

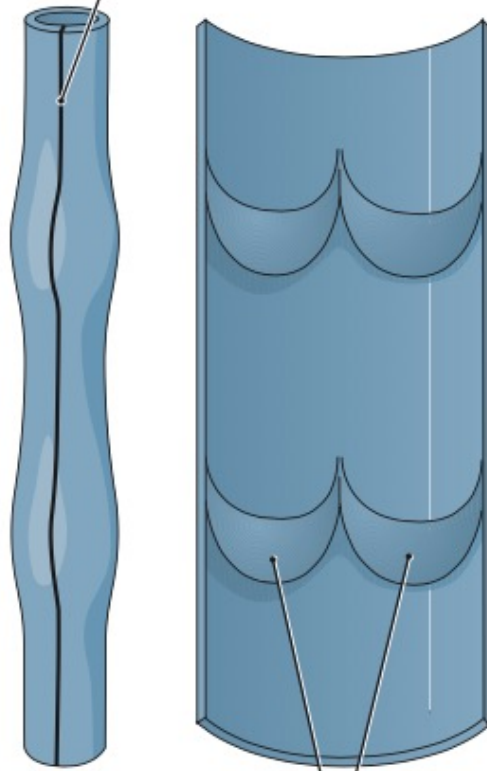
venae

Prof. MUDr. Jiří Ferda, Ph.D.

Images – Gray's Anatomy for Students, Thieme Atlas of Anatomy

Venae

Longitudinal section
through a vein

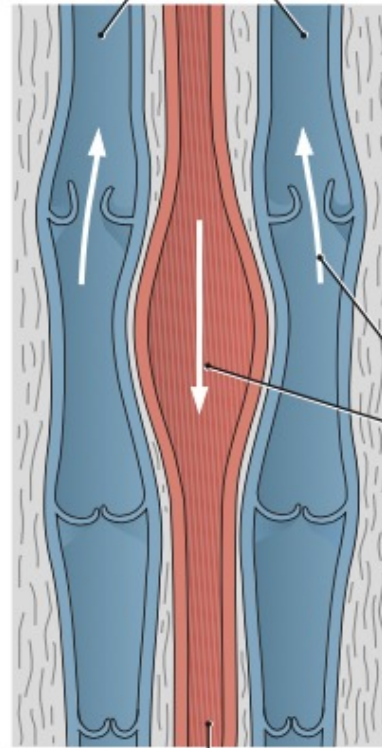


Venous valve

Veins

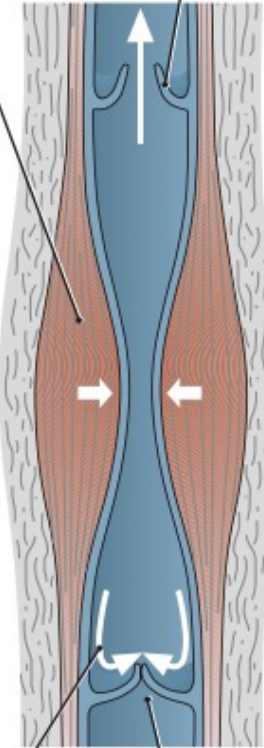
Contracted
skeletal muscle

Open
venous valve



Artery

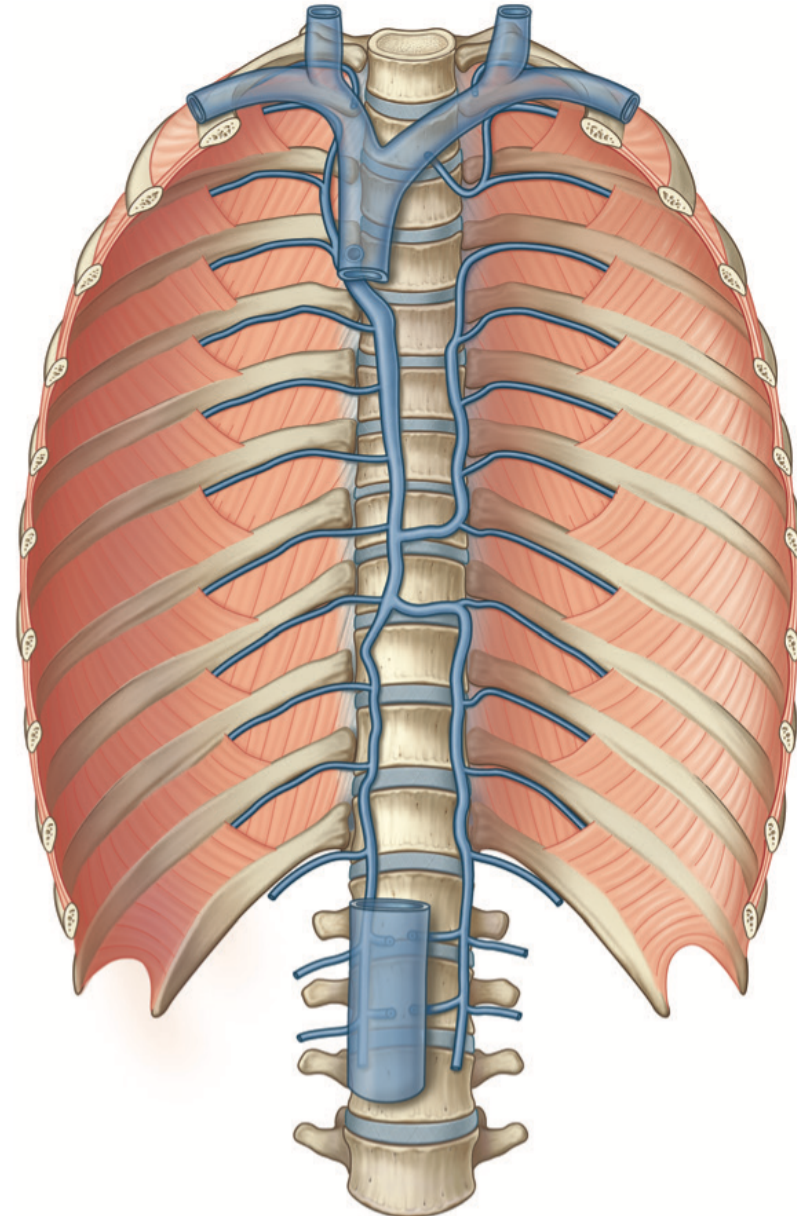
Direction of
blood flow



Closed
venous valve

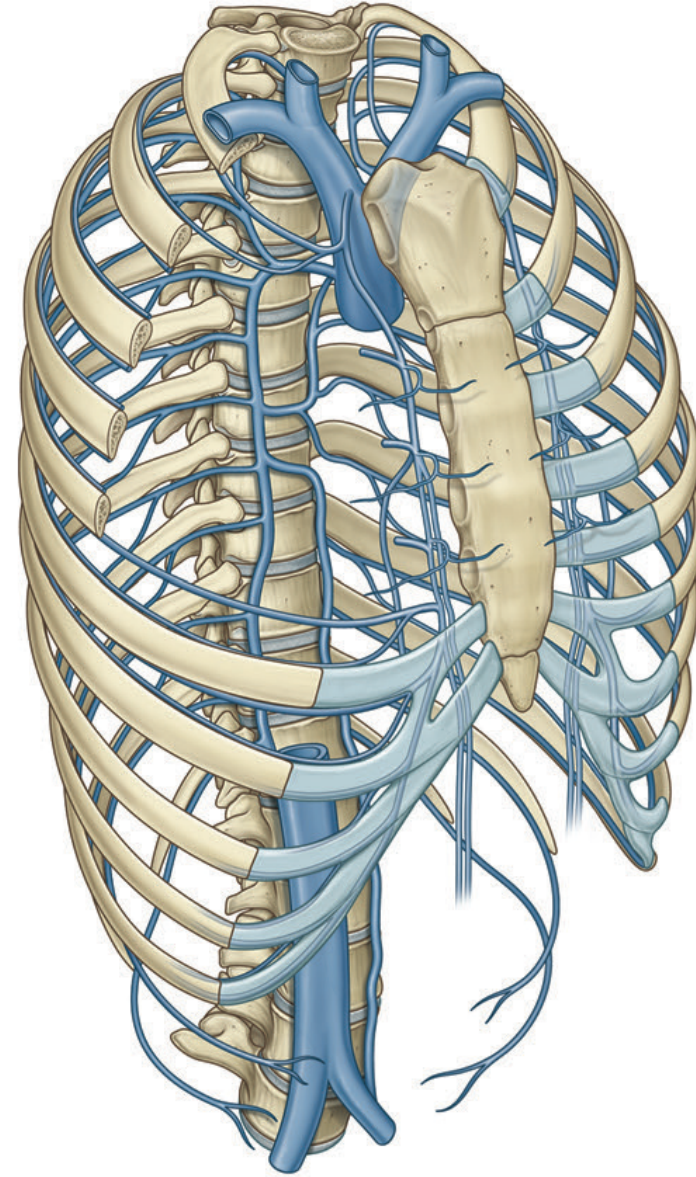
Venae thoracis

- Vena jugularis interna
- Vena subclavia
- Vena brachiocephalica
- **Vena cava superior**
 - *Vena azygos (Th5)*
 - *Vena hemiazygos (Th9)*
 - *Vena hemiazygos accesoria (Th7)*
 - *Vena intracostalis suprema*
 - *Venae intercostales*
 - *Vena subcostalis*
- Vena cava inferior



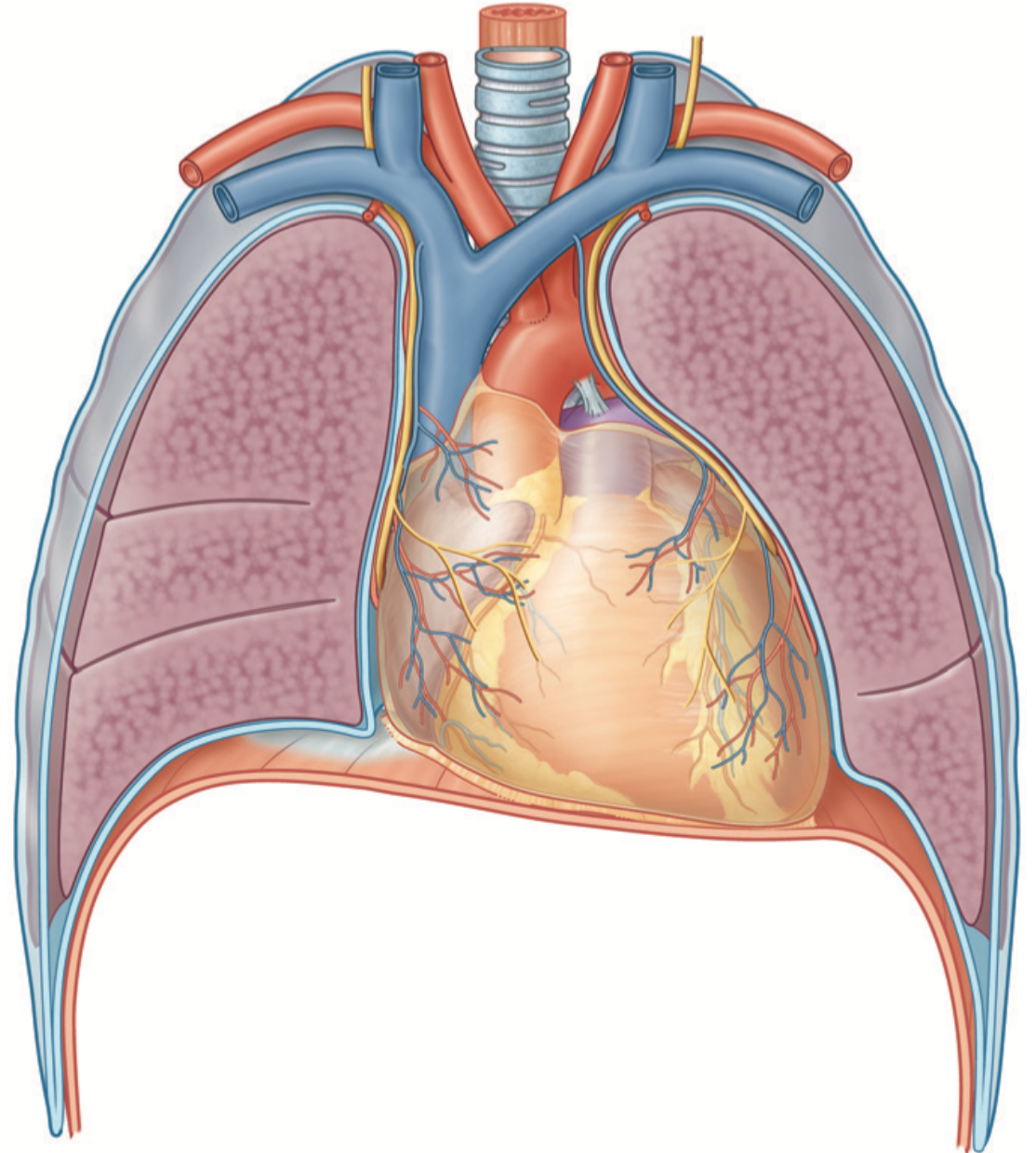
Venae thoracis

- Vena jugularis interna
- Vena subclavia
- Vena brachiocephalica
 - Vena thoracica interna
- **Vena cava superior**
 - *Vena azygos (Th5)*
 - *Vena hemiazygos (Th9)*
 - *Vena hemiazygos accesoria (Th7)*
 - *Vena intracostalis suprema*
 - *Venae intercostales*
 - *Vena subcostalis*
- *Vena cava inferior*



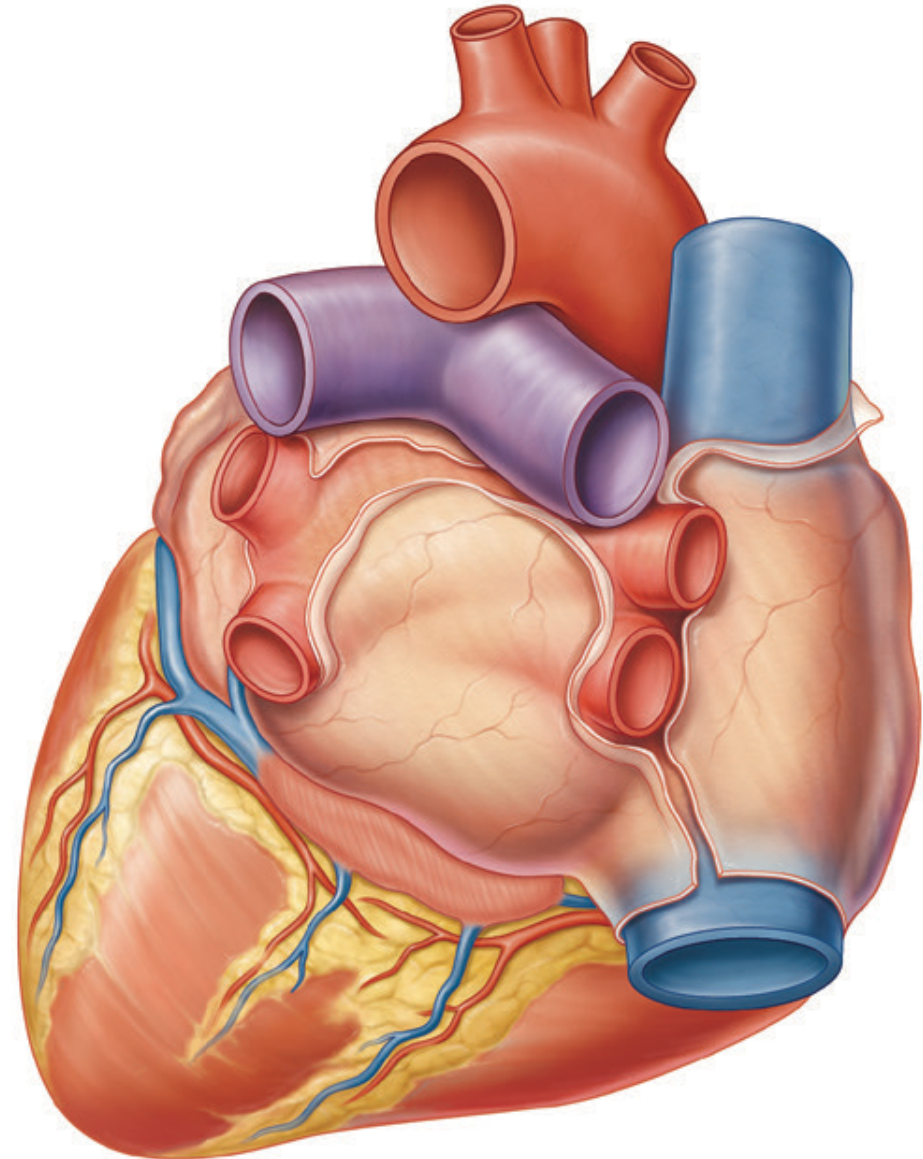
venae thoracis

- Vena jugularis interna
- Vena subclavia
- Vena brachiocephalica
 - Vena thoracica interna
 - Vena pericardiacofrenica
- Vena cava superior



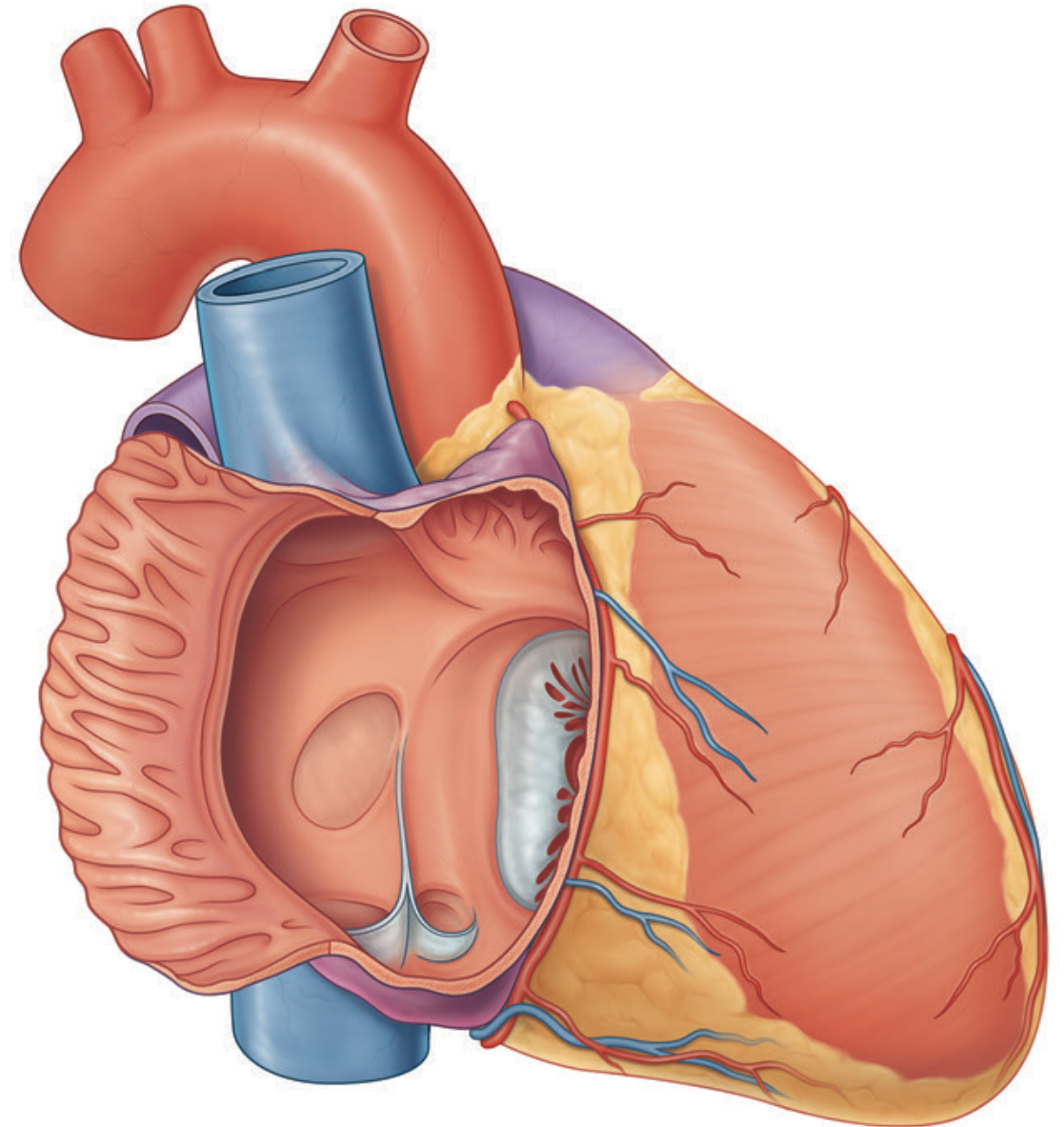
Venae cavae

- **Vena cava superior**
 - *Sinus venosus*
 - *Atrium dextrum*
- **Vena cava inferior**

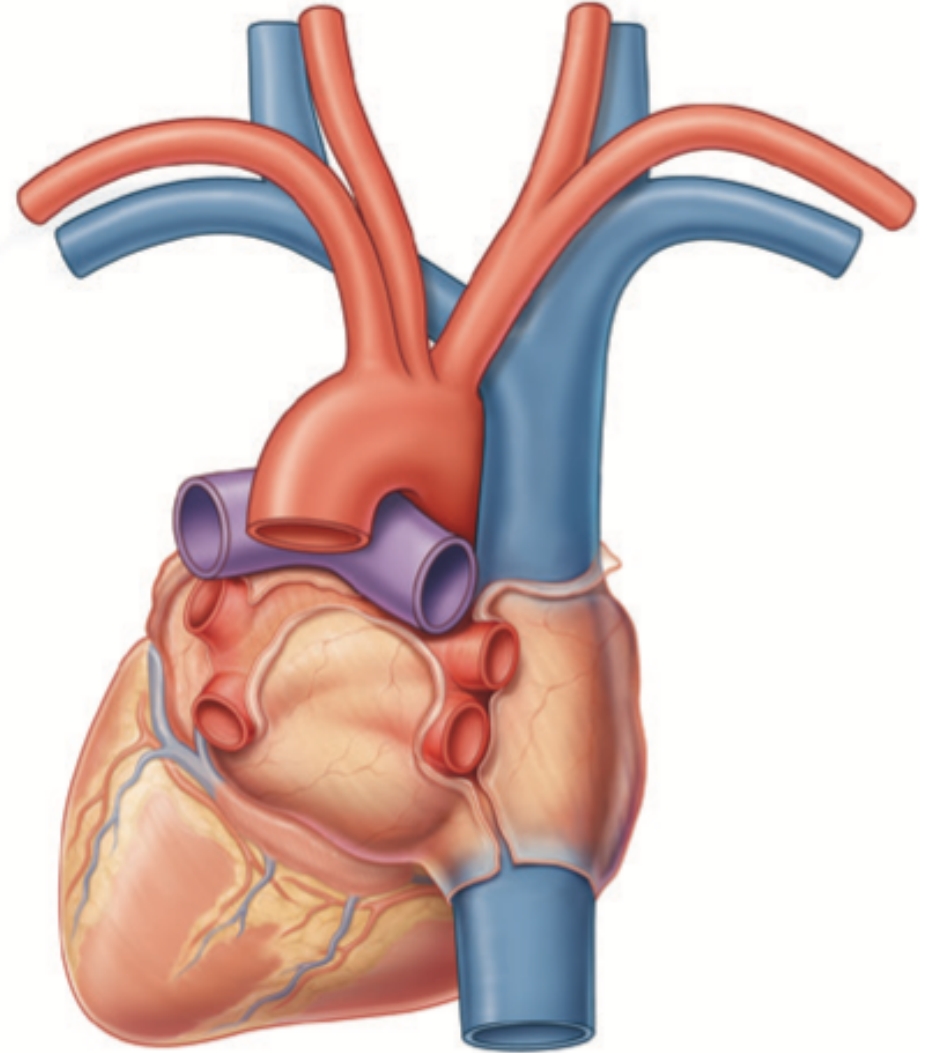
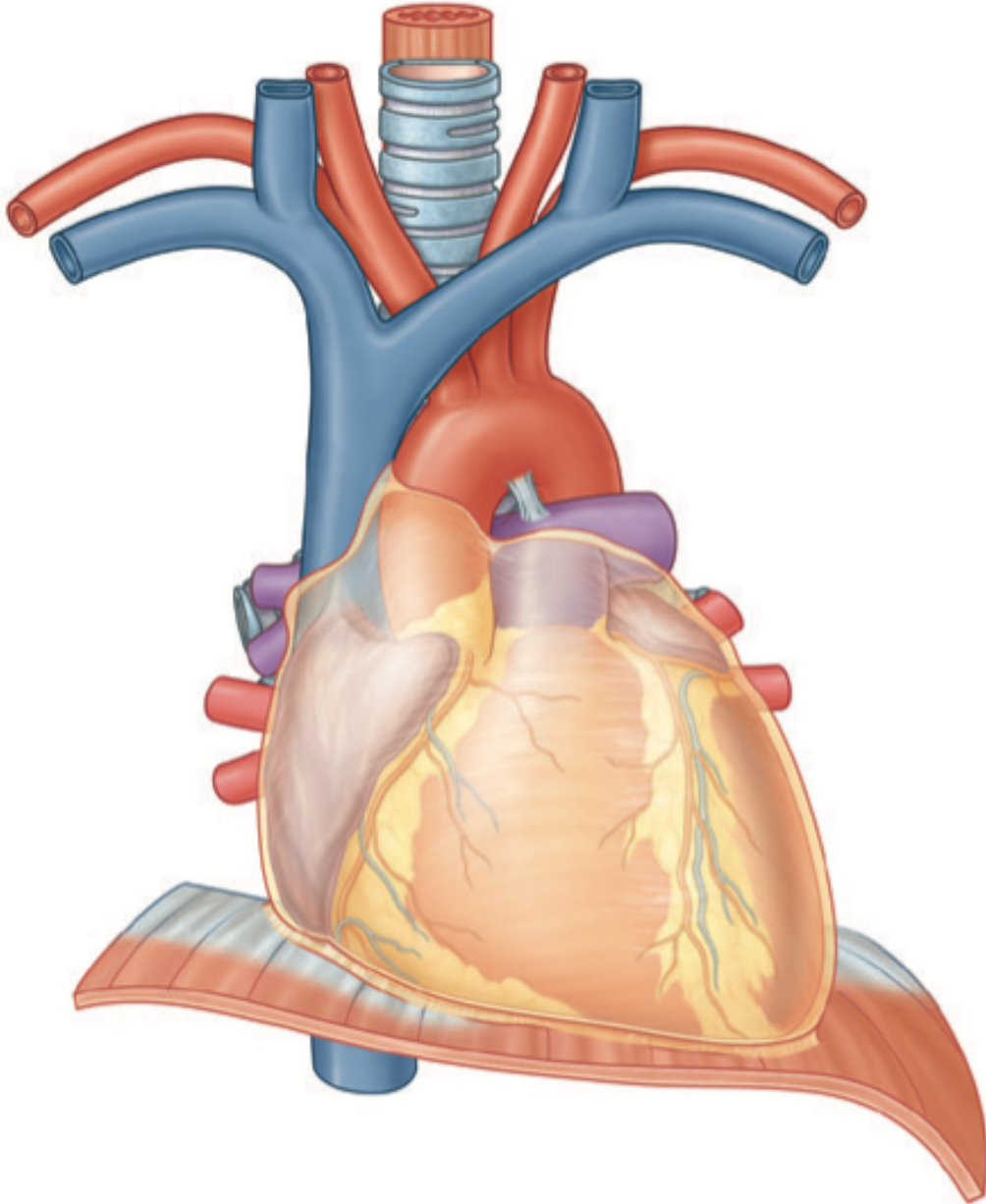


Venae cavae

- **Vena cava superior**
 - *Sinus venosus*
 - *Atrium dextrum*
- **Vena cava inferior**
- **Valva venae cavae inferioris**



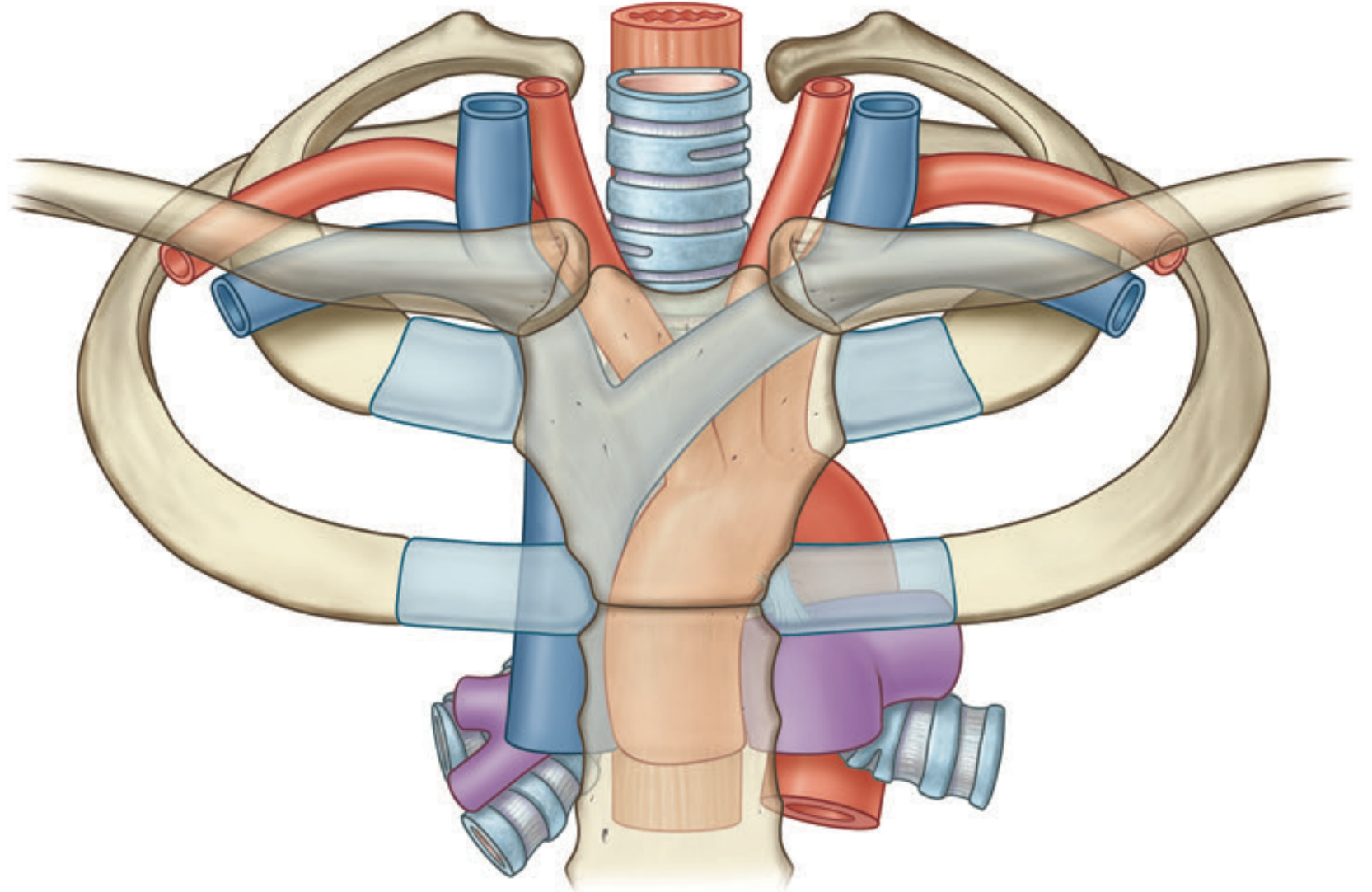
Venae cavae



Venae cavae

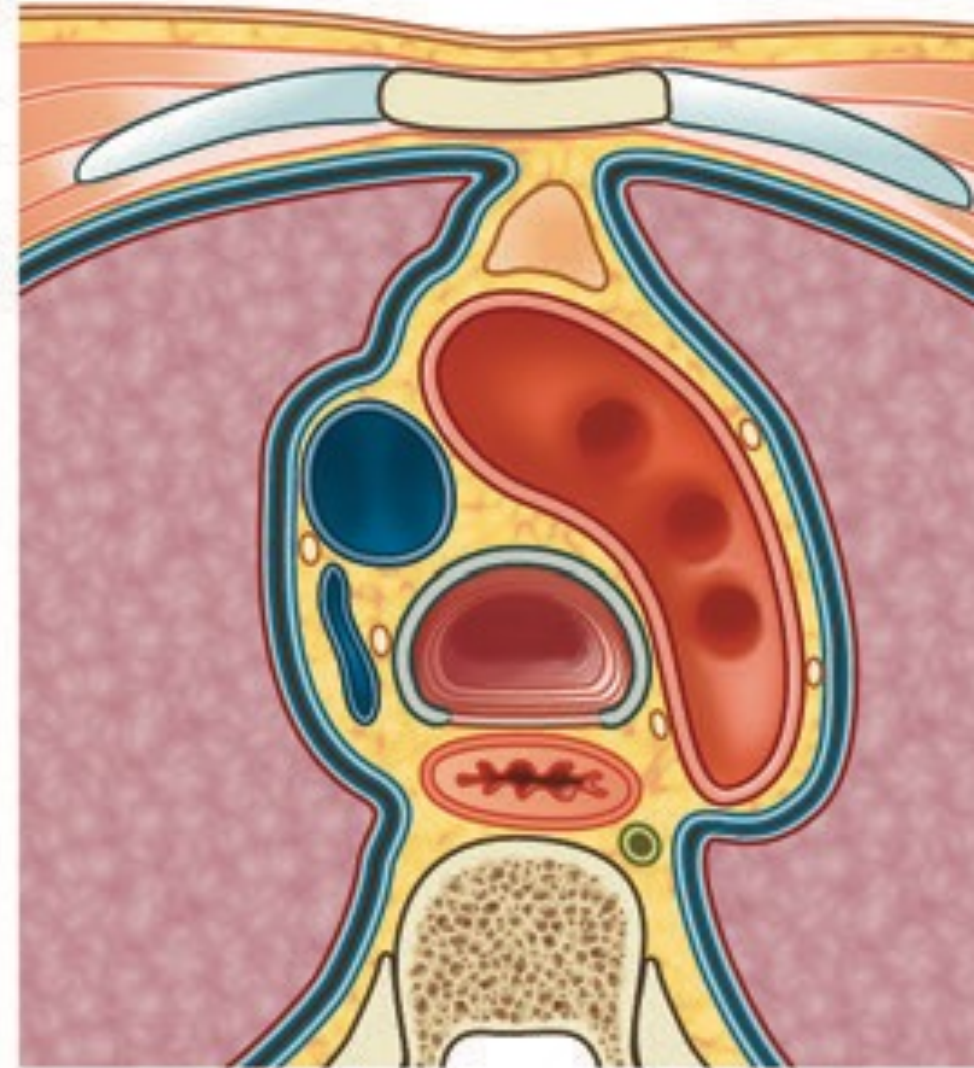
🔴 Sternum

🔴 *clavicula*



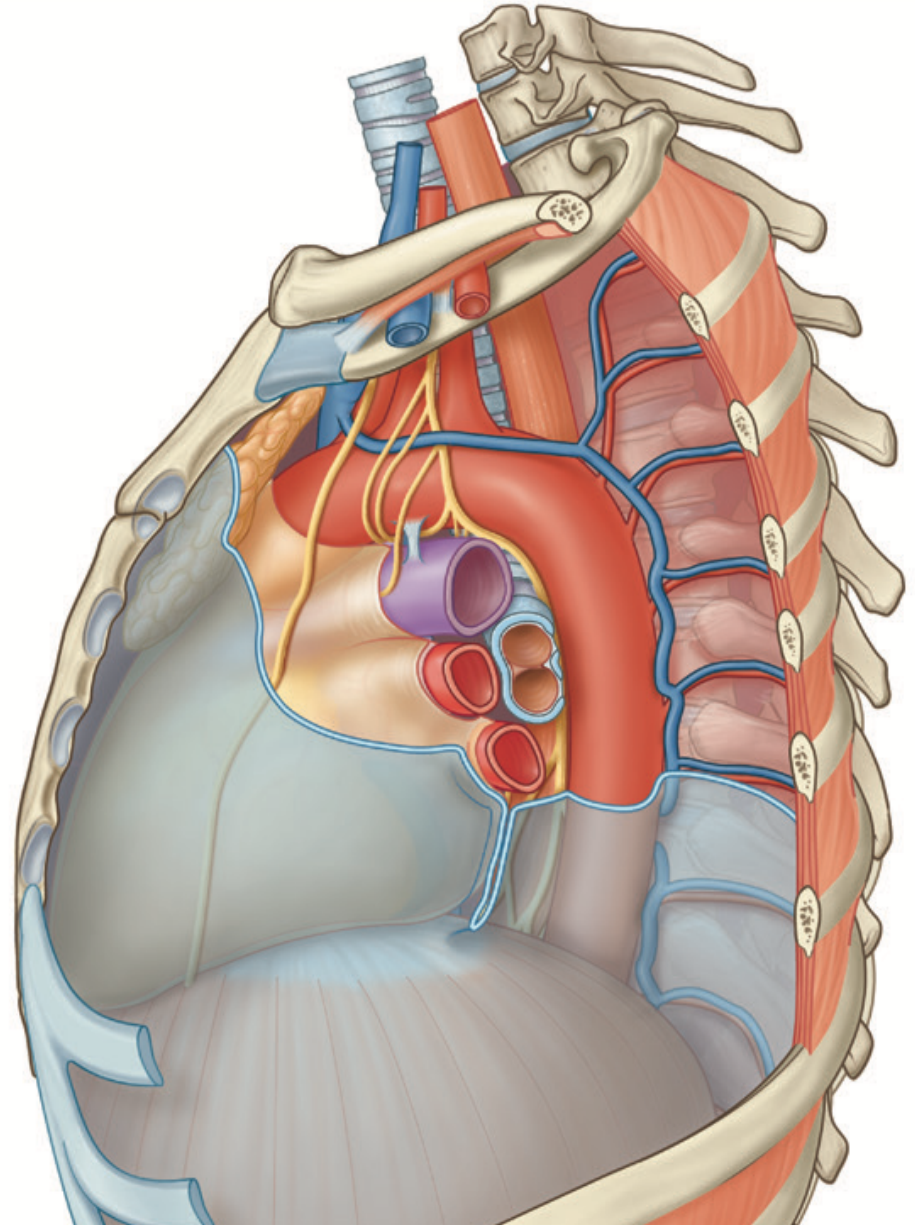
Venae thoracis

- 🔴 Vena brachiocephalica
- 🔴 Vena cava superior
- 🔴 Vena azygos



Vena intercostalis suprema sinistra

- Vena cava superior
- Vena brachiocephalica
- N. vagus
- N. pohrenicus



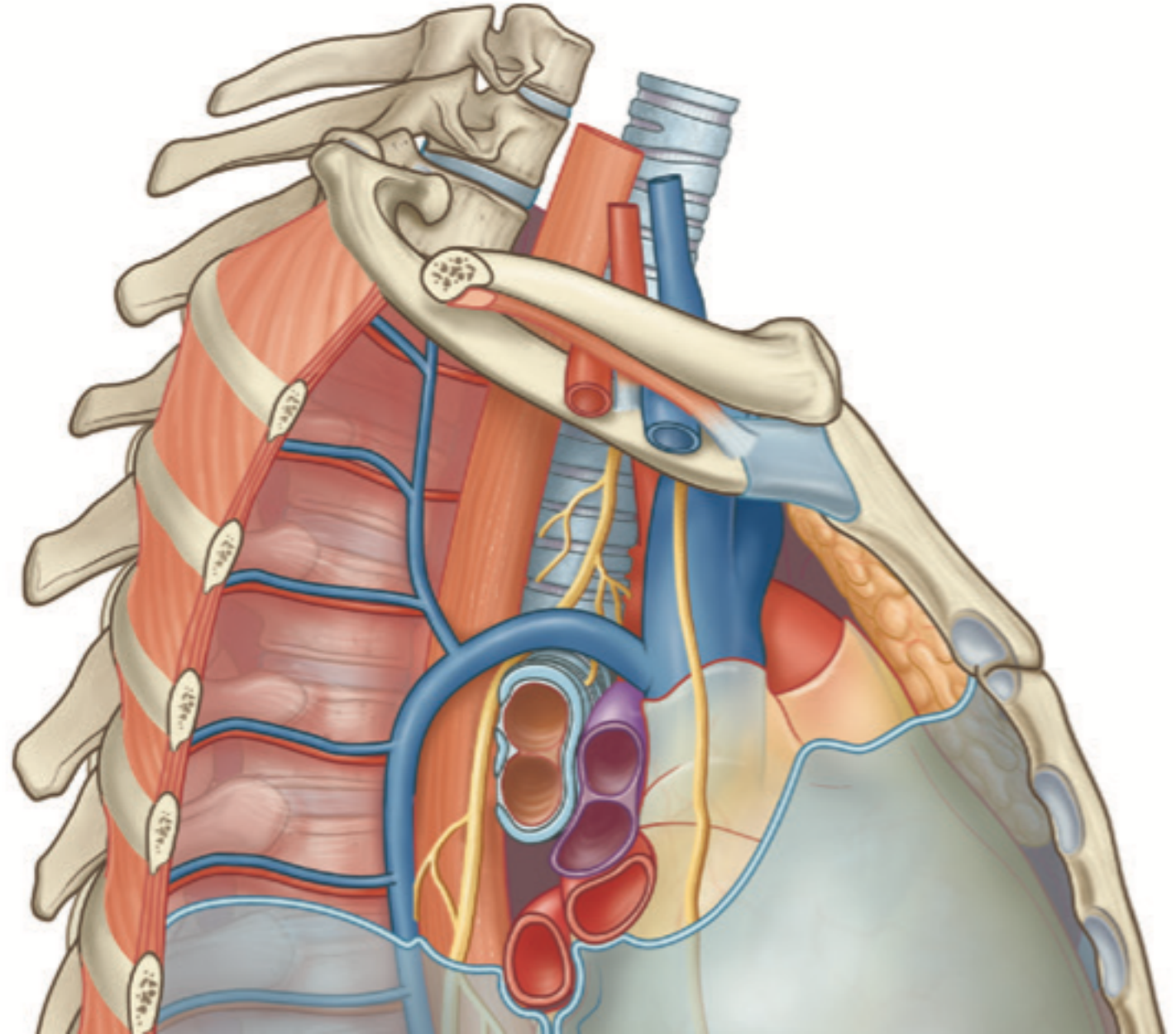
Vena intercostalis suprema dextra

• Vena cava superior

• Vena azygos

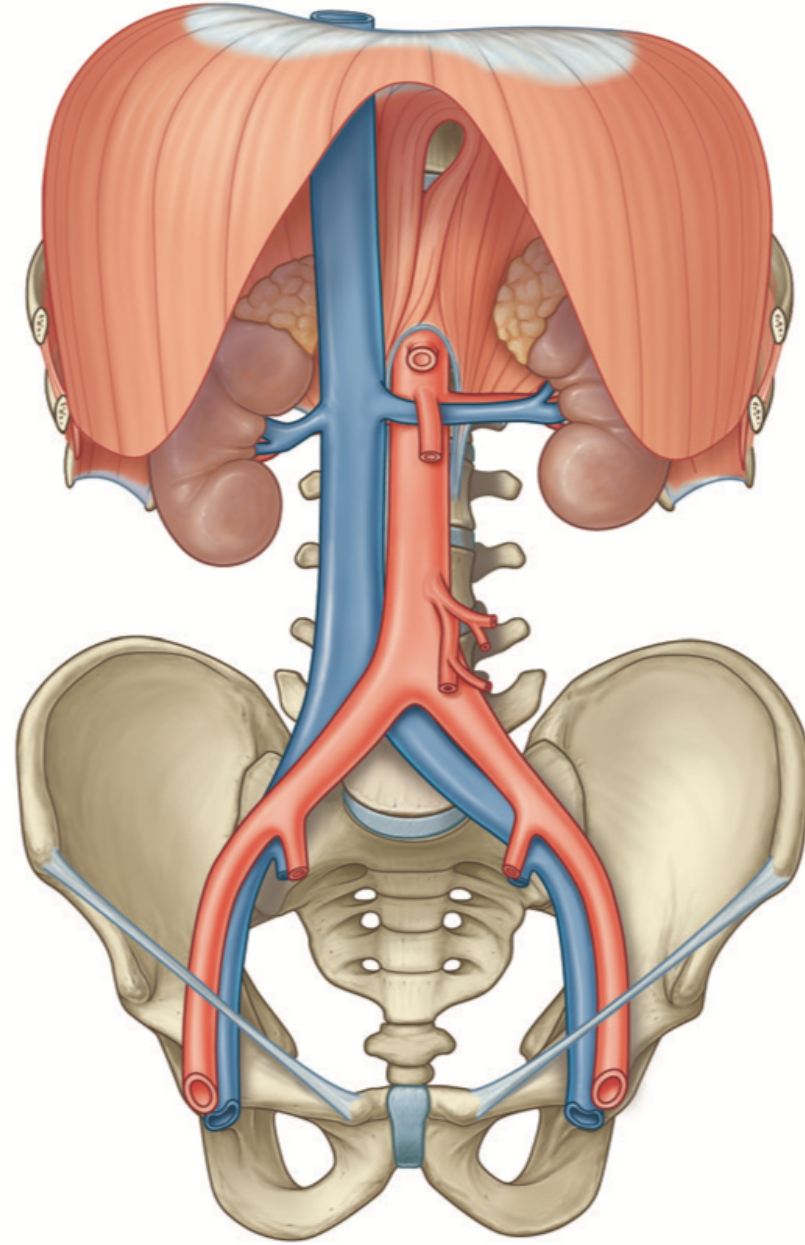
• N. vagus

• N. phrenicus



Vena cava inferior

- ♦ Atrium dextrum
- ♦ Hiatus venae cavae
- ♦ Centrum tendineum diaphragmatis
- ♦ **Vena cava inferior**
 - ♦ *Venae hepaticae (3x)*
 - ♦ *Venae renales*
 - ♦ *Venae iliacae communes*
 - ♦ *Venae iliacae internae*
 - ♦ *Venae iliacae externae*
 - ♦ *Venae femorales*



Venae retroperitonei

- 🔥 **Vena cava inferior**

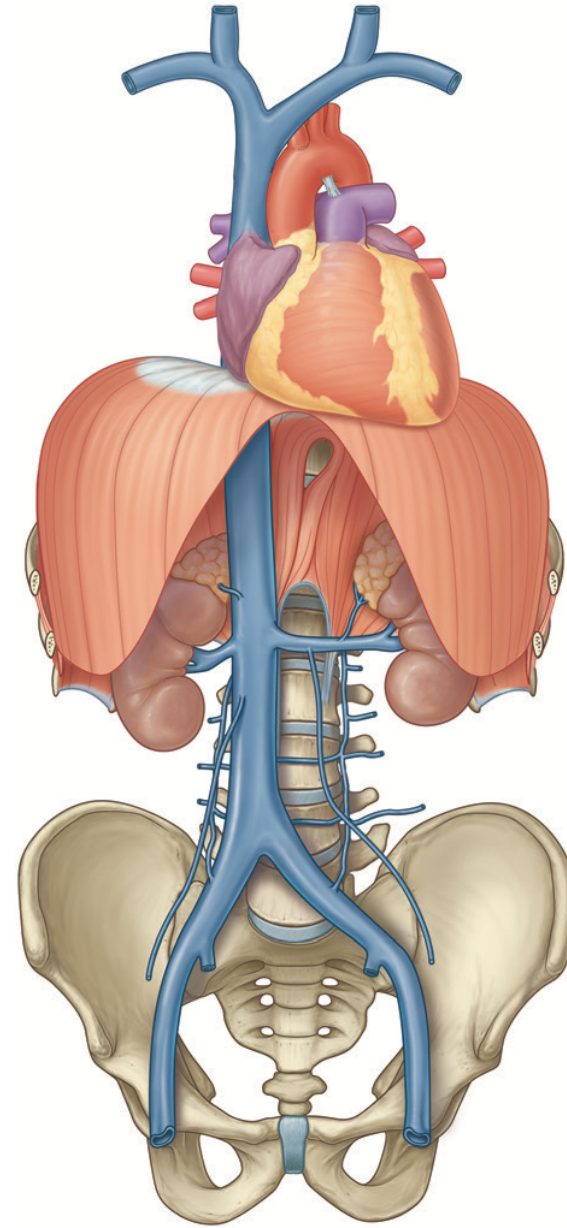
- 🔥 *Venae lumbales*

- 🔥 *Vena lumbalis ascendens*

- 🔥 *Vena azygos*

- 🔥 *Vena hemiazygos*

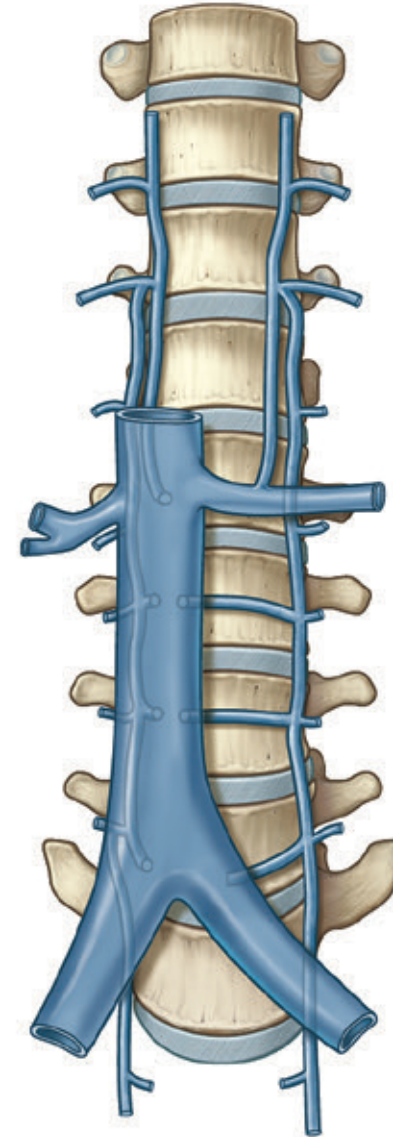
- 🔥 **Vena cava superior**



Venae lumbales

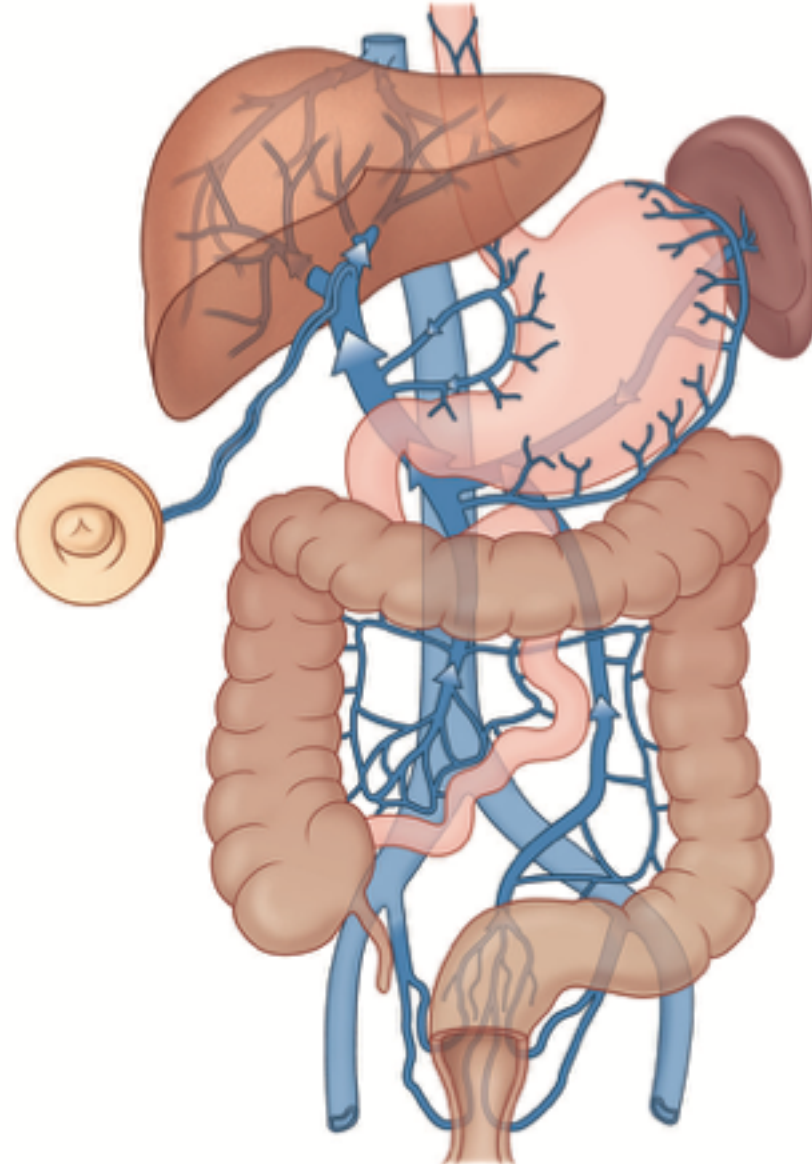
Vena cava inferior

- 🔴 ***Vena sacralis lateralis***
- 🔴 ***Vena iliolumbalis***
- 🔴 ***Venae lumbales***
- 🔴 ***Vena lumbalis ascendens***
- 🔴 ***Vena azygos***
- 🔴 ***Vena hemiazygos***
- 🔴 ***Vena cava superior***



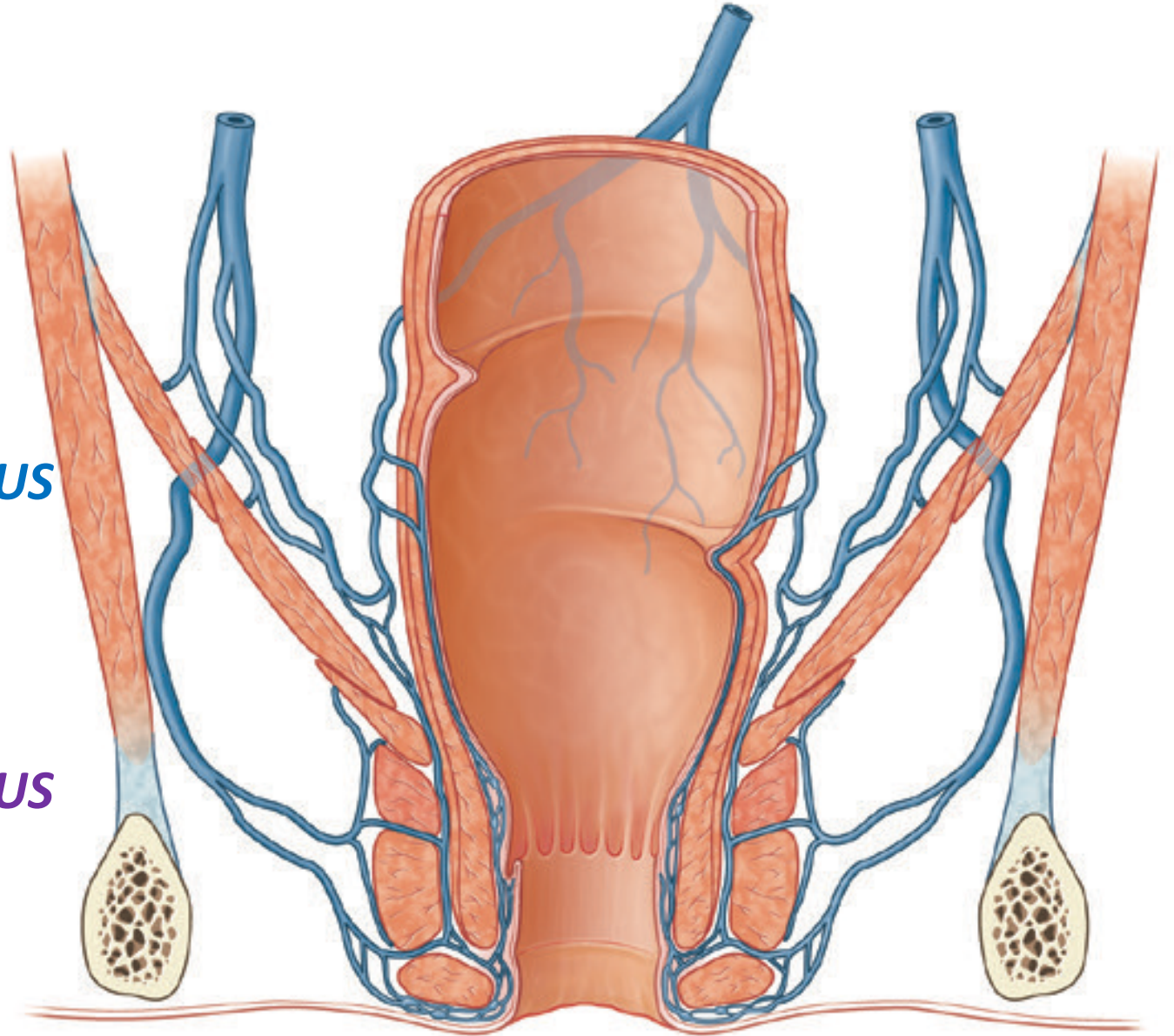
Anastomoses portocavales

- ♦ **Vena cava superior**
 - ♦ *Venae esophageales*
 - ♦ *Venae gastricae breves*
- ♦ **Vena portae hepatis**
 - ♦ *Vena umbilicalis*
 - ♦ *Venae rectales*
 - ♦ *Splenorenales*
- ♦ **Vena cava inferior**

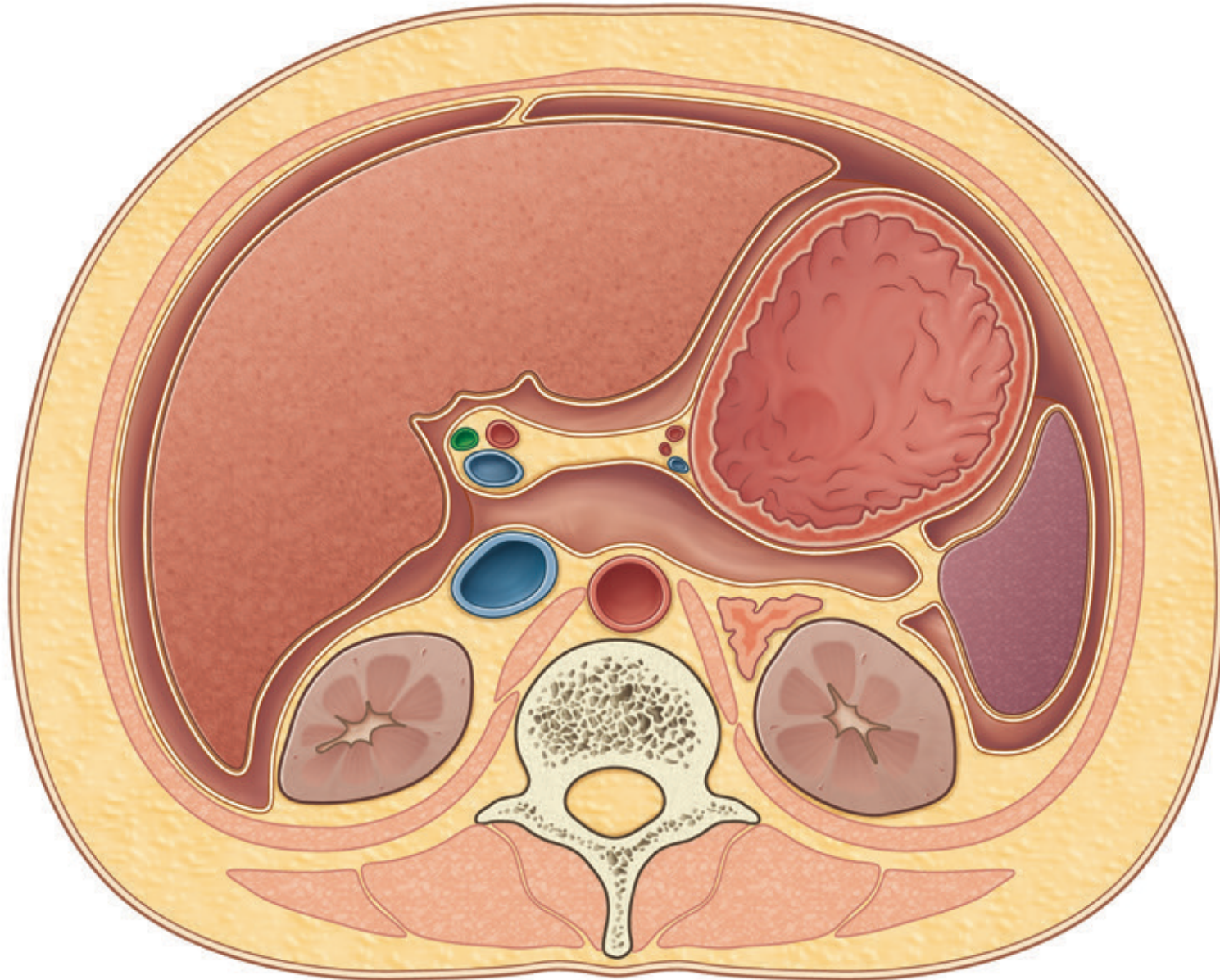


Venae recti

- ♦ **Vena cava inferior**
 - ♦ *Vena recti media*
 - ♦ *Vena recti inferior*
 - ♦ *Vena pudenda interna*
 - ♦ *Canalis Alcocki*
 - ♦ **PLEXUS HAEMORROIDALIS INTERNUS**
- ♦ **Vena portae hepatis**
 - ♦ *Vena mesenterica inferior*
 - ♦ **PLEXUS HAEMORROIDALIS INTERNUS**

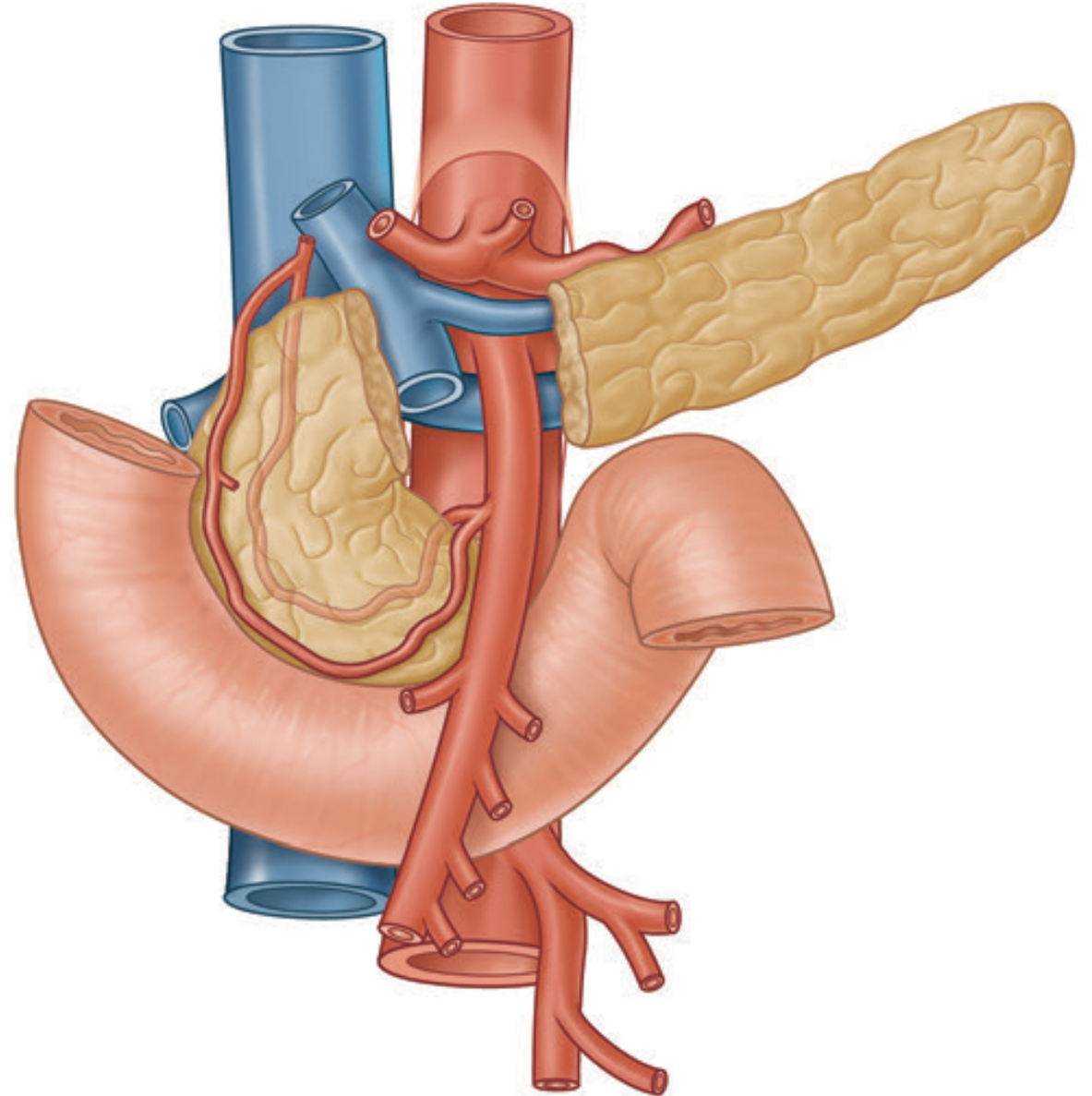


Vena cava inferior / vena portae hepatis



Vena cava inferior/ vena portae hepatis

- ♦ **Vena cava inferior**
 - ♦ *Vena renalis dextra*
 - ♦ *Vena renalis sinistra*
- ♦ **Vena portae hepatis**
 - ♦ *Vena lienalis*
 - ♦ *Vena mesenterica superior*
- ♦ **Truncus coeliacus**
- ♦ **Arteria mesenterica superior**



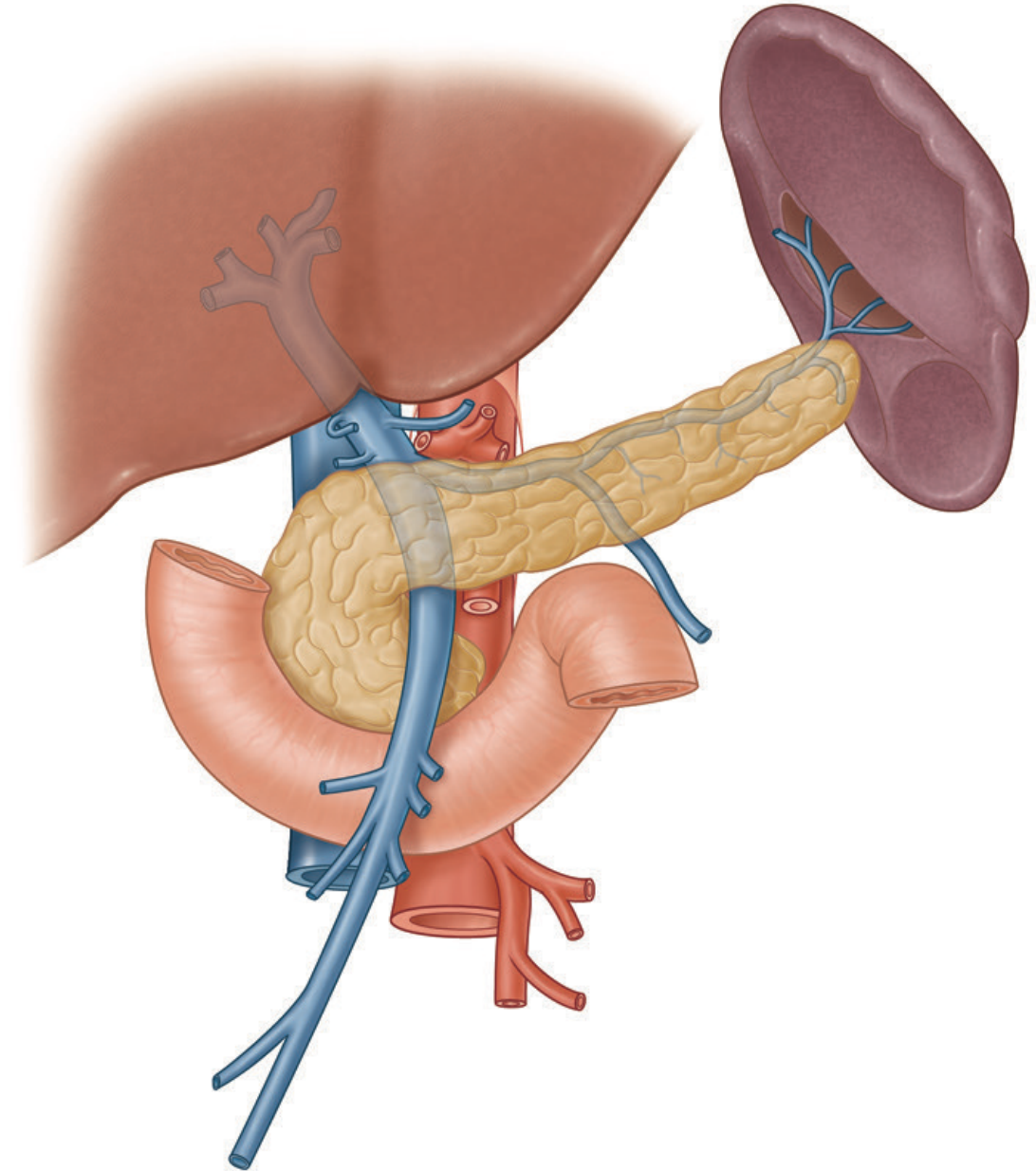
Vena portae hepatis

- 🔥 **Vena portae hepatis**

- 🔥 *Vena gastrica dextra*
- 🔥 *Vena gastroduodenalis*
- 🔥 *vena gastroomentalis*

- 🔥 **Vena lienalis**

- 🔥 *Vena mesenterica inferior*
- 🔥 *Vena mesenterica superior*



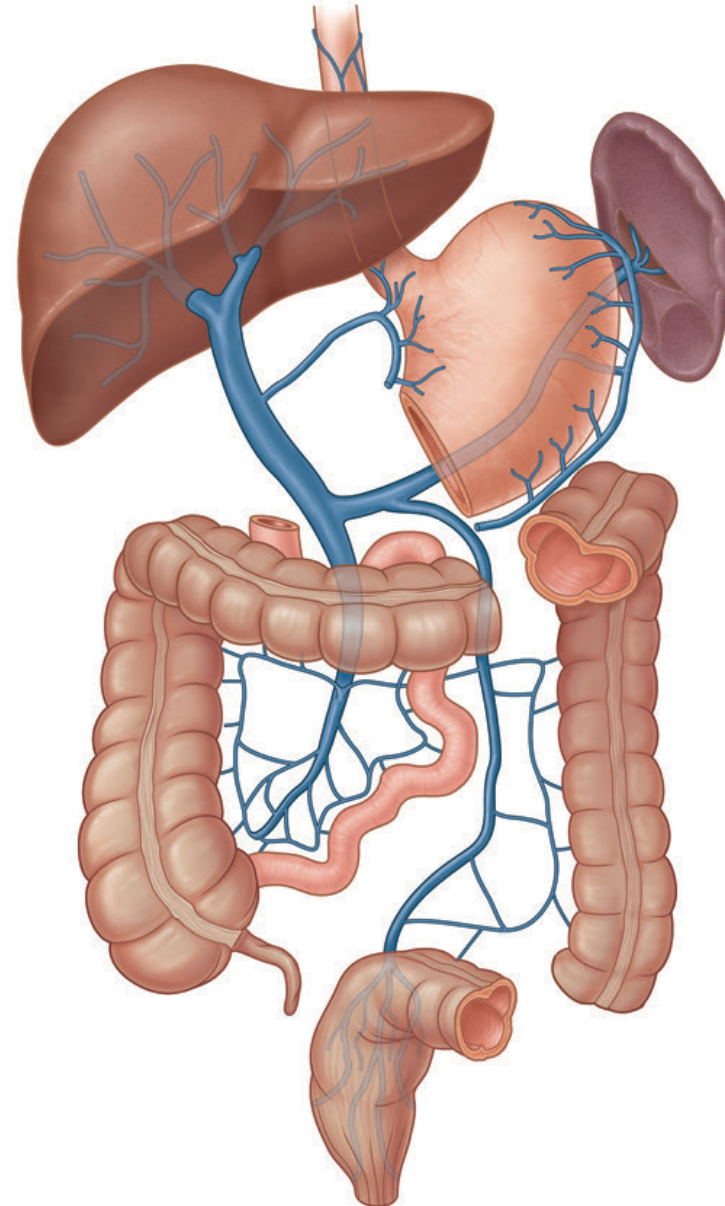
Vena portae hepatis

- 🔥 **Vena portae hepatis**

- 🔥 *Vena gastrica dextra*
- 🔥 *Vena gastroduodenalis*
- 🔥 *vena gastromentalis*

- 🔥 **Vena lienalis**

- 🔥 *Vena mesenterica inferior*
- 🔥 *Vena mesenterica superior*

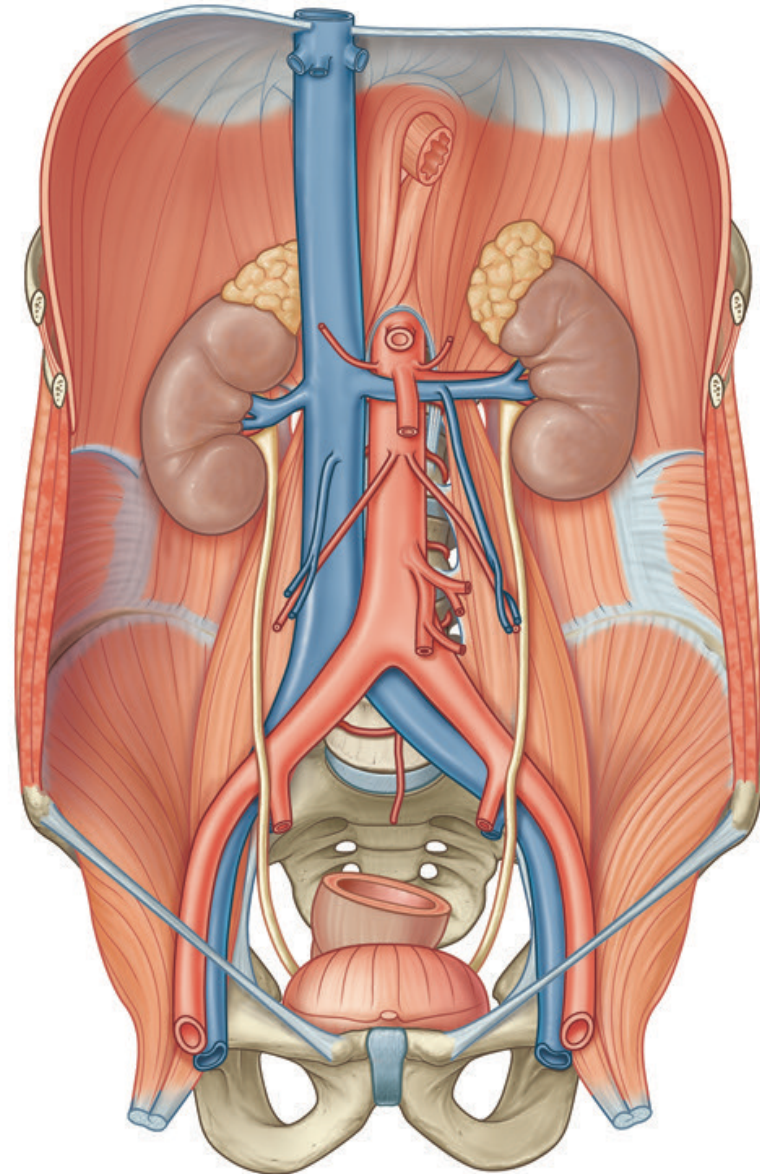


Vena cava inferior

♦ Vena cava inferior

- ♦ *Venae hepaticae (3x)*
- ♦ *Vena renalis dextra*
- ♦ *Vena renalis sinistra*
 - ♦ *Vena ovarica/testicularis sinistra*
- ♦ *Vena ovarica/testicularis dextra*

- ♦ *Venae iliacae communes*
- ♦ *Venae iliacae internae*
- ♦ *Venae iliacae externae*
- ♦ *Venae femorales*



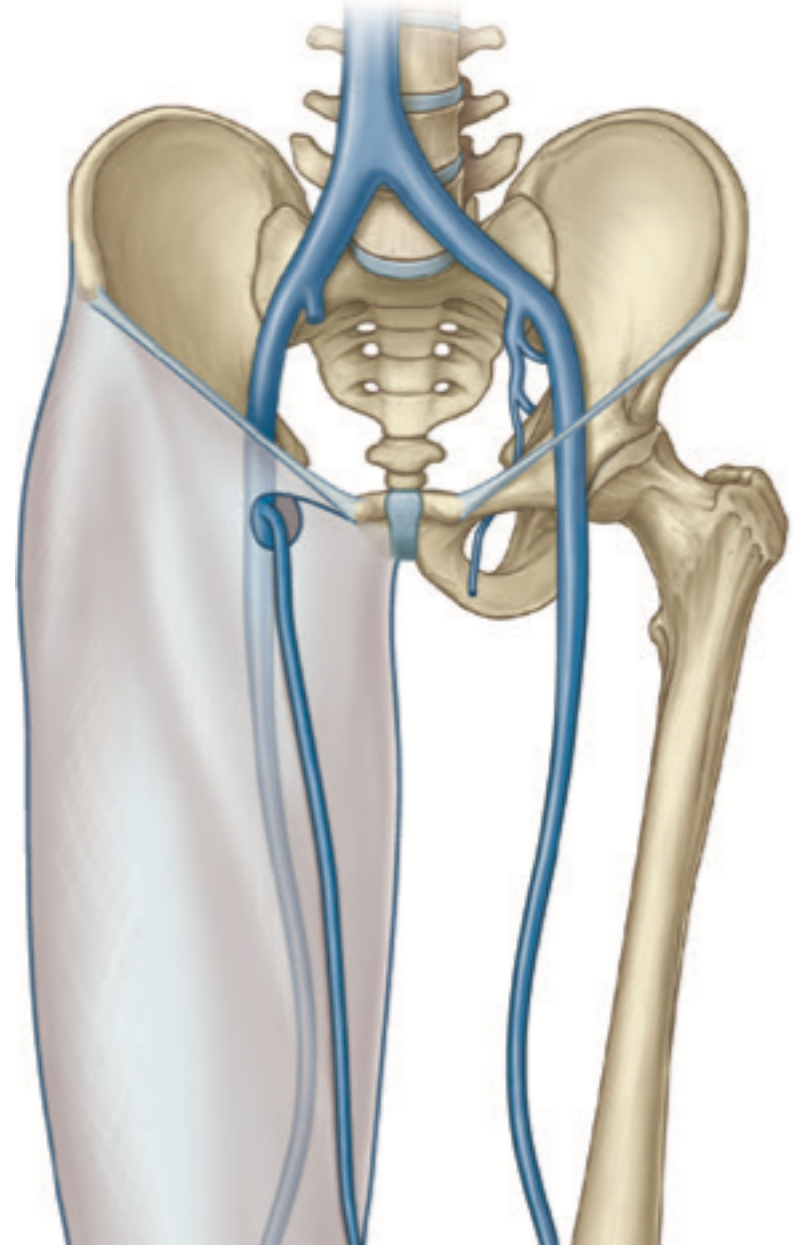
Venae membri inferioris

Venae superficiales

Venae profundae

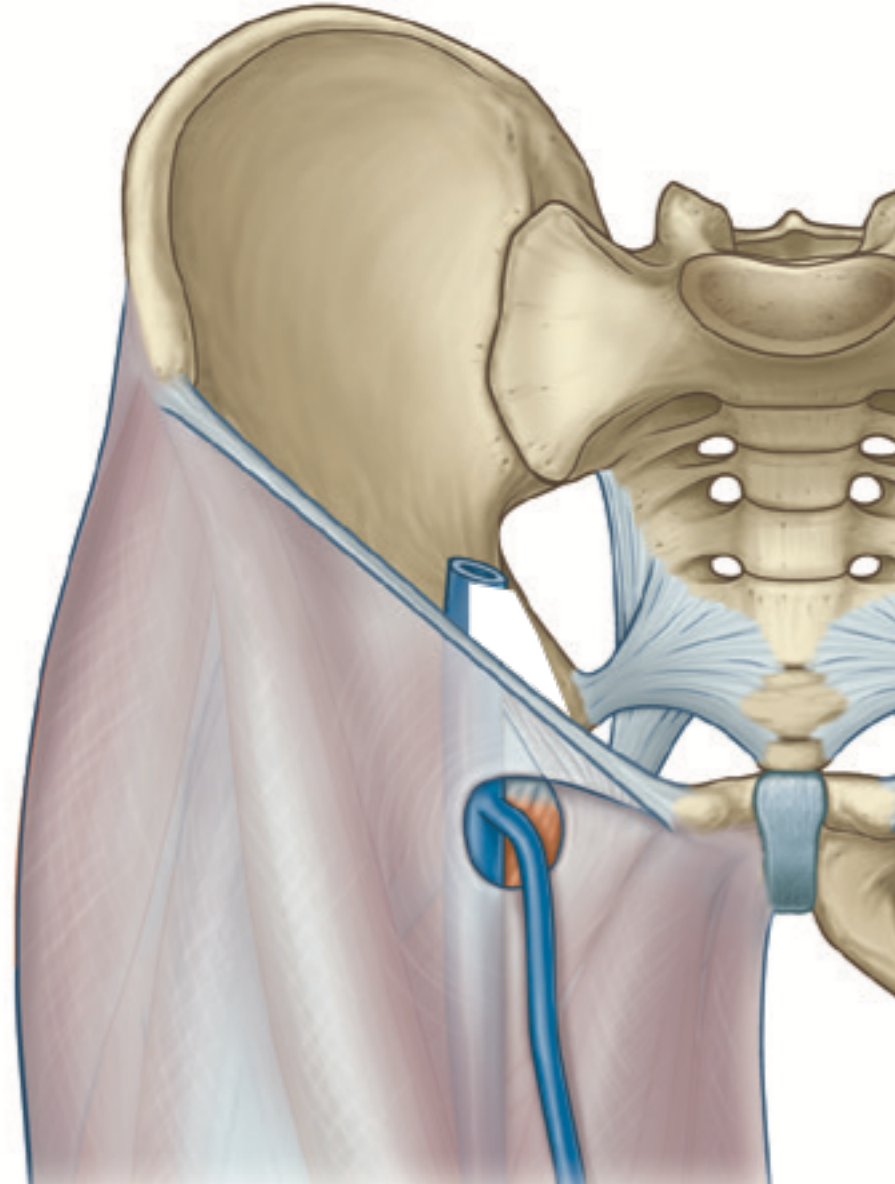
• **Vena femoralis**

• **Vena saphena magna**



Hiathus saphenus

- 🔴 Fascia lata
- 🔴 Ligamentum inguinale
- 🔴 Vena saphena magna
- 🔴 Vena femoralis



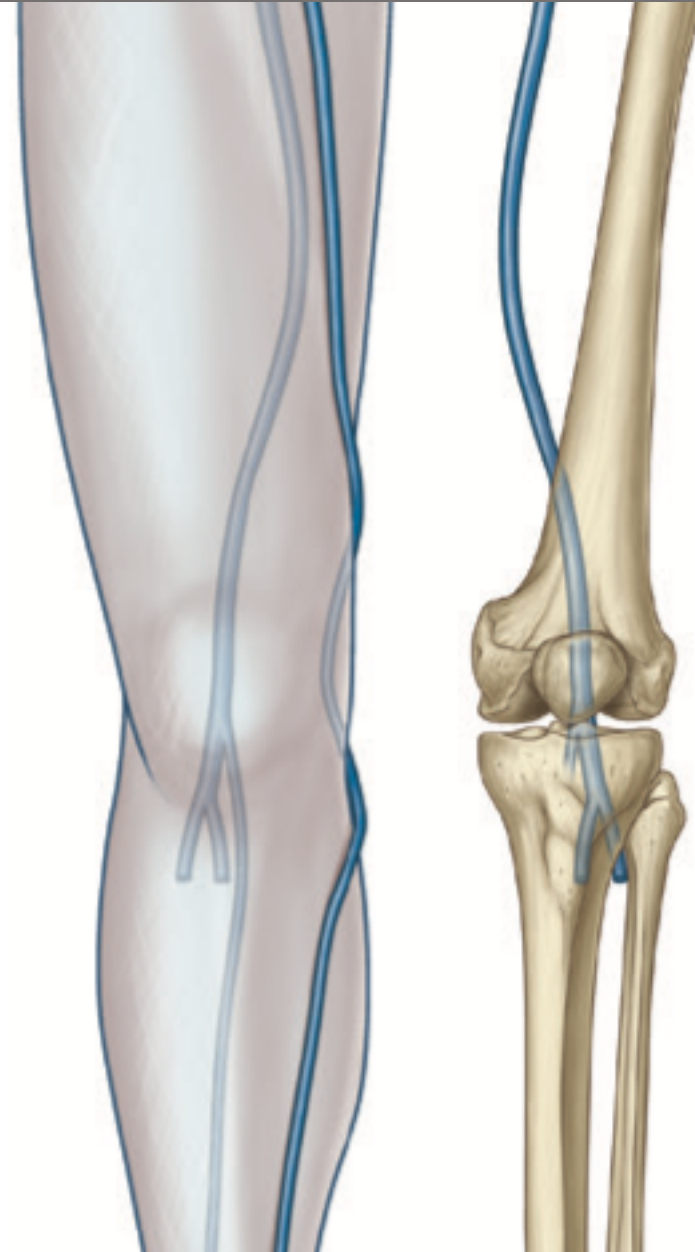
Venae membri inferioris

Venae superficiales

Venae profundae

• **Vena femoralis**

• **Vena saphena magna**

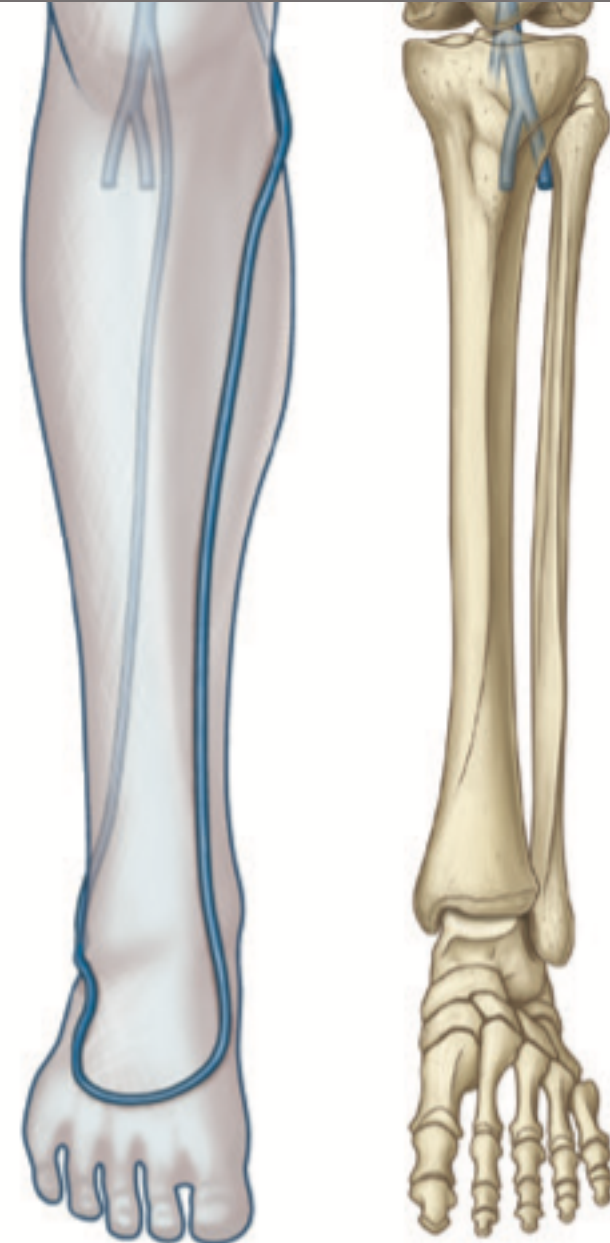


Venae membri inferioris

Venae superficiales

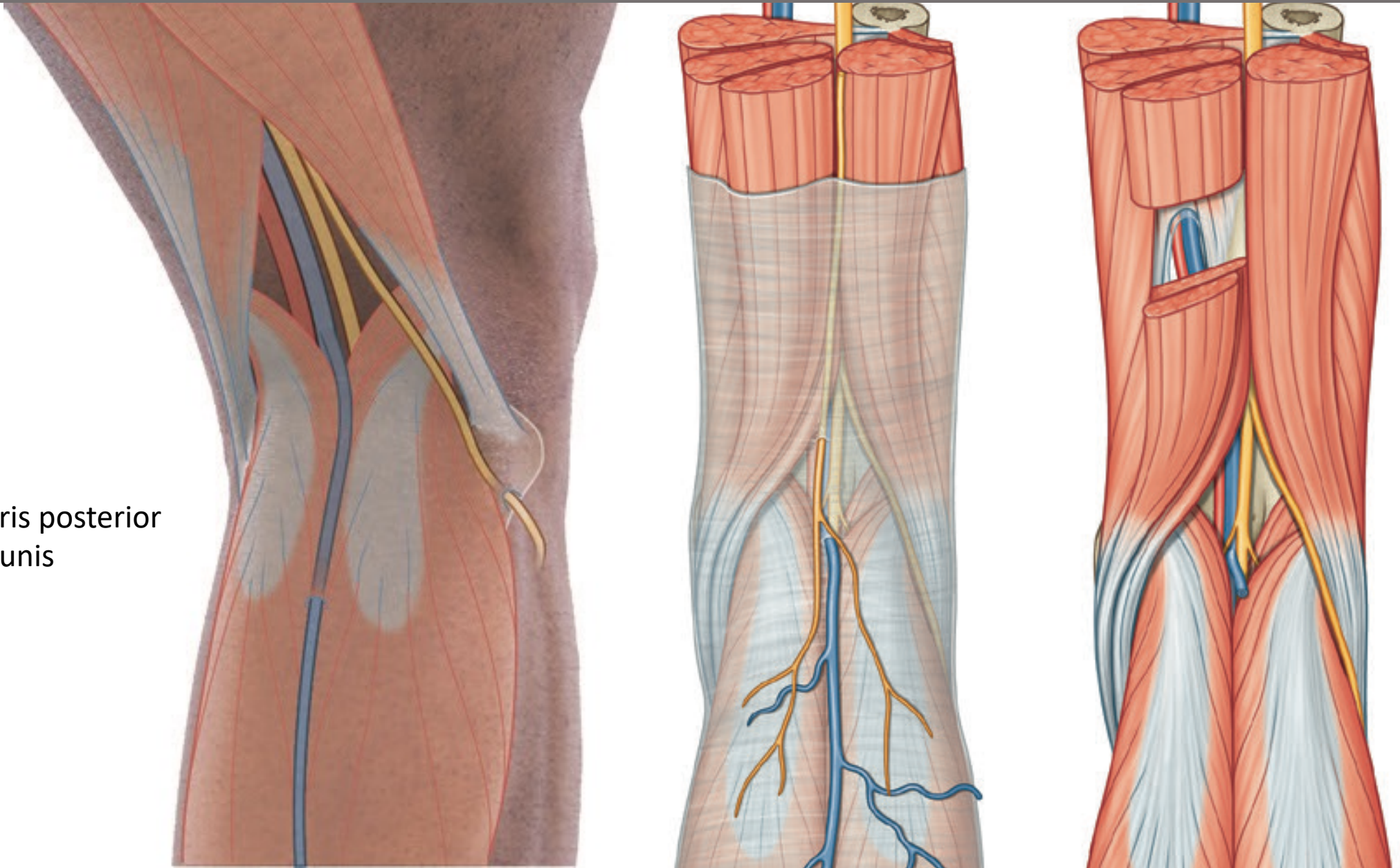
Venae profundae

- **Vena femoralis**
- **Vena poplitea**
 - Vena saphena parva
 - Vena tibialis anterior
 - Vena fibularis
 - Vena tibialis posterior
- **Vena saphena magna**



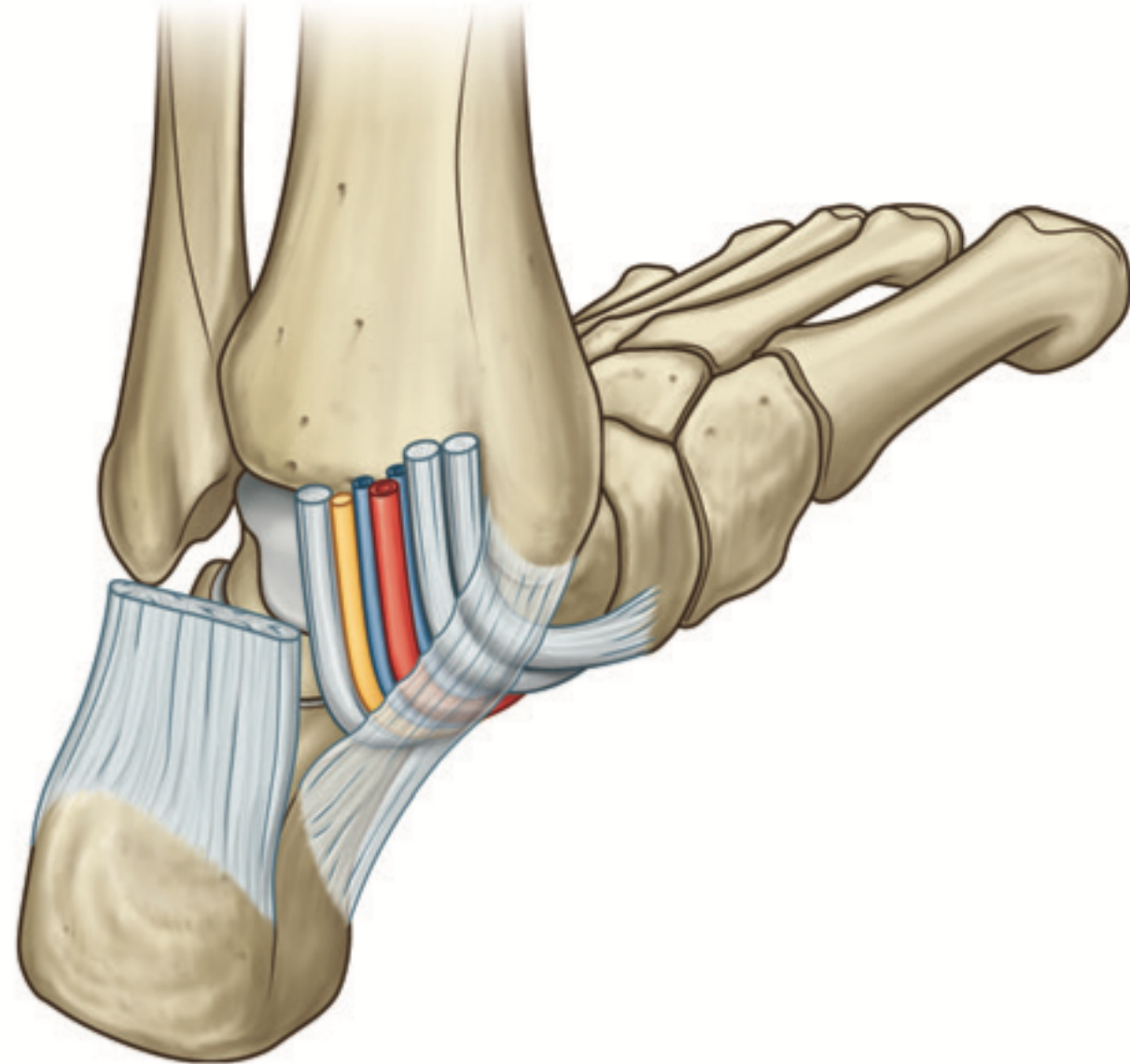
Vena saphena parva

n. cutaneus femoris posterior
n. fibularis communis



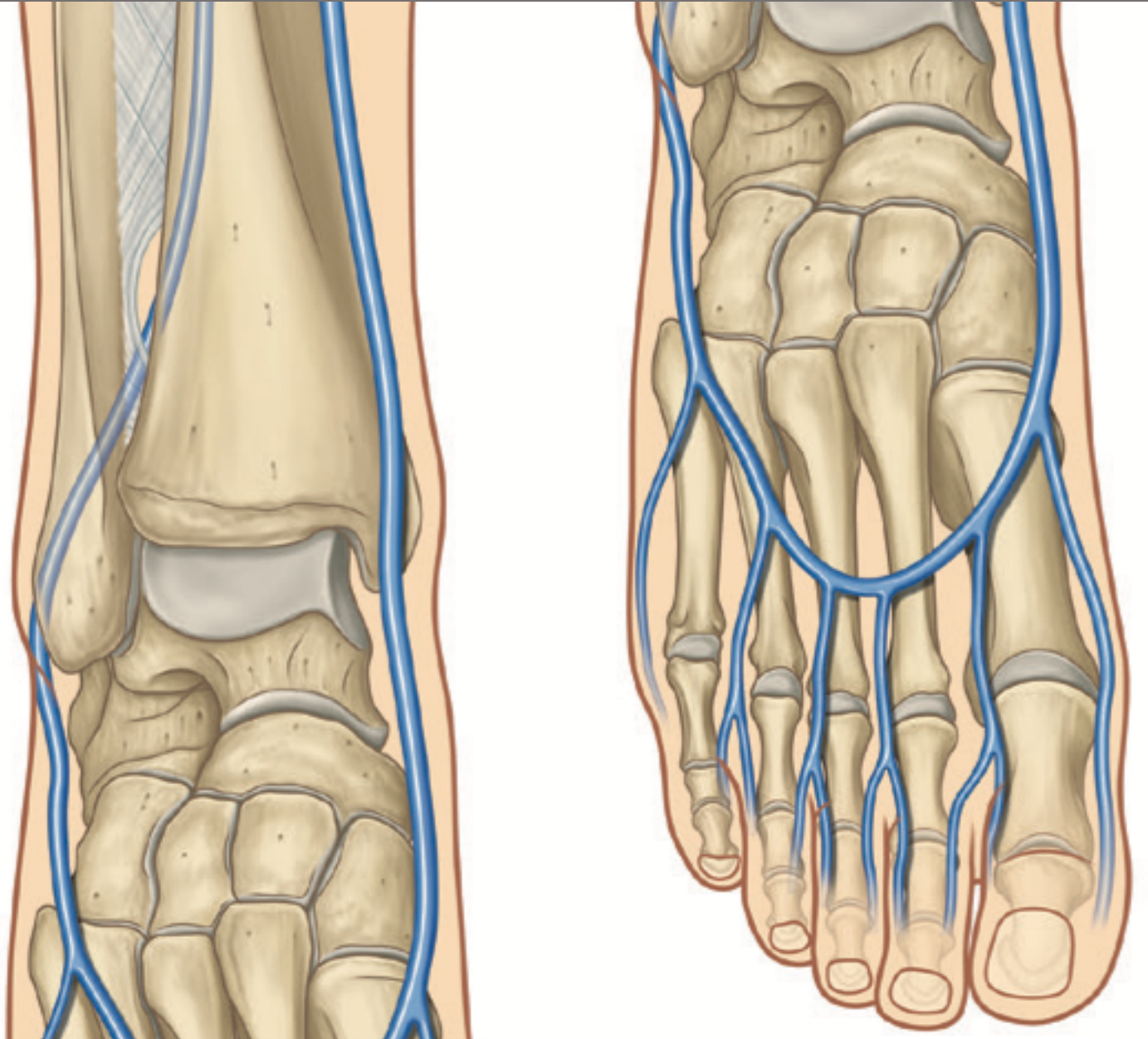
Canalis tarsalis

- M. tibialis posterior
- M. flexor digitorum longus
- A. tibialis posterior
- V. tibialis posterior
- N. tibialis
- M. flexor hallucis longus



Venae pedis

- Venae metatarales
- Venae digitorum
- Rete venosum
- Arcus venosus pedis dorsalis
- Vena saphena parva
- Vena saphena magna

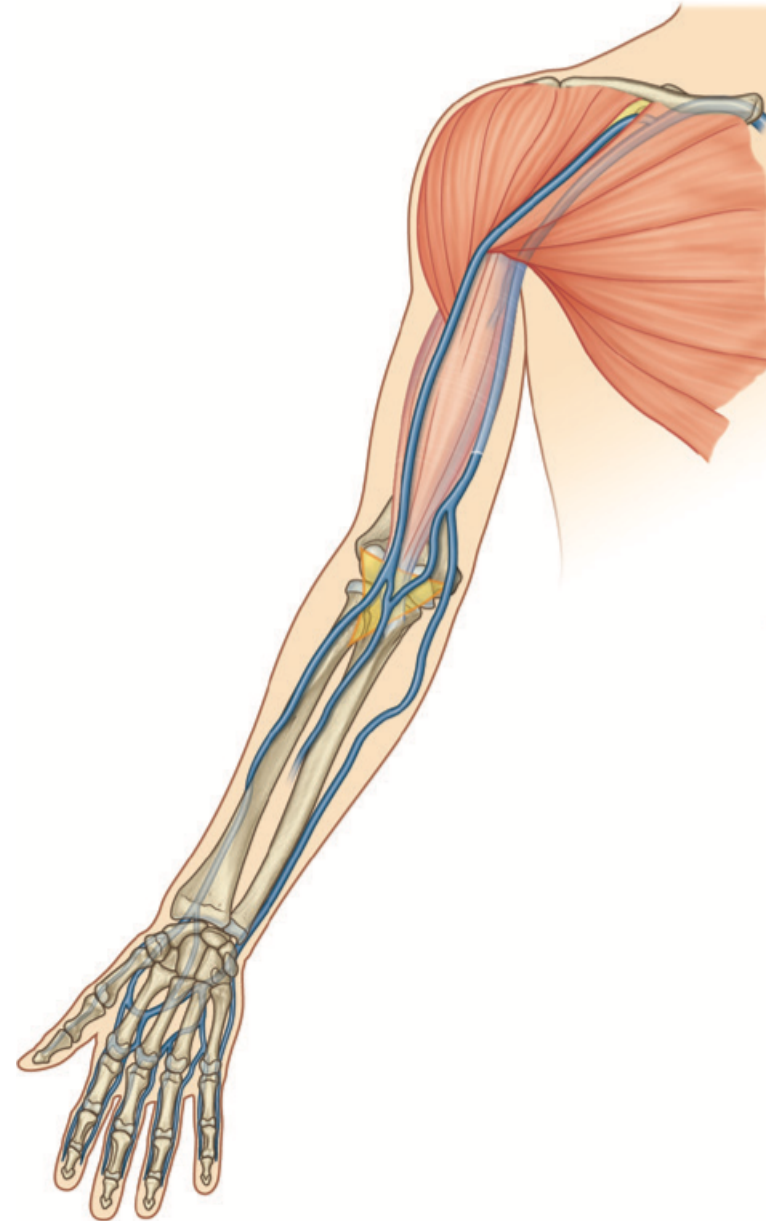


Venae membri superioris

Venae superficiales

Venae profundae

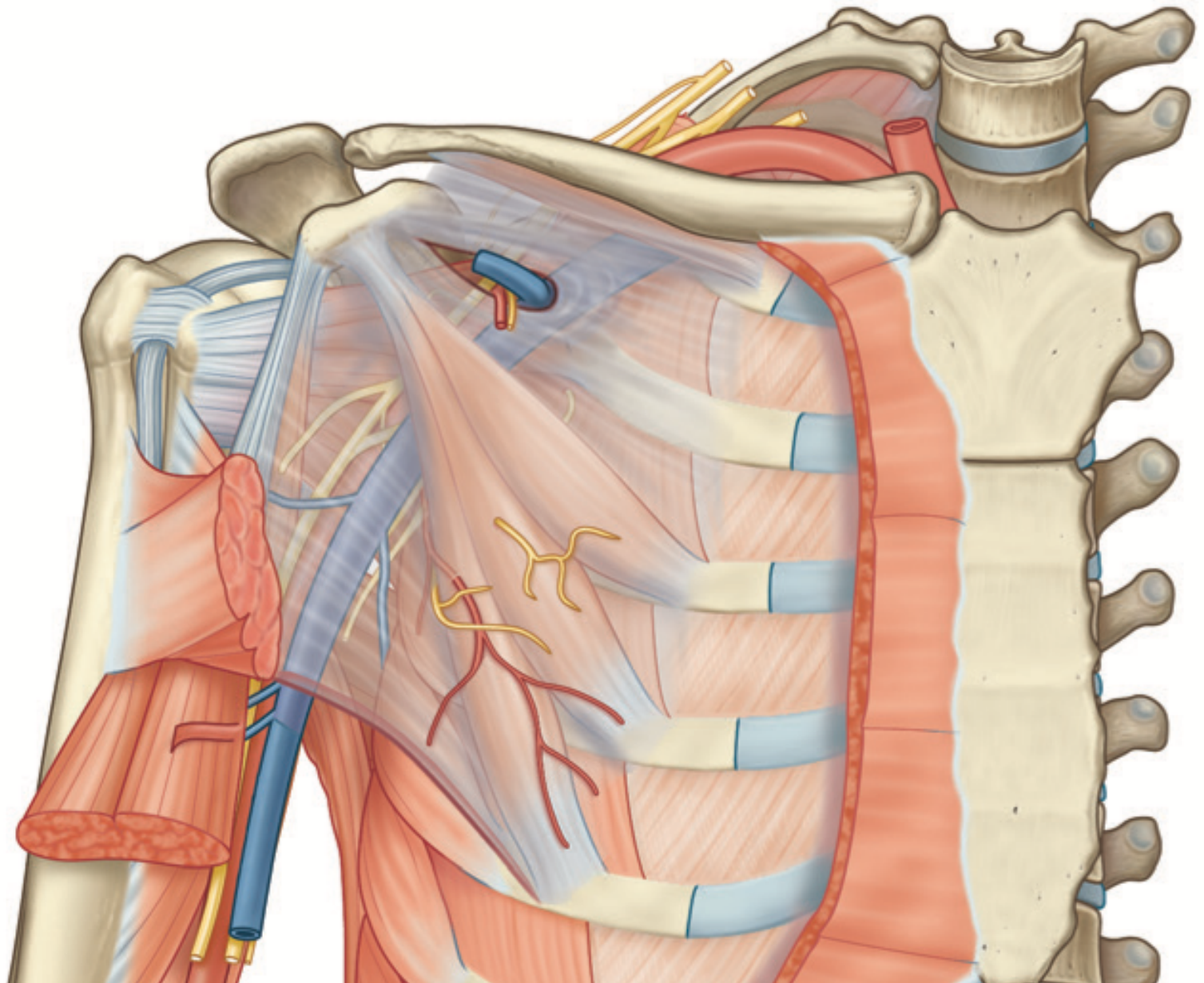
- **Vena subclavia**
- **Vena axillaris**
- **Vena brachialis**
- **Vena basilica**
- **Vena cephalica**



Vena cephalica

Fascia clavipectoralis

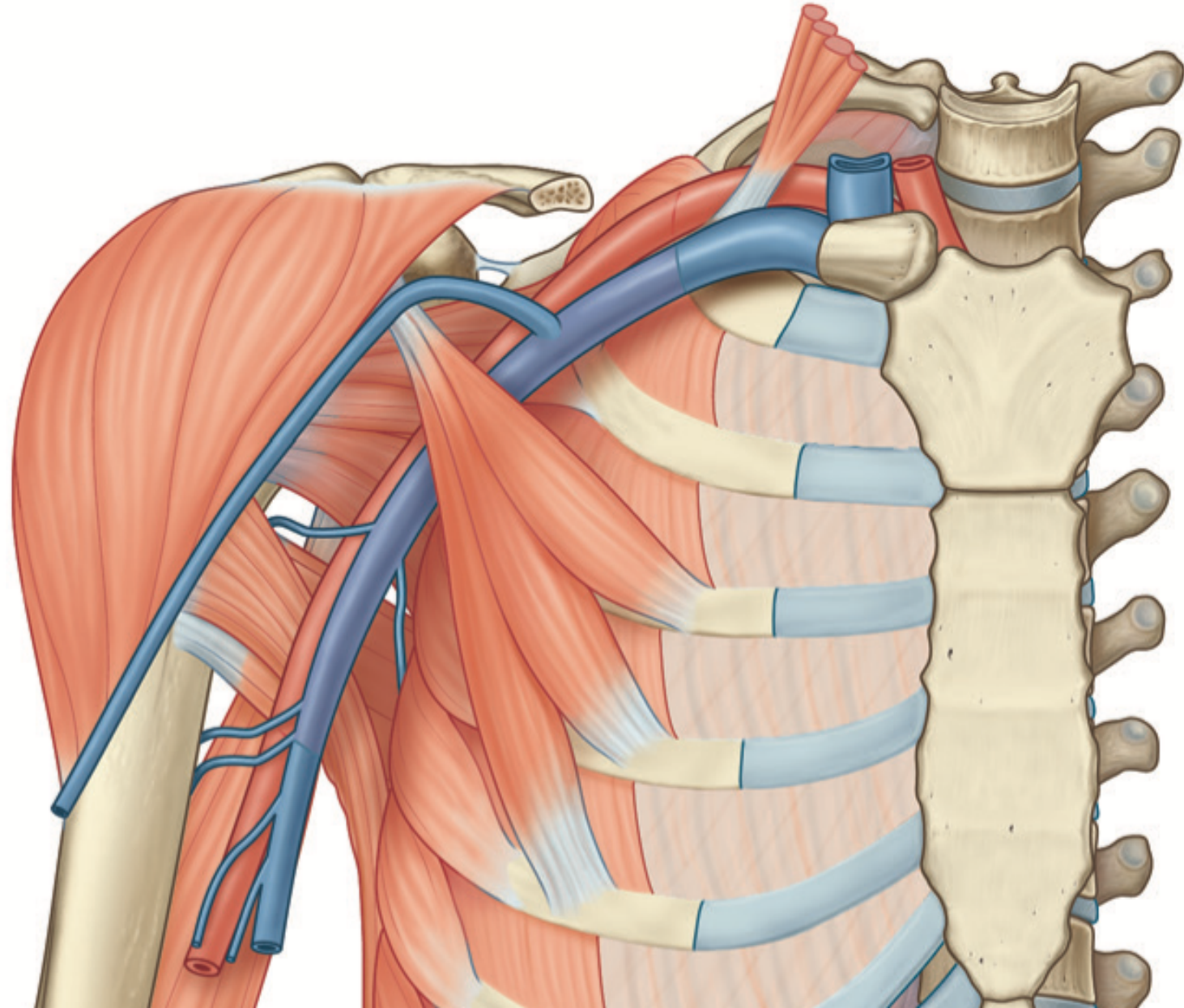
- **Vena cephalica**
- **Nervus pectoralis lateralis**
- **Ramus thoracicus**
 - **A. thoracoacromialis**
-



Vena axillaris

m. scalenus anterior

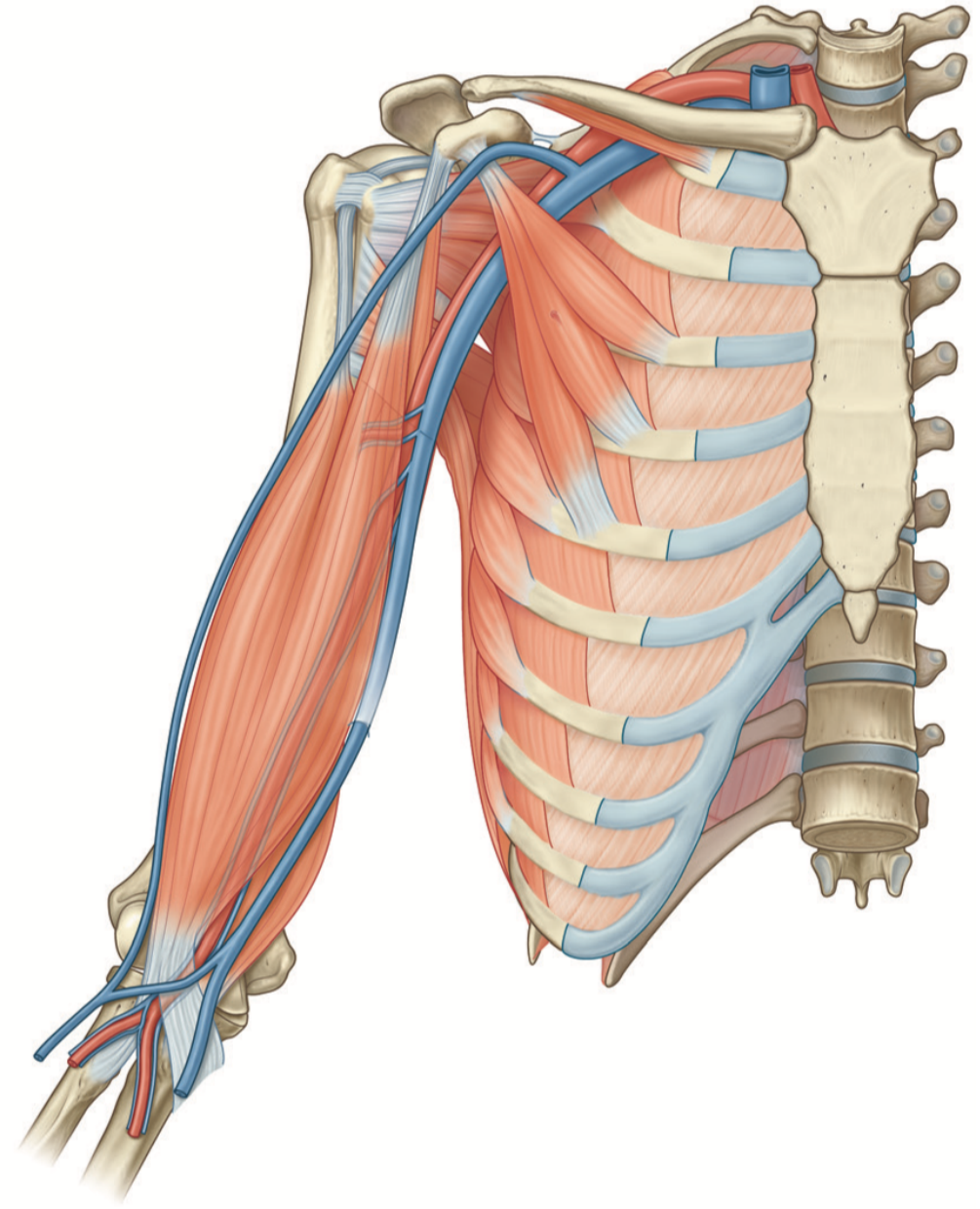
- ♦ Vena subclavia
- ♦ Vena axillaris
 - ♦ Vena cephalica
 - ♦ Vena circumlexa humeri
 - ♦ Vena circumflexa scapulae
 - ♦ Vena profunda brachii
- ♦ Vena brachialis
- ♦ Vena basilica



Vena basilica

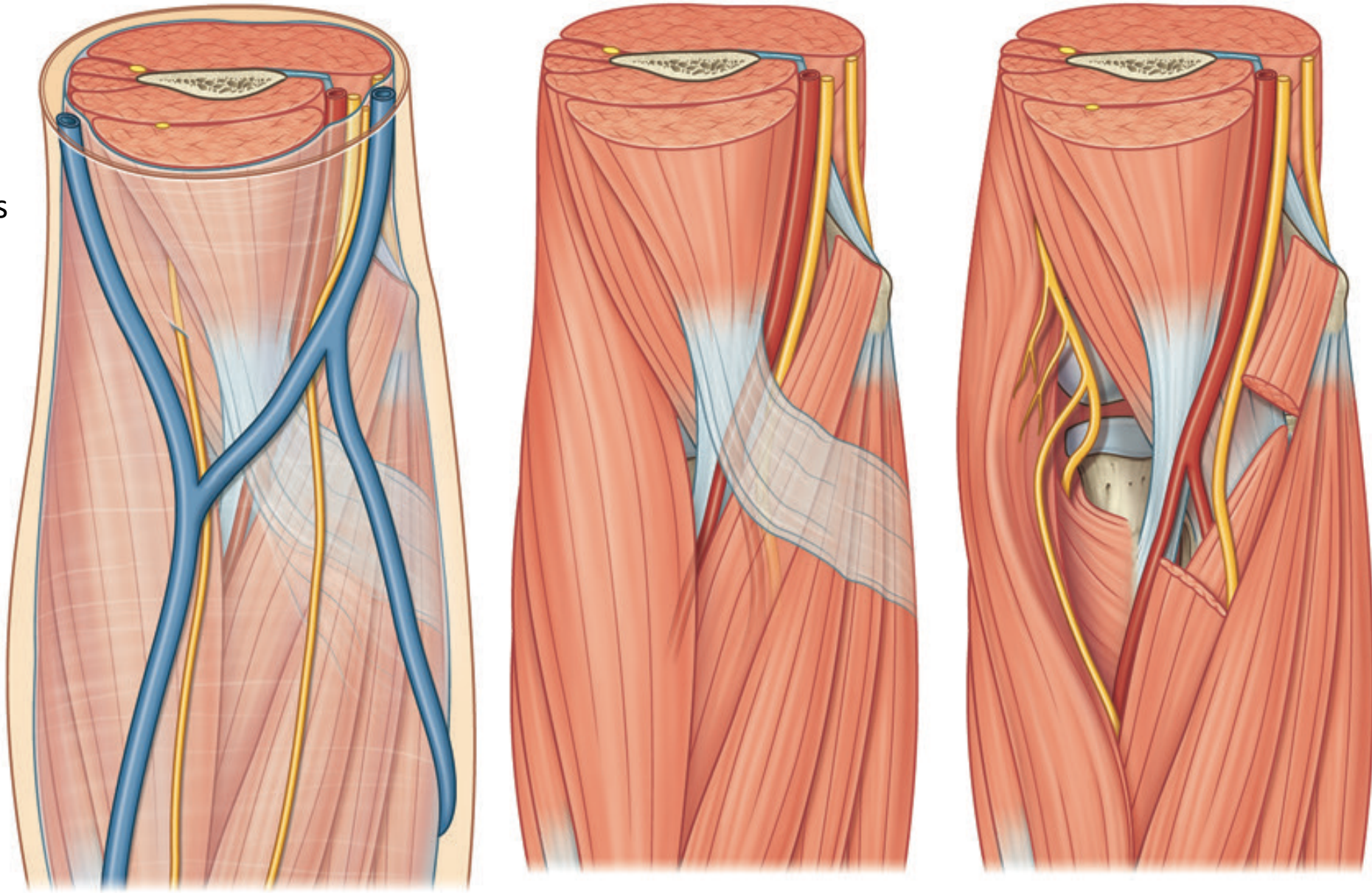
m. scalenus anterior

- **Vena subclavia**
- **Vena axillaris**
 - **Vena cephalica**
 - **Vena circumflexa humeri**
 - **Vena circumflexa scapulae**
 - **Vena profunda brachii**
- **Vena brachialis**
- **Hiathus basilicus**
- **Vena basilica**
- **Vena cubiti mediana**
- **Vena cephalica**



Venae cubiti

n. cutaneus antebrachii medialis
n. cutaneus antebrachii lateralis
n. radialis
n. medianus
n. ulnaris



Venae cubiti

- **Vena basilica**
- **Vena cubiti mediana**
 - Vena mediana antebrachii
- **Vena cubiti mediana profunda**
- **Vena cephalica**



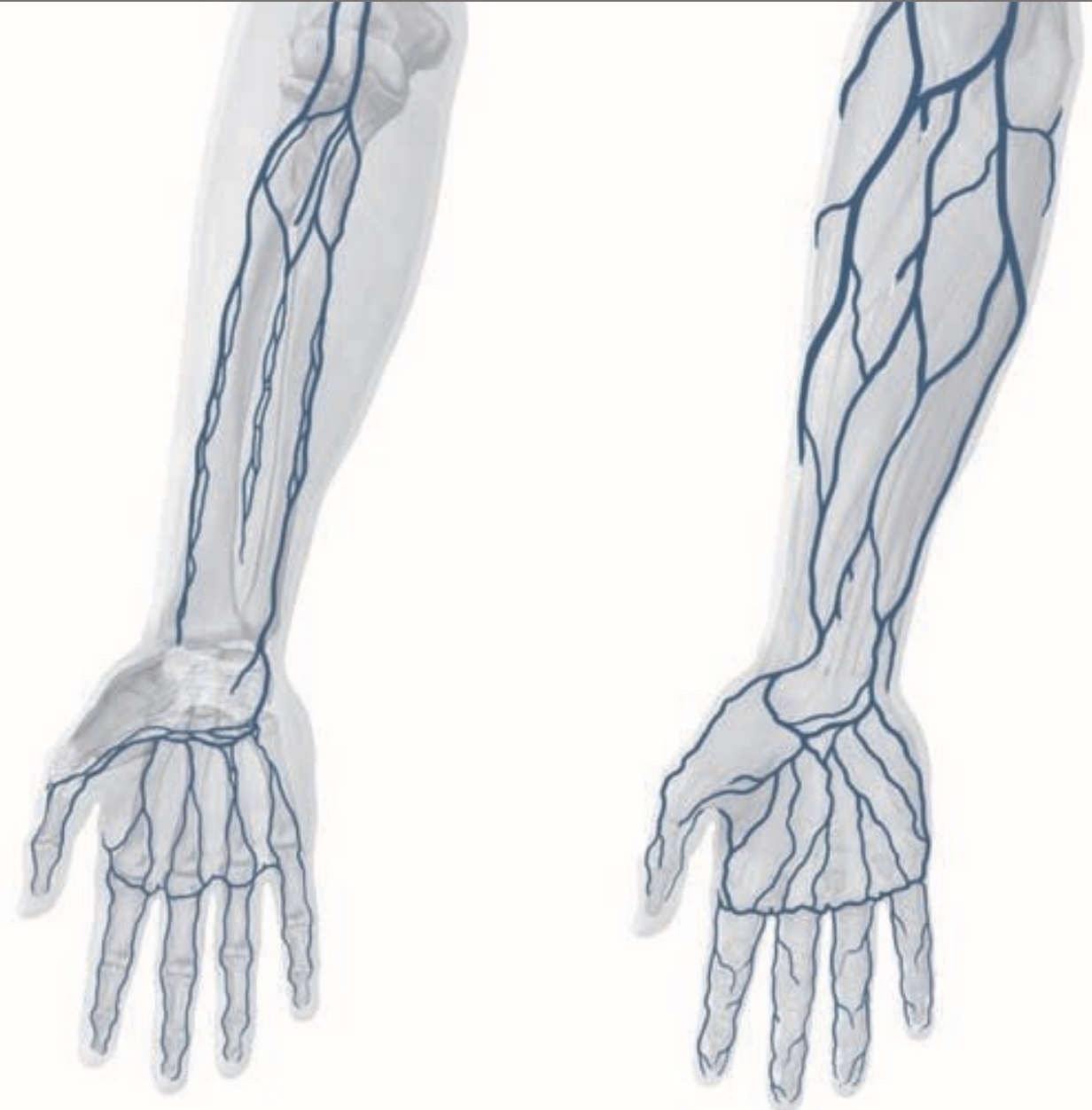
Venae antebrachii

Venae profundae

- Venae radiales
- Venae unares
- Venae interosseae

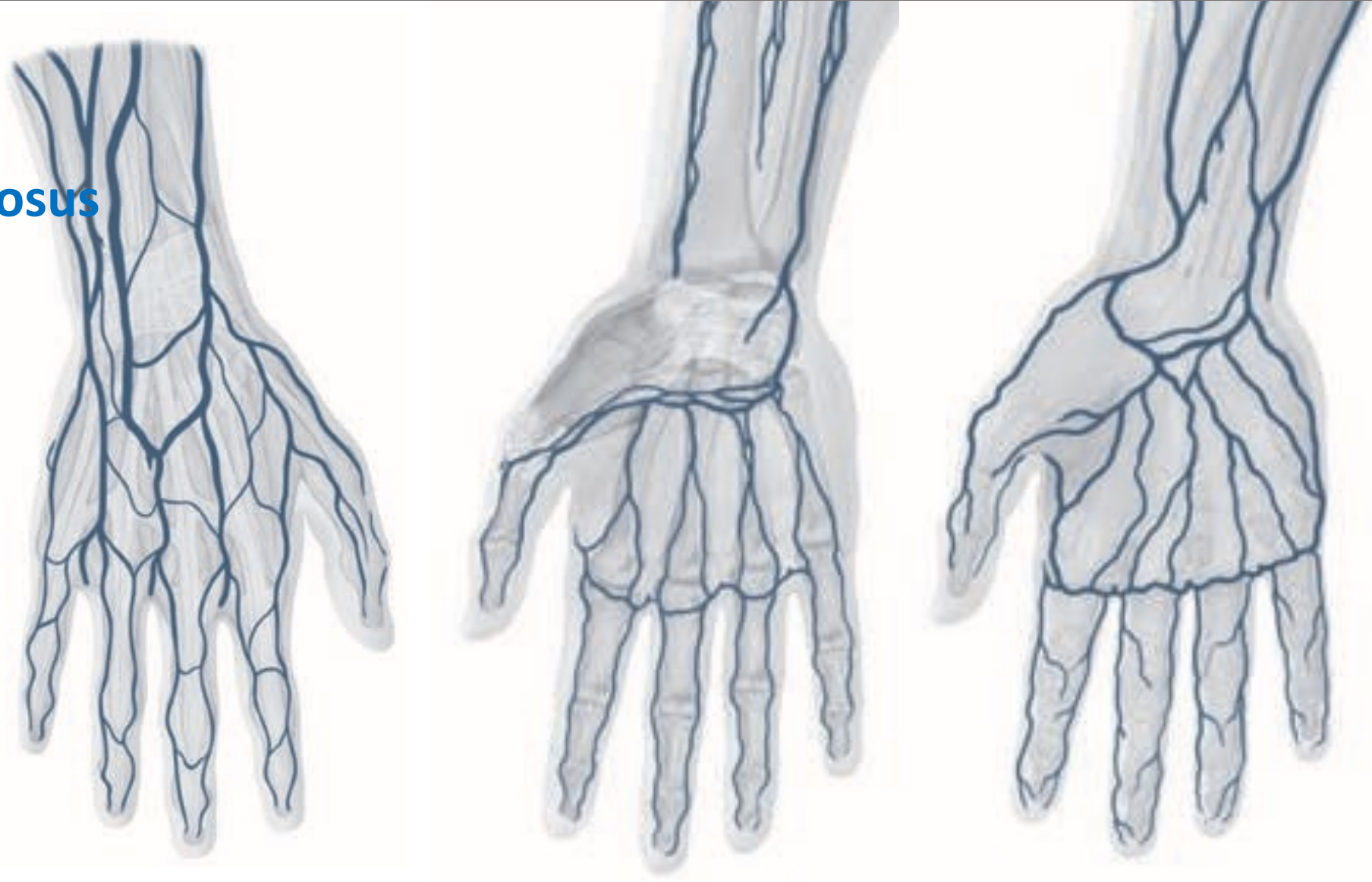
Venae superficiales

- Vena basilica
- Vena cubiti mediana
- Vena cephalica
- Perforatores
- Arcus palmaris venosus
 - superficialis
 - profundus



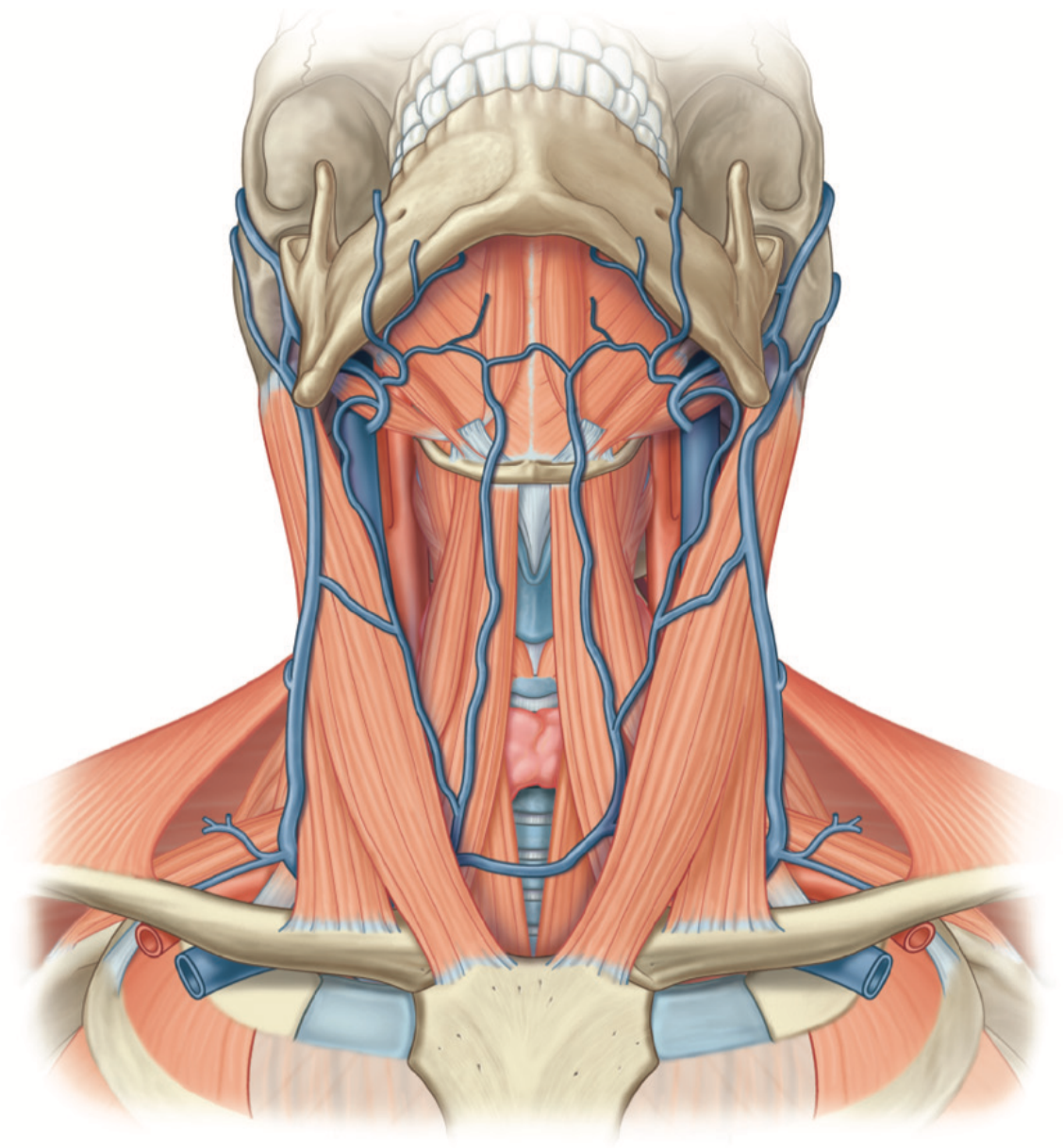
Venae manus

- Rete palmare
- Rete palmare
- Arcus palmaris venosus
 - superficialis
 - profundus



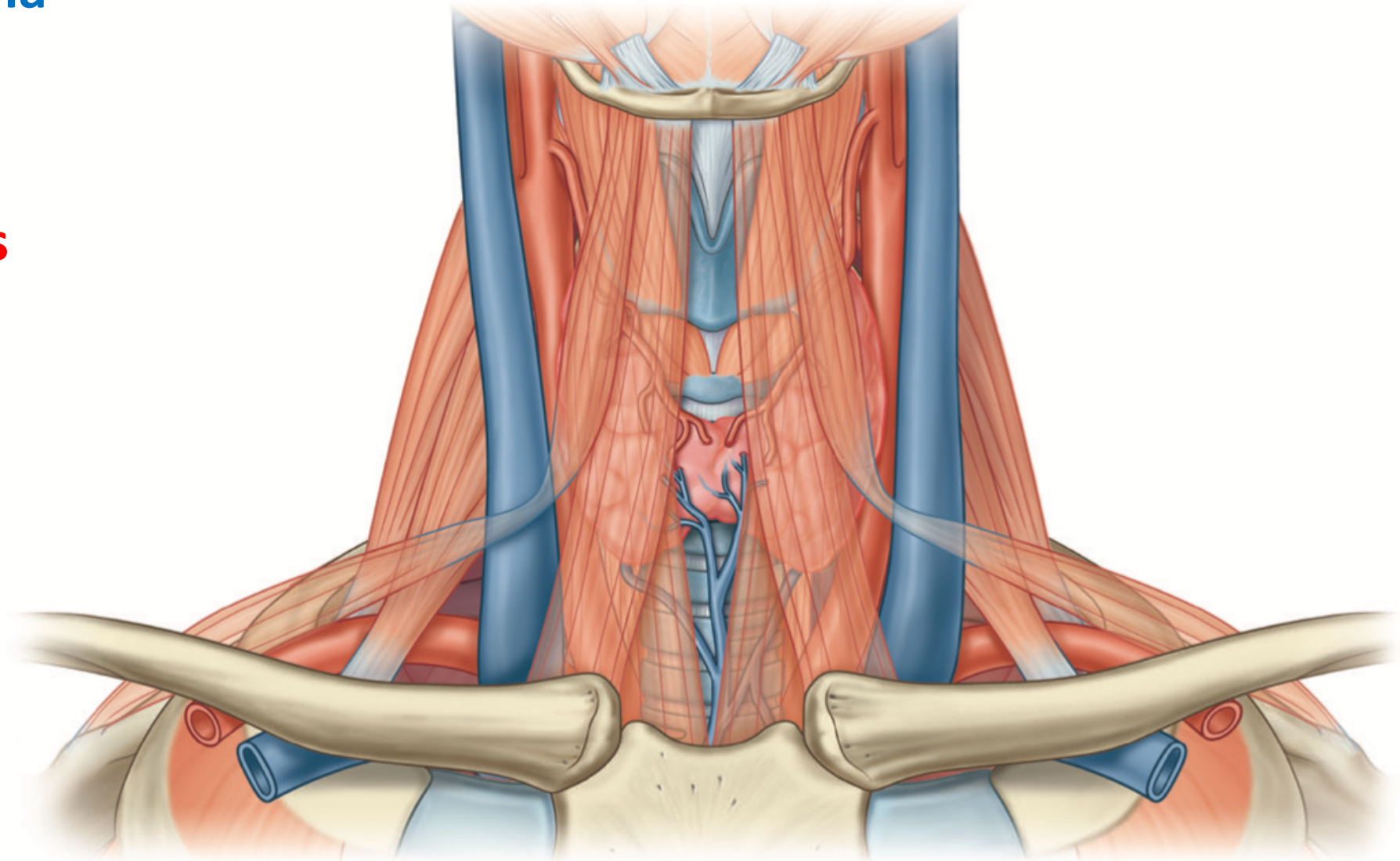
Venae cervicis

- 🔴 Vena jugularis interna
- 🔴 Vena jugularis externa
- 🔴 Vena jugularis anterior



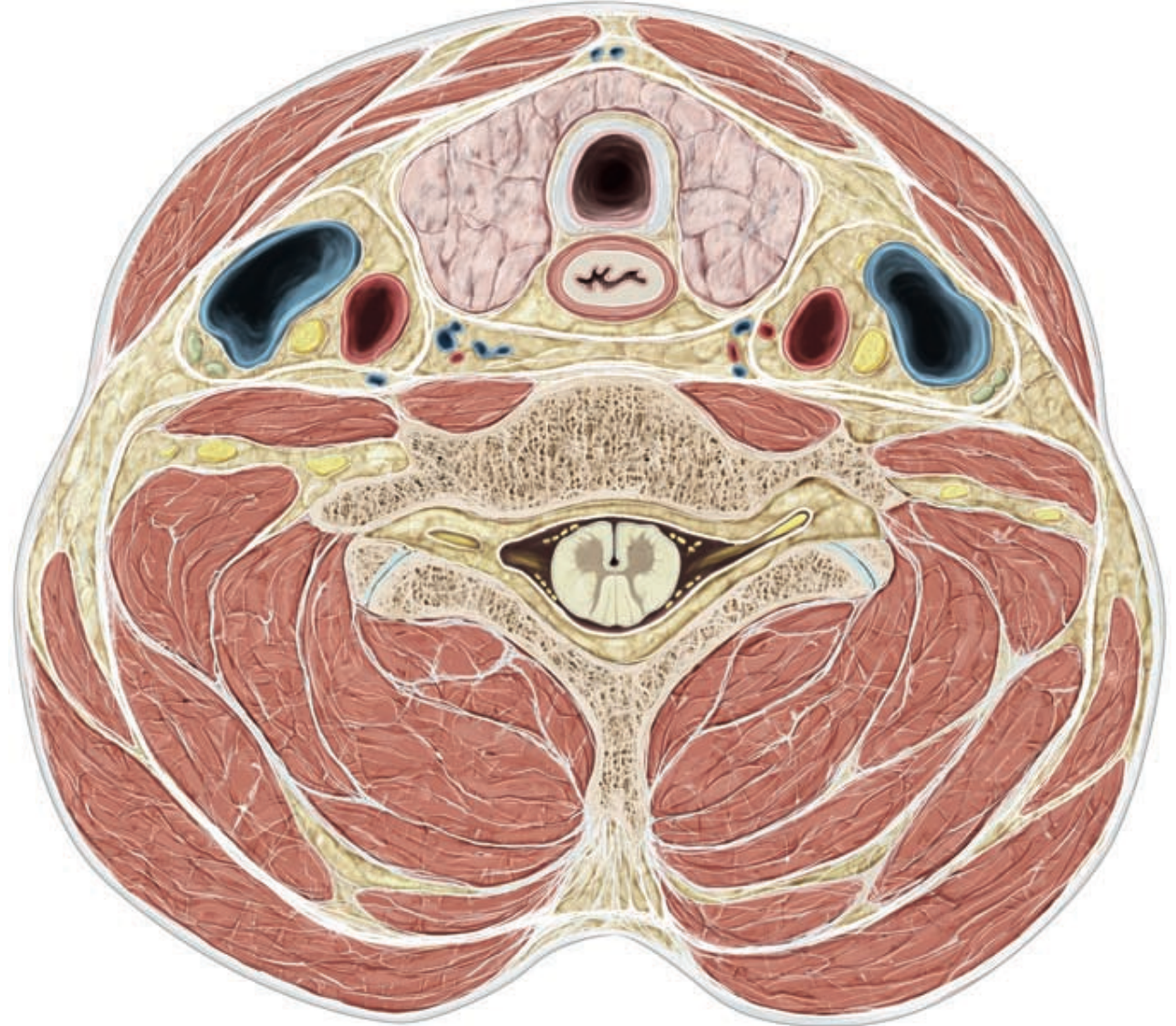
Ultrasound

- 💧 **Vena jugularis interna**
- 💧 **Vagina carotica**
- 💧 **A. carotis interna**
- 💧 **A. carotis communis**
- 💧 **N. vagus**
- 💧 **M. omohyoideus**



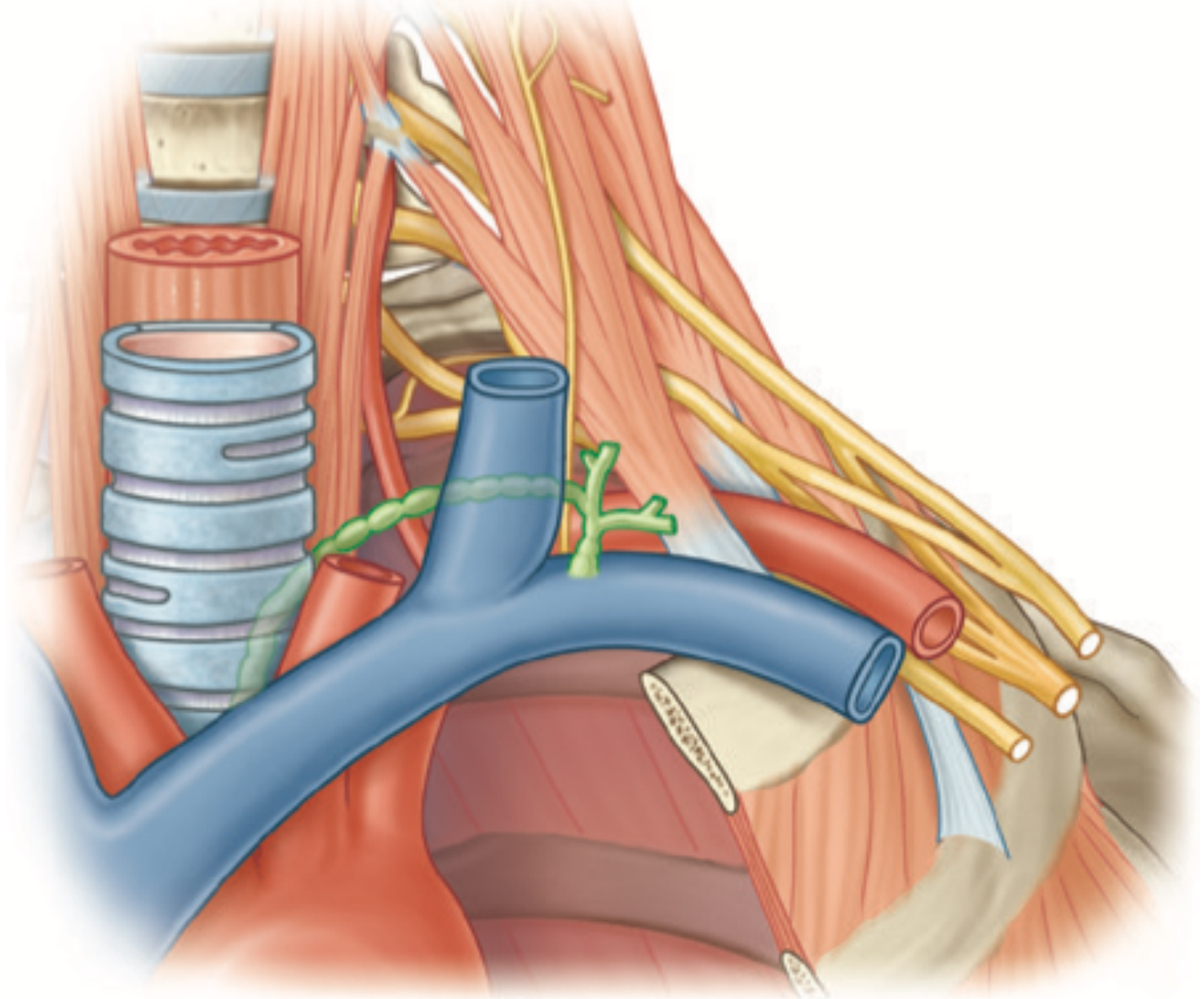
Vena jugularis interna

- 💧 Vena jugularis interna
- 💧 Vagina carotica
- 💧 A. carotis interna
- 💧 A. carotis communis
- 💧 N. vagus
- 💧 M. omohyoideus



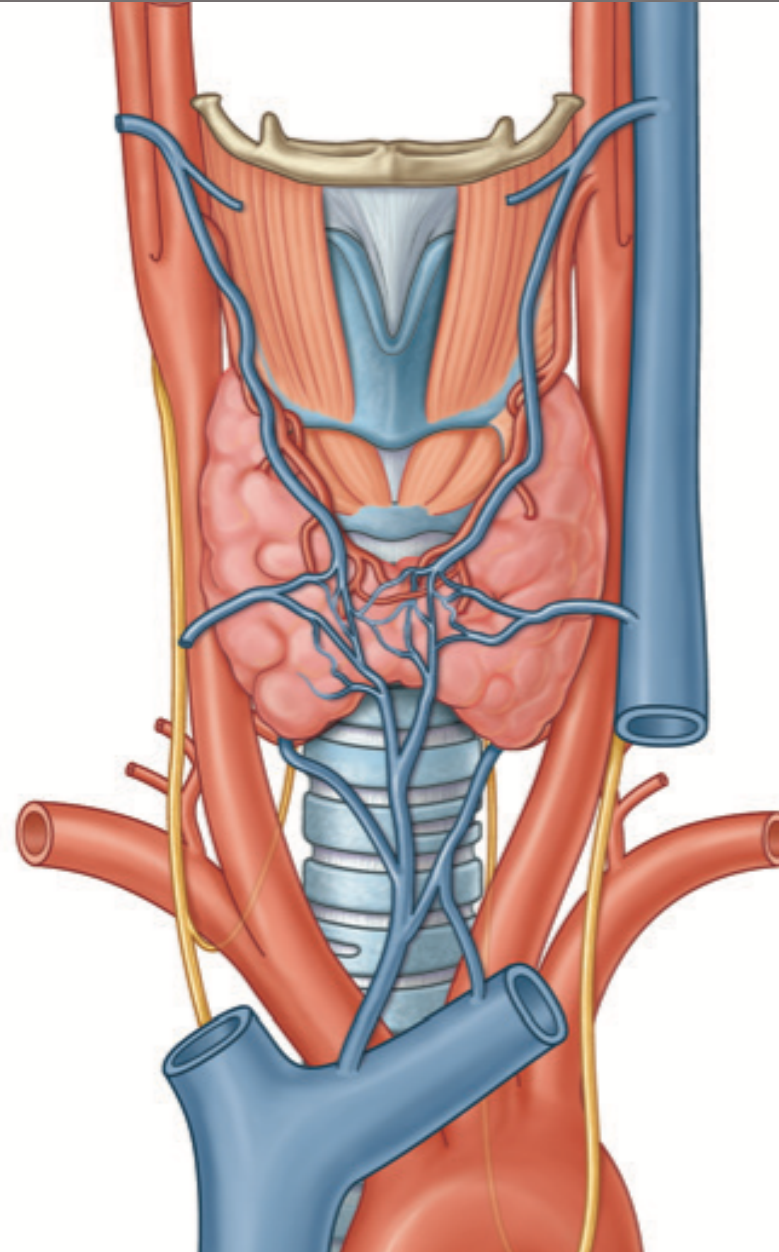
Angulus venosus

- 🔴 Vena subclavia
- 🔴 Vena jugularis interna
- 🟢 Ductus thoracicus (sin.)



Venae thyroideae

- **Vena thyroidea superior**
 - V. jugularis interna
- **Vena thyroidea media**
 - V. jugularis interna
- **Vena thyroidea inferior**
 - Vena brachiocephalica sinistra
- *Vena thyroidea ima*



Vena jugularis externa

- 🔴 **Vena jugularis interna**

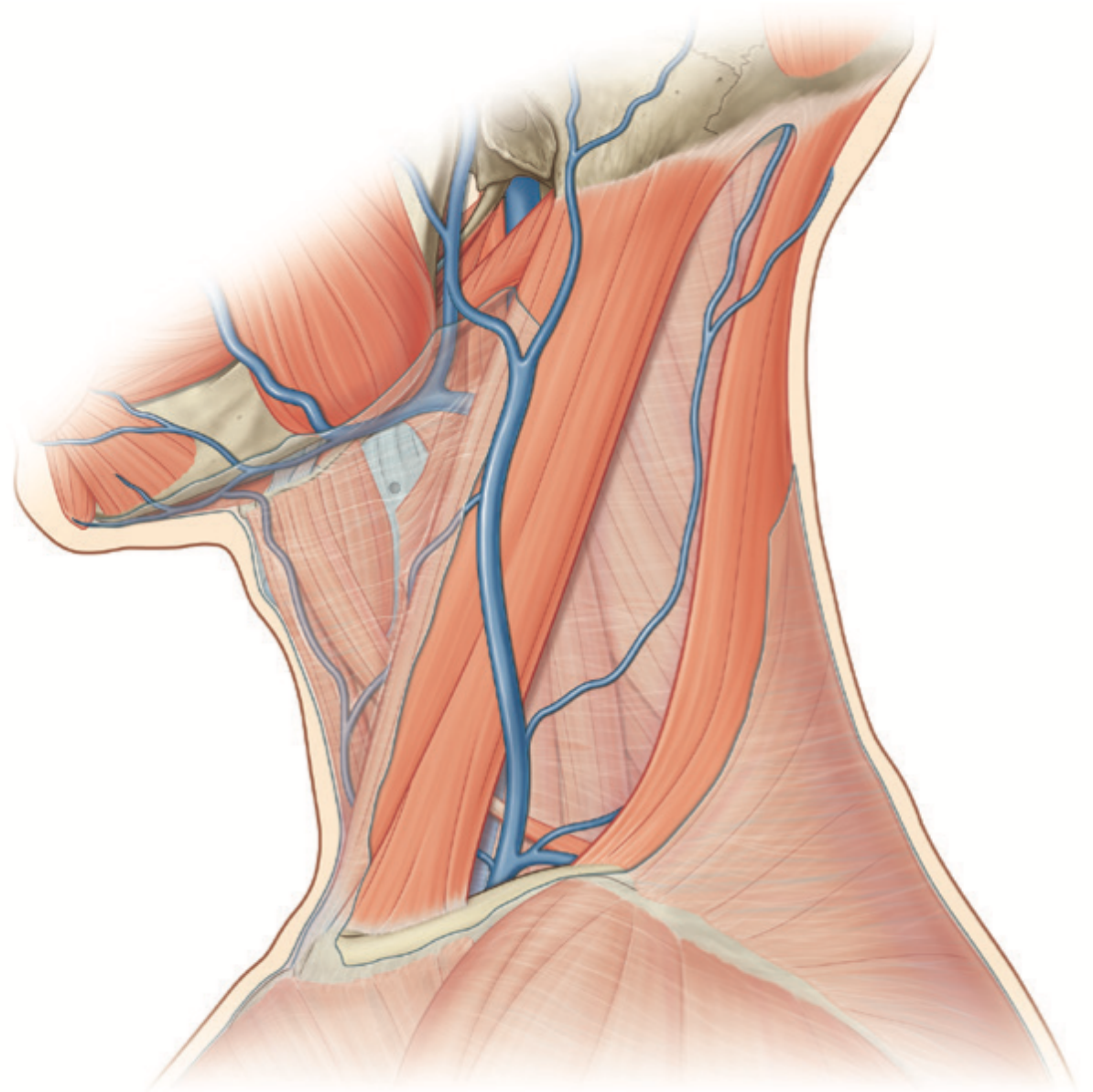
- 🔴 **V. retromandibularis**

- 🔴 **Vena jugularis externa**

- 🔴 **V. brachiocephalica**

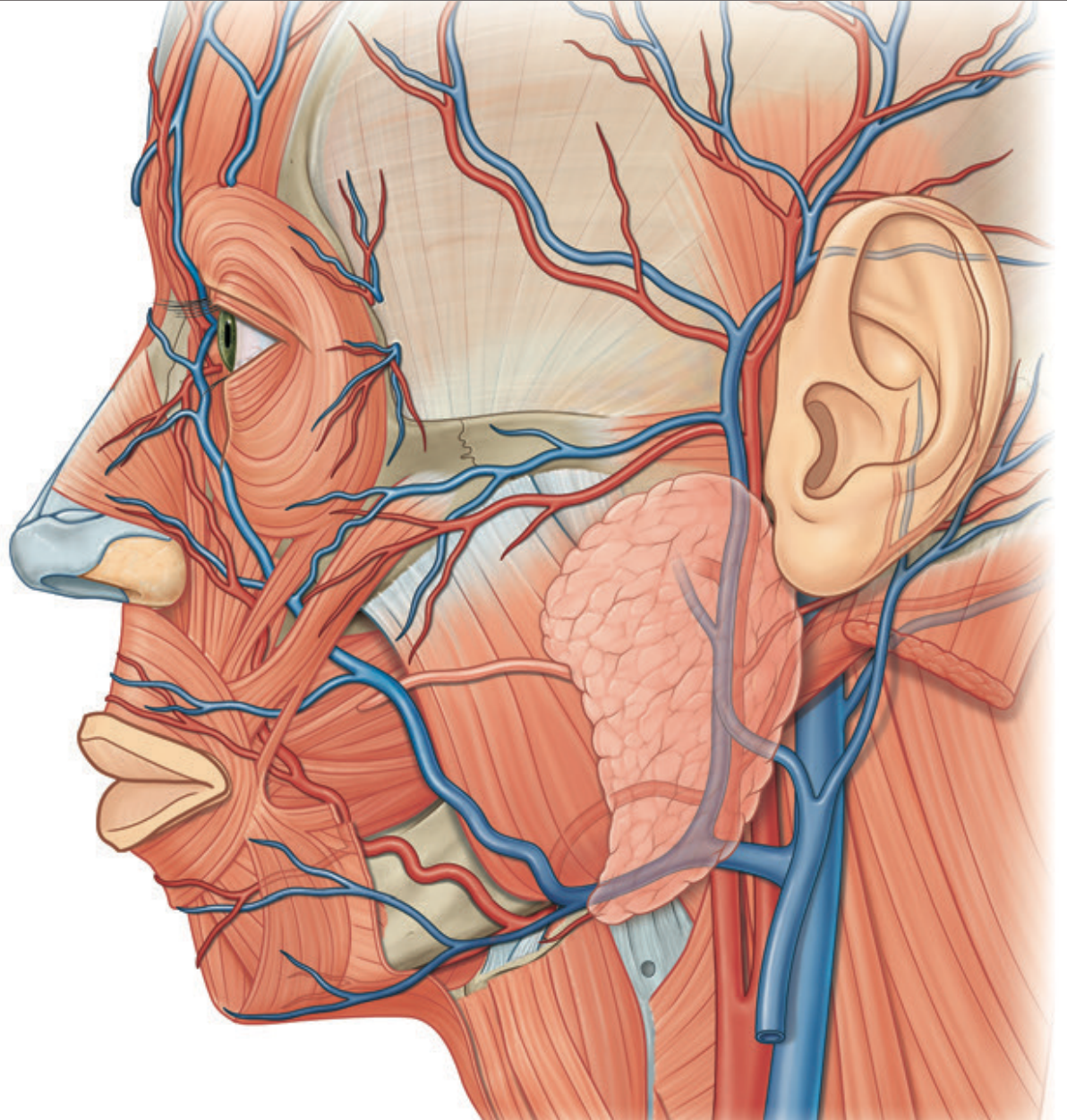
- 🔴 **M. sternocleidomastoideus**

- 🔴 **M. omohyoideus**



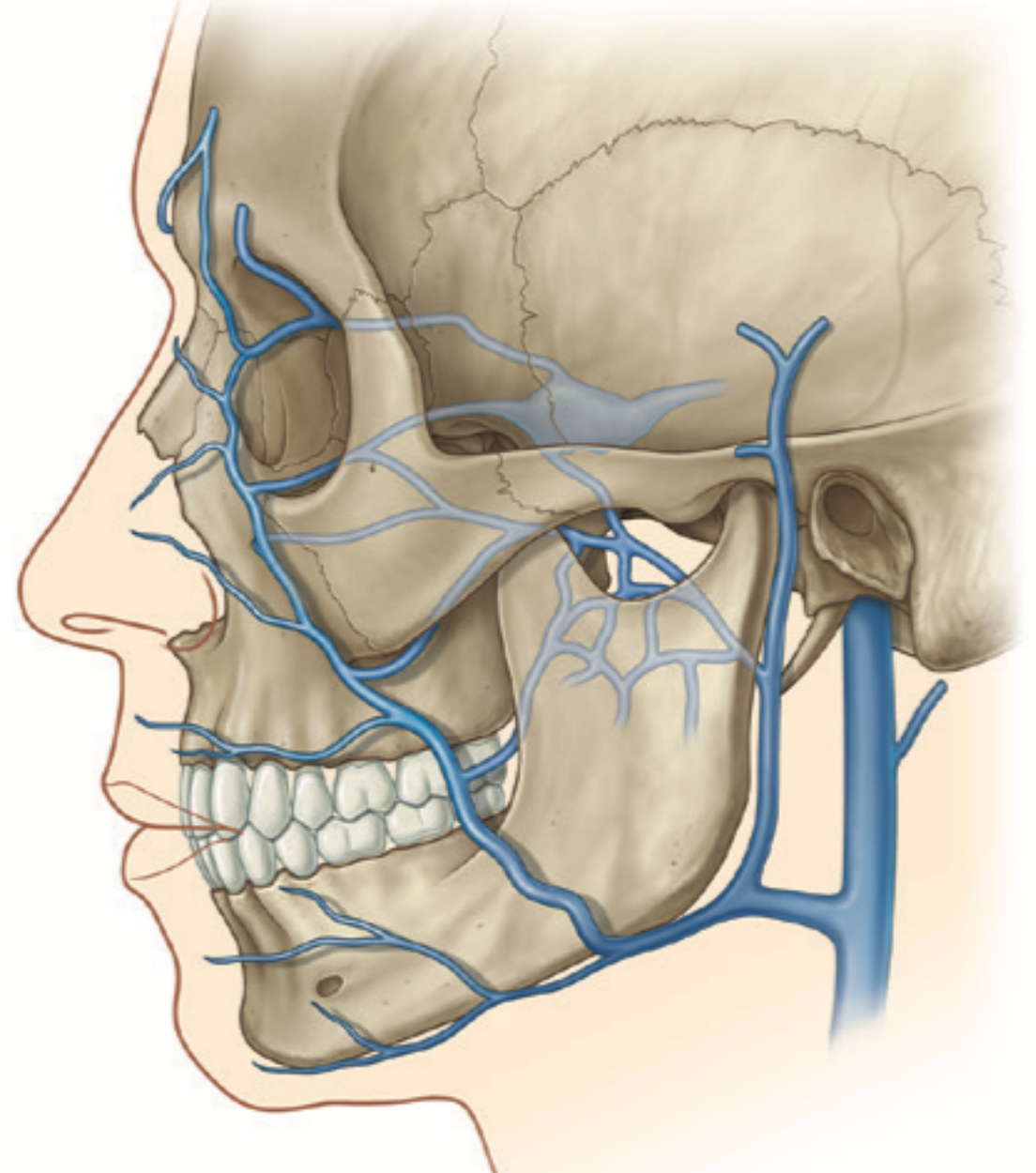
Venae capitis

- ♦ Vena angularis
- ♦ Vena facialis
 - ♦ Vena transversa faciei
 - ♦ Vena temporalis superficialis
 - ♦ Vena retroauricularis
- ♦ Vena retromandibularis
 - ♦ V. jugularis interna
- ♦ Vena jugularis externa



Sinus cavernosus

- **Vena angularis**
 - Vena facialis
- **Vena infraorbitalis**
- **Plexus pterygoideus**
- **Vena ophtalmica**
 - Vena retromandibularis
 - V. jugularis interna



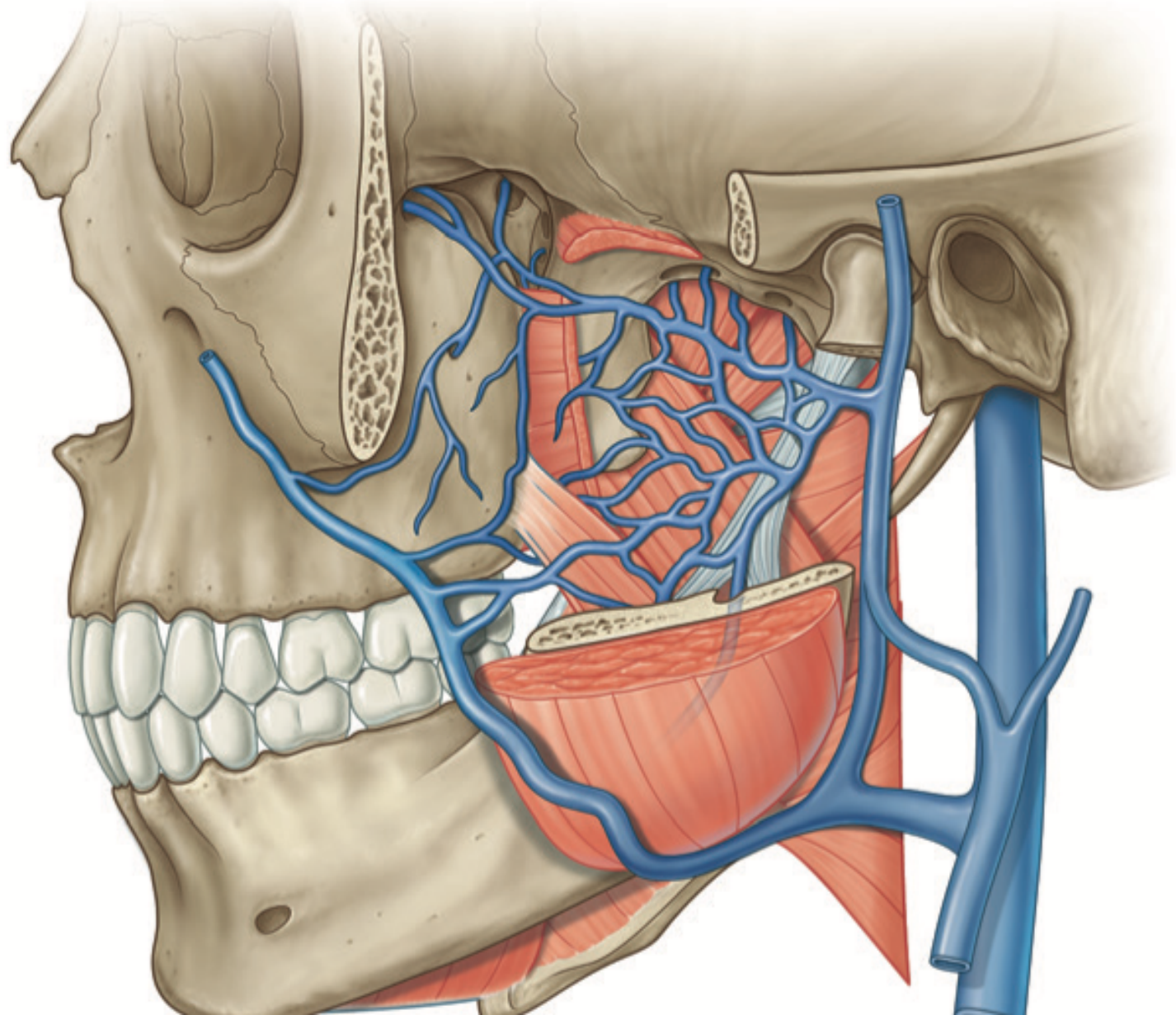
Plexus pterygoideus

🔴 Fossa pterygoidea

🔴 Orbita

🔴 Maxila

🔴 Mandibula



venae

Prof. MUDr. Jiří Ferda, Ph.D.

Images – Gray's Anatomy for Students, Thieme Atlas of Anatomy