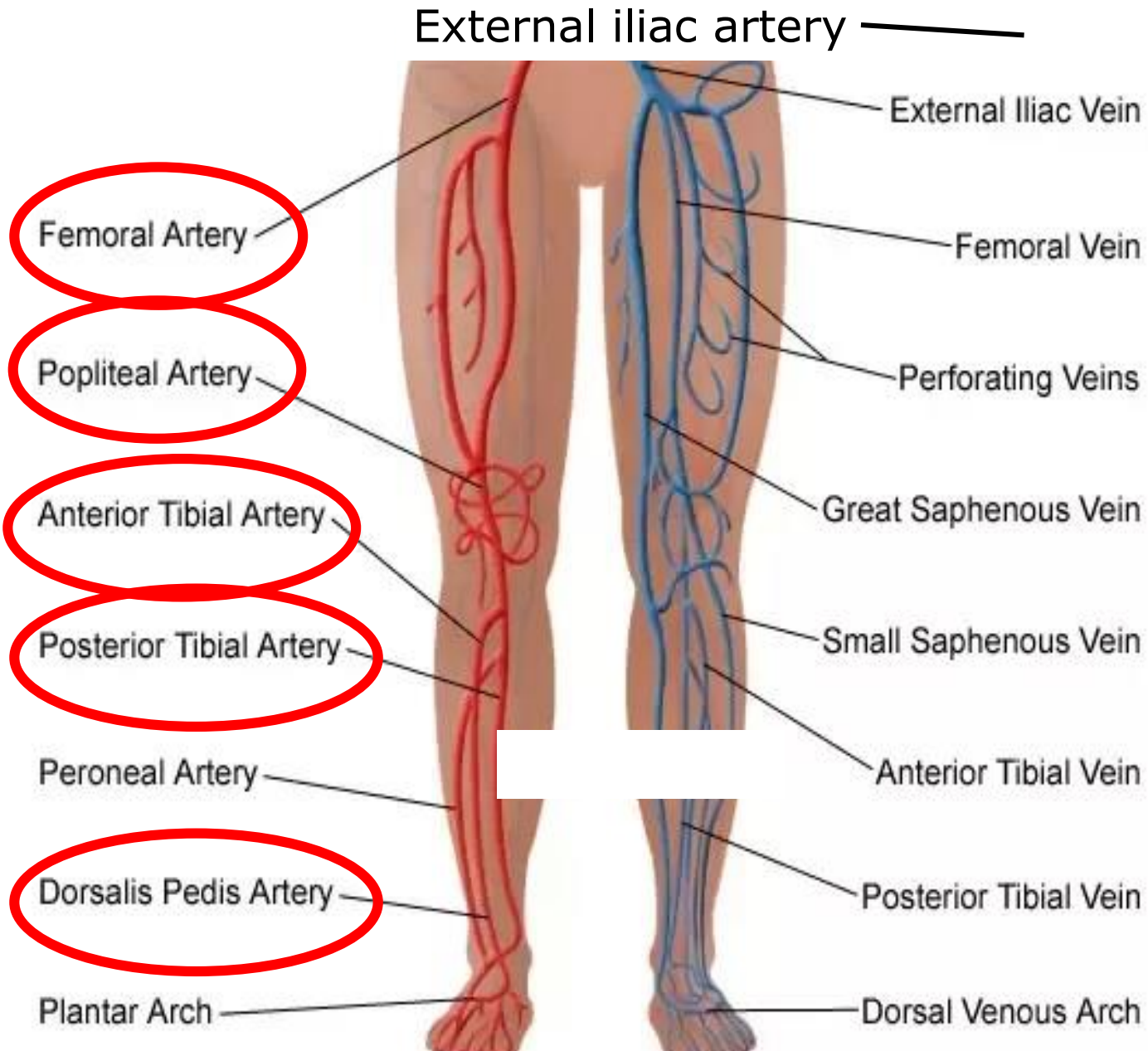


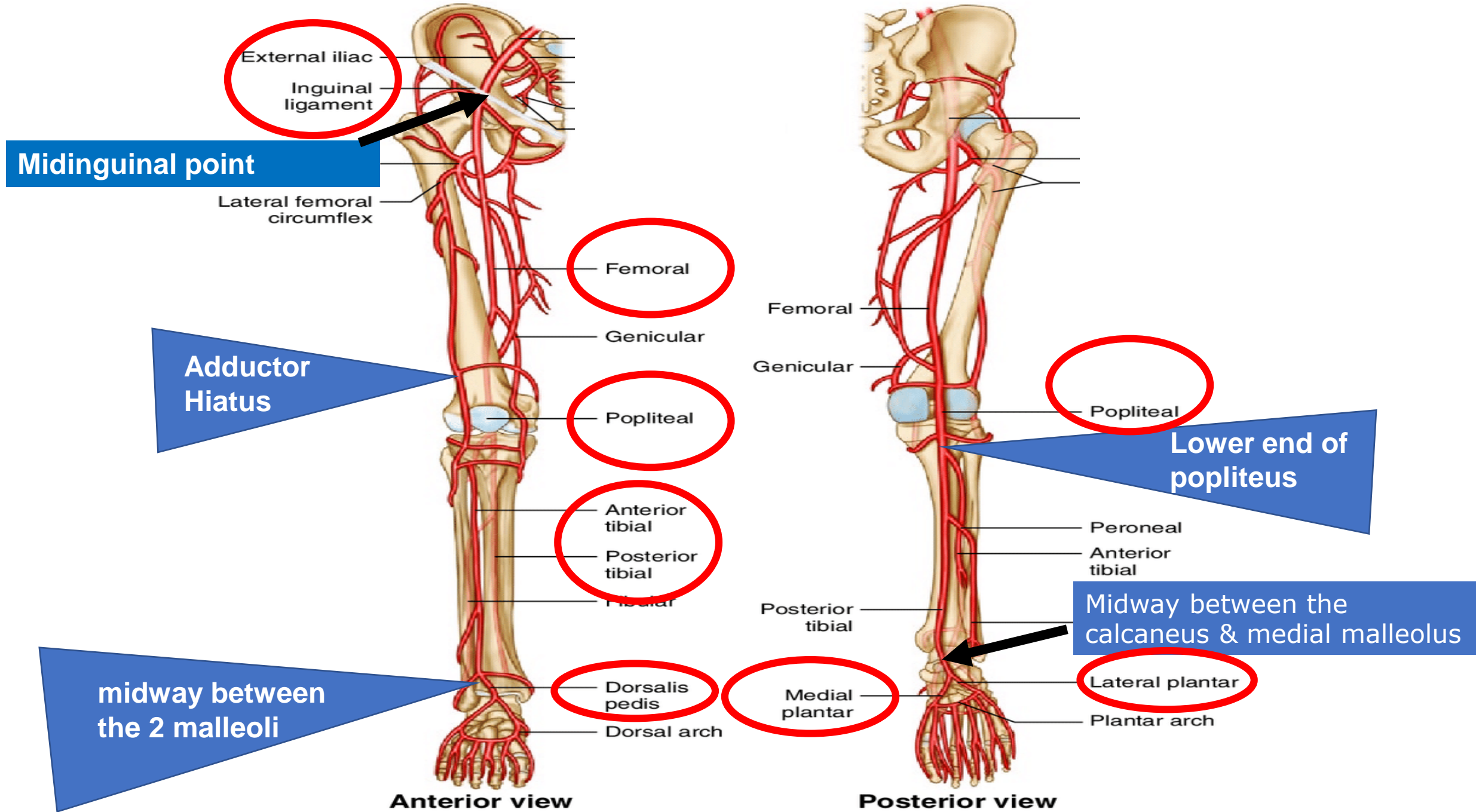
Vessels of the lower limb

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The University of Jordan

Arterial and Venous Circulation of the Legs





The femoral artery

Beginning: In the midinguinal point as a continuation of the external iliac artery.

End : At opening in adductor magnus by becoming the popliteal artery.

Course & relations :It runs in the femoral triangle & adductor canal

Branches:

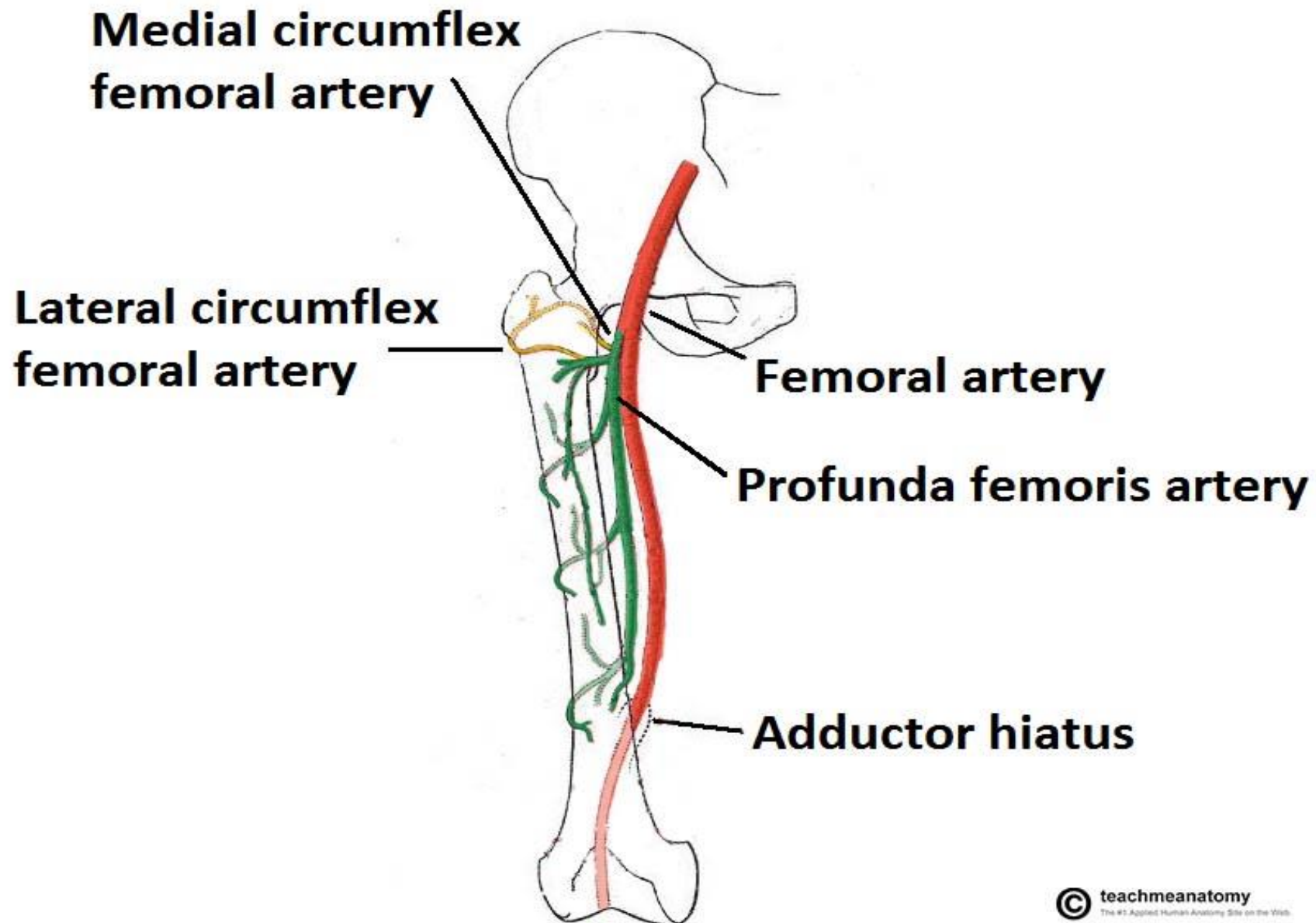
A) Superficial branches:

- Superficial epigastric.
- Superficial circumflex iliac.
- Superficial external pudendal.

B) Deep branches:

- 1- Deep external pudendal artery.
- 2- Profunda femoris (deep artery of thigh):
It gives medial & lateral circumflex femoral arteries
- 3- 4 perforating arteries for the back of thigh.





Superficial circumflex iliac artery

Lateral femoral circumflex artery

Medial femoral circumflex artery

Ascending branch of lateral circumflex femoral artery

Descending branch of lateral circumflex femoral artery

Transverse branch of lateral circumflex femoral artery

First perforating artery

Second perforating artery

Inferior epigastric artery

Superficial epigastric artery

Deep circumflex iliac artery

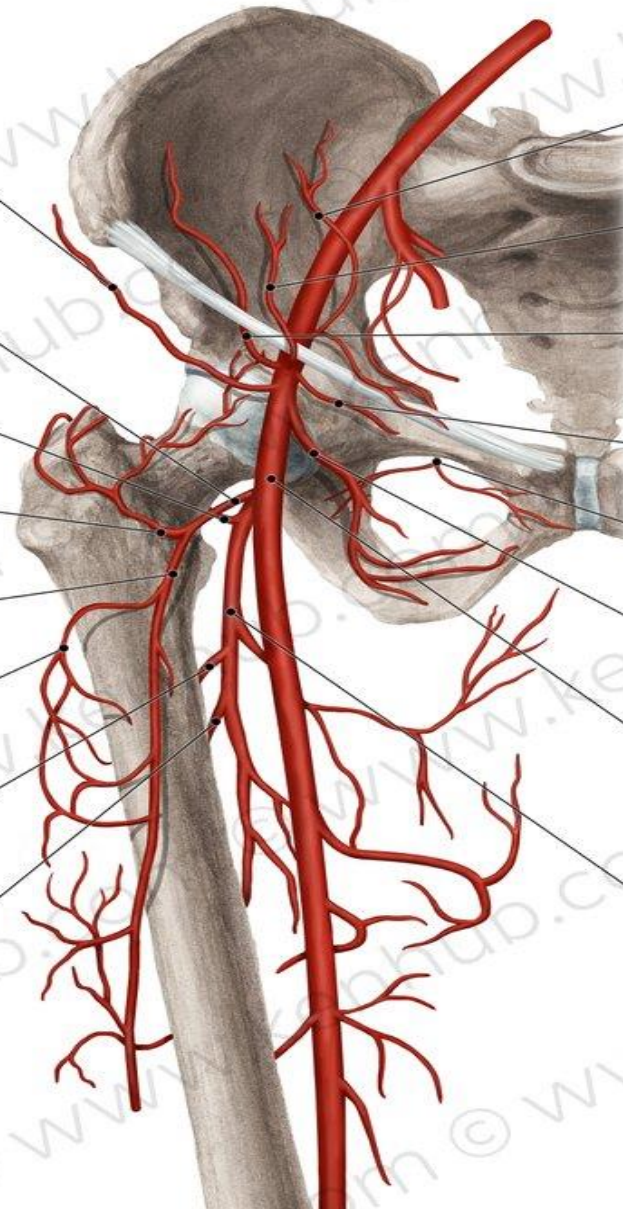
Superficial external pudendal artery

Obturator artery

Deep external pudendal artery

Femoral artery

Deep femoral artery

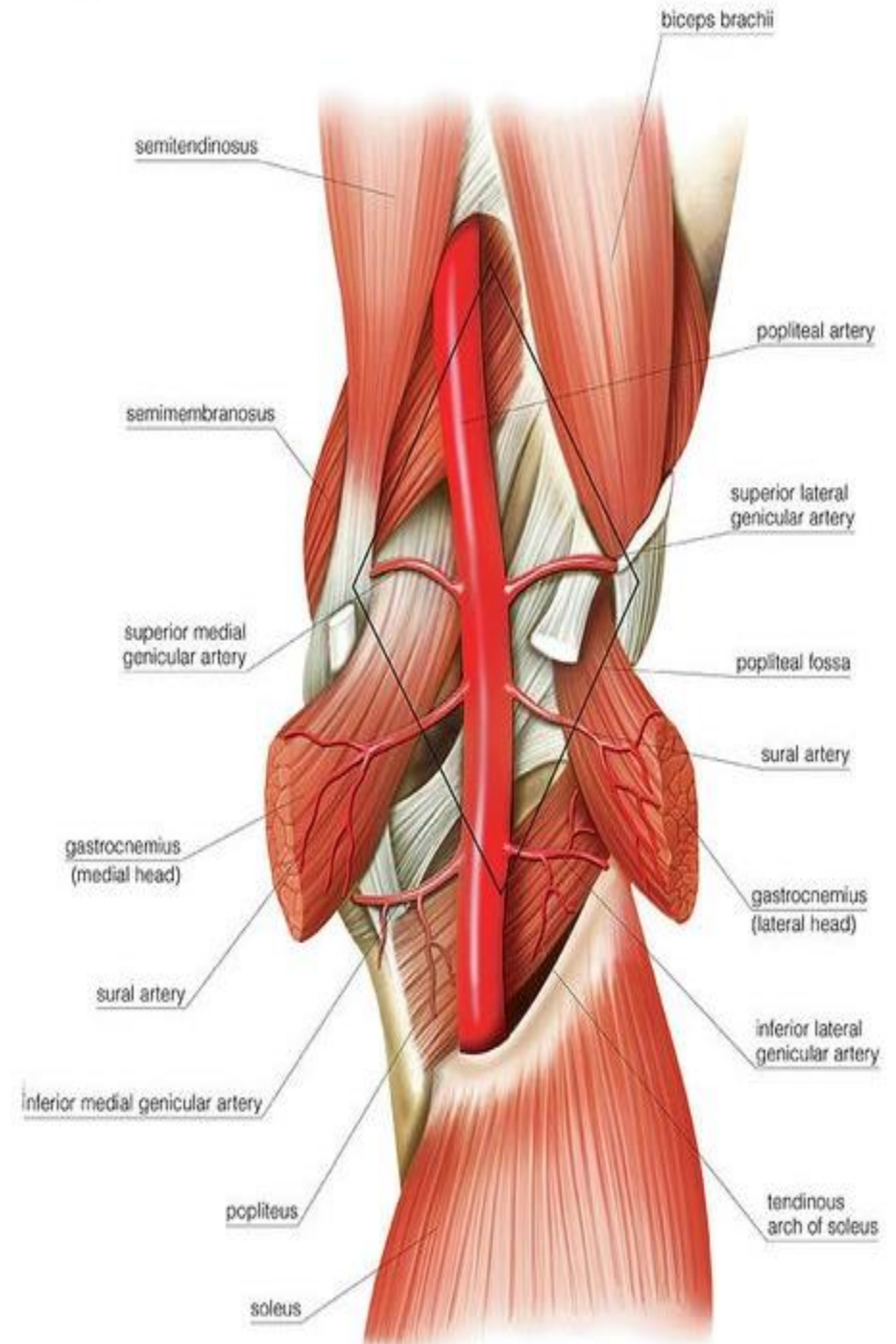


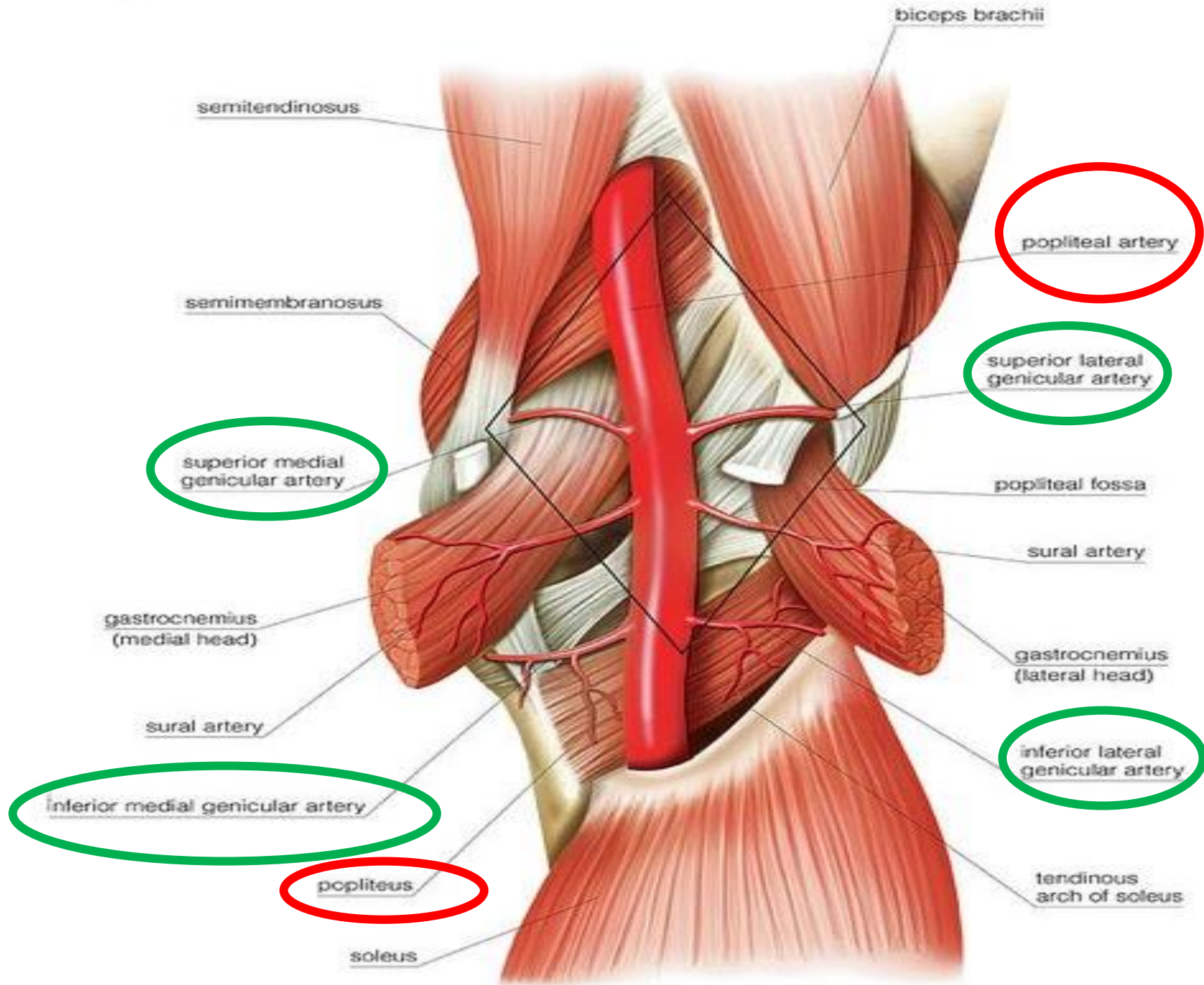
Popliteal artery

- **Beginning** : at opening in adductor magnus as a continuation of femoral artery.
- **Termination** : at the lower border of popliteus muscle by dividing into anterior & posterior tibial arteries.

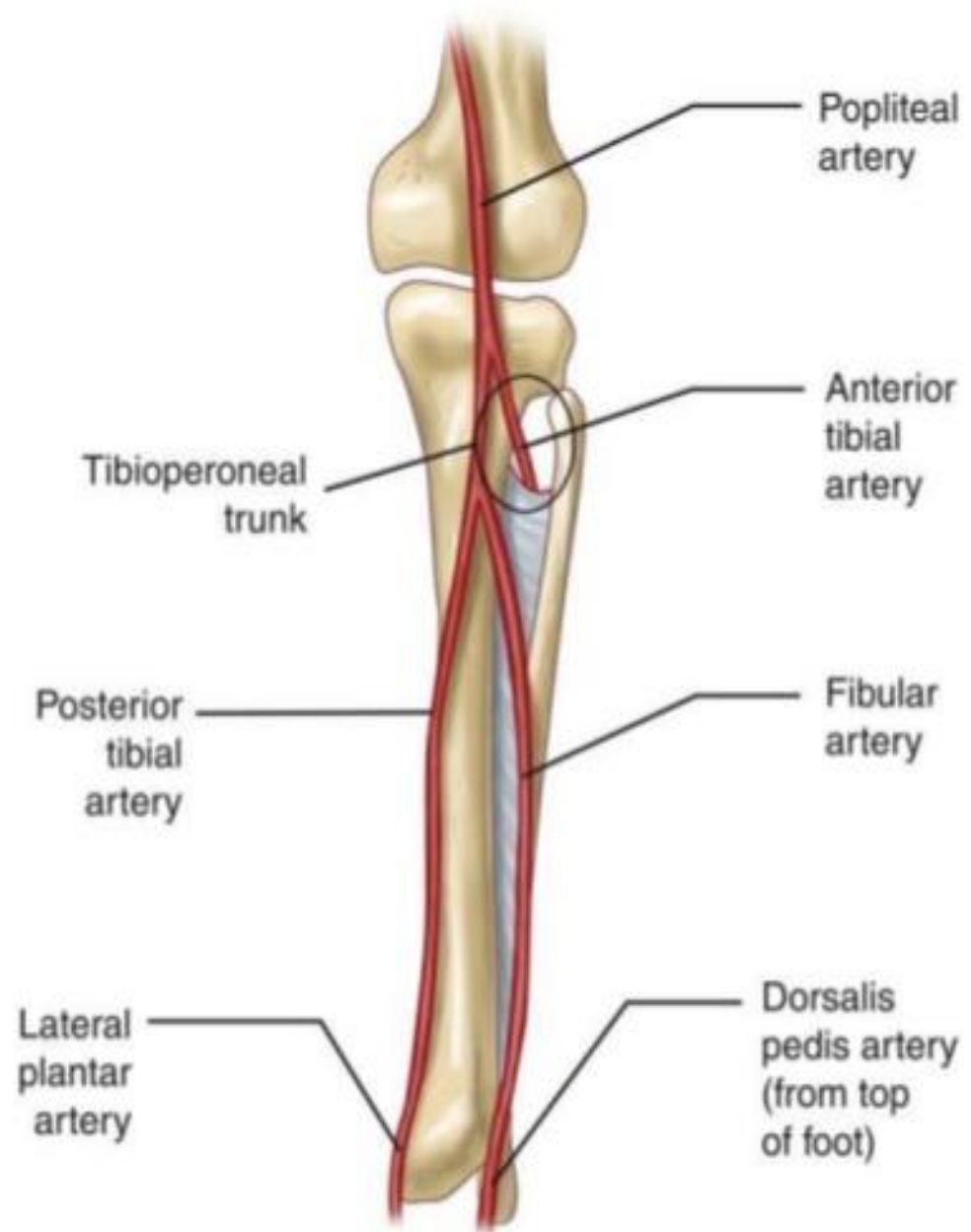
Branches:

- 5 genicular branches to the knee joint (2 superior, 2 inferior & middle).
- Muscular branches to muscles of the back of the leg.



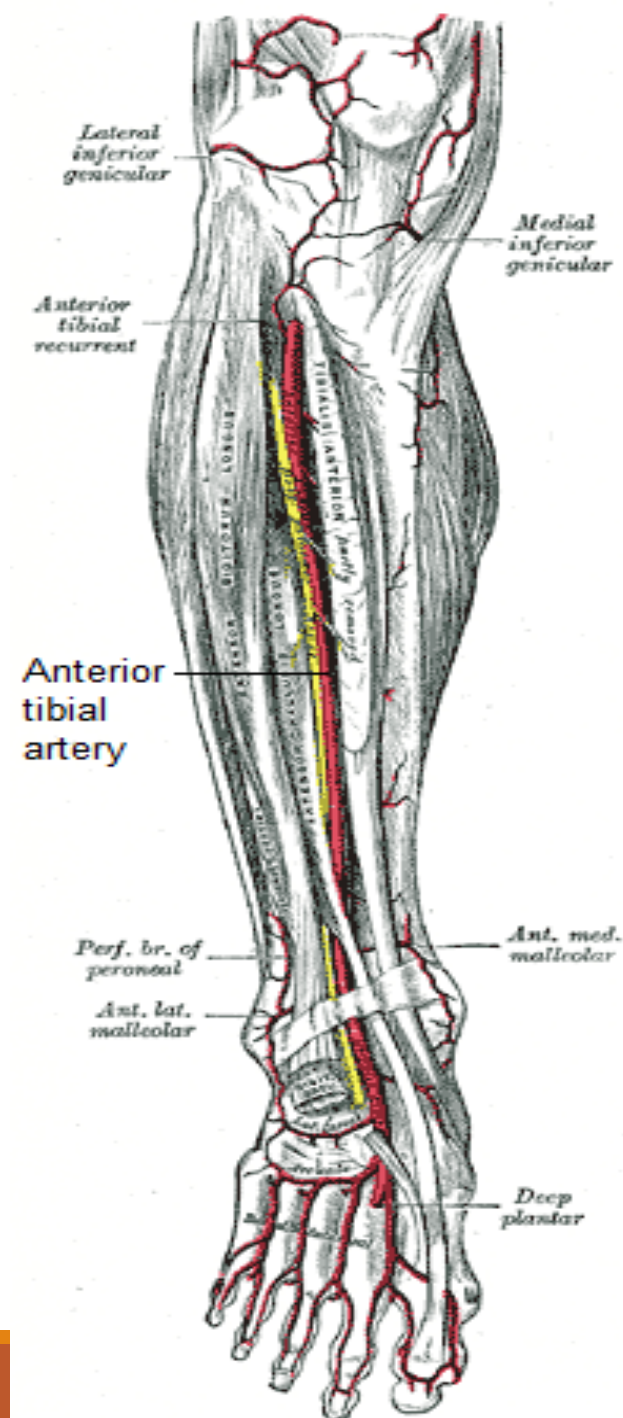


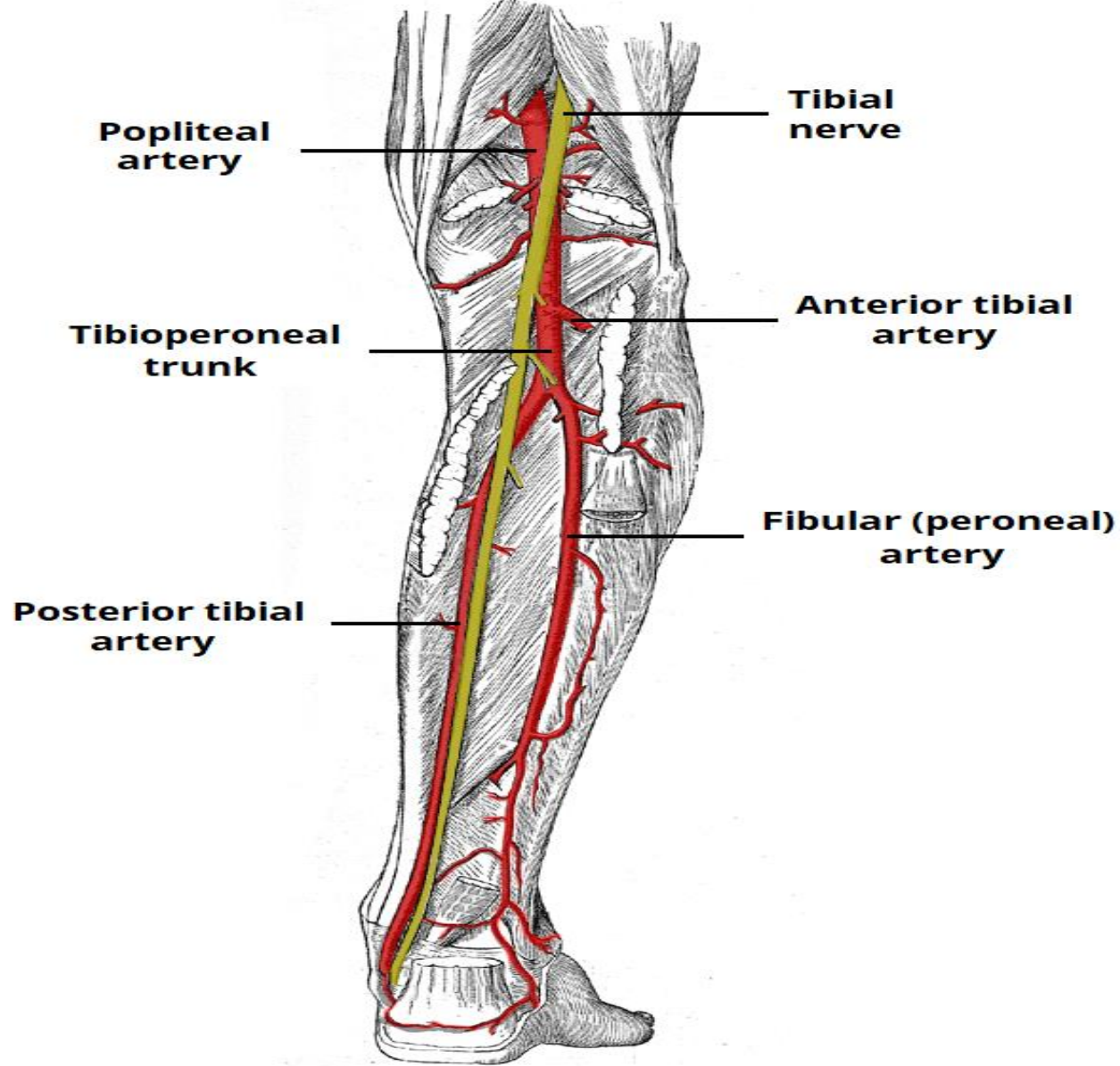
(b)



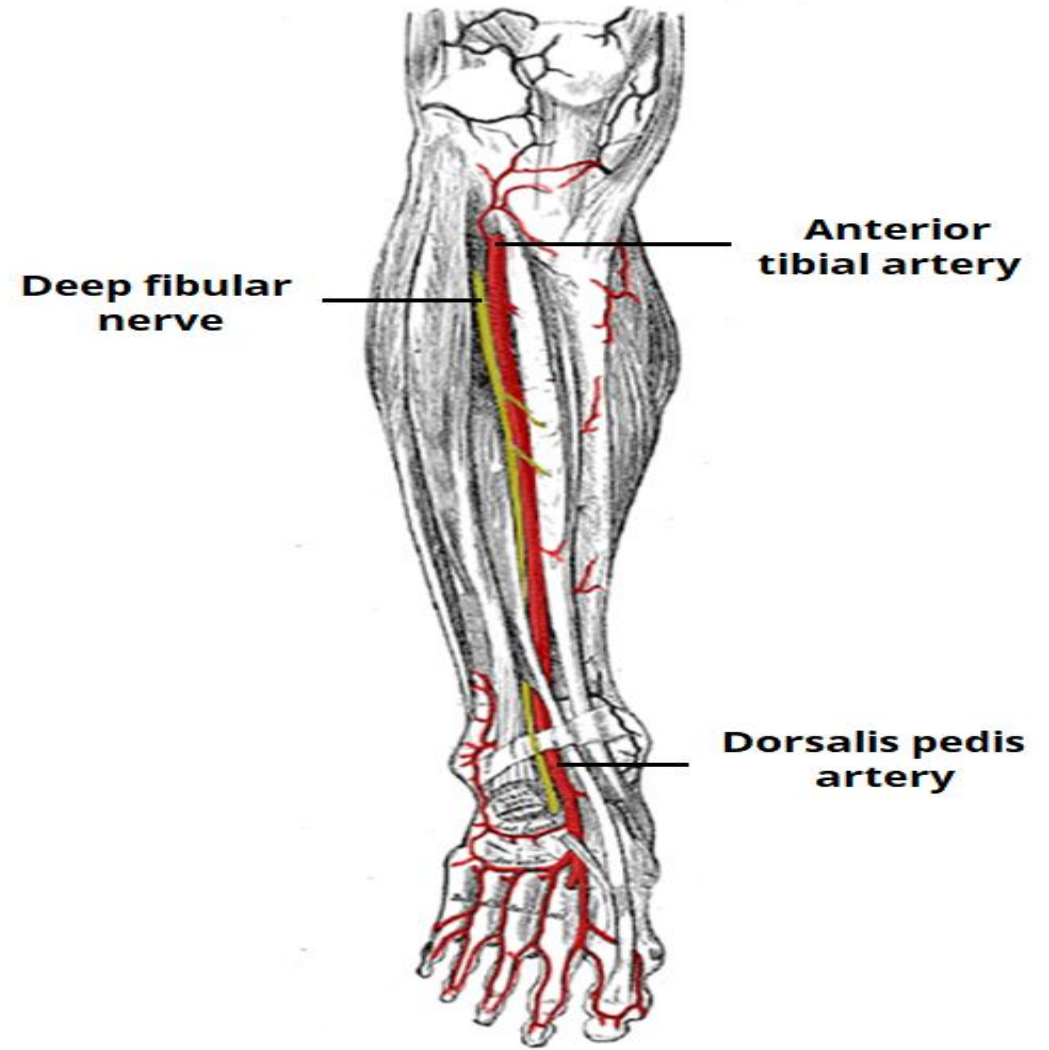
Anterior tibial artery

- **Beginning** : at the lower border of popliteus muscle a branch of popliteal artery.
- **Termination** : Anterior to ankle joint midway between the 2 malleoli by becoming dorsalis pedis artery.
- **Branches**:
 - Anterior & posterior tibial recurrent arteries.
 - Medial & lateral malleolar arteries.
 - Muscular branches.





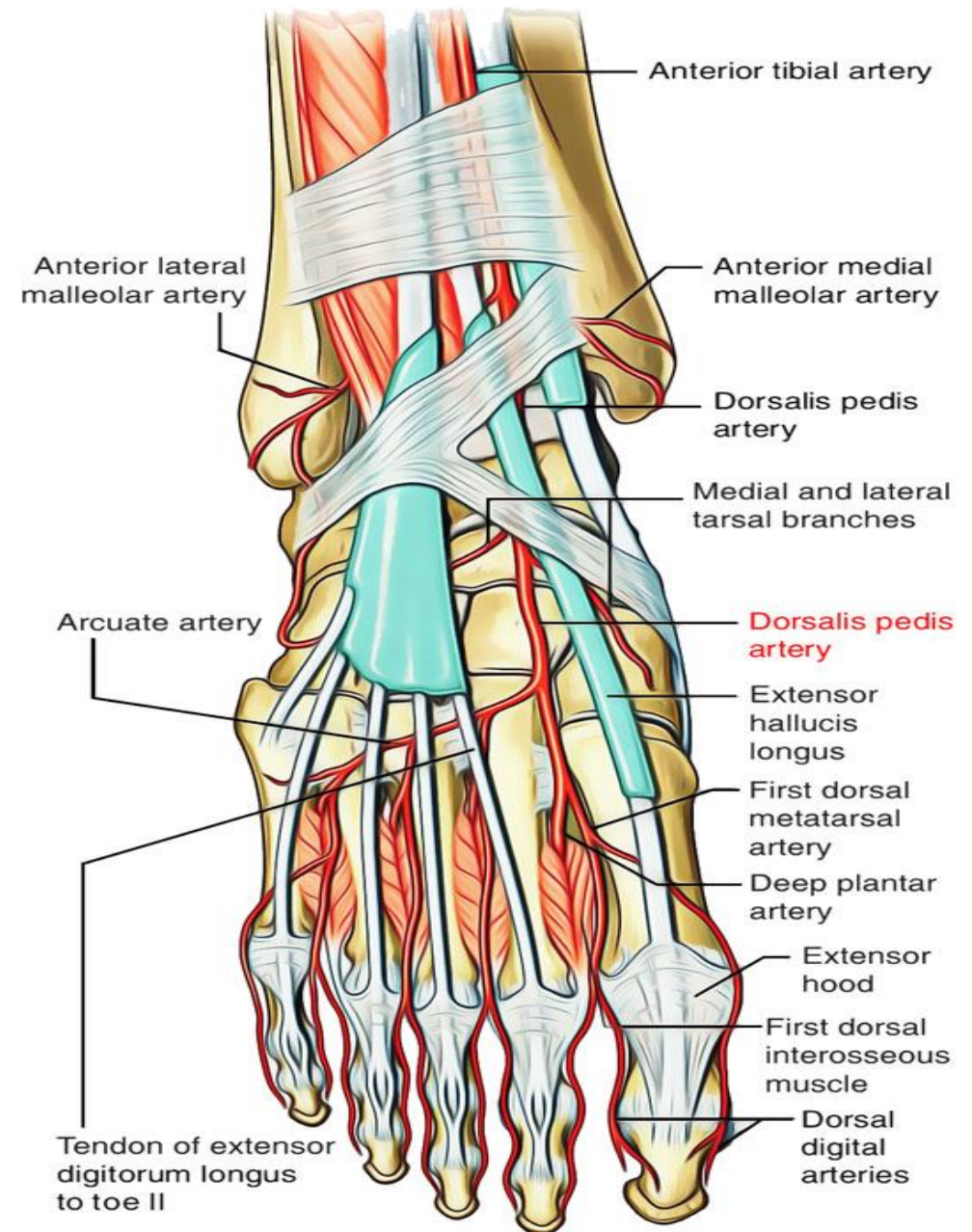
(i) Posterior Leg



(ii) Anterior Leg

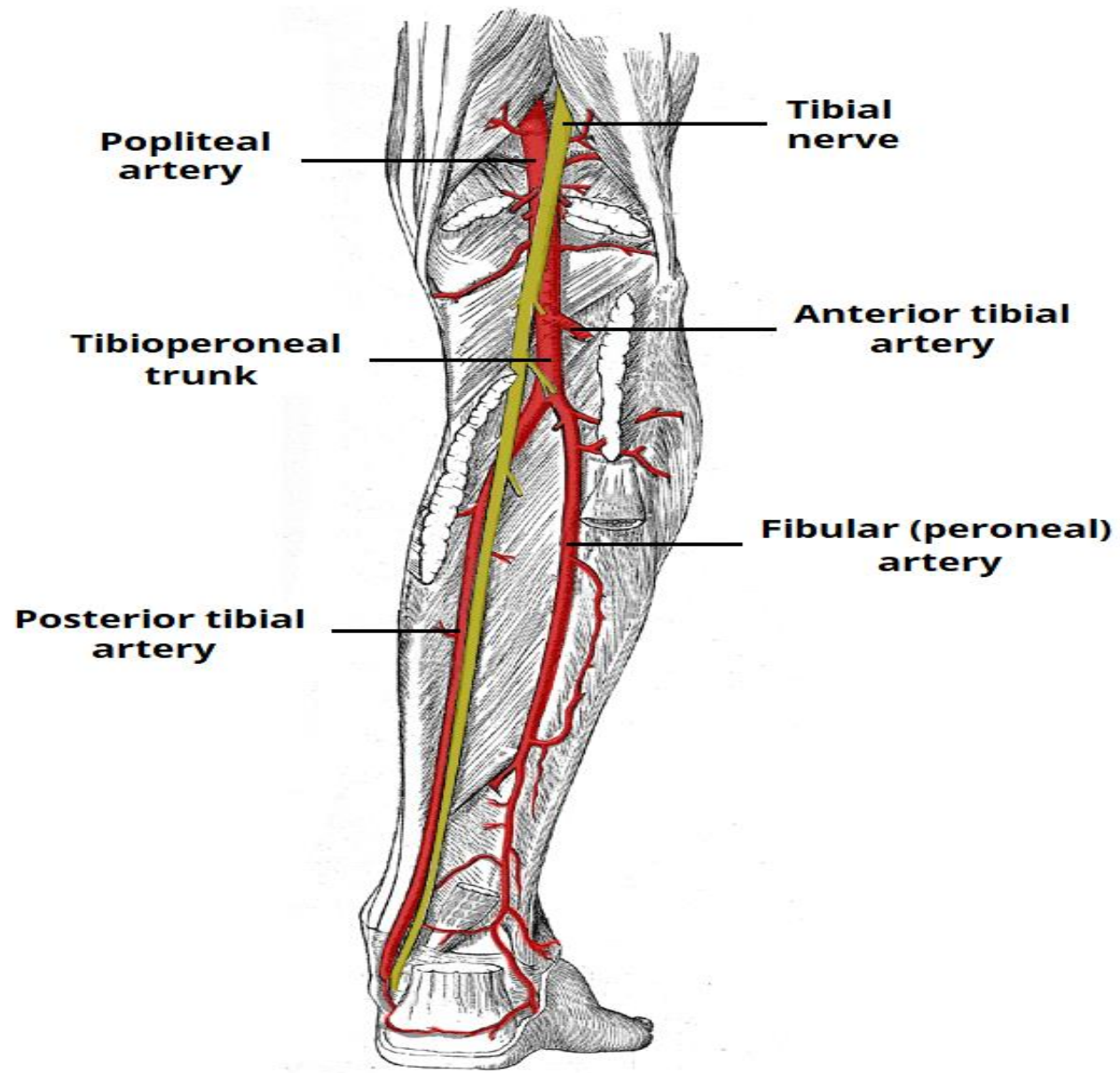
Dorsalis pedis artery

- **Beginning :**
as a continuation of the anterior tibial artery at the ankle joint.
- **Termination :**
as the **deep plantar artery**, which joins the **deep plantar arch** in the sole of the foot.



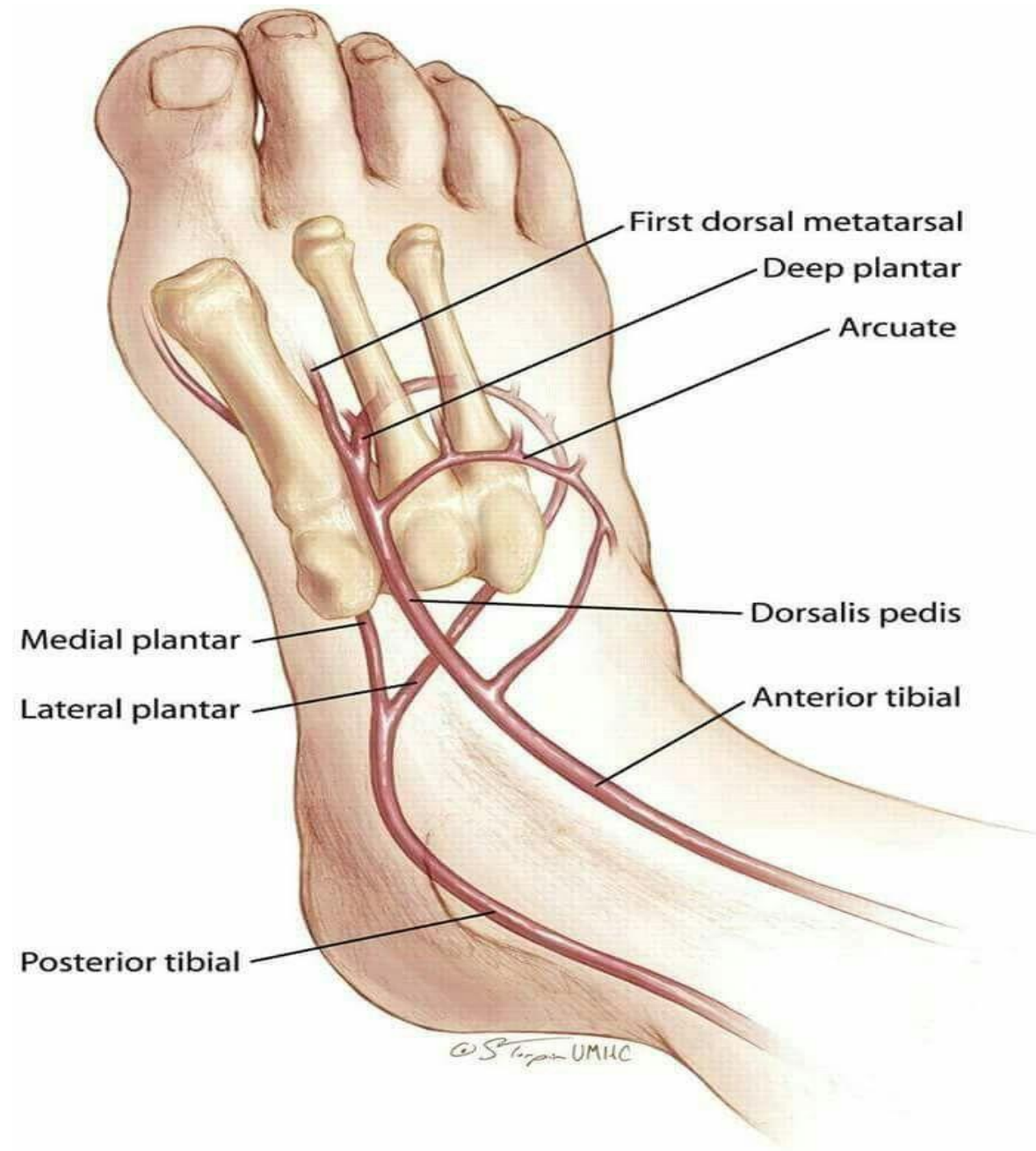
Posterior tibial artery

- **Beginning :**
at the lower border of popliteus muscle as a branch of popliteal artery.
- **Termination :** midway between the calcaneus & medial malleolus by dividing into medial & lateral plantar arteries.
- **Branches**
- Circumflex Peroneal artery.
- Peroneal artery
- Medial malleolar & medial Calcaneal arteries.
- Muscular branches.
- Nutrient artery to the tibia.



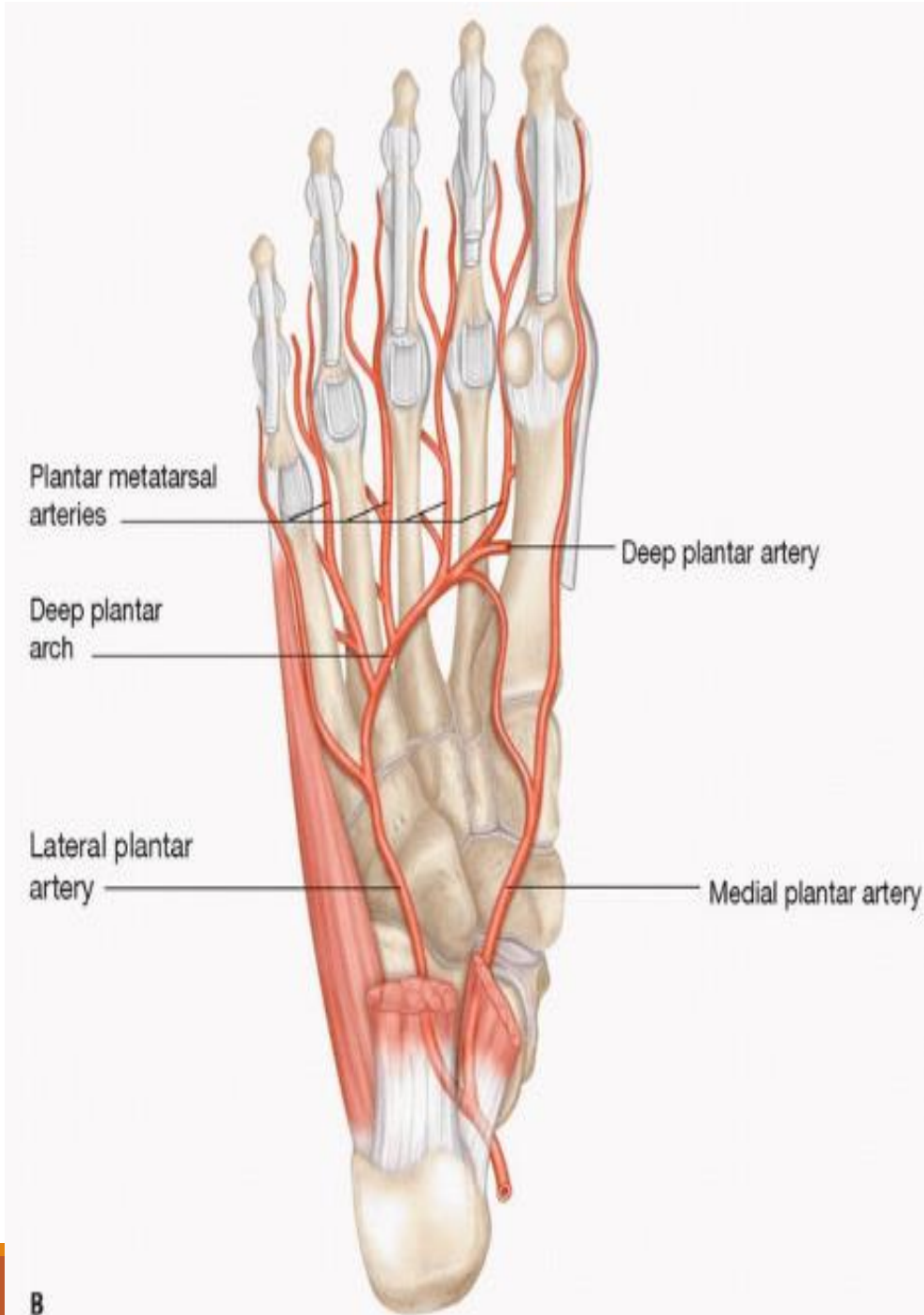
(i) Posterior Leg

Branches of posterior tibial artery	Branches of anterior tibial artery
Circumflex Peroneal artery	Anterior & posterior tibial recurrent arteries.
Peroneal artery	
Medial malleolar & medial Calcaneal arteries	Medial & lateral malleolar arteries



The medial and lateral plantar arteries

- They are the terminal branches of the posterior tibial artery.
- The lateral plantar artery is the larger of the 2 terminal branches of posterior tibial artery.



Pulsation of lower limb arteries

Artery	Site
Femoral	Mid inguinal point
Popliteal	Popliteal fossa
Anterior tibial A.	Midway between two malleoli
Posterior tibial A.	Behind medial Malleolus
Dorsalis pedis	lateral to the extensor hallucis longus tendon (or medially to the extensor digitorum longus tendon)

Areas of Lower Limb Arteries Pulsation



Femoral pulse



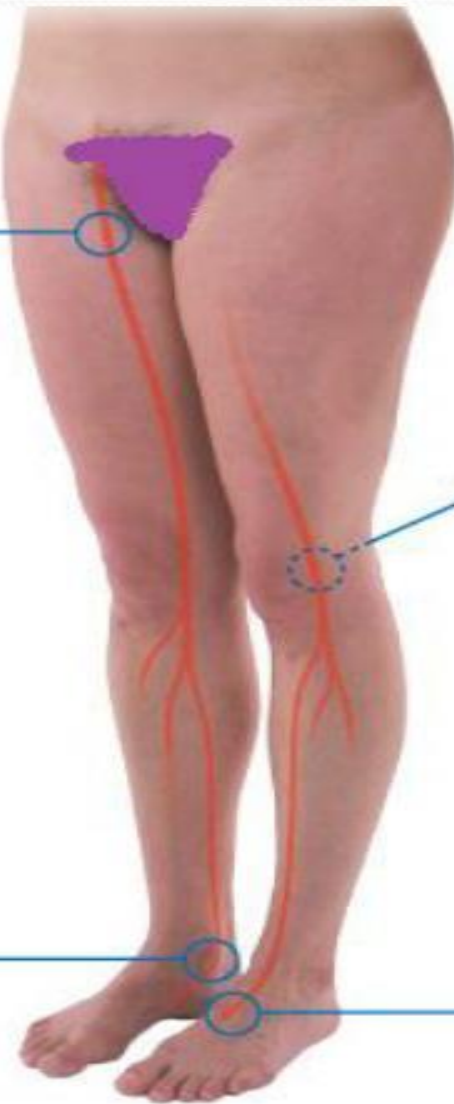
Popliteal pulse



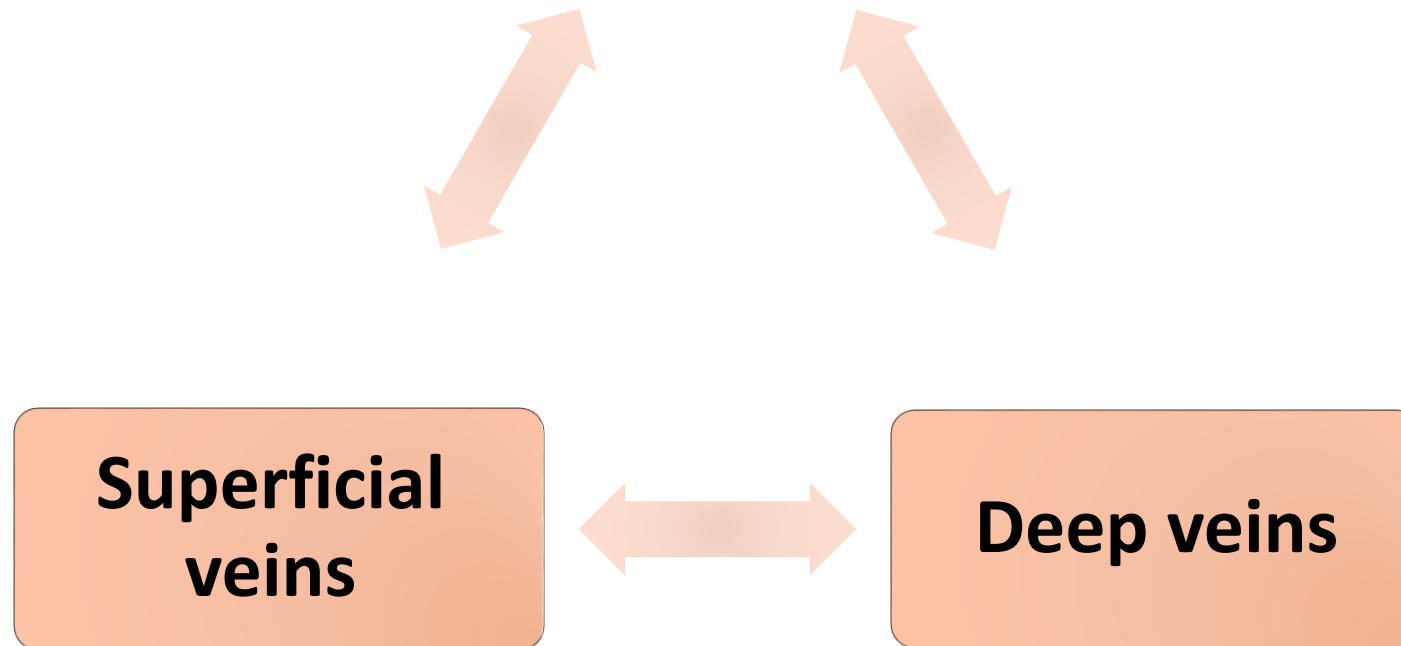
Posterior tibial pulse



Dorsalis pedis pulse



Veins of lower limb



Superficial group

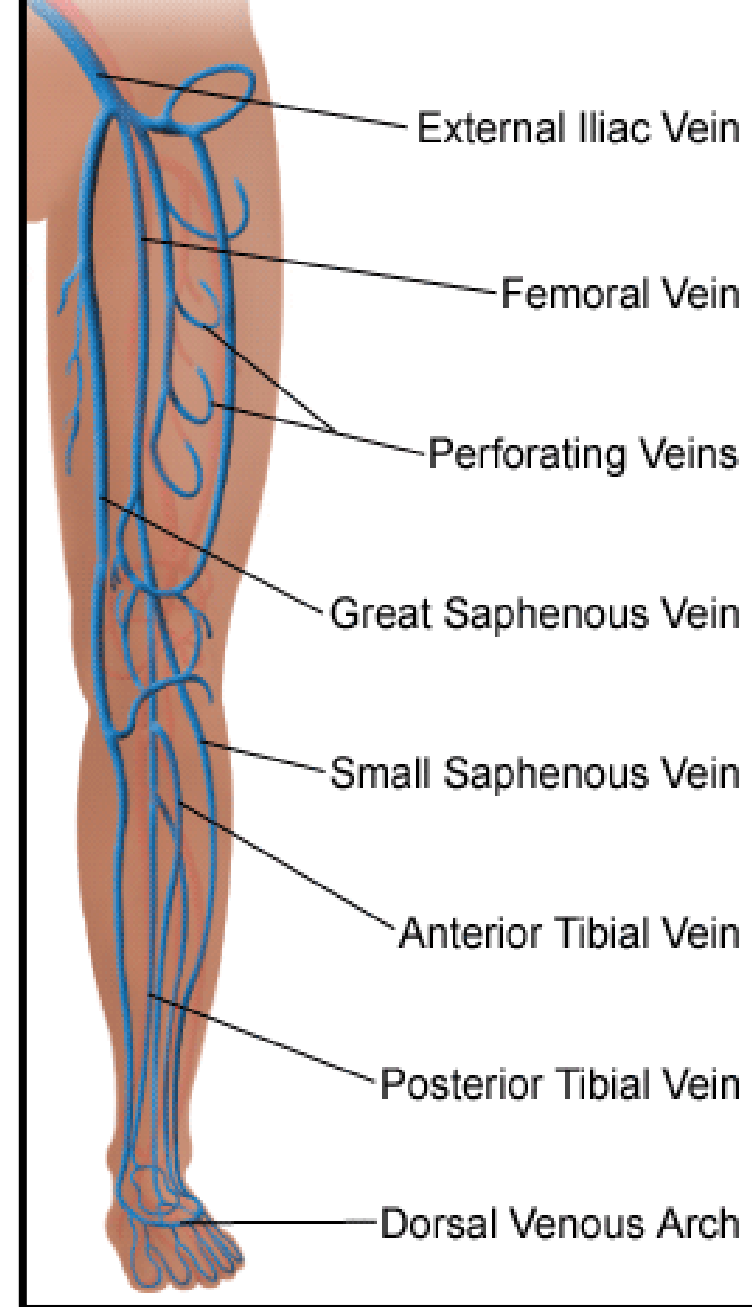
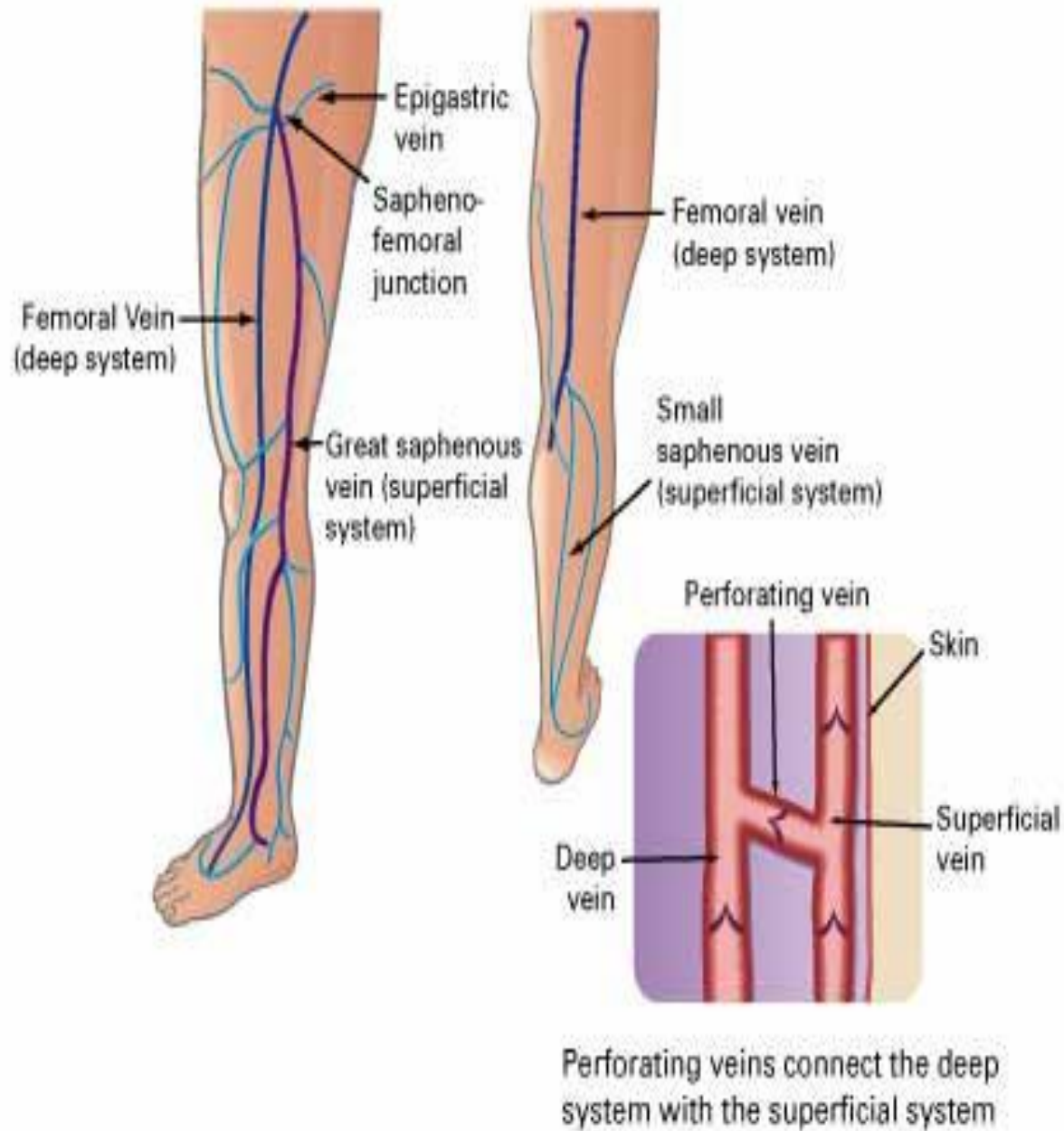
Dorsal venous arch on the dorsum of the foot is drained by 2 saphenous veins:

Great(long) saphenous vein:

Runs of the anteromedial aspect of lower limb & terminates in the **femoral vein**

Small(short) saphenous vein:

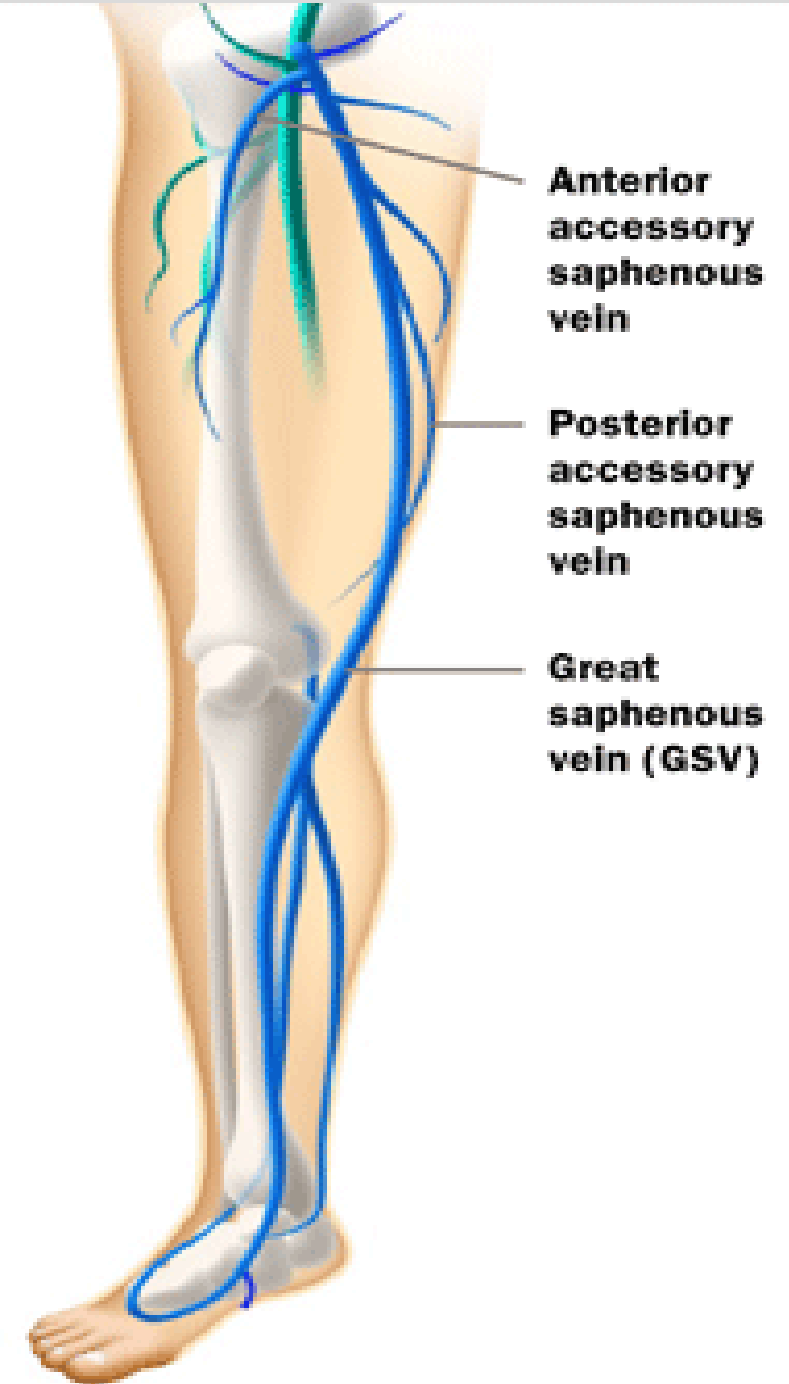
Runs in the back of leg & ends in **popliteal vein**



1-Great(long) saphenous vein:

Course

- 1-It starts from **medial** end of dorsal venus arch
- 2-It runs **medial** aspect of the foot ,then anterior to **medial** mallolus and in the **medial** aspect of the leg with saphenous nerve
- 3- It passes superficial to **medial** epicondyle **medial** to patella
- 4- It runs **superolateral** to terminate at femoral vein through saphenous opening .



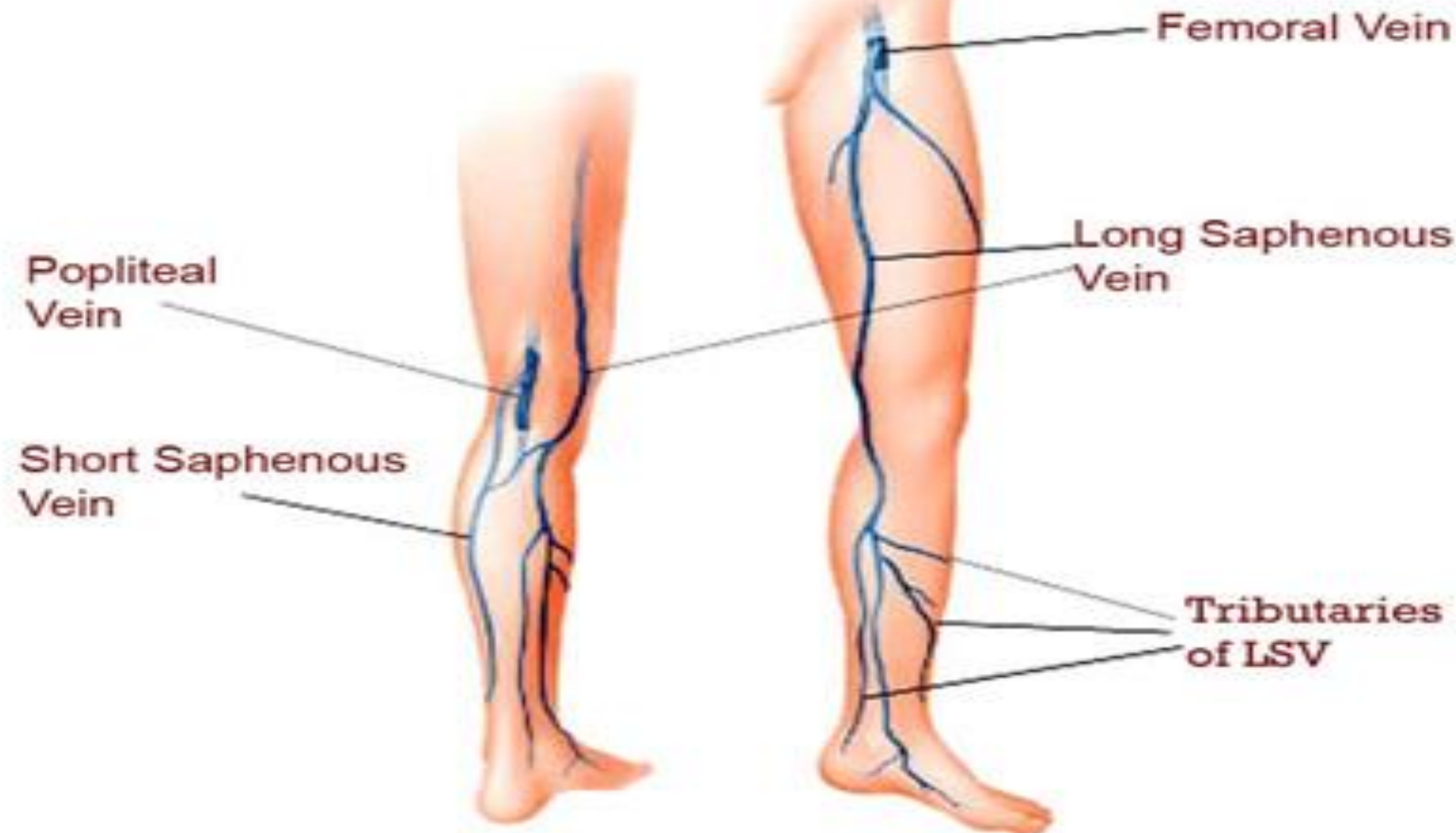
Tributaries

- 1- Superficial epigastric
- 2- Superficial external iliac
- 3- Superficial external pudendal

It connected to deep veins by veins with valves

Clinical importance

- 1- Varicose vein
- 2- Intravenous injection (Venus cut down)
NB. Possibility of saphenous nerve injury
- 3- Vein graft
- 4- Coronary artery bypass graft (**CABG**)





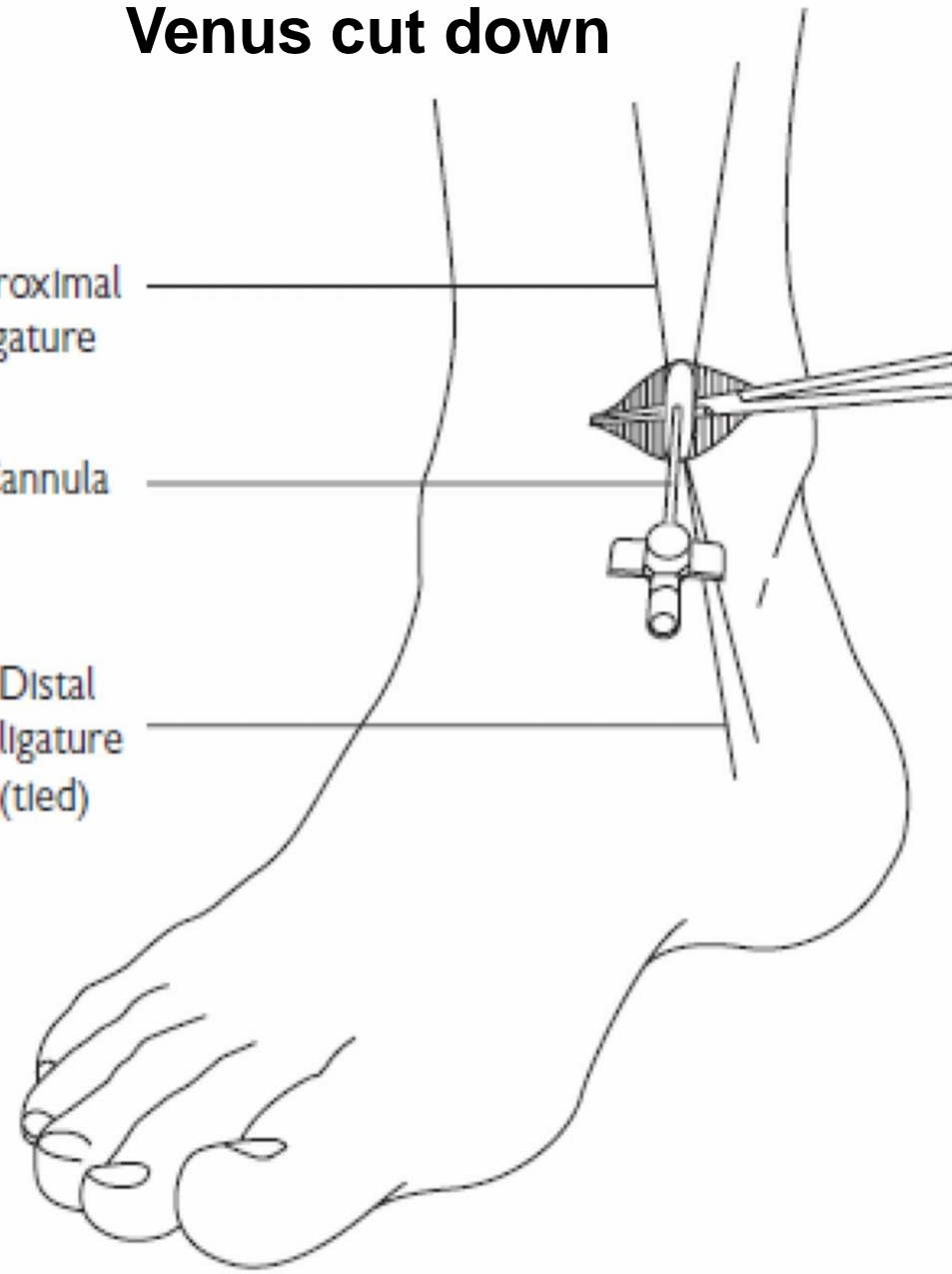
Varicose Vein

Venus cut down

Proximal
ligature

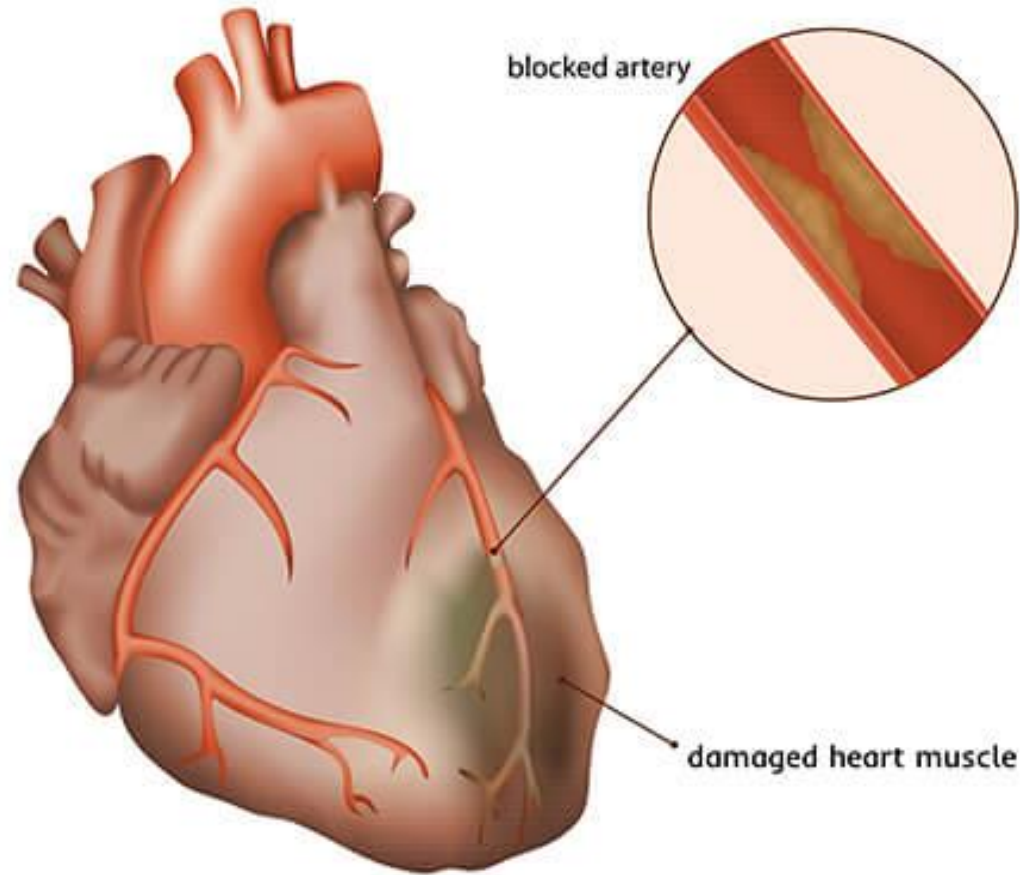
Cannula

Distal
ligature
(tied)

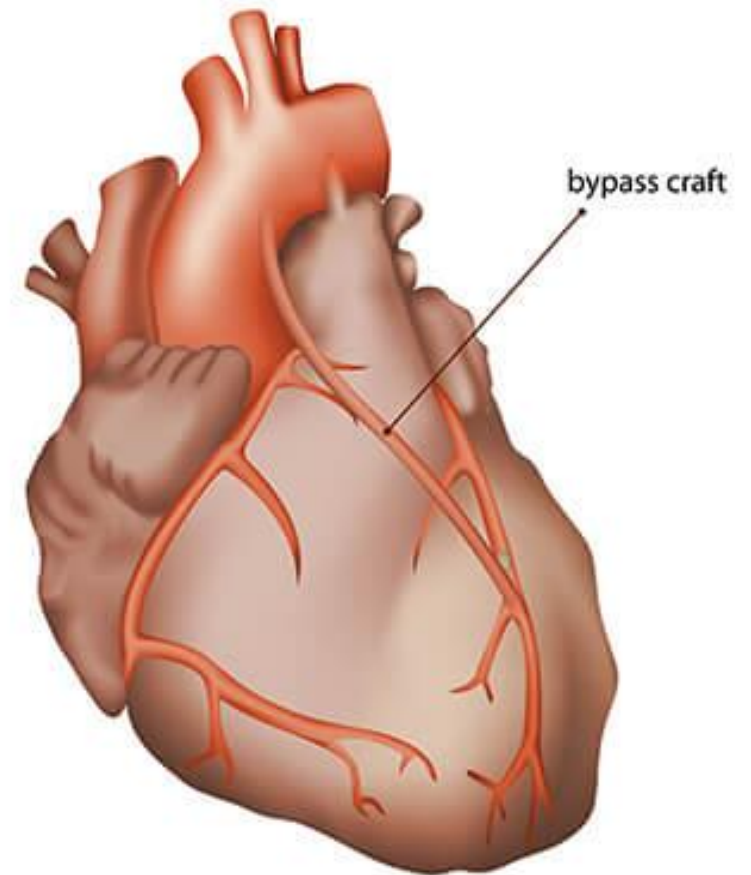


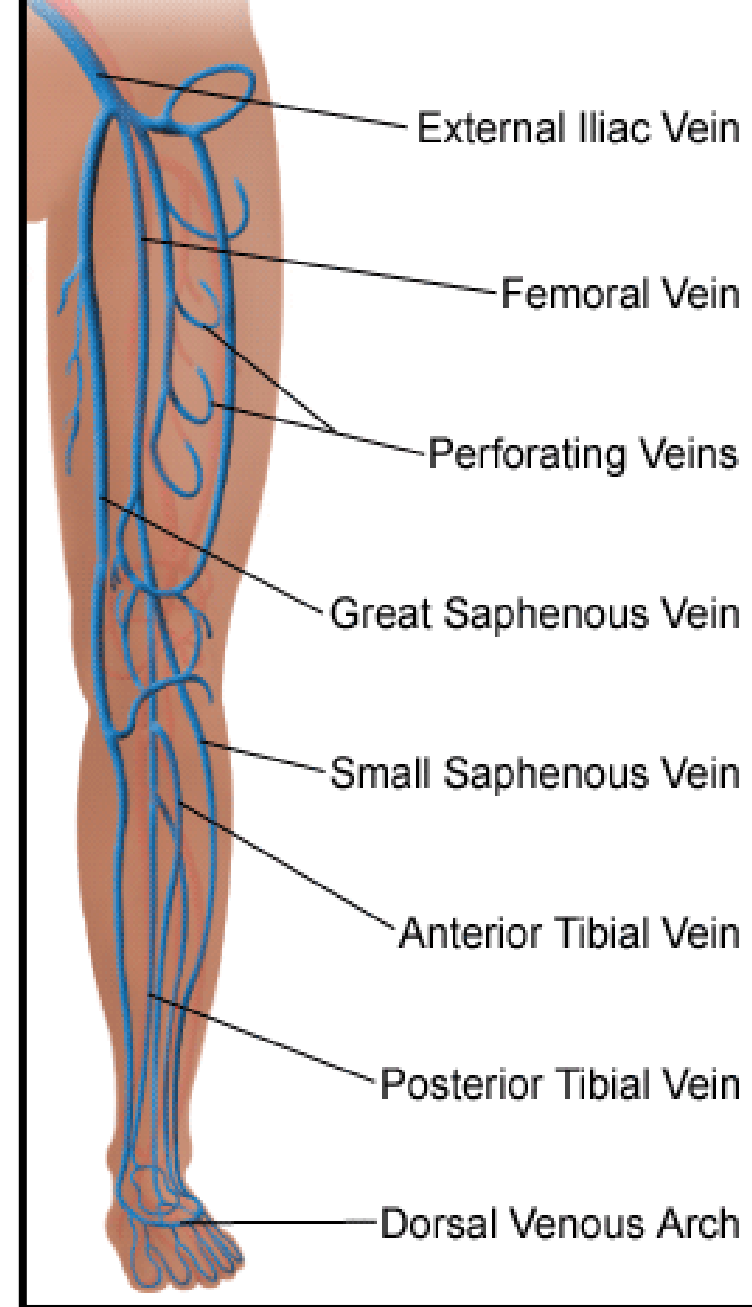
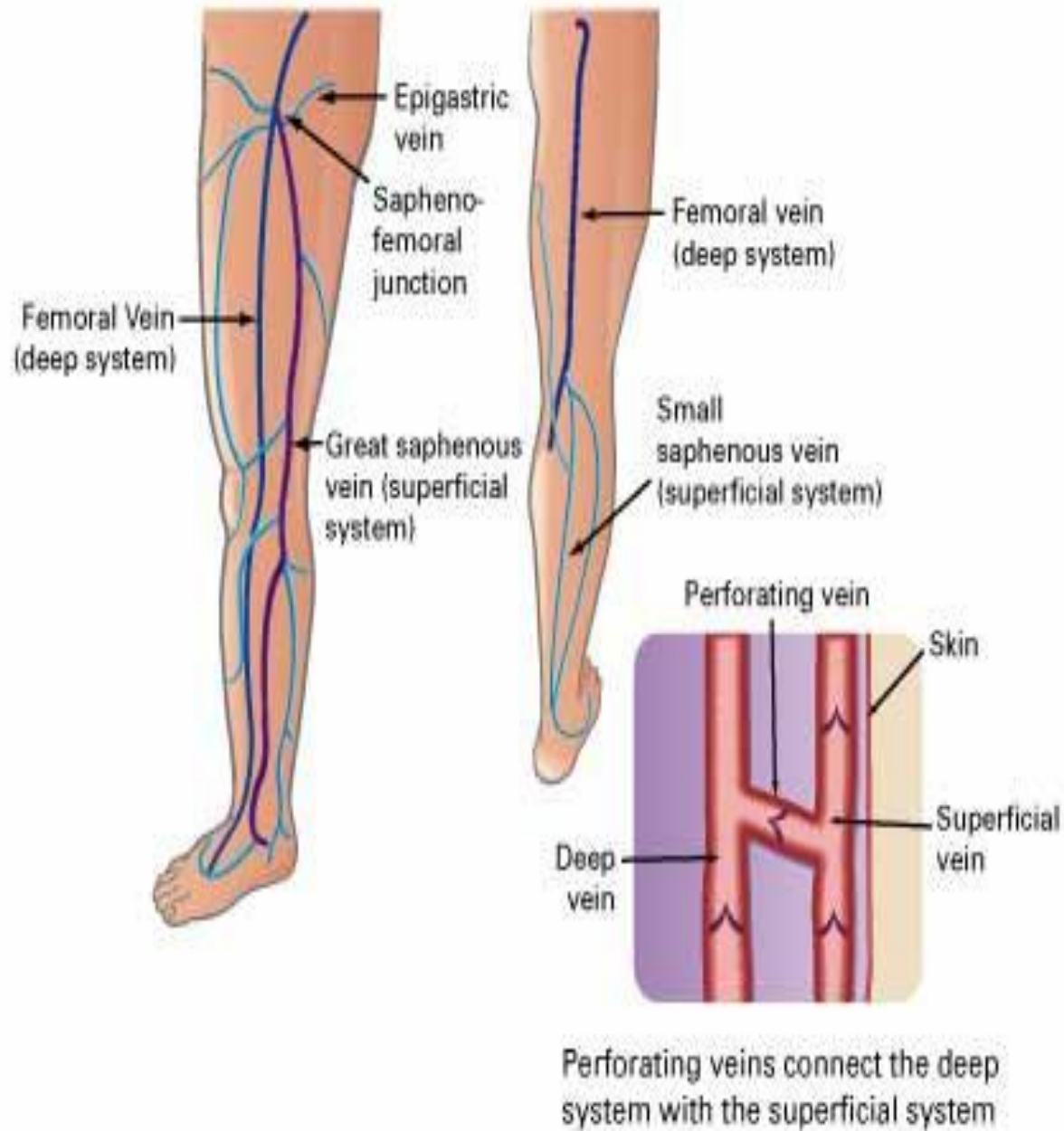
Coronary Artery Bypass

Before surgery

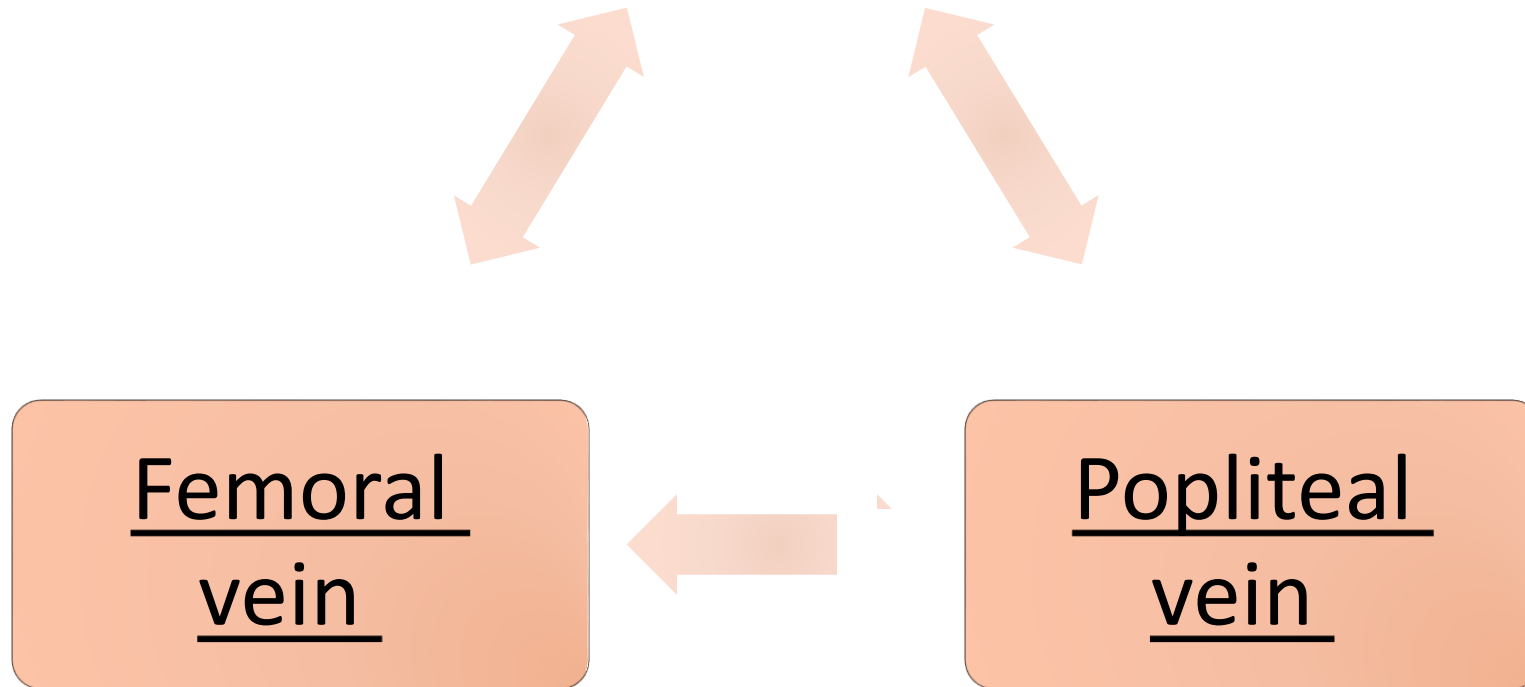


After surgery





Deep group:



Deep group

Each artery below the knee is followed by 2 veins(Vena comitans)

Popliteal vein : behind the knee drains the veins of the leg & becomes the femoral vein in the thigh.

The femoral vein : becomes external iliac vein in the pelvis

THANK

YOU