

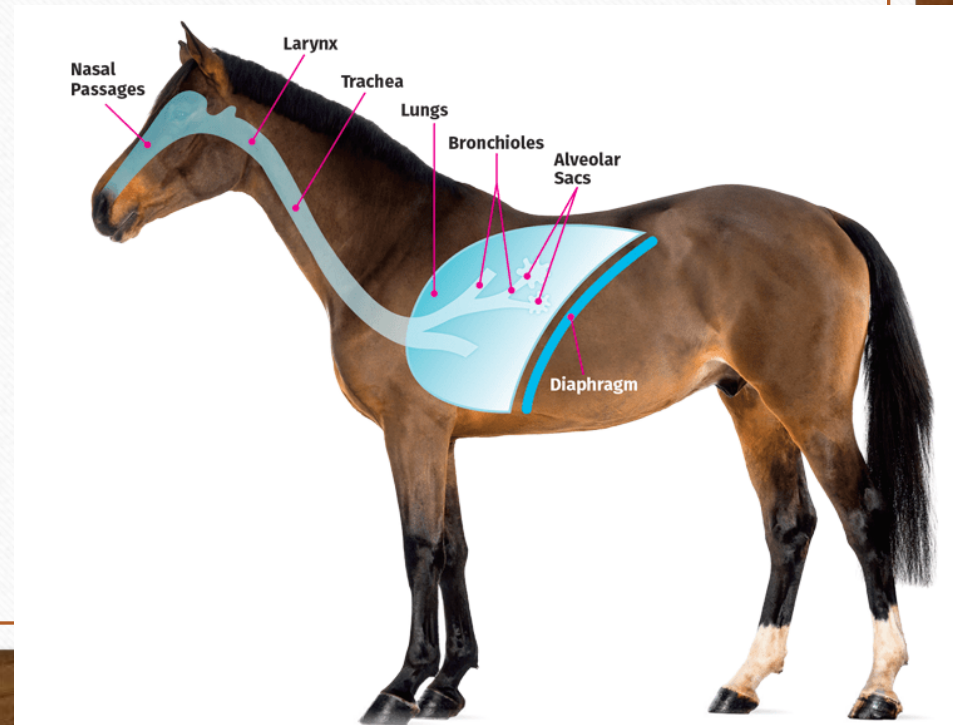


Apparatus respiratorius

Pripremio: Ass Nikola Cukić

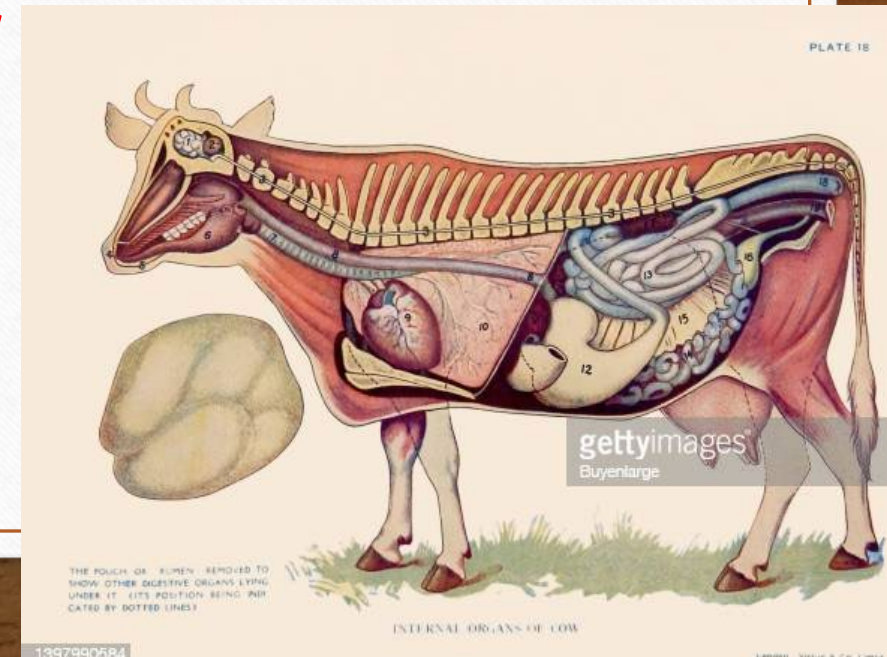
Apparatus respiratorius

- Predstavlja organe koji omogućavaju nesmetano strujanje vazduha kroz disajne puteve do pluća i od pluća natrag
- Pribor za disanje se sastoji od:
 1. **Vazdušnih disajnih puteva**
 2. **Glavnog organa za disanje-pluća**



Apparatus respiratorius

- Respiratorne organe čine:
 1. Nosne duplje-*cavum nasi dextrum et sinistrum*
 2. Respiratorni deo ždrela-*pharynx respiratorius*
 3. Grkljan-*larynx*
 4. Dušnik- *trachea*
 5. Pluća-*pulmo*



Spoljašnji nos-*nasus externus*

- Nije zaseban kao kod čoveka već srastao sa gornjom usnom labium superius
- Na nosu razlikujemo:

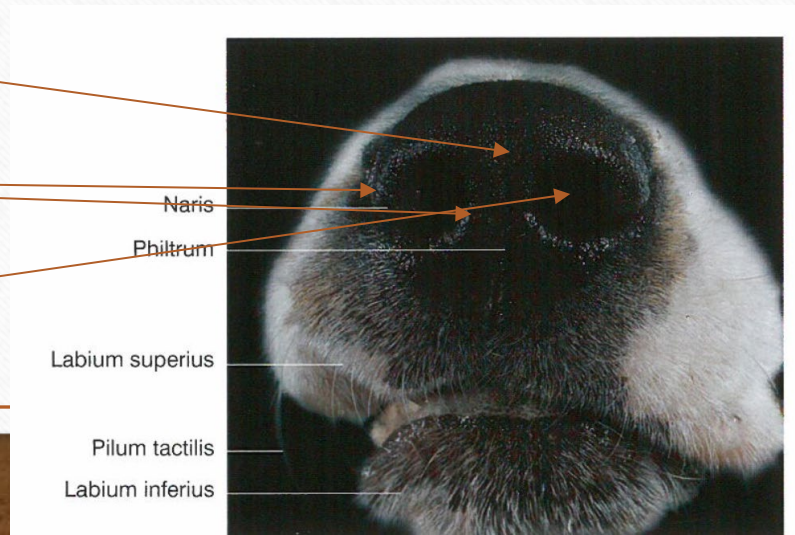
1. Spoljašnji nos-*nasus externus*

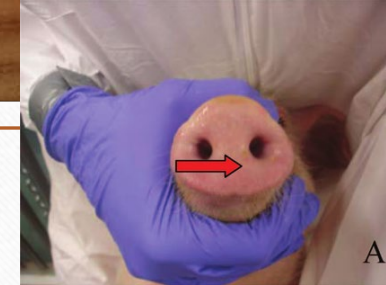
2. Vrh nosa-*apex nasi*

3. Nozdrve-*nares*

4. Nosna krila- *ala nasis lateralis et medialis*

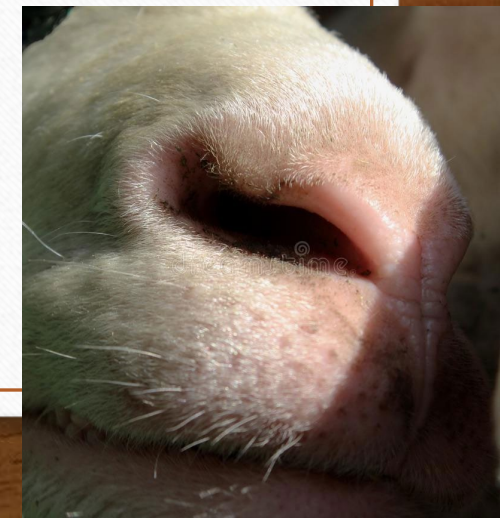
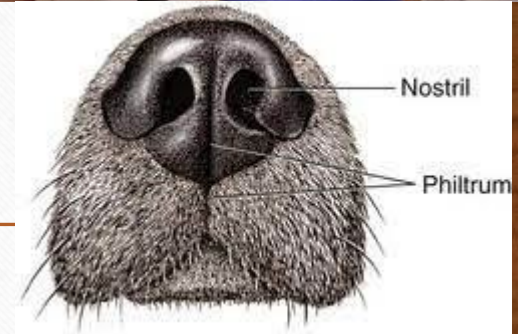
5. Nosni otvori- *apertura nasi sinistra et dextra*





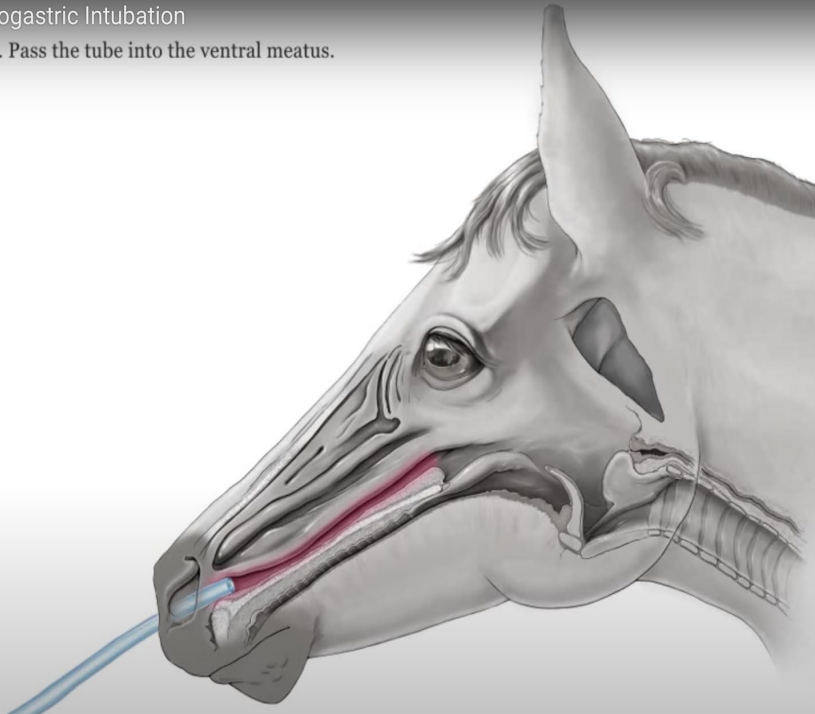
Spoljašnji nos-*nasus externus*

- *Eq, car*- vrh nosa naziva se njuška
- *Planum nasale-ov, cap, car*
- *Bo*- gubica-*planum nasolabiale*
- *Su*- rilo (*rostrum*)
- *Philtrum*- sagitalno po sredini gornje usne u (*ov, cap, car*)
- *Eq- nasus cutaneus* koji vodi u *diverticulum nasi*



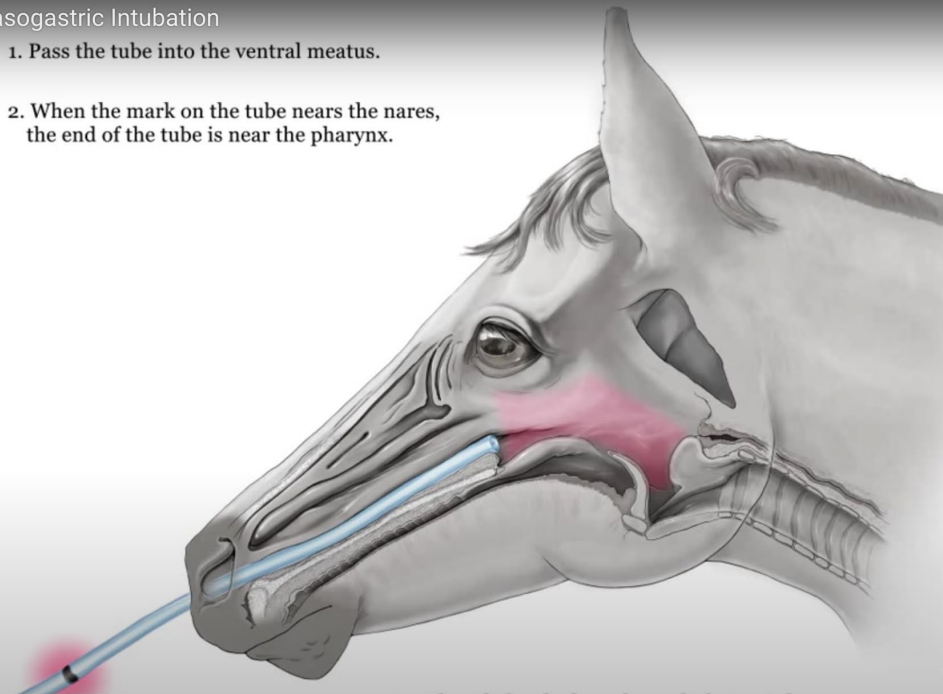
Equine Nasogastric Intubation

1. Pass the tube into the ventral meatus.



Equine Nasogastric Intubation

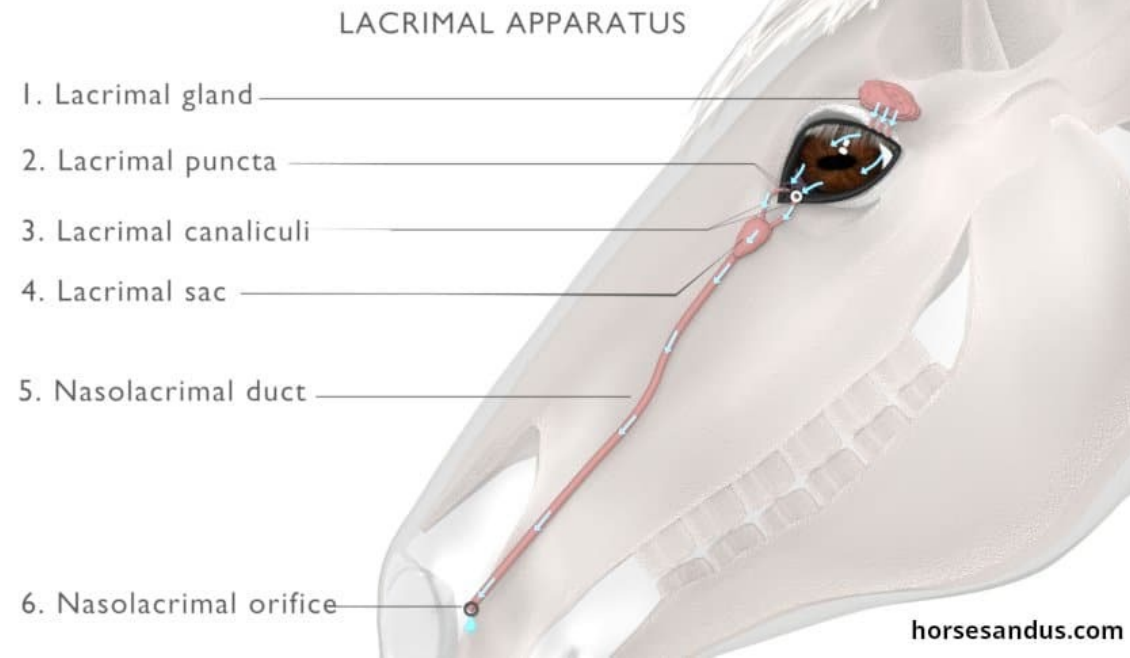
1. Pass the tube into the ventral meatus.
2. When the mark on the tube nears the nares, the end of the tube is near the pharynx.





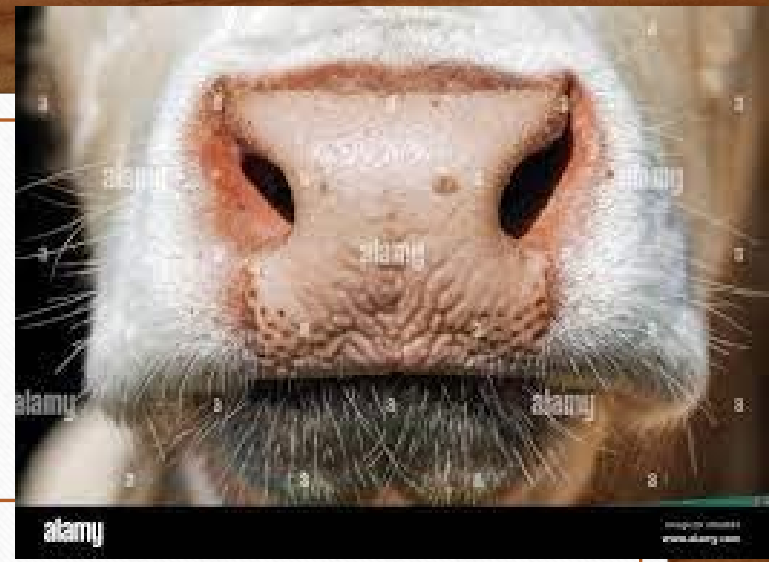
Spoljašnji nos-*nasus externus*

- Na prelazu kože u sluznicu nosnih otvora nalazi se mali otvor okruglog oblika koji predstavlja *ušće nosno suznog kanala ostium lacrimale seu orificium orale ductus nasolacrimalis*



Planum nasolabiale

- Izbrazdano plitkim žlebovima- sulci na sićišna polja *areae*
- Unutar sićušnih polja postoji mali otvor *foveola/foveolae* i na njima se izlivaju: *gl. nasolabiales*
- Foveolae ne postoje kod pasa- kod njih nos vlaže *gl. vestibulares nasi*



Nosne hrskavice-*cartilagine nasi*

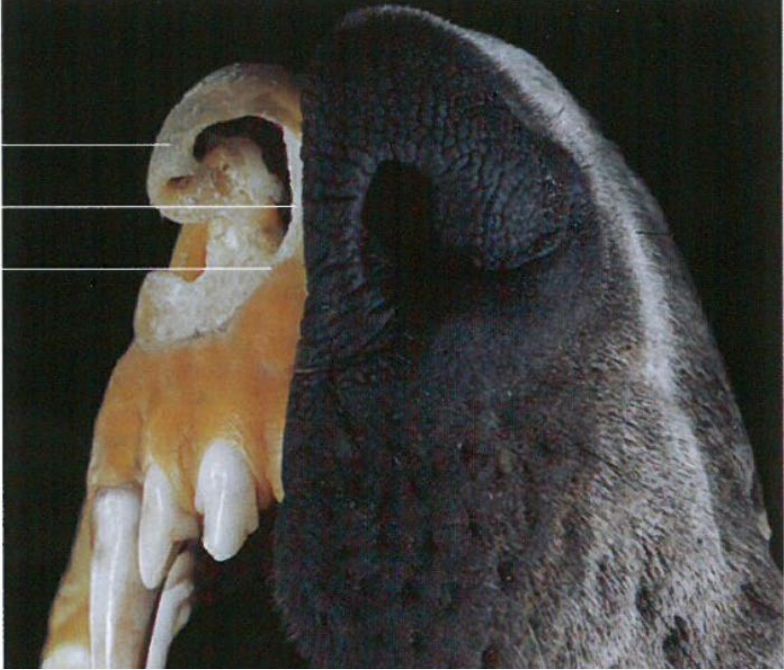
- Čini čvrsto elastičnu podlogu i konstrukciju nosa
- Njih čine:
 1. Apikalni nozdrvni deo hrskavičave nosne pregrade-*pars mobilis septum nasi*
 2. Hrkavičavi skelet nosa
 - cartilagine laterales nasi seu parietales dorsales et ventrales*
 - cartilagine nasales accessoriae laterales et mediales (eq samo mediales)*
 - cartilago alaris (lamina et cornu) EQ*

U svinja se prihvata još i *os rostri*

Cartilago nasalis lateralis dorsalis

Septum nasi

Cartilago nasalis accessoria lateralis



Cartilago nasi lateralis dorsalis

Cartilago nasi lateralis ventralis

Septum nasi

Cartilago nasalis accessoria
lateralis



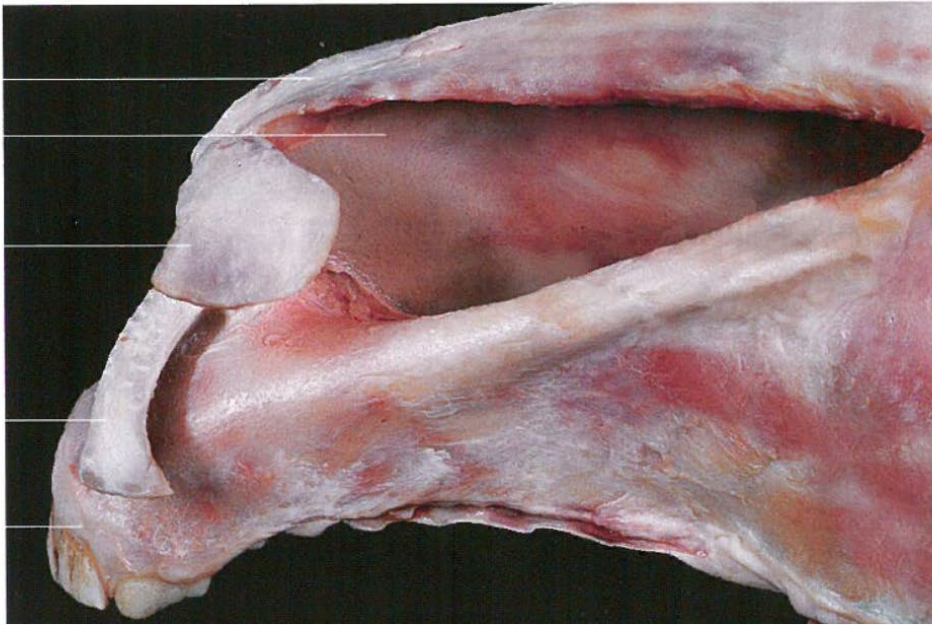
Cartilago nasi lateralis dorsalis

Septum nasi

Lamina cartilago alaris

Cornu cartilago alaris

Os incisivum



Cartilago nasi lateralis dorsalis

Cartilago alaris
Lamina

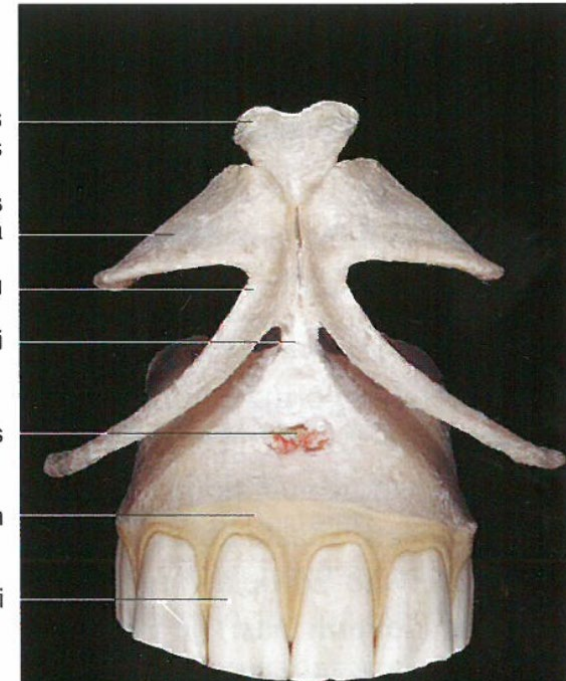
Cornu

Septum nasi

Canalis interincisivus

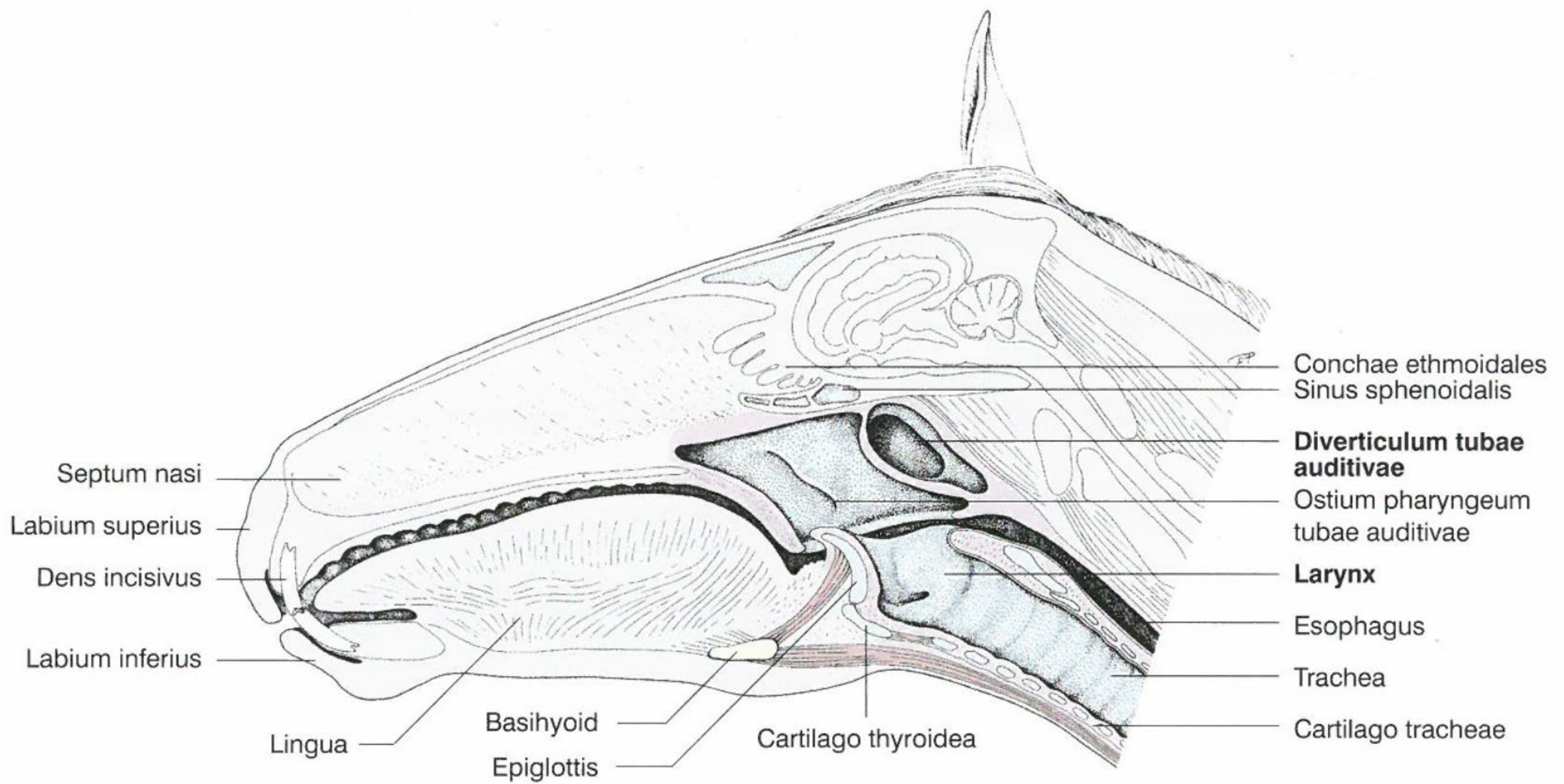
Os incisivum

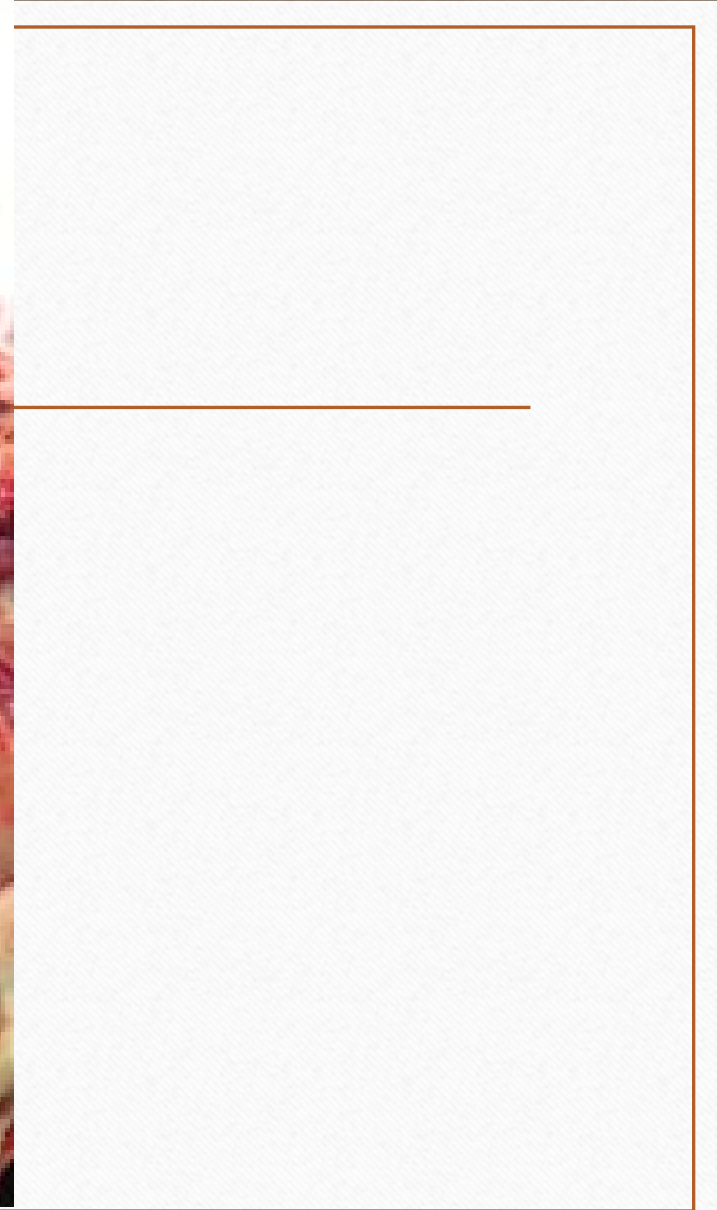
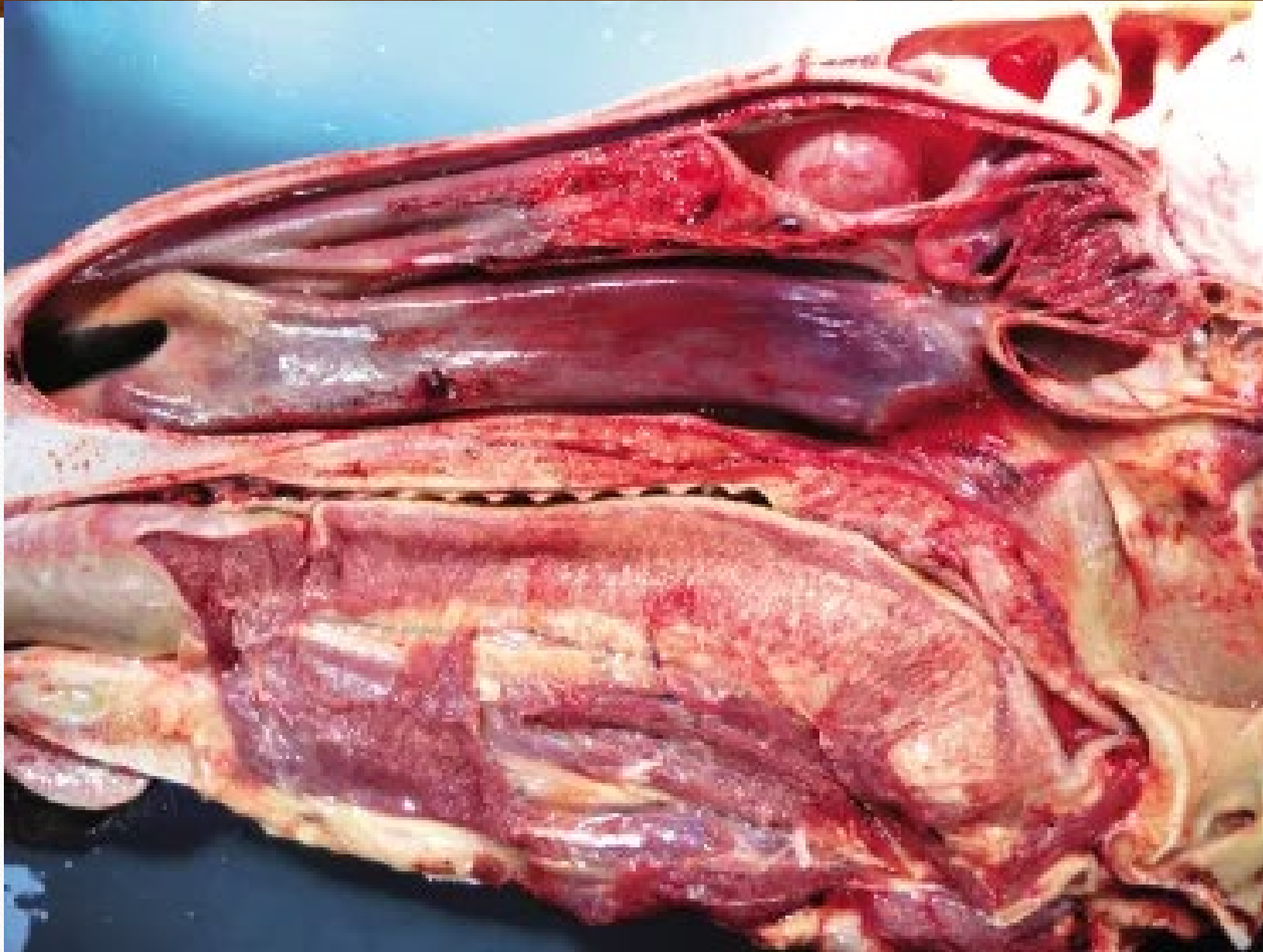
Dentes incisivi



Cavum nasi dextrum et sinistrum

- Prostire se od *aperturae nasi do lamina cribrosa os ethmoidale i nosnog labirinta labyrinthus ossis ethmoidalis sinister et dexter*
- Međusobno su podeljene u medijanoj ravni nosnom pregradom *septum nasi*:
 1. *Septum nasi osseum- od crista galli*-predstavlja *lamina perpendicularis ossis ethmoidalis* i usađena je u *sulcus septalis*
 2. *Cartilago septum nasi* u rostralnom delu



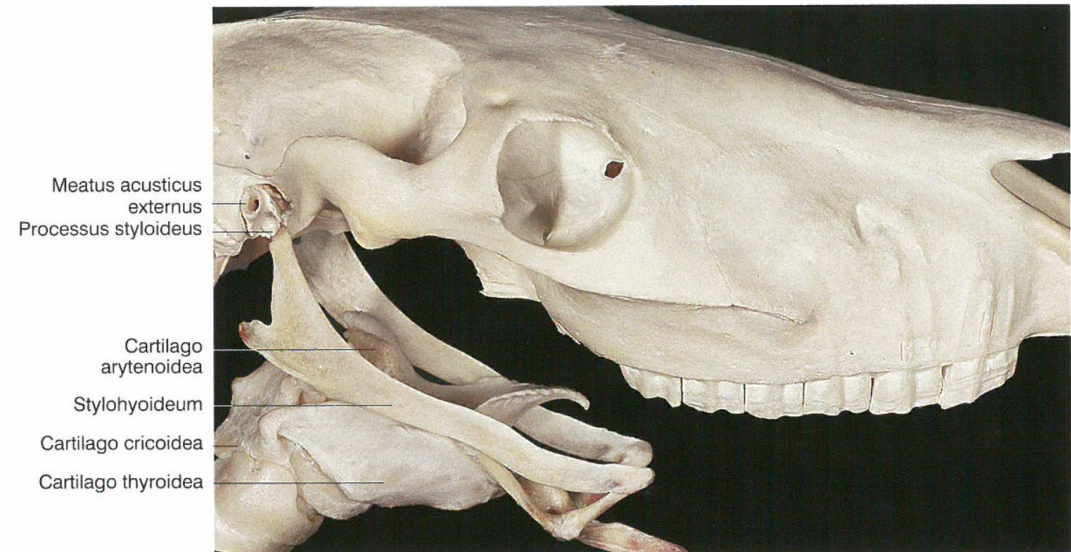


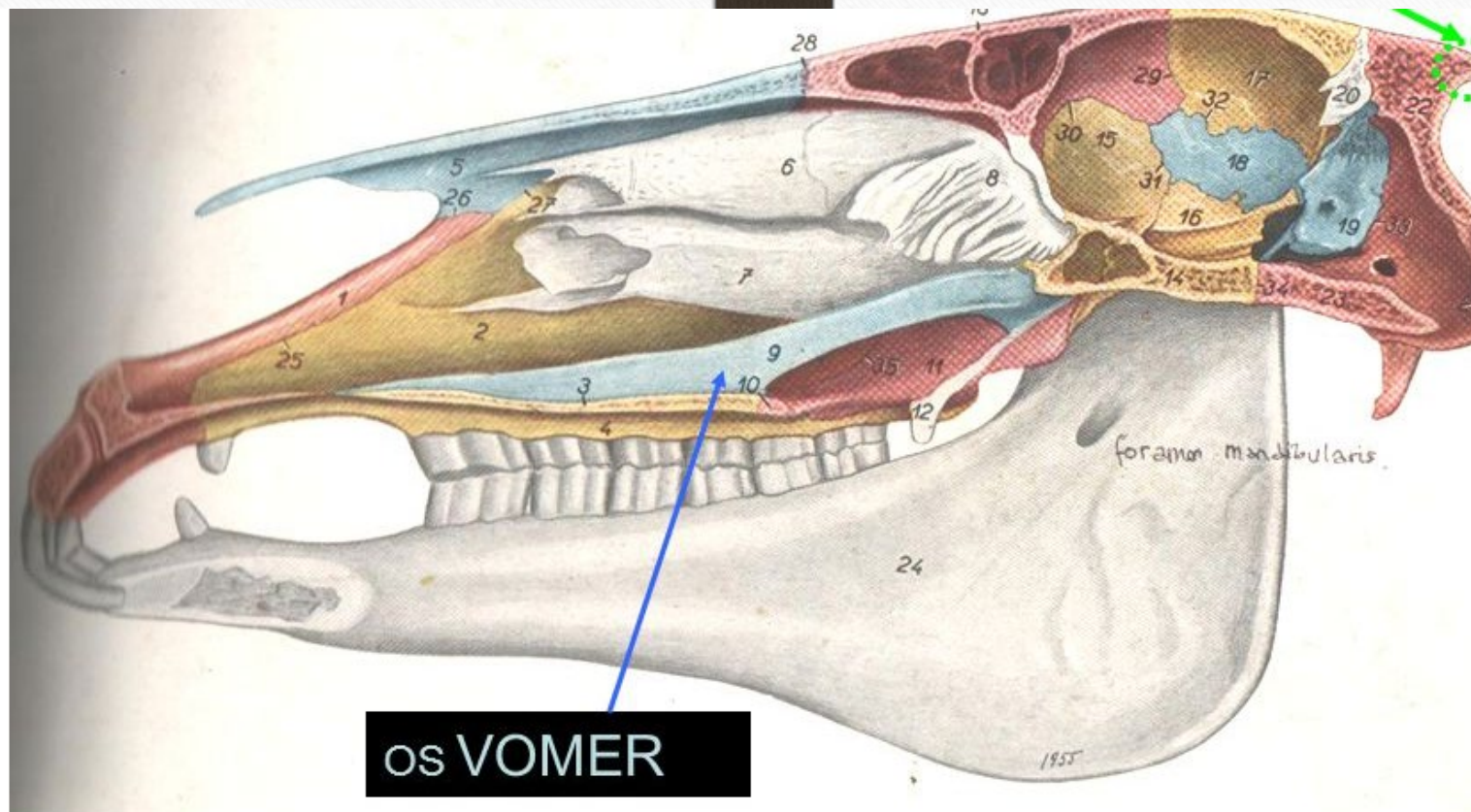
Cavum nasi

- Koštana osnova nosnih duplji:

1. *Vomer*
2. *Ossa incisiva*
3. *Ossa nasalis*
4. *Ossa frontalia*
5. *Maxilla*
6. *Ossa zygomatica*

7. *Lamina perpendicularis os palatinum et ethmoidale, lamina cribrosa ossis ethmoidalis*
8. *Lamina horizontalis os palatinum*
9. *Conchae ethmoidales*

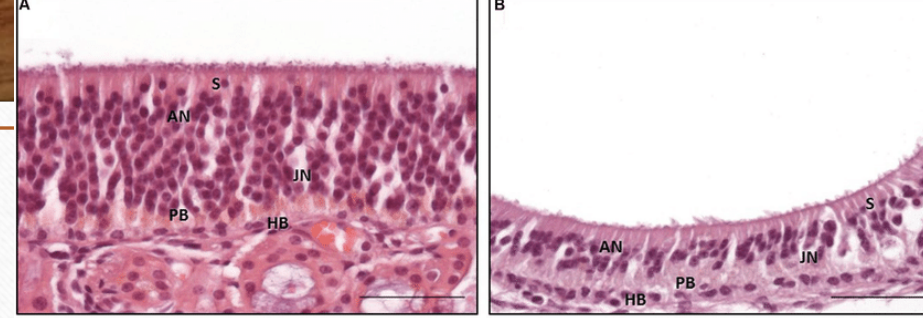




Fundus nasi

- U njemu nalazimo *labyrinthus ethmoidalis* sitaste kosti zajedno sa svojim školjkama *conche ethmoidales* i hodnicima *meatus ethmoidales* koji su presvušeni **OLFAKTORNOM-MIRISNOM SLUZNICOM**-*organum olfactus*
- Ispod sluznice nalazi se splet krvnih sudova- *plexus venosi*:
 1. Zagrevanje vazduha
 2. Rashlađivanje vazduha

Regio olfactoria

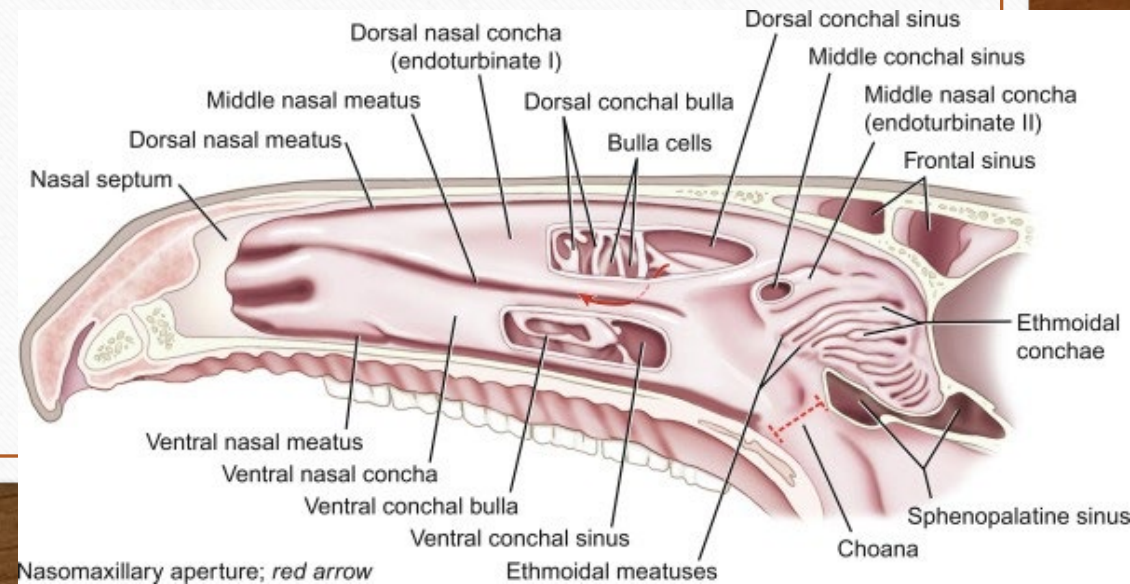


- Mirsna sluznica obuhvata od ukupne sluznice nosne duplje:
 1. *Bo, Eq, Su* -8-9%
 2. *Ov, cap*- 14%
 3. *Car*- 15 %
- Deblja je i mekanija od ostale sluznice nosne duplje
- Sastoji se od:
 1. Visokoprizmatičnih potpornih ćelija sa ovalnim jedrom
 2. Bipolarnih ganglijskih ćelija –čulne ćelije-*fila olfactoria (Nn. olfactorii)*

Nosne školjke-conchae ethmoidalis

- U svakoj nosnoj duplji postoji tri nosne školjke: dve veće i jedna manja koje su presvučene sluzokožom

1. *Concha nasalis dorsalis*- dorzalna
2. *Concha nasalis ventralis*- ventralna
3. *Concha nasalis media*- medijalna (mala)

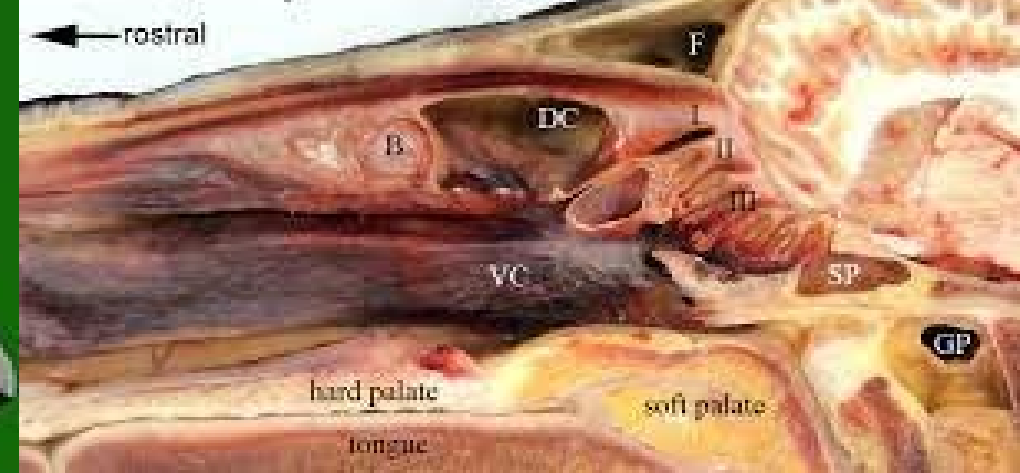


Nosne školjke-conchae ethmoidalis

- *Concha nasalis dorsalis*- dorzalna-koštanu osnovu čini *os endoturbinale I*(*sinus conchae nasalis dorsalis*)- završava rostralno u obliku *plica recta* seu *plica conchae nasalis dorsalis*

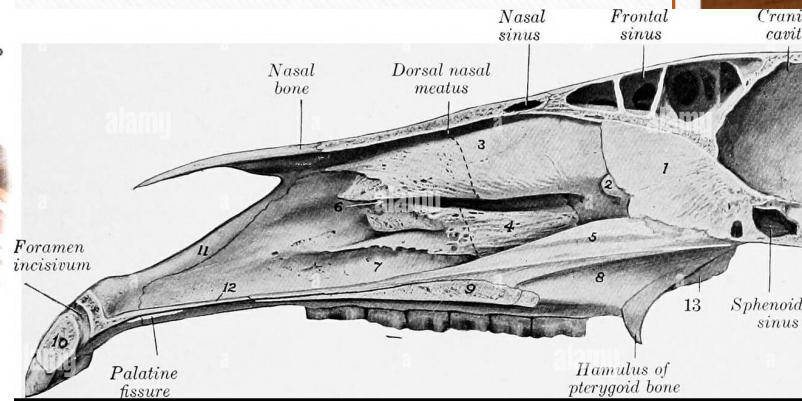
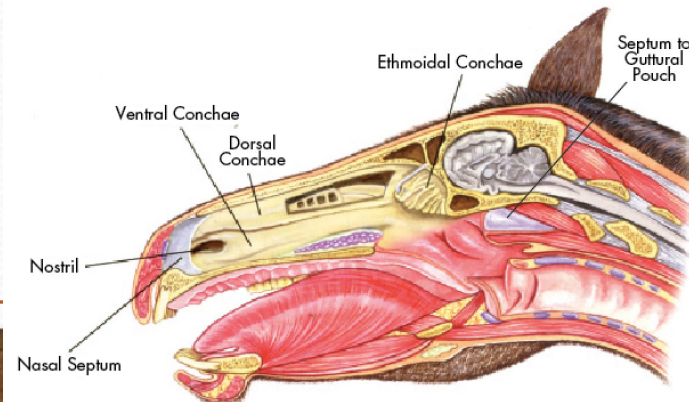


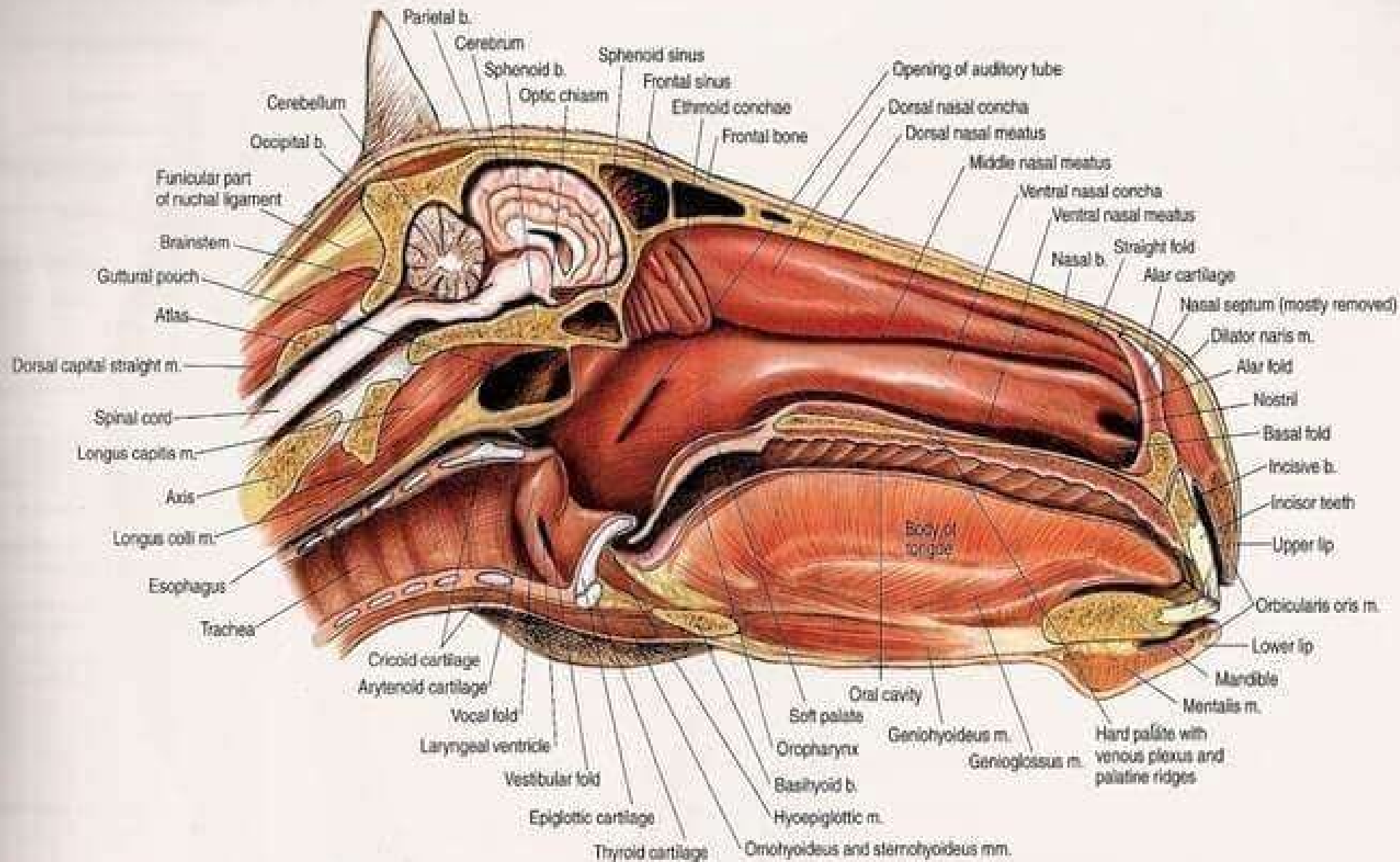
Midline view of a split pony head, right side with the nasal septum removed

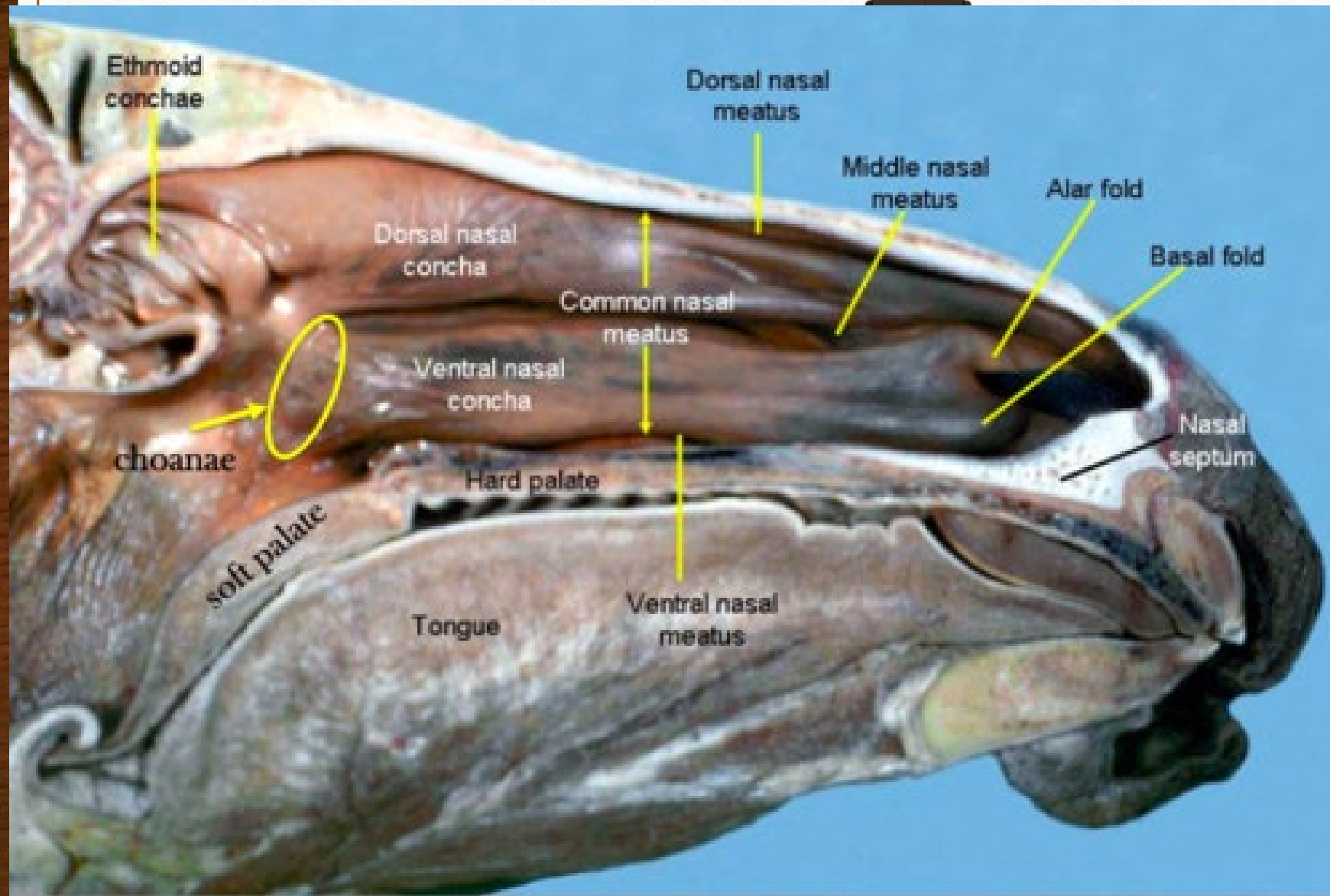


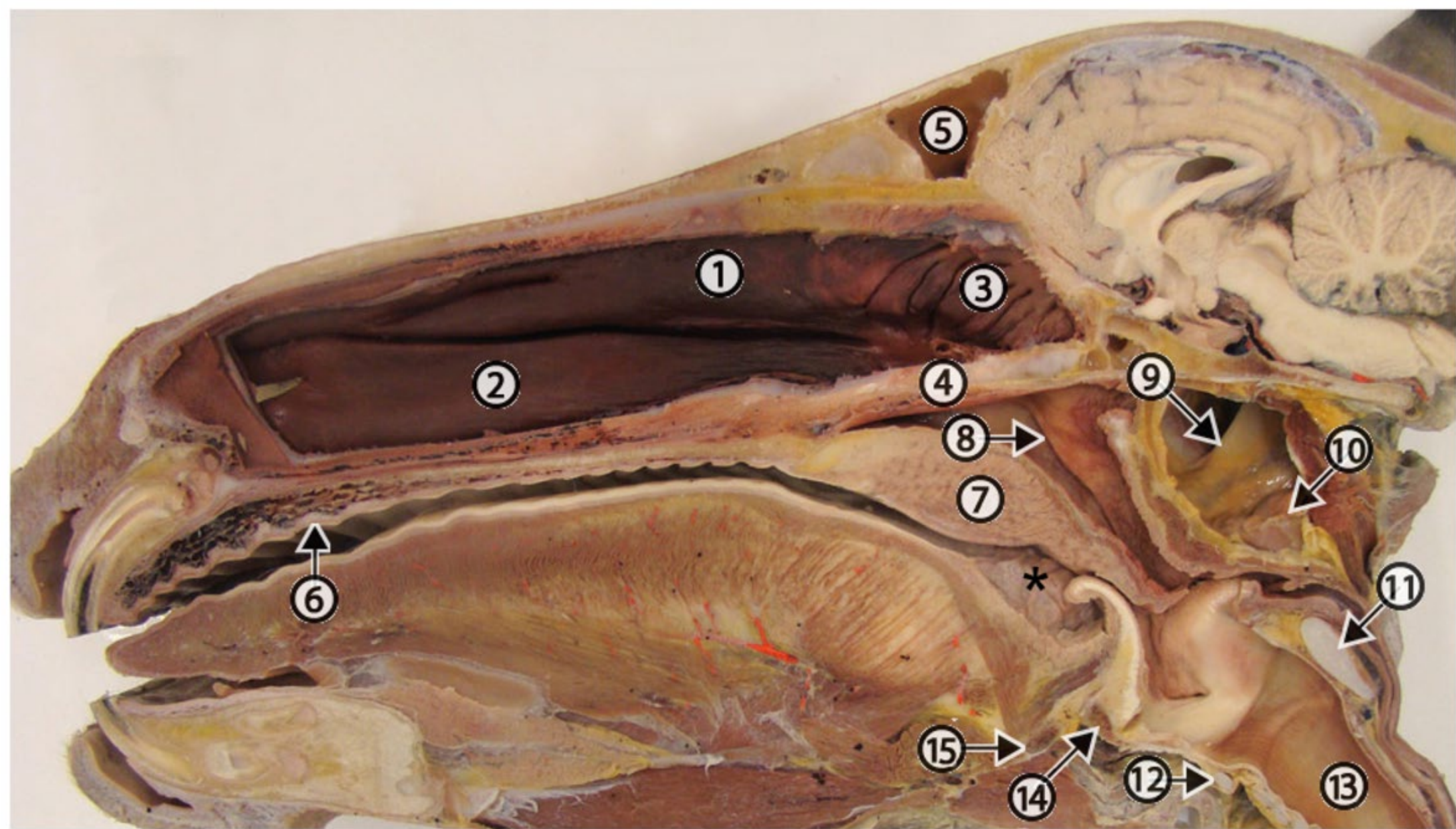
Nosne školjke-*conchae ethmoidalis*

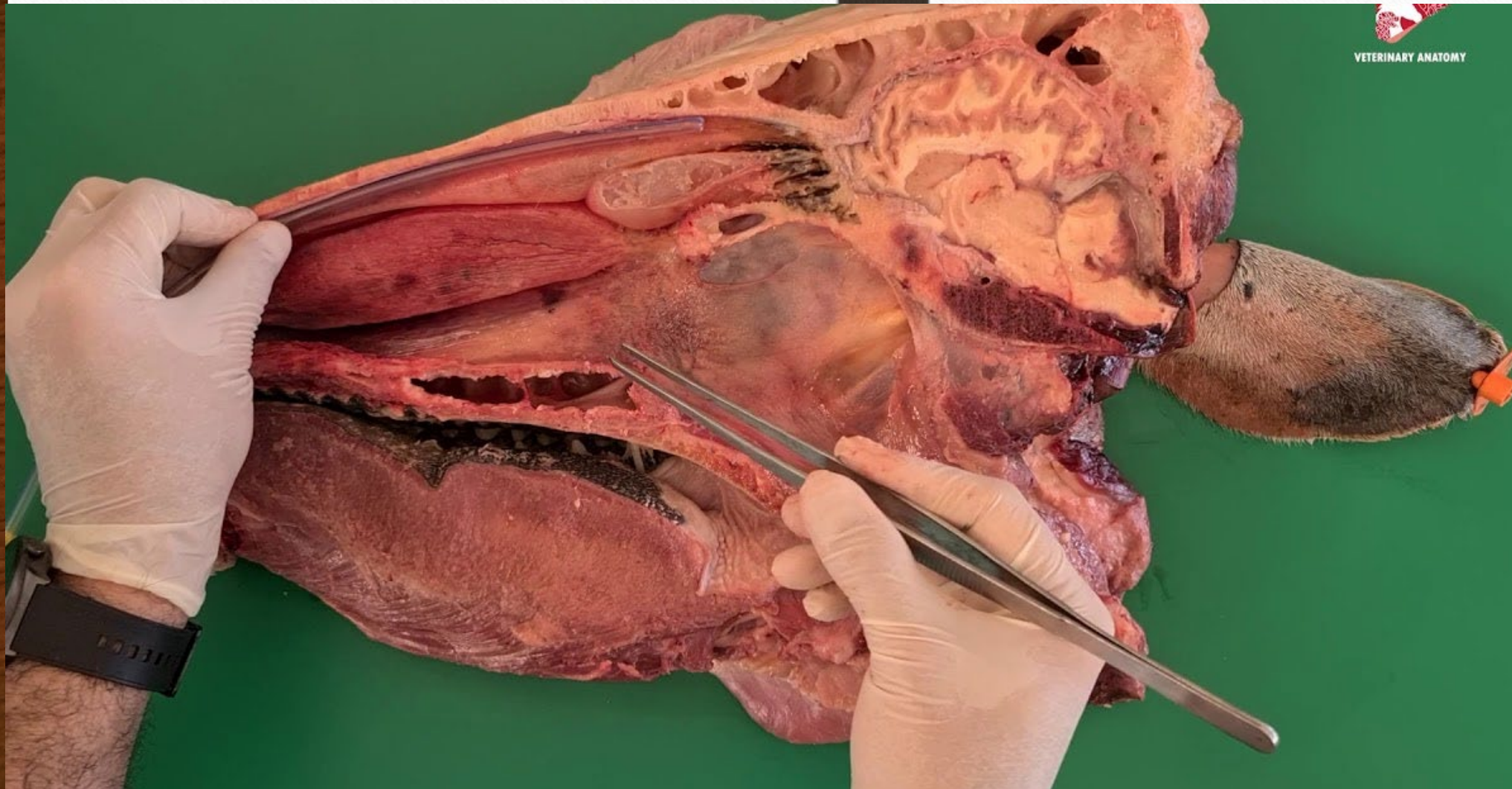
- *Concha nasalis ventralis*- ventralna –koštanu osnovu u ekvida i mesojeda
os conchae nasalis ventralis- pričvršćena za *crista conchalis*
- *Sinus conchae ventralis*
- Završava sluzokožnim naborom-*plica alaris conchae nasalis ventralis*-
usmerenim dorzalno i drugim usmerenim prema *predvorju-plica basilaris*











Sinus frontalis lateralis
i ectoturbinalia

Cavum cranii

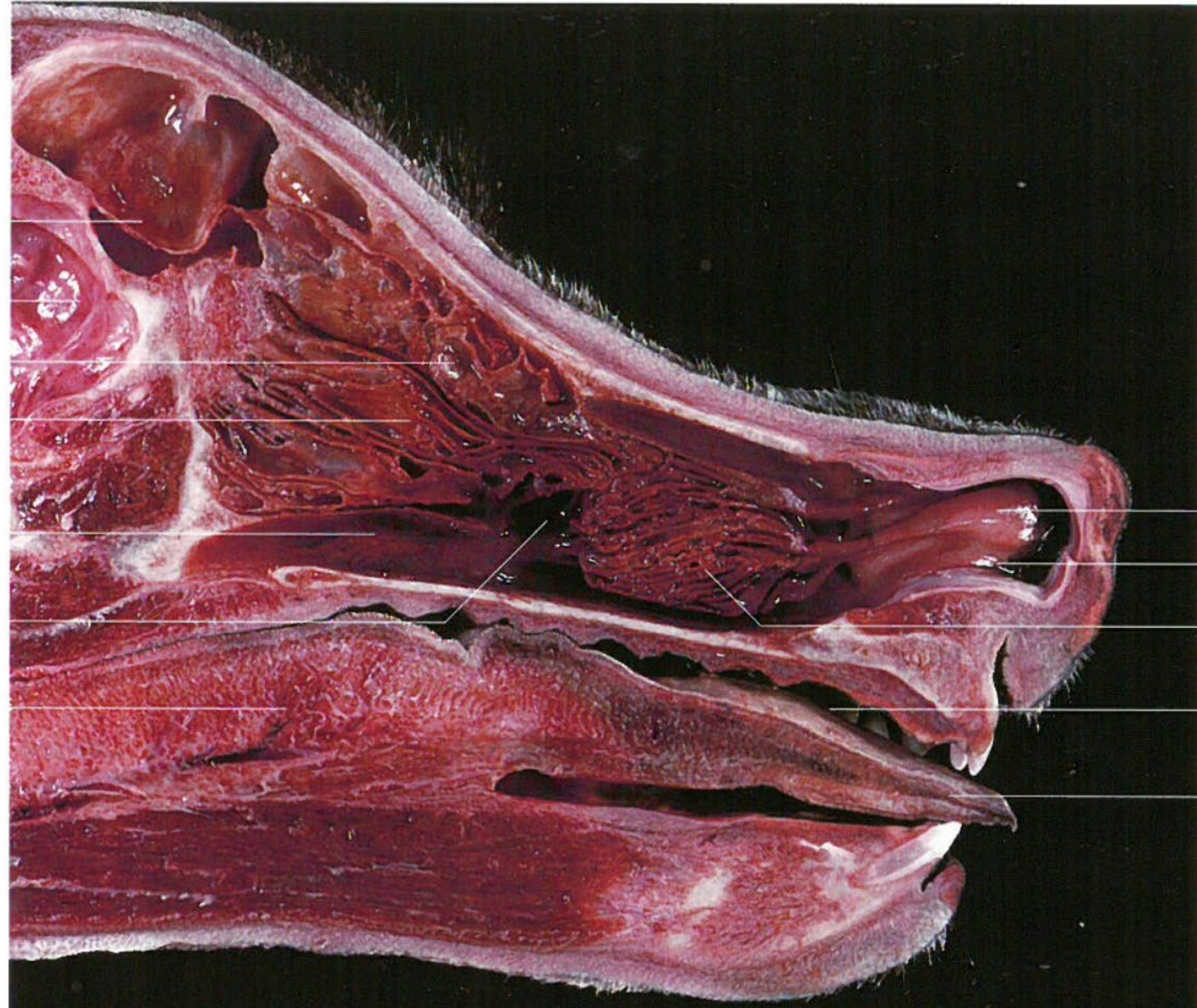
Concha nasalis dorsalis

Concha nasalis media

Meatus nasi ventralis

Ulaz u
recessus maxillaris

Radix linguae



Plica alaris

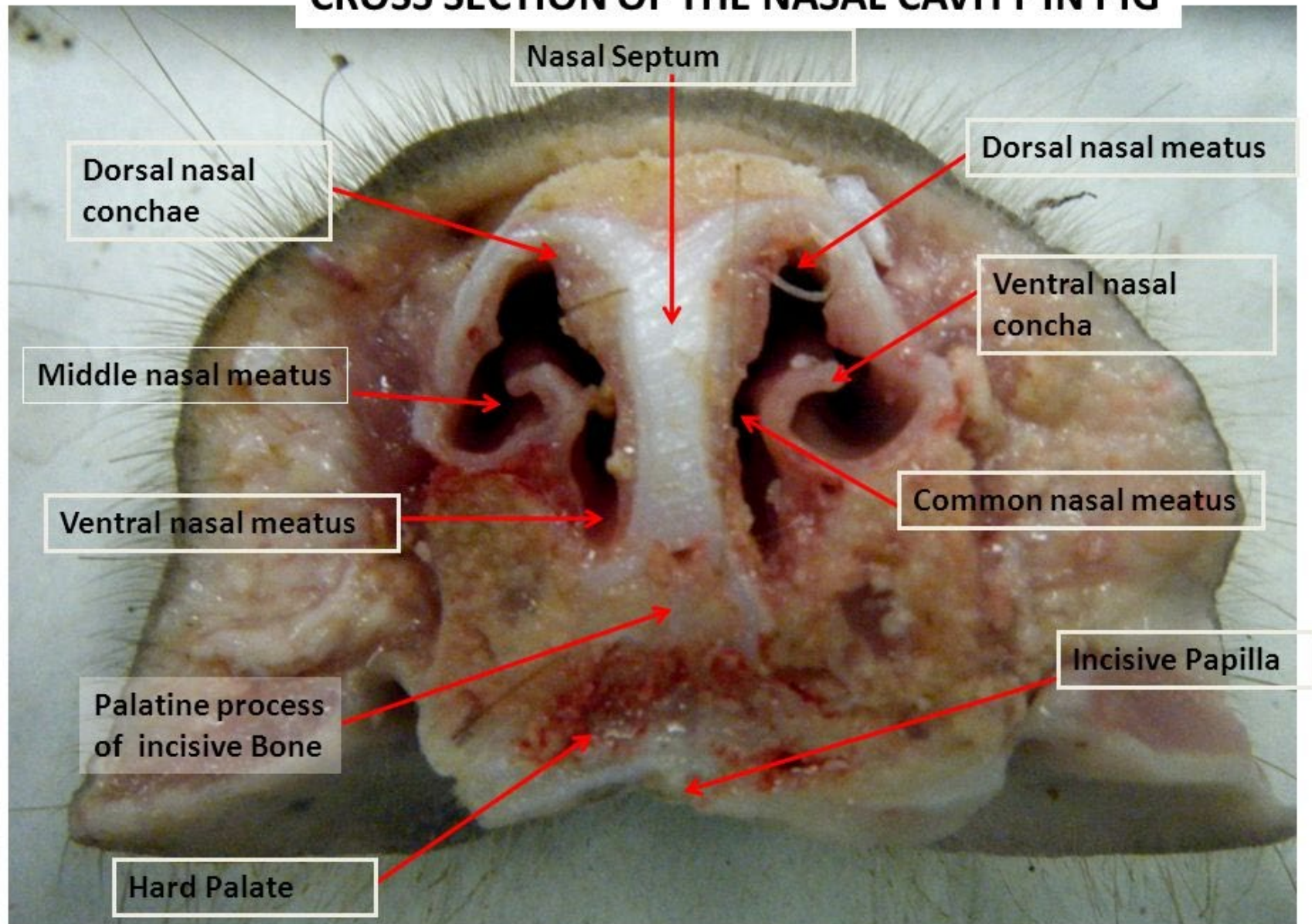
Plica basalis

Concha nasalis ventralis

Cavum oris proprium

Apex linguae

CROSS SECTION OF THE NASAL CAVITY IN PIG



Dr. Suraj Kumar and Yolmari Cruz

Concha nasalis ventralis

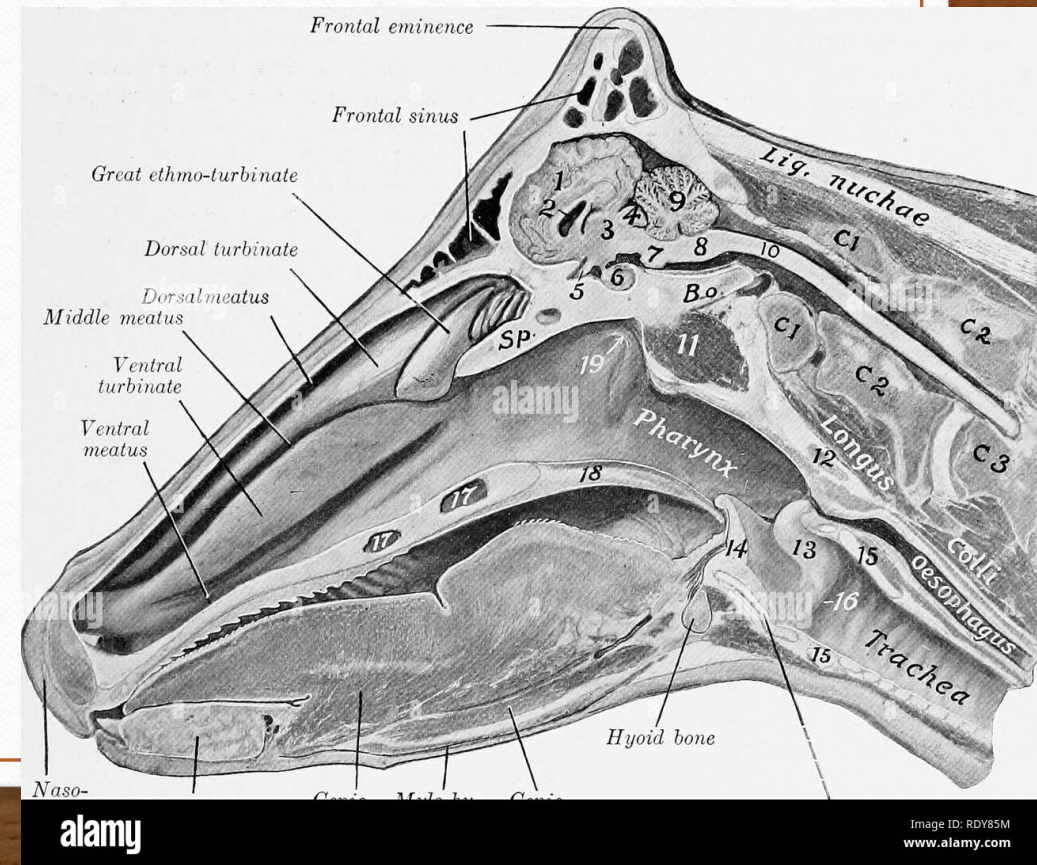


- U preživara i svinja je dvoguba i potiče od:

1. *Lamina basilaris- od crista conchalis*
2. *Pars dorsalis conchae nasalis ventralis et pars ventralis conchae nasalis ventralis*

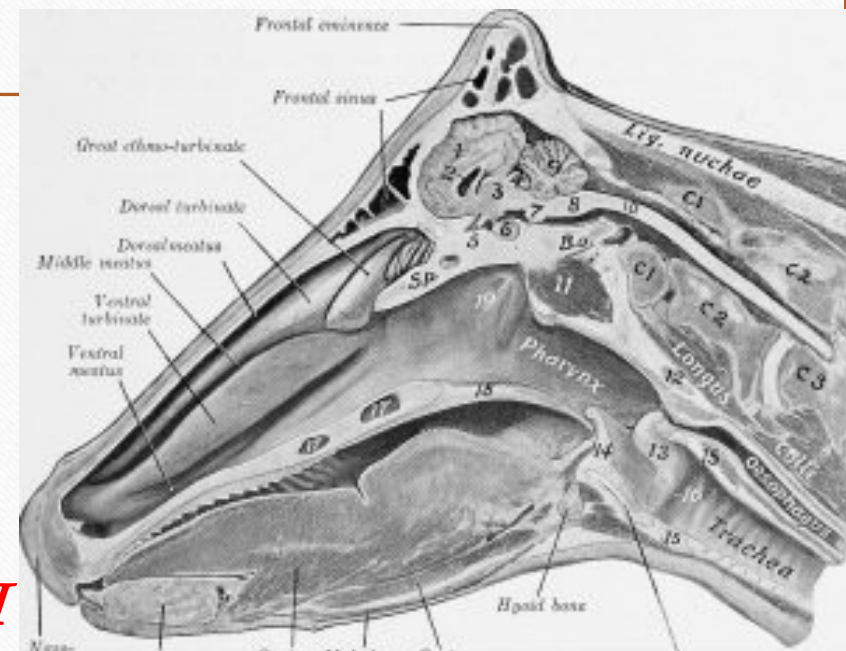
Concha nasalis media

- U njoj se nalazi *organum olfactus*
- Koštanu osnovu čini *os endothurbinale II*
- U mesojeda dugačka, u ekvida i svinje mala
- Sadrži *sinus conchae nasalis media*



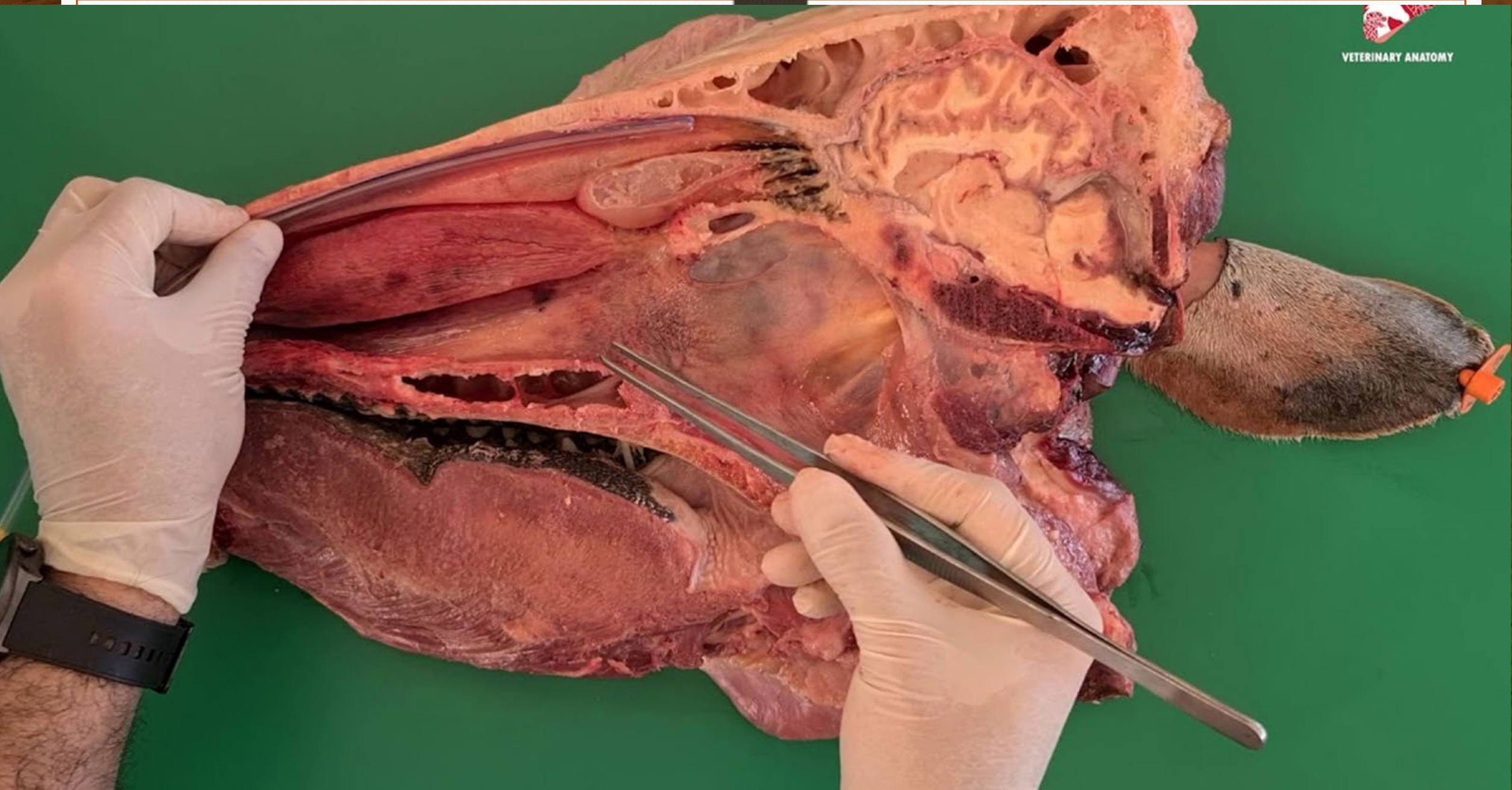
Nosni hodnici-meatus nasi

- Obrazuju se između nosnih školjki
- Razlikujemo sledeće nosne hodnike:
 1. Dorzalni- *meatus nasi dorsalis-MIRISNI*
 2. Srednji- *meatus nasi medialis-SINUSNI*
 3. Ventralni- *meatus nasi ventralis-VAZDUŠNI*
 4. Zajednički nosni hodnik-*meatus nasi communis*



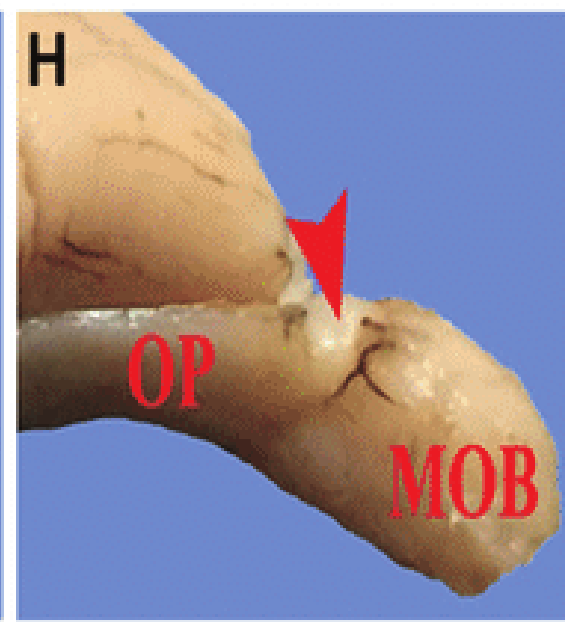
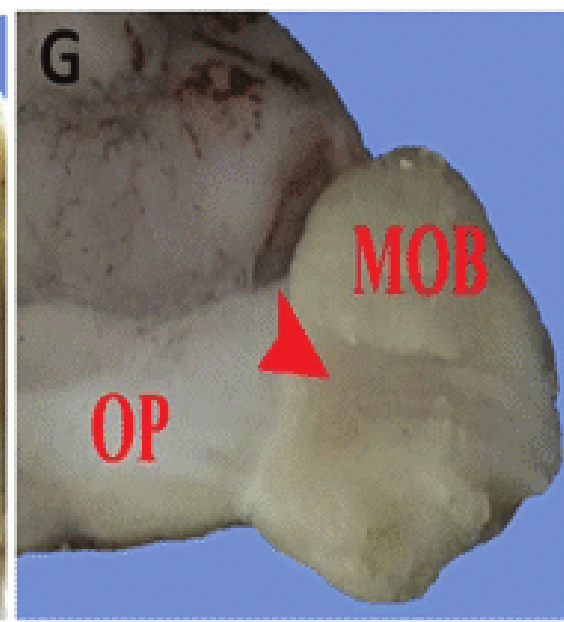
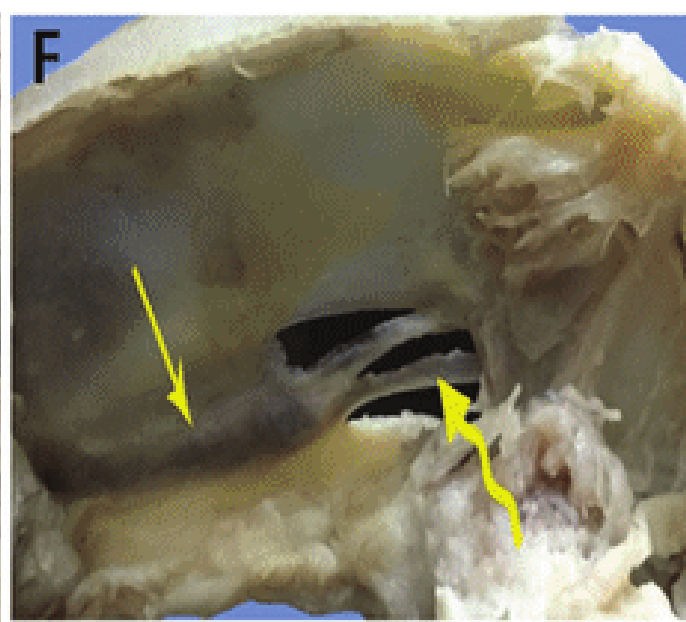
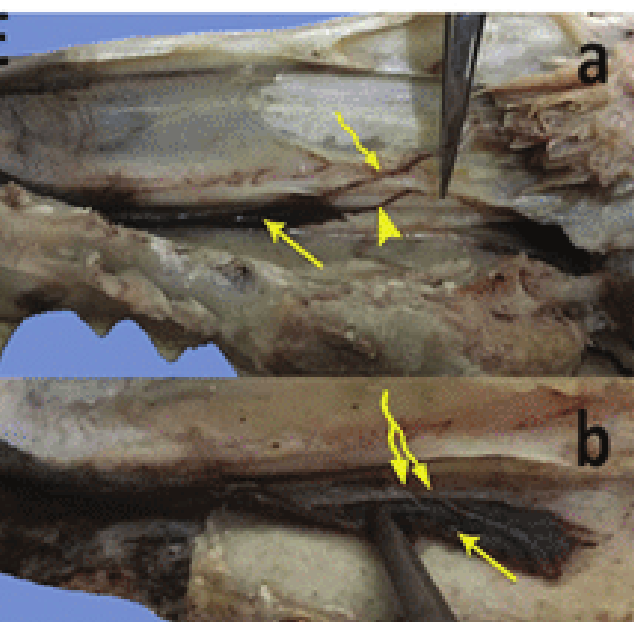
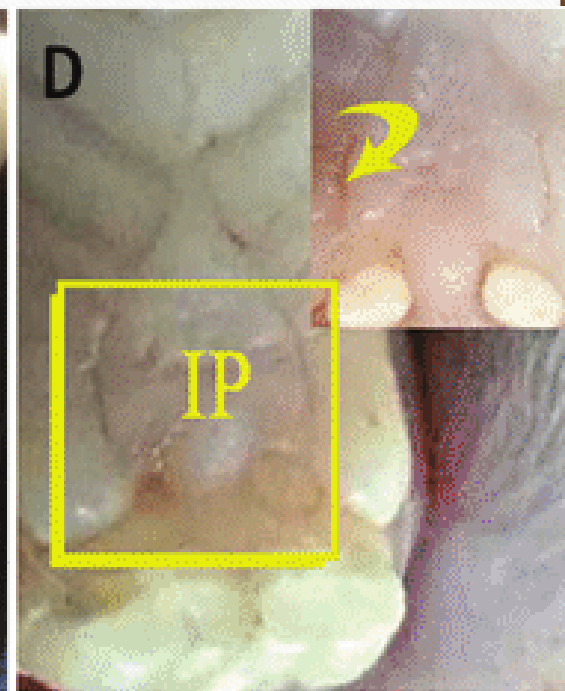
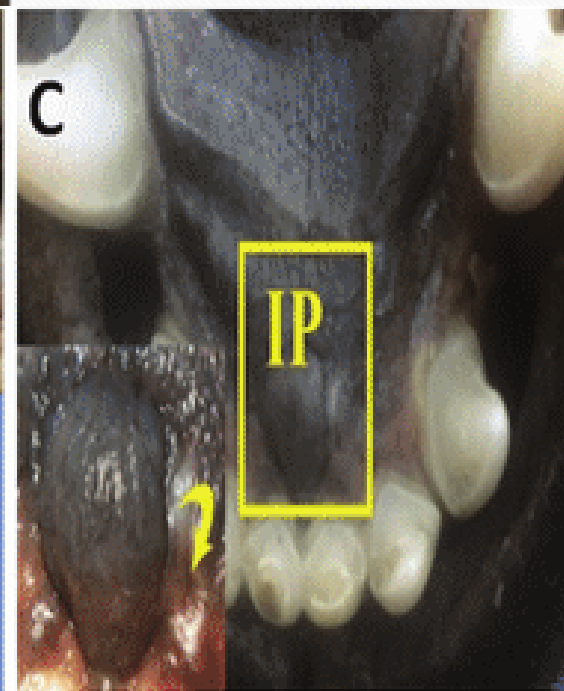
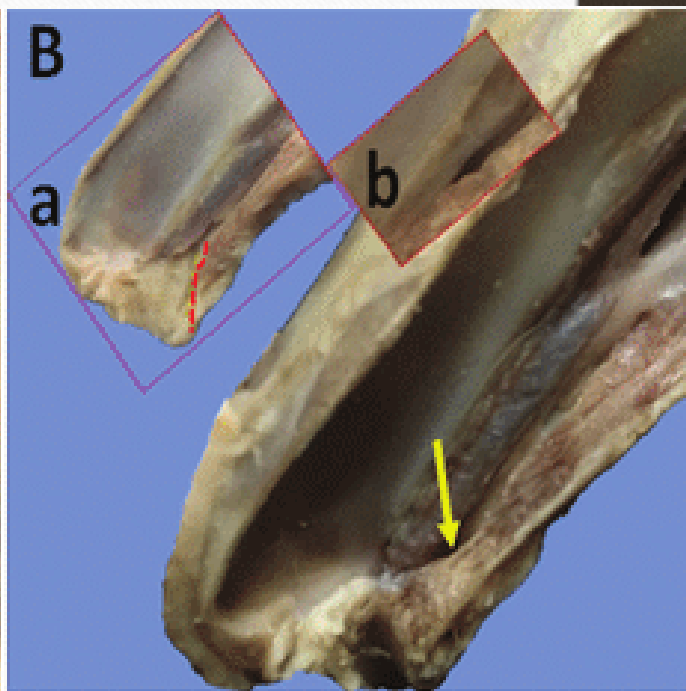
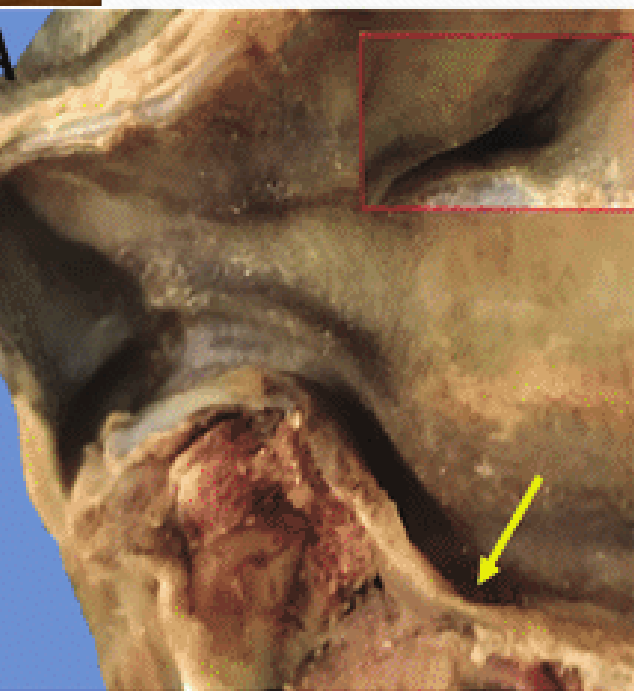
Nosni hodnici-meatus nasi

- **Dorzalni nosni hodnik**-između čone i nosne kosti sa jedne strane i dorzalne nosne školjke sa druge strane
- **Srednji nosni hodnik**-između dorzalne i ventralne nosne školjke i on ima dva kraka:
 1. **Dorzalni krak**-dorzalno od srednje nosne školjke
 2. **Ventralni krak**-povija ventrokaudalno-komunicira sa sinusima
- **Ventralni nosni hodnik**-najširi od svih između poda usne duplje i ventralne nosne školjke



Ductus nasopalatinus

- Rostralno na podu ventralnog nosnog hodnika pruža se koso ventrooralno ispod nosne sluzokože
- Pomoću ovih kanala **nosne duplje su u vezi sa usnom dupljom osim EKVIDA-slepo završavaju**
- Prolaze kroz *fissura palatina ossis incisivi* i dopiru do *papila incisiva*
- Stoje u vezi sa vomeronazalnim organom





Organum vomeronasale Jacobsoni

- Sastoji se od:

1. Unutrašnje sluzokože

2. Hrskavičave cevi (*ductus vomeronasalis et cartilago vomeronasalis*)

- Nalazi se ispod nosne sluzokože u podnožju rala i hrskavičave nosne pregrade i prostire se do nosno-nepčanog kanala
- **Kod svih osim ekvida služi za osećaj mirisa i ukusa**
- **U ekvida samo za miris**

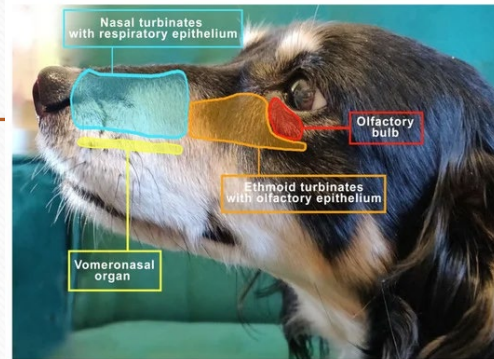
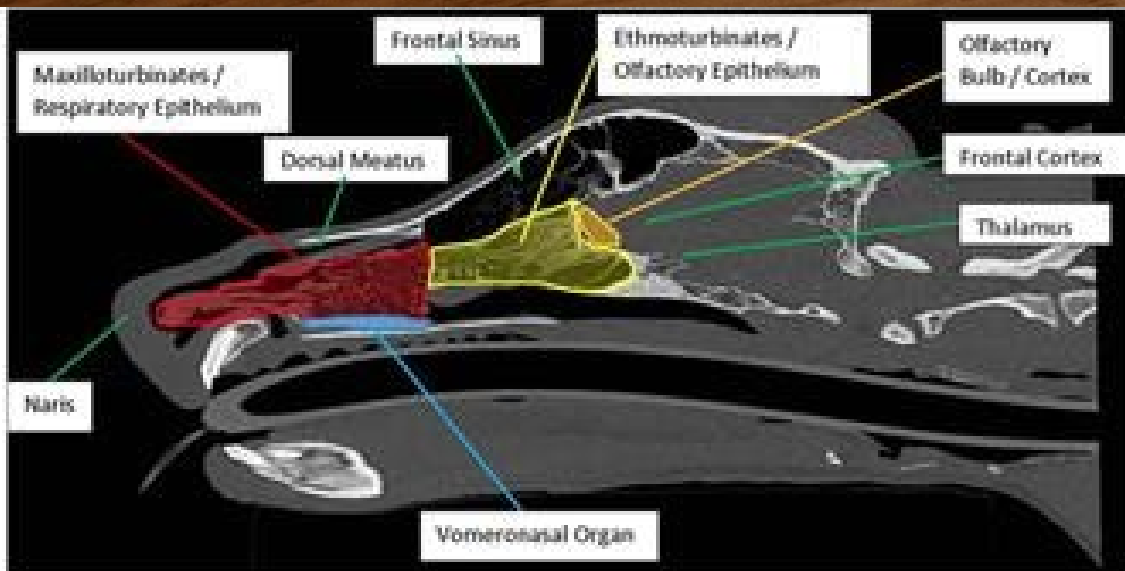
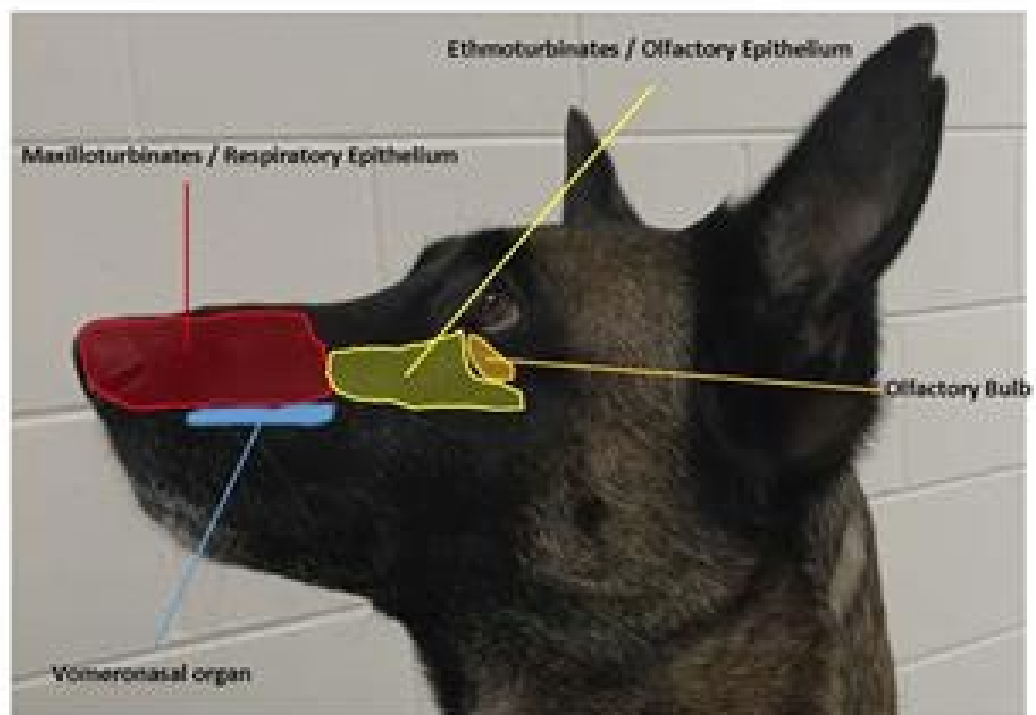


Fig. 1. Dog nasal cavity (lateral view); sensory (yellow-brown) organ.

A

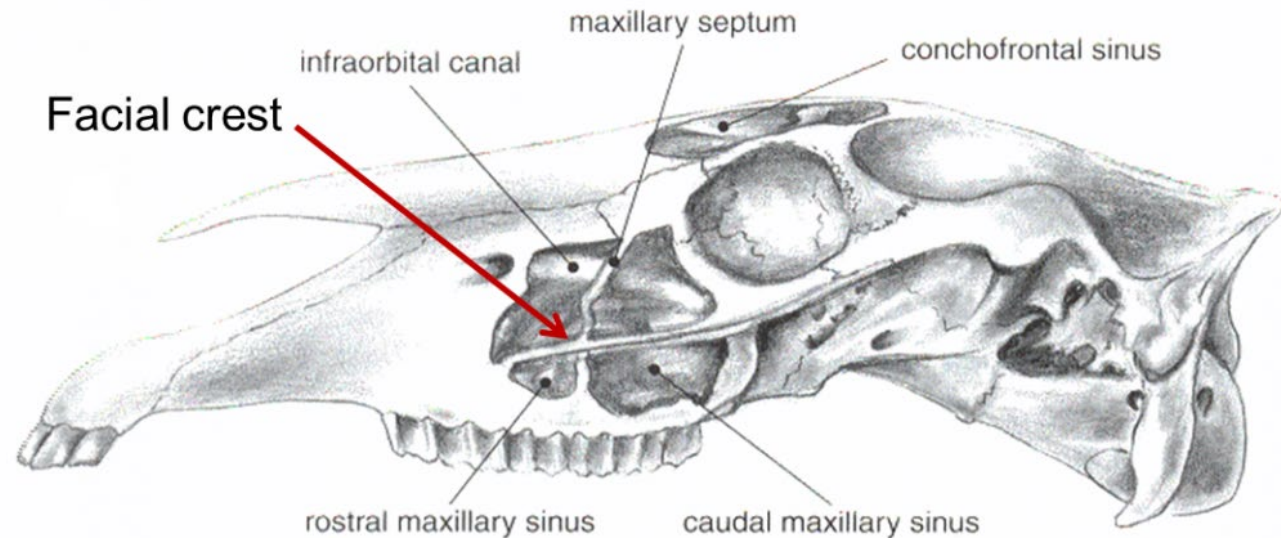


B



Sinus paranasales

- Na jednoj polovini glave postoje sledeći sinusi:
 1. *Sinus conchae nasalis dorsalis et conchae nasalis ventralis*
 2. *Sinus ethmoidalis*
 3. *Sinus conchae nasalis mediae*
 4. *Sinus maxillaris*
 5. *Sinus palatinus*
 6. *Sinus lacrimalis (ru,su)*
 7. *Sinus frontalis*
 8. *Sinus sphenoidalis*

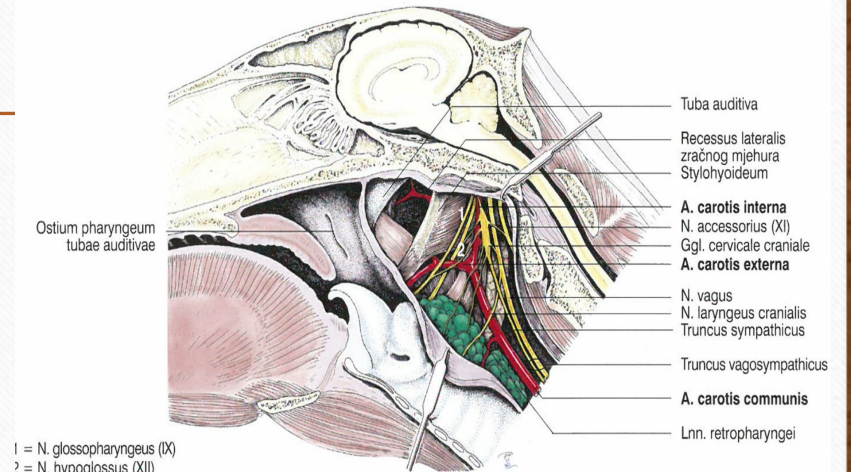


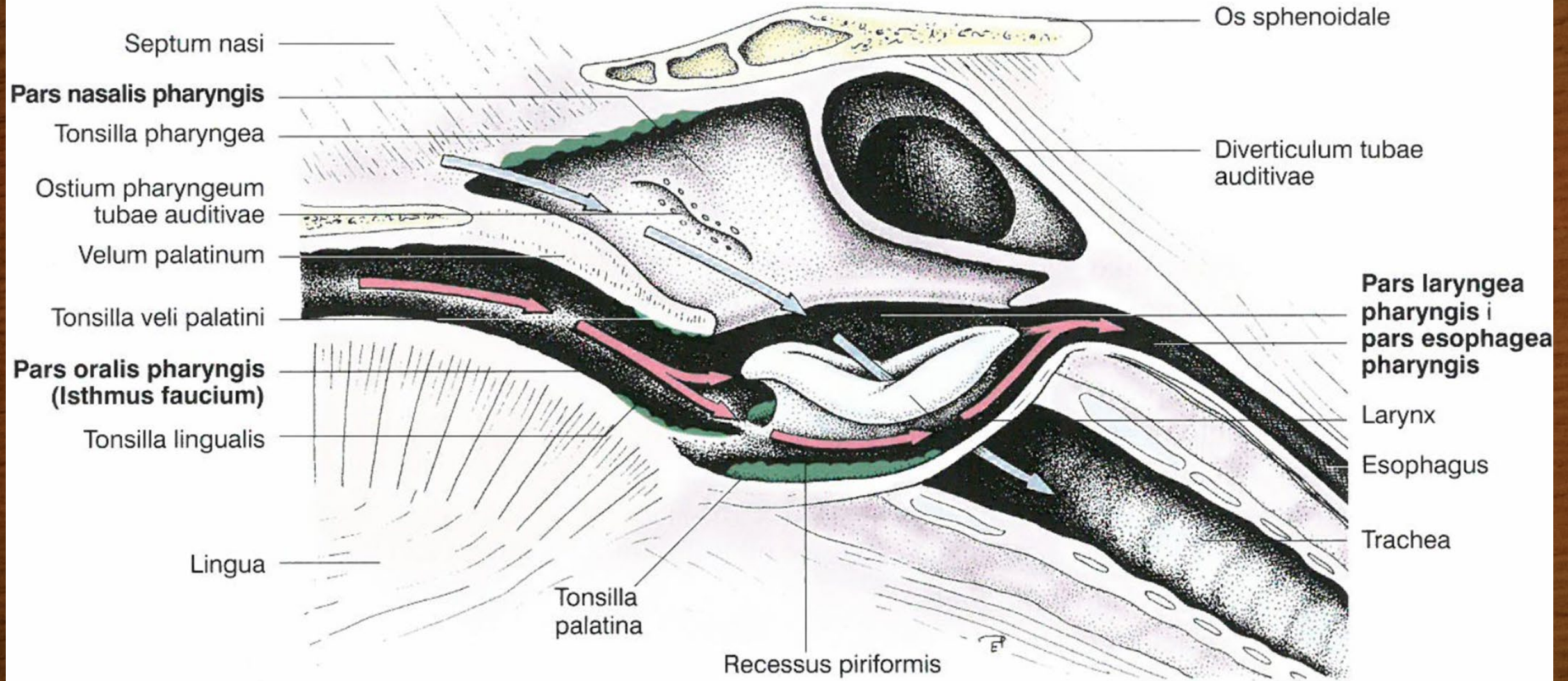
Nosno-ždrelni hodnici-ductus nasopharyngei-HOANAE

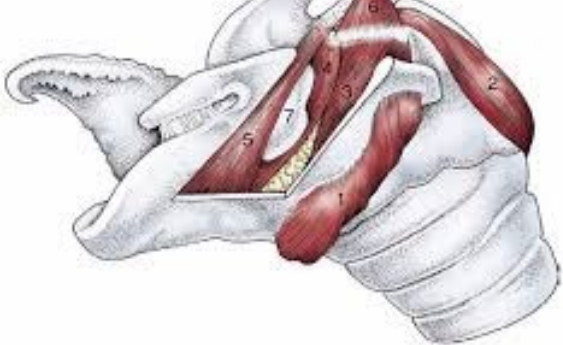
- Služe da sprovedu vazduh iz ventralnog nosnog hodnika do distalnijih partija
- U svinje i mesojeda postoje dva (**ductus nasopharyngeus dexter et sinister**)- jer ralo pregrađuje respiratorni deo ždrela na 2 dela
- U goveda samo 1 –**ductus nasopharyngeus impar**-komunikacija aboralnog dela nosnih duplji i respiratornog dela ždrela
- U ekvida vrlo kratak

Pharynx respiratorius

- Podsetimo se 7 otvora na ždrelu !!!!!
- Čini dorzalni deo *cavum pharyngis*
- Obloženo sluznicom respiratornih puteva
- Odeljen od digestivnog pomoću *plica palatopharyngea*
- Na levom i desnom zidu nalaze se dva otvora *ostium pharyngeum tubae auditivae*
- *Tonsila tubaria et pharyngea*

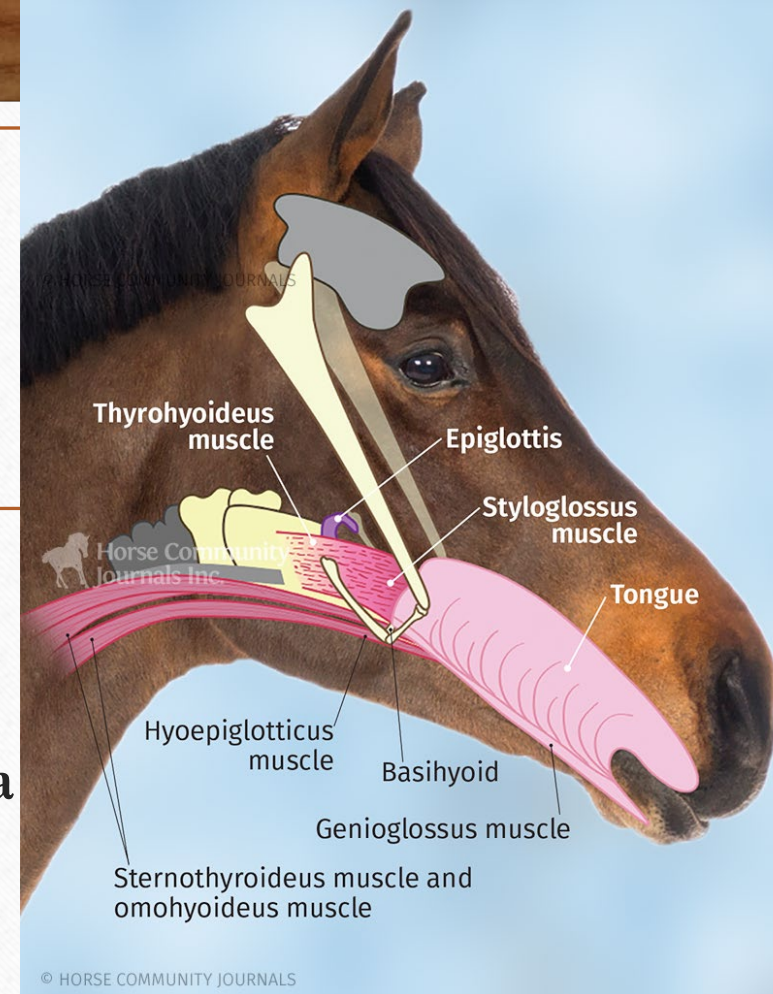






Grkljan-larynx

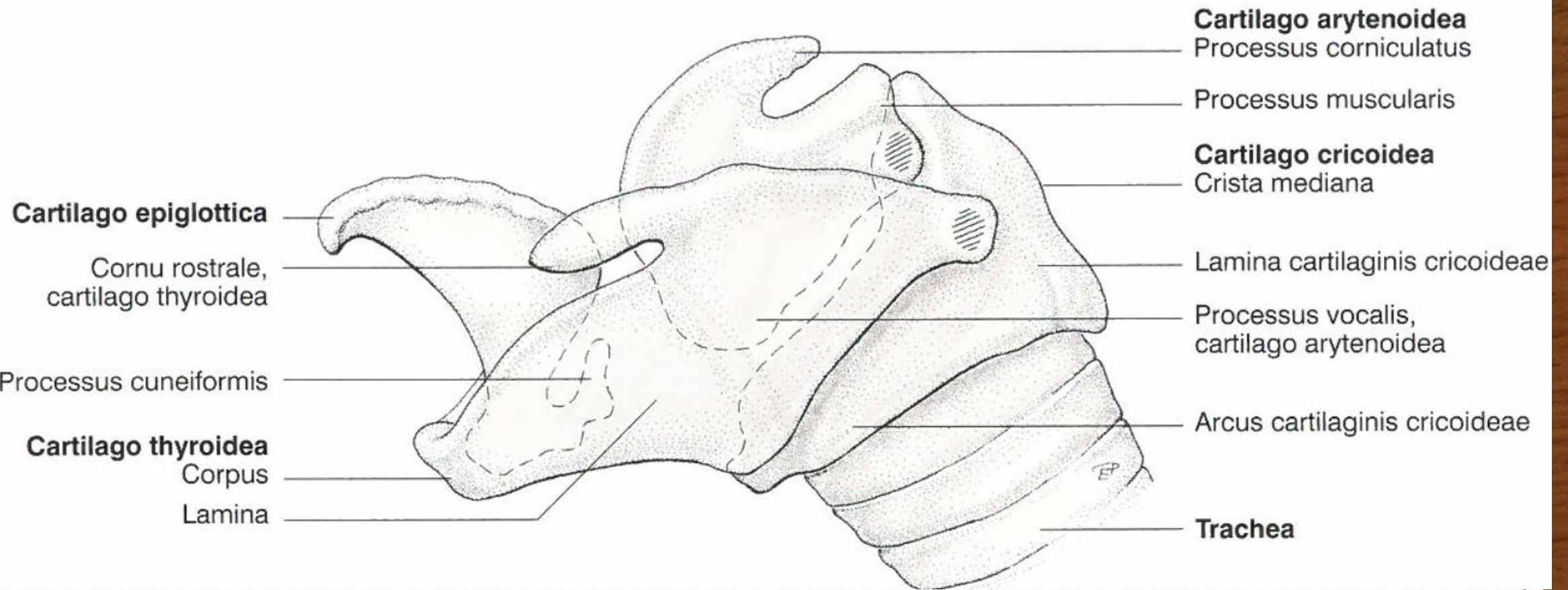
- Služi za prolaz vazduha i stvaranje glasa
- Čini ga: hrskavičavi skelet, ligamenti, mišići
- Grkljanska šupljina- *cavum laryngis* -dosta prostrana
- *Rima glottidis* –uzani deo grkljanske šupljine
- U komunikaciji je sa ždrelom i dušnikom
- Smešten je u *spatium mandibulare*
- Ulaz u grkljan- *aditus laryngis*



Cartilagine laryngis

- Čine tri neparne i dve parne hrskavice:

1. Štitna- *cartilago thyroidea*
 2. Prstenasta hrskavica- *cartilago cricoidea*
 3. Hrskavica grlenog poklopca- *cartilago epiglottica*
 4. Piramidne rskavice- *cartilagine arytenoideae*
- NEPARNE
- PARNE

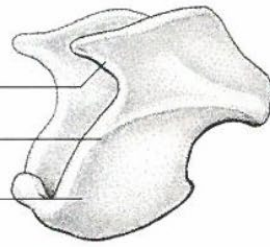


Cartilago thyroidea

Cornu rostrale

Linea obliqua

Lamina sinistra



Cartilago thyroidea

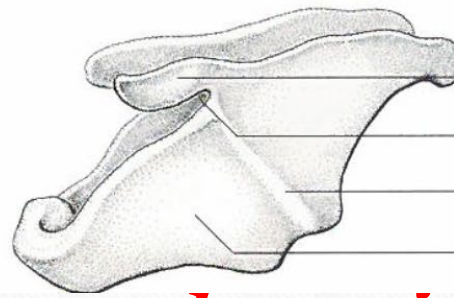
Cornu caudale

Cornu rostrale

Fissura thyroidea

Linea obliqua

Lamina sinistra

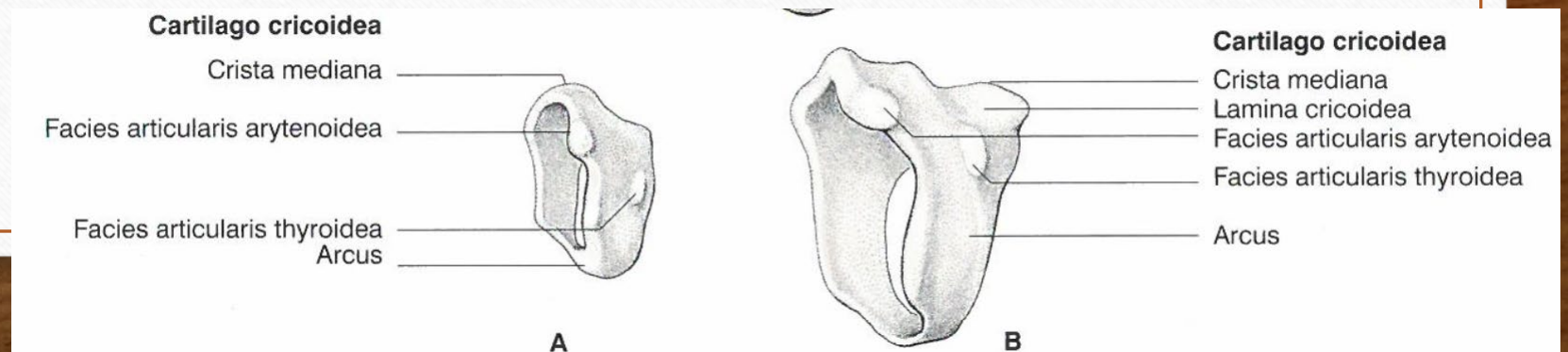


Cartilago thyroidea

- Najveća
- Na njoj nalazimo:
 1. *Lamina thyroidea dextra et sinistra (corpus thyroideum)*
 2. *Incisura thyroidea dextra et sinistra*
 3. *Linea obliqua dextra et sinistra*
 4. *Cornu rostrale et caudale dextrum et sinistrum*
 5. *Fissura thyroidea dextra et sinistra*
 6. *Foramen thyroideum dextrum et sinistrum*
 7. *Facies articularis cricothyroidea et hyoidea dextra et sinistra*

Cartilago cricoidea

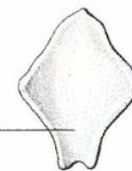
- Nalazi se kaudalno od štitne i sa njom se zglobljava
- Na njoj razlikujemo:
 1. *Lamina cartilaginis cricoideae (processus muscularis)*
 2. *Facies articularis arytenoidea dextra et sinistra*
 3. *Facies articularis thyroidea dextra et sinistra*





Cartilago epiglottica

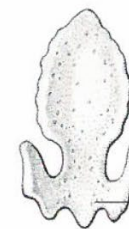
Petiolus



Cartilago epiglottica

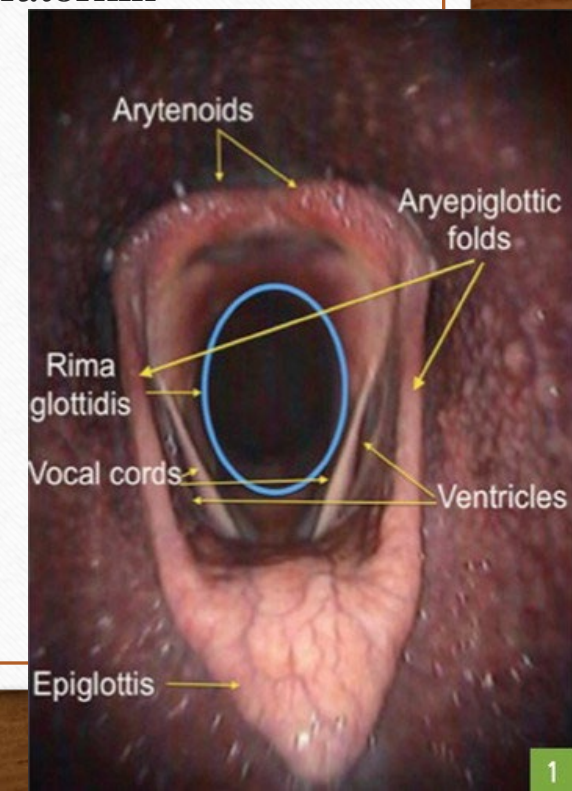
Processus cuneiformis

Petiolus



Cartilago epiglottica

- Elastična hrskavica, uglavnom pokretna, povezana samo bazom
- Na strani prema ždrelu presvučena kutanom sluznicom a prema grlu sluznicom respiratornih puteva
- Zatvara i otvara *cavum laryngis*
- Osnovni delovi su:
 1. *Basis epiglottidis*
 2. *Apex epiglottidis*
 3. *Facies oralis et facies laryngea*
 4. *Petiolus epiglottidis*
 5. *Cartilago cuneiformis dexter et sinister*



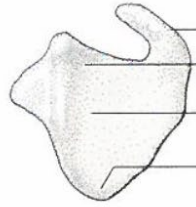
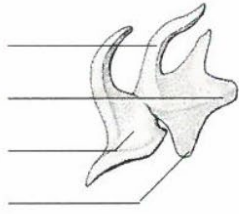
Cartilago arytenoidea

Processus corniculatus

Processus muscularis

Processus cuneiformis

Processus vocalis



Cartilago arytenoidea

Processus corniculatus

Processus muscularis

Facies articularis

Processus vocalis

Cartilagine arytenoideae

- Parne rskavice, levkastog oblika, najmanje su
- Dorzalni deo izvučen u vidu *processus corniculatus*
- Na njima razlikujemo:
 1. *Basis cartylaginis arytenoideae*
 2. *Cartilago corniculata*
 3. *Processus vocalis*
 4. *Processus muscularis*
 5. *Facies laterales et mediales*
 6. *Facies articularis cricoarytenoideae*

Veze rskavica grkljana

- Pomoću:

1. Ligamenata

2. Zglobova

3. Mišića

Cartilago arytenoidea
(processus corniculatus)

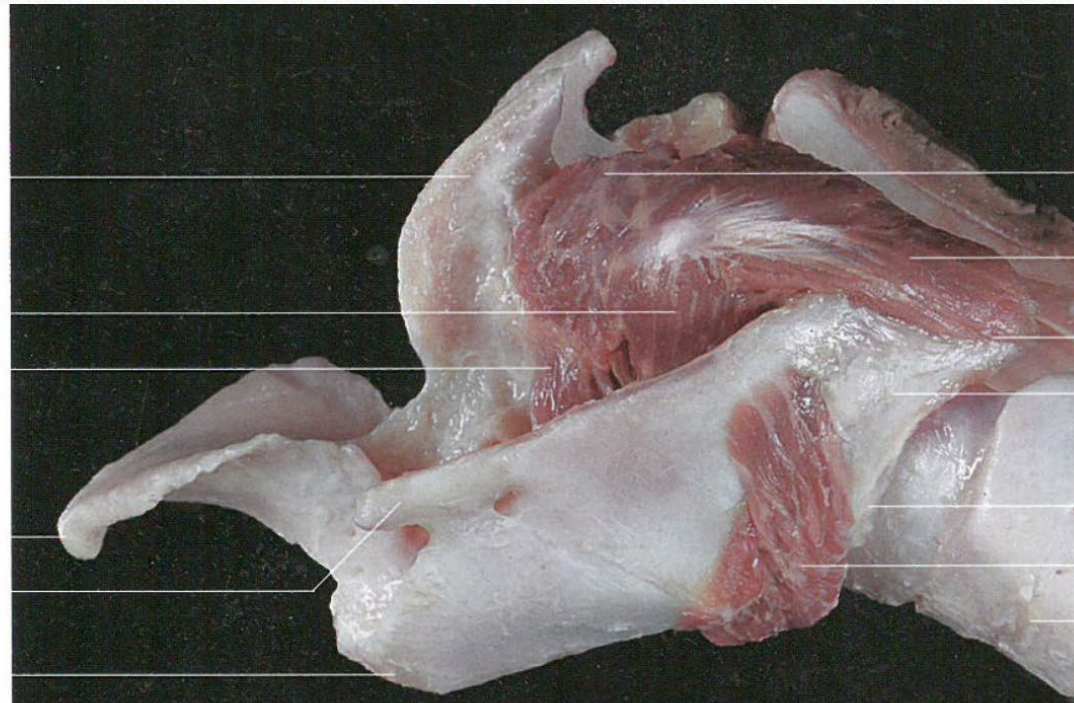
M. vocalis

M. ventricularis

Cartilago epiglottica

Cornu rostrale

Cartilago thyroidea



M. arytenoideus
transversus

M. cricoarytenoideus
dorsalis

Cornu caudale

Cartilago cricoidea

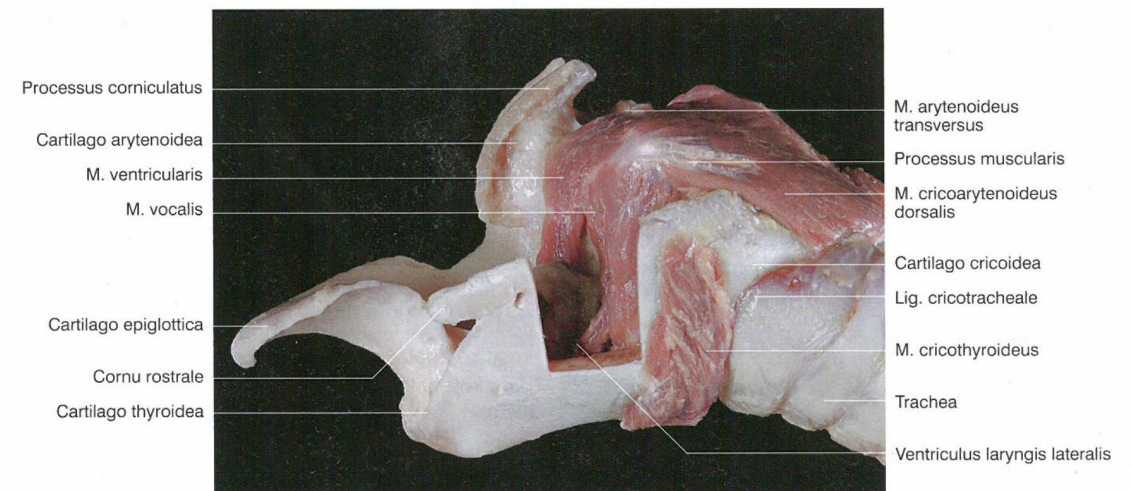
Lig. cricotracheale

M. cricothyroideus

Trachea

Mišići grkljana

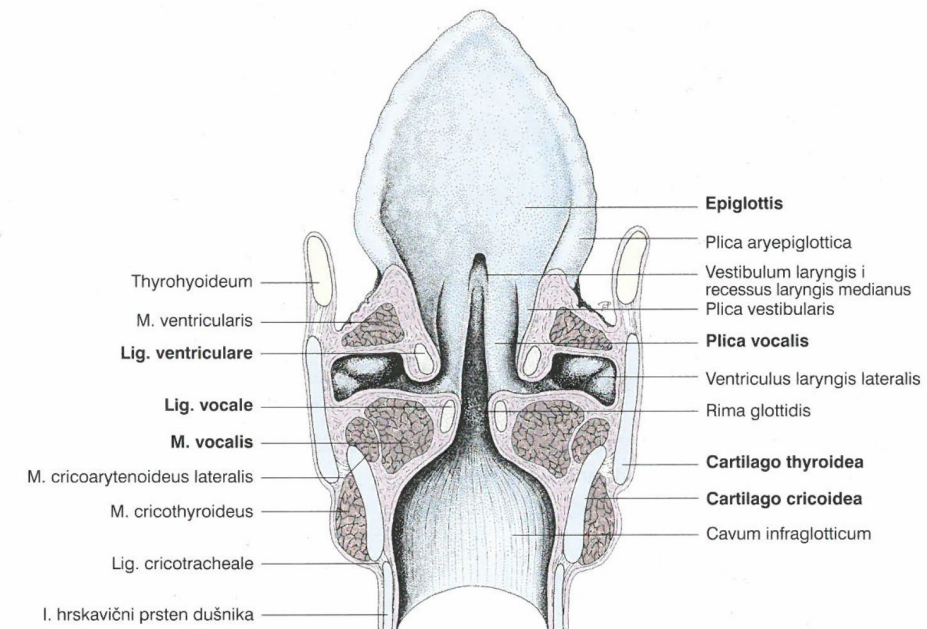
1. *M. cricothyroideus*
2. *M. crycoarytenoideus dorsalis*
3. *M. crycoarytenoideus lateralis*
4. *M. tyroarytenoideus oralis et aboralis*



Cavum laryngis

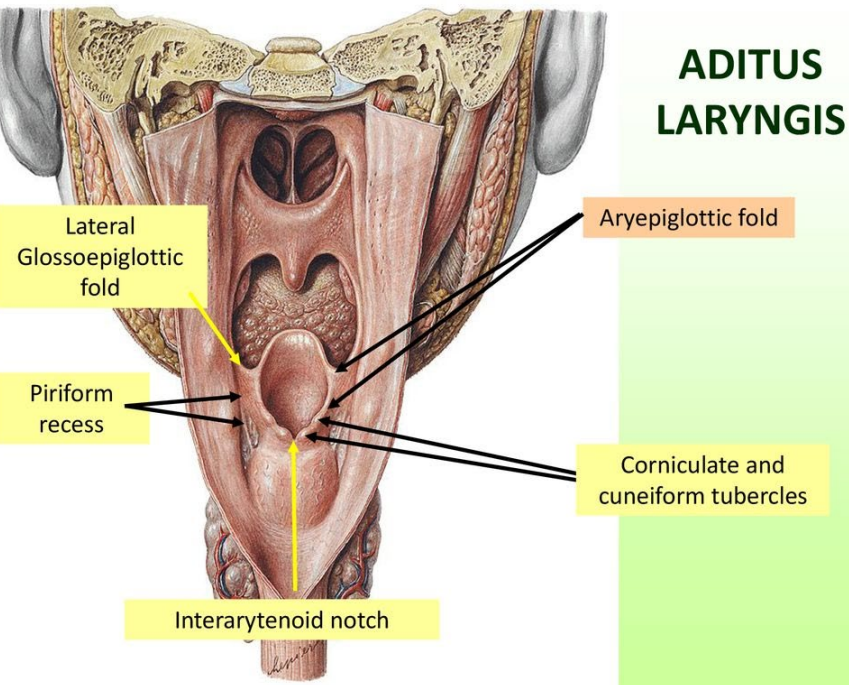
- Deli se na:

1. Predvorje- *vestibulum laryngis*- rostralni deo
2. *Cavum laryngis intermedium*- srednji deo
3. *Cavum laryngis aboralis*- aboralni deo



Vestibulum laryngis

- Oivičen pomoću *aditus laryngis* i zatvara ga *epiglottis*
- Takođe sastavni deo je i *plica aryepiglottica sinistra et dextra*

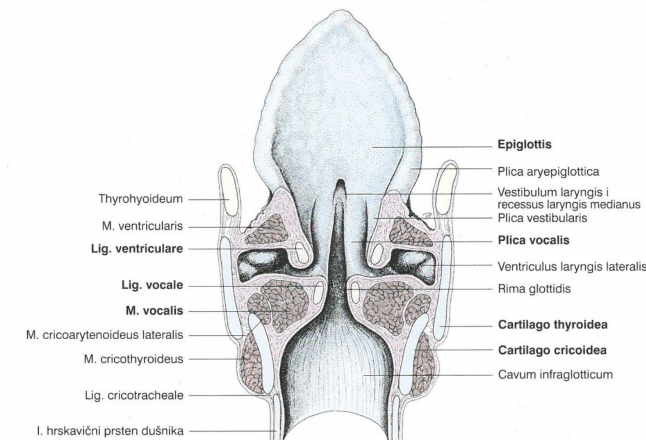


Cavum laryngis intermedium

1. Levi i desni ventrikularni nabor- *plica ventricularis dextra et sinistra*
(*eq, car*) ventrikularni ligament- *lig. ventriculare (m. ventricularis)*

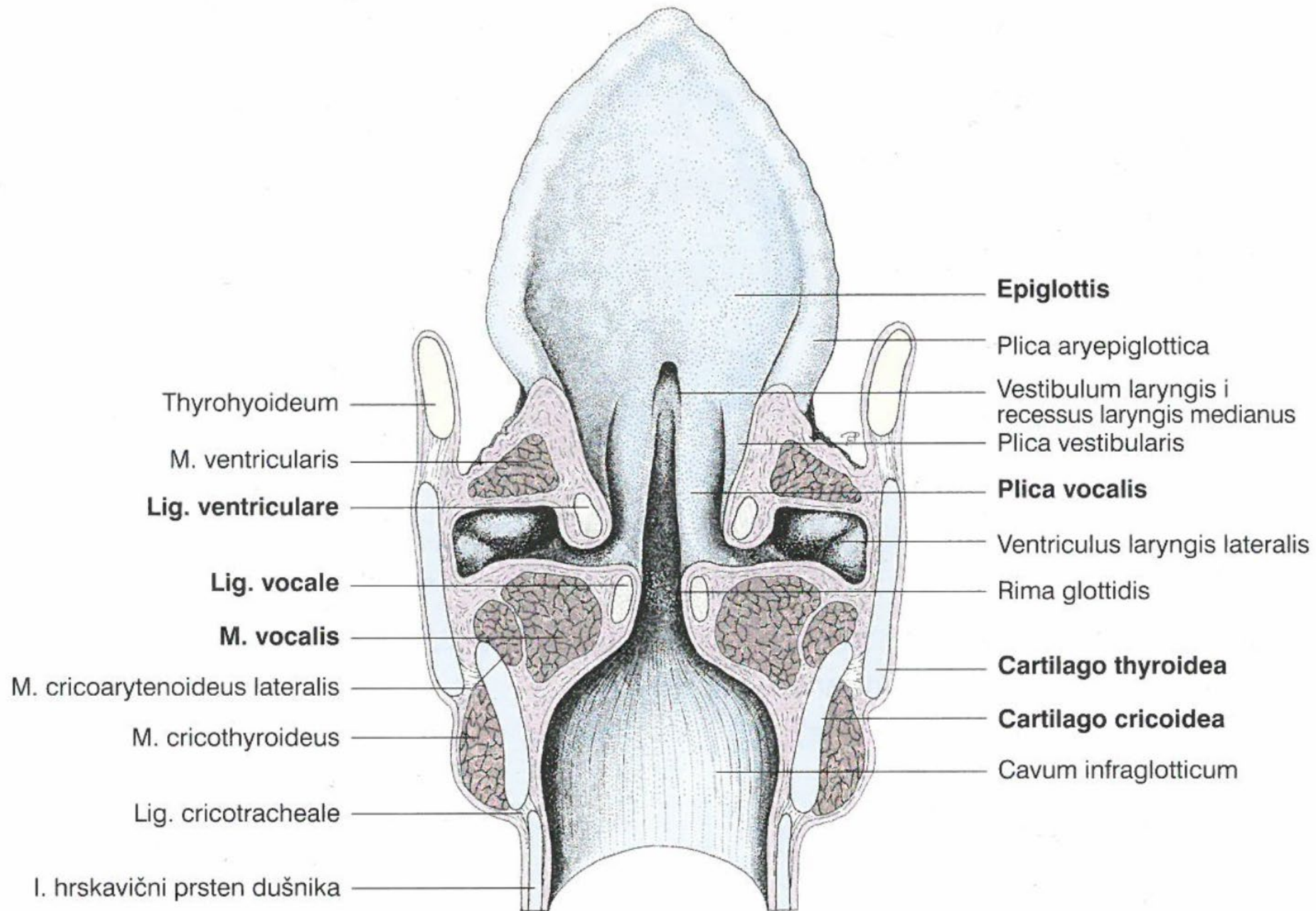
-U svinje, preživara i mačke na mestu nabora postoji po jedna udubina
fossa laryngis lateralis

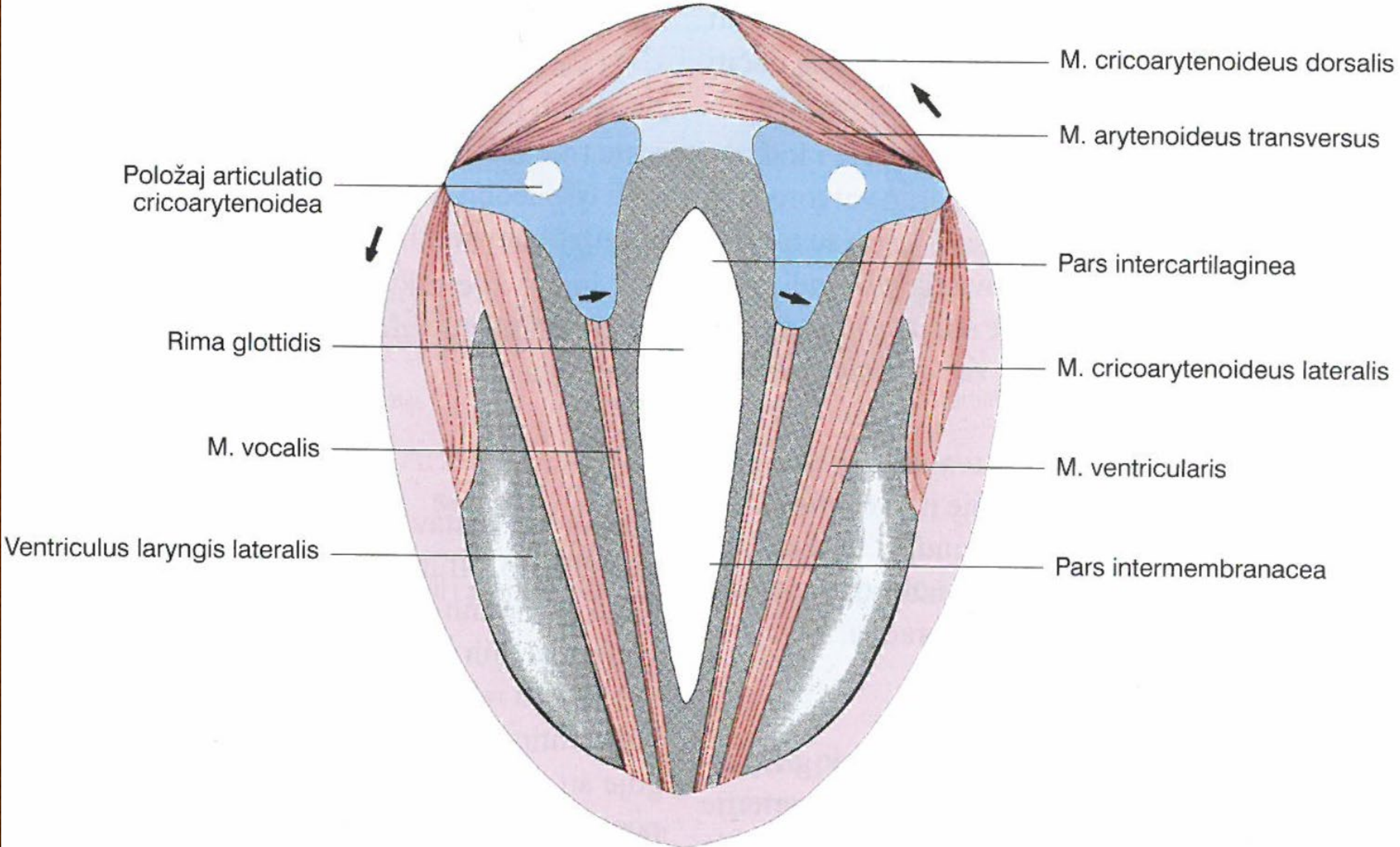
2. *Plica vocalis dextra et sinistra*- *glasnice (lig. vocalis+m.vocalis)*



Cavum laryngis intermedium

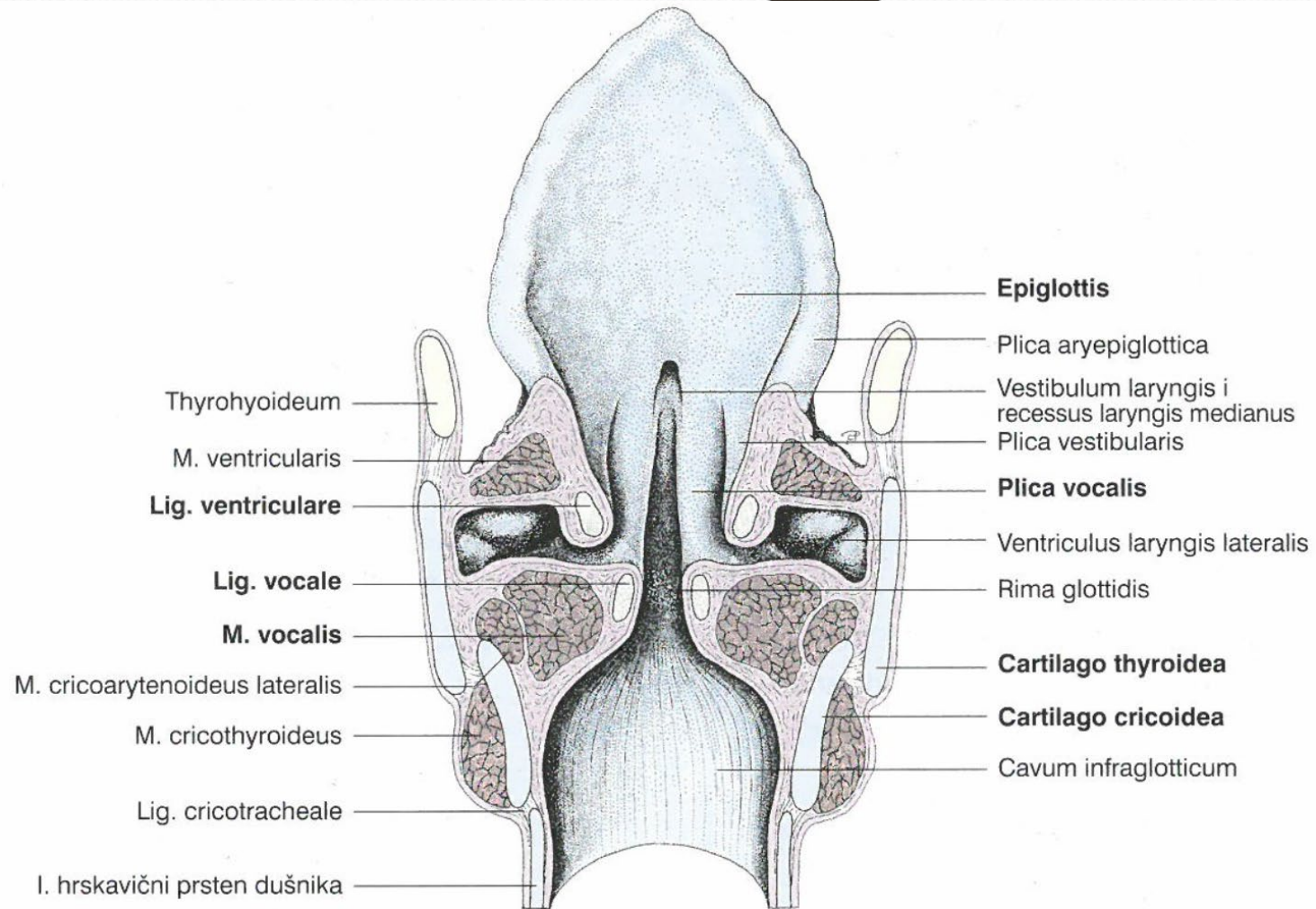
3. *Ventriculus laryngis lateralis dexter et sinister*- (između ventrikularnog i vokalnog ligamenta)- NEDOSTAJU u PREŽIVARA I MAČAKA kod njih postoji *fossa laryngis lateralis dextra et sinistra*
4. Grleni tesnac- *rima glottidis*- obrazovao se između sluzokožnih rubova i *labium vocale dextrum et sinistrum*
5. *Ventriculus laryngis medianus*- samo u EQ i SU





Cavum laryngis aborale

- Kaudalni deo grkljanske šupljine
- Relativno mali
- Od kaudalnog dela glasnica do prstenaste rskavice i prvog prstena dušnika

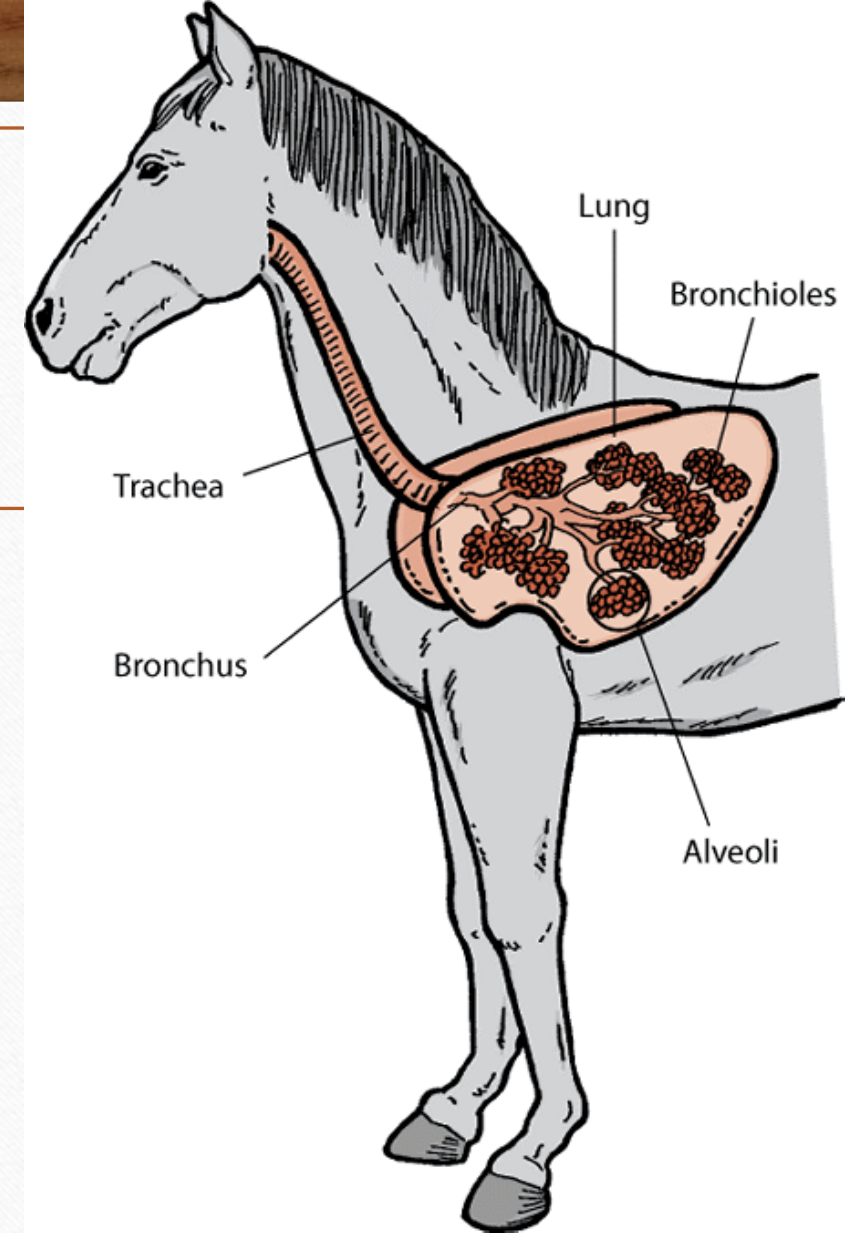


Dušnik- trachea

- Prema topografiji postoje 2 dela:

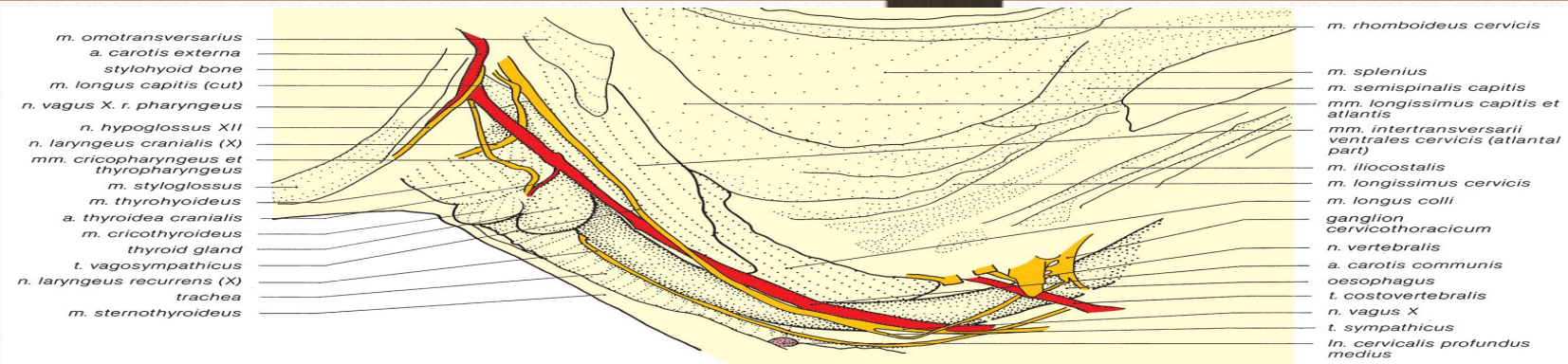
1. *Pars cervicalis*

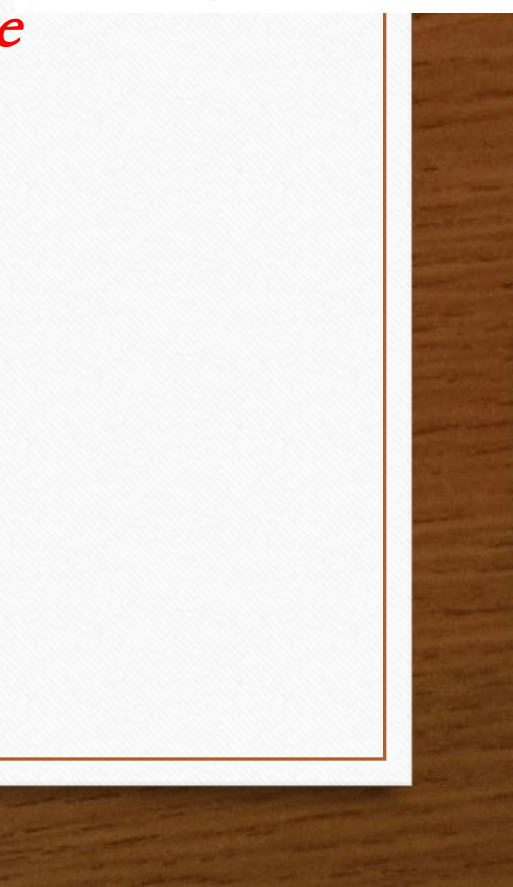
2. *Pars pectoralis seu thoracalis*



Pars cervicalis tracheae

- Predstavlja nastavak laringealne šupljine
- On počinje od *cartilago cricoidea* sa kojom je povezan pomoću *lig. cricotracheale* prostire se do *apertura thoracis cranialis*
- On se pruža duž *regio colli ventralis*
- Dorzalno *od njega nalazi se jednjak*
- Bočno- dorzolateralno- leva i desna *a. carotis communis*, levi i desni *truncus vagosympathicus*, još lateralnije *v. jugularis externa*





-

Građa dušnika

- Građen je od:
 1. Hijaline hrskavice- prstenovi
 2. Sluzokože
 3. Elastičnog tkiva
 4. Mišićnog tkiva

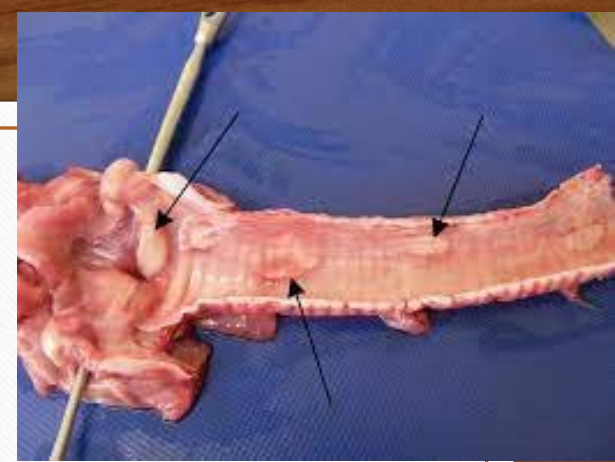




Cartilagine tracheales seu anuli cartilaginei tracheales

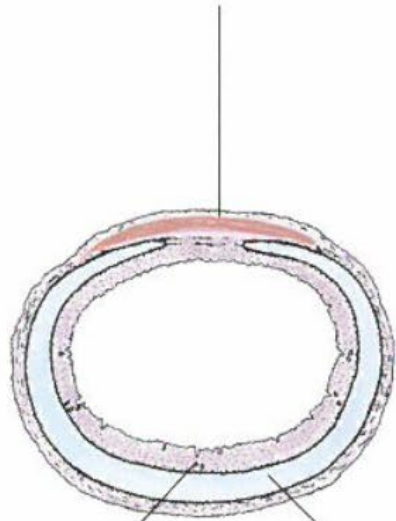
- Hrskavičavi prstenovi
- Povezani fibroelastičnim tkivom- *fibrocartilaginea seu ligg. anularia tracheae*
- U dorzalnom delu krajevi prstenova slobodni- povezani su pomoću elastičnog i mišićnog tkiva- *paries membranaceus tracheae*
- Ventralni delovi čvrsti od hrskavičavih lukova- *paries cartilagineus tracheae*

Građa dušnika



- Na *paries membranaceus tracheae* postoji poprečno postavljen mišić *m. transversus tracheae*
- Bledo-ružičaste boje izgrađen od glatkih mišića
- Kod *Eq, RU, SU* leži ispod slobodnih krajeva hrskavičavih prstenova
- *Kod CAR- leži iznad slobodnih krajeva* hrskavičavih prstenova
- U preživara *postmrtem* javlja se greben na dušniku

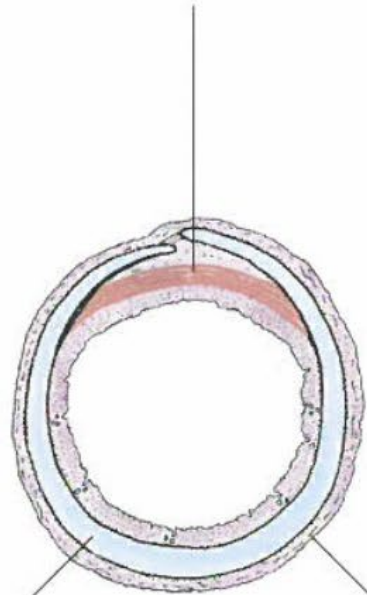
M. trachealis



Respiratorna
sluznica

Pas

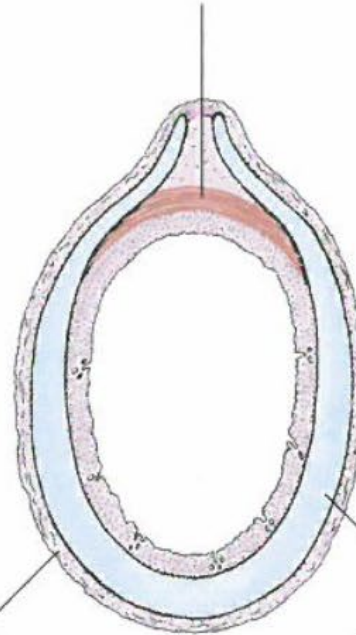
M. trachealis



Adventitia

Svinja

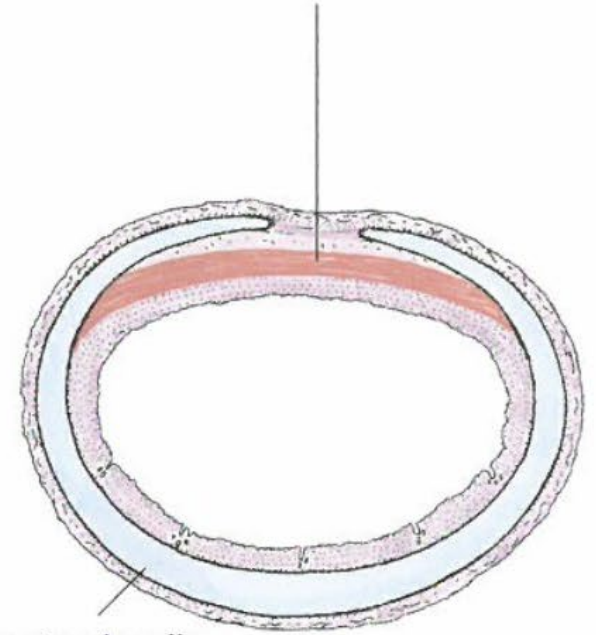
M. trachealis



Cartilago trachealis

Govedo

M. trachealis



Konj

Konj 48-60

Govedo 48-60

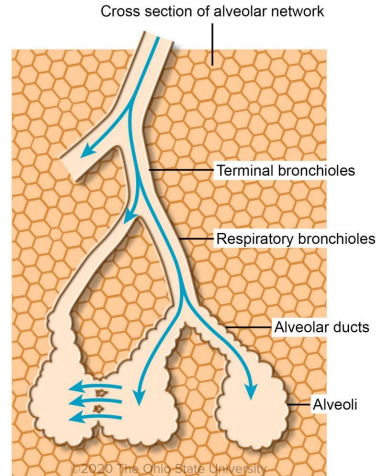
Ovca 48-60

Koza 48-60

Svinja 29-36

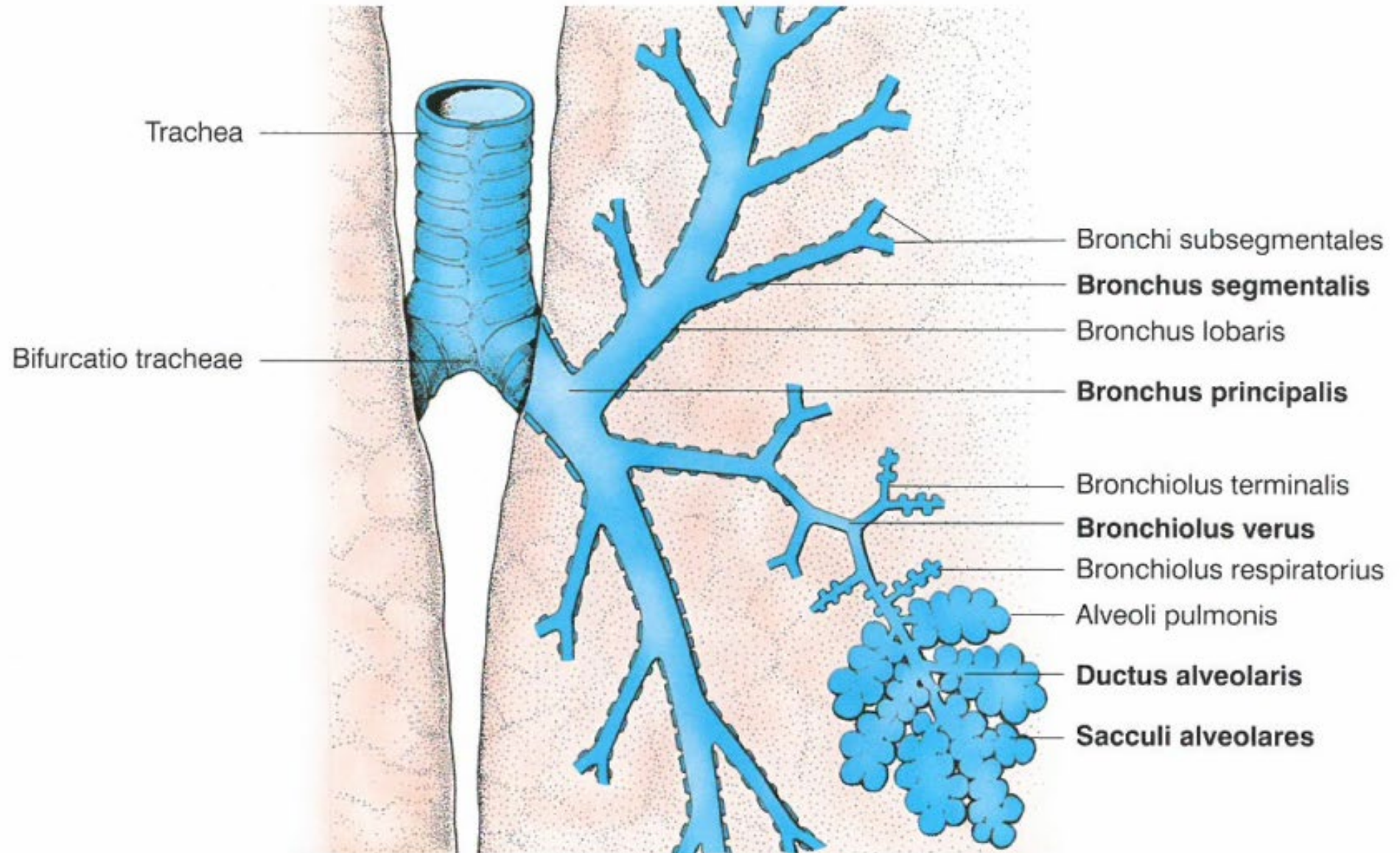
Pas 42-46

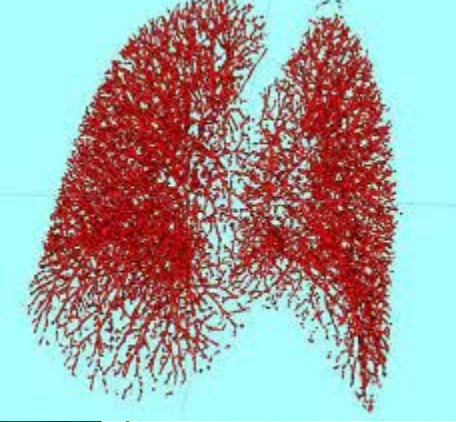
Mačka 38-43



Bronhijalno stablo- *arbor bronchalis*

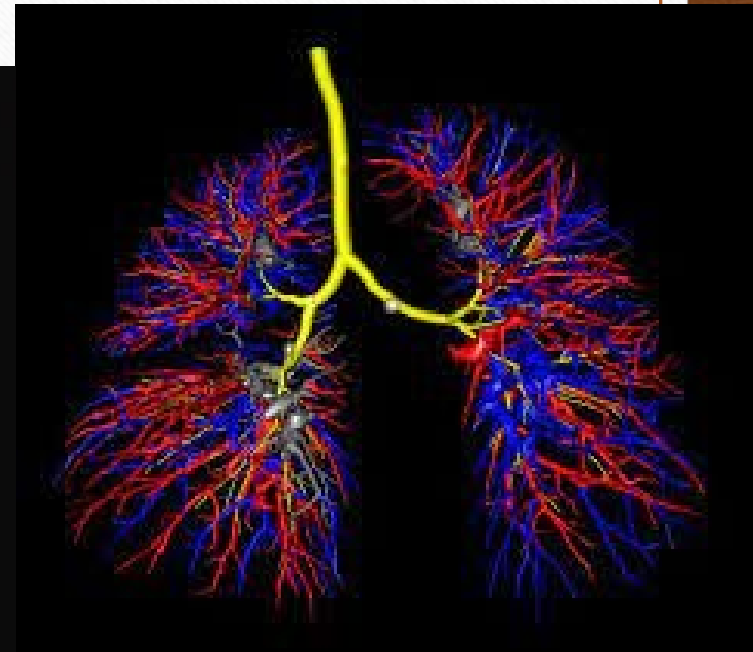
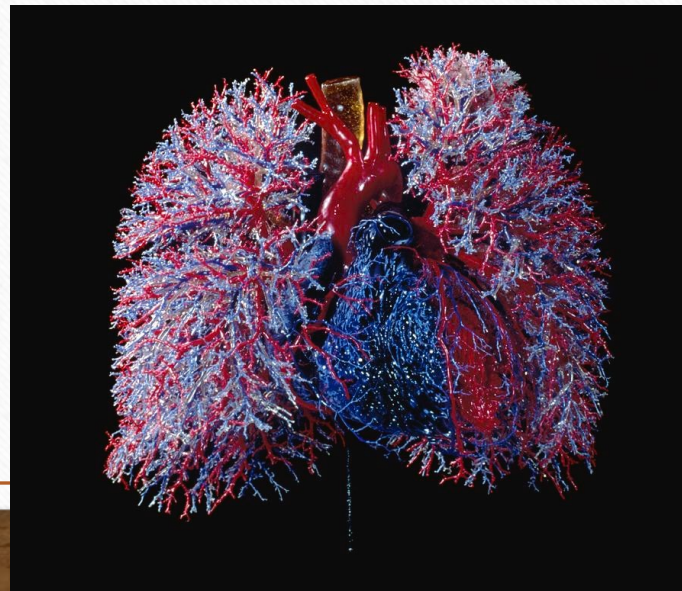
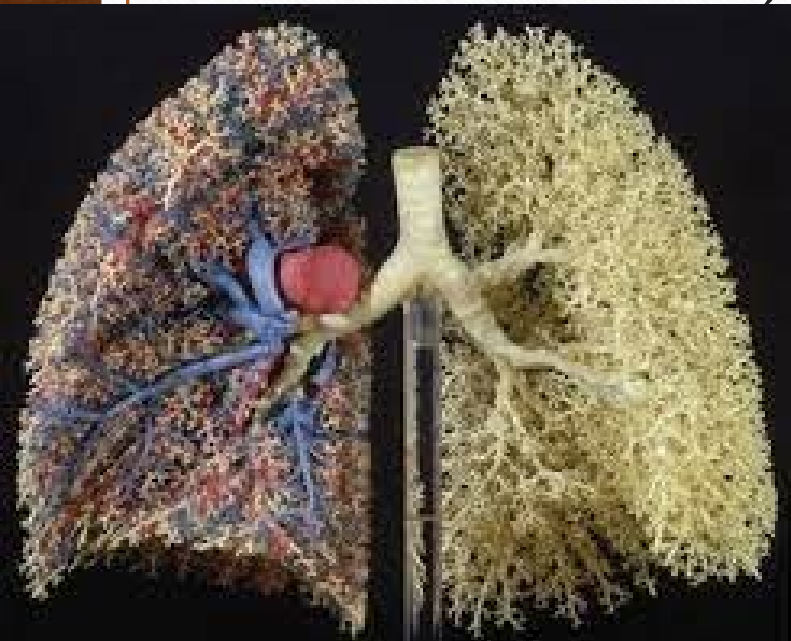
- Predstavlja razgranati cevasti sistem u odgovarajućem plućnom krilu
- Bronhijalno stablo se grana na svoje manje grane i ogranke (*bronchuli lobares et segmentales*)
- Oni se dalje granaju do segmentanih bronhopulmonalnih bronhija- *segmenta bronchopulmonalia*
- Zatim se one dele na vazdušne terminalne i respiracione bronhije – *bronchiole terminales bronchioli respiratorii* sve do *sacculi alveolares*





Arborizacija bronhijalnog stabla

- Razgranjavanje respiratornih puteva prati razgranjavanje plućne arterije *T. pulmonalis* a takođe i granjanje *Vv. pulmonales*
- Tako se obrazuje perialveolarni kapilarni sistem





Pluća- pulmo



- Predstavljaju glavni respiratorni organ
- Sastoje se od levog i desnog plućnog krila (*pulmo dexter et sinister*)
- Spolja ih obavija *pleura pulmonalis*
- **Suđerasto mekane konzistencije**
- Kranijalno dopiru do *apertura thoracis cranialis* a kaudalno do *dijafraĝme*



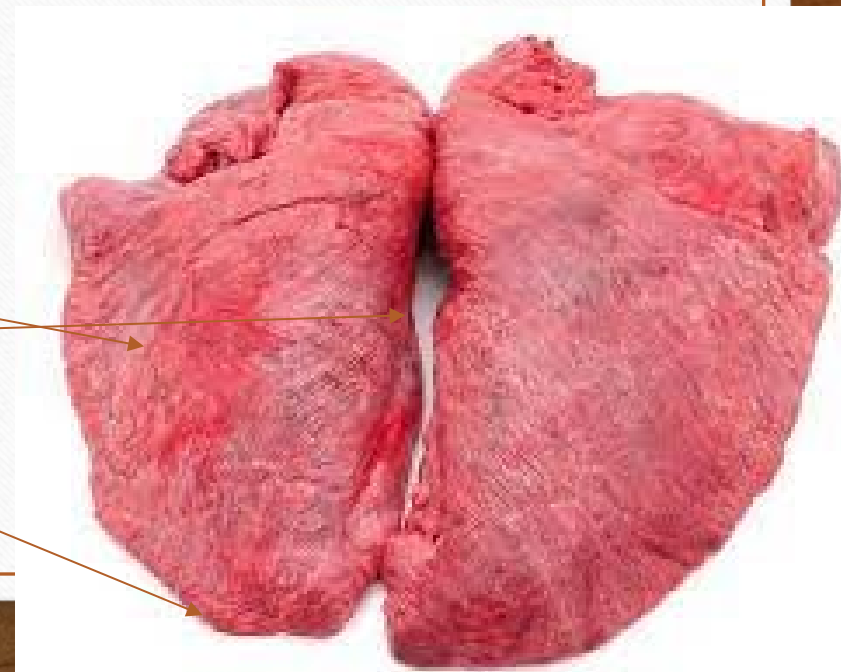
Građa pluća

- Izgrađena su od fibroelastičnog i glatkog mišićnog tkiva
- Fibroelastično tkivo gradi- intersticijum pluća
- Intersticijum daje pregrade *septae interlobulares* koje ograničavaju manja polja *lobuli pulmonis (BO, SU)*
- Težina pluća 1-1,5 % tm



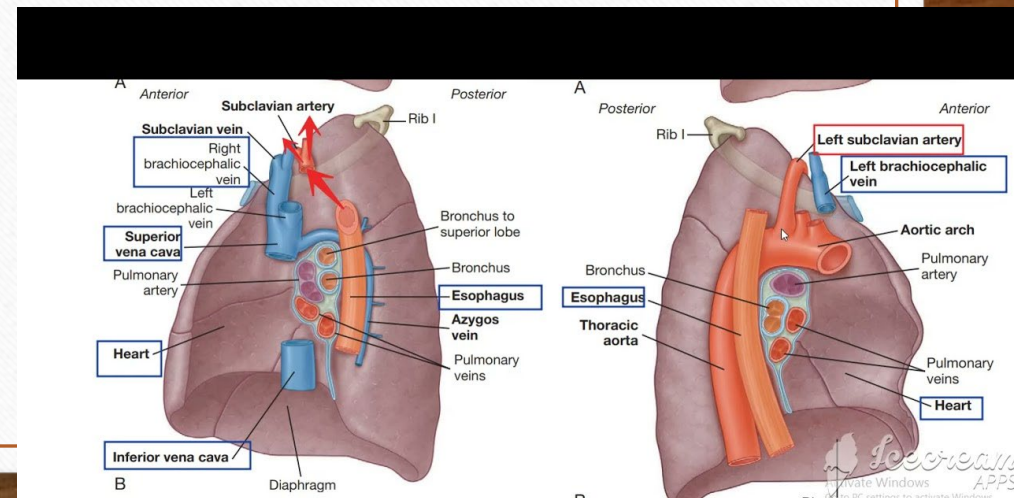
Morfološke odlike pluća

- *Lobus dexter et sinister* povezani plućnim parenhimom i bronhijalnim stablom
- Na plućima razlikujemo sledeće površine:
 1. *Facies costalis*
 2. *Facies diaphragmatica*
 3. *Facies mediastinales- hillus pulmonis*



Facies mediastinalis

- Na njemu zapažamo:
 1. *Impressio aortica*
 2. *Impressio esophagea*
 3. *Impressio trunci brachiocephalici*
 4. *Impressio a. subclaviae sinistrae*
 5. *Impressio trachealis*
 6. *Impressio venae cauae caudales et craniales*
 7. *Impressio venae azygos*



Rubovi pluća

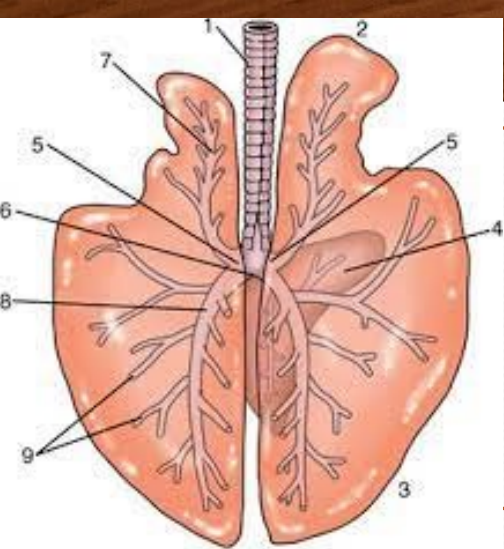
- Na plućima razlikujemo sledeće:

1. Zatupasti- *margo obtusus*

2. Oštar- *margo acutus*

- *Fissurae interlobares*





Pluća konja

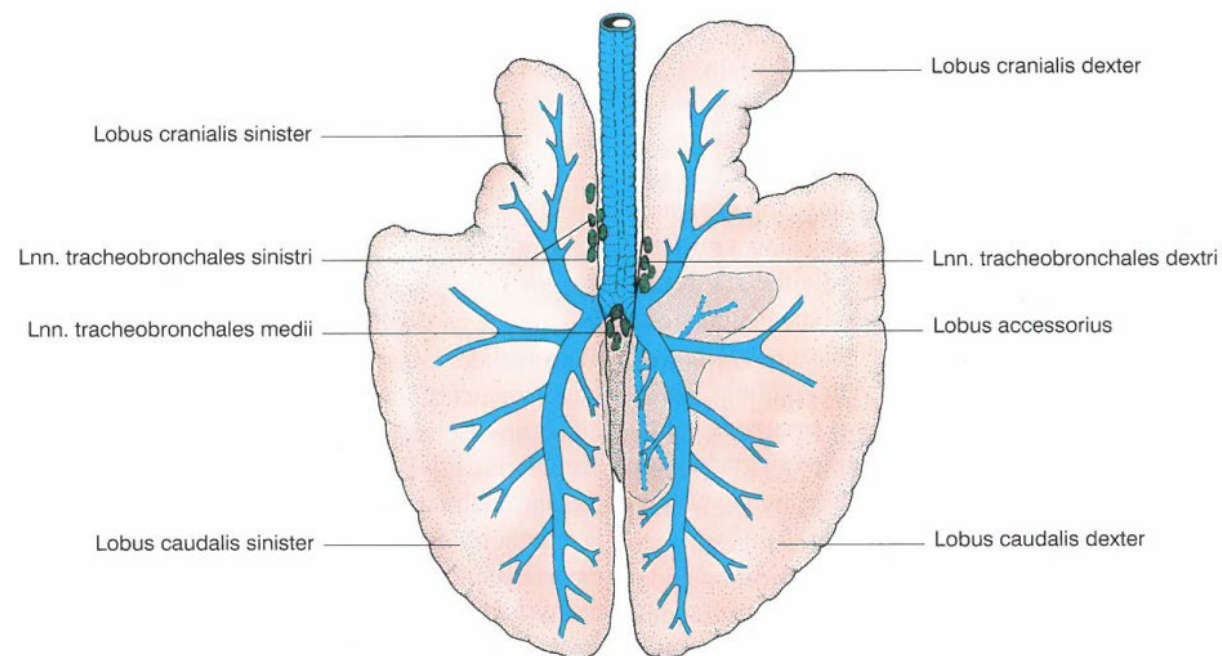


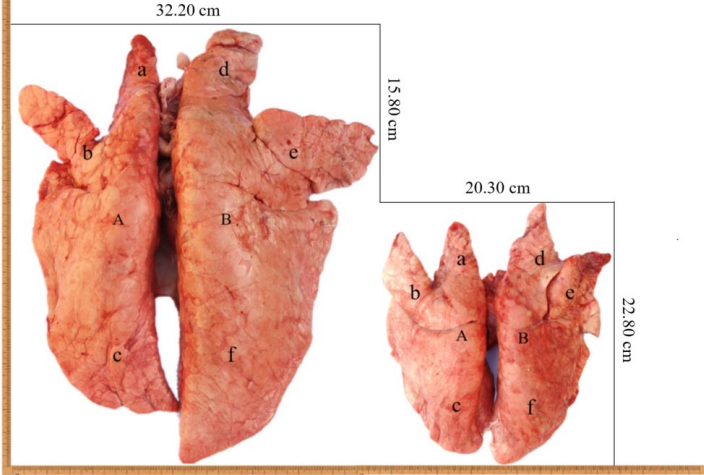
Healthy Lungs

Lungs damaged by EIPH

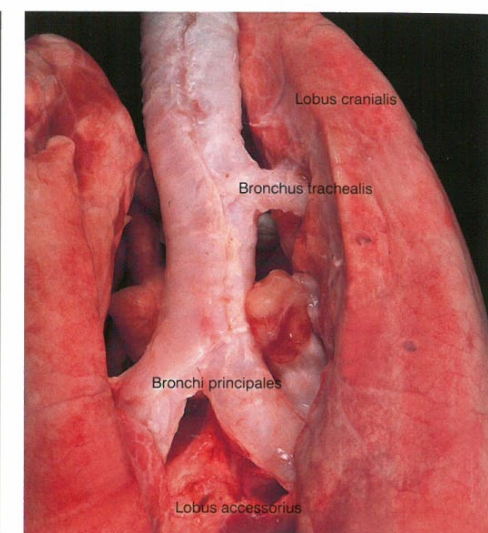
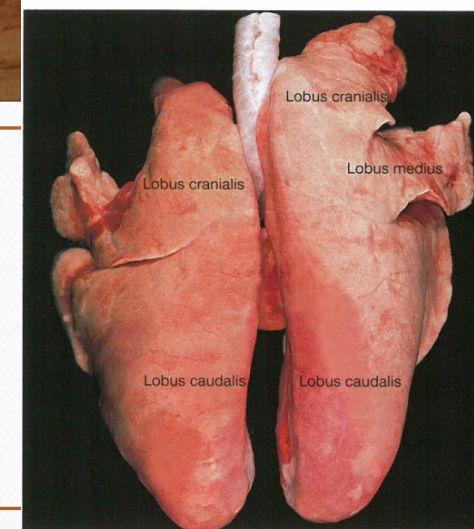
- Postoje sledeći lubusi:

1. *Lobus cranialis sinister*
2. *Lobus caudalis sinister*
3. *Lobus cranialis dexter*
4. *Lobus caudalis dexter*
5. *Lobus accesorius*



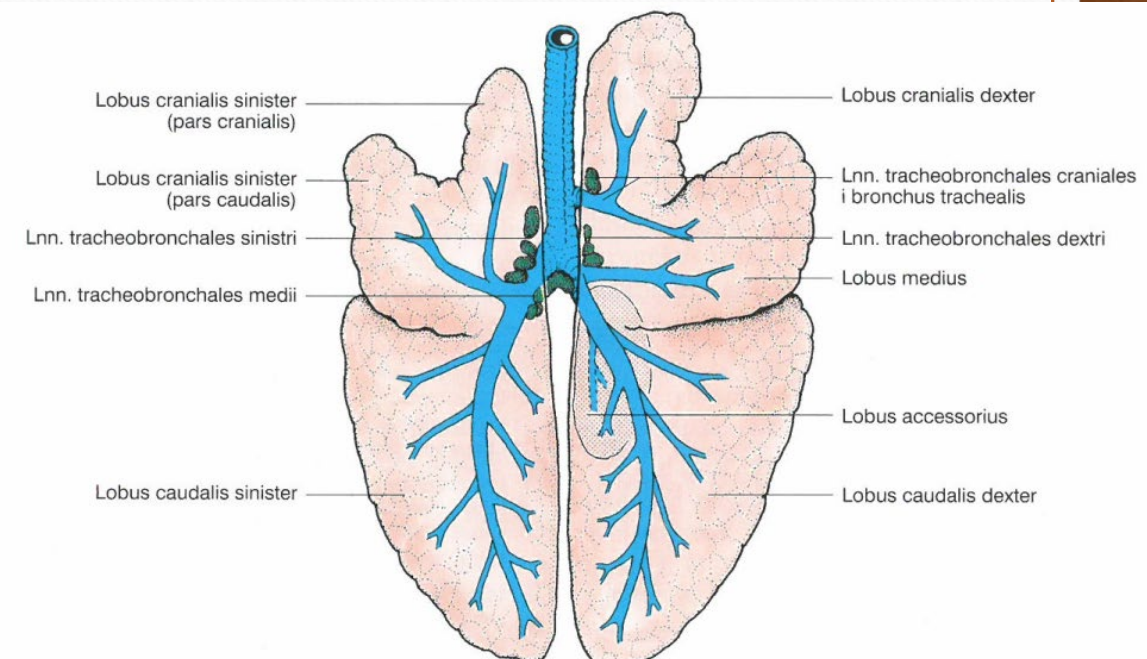


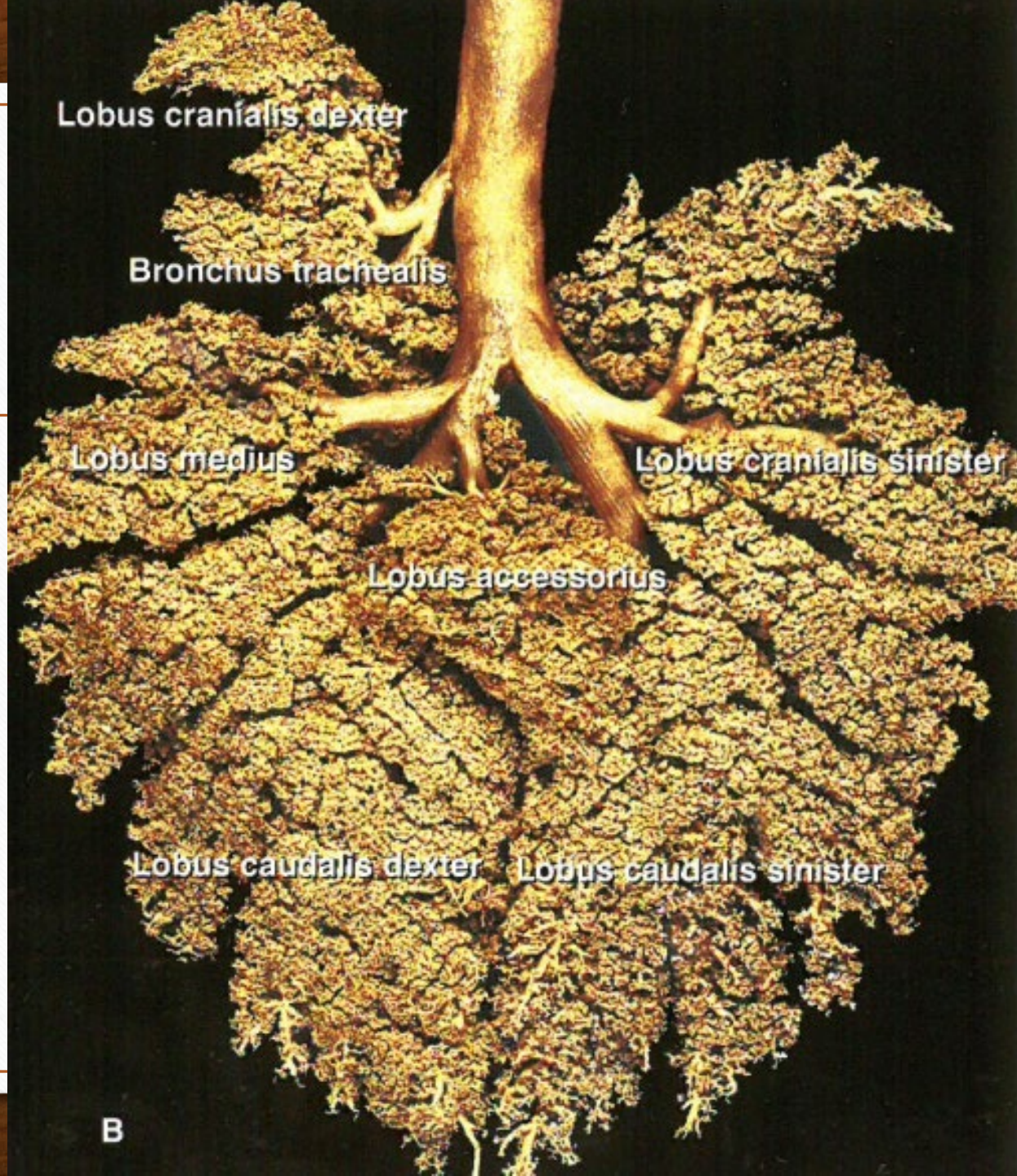
Pluća svinje

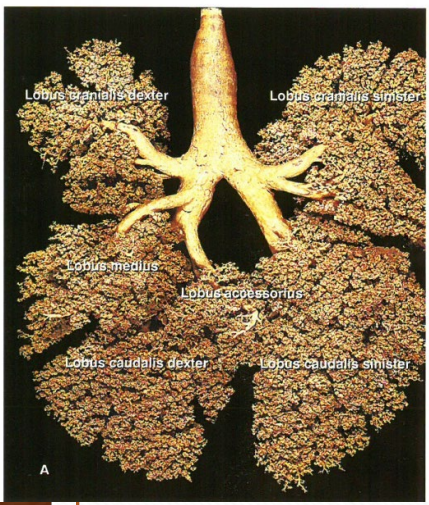


- Postoje sledeći lobusi:

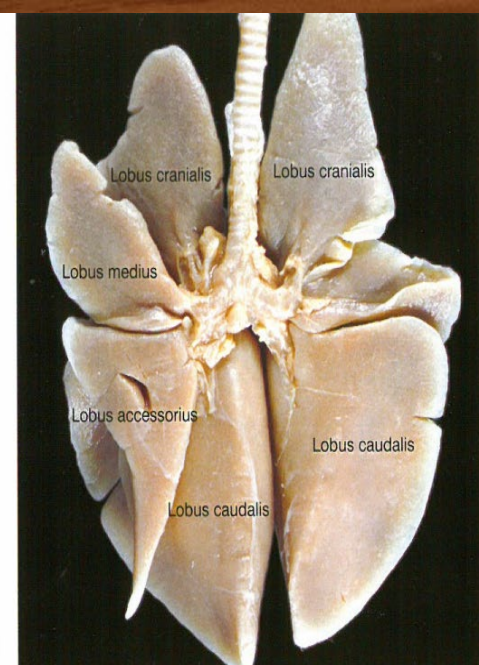
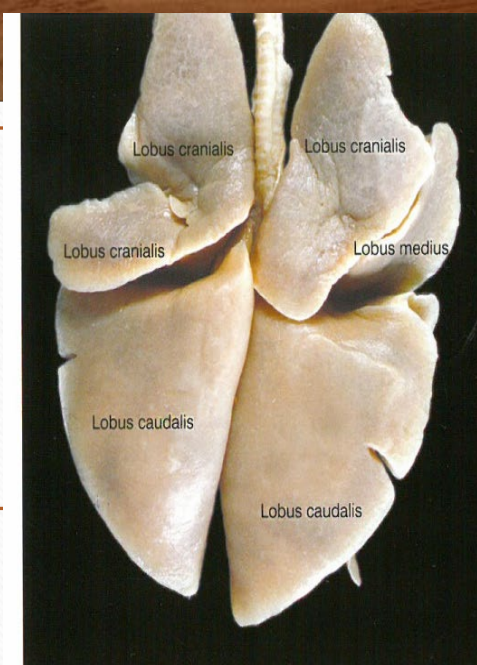
1. *Lobus cranialis sinister (pars cranialis et caudalis)*
2. *Lobus caudalis sinister*
3. *Lobus cranialis dexter*
4. *Lobus medius*
5. *Lobus caudalis dexter*
6. *Lobus accessorius*
-*Bronchus trachealis!!!!*







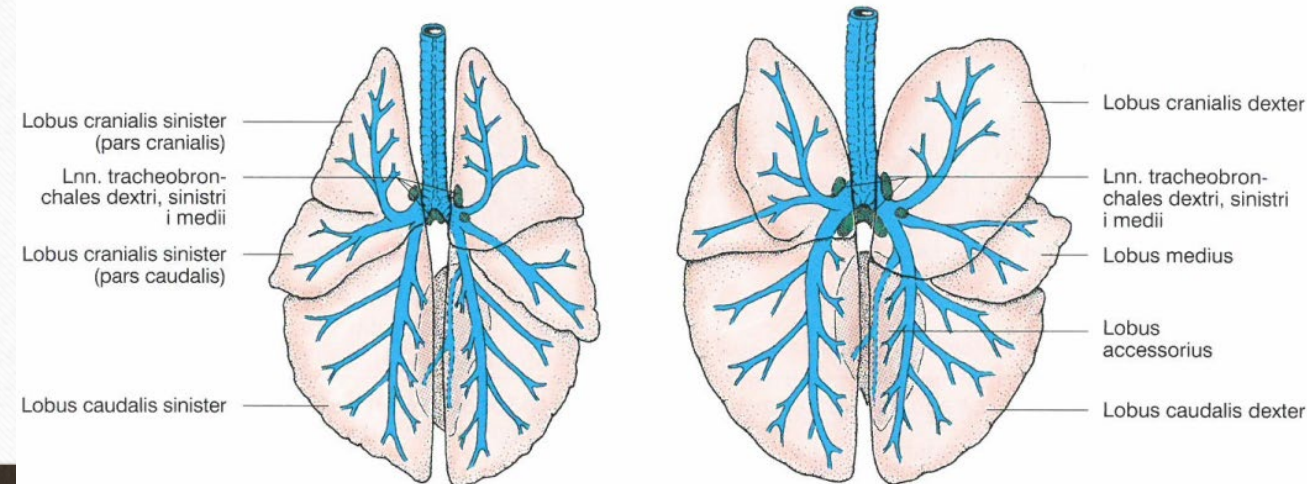
Pluća psa



- Postoje sledeći lobusi:

1. *Lobus cranialis sinister (pars cranialis et caudalis)*
2. *Lobus caudalis sinister*
3. *Lobus cranialis dexter*
4. *Lobus medius*
5. *Lobus caudalis dexter*
6. *Lobus accessorius*

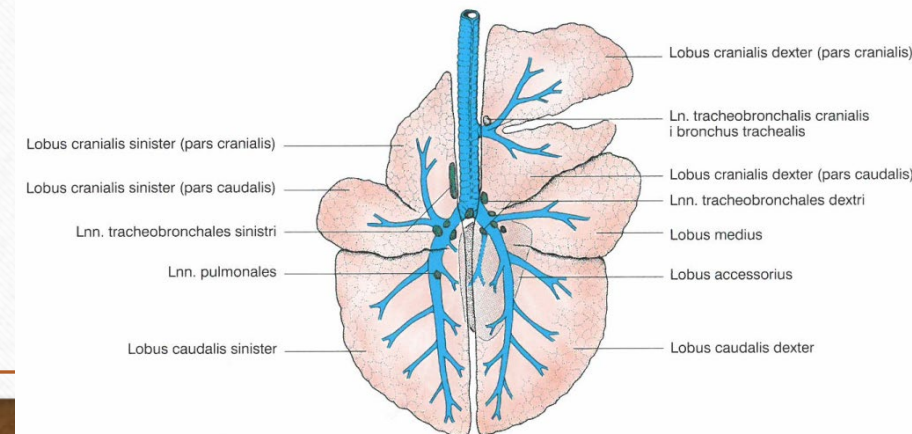
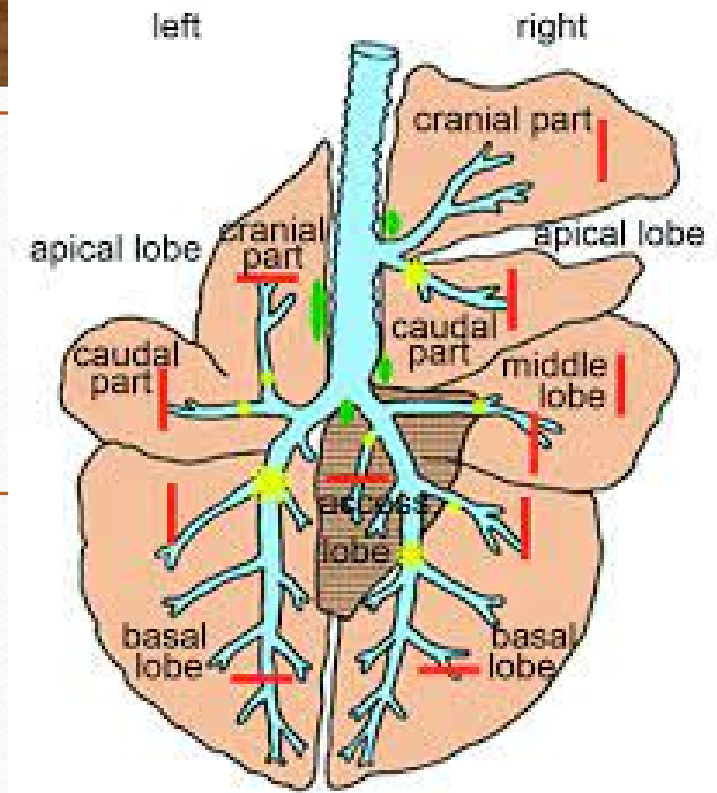
-Kako razlikovati od svinje

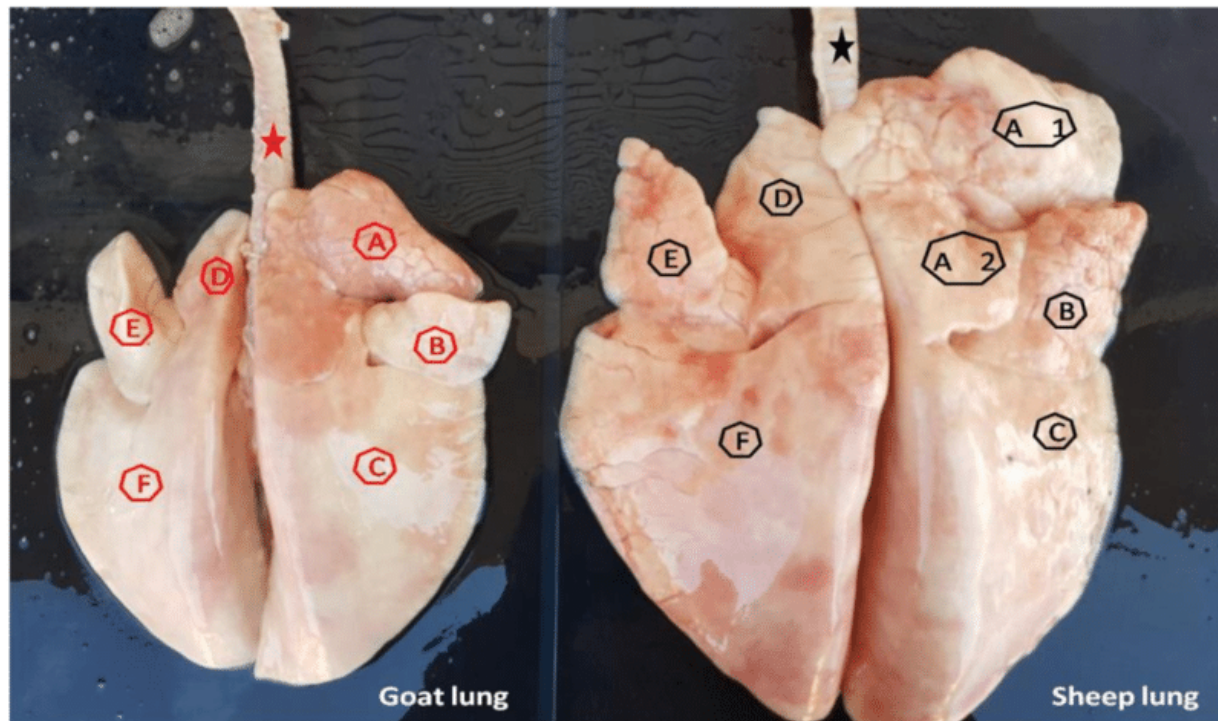
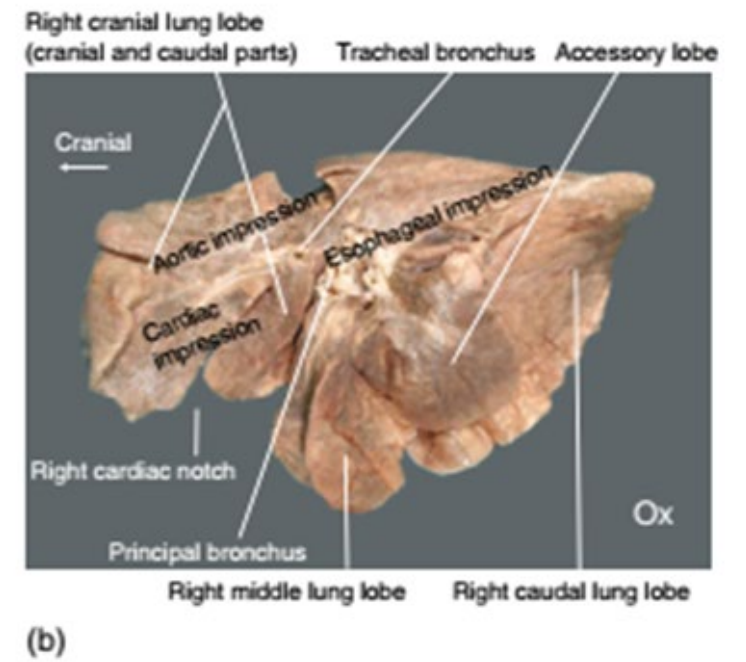
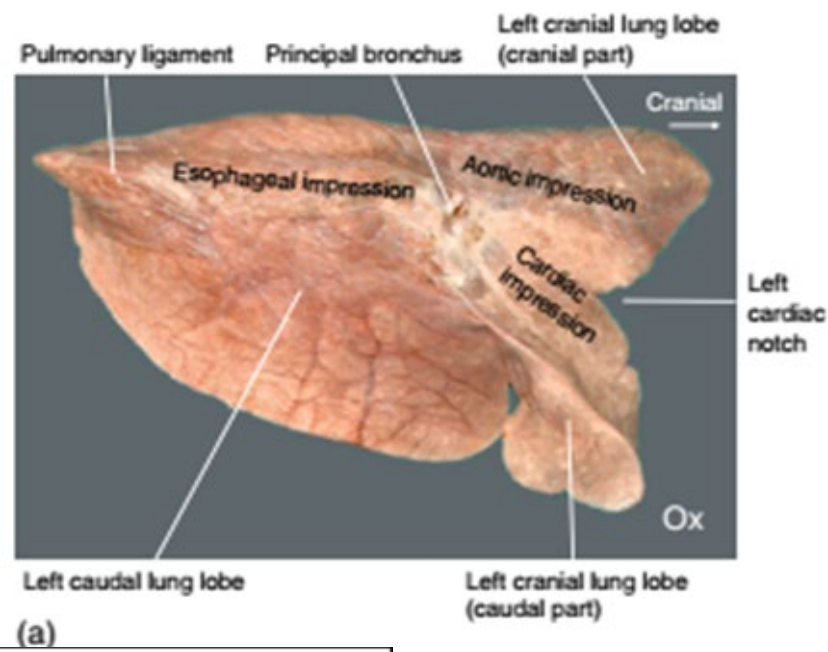


Pluća preživara

- Postoje sledeći lobusi:

1. *Lobus cranialis sinister (pars cranialis et caudalis)*
2. *Lobus caudalis sinister*
3. *Lobus cranialis dexter (pars cranialis et caudalis)*
4. *Lobus medius*
5. *Lobus caudalis dexter*
6. *Lobus accessorius*



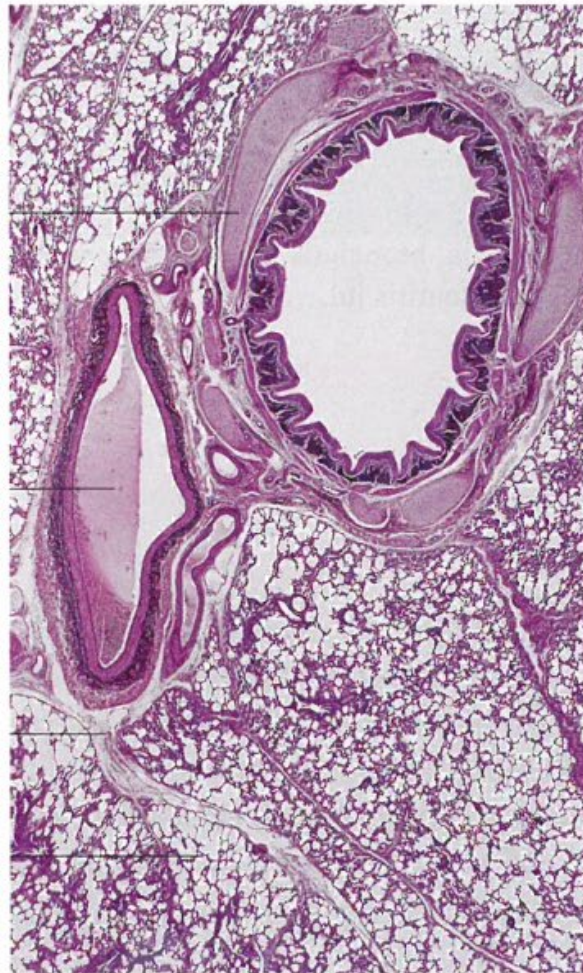


Bronchus i
hrskavična pločica

Vena

Interstitium

Parenhim pluća s
plućnim alveolama



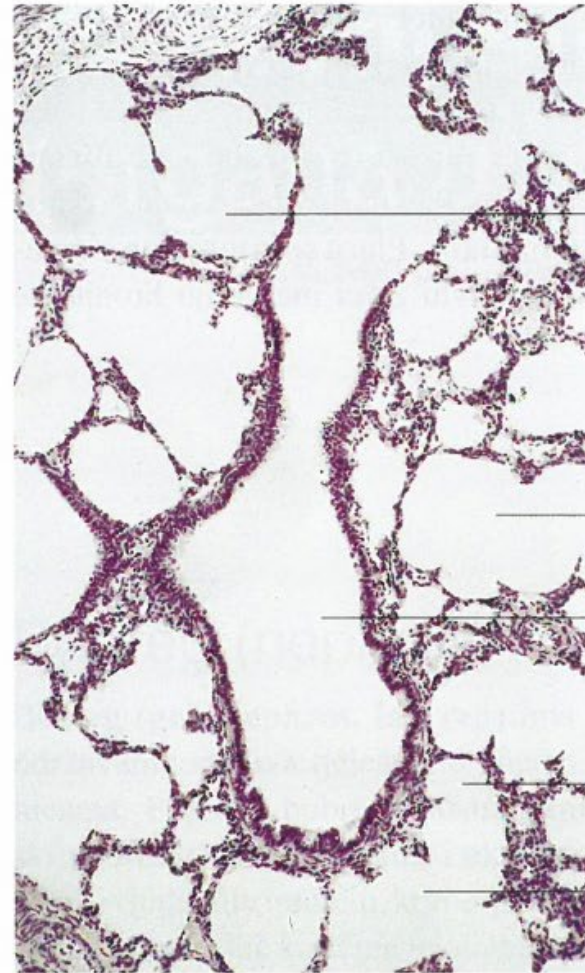
Saccus alveolaris

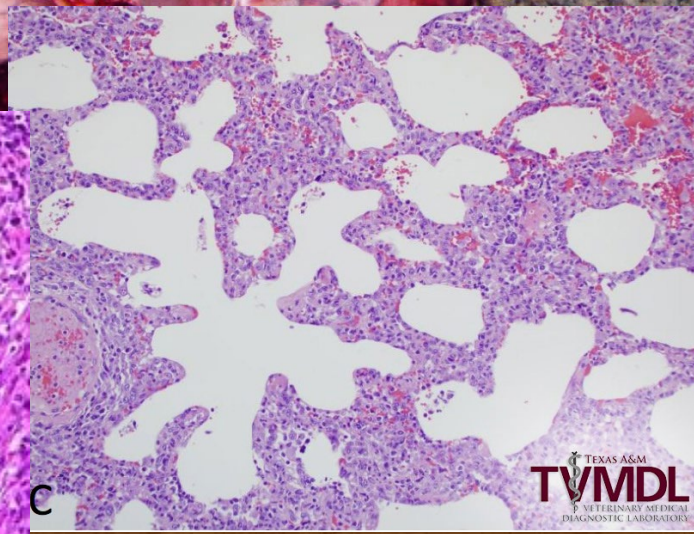
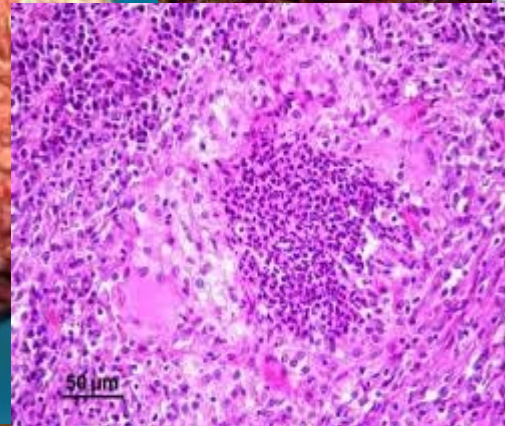
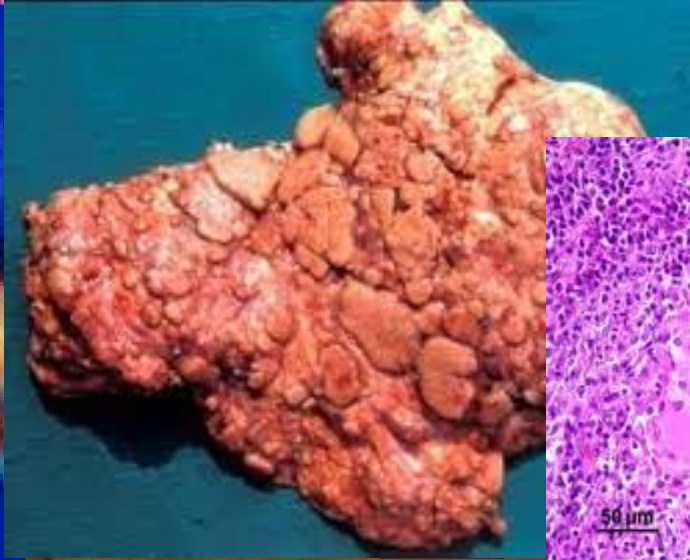
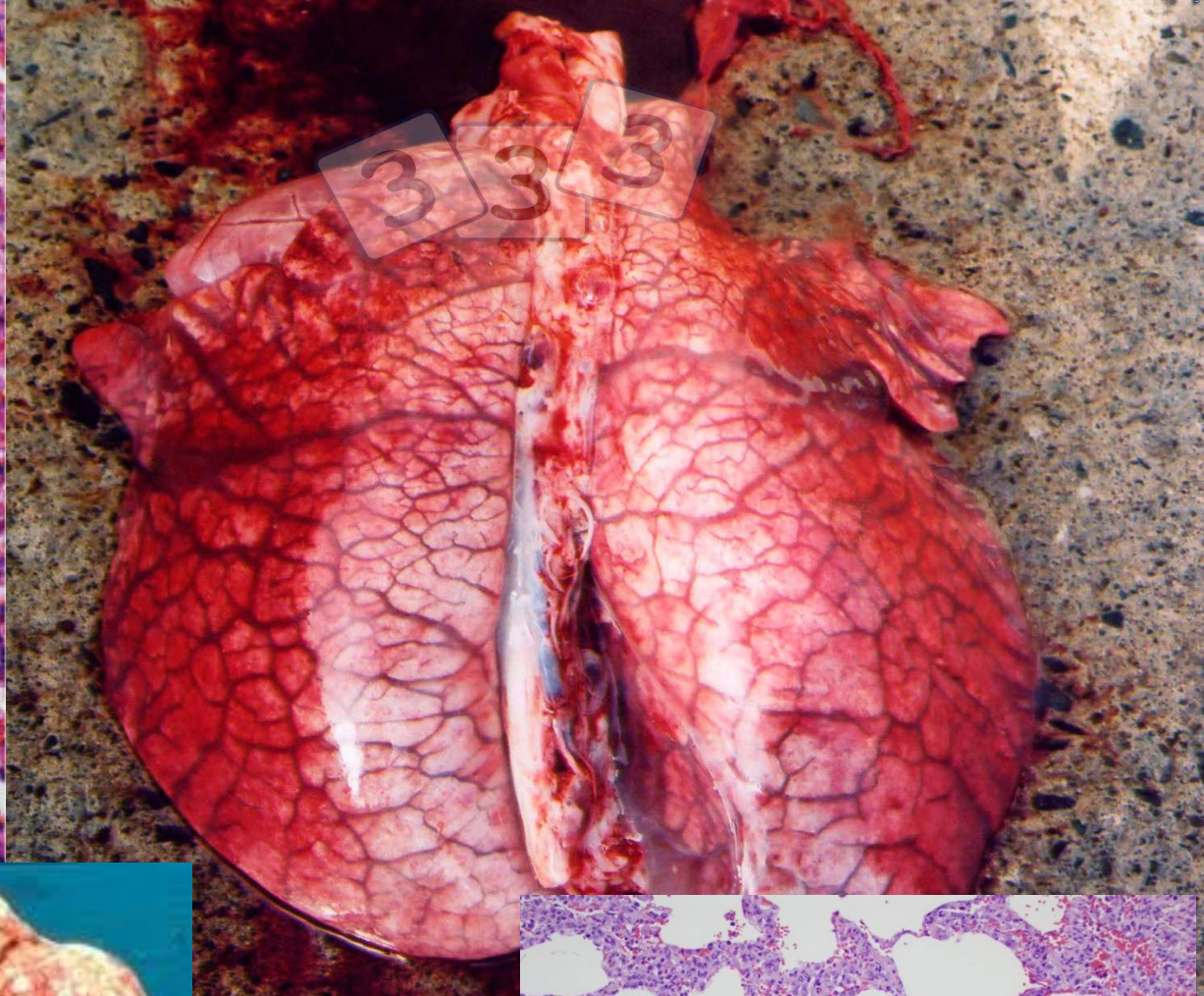
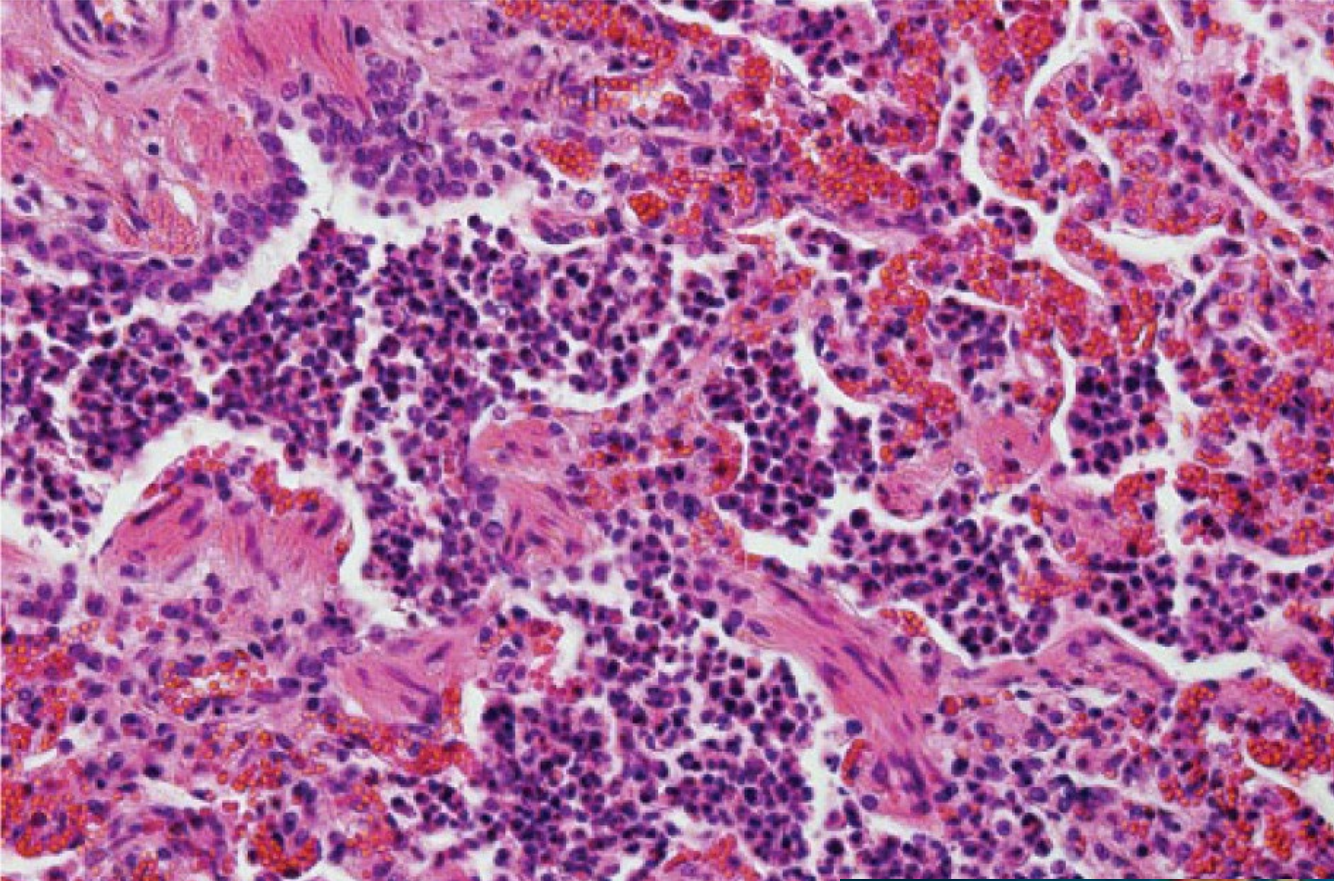
Alveolus pulmonis

Bronchiolus
respiratorius

Alveolus pulmonis

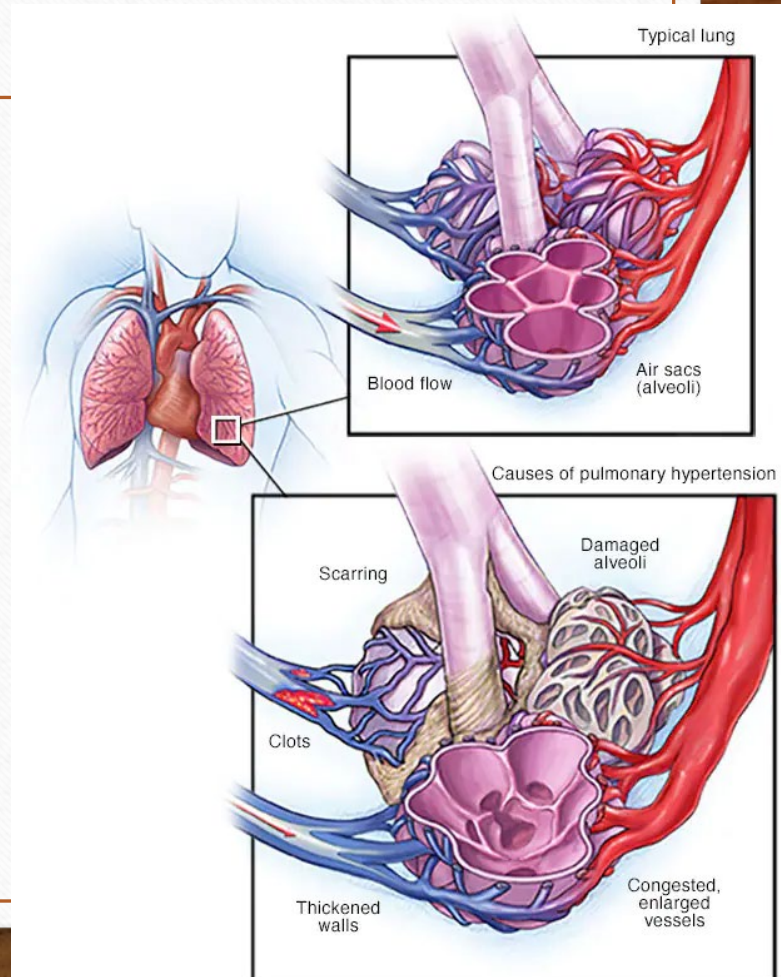
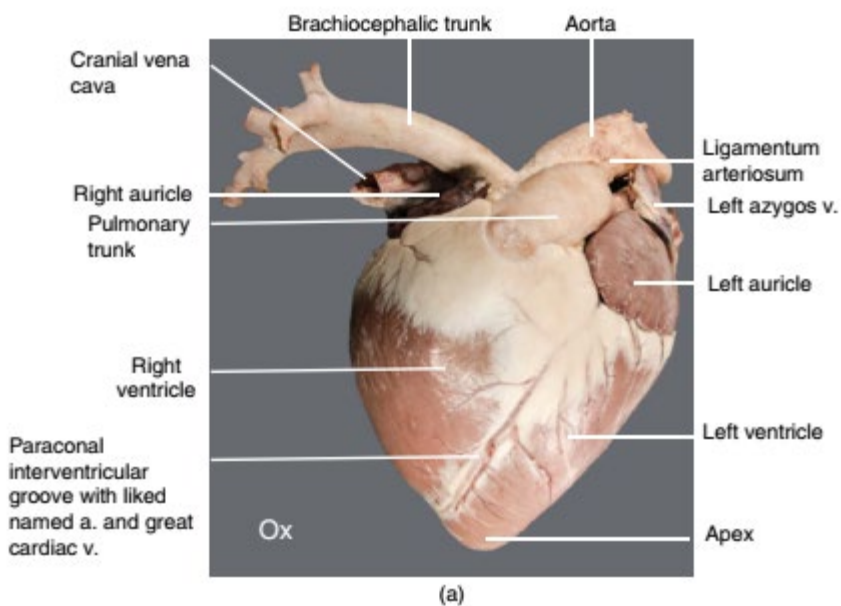
Ductus alveolaris





Vaskularizacija pluća

- *Truncus pulmonalis*
- *Vv. pulmonales*



Limfni čvorovi pluća

- *Lc. bronchale*
 1. *Lnn tracheobronchales seu bifurcationes dextri*
 2. *Lnn tracheobronchales seu bifurcationes sinistri et medi*



THE END

Pitanja???

