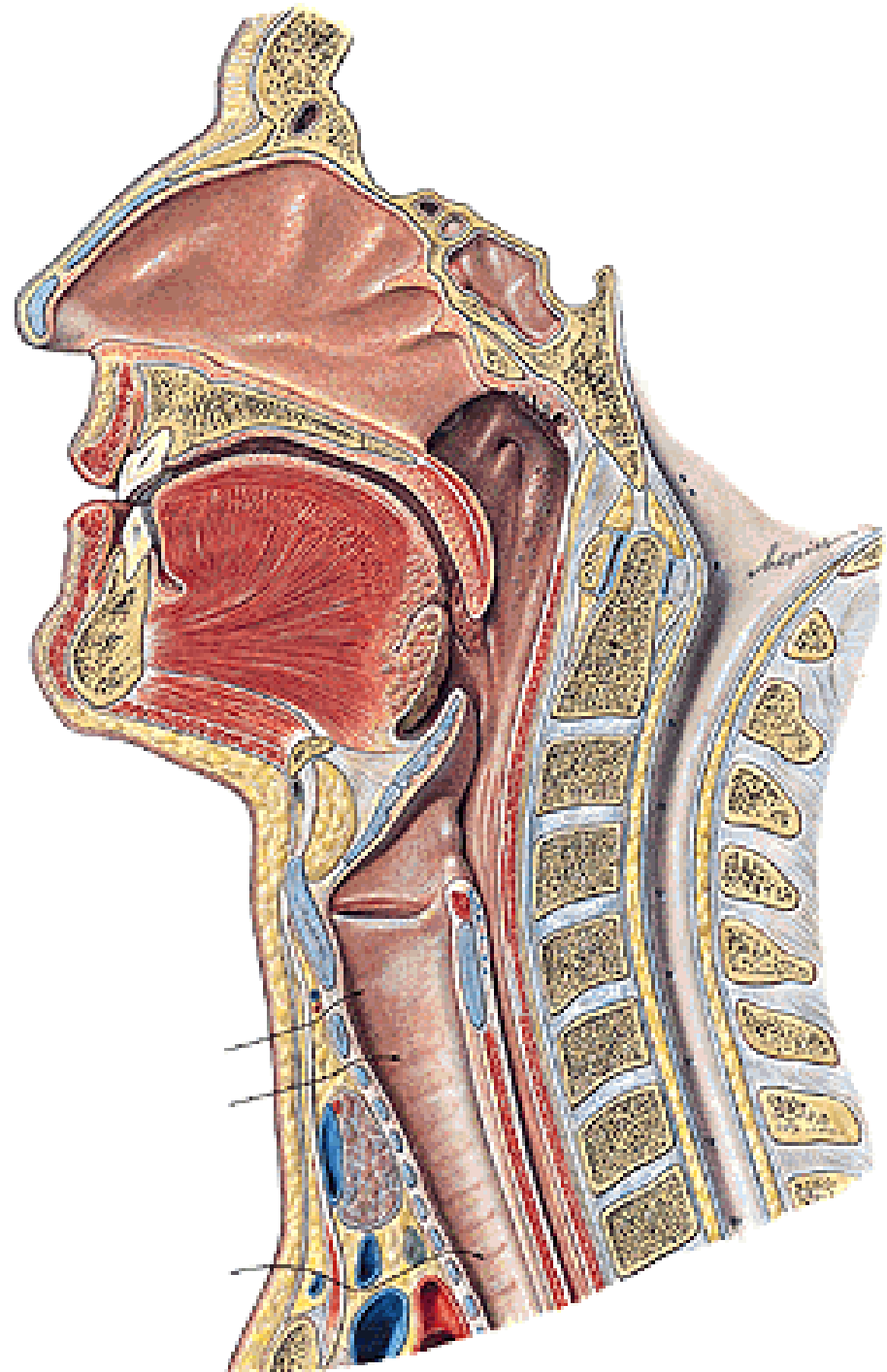
**Meatus nasi sup. – cellulae ethmoidales posteriores, sinus  
sphenoidalis**







# PHARYNX



# NASOPHARYNX

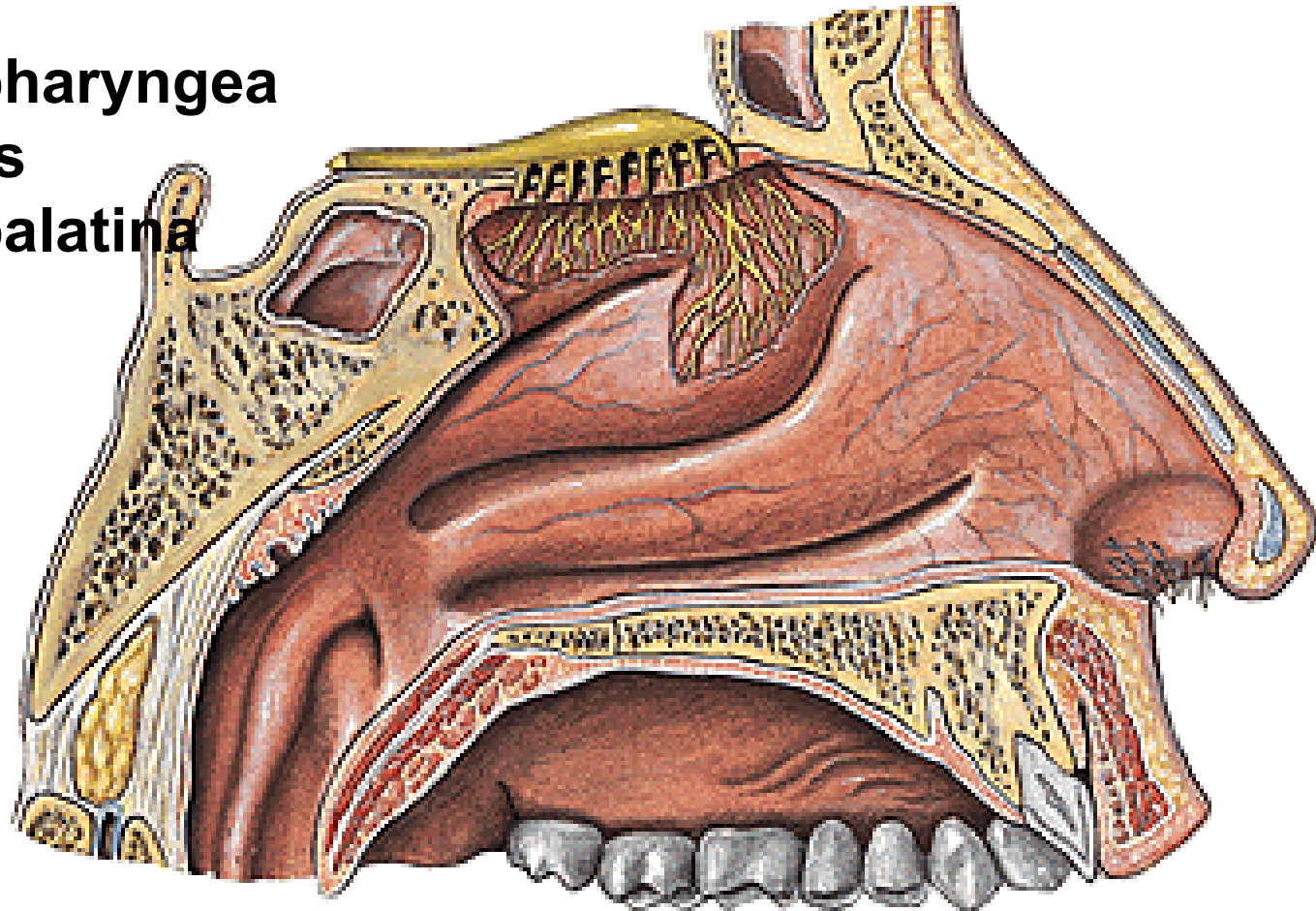
Ostium pharyngeum  
tubae auditivae:

Torus tubarius

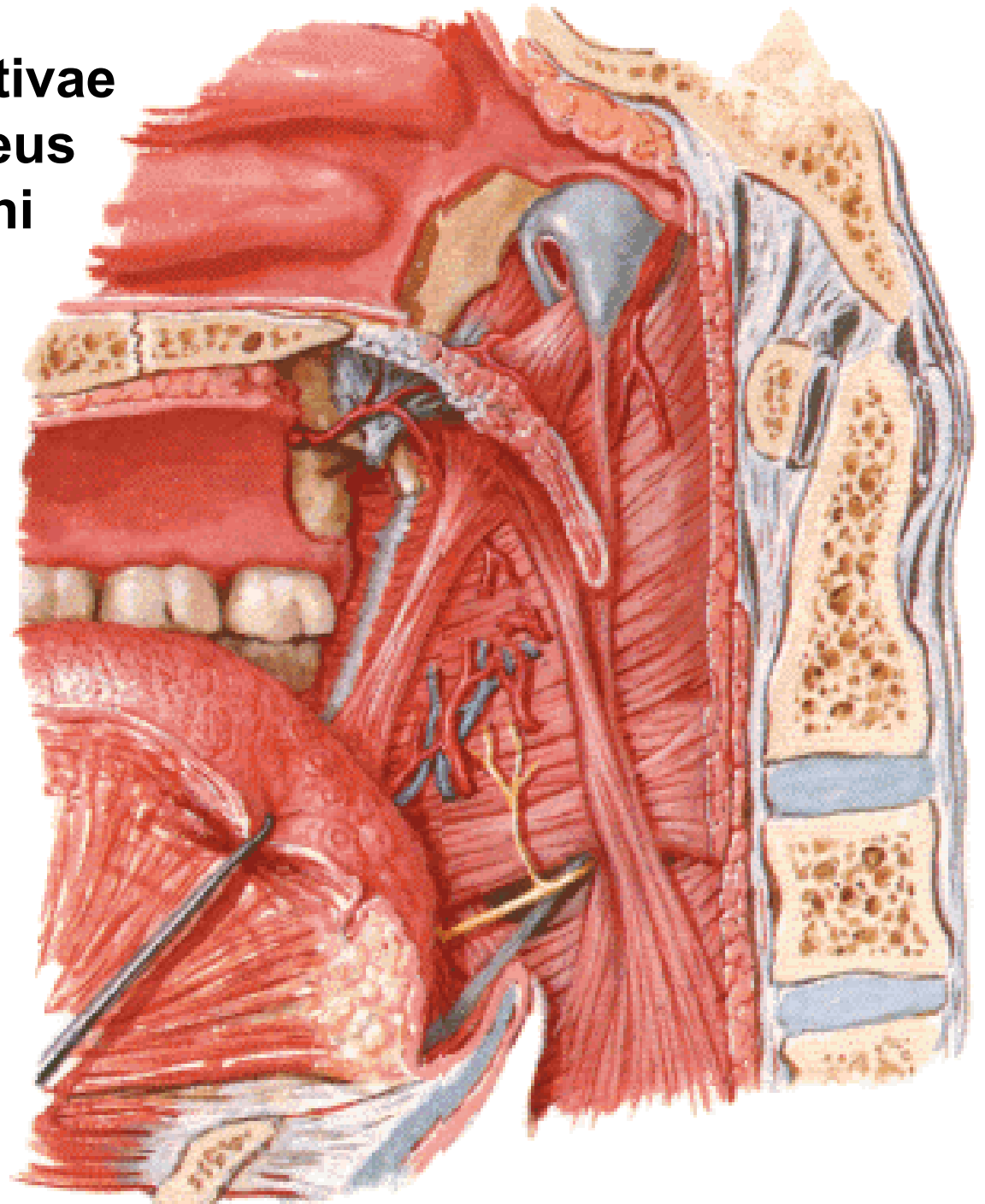
Plica salpingopharyngea

Torus levatorius

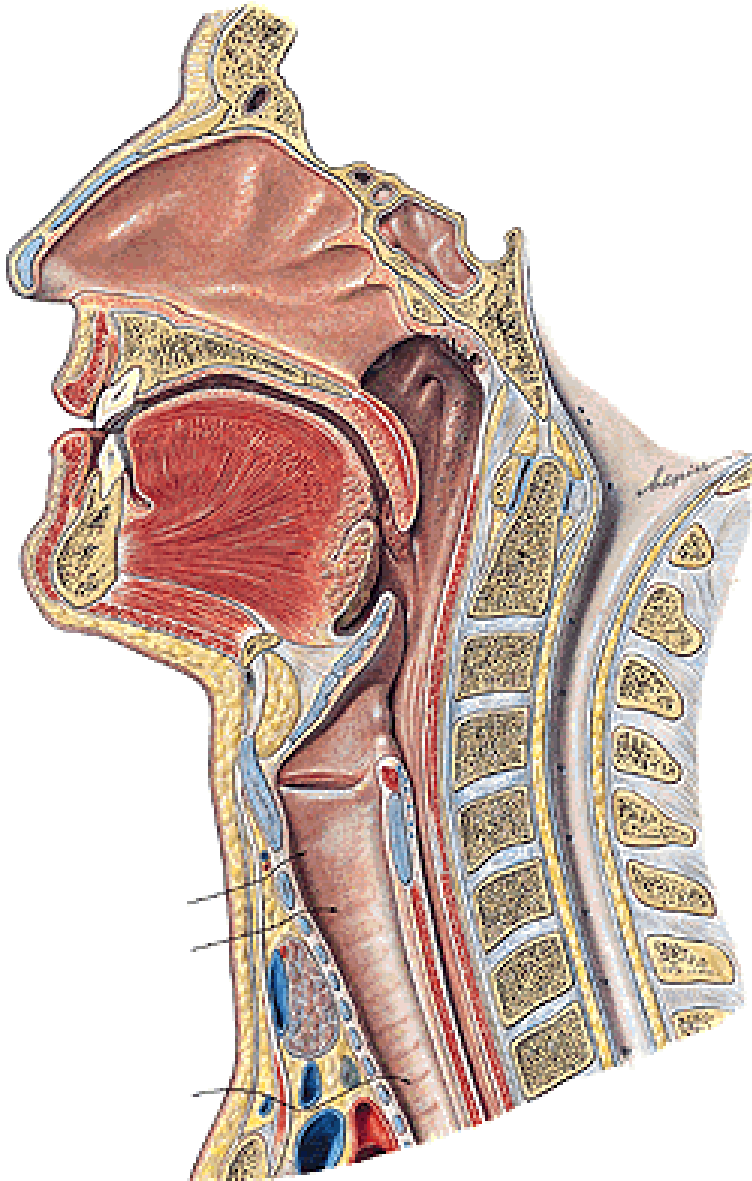
Plica salpingopalatina



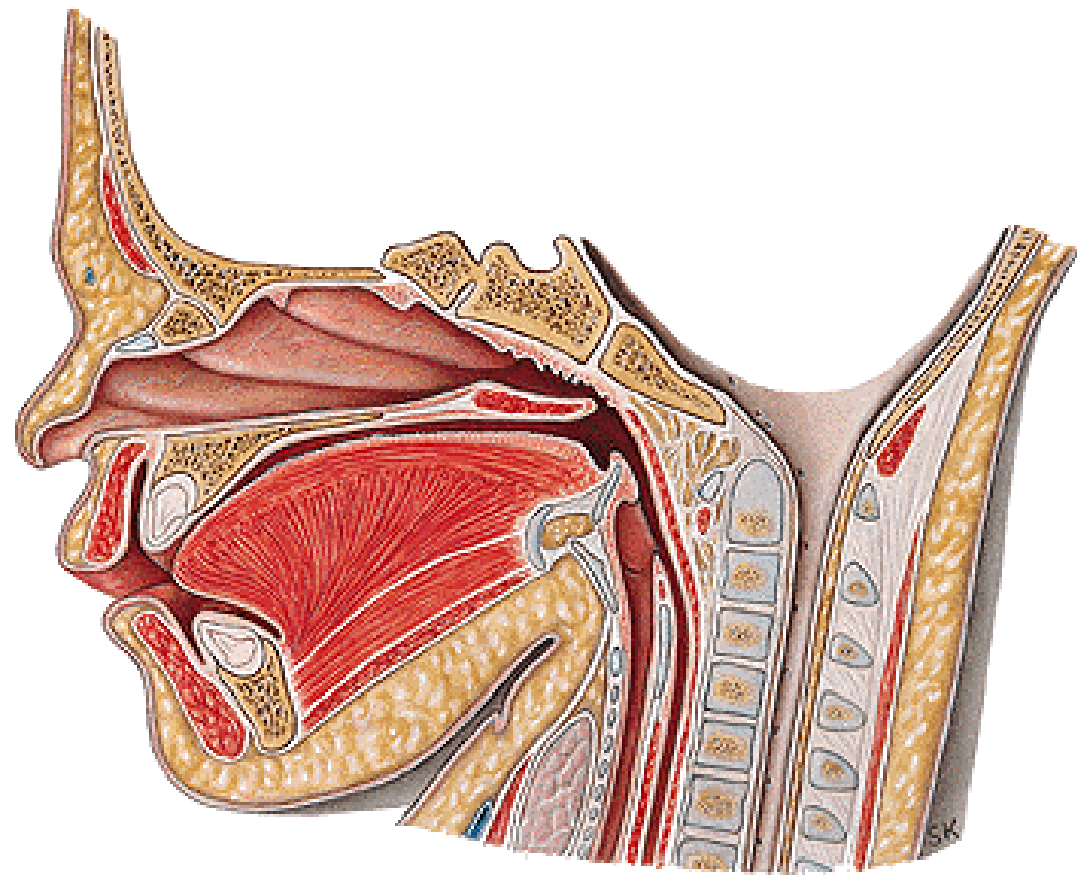
**Cartilago tubae auditivae**  
**M. salpingopharyngeus**  
**M. levator veli palatini**



# LARYNX

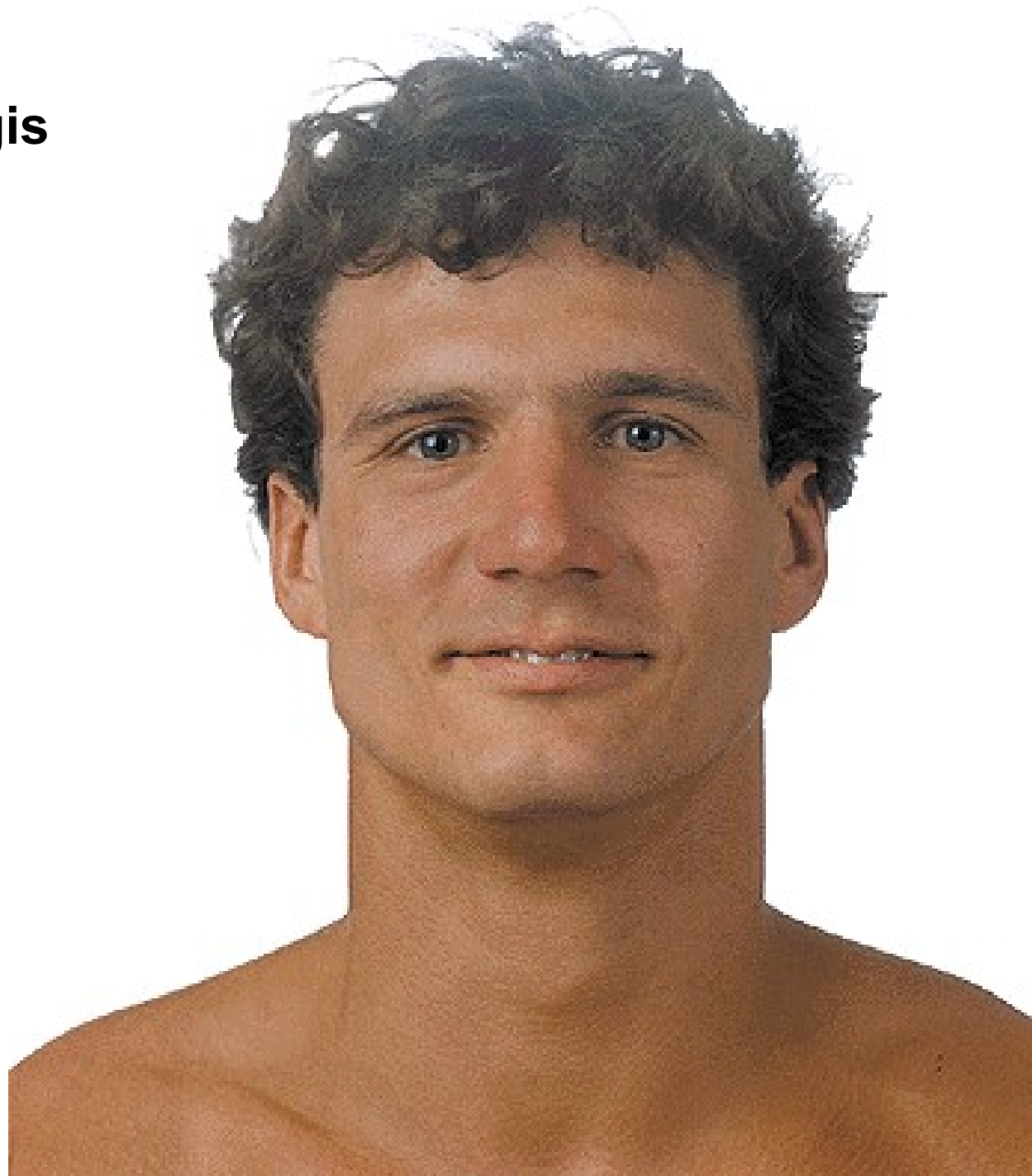


← ADULT



↑  
NEONATE

# Prominentia laryngis



## **CARTILAGINES LARYNGIS:**

**Cartilago thyroidea**

**Cartilago cricoidea**

**Cartilago arytaenoidea**

**Cartilago epiglottica**

**Cartilago corniculata**

**Cartilago cuneiformis**

**Cartilago triticea**

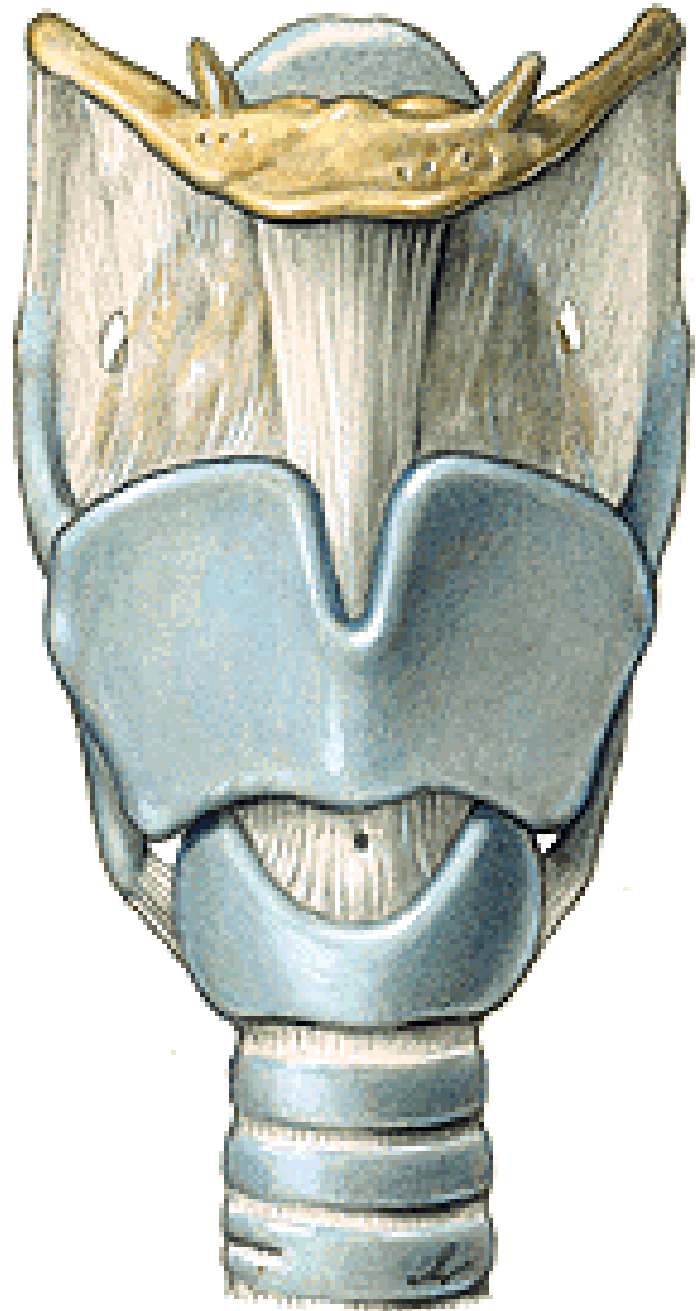


# LARYNX

**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

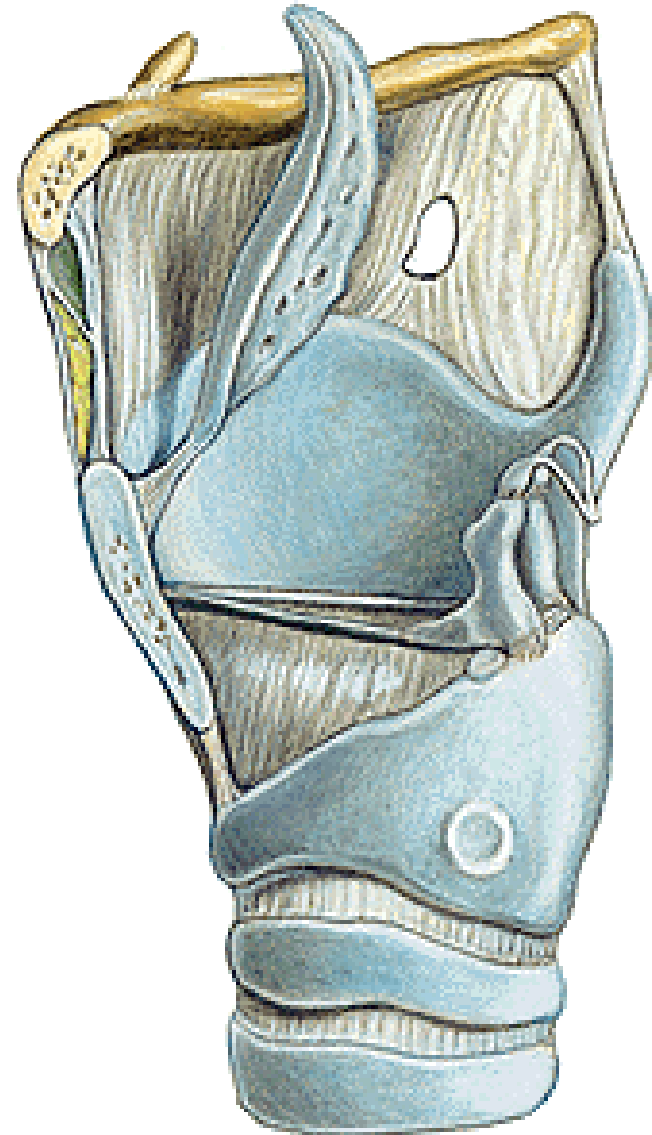
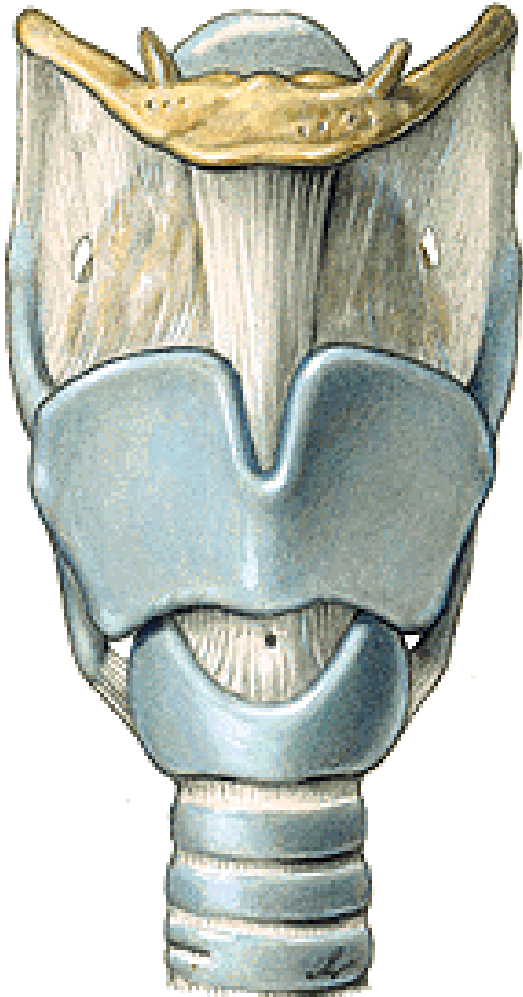






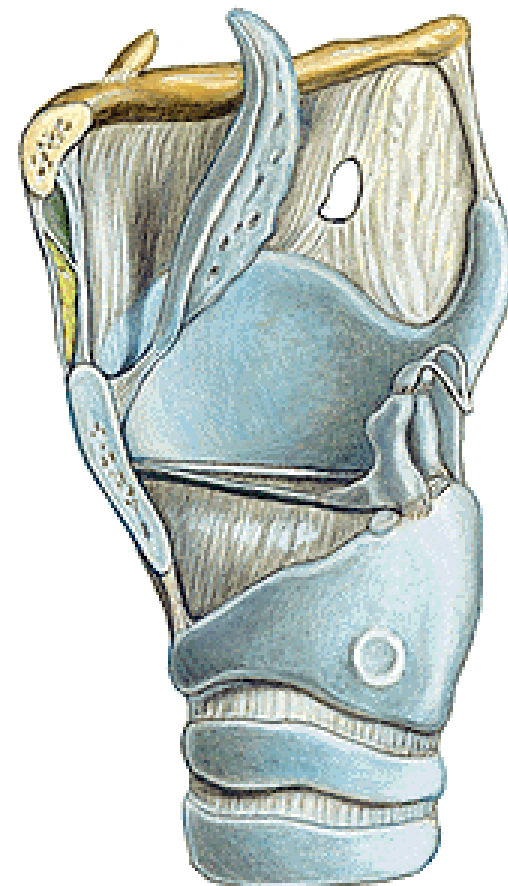
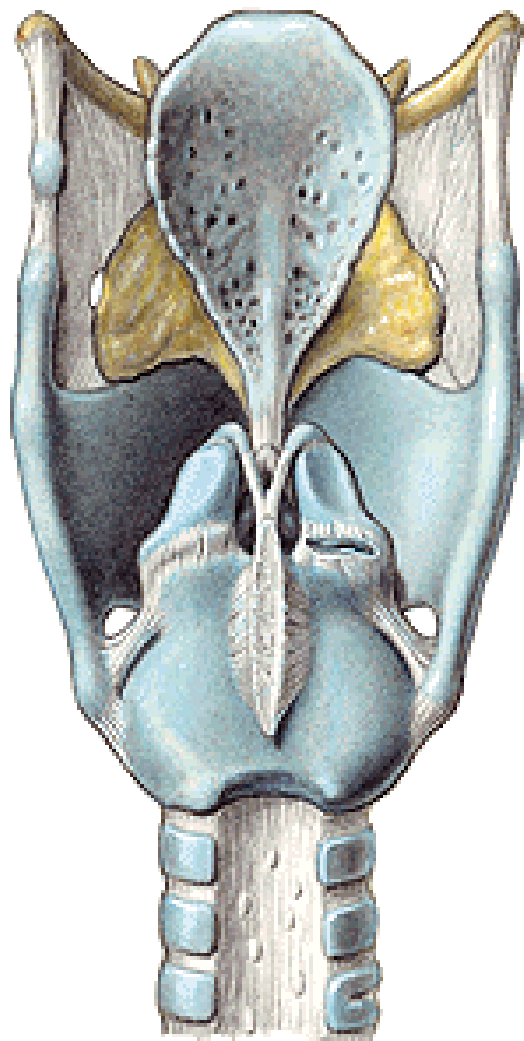
# CARTILAGO CRICOIDEA

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



# CARTILAGO ARYTAENOIDEA

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



# **CARTILAGO EPIGLOTTICA**

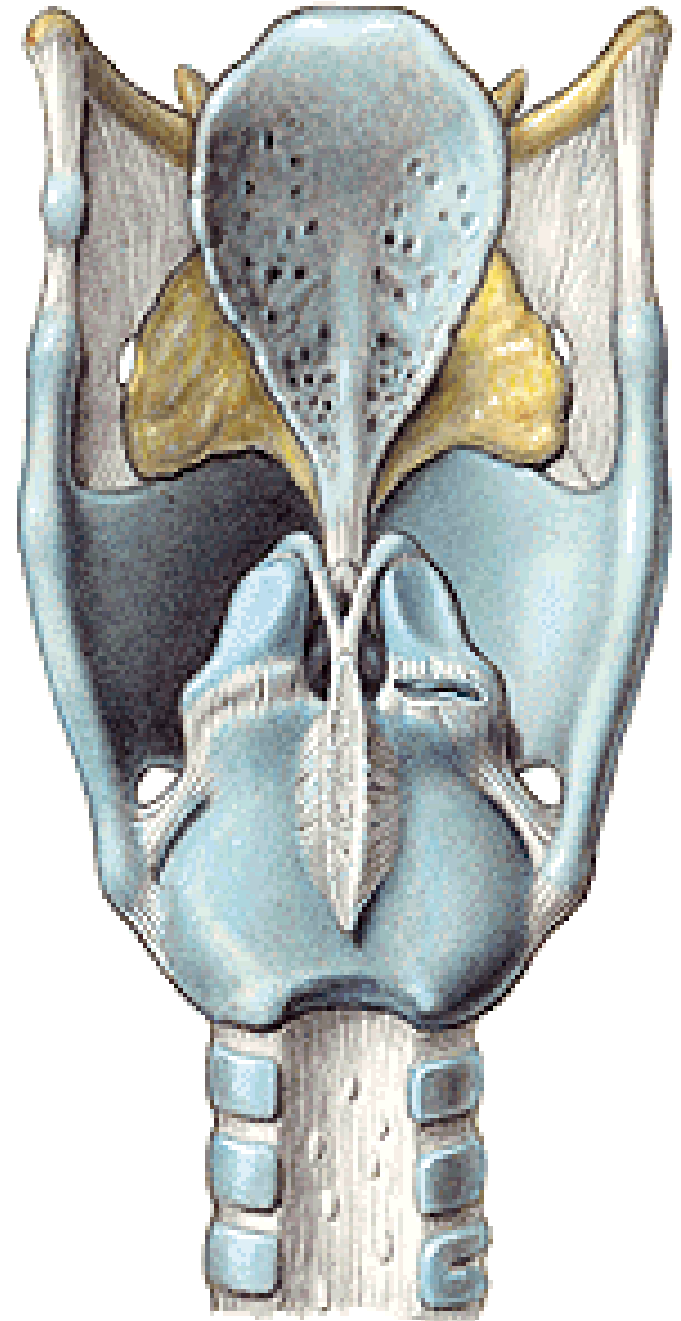
**-petiolus epiglottidis**

**-lamina**

# **CARTILAGO CORNICULATA**

# **CARTILAGO CUNEIFORMIS**

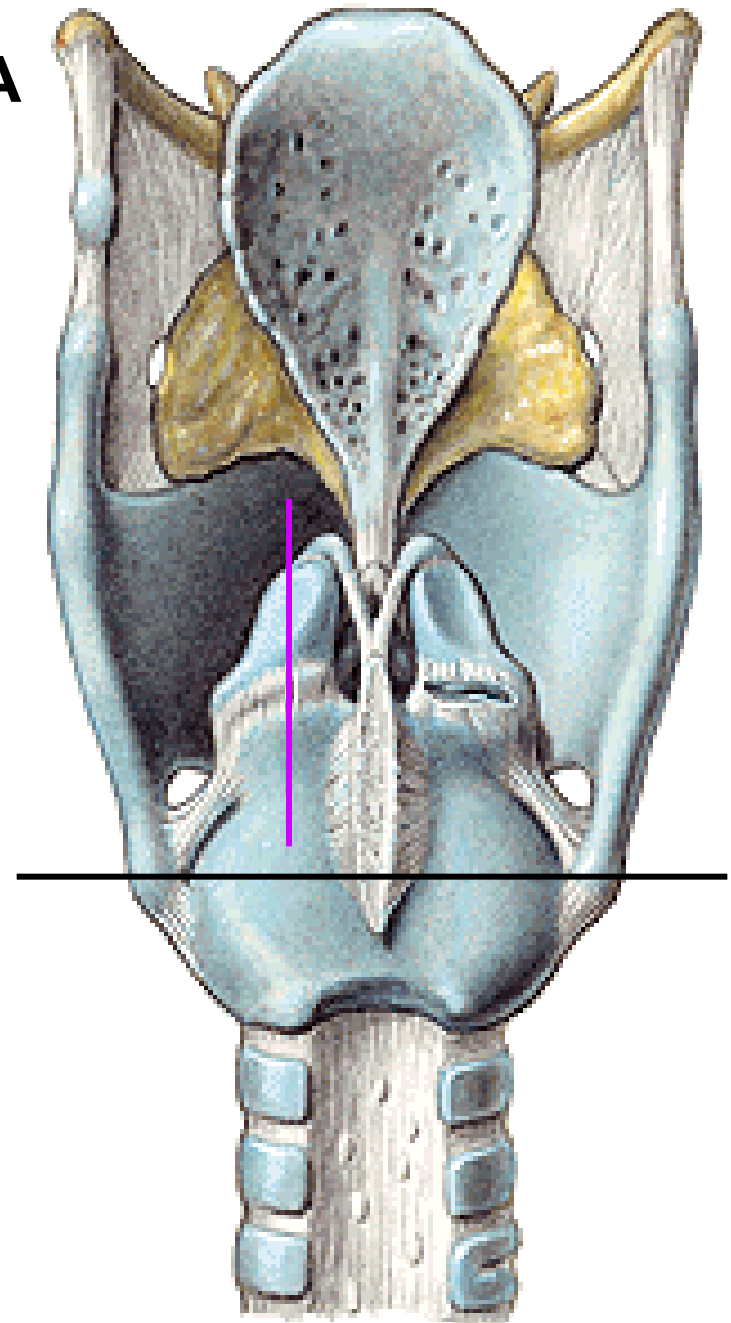
# **CARTILAGO TRITICEA**



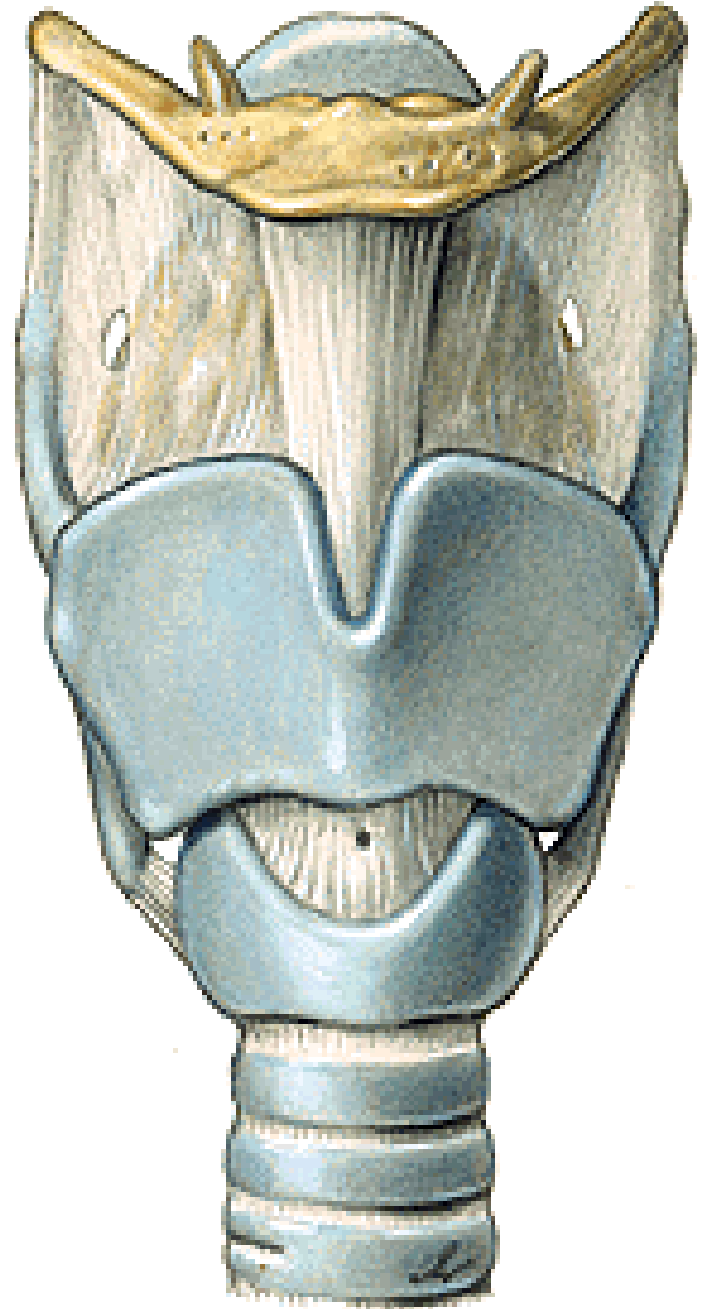


**ARTICULATIO CRICOARYTAENOIDEA**  
**-lig. cricoarytaenoideum post.**

**ARTICULATIO CRICOTHYROIDEA**



**MEMBRANA THYROIDEA**  
**lig. thyroideum laterale**  
**lig. thyroideum medianum**

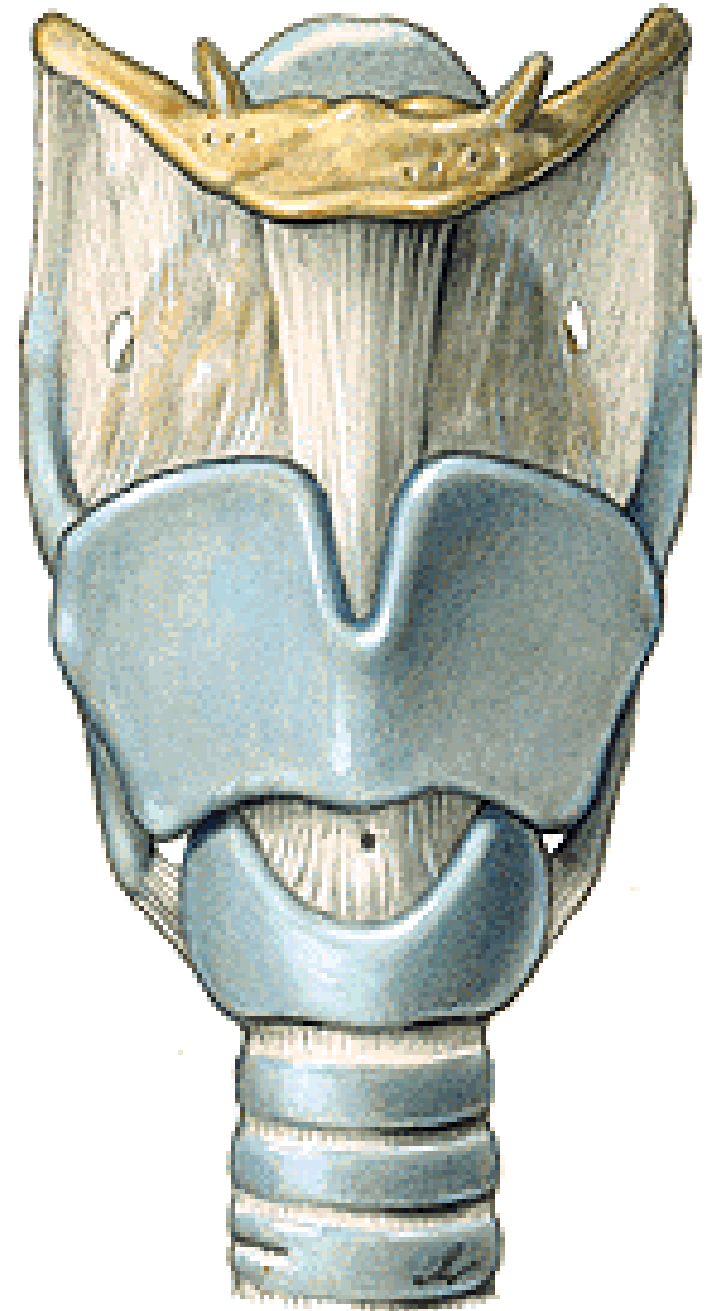


## CONUS ELASTICUS

-lig. cricothyroideum- coniotomy

-lig. vocale – plica vocalis

Lig. cricotracheale

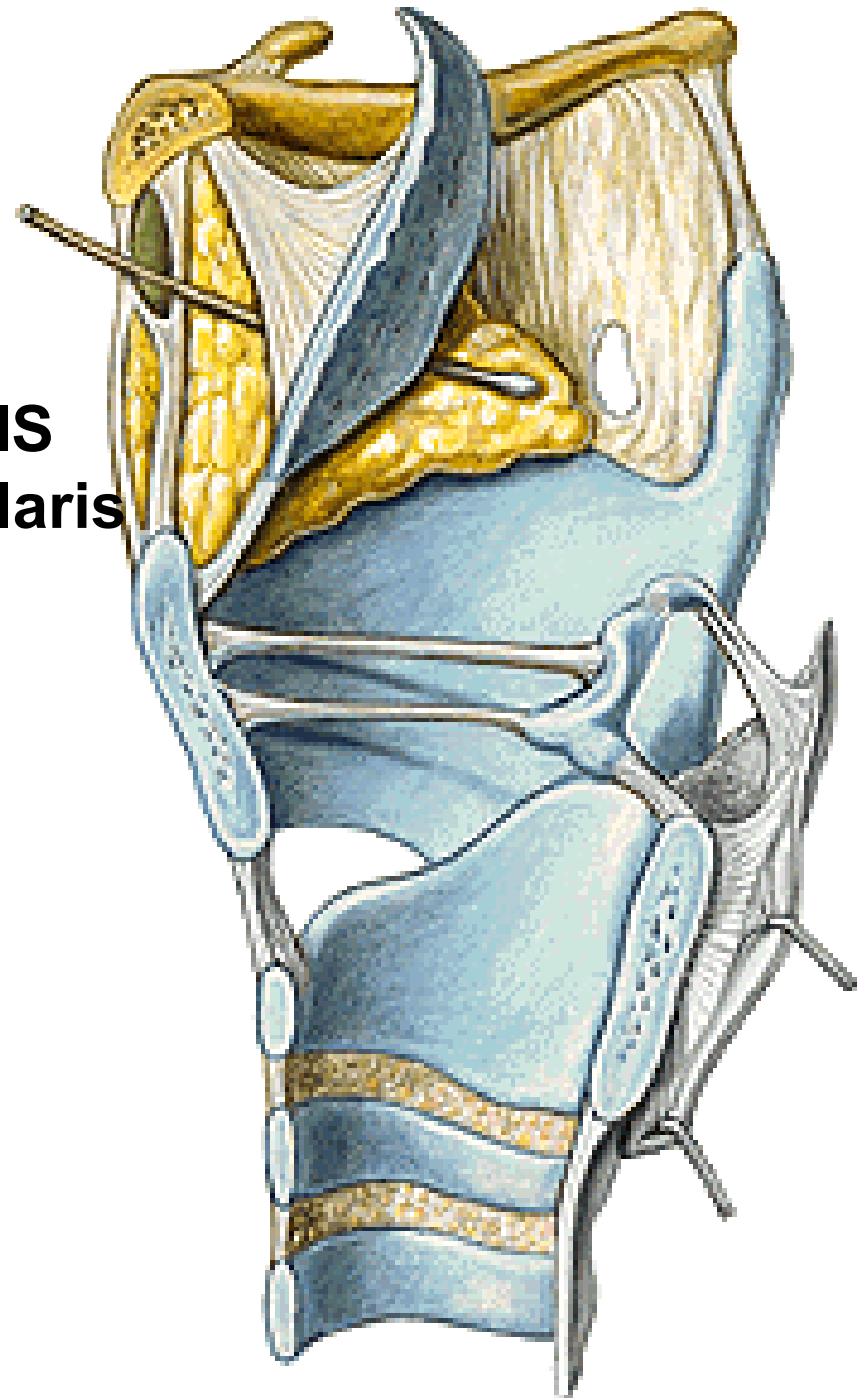




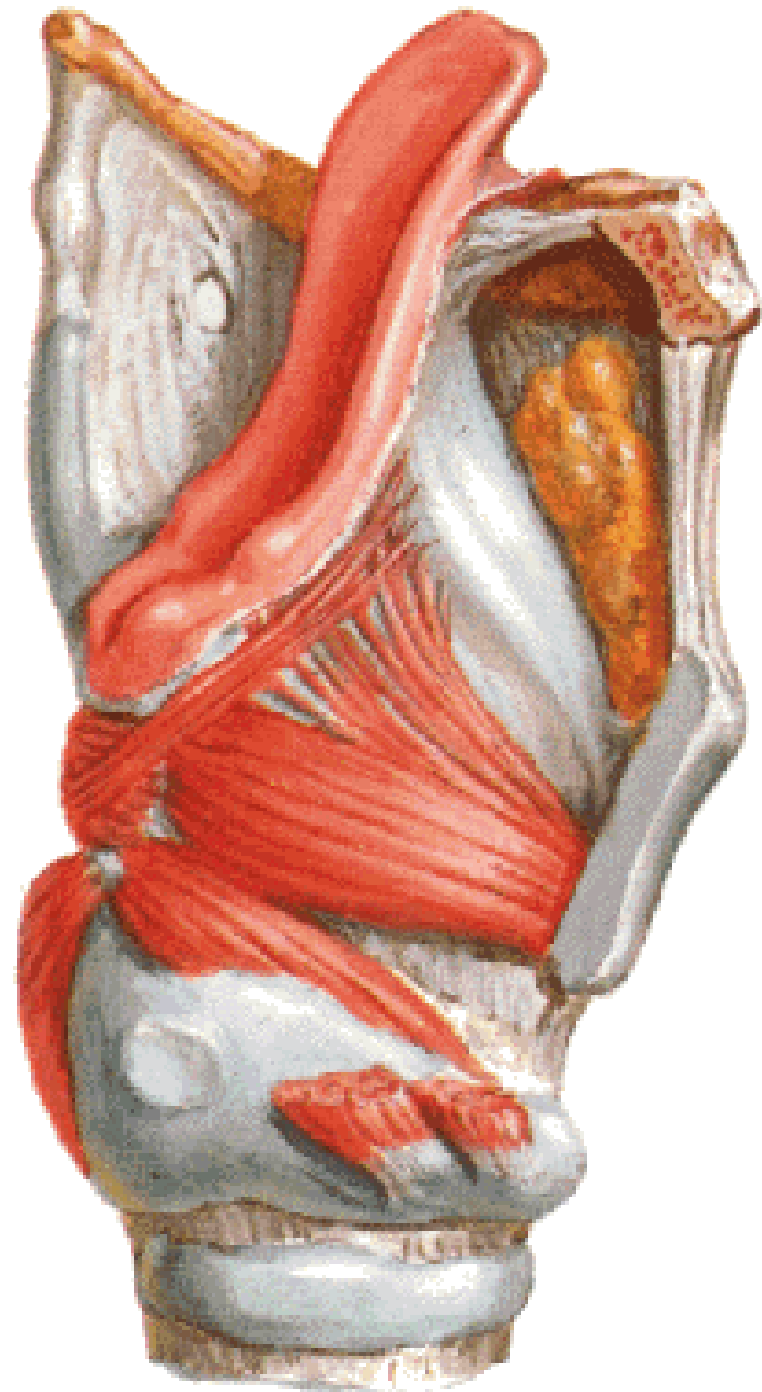
**Lig thyroepiglotticum**  
**Lig. hyoepiglotticum**  
**Spatium praeepiglotticum**

**MEMBRANA QUADRANGULARIS**  
**-lig. ventriculare – plica vestibularis**

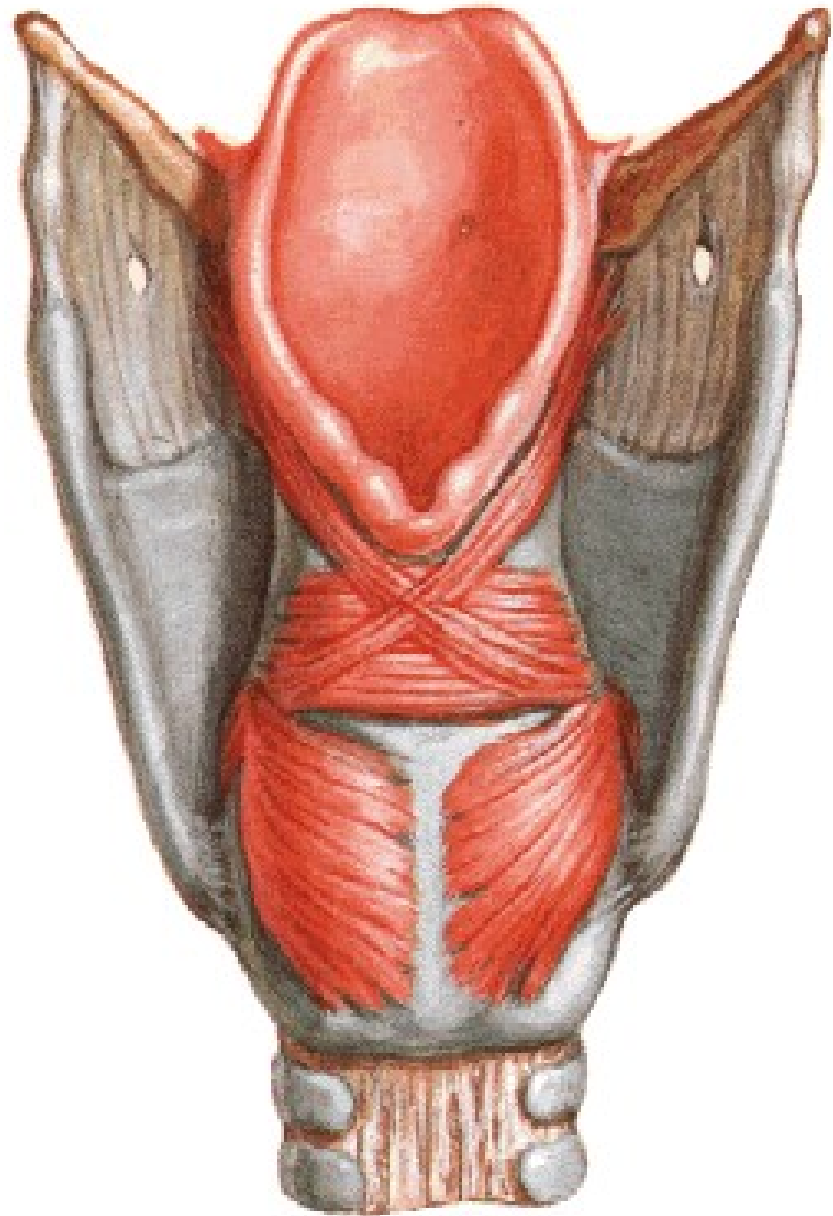
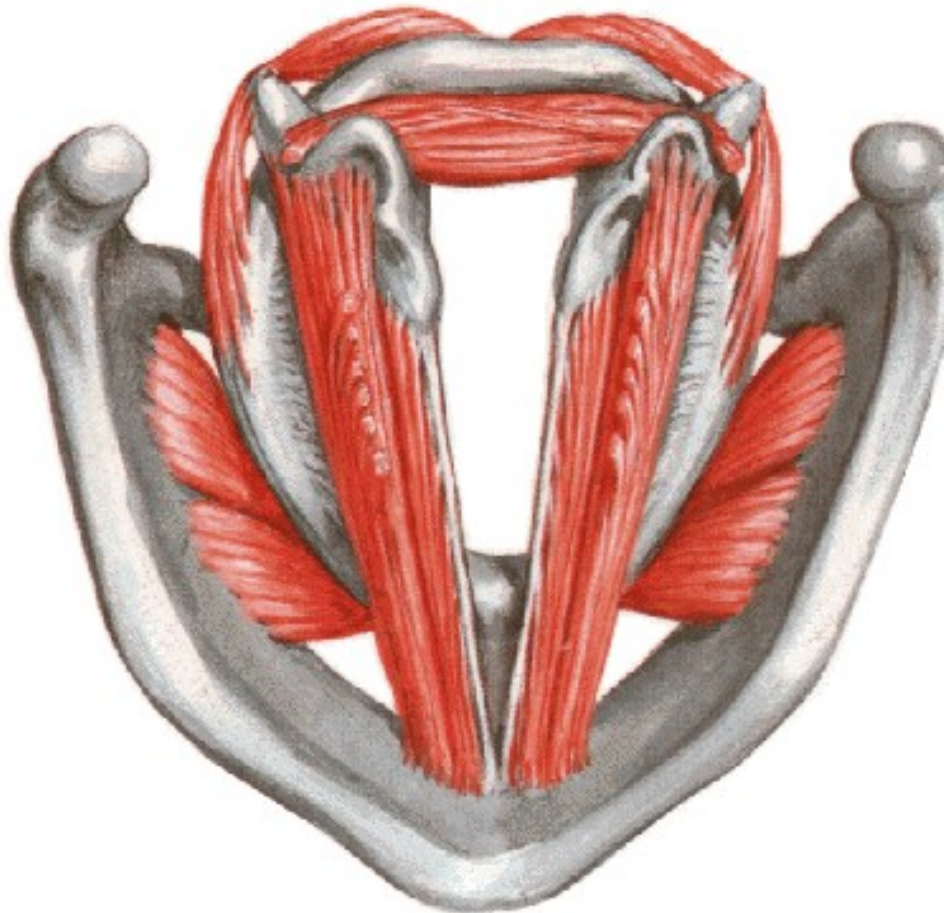
**MEMBRANA FIBROELASTICA**  
**LARYNGIS**



**M. thyroepiglotticus**  
**M. aryepiglotticus**

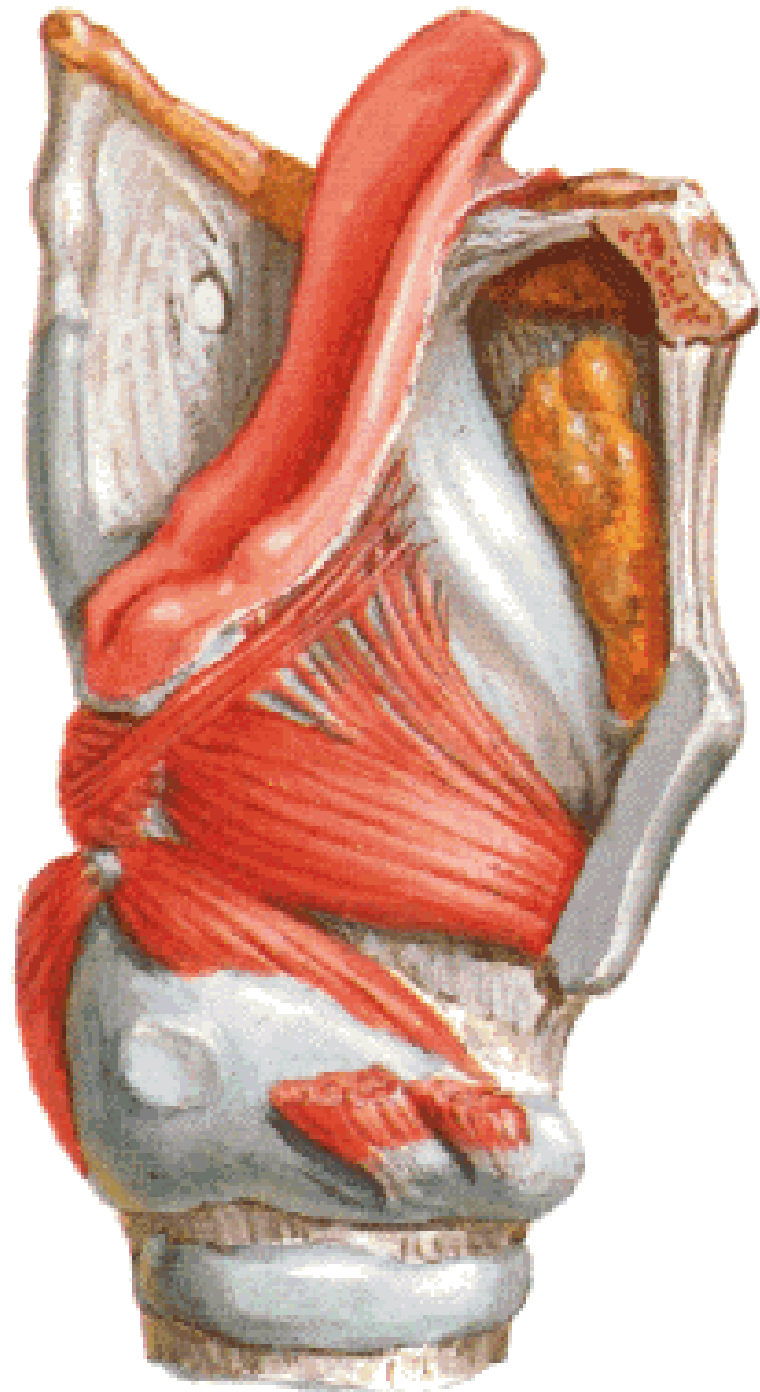
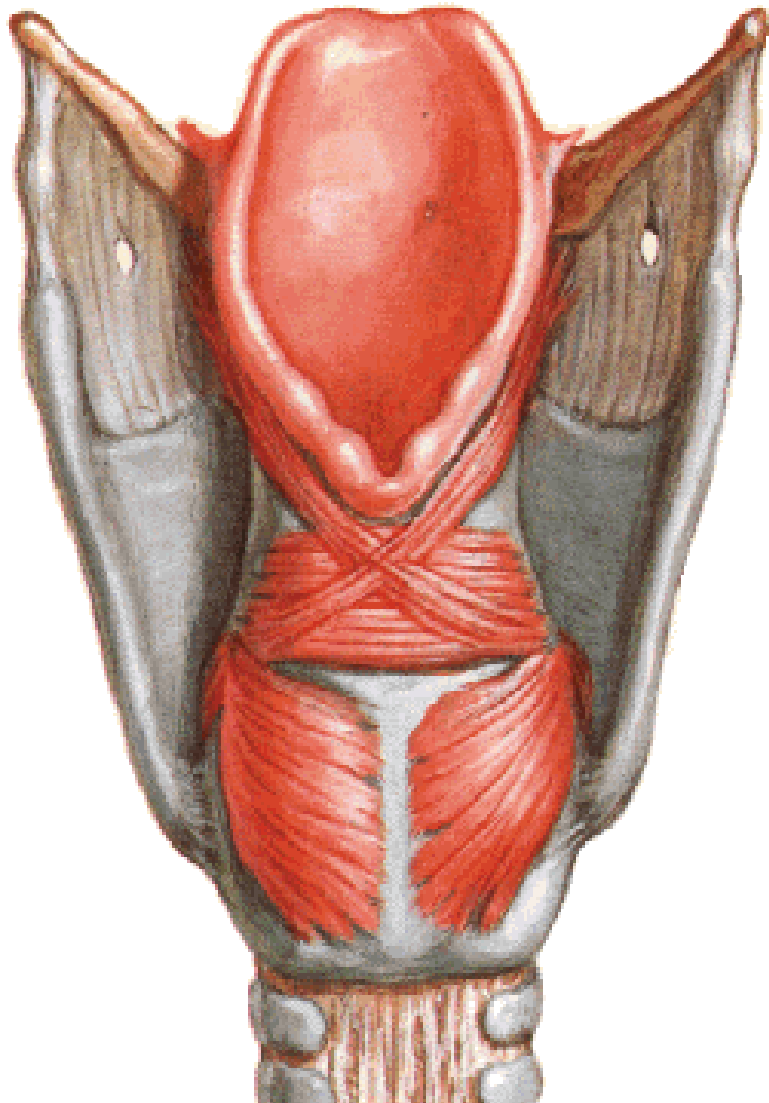


**M. cricoarytaenoideus post.  
(posticus) - respiration**

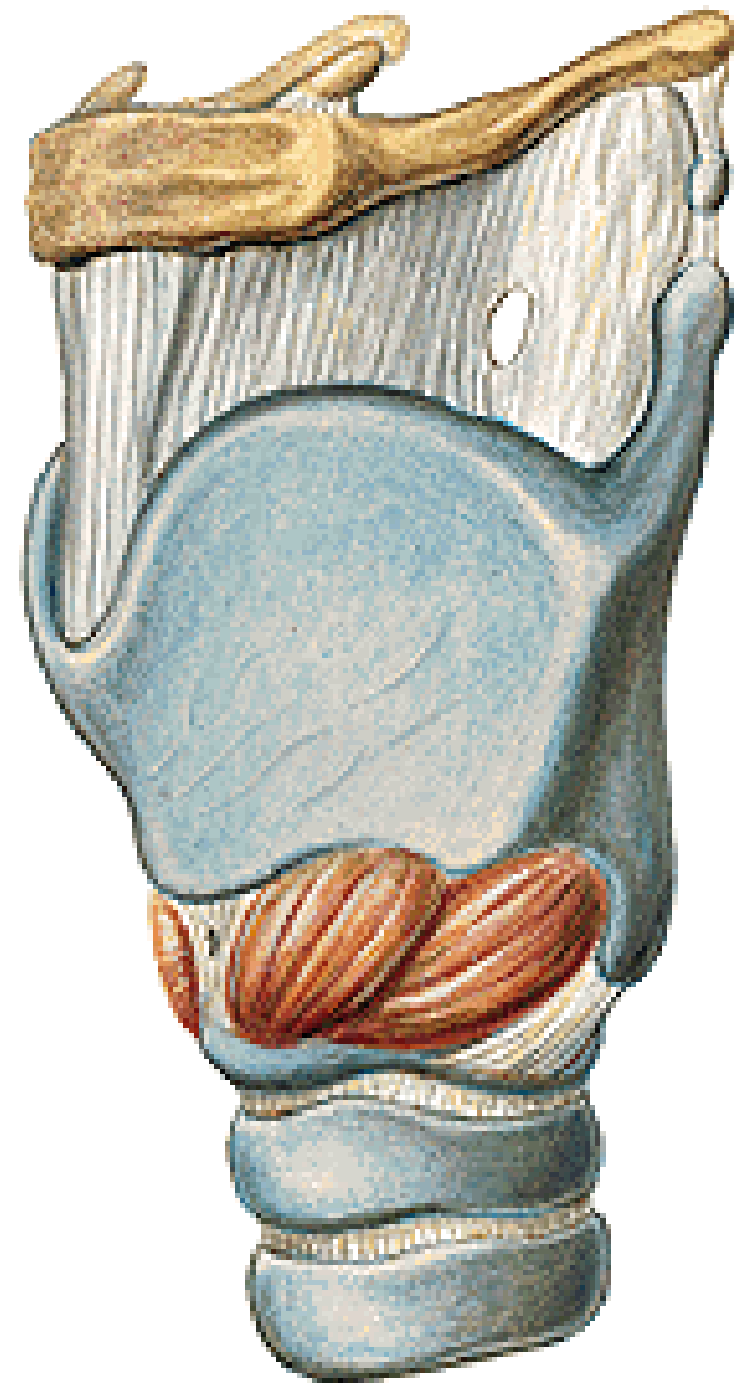


**M. cricoarytaenoideus lateralis**  
- phonation

**M. arytaenoideus** – phonation

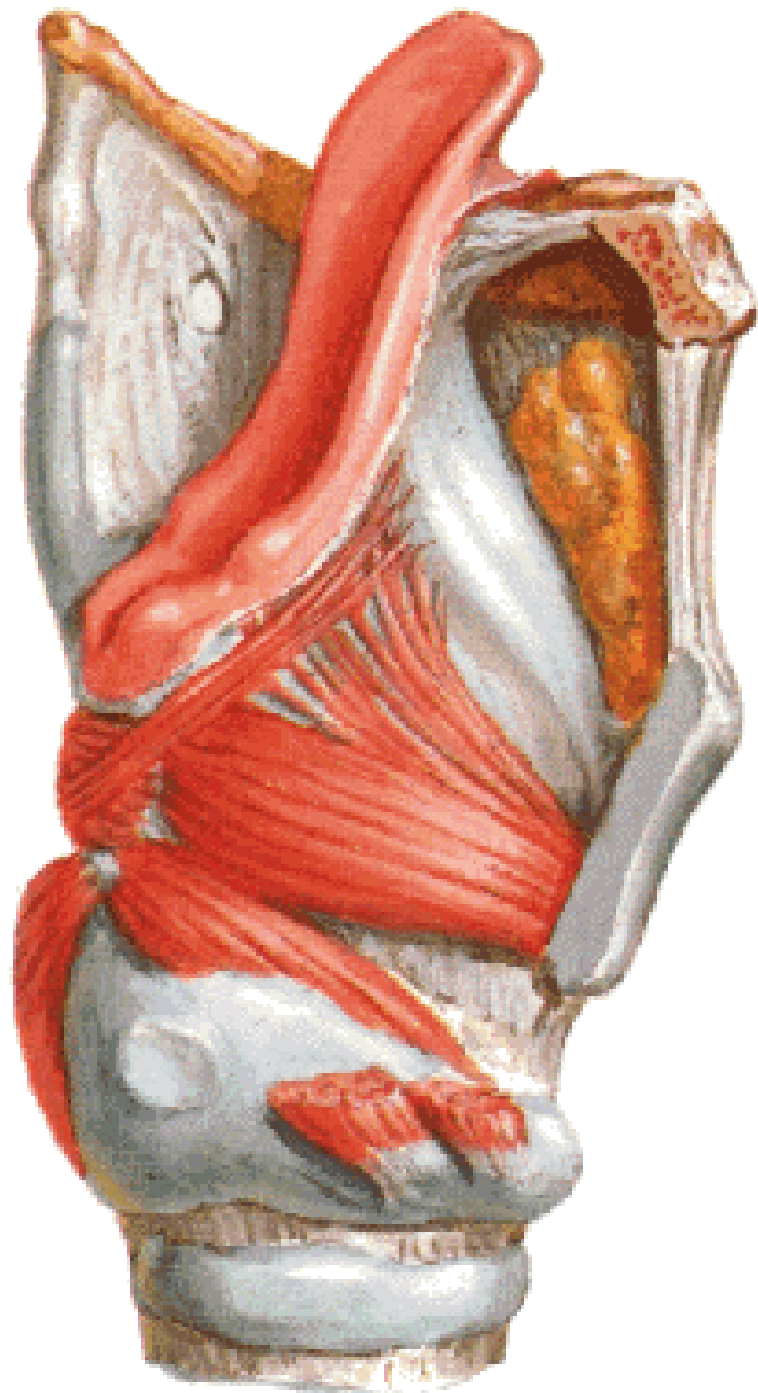
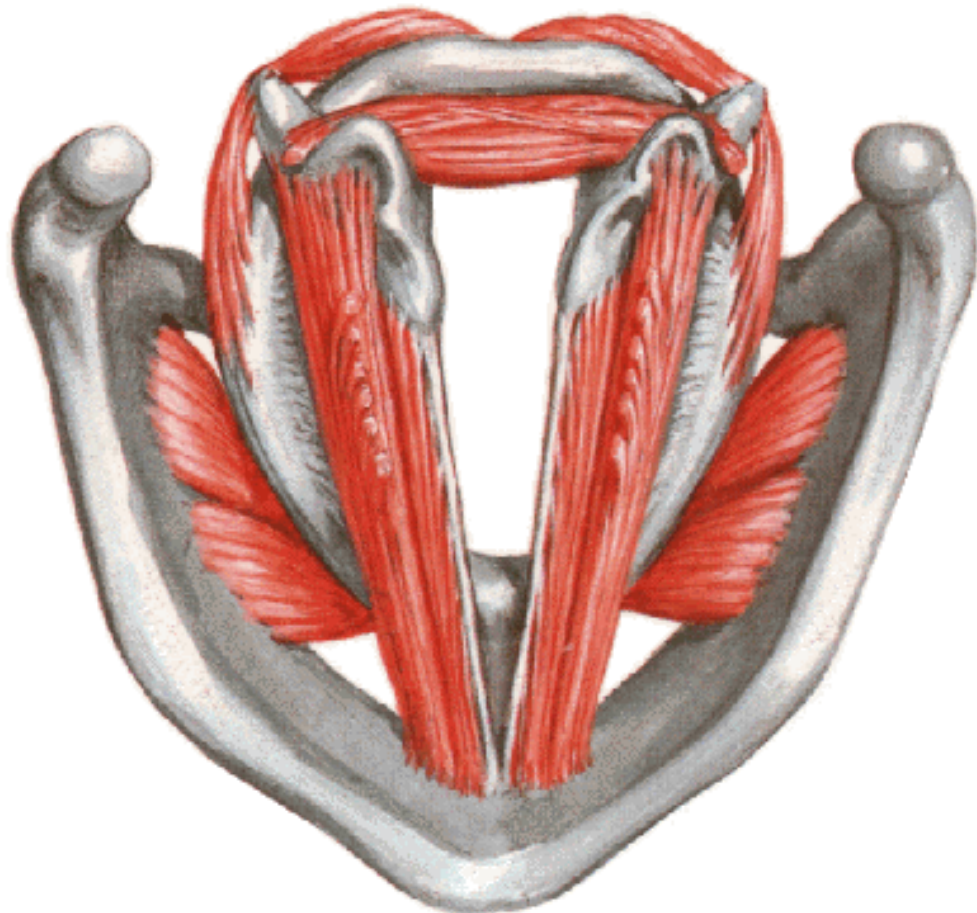


# M. cricothyroideus

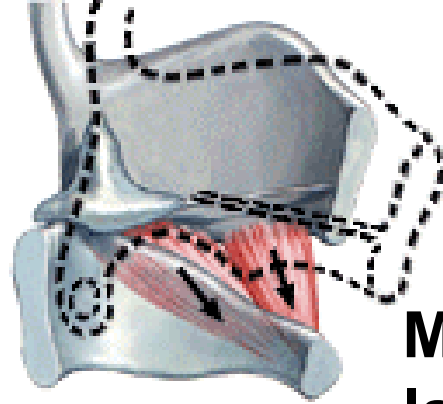


**M. thyroarytaenoideus**

**M. vocalis**



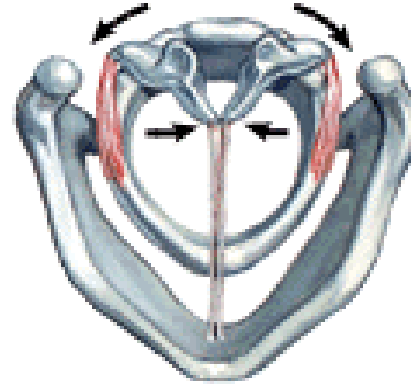
**M. cricothyroideus**



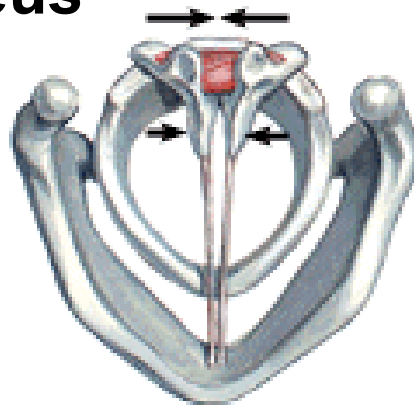
**M. cricoarytaenoideus  
post.**



**M. cricoarytaenoideus  
lateralis**



**M. arytaenoideus**



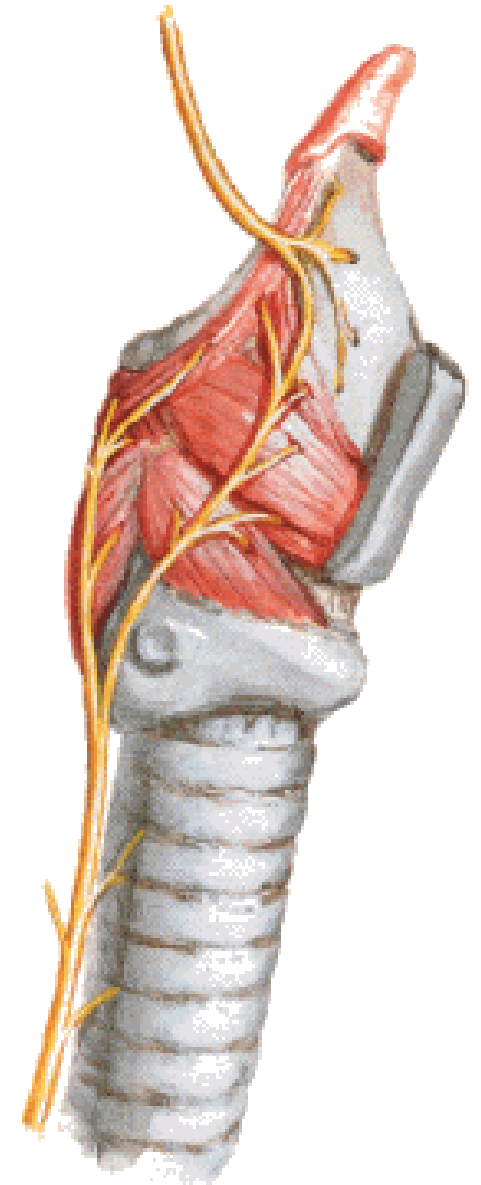
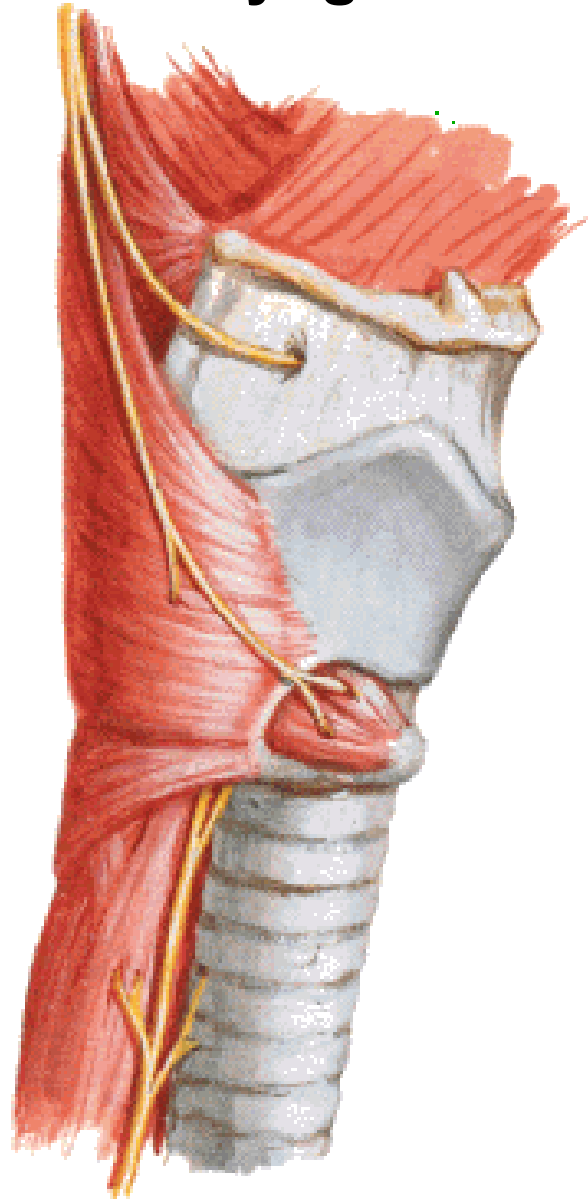
**M. thyroarytaenoideus**



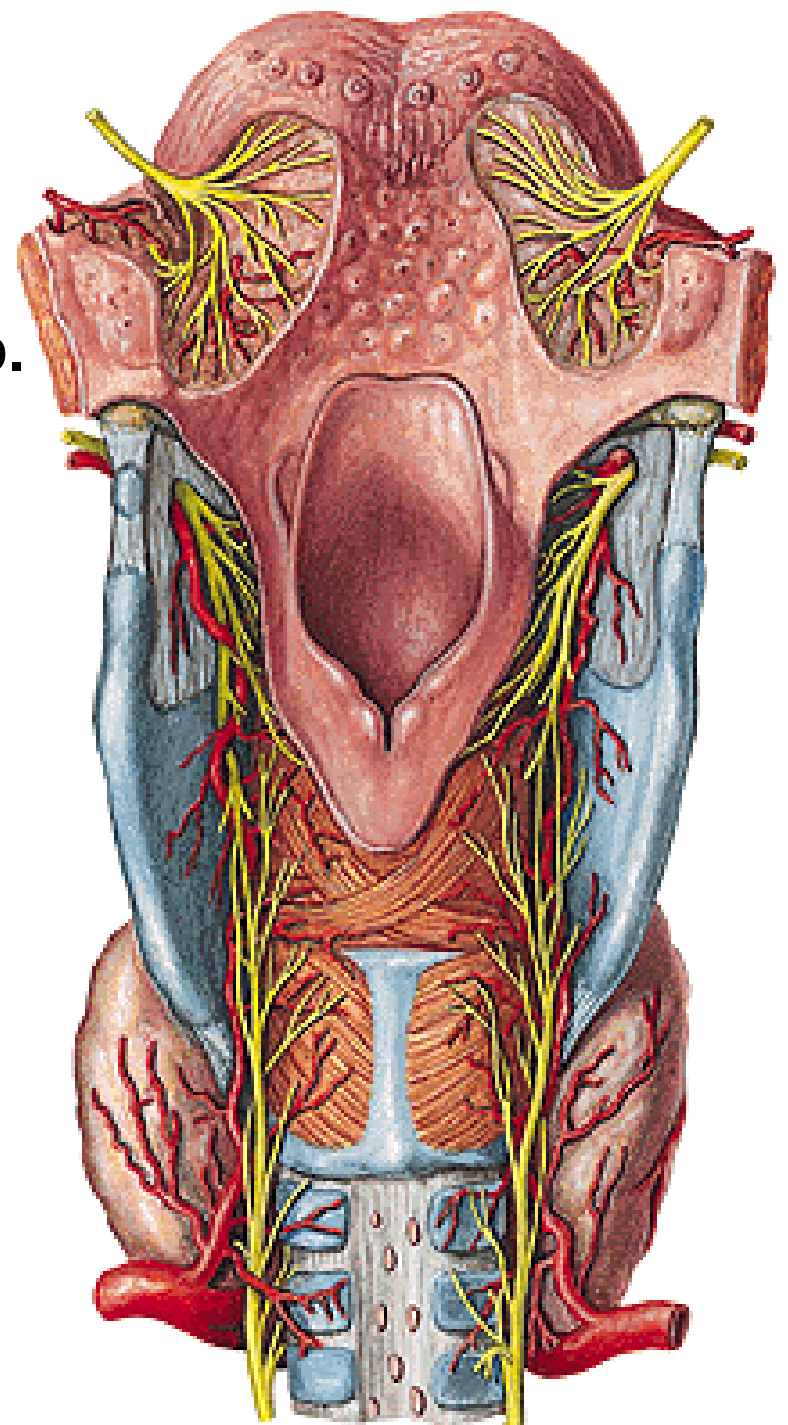


**N. laryngeus sup.**

**N. laryngeus inf. – N. laryngeus recurrens**

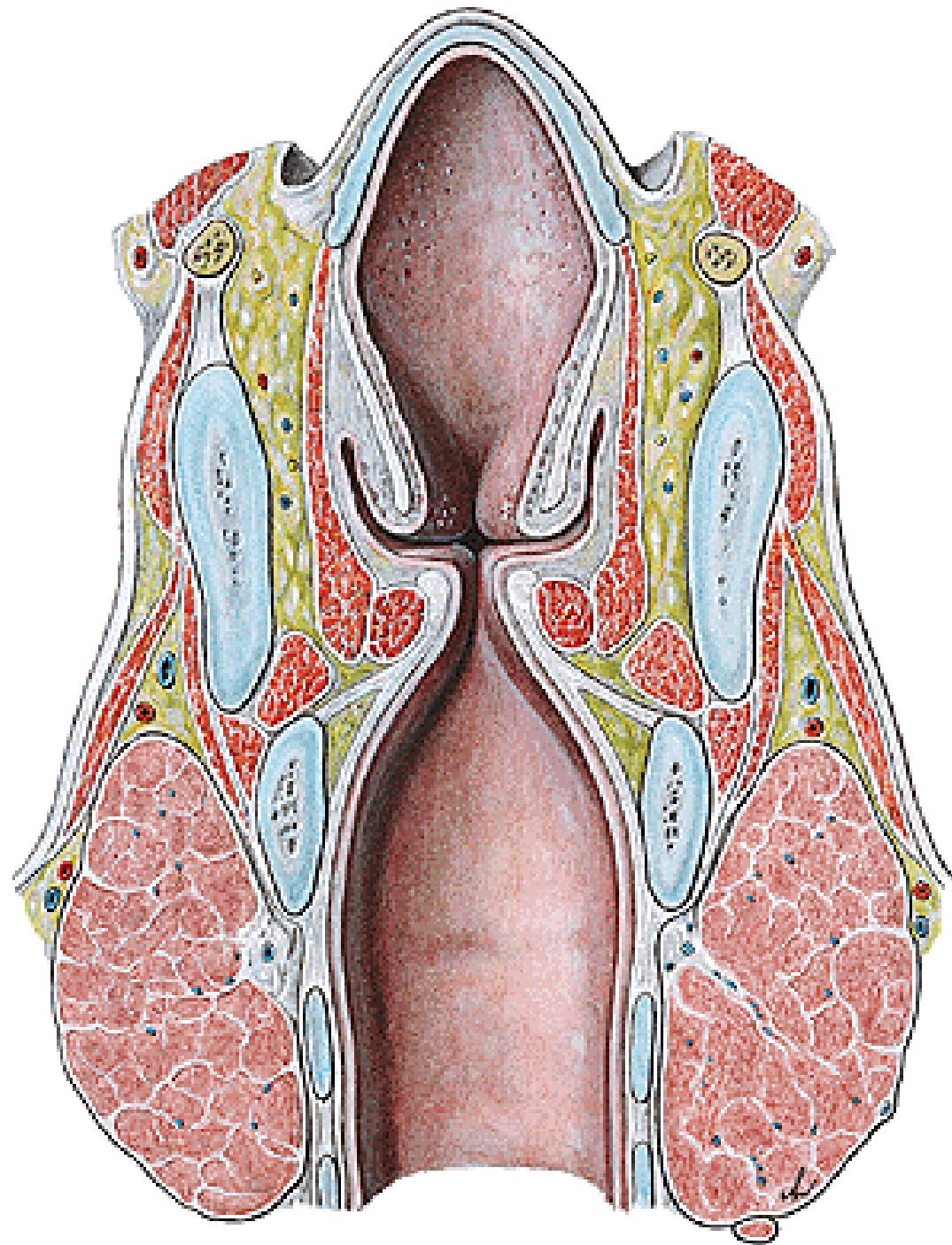


**A. laryngea sup. - A. thyroidea sup.**  
**A. laryngea inf. – A. thyroidea inf.**



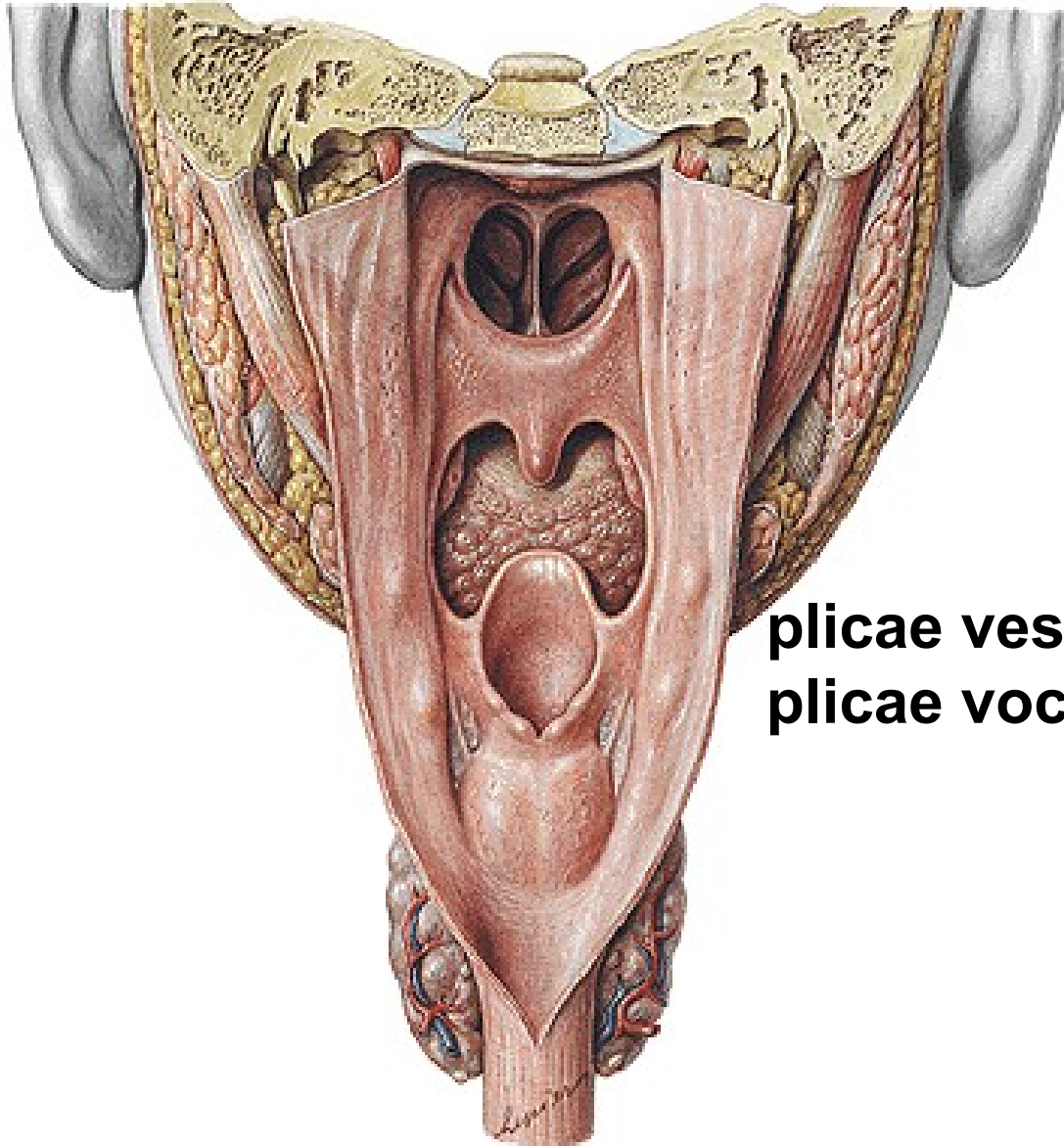
## **CAVUM LARYNGIS**

- vestibulum laryngis**
- plicae vestibulares**
- rima vestibuli**
- plicae vocales**
- rima glottidis**
- glottis**
- ventriculus laryngis**
- sacculus laryngis**
- cavum infraglotticum**

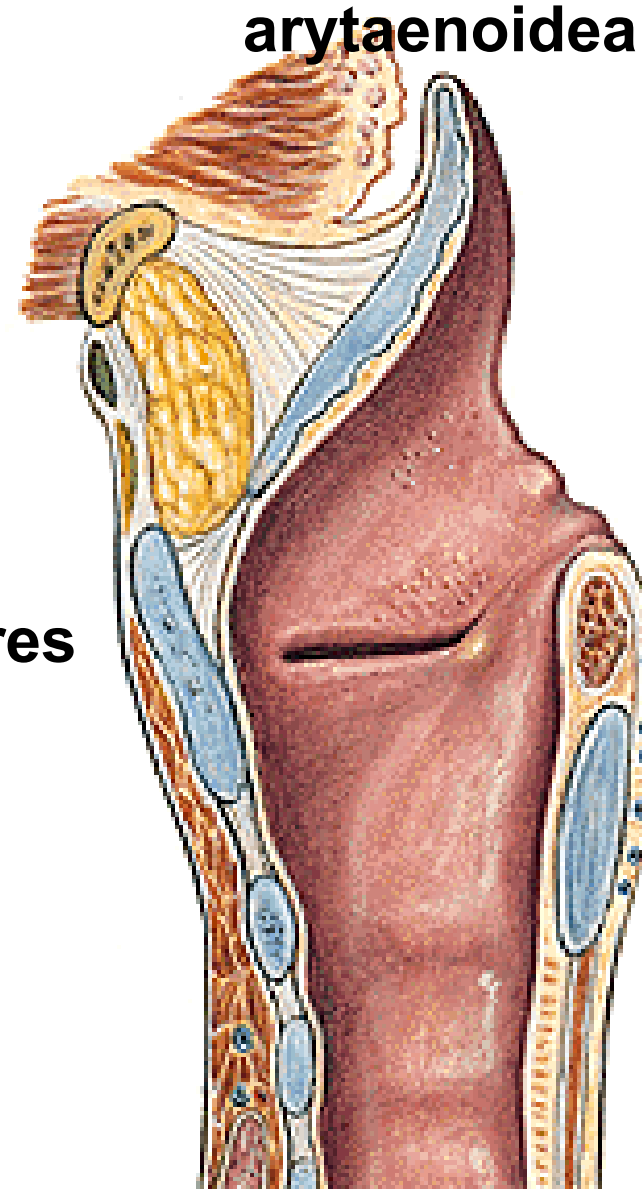


# CAVUM LARYNGIS

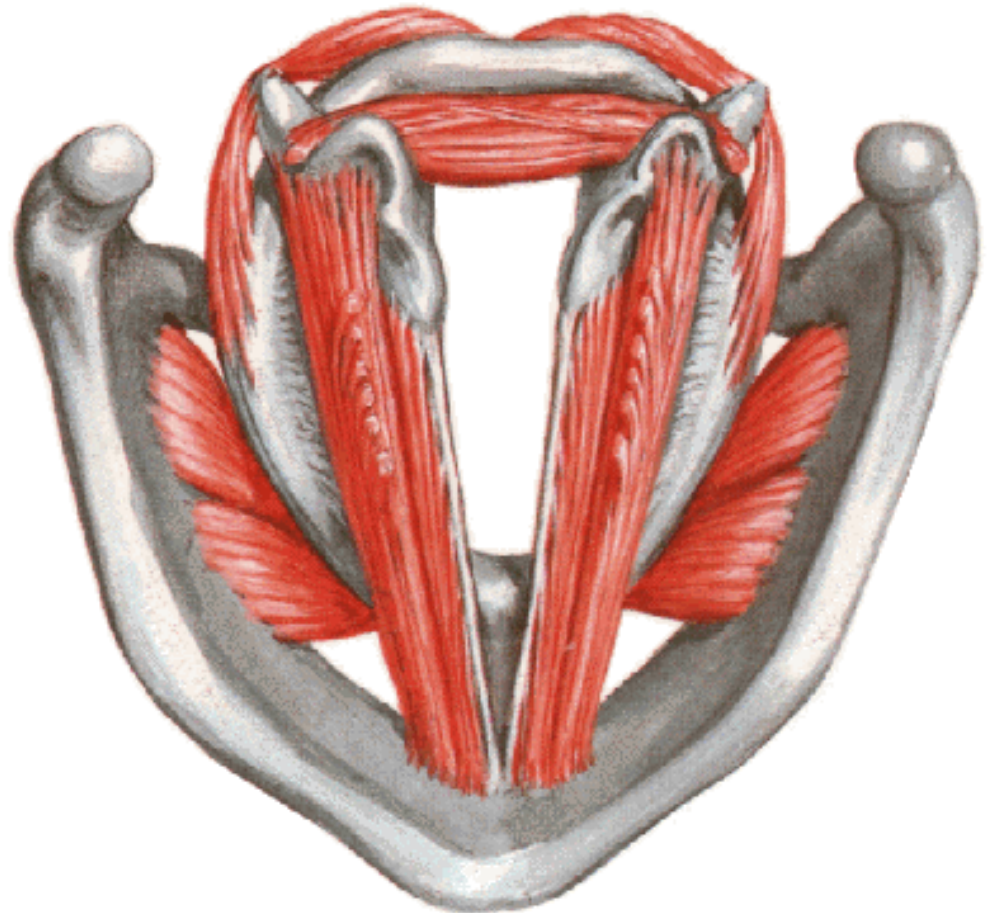
-aditus laryngis-plicae aryepiglotticae (tuberculum cuneiforme et corniculatum), plica interarytaenoidea, incisura interarytaenoidea

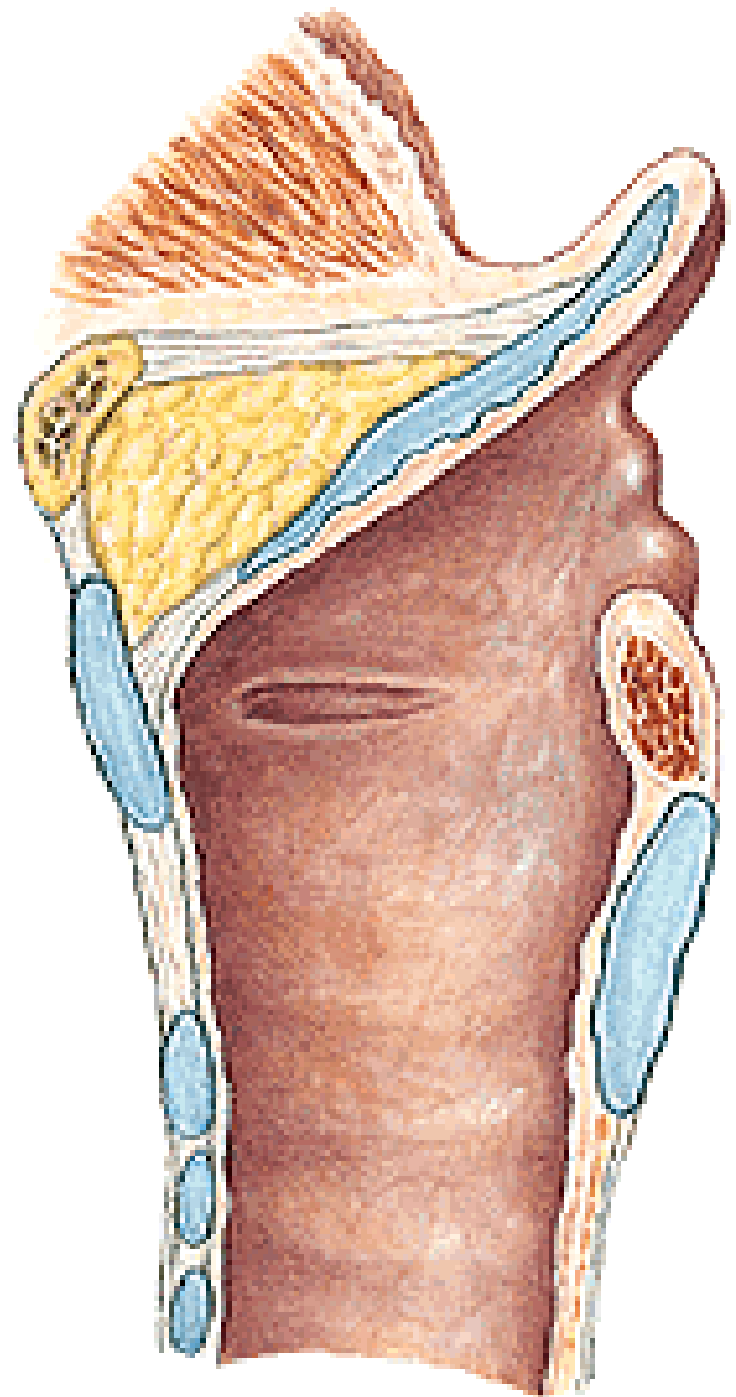
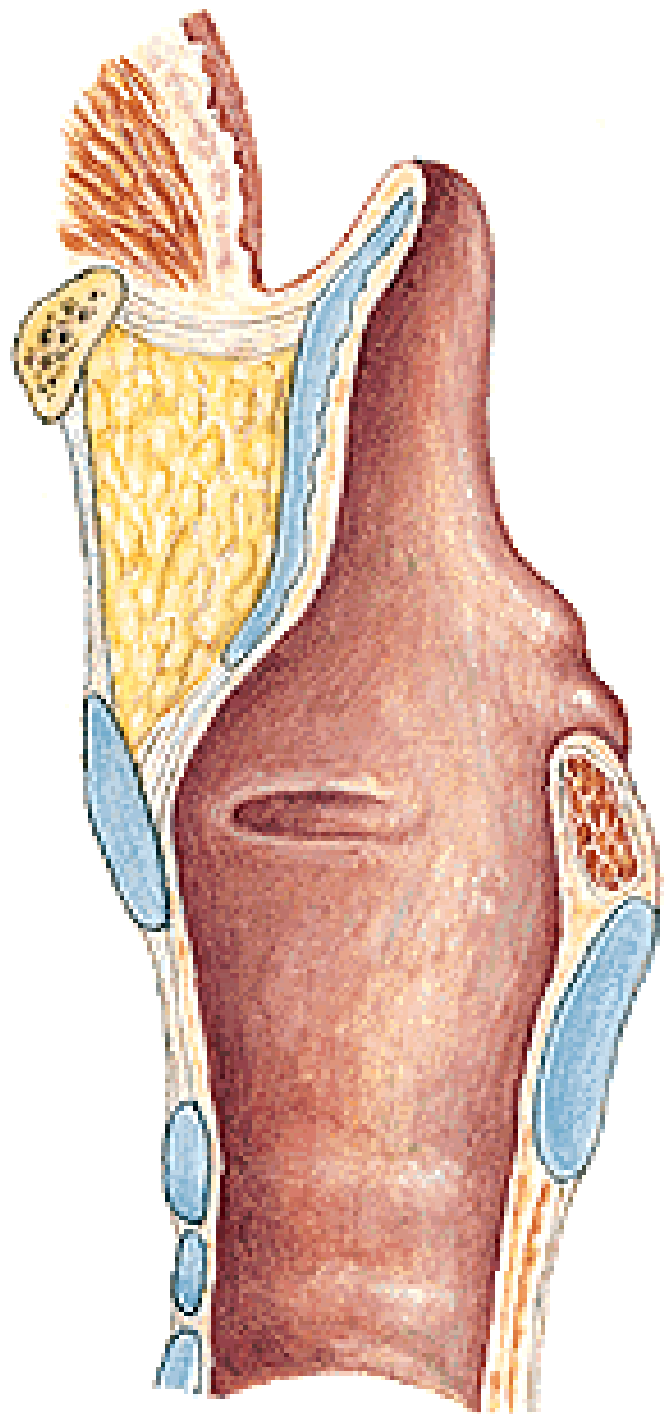


plicae vestibulares  
plicae vocales



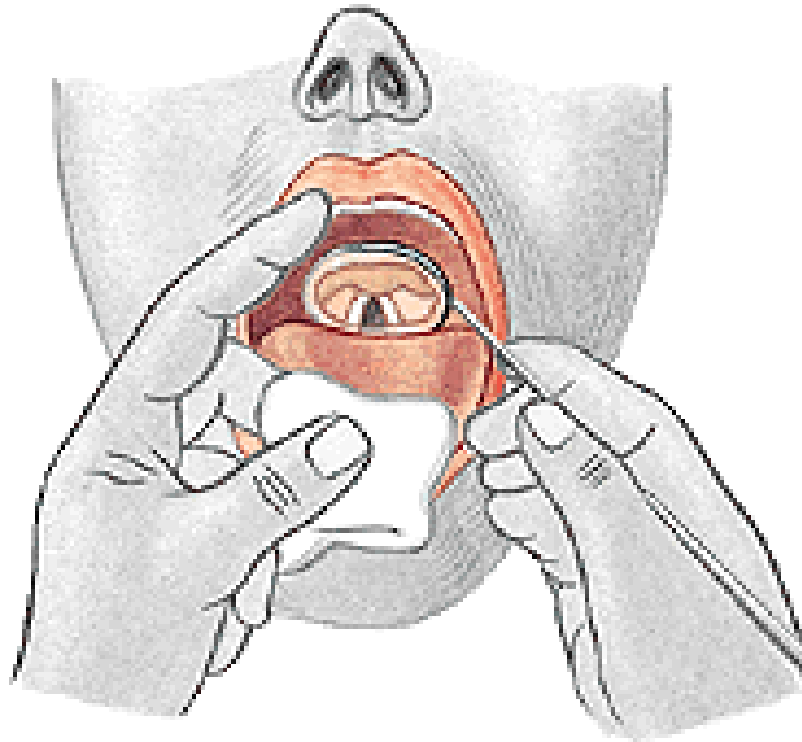
**Rima glottidis**  
**pars inter-**  
**membranacea**  
**pars inter-**  
**cartilaginea**



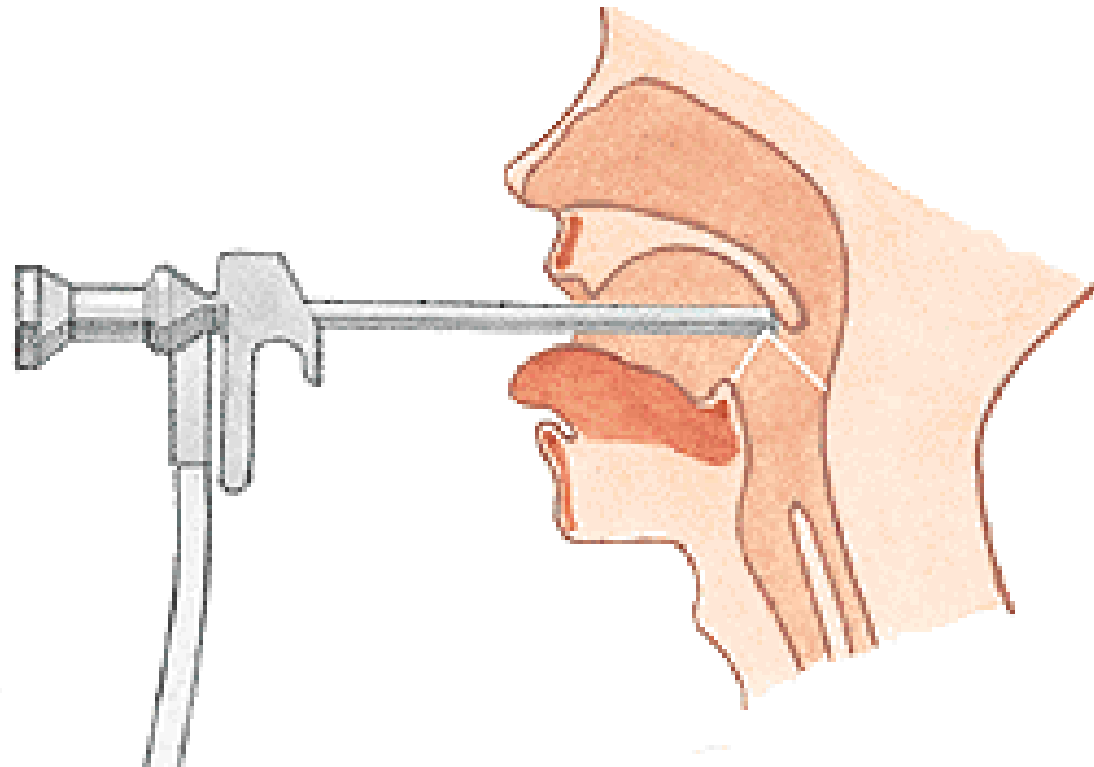


# LARYNGOSCOPY

**indirect**

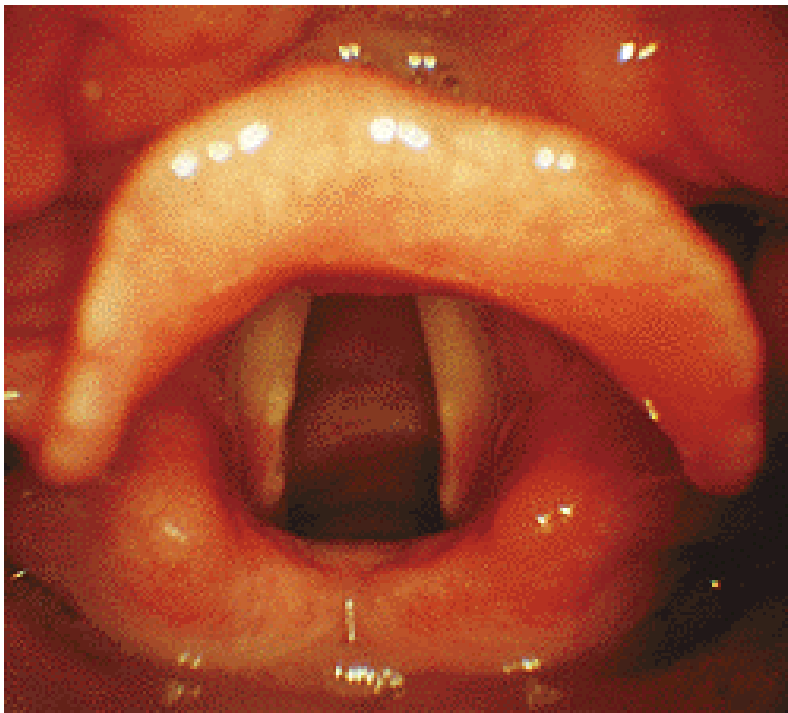


**direct**

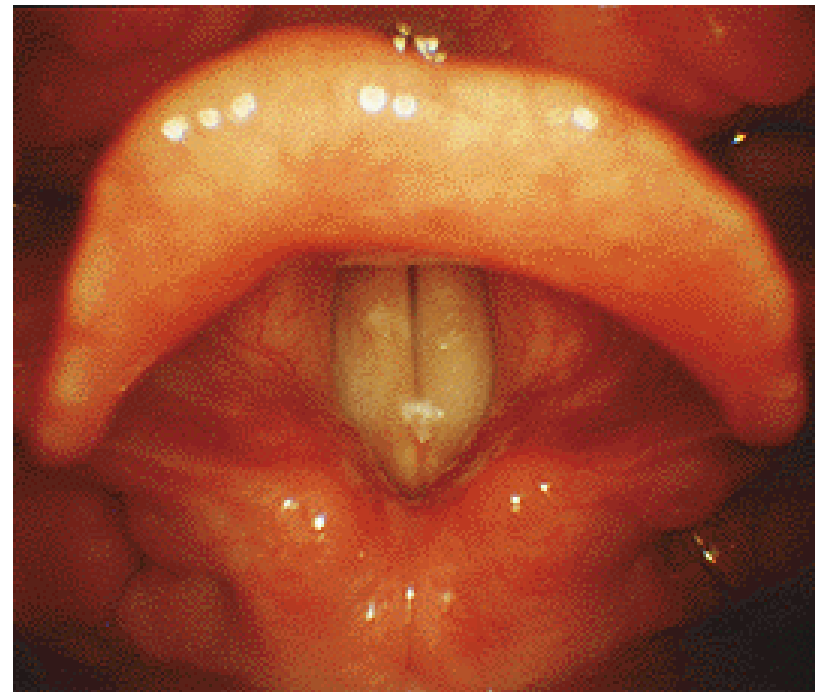


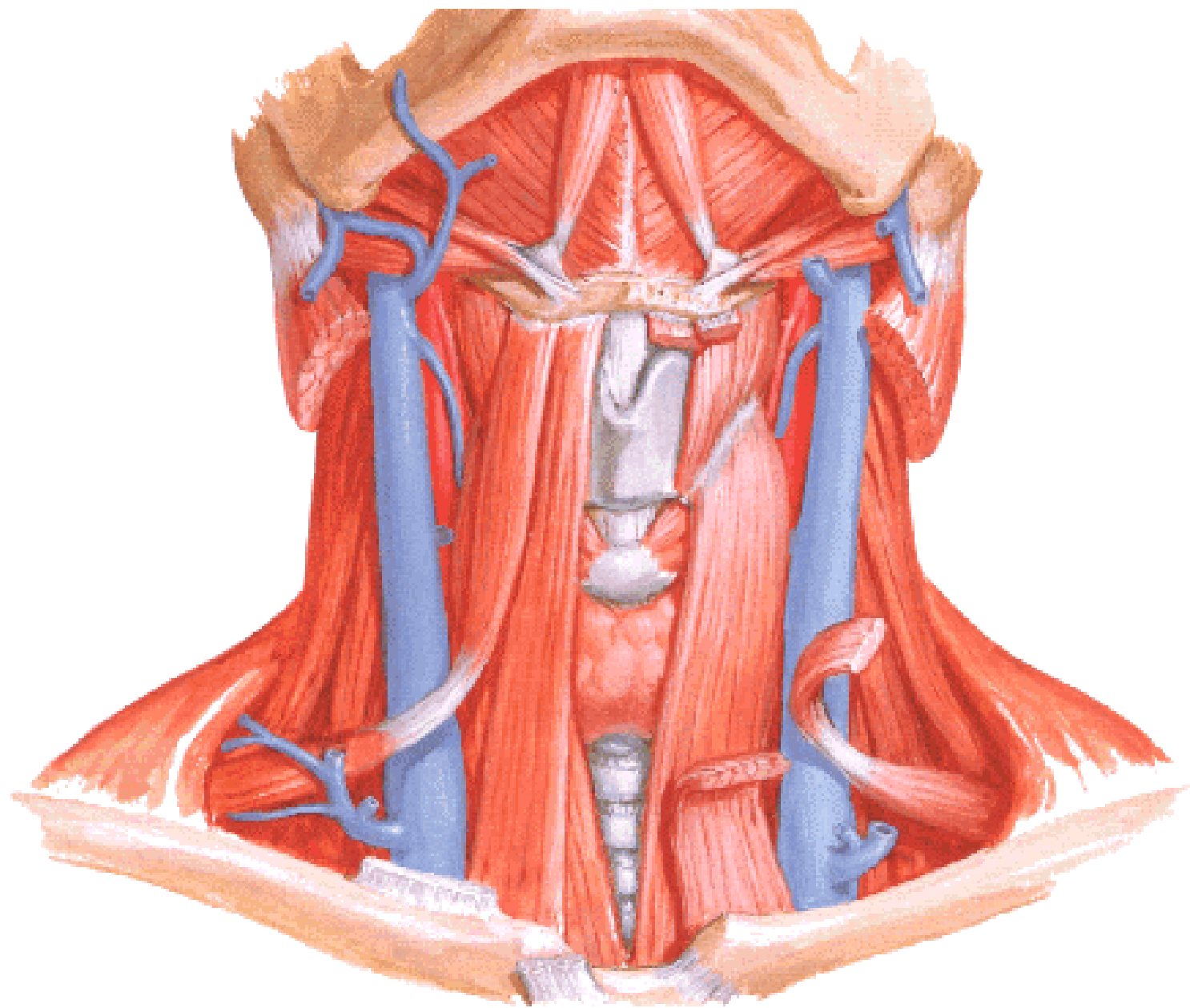


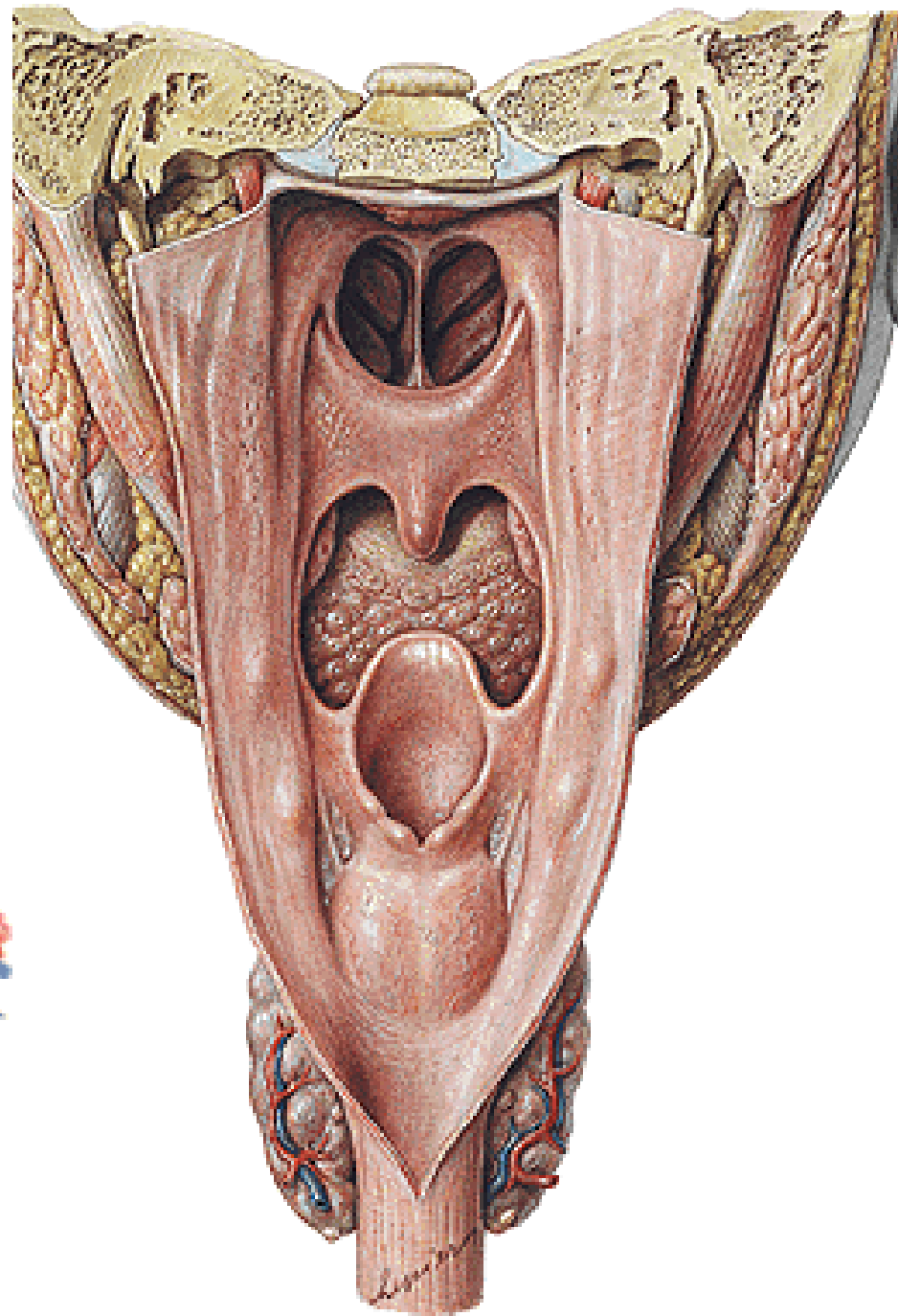
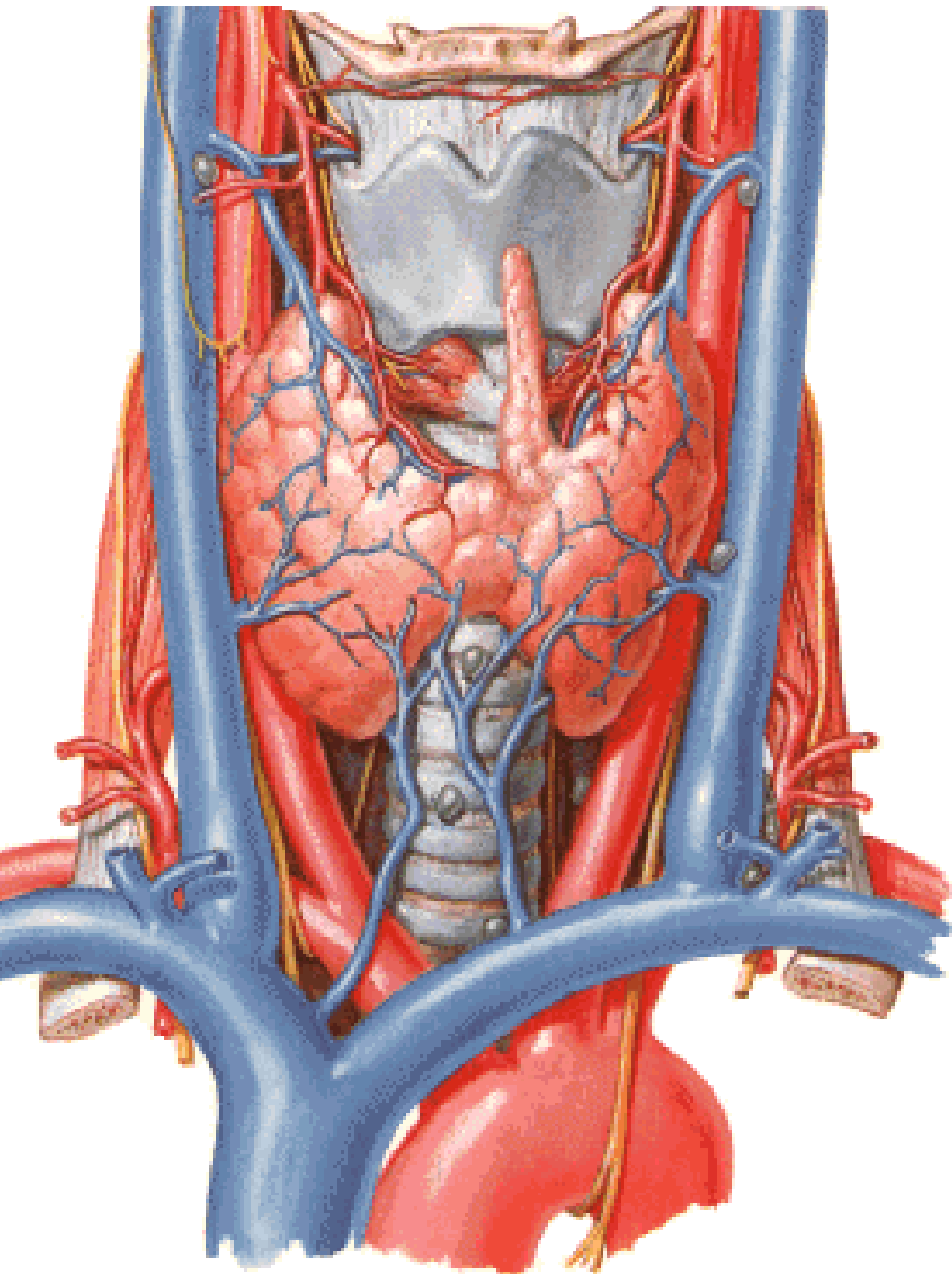
## RESPIRATION



## PHONATION







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**