

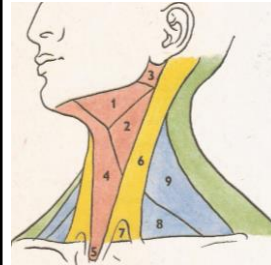
CLINICAL ANATOMY OF THE NECK AND CHEST

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Regiones coli - limitation



Against head:

protuberantia occipitalis ext.
linea nuchae sup.
porus acusticus ext.
Base of mandible

Against chest:

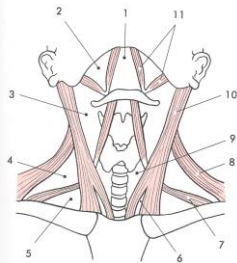
Incisura jugularis sterni
clavicula
acromion
vertebra prominens

Against nuchal region:

processus mastoideus
Margine of the m. trapezius
acromion



Regiones coli



regio colli ant.

trigonum omotracheale
(infrahyoideum)
trigonum submandibulare
trigonum submentale
trigonum caroticum
regio sternocleidomastoidea
regio colli laterale
trigonum omoclaviculare
trigonum omotrapezoideum
trigonum scalenovertbrale



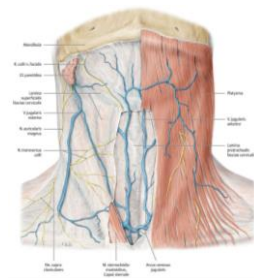
Cervical fascia



Lamina superficialis fasciae cervicalis
Lamina praetrachealis fasciae cervicalis
Lamina praevertebralis fasciae cervicalis



Trigonum omotracheale (regio infrahyoidea)



Superficial layers:

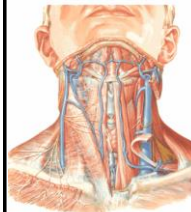
skin (prominentia laryngea)
m. platysma (ansa cervicalis spf.)
lamina spf. fasciae cervicalis
vena jugularis ant.
lamina praetrachealis fasciae cervicalis

Spatium suprasternale

(above the sternum, between lamina spf. and praetrachealis)
Fatty tissue
arcus venosus juguli



Trigonum omotracheale (visceral layer)



Infrahyoid muscles (ansa cervicalis prof.)
larynx, trachea (C6)
pharynx, oesophagus (C6)



gl. thyroidea
ggl. parathyroidae
pharynx, oesophagus (C6)



a., v. thyroidea sup. et inf.
a., v. laryngea sup.
n. laryngeus sup. (ramus int. et ext.)
n. laryngeus inf.



Trigonum submandibulare

Borders: m. digastricus
mandibule
tractus angularis - divides gl.
parotis and gl. submandibularis

Content: platysma, superficial lamina of cervical f.
glandula submandibularis
a.,v. facialis (a., v. submentalis)
n. mylohyoideus
n. lingualis + ggl. Submandibulare
n. hypoglossus (arcus)
n. lymphatici submandibulares

Trigonum submandibulare

Trigonum Pirogovi (ligation of lingual a.):
m. digastricus
n. hypoglossus
m. mylohyoideus

Béclard's angles (beginning of lingual a.):
cornu majus ossis hyoidei
n. hypoglossus

Trigonum submentale

Borders: m. digastricus – anterior belly (bilat.)
hyoid bone

Content:
m. platysma
Spf. lamina of cervical fascia
nodi lymphatici submentales

Trigonum caroticum

Borders:
Anterior margin of m. sternocleidomastoideus
venter superior m. omohyoidei
venter posterior m. digastrici

Major content:
bifurcatio carotidis (C4)
(a. carotis com. -> a. carotis ext. et int.)
glomus caroticum

Trigonum caroticum – vessels

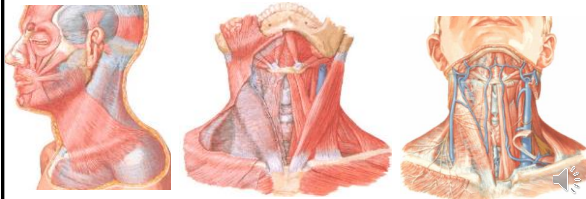
vena jugularis int. and tributaries
(nodi lymphatici cervicales prof.)
a. carotis com.
a. carotis int. – dorsomedially (no branches!!!)
a. carotis ext.
a. thyroidea sup.
a. lingualis
a. facialis
a. pharyngea sup.
a. occipitalis
a. auricularis post

Trigonum caroticum – nerves

n. vagus
n. laryngeus sup.
n. hypoglossus (arcus)
radix sup. ansa cervic. prof.
ansa cervicalis prof.
(infrahyoid mm.)
truncus sympathicus
(praevertebral fascia)
ggl. cervicale sup. et med.

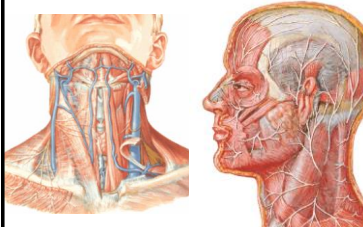
Regio sternocleidomastoidea

Borders: m. sternocleidomastoideus (fossa supraclavicularis minor)
Layers: skin and m. platysma
 v. jugularis ext. + n. lymph. cervicales spf.
 punctum nervosum
 lamina spf. fasciae cervicalis + m. sternocleidomastoideus
 n. accessorius + a. sternocleidomastoidea (a. carotis ext.)



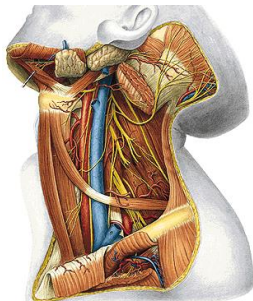
Regio colli laterale – superficial layer

Borders: post. margin of m. sternocleidomastoideus, ant. margin of m. trapezius, clavicula
 venter inferior m. omohyoidei -> **trigonum omoclaviculare** and **trigonum omotrapezium**



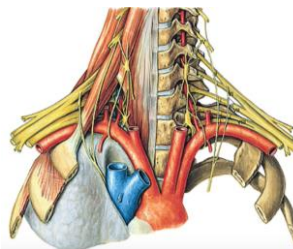
Skin and m. platysma
 v. jugularis ext. + n. lymph. cervicales spf.
punctum nervosum
 n. transversus coli
 (r. coli n. facialis – ansa cervicalia spf.)
 n. auricularis magnus
 n. occipitalis minor
 nn. supraclaviculares
lamina spf. fasciae cervicalis

Regio colli laterale – deep layer



n. accessorius (m. trapezius)
plexus cervicalis (n. phrenicus)
 supraclavicular part of **plexus brachialis**
 n. dorsalis scapulae
 n. suprascapularis
 n. thoracicus longus
 nn. pectorales
 nn. subscapulares
 n. thoracodorsalis
Arteries (branches of a. subclavia):
 a. cervicalis ascendens
 a. cervicalis spf.
 a. transversa coli
 a. suprascapularis
nodi lymph. cervicales prof.

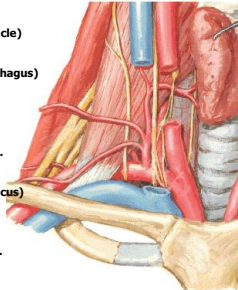
Regio colli laterale – deep layer



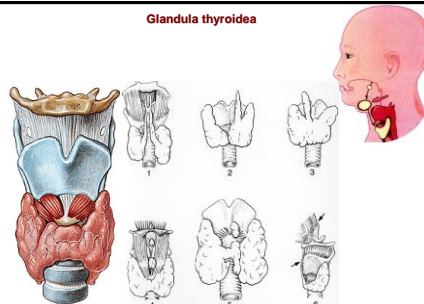
v. subclavia
fissura scalenorum:
 a. subclavia
 plexus brachialis

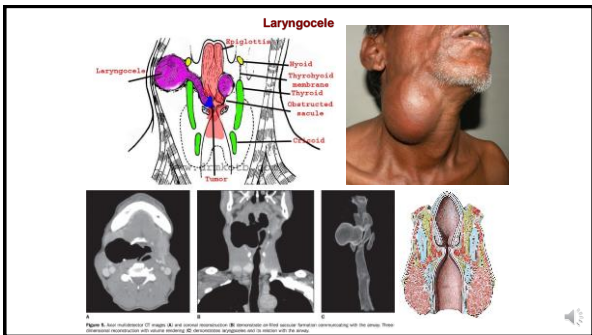
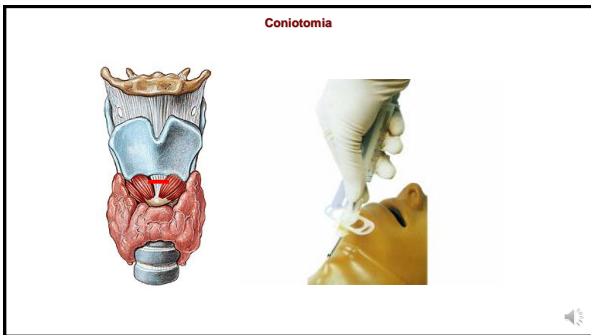
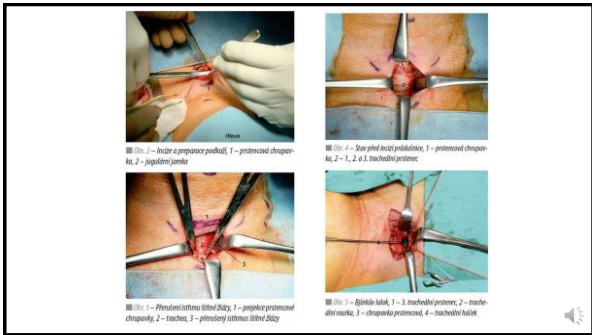
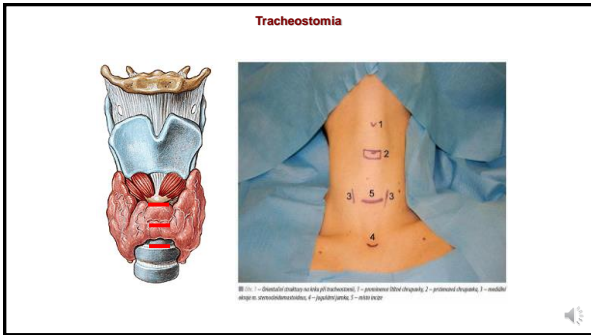
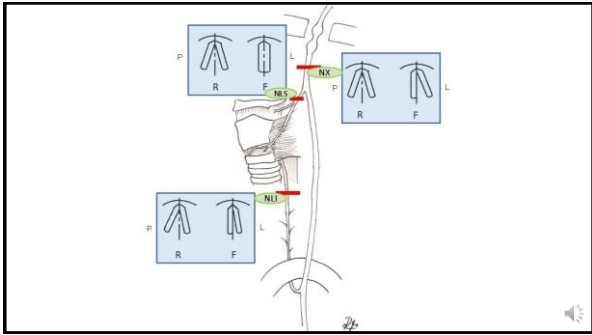
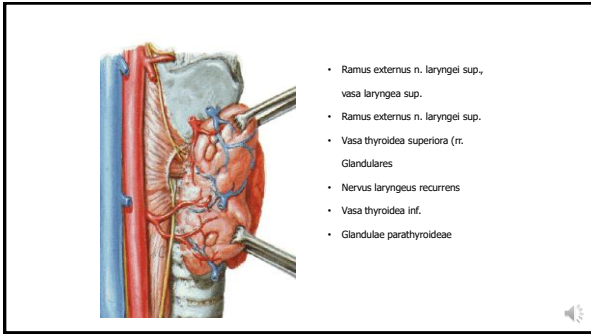
Trigonum scalenovertebrale (trigonum a. subclaviae)

Borders:
 caudal: cupula pleurae (2 cm above the clavicle)
 lateral: m. scalenus ant.
 medial: organs (trachea, thyroid gland, esophagus)
 dorsal: m. longus coli
 ventral: m. sternocleidomastoideus
Content:
 angulus venosus – v. subclavia + v. jugularis int.
 (dx. tr. lymphaticus dx.; sin. ductus thoracicus)
 a. subclavia and branches (dx. tr. brachiocephalicus)
 n. vagus – n. laryngeus recurrens
 tr. sympathicus and branches – ansa subclavia
 ggl. cervicale inf.
 n. phrenicus

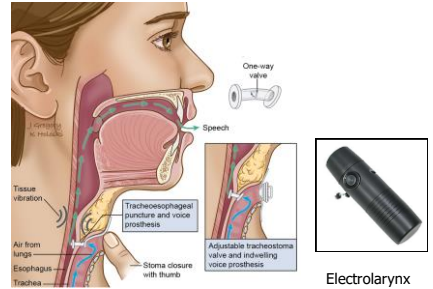
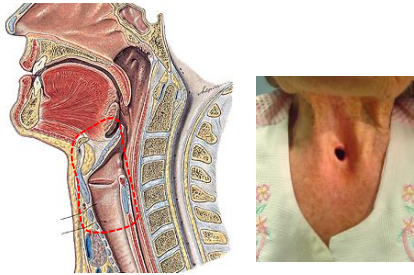


Glandula thyroidea



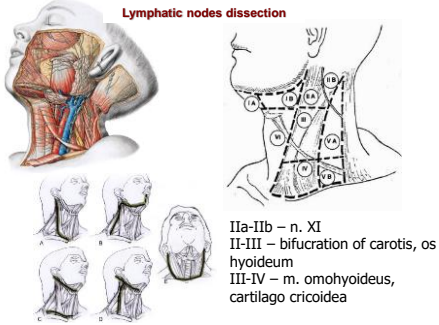


Laryngectomia totalis



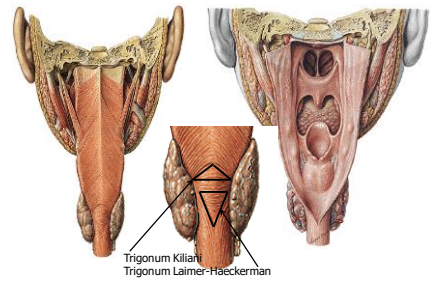
Electrolarynx

Lymphatic nodes dissection



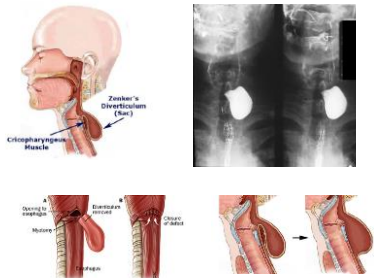
IIa-IIb – n. XI
 II-III – bifurcation of carotis, os hyoideum
 III-IV – m. omohyoideus, cartilago cricoidea

Pharynx

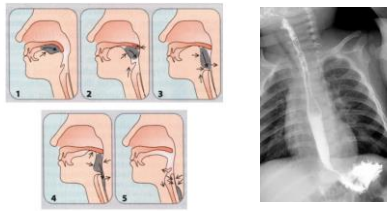


Trigonum Killian
 Trigonum Laimer-Haackerman

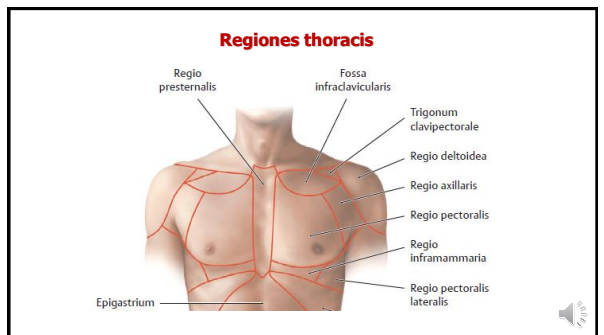
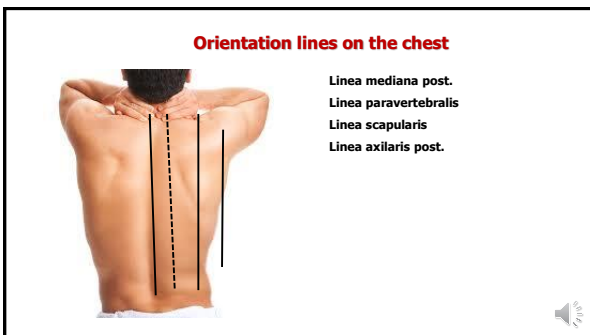
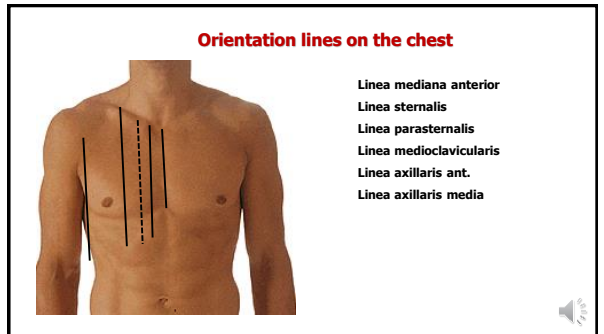
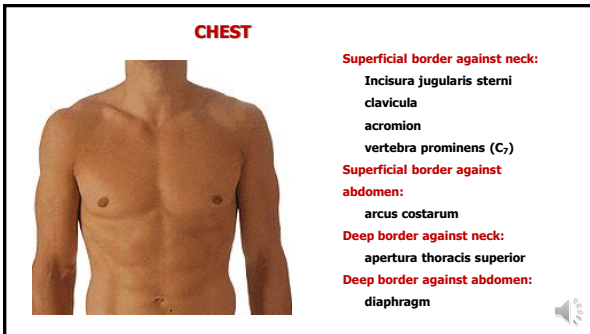
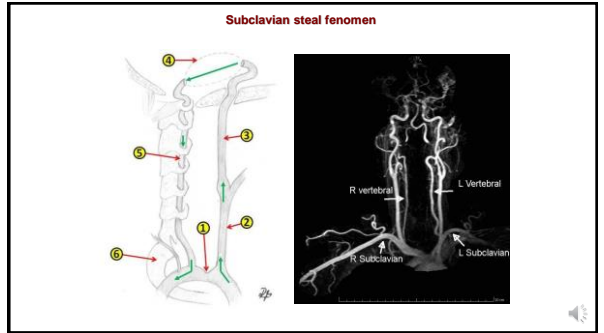
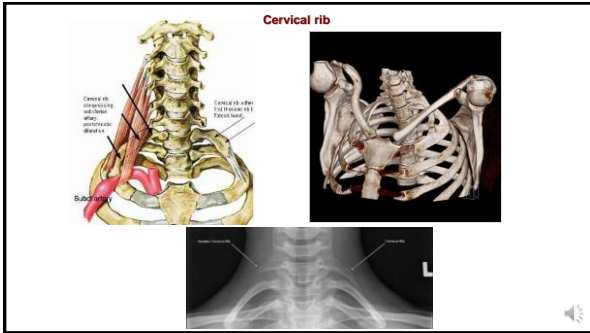
Zenker's diverticulum



Swallow



1 Preparation (soft palate up, larynx up)
 2 Ingestion (soft palate up, larynx up)
 3 Deglutition (soft palate up, larynx up)
 4 Closure (soft palate up, larynx up)
 5 Peristalsis (soft palate down, larynx down)



Thoracic wall

Skin and subcutaneous tissue
v. thoracopigastrica
rr. cutanei ant. et lat. (nn. intercostales)

fascia pectoralis

Heterochtonous muscles of the chest

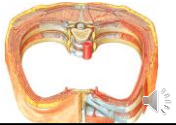
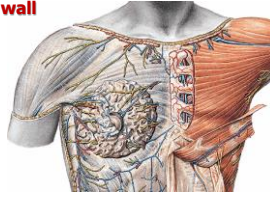
mm. intercostales:

ext. + membrana intercostalis ext.

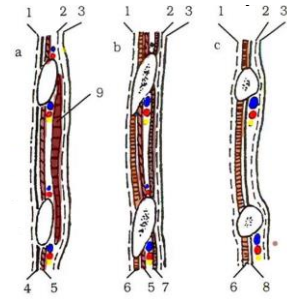
int. + membrana intercostalis int.

intimi

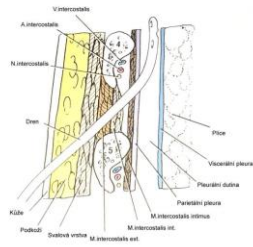
v., a., n. intercostalis (VAN) v sulcus costae
fascia endothoracica



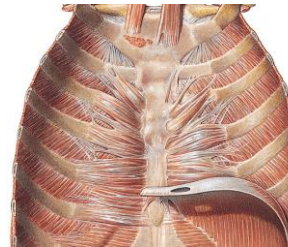
1 Fascia thoracica spf.
 2 fascia endothoracica
 3 pleura parietalis
 4 membrana intercostalis externa
 5-7 mm. Intercostales int., ext. et intimus
 8 membrana intercostalis int.
 9 m. transversus thoracis



Puncture of the chest

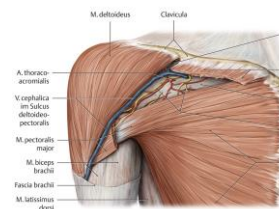


Presternal region



Borders:
sternum
Content:
skin – hairs, glands
Subcutaneous tissue
innervation nn. supraclaviculares
periost (membrana sterni ext.)
sternum
membrana sterni int.
m. transversus thoracis
fascia endothoracica

Trigonum deltoideopectorale (clavipectorale)



Borders:
clavicula
m. deltoideus
m. pectoralis major
Content:
Skin and subcutaneous tissue
v. cephalica (sulcus deltoideopectoralis)
innervation nn. supraclaviculares
fascia clavipectoralis
a. thoracoacromialis (a. axillaris)
nn. pectorales

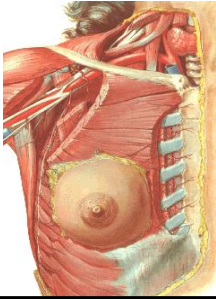
Regio mammaria

Borders:
from 3rd to 6th intercostal space
linea axillaris ant. – linea parasternalis (sinus mammarum)



Breast morphology:
skin
areola mammae (gl. areolares mammae)
papilla mammae (area cribriformis, ductus lactiferi)
Subcutaneous tissue:
m. subareolaris
praemammary fat
corpus mammae with proc. axillaris
retromammary fat
fascia pectoralis
mm. pectorales

Regio mammaria



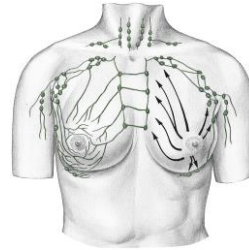
Arteries:
 a. thoracica interna (rr. mammarii med.)
 a. thoracica lateralis (rr. mammarii lat.)
 a. thoracica suprema
 aa. intercostales post. (from 4. – Piet's papillary artery)

Veins
 circulus venosus Halleri

Innervation:
 nn. intercostales



Regio mammaria – lymphatic drainage

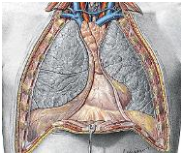


nl. axillares
 Sorigius l.n. (m. serratus ant.)
 nl. parasternales
 nl. supraclaviculares
 nl. intercostales
 nl. mediastinales ant.



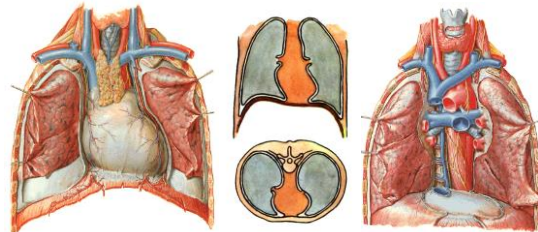
Cavitates pleurales

pleura parietalis et visceralis
 cupula pleurae (2 cm above clavicle)
 cavitas pleuralis dextra et sinistra
 pleura parietalis:
 lig. pulmonale, mediastinum
 costalis, diaphragmatica, mediastinalis



Recessus pleurales

recessus costodiaphragmaticus, costomediastinalis, phrenicomediastinalis



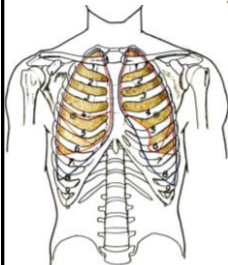
Projection of the pleura and lungs

cupula pleurae – 2 cm above clavicle

art. sternoclavicularis – 2nd sternocostal connection
 area interpleuralis sup. (thymica)
 4th sternocostal connection – incisura cardiaca (left) to 6th rib
 area interpleuralis inf. (pericardiaca)

linea medioclavicularis – 7th rib
 linea axillaris ant. – 8th rib

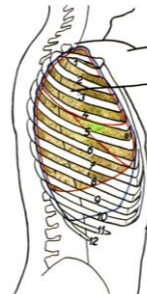
Lungs:
 ventrally – similar to pleura
 caudally – 1 to 2 intercostal spaces cranially



Projection of the pleura and lungs

Pleura:
 linea medioclavicularis – 7th rib
 linea axillaris ant. – 8th rib
 linea axillaris med. – 9th rib
 linea axillaris post. – 10th rib

Lungs:
 1 or 2 intercostal spaces cranially



Projection of the pleura and lungs

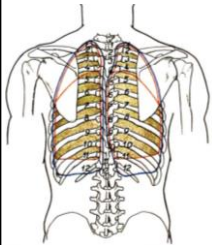
Caudal border - pleura:
 linea axillaris post. – 10th rib
 linea scapularis – 11th rib
 linea paravertebralis – 12th rib

Posterior border - pleura:
 From 12th rib in paravertebral line to cupula pleurae

Th₁₂ - Th₄ on the right – recessus retrooesophageus

Caudal border - lungs:
 1 or 2 intercostal spaces cranially

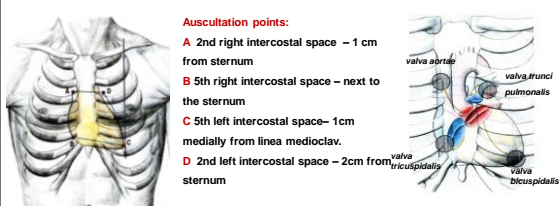
Posterior border:
 Paravertebral line (bilat.)



Projection of the heart

Auscultation points:

- A** 2nd right intercostal space – 1 cm from sternum
- B** 5th right intercostal space – next to the sternum
- C** 5th left intercostal space– 1cm medially from linea medioclav.
- D** 2nd left intercostal space – 2cm from sternum



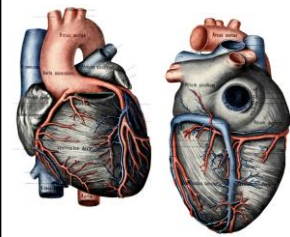
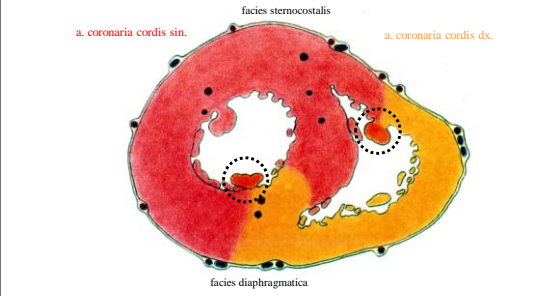
Coronary arteries

Arteria coronaria cordis dextra


- r. conii arteriosi
- r. nodi sinuatrialis
- r. nodi atrioventricularis
- rr. atriales dx.
- rr. ventriculares dx.
- r. marginalis dx.
- r. interventricularis post.

Arteria coronaria cordis sinistra

- r. interventricularis ant.
- r. conii arteriosi
- r. lateralis
- rr. interventriculares septales
- r. circumflexus
- r. marginalis sin.
- rr. atriales
- rr. nodi sinuatrialis
- r. nodi atrioventricularis

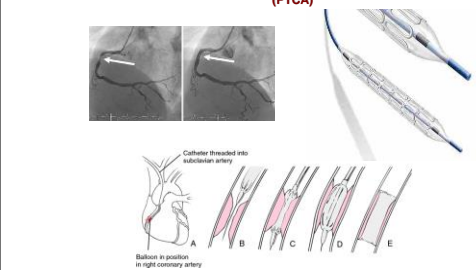
Coronarography



RCx – ramus circumflexus
RIM – ramus intermedius
RIA – ramus interventricularis anterior
RD – ramus diagonalis

RCA – right coronary artery
RIVP – ramus interventricularis posterior
RPLD – ramus posterolateris dexter

Percutaneous transluminal coronary angioplasty (PTCA)



Catheter inserted into subcoronary artery

Balloon in position in right coronary artery

