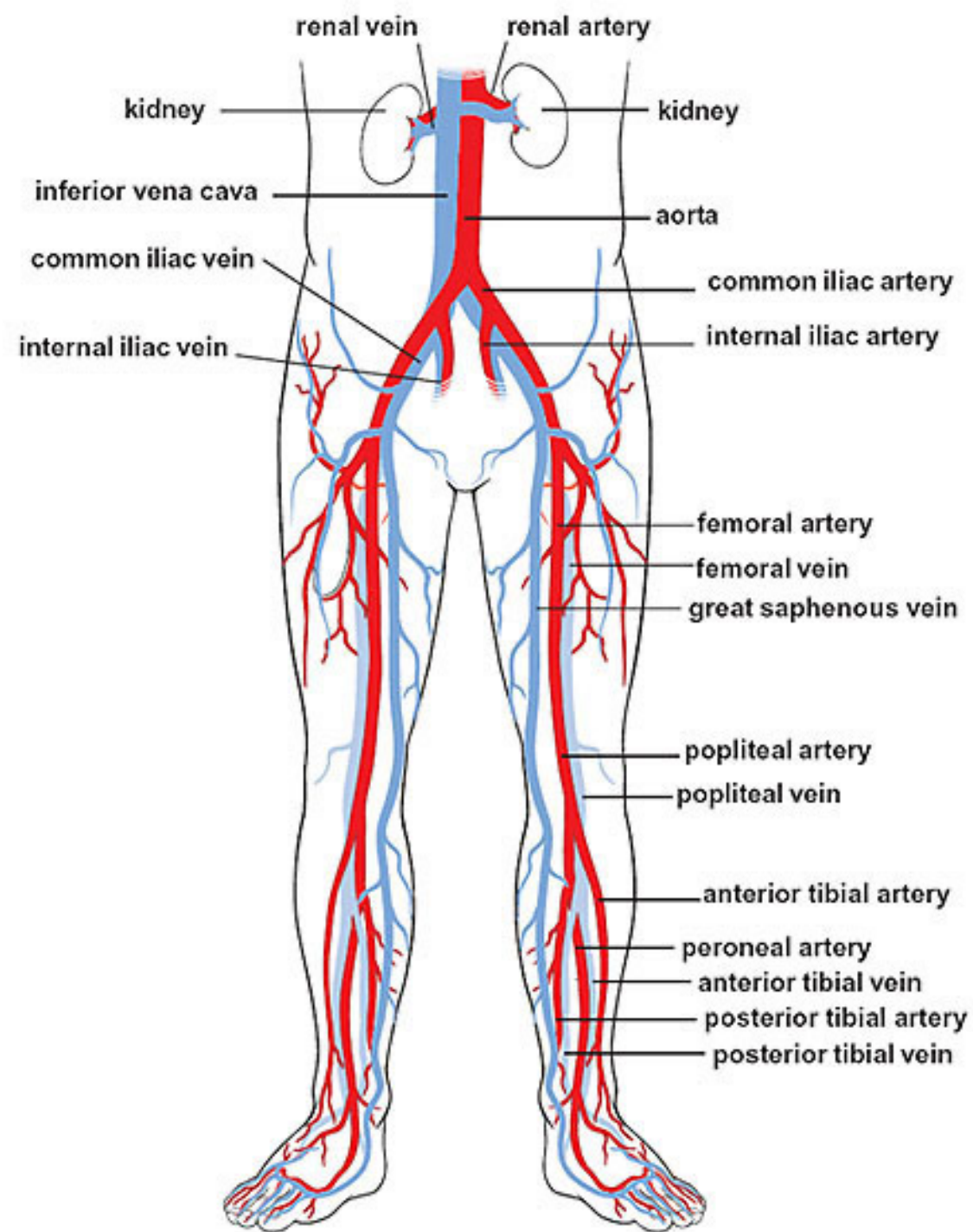
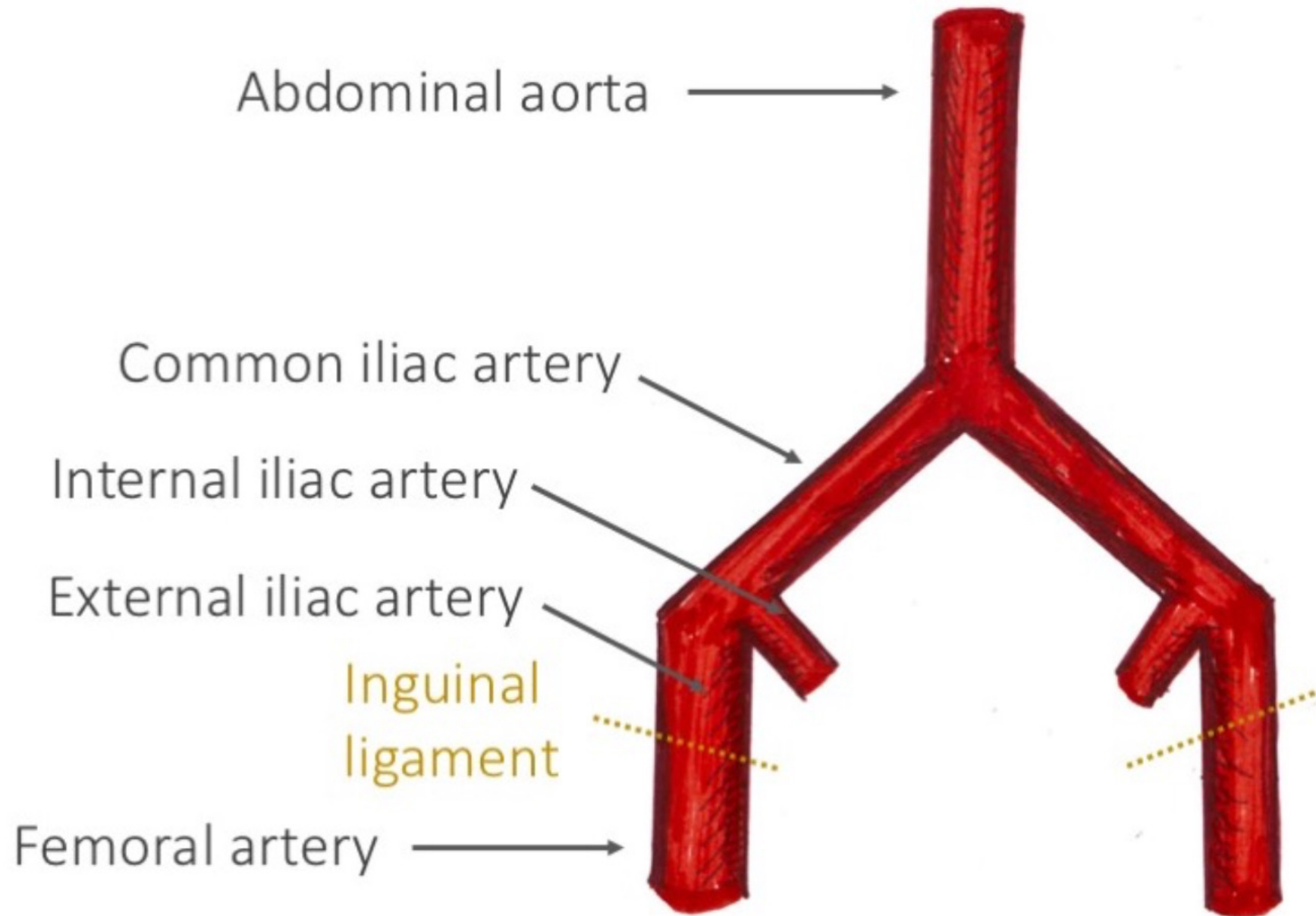


Blood supply of the lower limbs

By Ola Amland

Arterial supply





Femoral artery landmarks

External iliac artery

-> Femoral artery after inguinal ligament

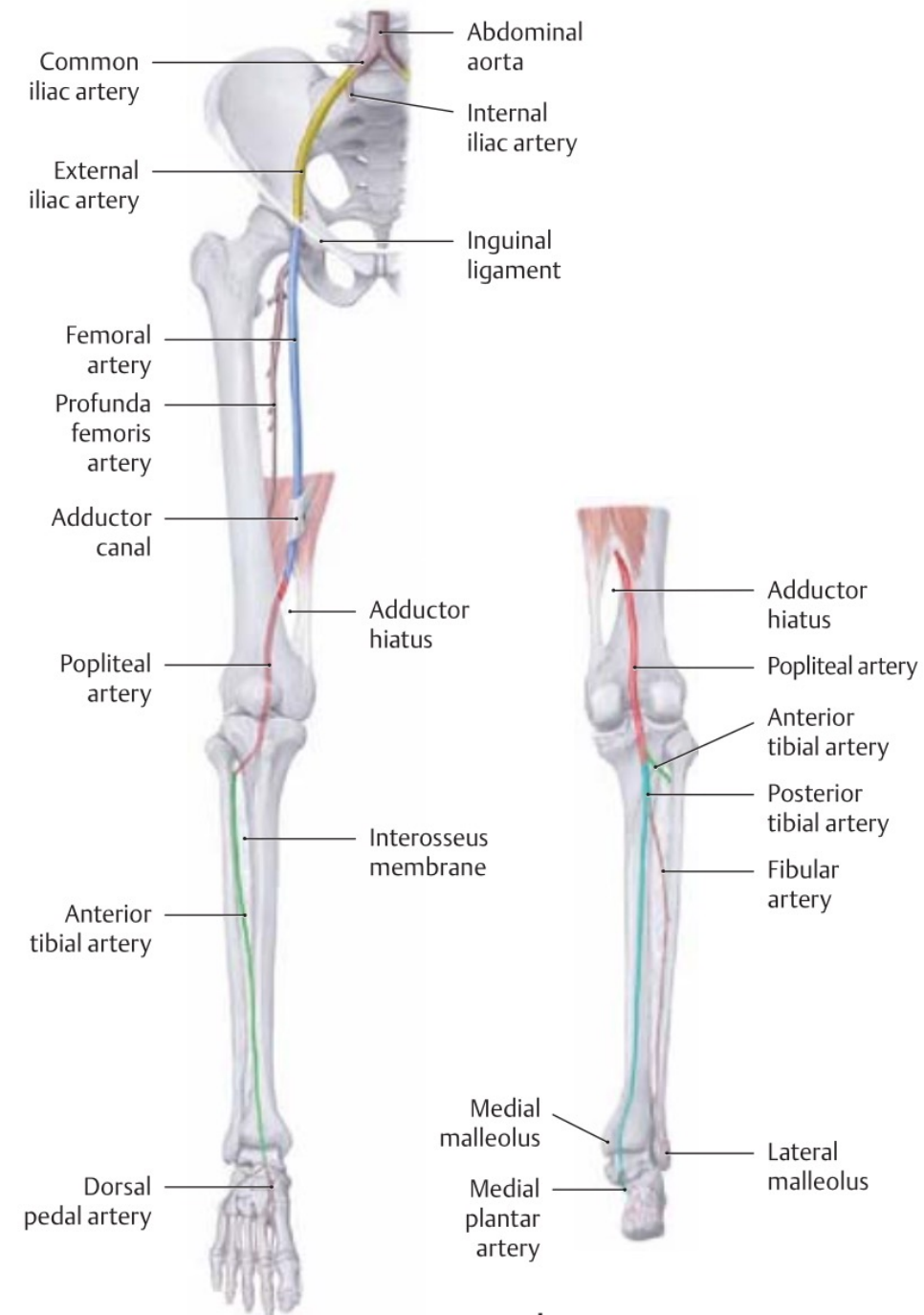
Runs deep to inguinal ligament

Location landmark: mid-inguinal point

Runs into the femoral triangle in the femoral sheath

Deep femoral artery branches off

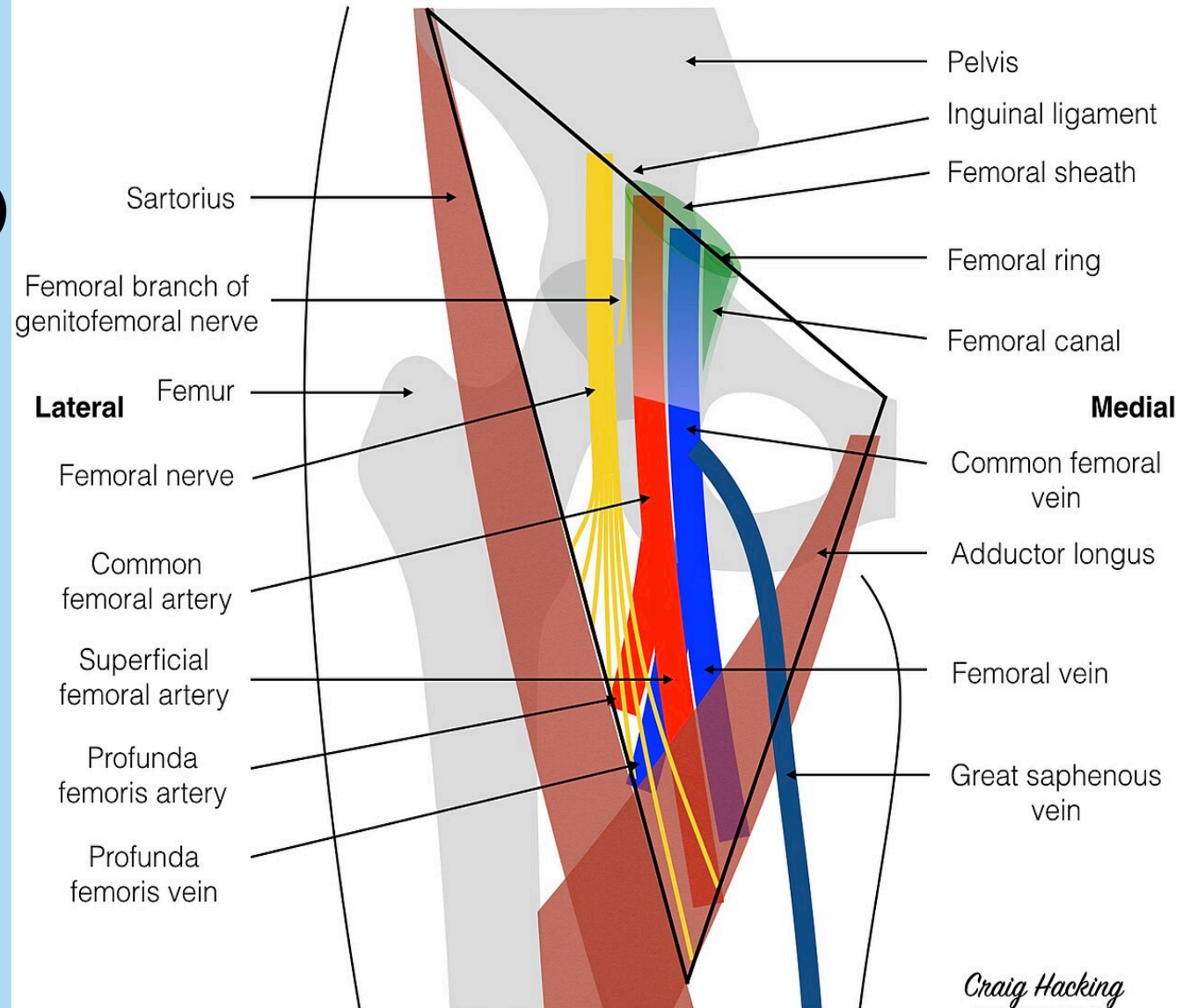
Runs down the thigh in adductors canal

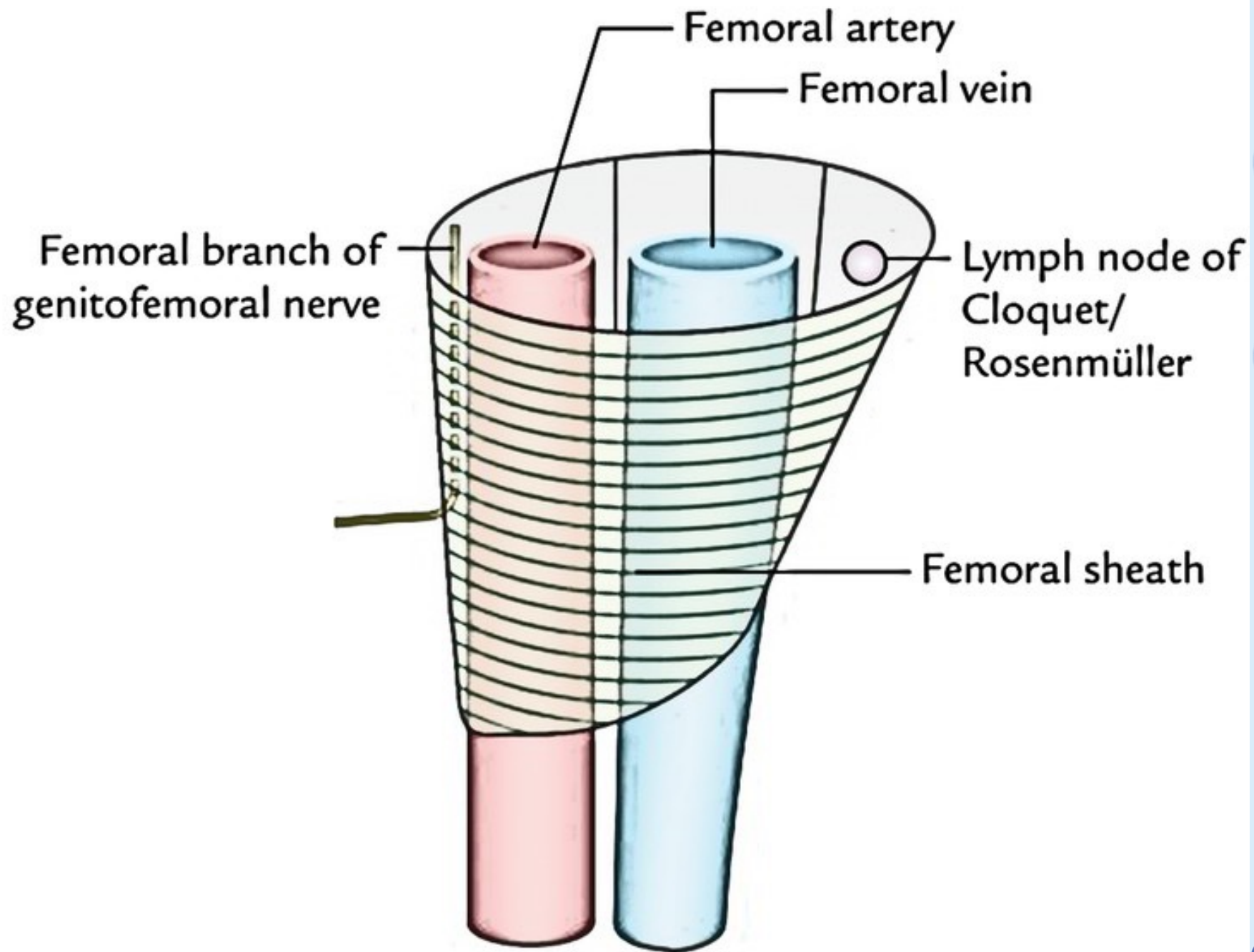


Femoral triangle

NAVL (Nerve, artery, vein, lymph)

FEMORAL TRIANGLE





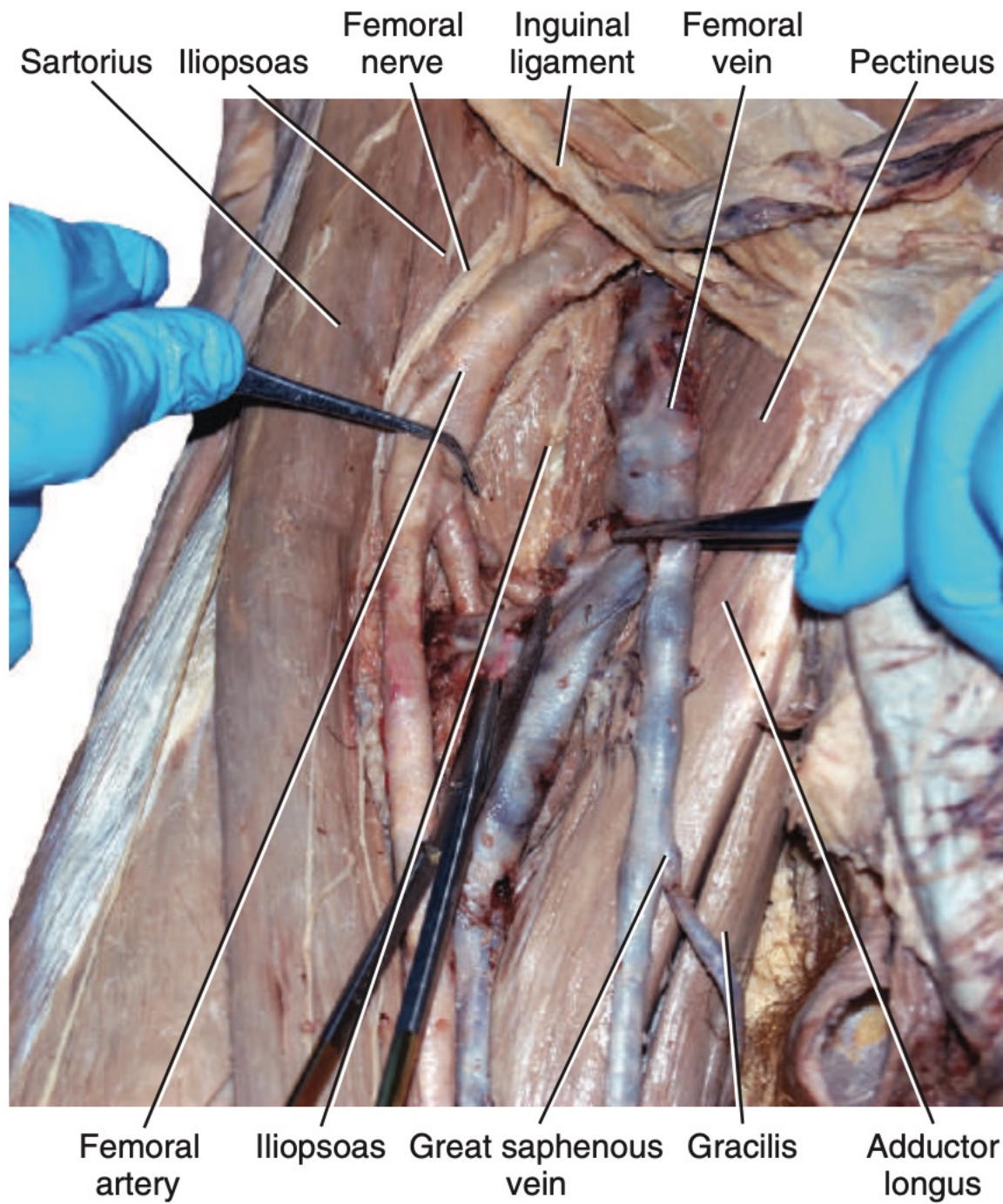


Figure 17.05 Femoral dissection (medial view) of the femoral region

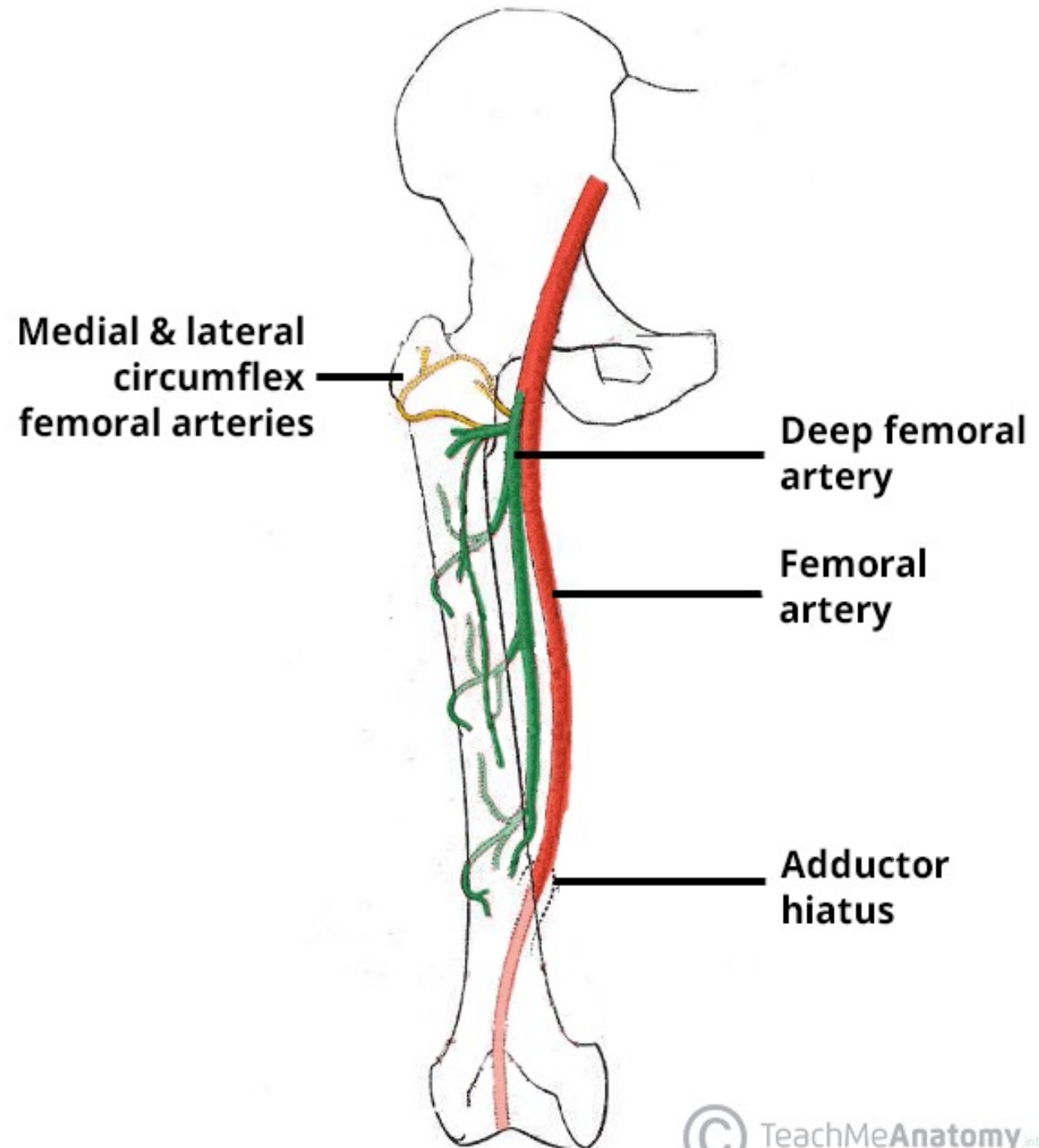
Deep femoral artery

Important branches:
Medial circumflex femoral arteries
(Femoral head and neck)

Lateral circumflex femoral arteries
(Lateral thigh and quadriceps)

Perforating arteries
(Posterior thigh)

Supplies muscles of the thigh

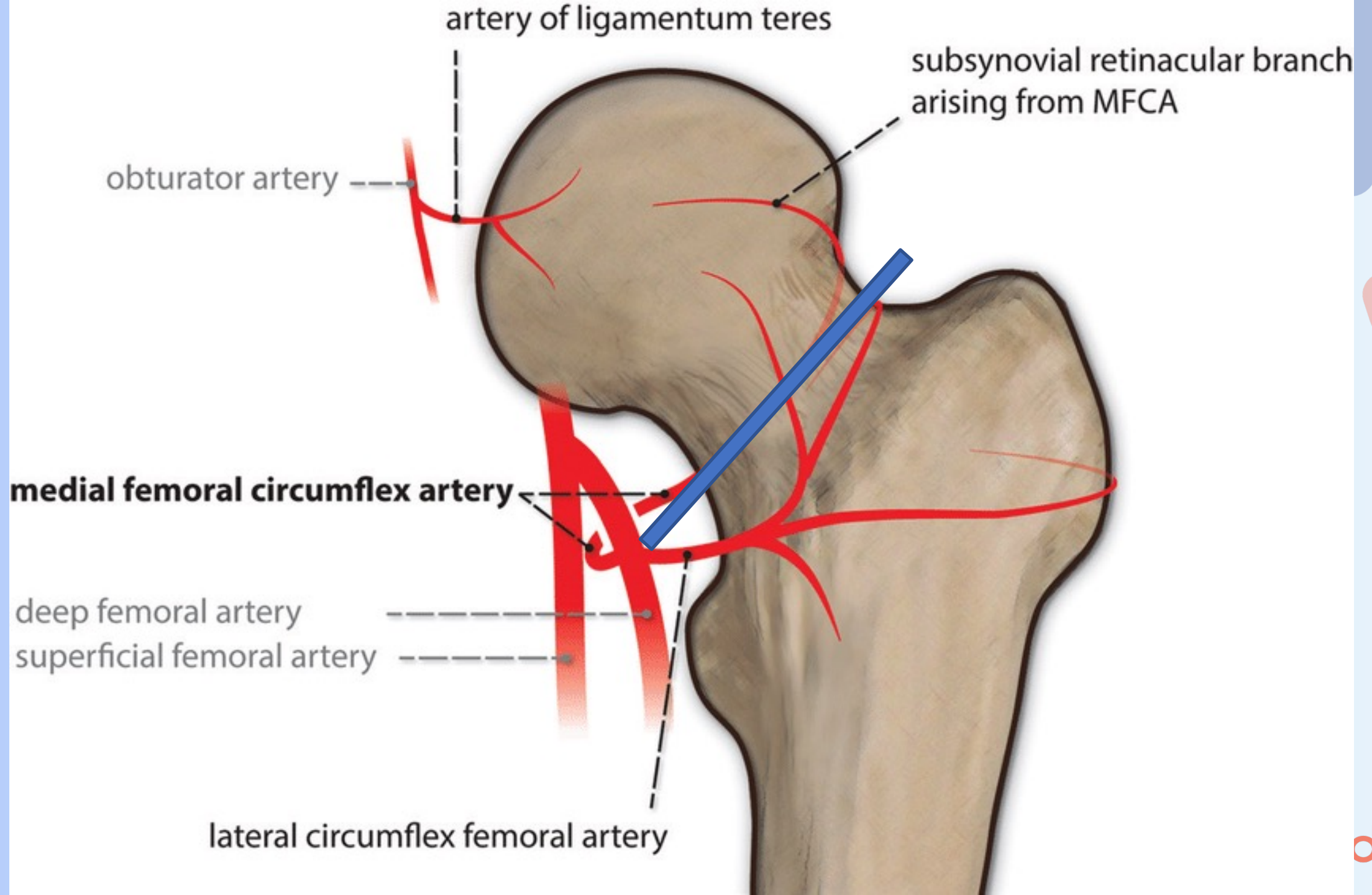


Olga fell!

- An 82-year-old woman with osteoporosis slips and falls at home. She presents to the emergency department with severe pain in her left hip and is unable to bear weight.



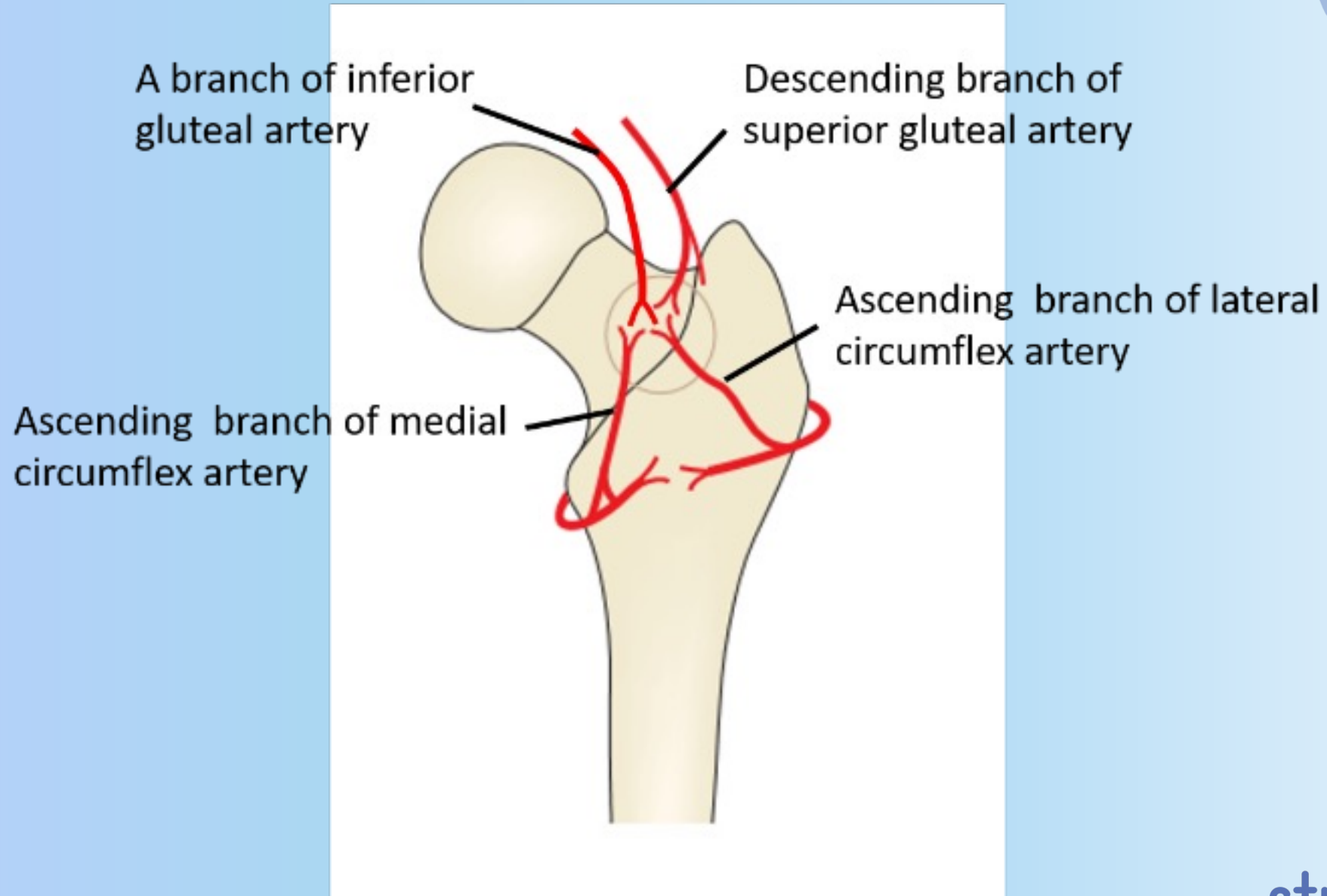
- A few months later, follow-up imaging shows **collapse of the femoral head due to avascular necrosis.**
- Which artery was most likely disrupted by the fracture, leading to loss of blood supply to the femoral head?



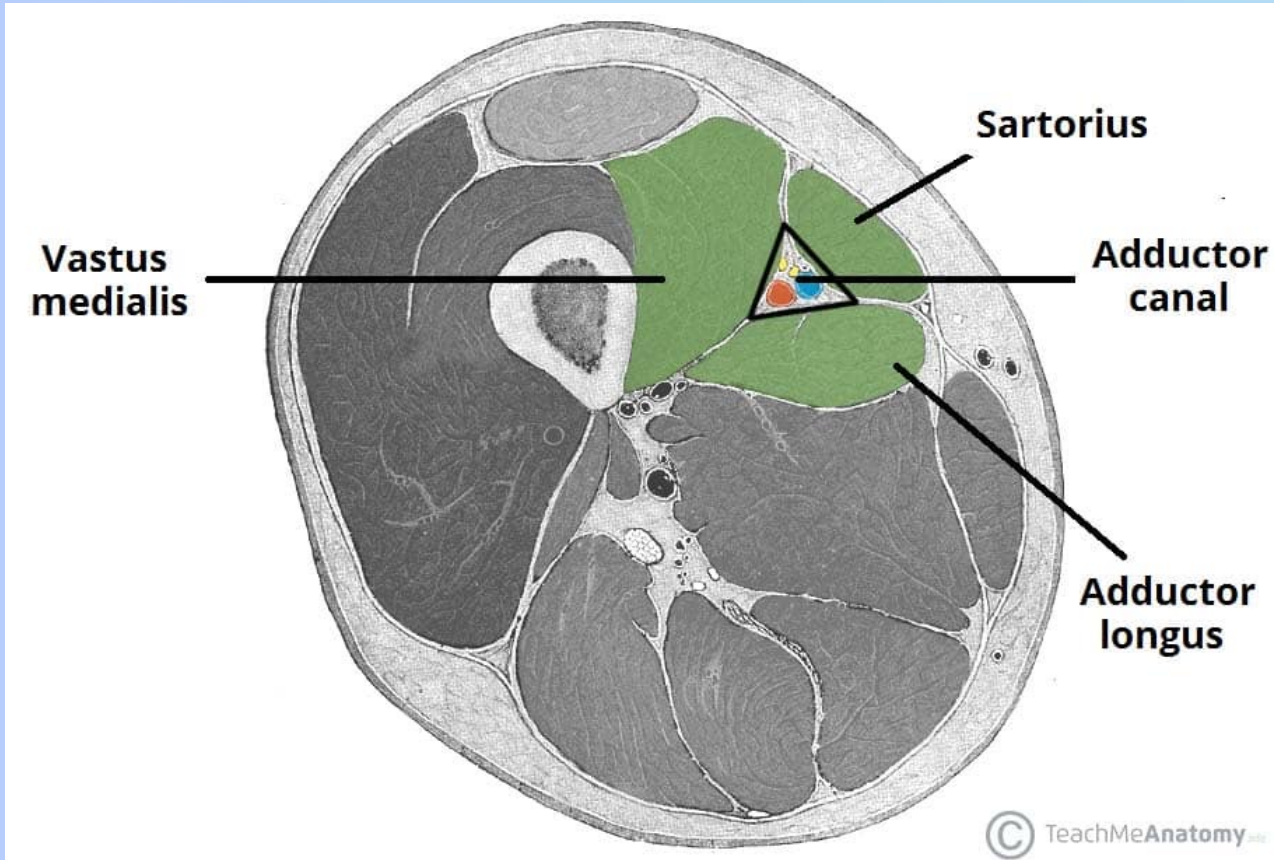
Femoral neck fracture

Can cause avascular necrosis due to disruption of the medial femoral circumflex artery

Trochanteric Anastomosis



Adductor canal



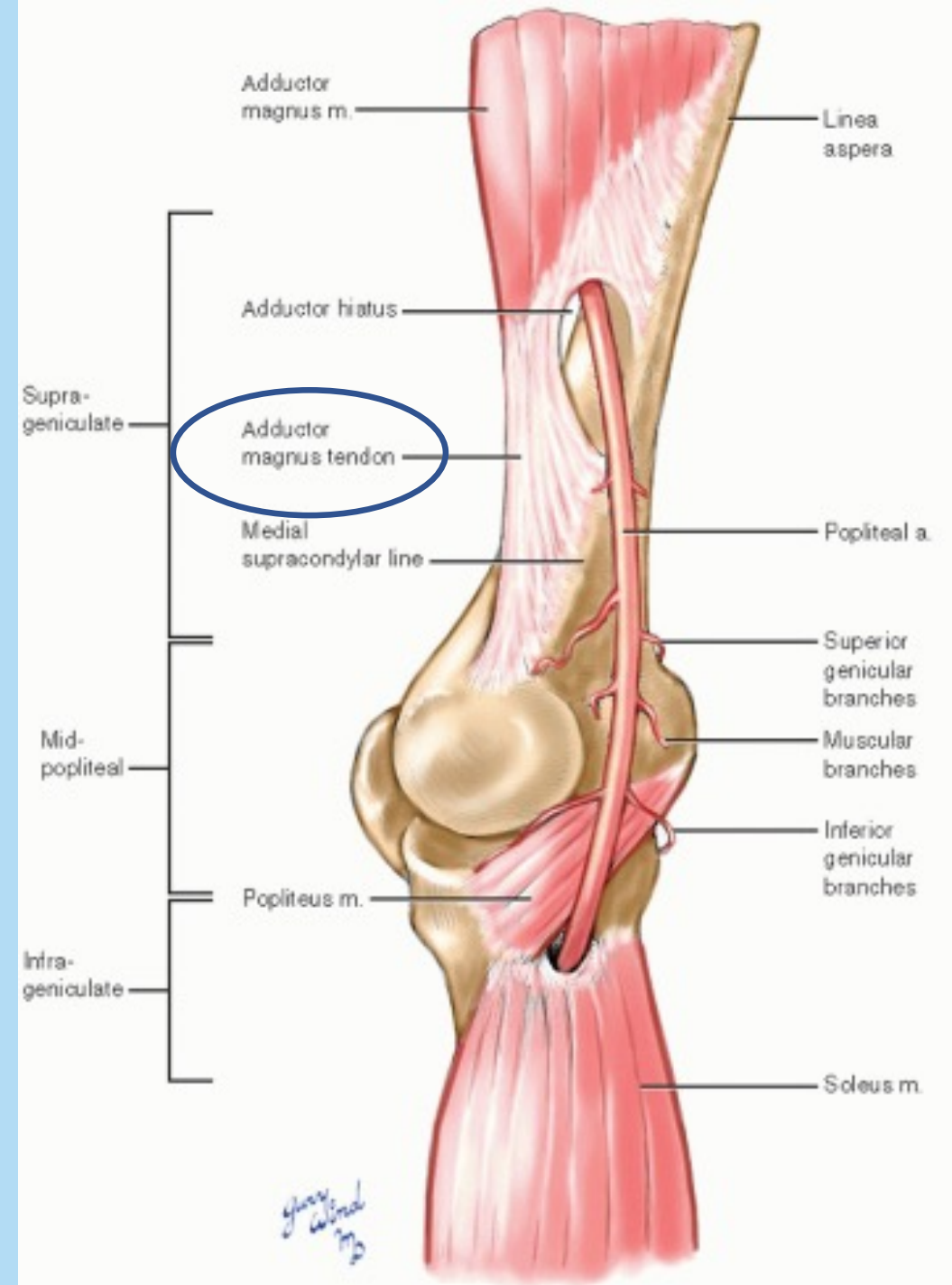
1. Femoral artery
2. Femoral vein
3. Saphenous nerve
4. Nerve to vastus medialis

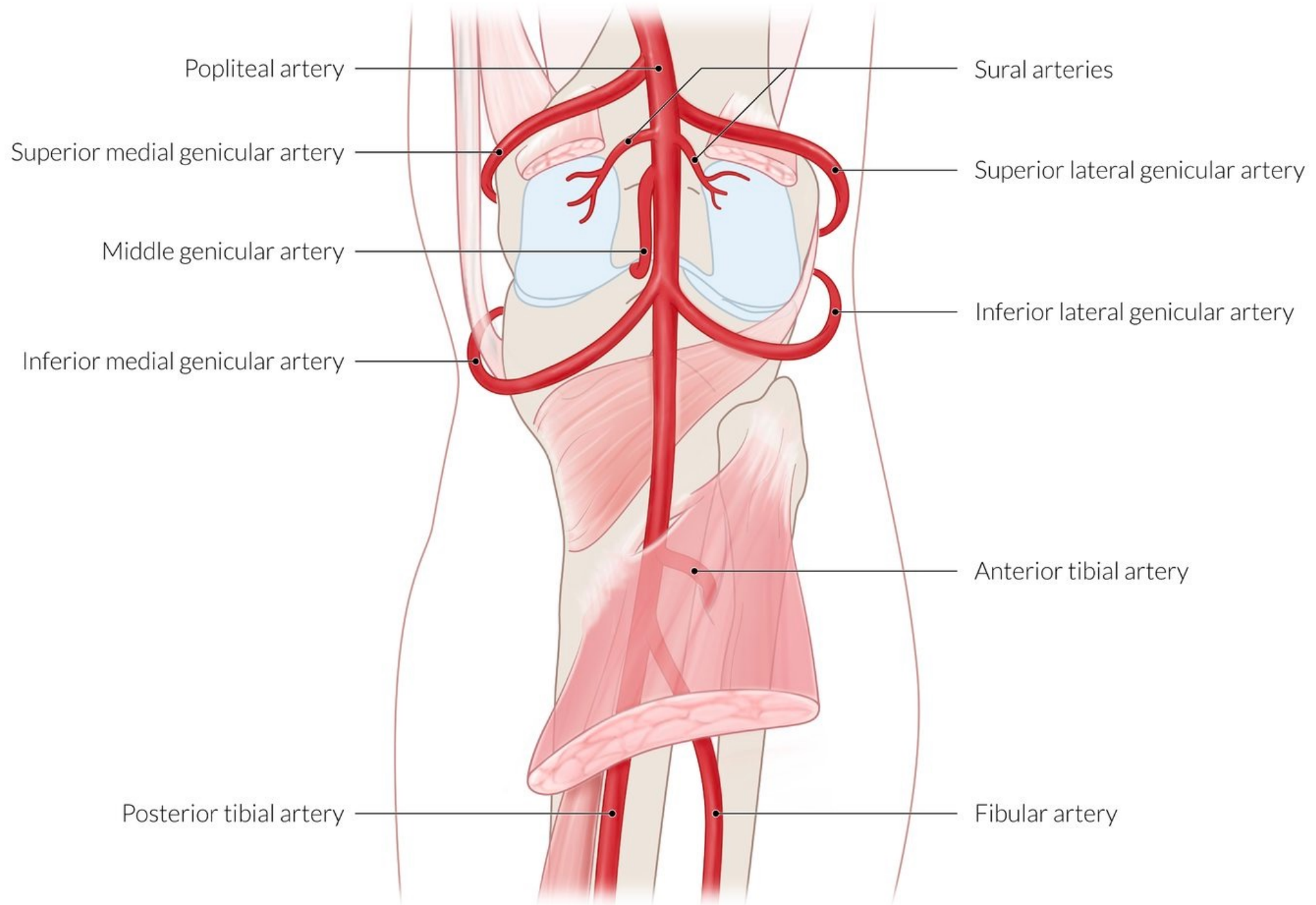
The knee

Femoral artery passes through adductor hiatus -> Popliteal artery

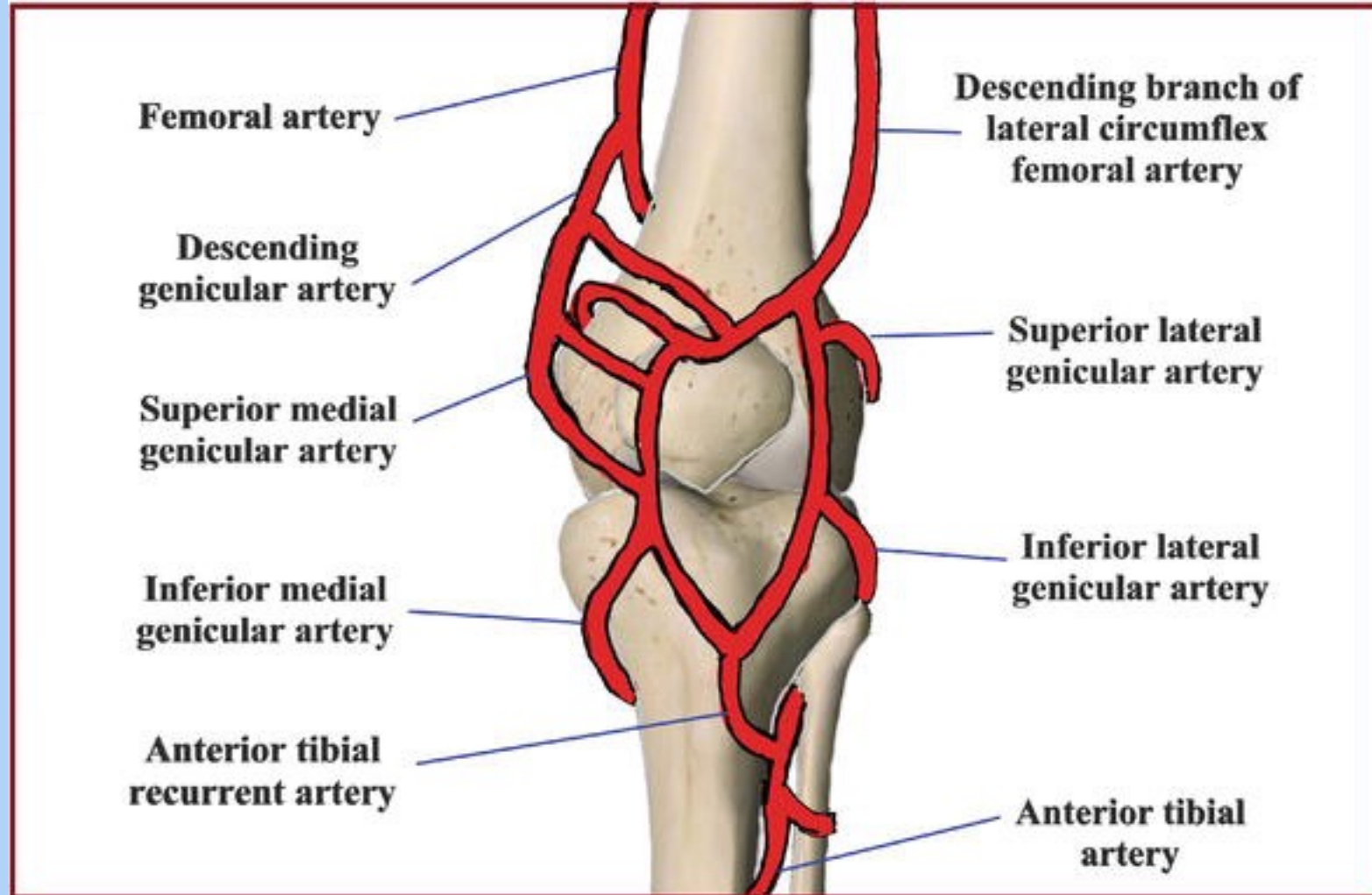
Important branches:

- Superior medial genicular
- Superior lateral genicular
- Inferior medial genicular
- Inferior lateral genicular
- Middle genicular



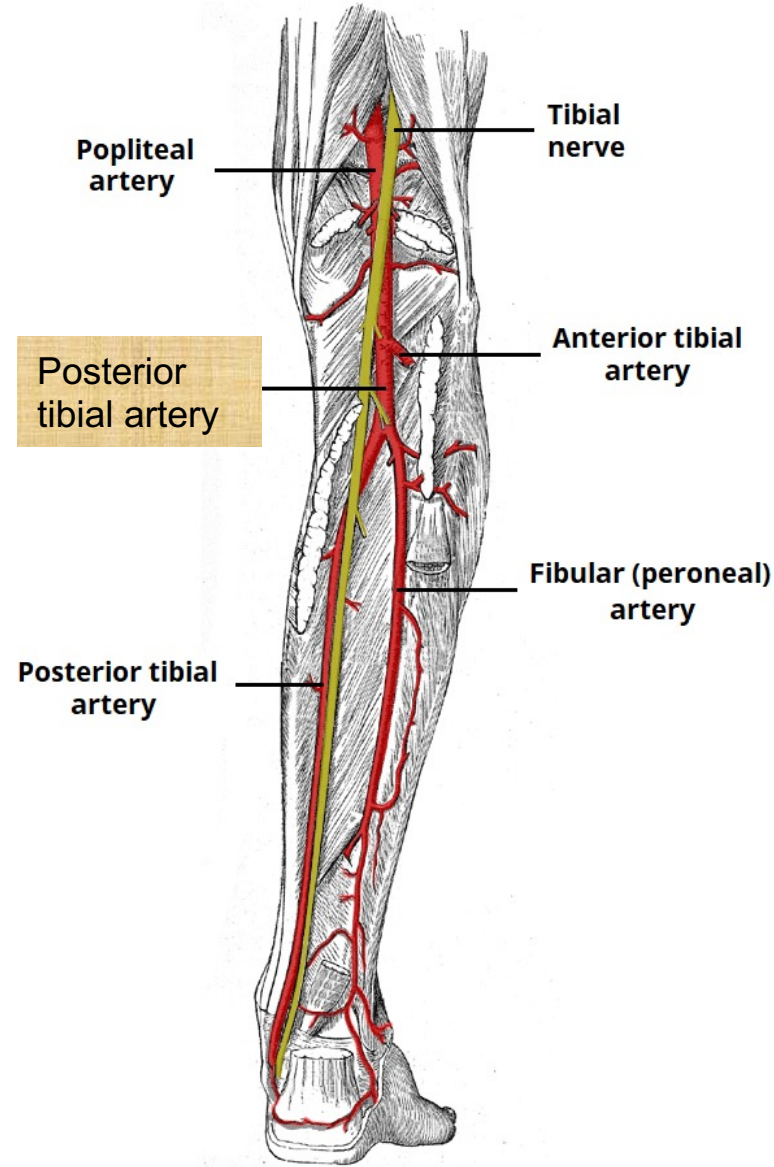


Geniucular anastomosis

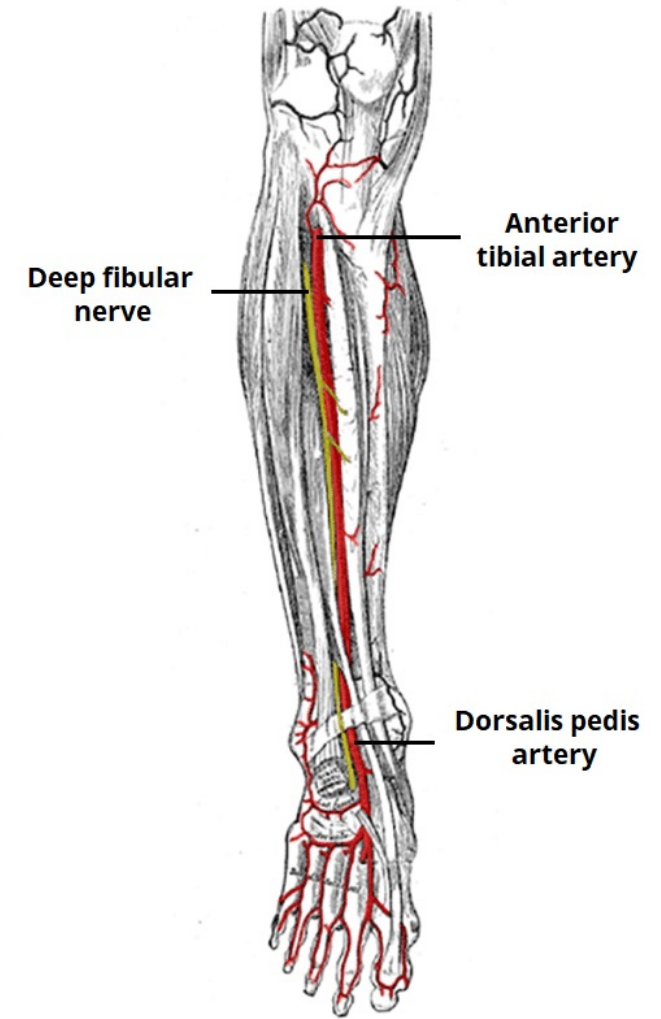


The leg

- Popliteal artery -> Posterior tibial and anterior tibial artery
- Landmark:
Inferior border of popliteus muscle in popliteal fossa



(i) Posterior Leg



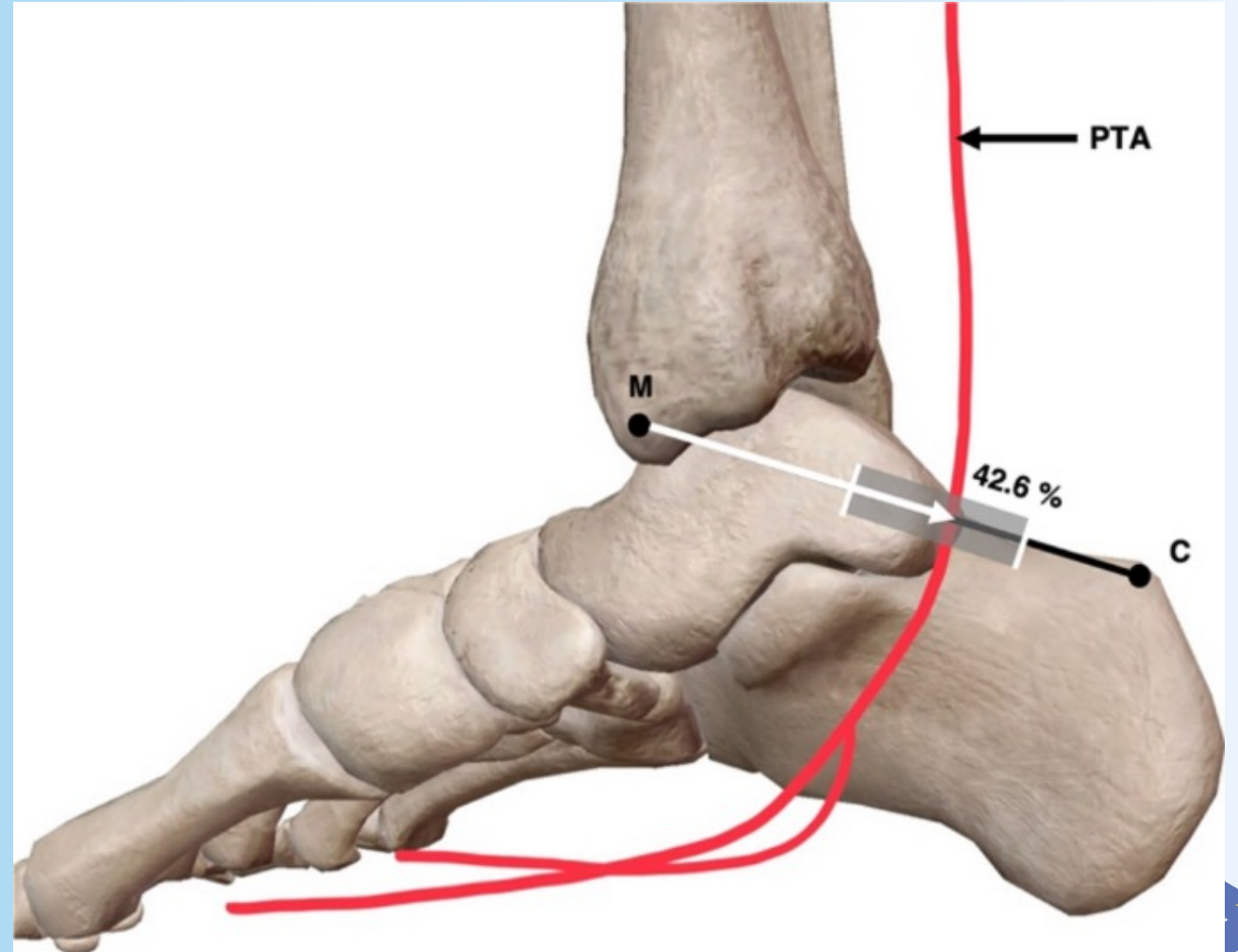
(ii) Anterior Leg

Arteries and what muscles they supply

Anterior tibial artery	Posterior tibial artery	Fibular (peroneal) artery
Anterior compartment	Posterior compartment	Lateral + deep posterior contributions
Tibialis anterior Extensor hallucis longus Extensor digitorum longus Peroneus	Gastrocnemius Soleus Plantaris Tibialis posterior Flexor digitorum longus Flexor hallucis longus	Tibialis posterior Flexor digitorum longus Flexor hallucis longus Fibularis longus Fibularis brevis

What pulse can be felt behind medial malleolus?

- Posterior tibial artery

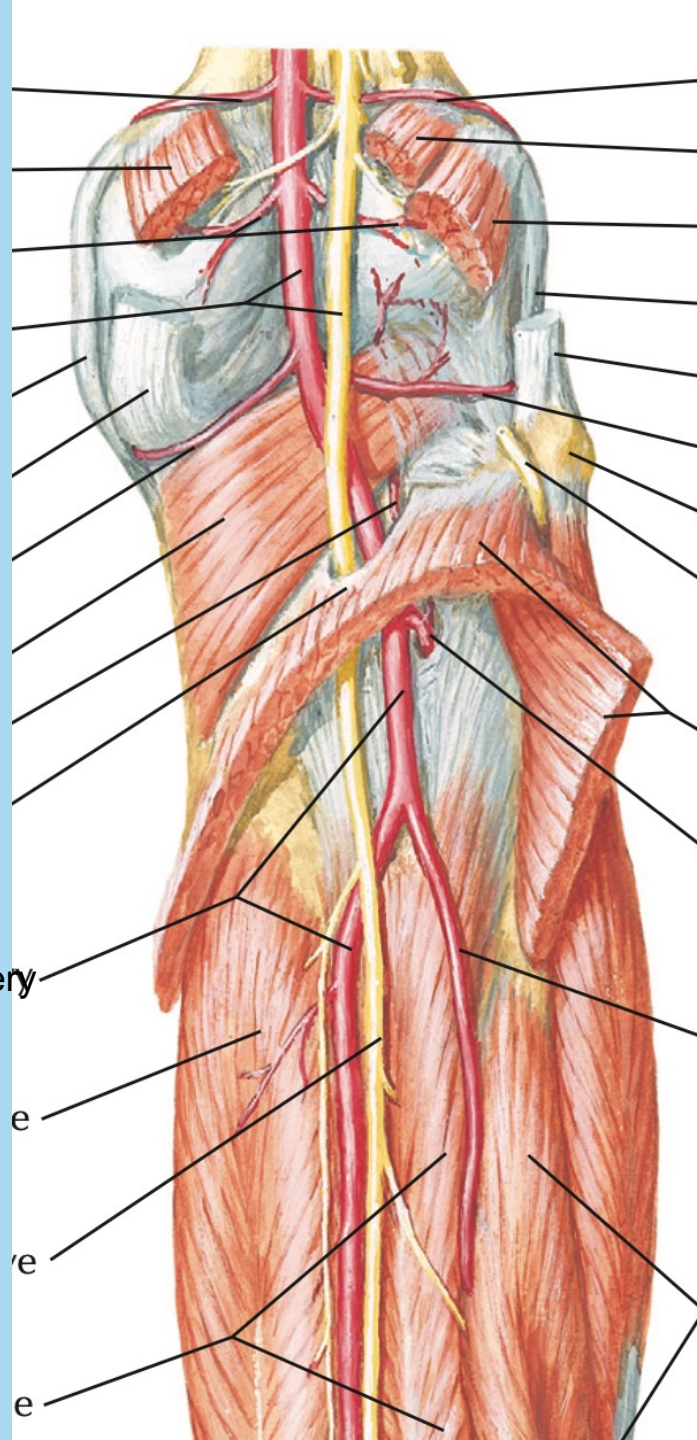


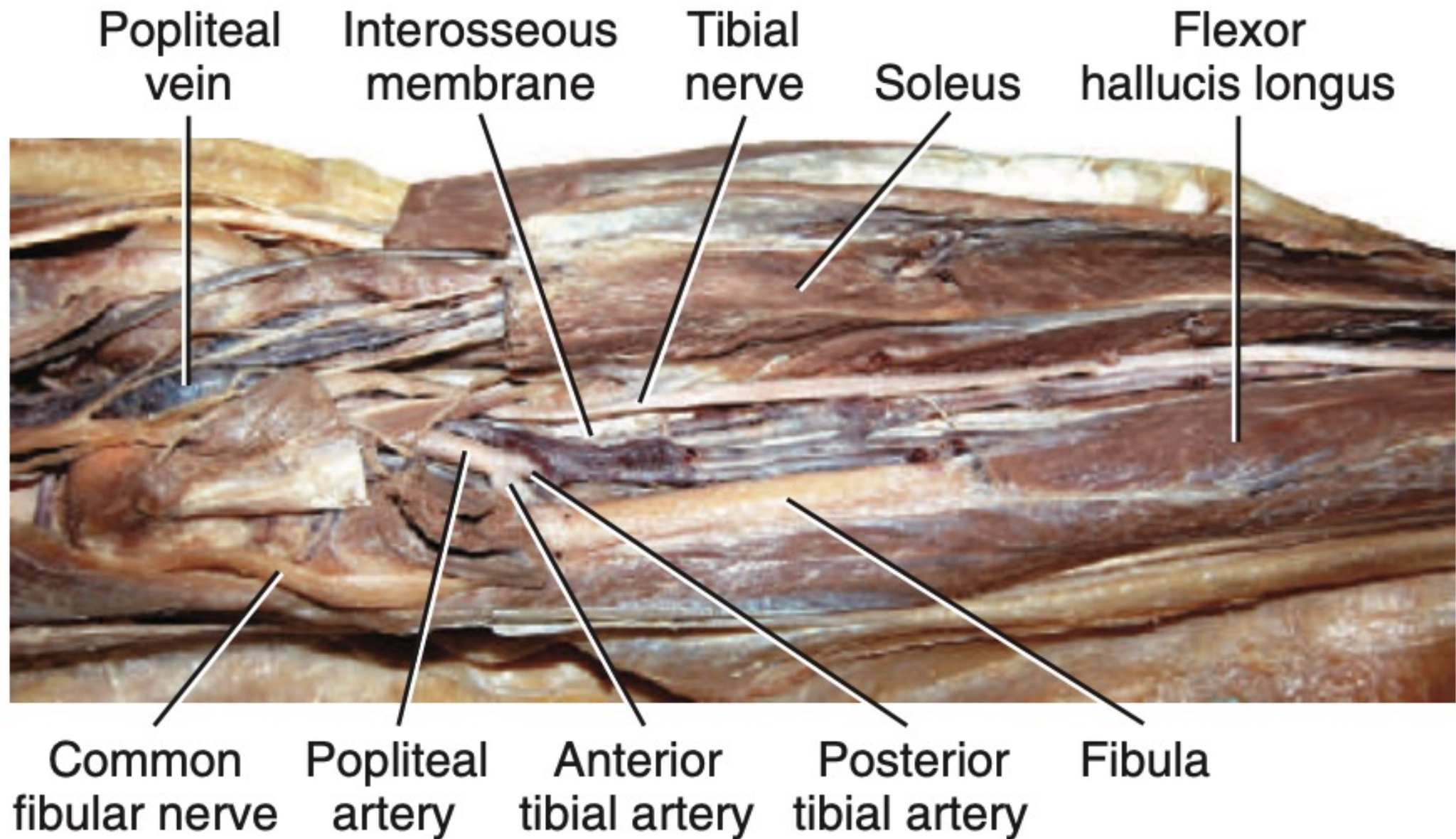
Popliteal artery

Posterior tibial artery

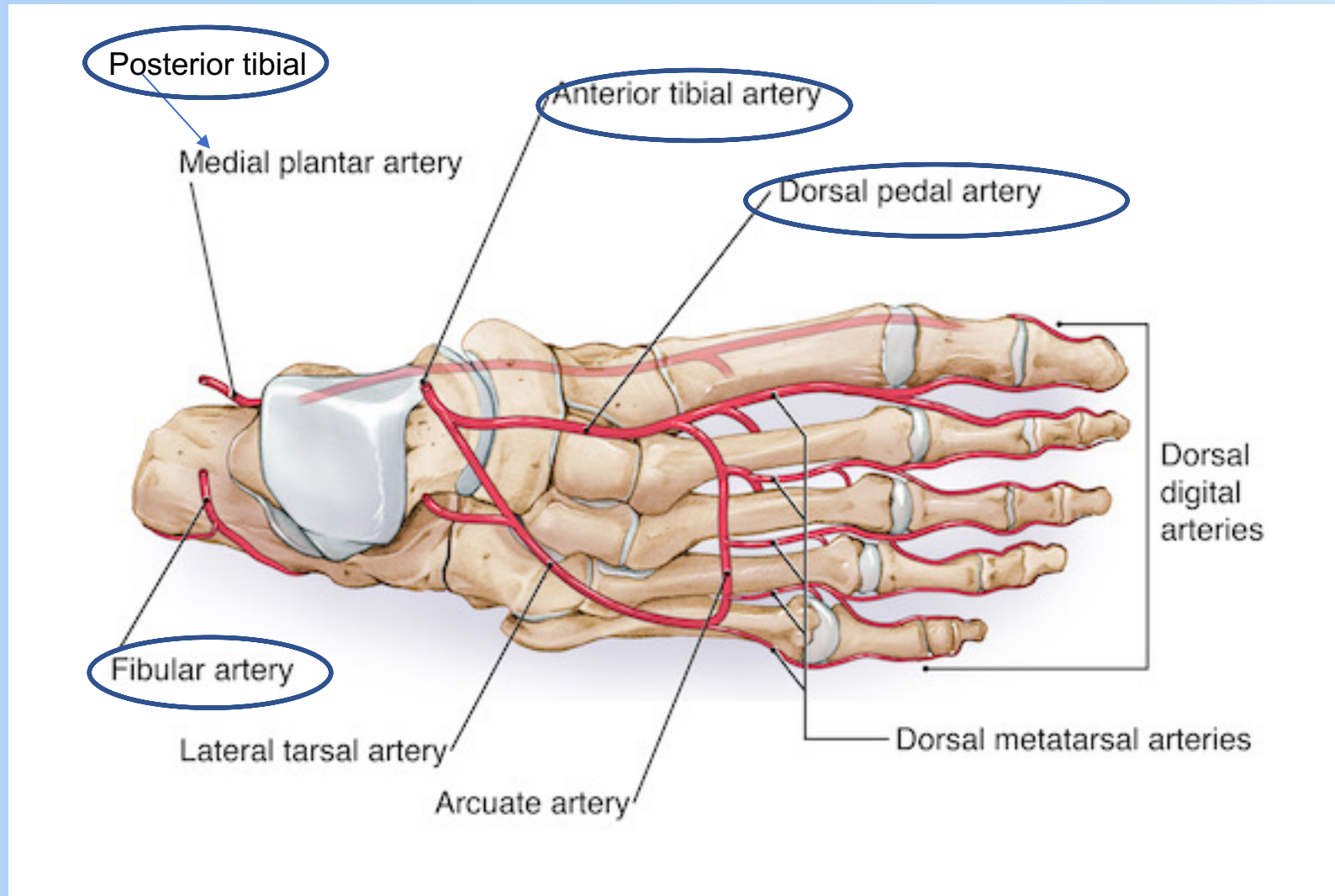
Anterior tibial artery

Fibular (peroneal) artery

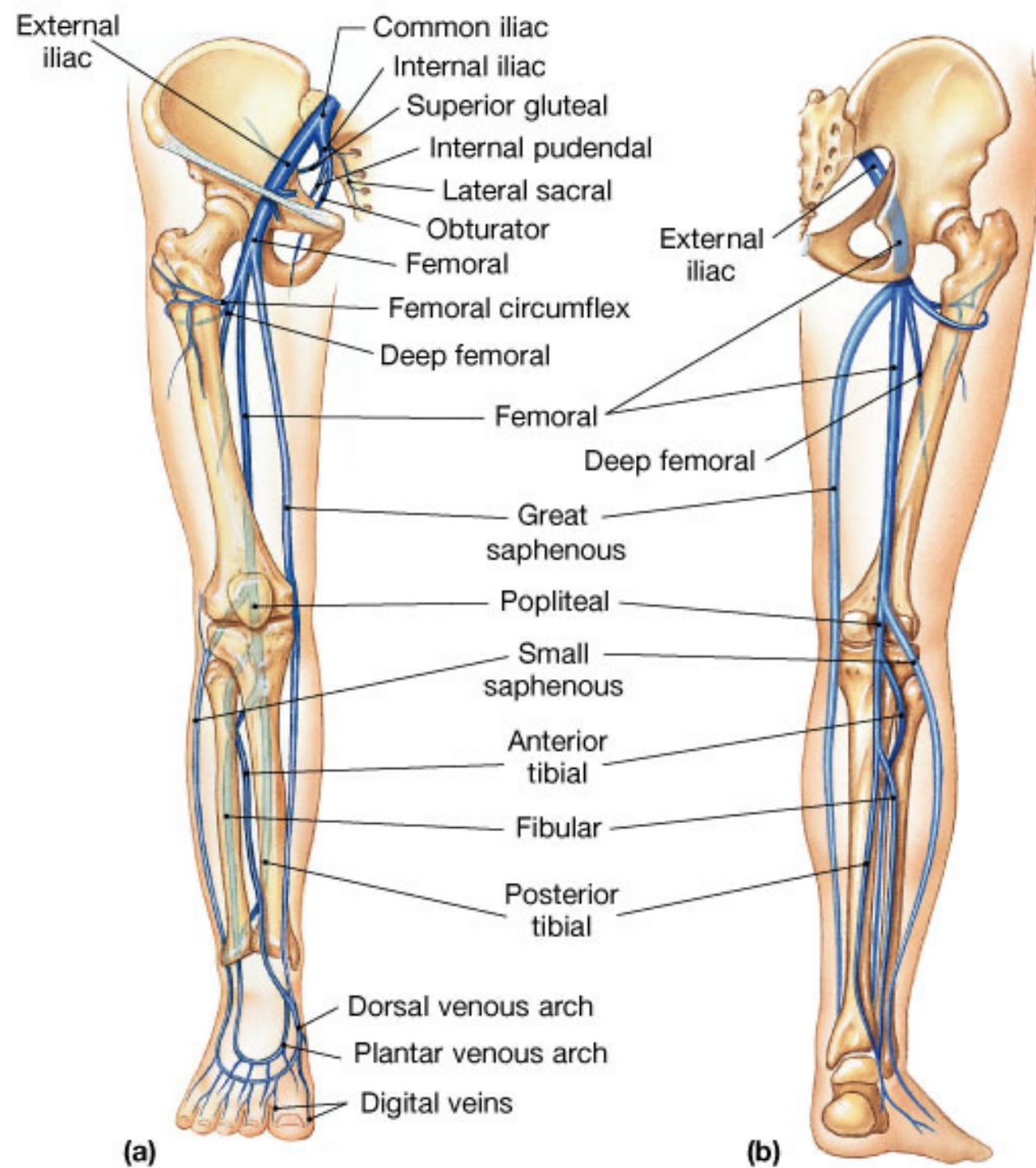


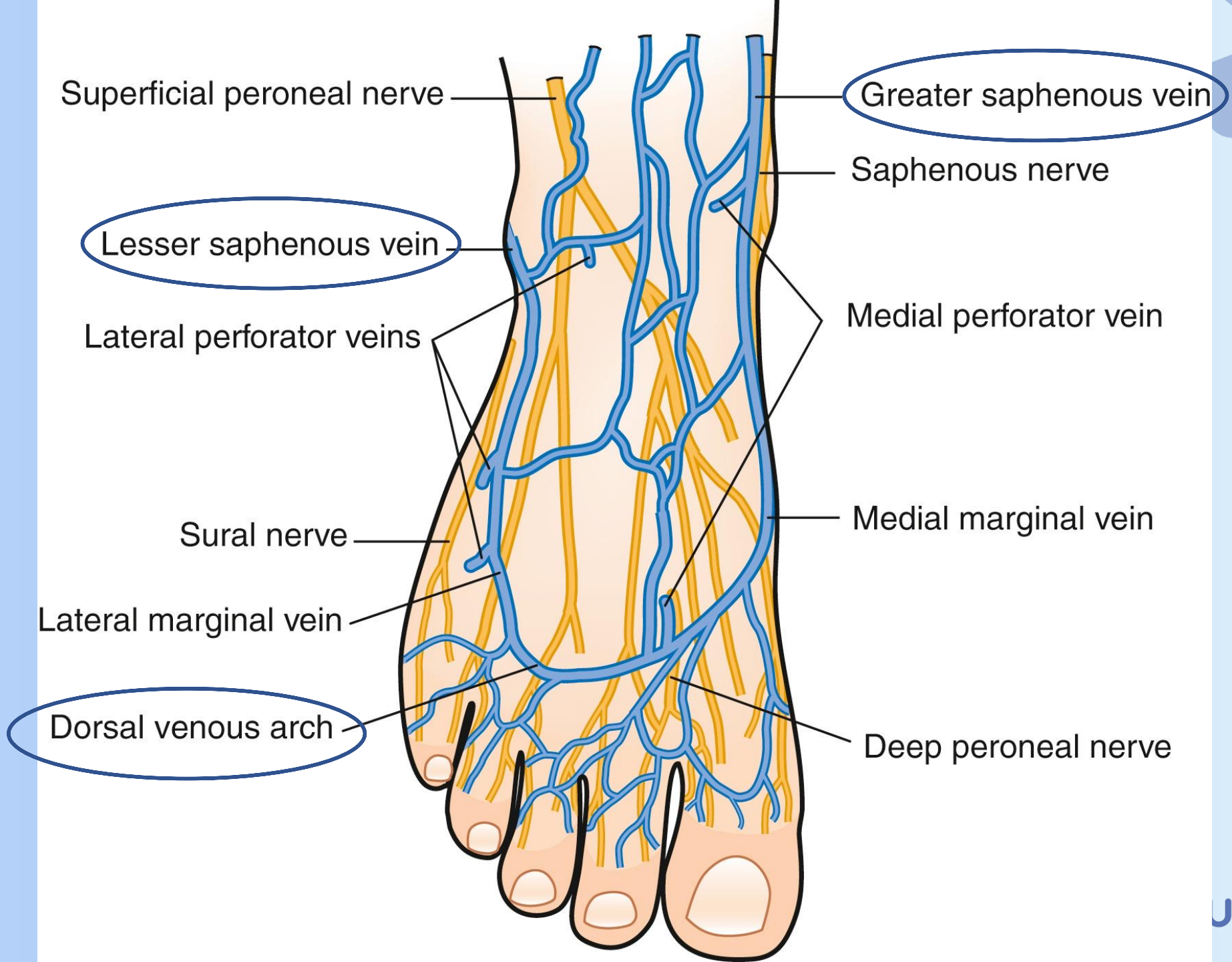


Arteries of the foot

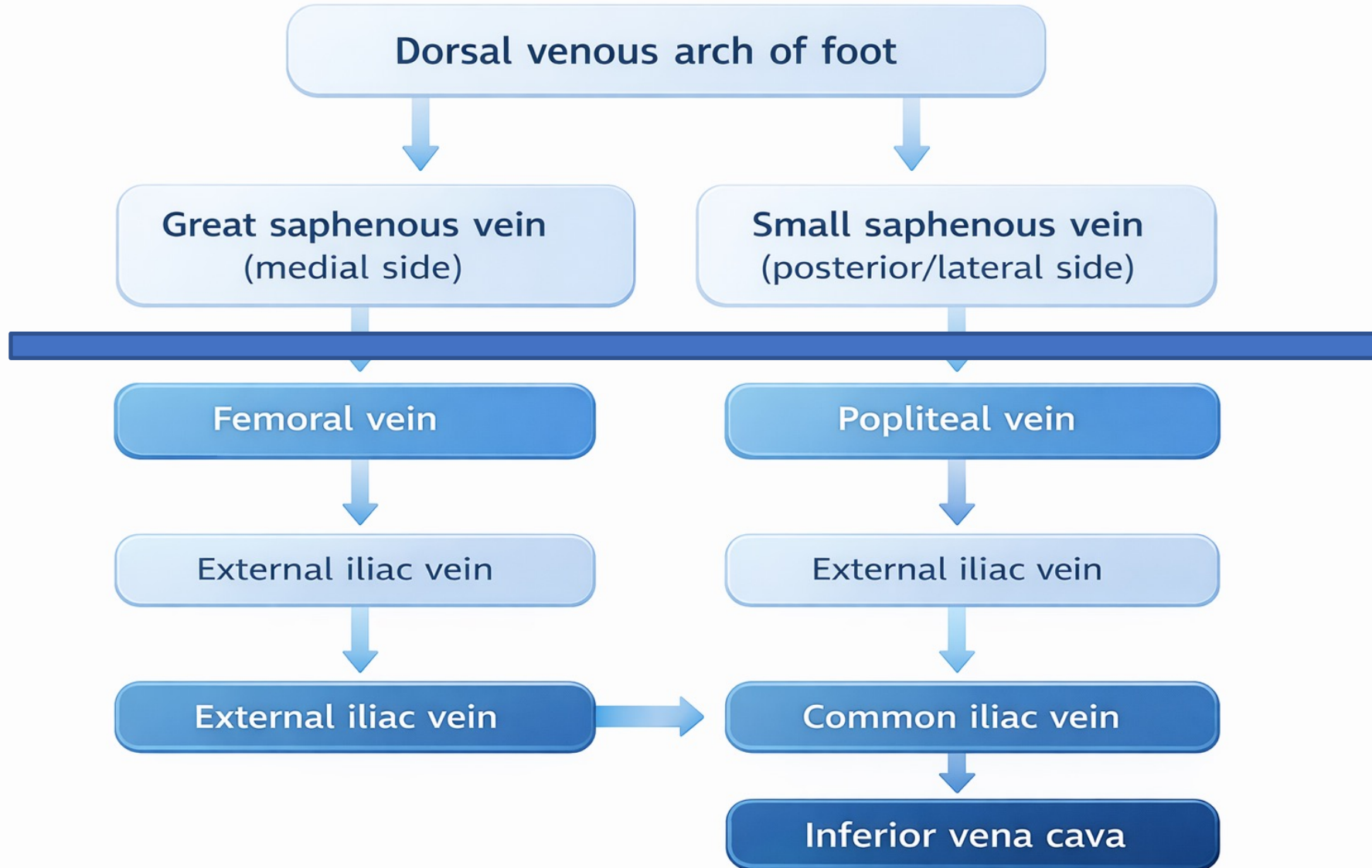


Venous drainage





Superficial drainage

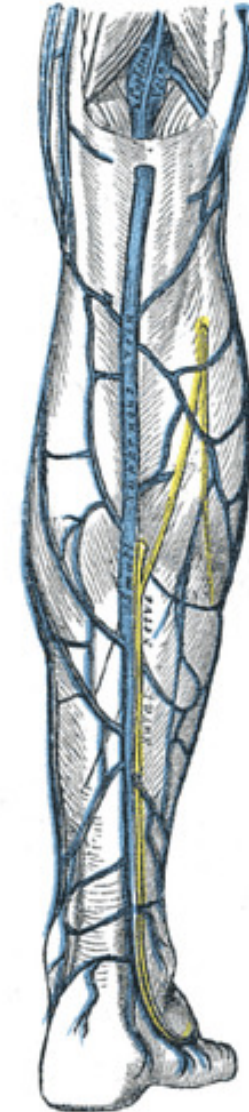


Small saphenous vein

- Posterior to lateral malleolus
- Travels with the sural nerve
- Drains into popliteal vein

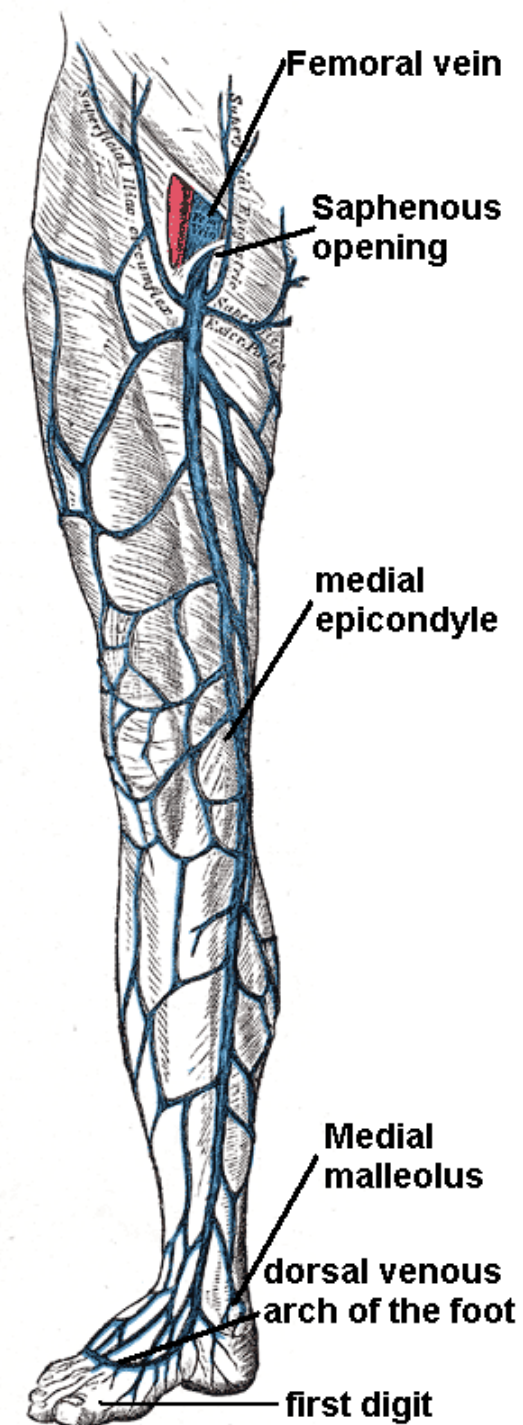
Small saphenous vein

Posterior view



Great saphenous vein

- Longest vein in the body
- Anterior to medial malleolus
- Runs medially along the leg and thigh
- Runs together with the saphenous nerve (in the leg)
- Saphenous opening in fascia lata
- Drains into femoral vein (small saphenous vein drains into popliteal vein)

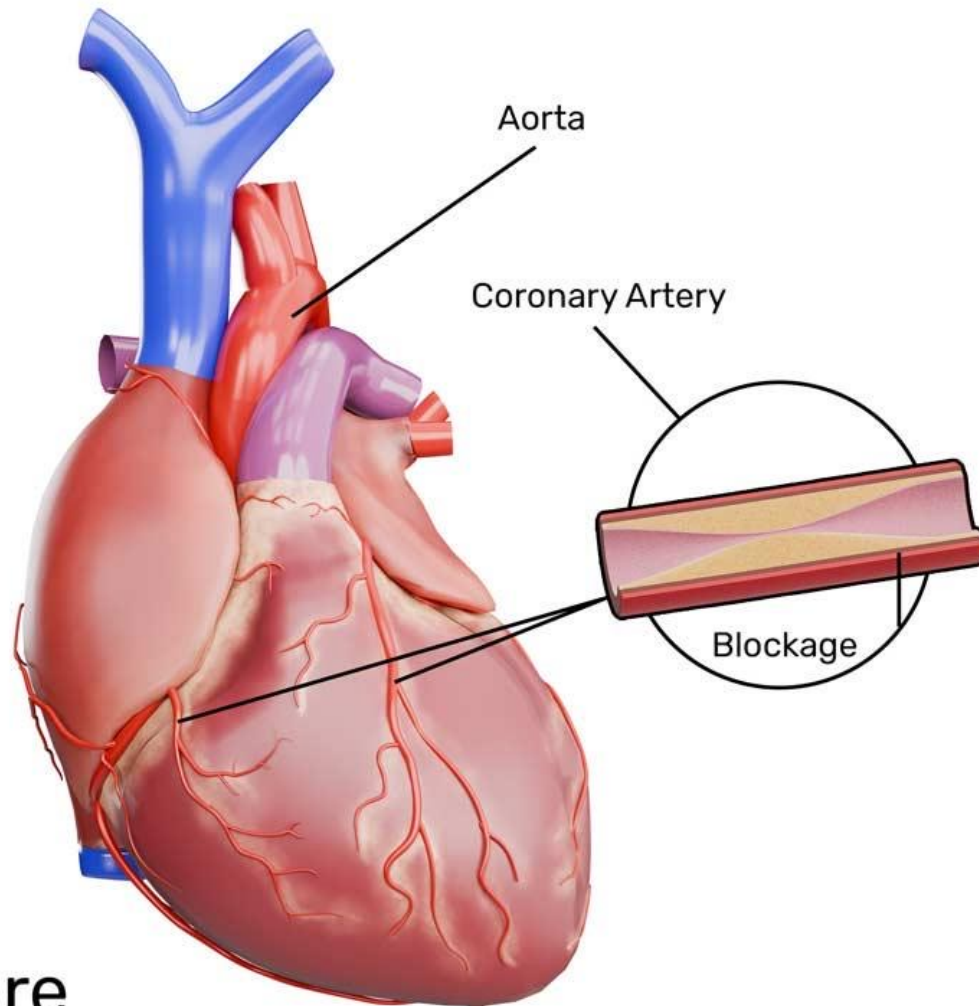


Great saphenous vein clinical use

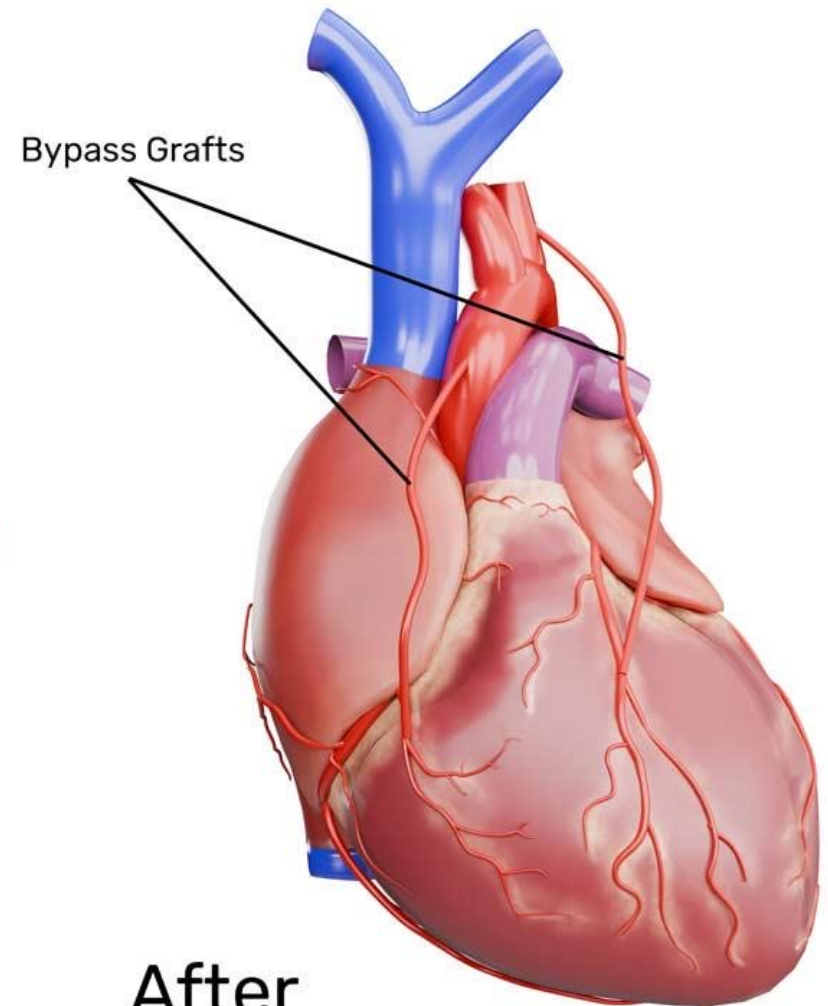
- Commonly used for CABG surgeries
- Commonly associated with varicose veins



Coronary Artery Bypass Grafting (CABG)



Before



After

Great saphenous vein

Small saphenous vein

ANTERIOR to MEDIAL malleolus

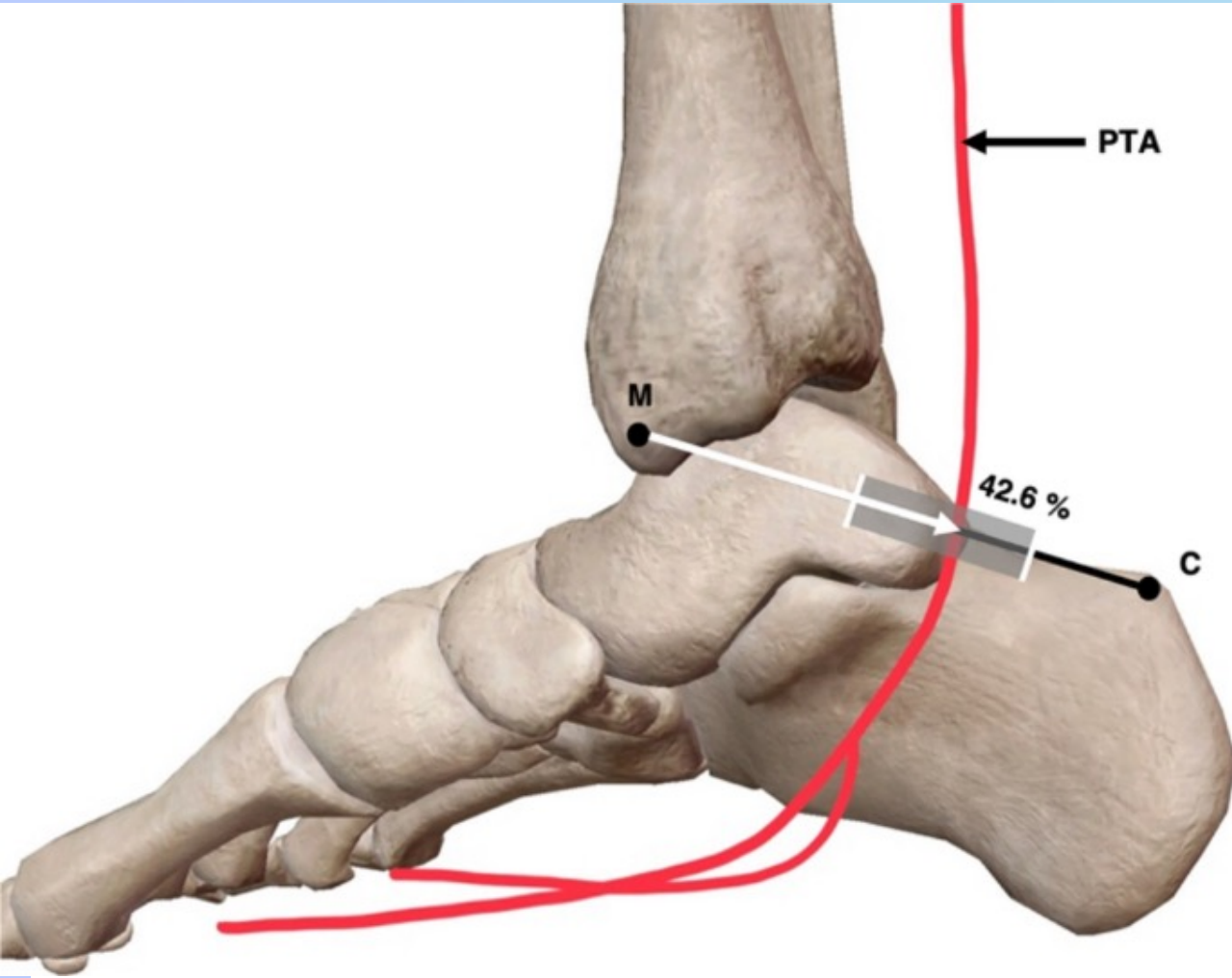
POSTERIOR to LATERAL malleolus

Drains into femoral vein

Drains into popliteal vein

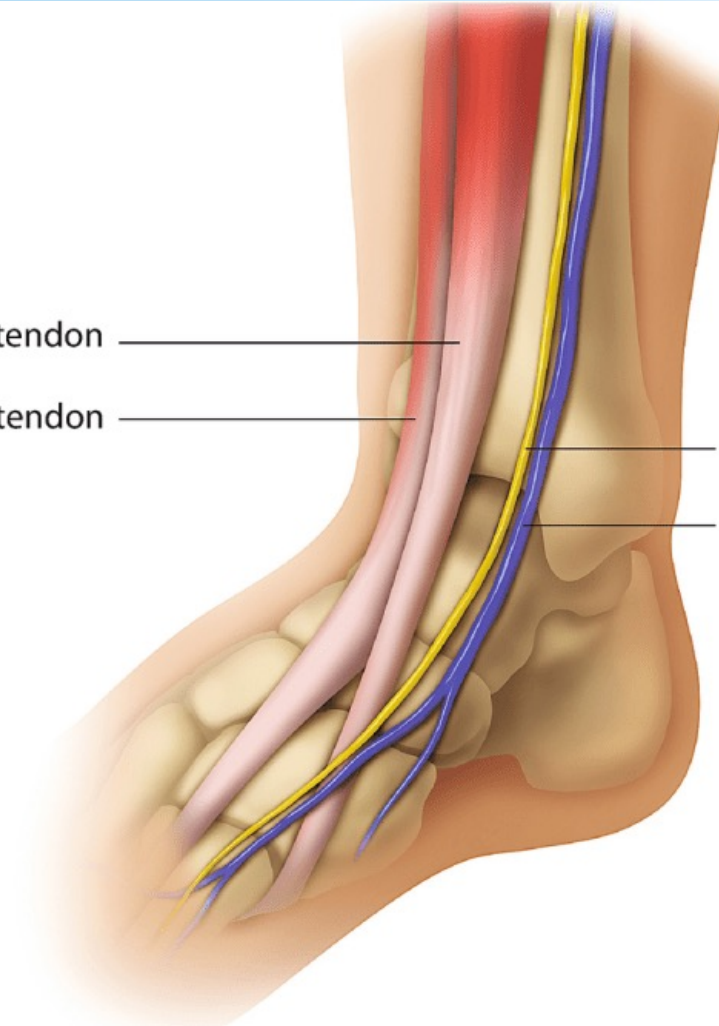
Runs along saphenous nerve

Runs along sural nerve

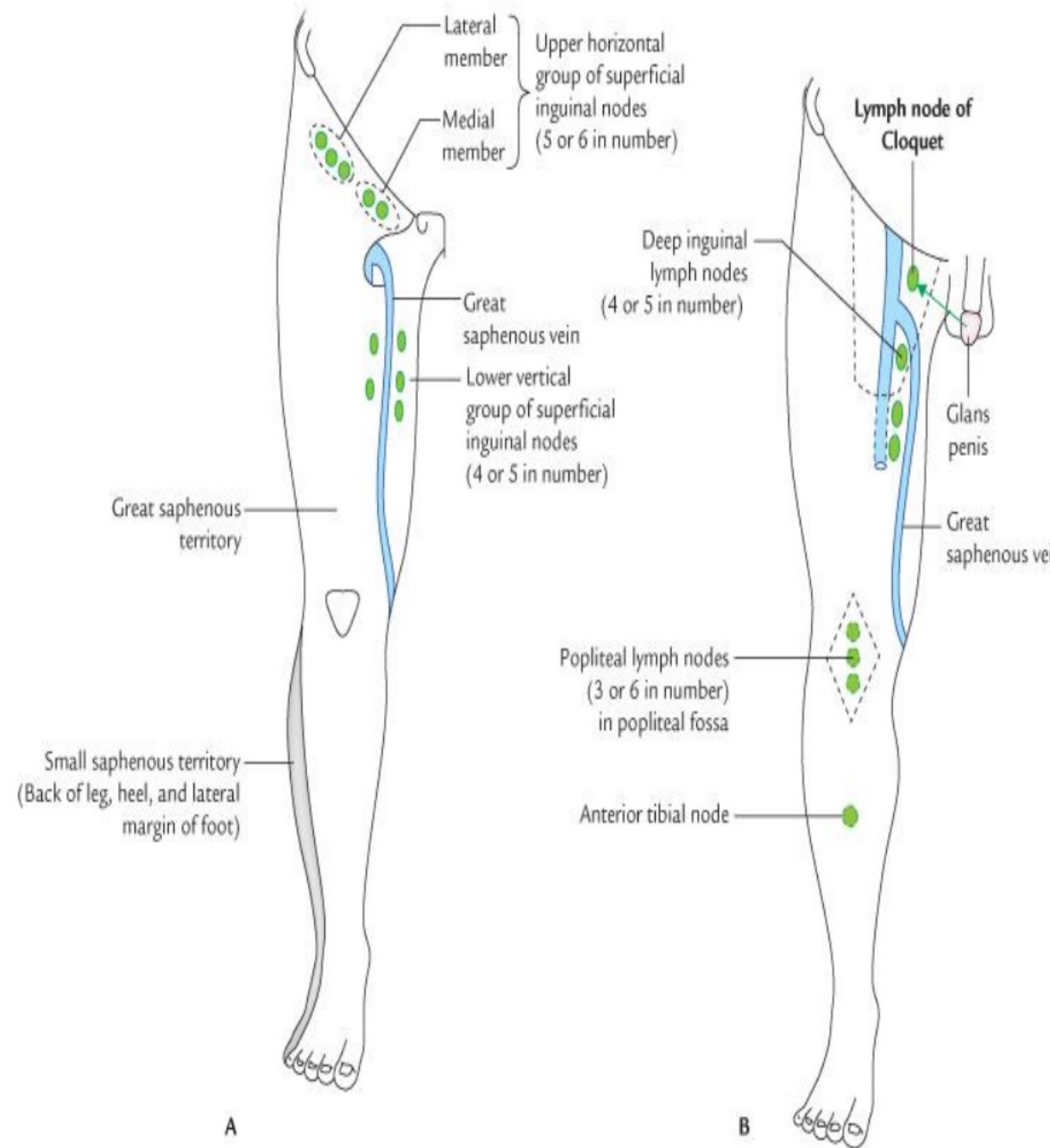


tibialis anterior tendon

Iliacus longus tendon



Lymph drainage



Superficial lymph drainage

- Medial foot and leg

Accompanies great saphenous vein

Drains into superficial inguinal lymph nodes

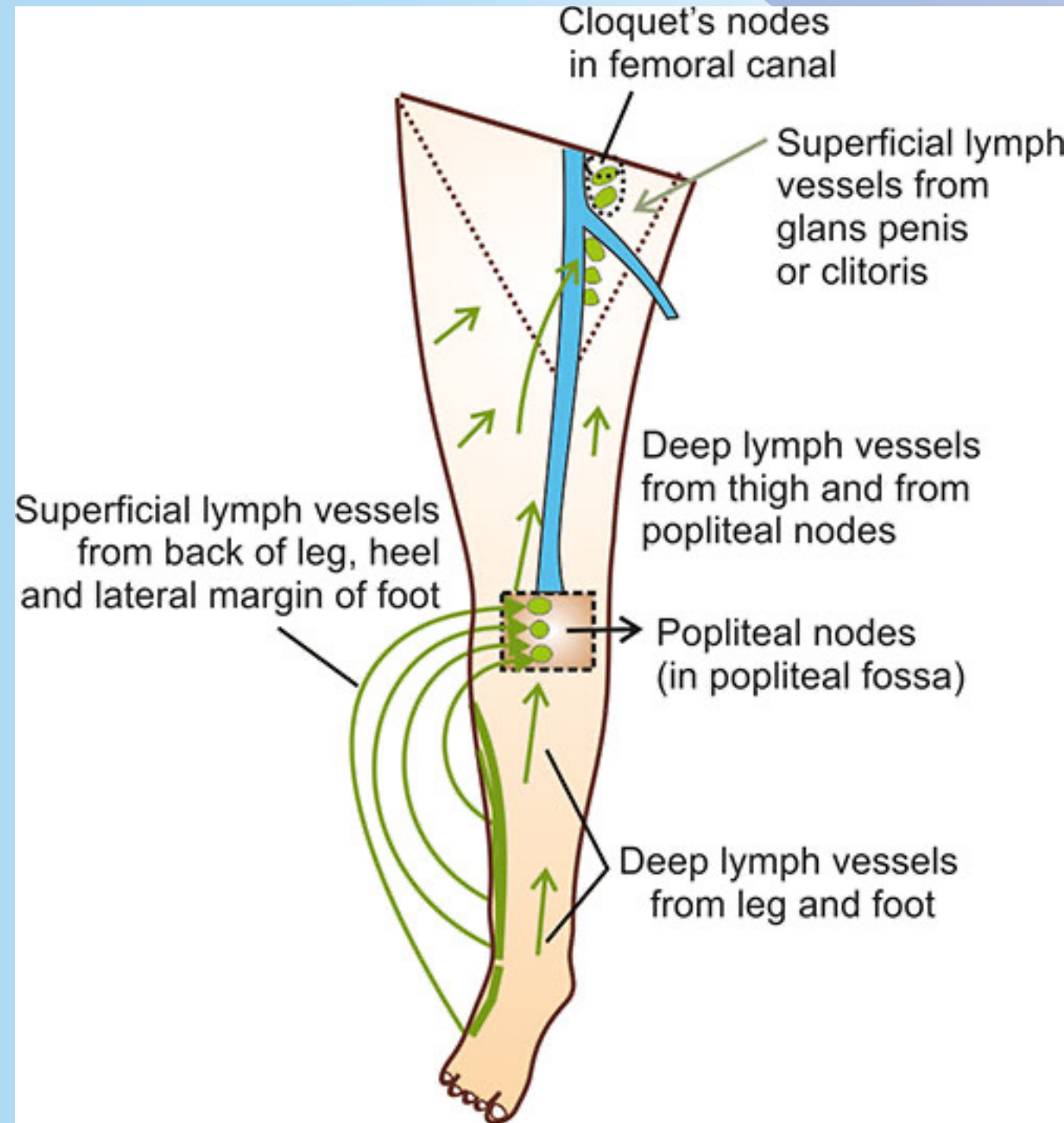
- Lateral foot

Accompanies small saphenous vein

Drains into popliteal lymph nodes
-> Deep inguinal lymph nodes

Lymphatic drainage

- Medial foot and leg -> Superficial inguinal lymph nodes
- Lateral foot -> Popliteal lymph nodes -> Deep inguinal lymph nodes
- Deep drainage -> Popliteal lymph nodes -> Deep inguinal lymph nodes



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