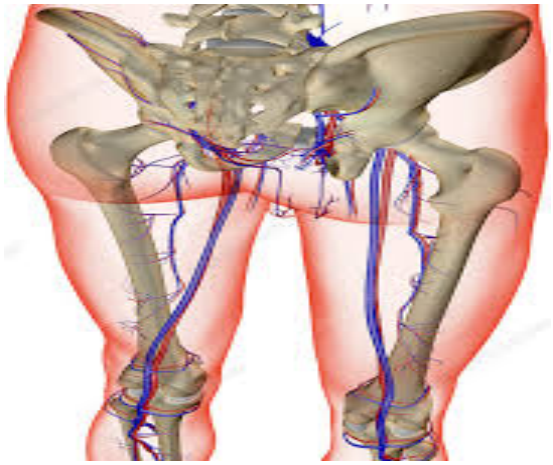
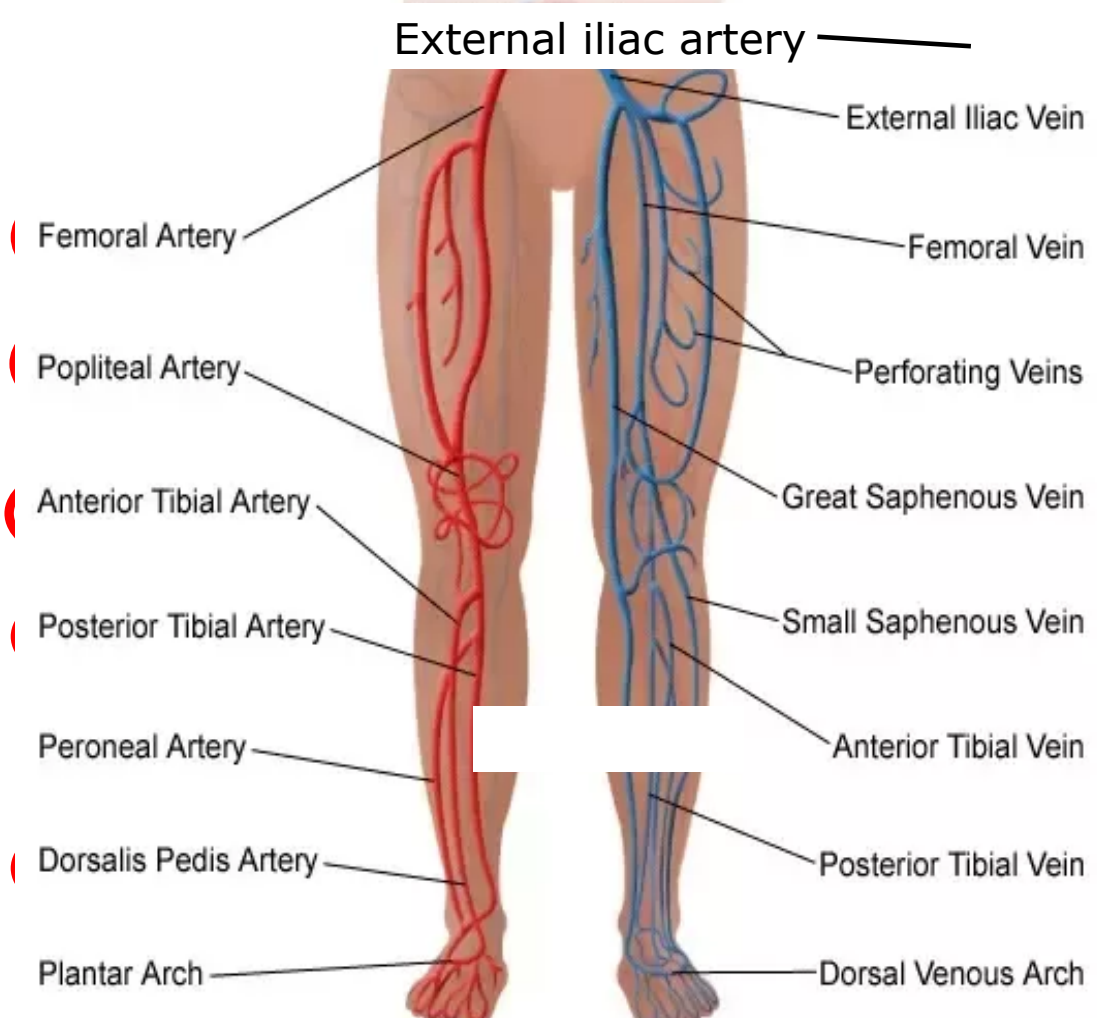


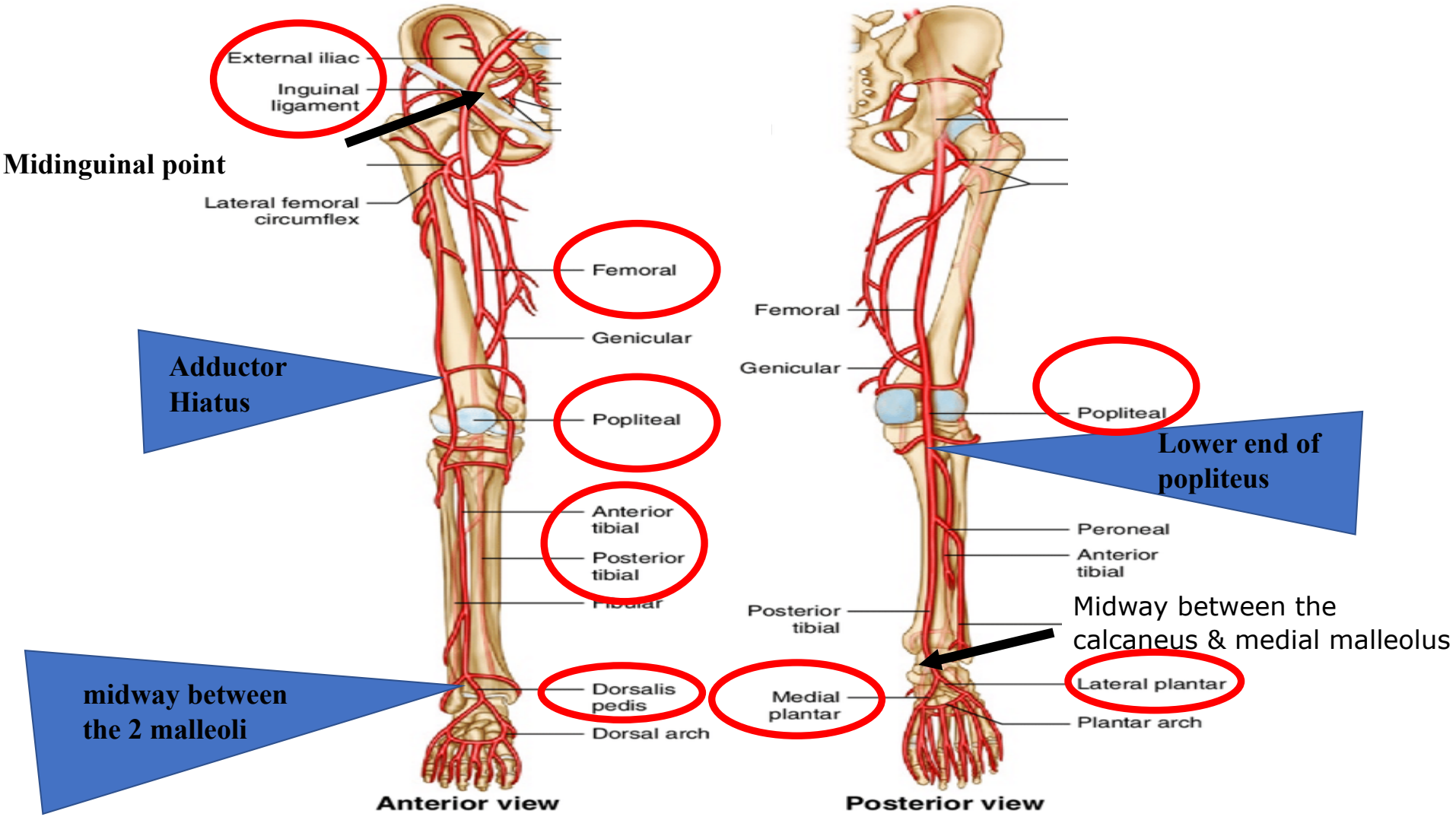
Vessels of the lower limb

Dr. Maha ELBeltagy

Associate professor of Anatomy and Histology
The University of Jordan

Arterial and Venous Circulation of the Legs




External iliac
Inguinal ligament
Midinguinal point
Lateral femoral circumflex
Femoral
Genicular
Adductor Hiatus
Popliteal
Anterior tibial
Posterior tibial
Fibular
midway between the 2 malleoli
Dorsalis pedis
Dorsal arch
Anterior view
Femoral
Genicular
Popliteal
Lower end of popliteus
Peroneal
Anterior tibial
Posterior tibial
Midway between the calcaneus & medial malleolus
Medial plantar
Lateral plantar
Plantar arch
Posterior view

The femoral artery

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

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

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

Branches:

A)**Superficial branches**:

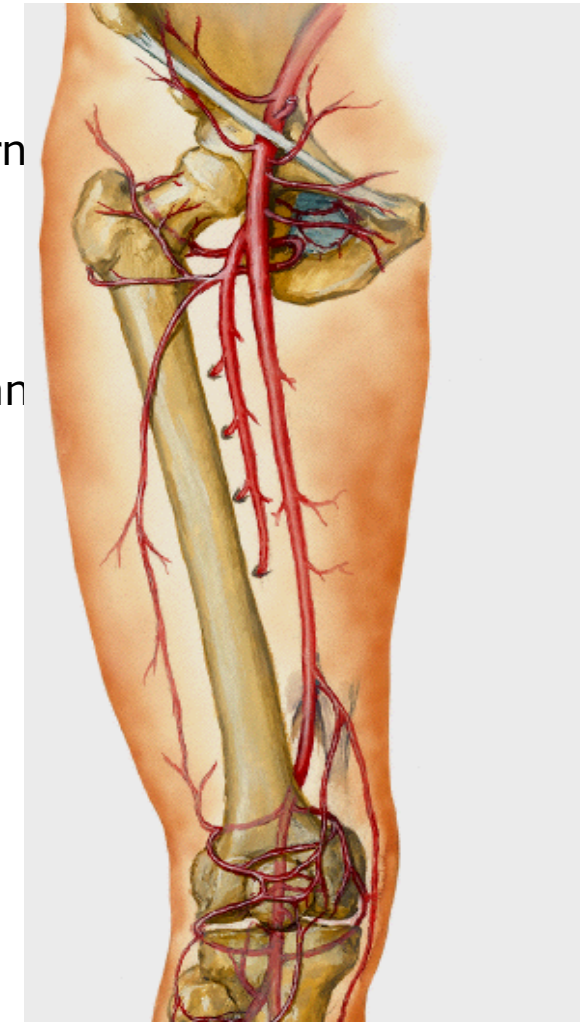
-Superficial epigastric.

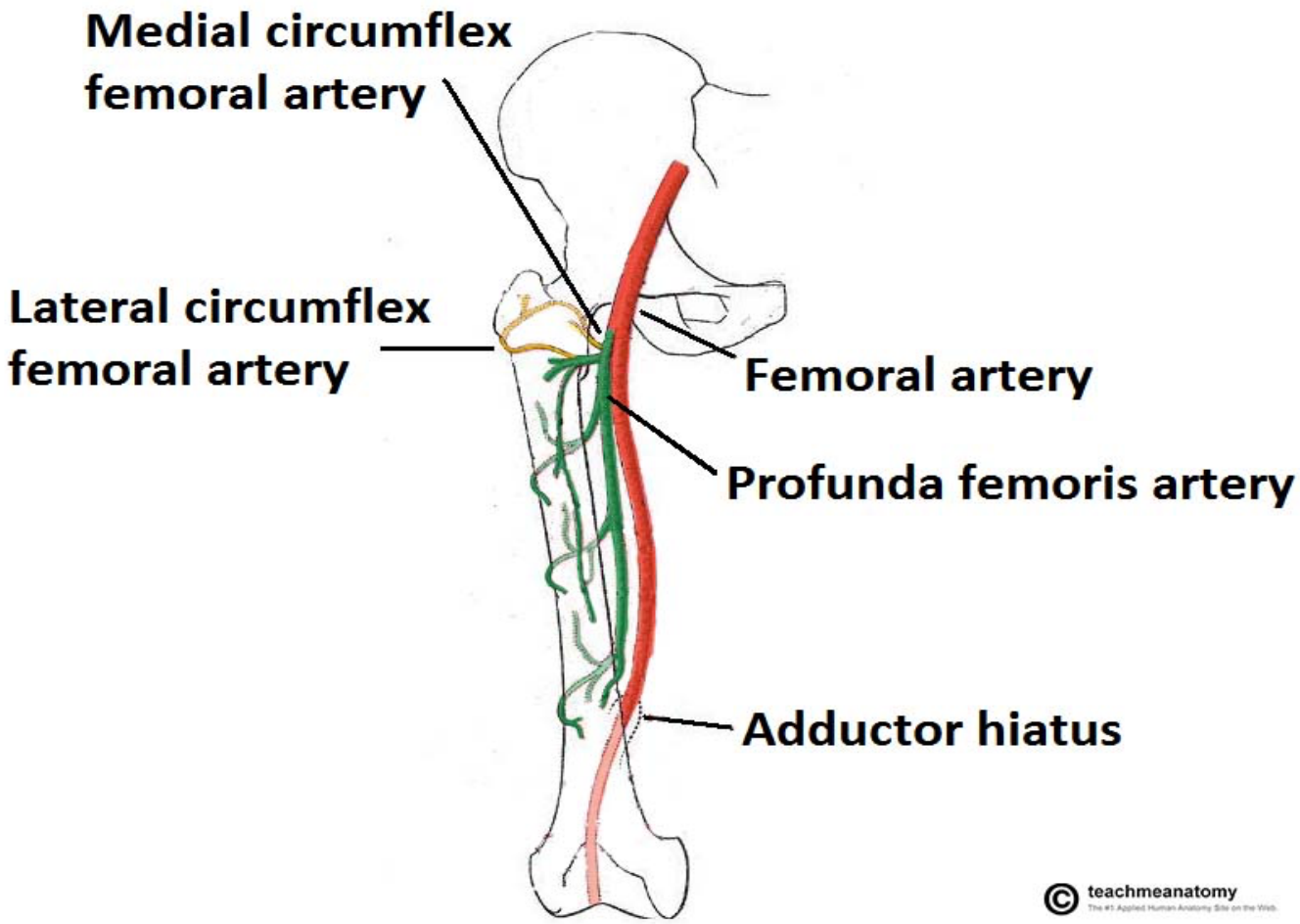
-Superficial circumflex iliac.

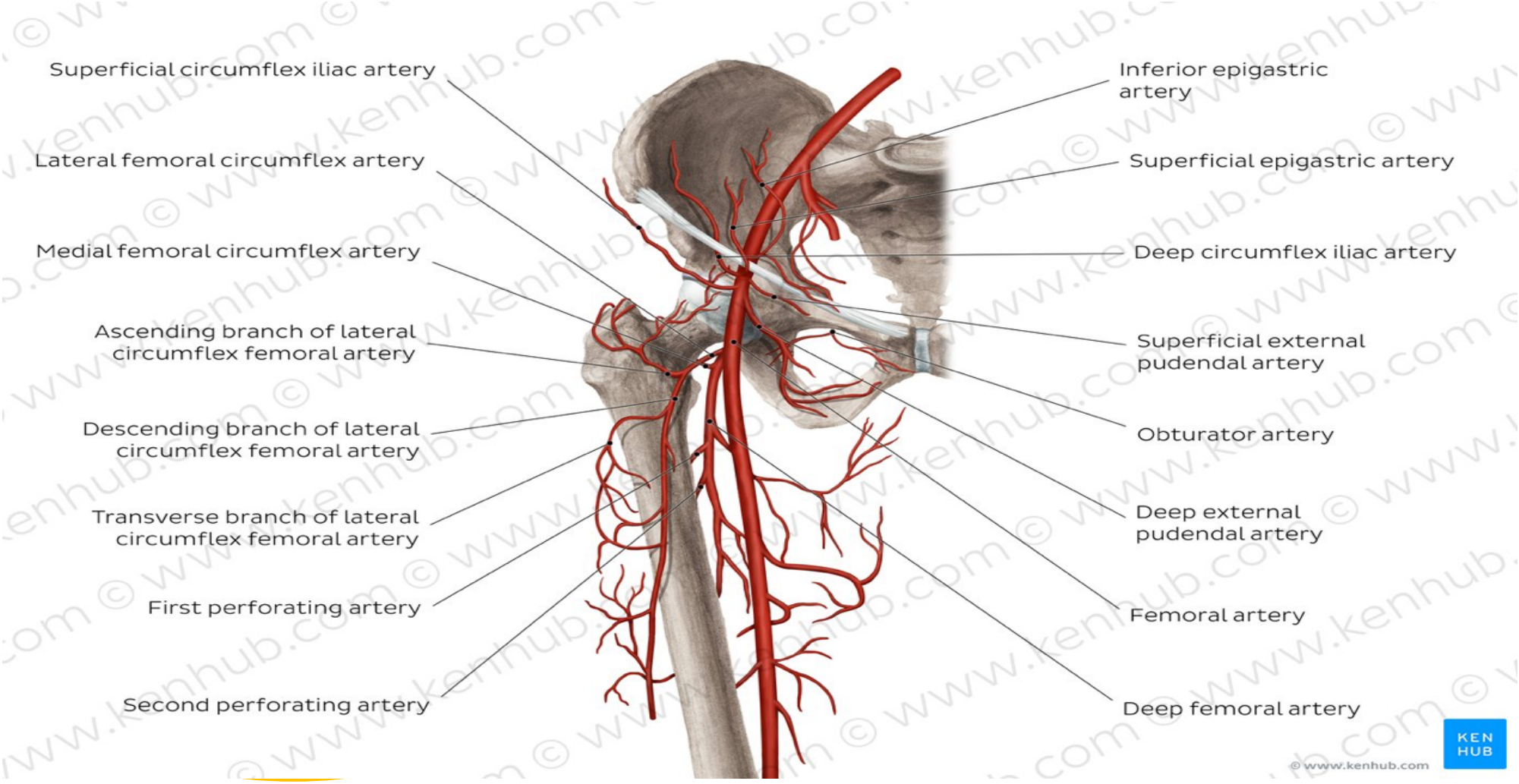
-Superficial external pudendal.

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.




Medial circumflex femoral artery
Lateral circumflex femoral artery
Femoral artery
Profunda femoris artery
Adductor hiatus
© teachmeanatomy


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
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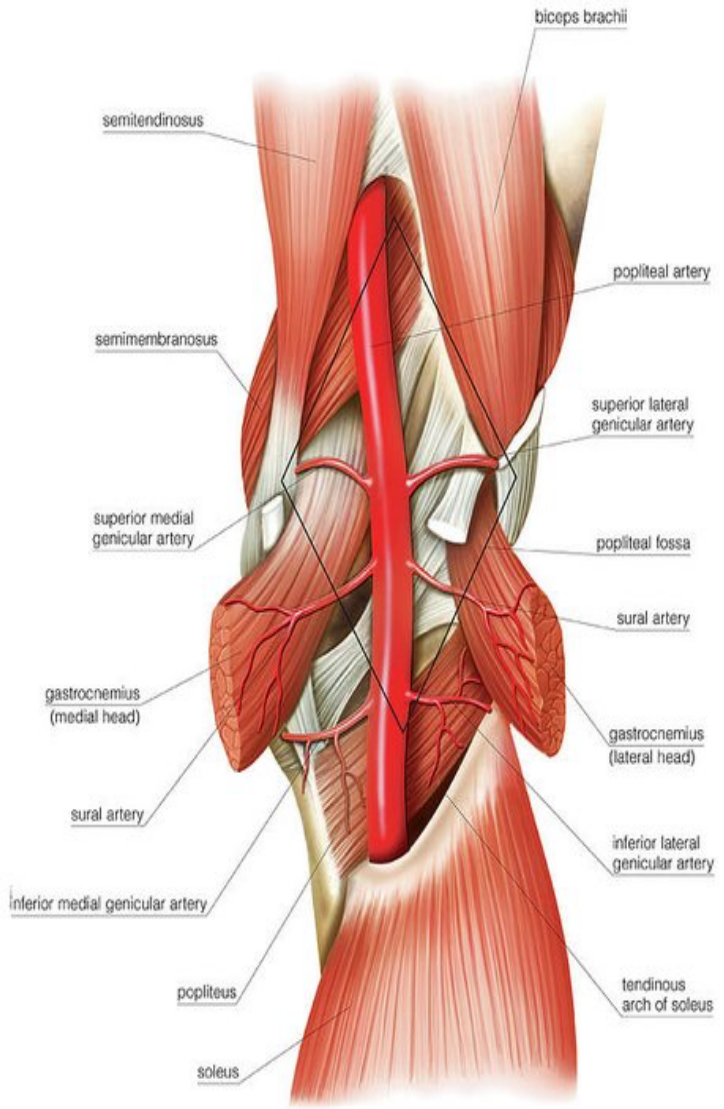
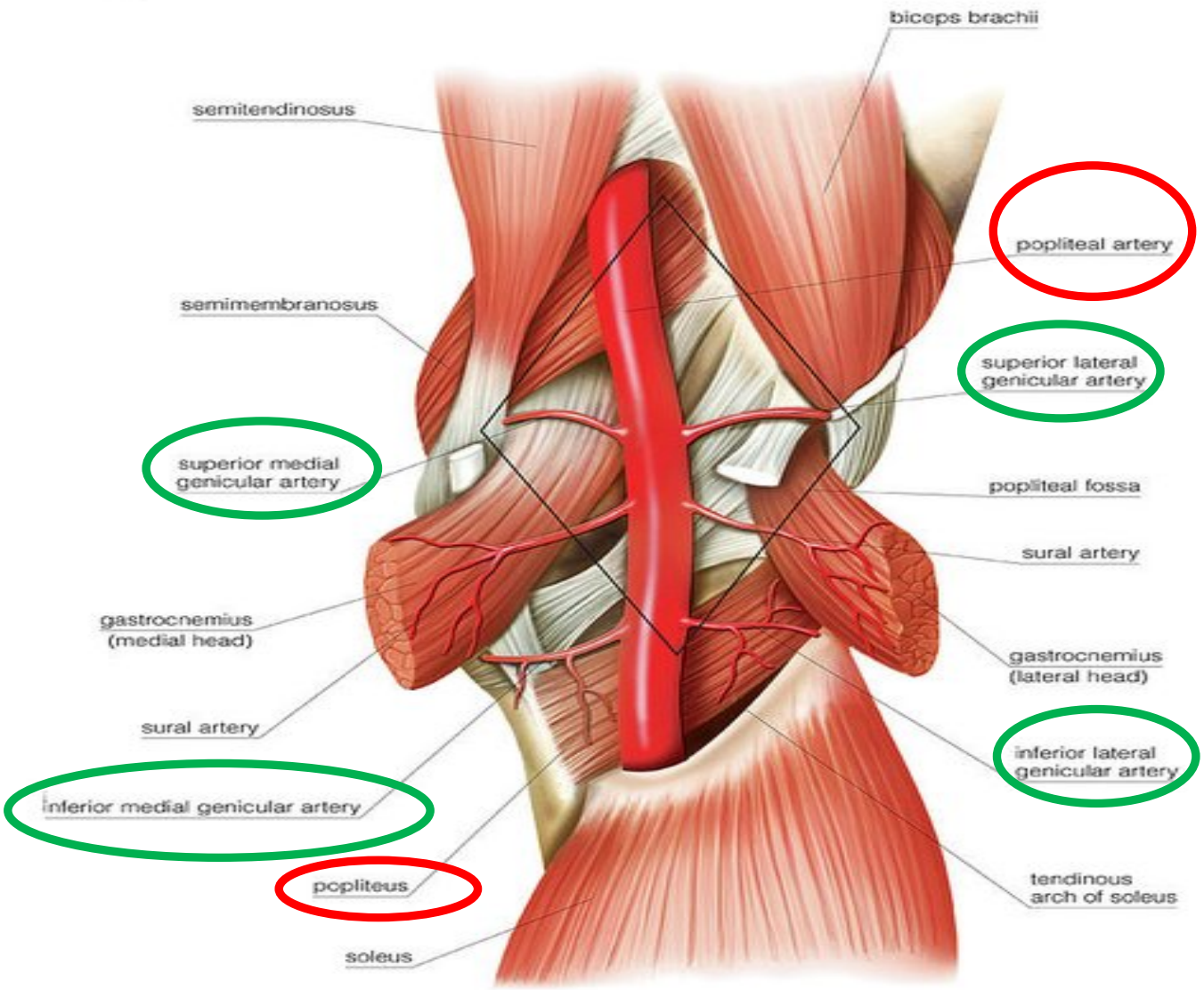
Popliteal artery

- **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.

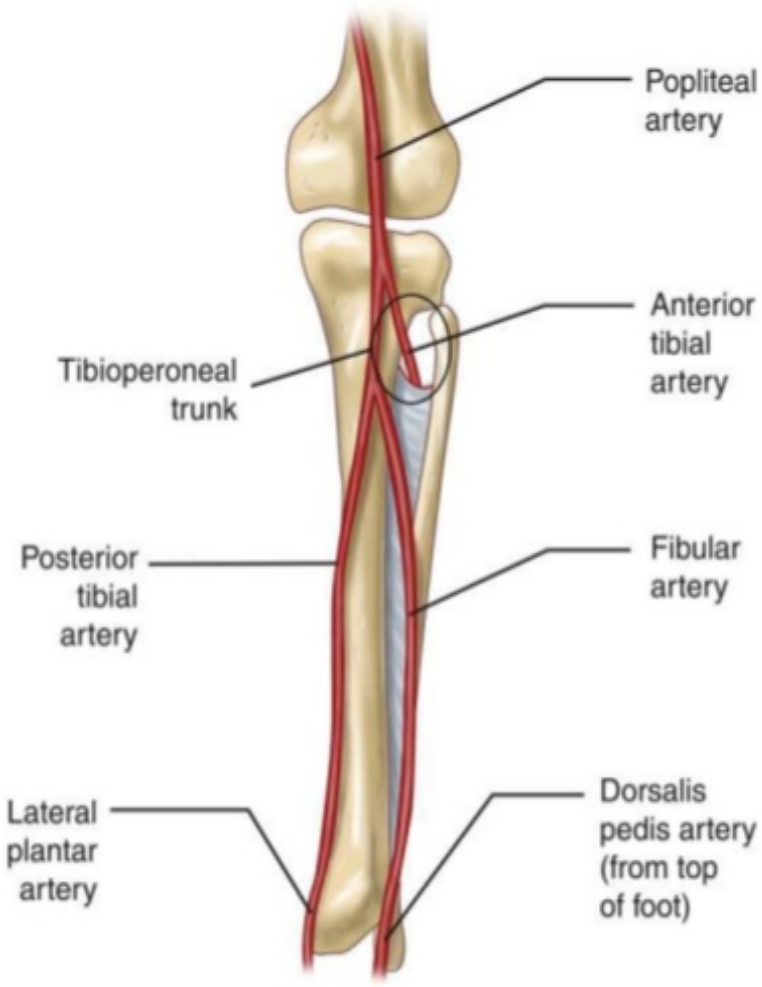
Branches:

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




biceps brachii
semitendinosus
popliteal artery
semimembranosus
superior lateral genicular artery
superior medial genicular artery
popliteal fossa
sural artery
gastrocnemius (medial head)
gastrocnemius (lateral head)
sural artery
inferior lateral genicular artery
inferior medial genicular artery
popliteus
tendinous arch of soleus
soleus

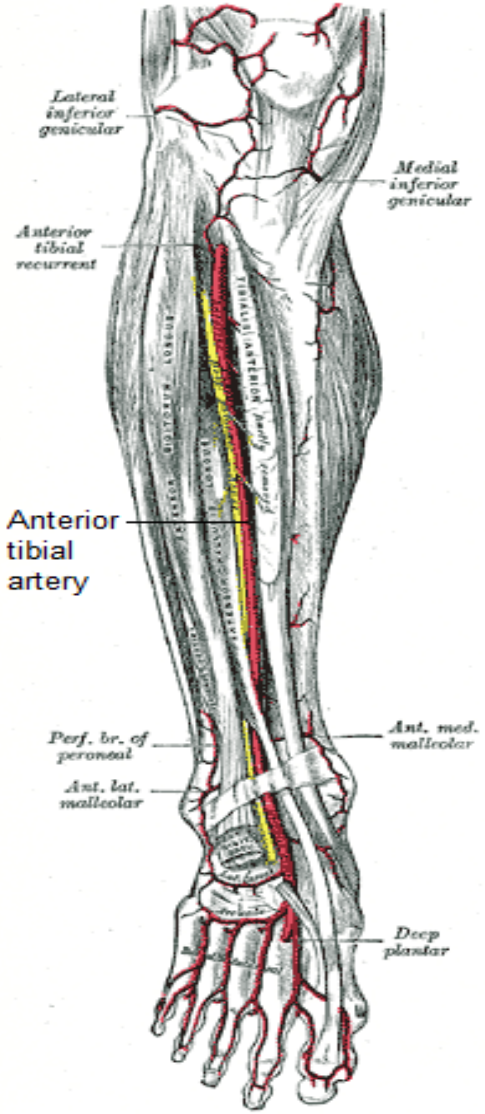
(b)

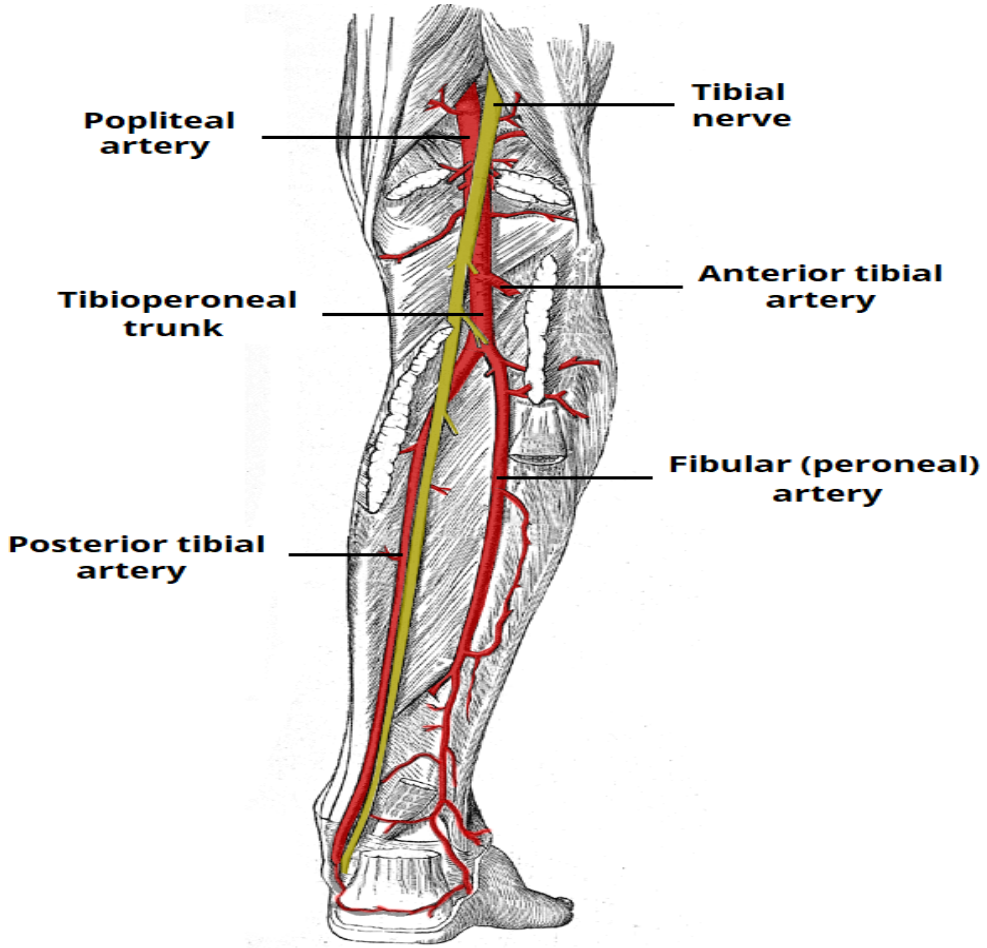

Popliteal artery
Anterior tibial artery
Tibioperoneal trunk
Posterior tibial artery
Fibular artery
Lateral plantar artery
Dorsalis pedis artery (from top of foot)

Anterior tibial artery

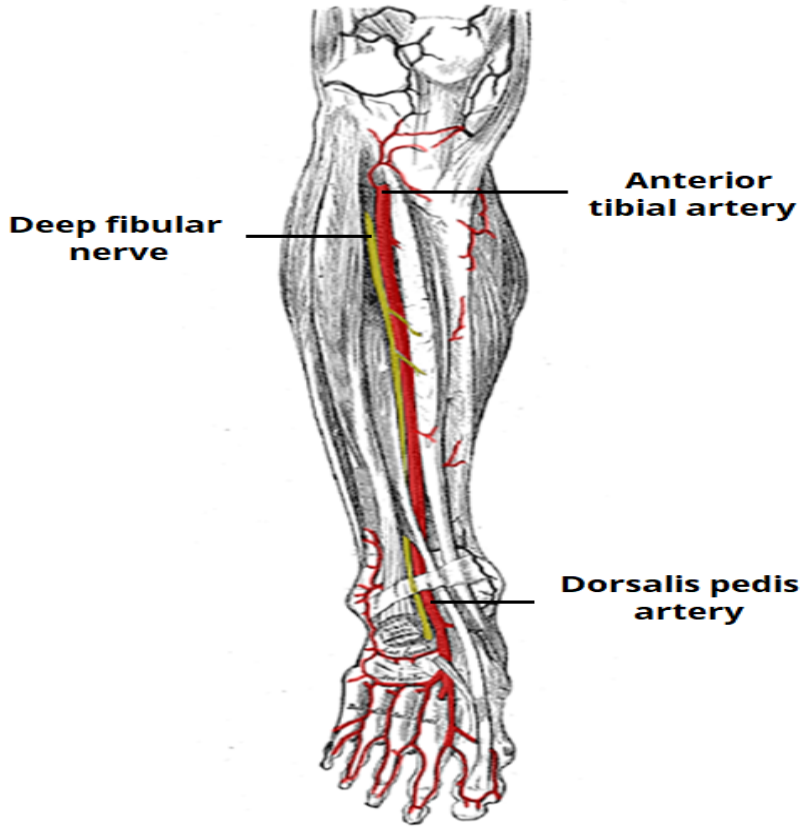
- **Beginning :** at the lower border of popliteus muscle a branch of popliteal artery.
- **Termination :** Anterior to ankle joint midway between the 2 malleoli by becoming dorsalis pedis artery.
- **Branches**:

- Anterior & posterior tibial recurrent arteries.
- Medial & lateral malleolar arteries.
- Muscular branches.





(i) Posterior Leg



(ii) Anterior Leg

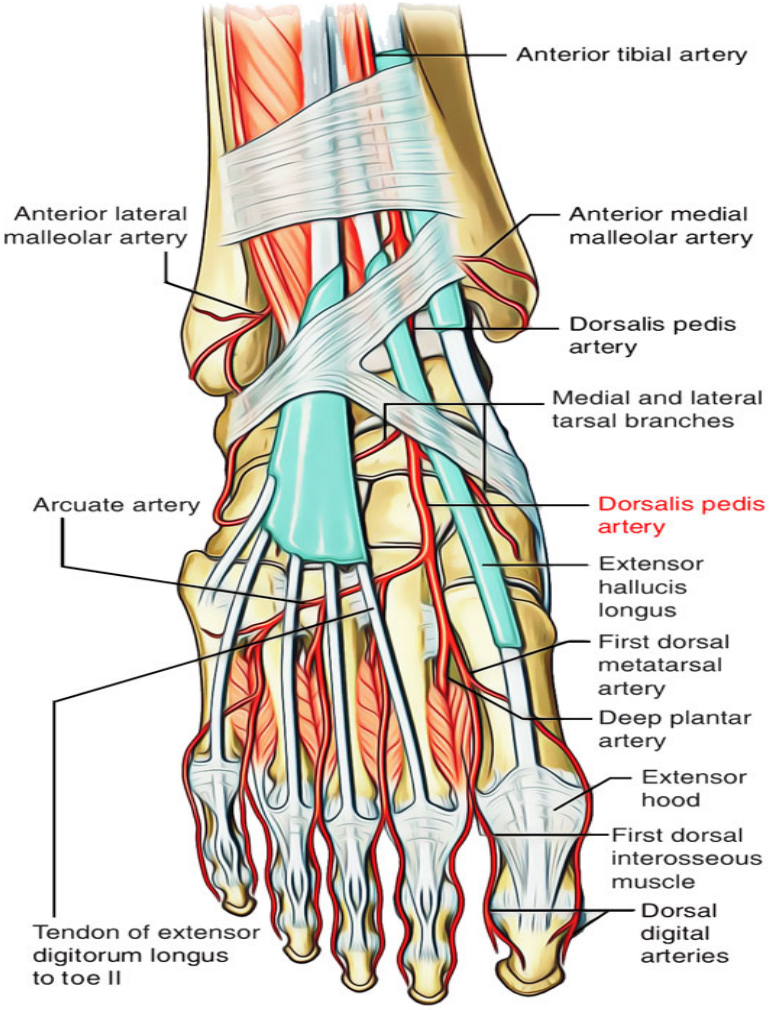
Dorsalis pedis artery

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

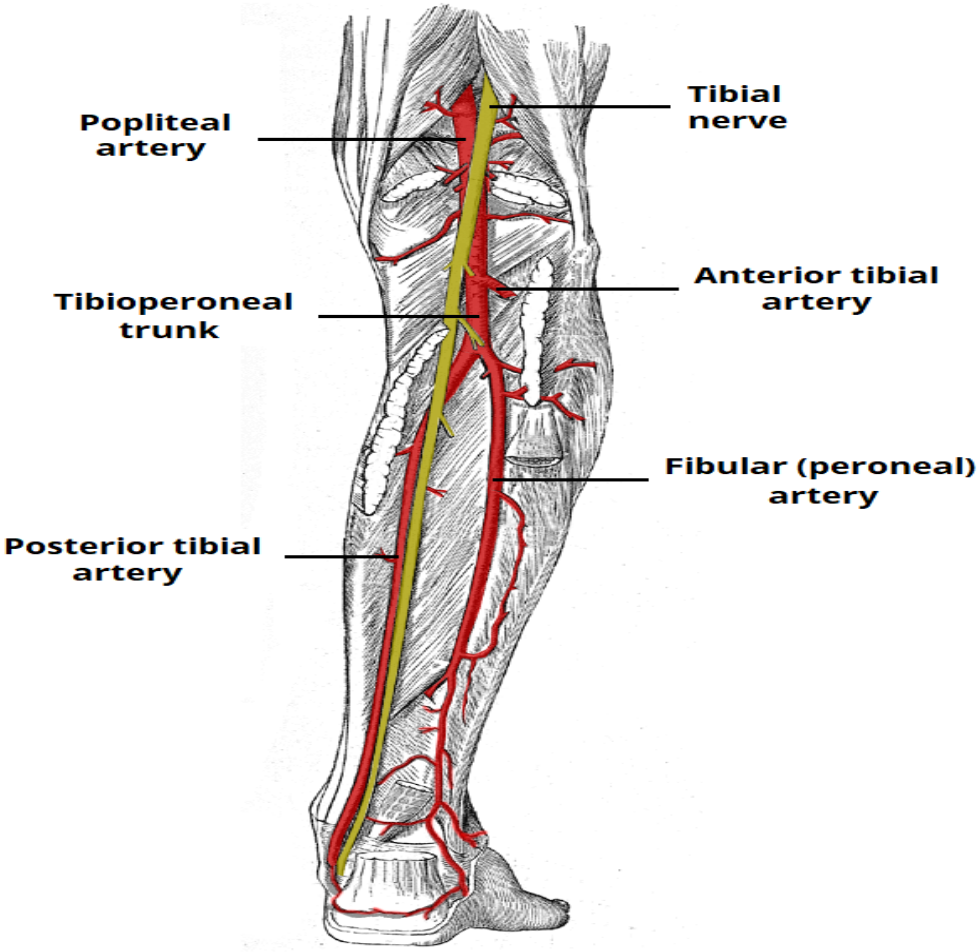
Circumflex Peroneal artery.

Peroneal artery

Medial malleolar & medial Calcaneal arteries.

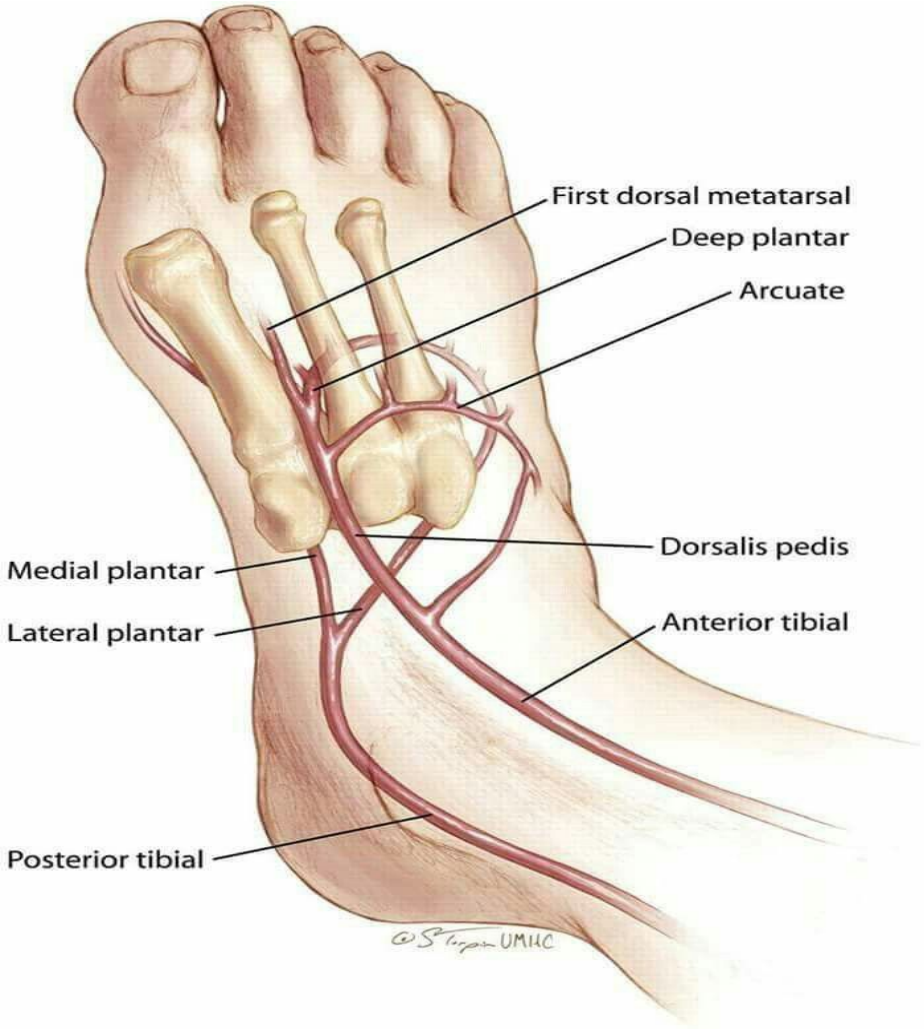
Muscular branches.

Nutrient artery to the tibia.



(i) Posterior Leg

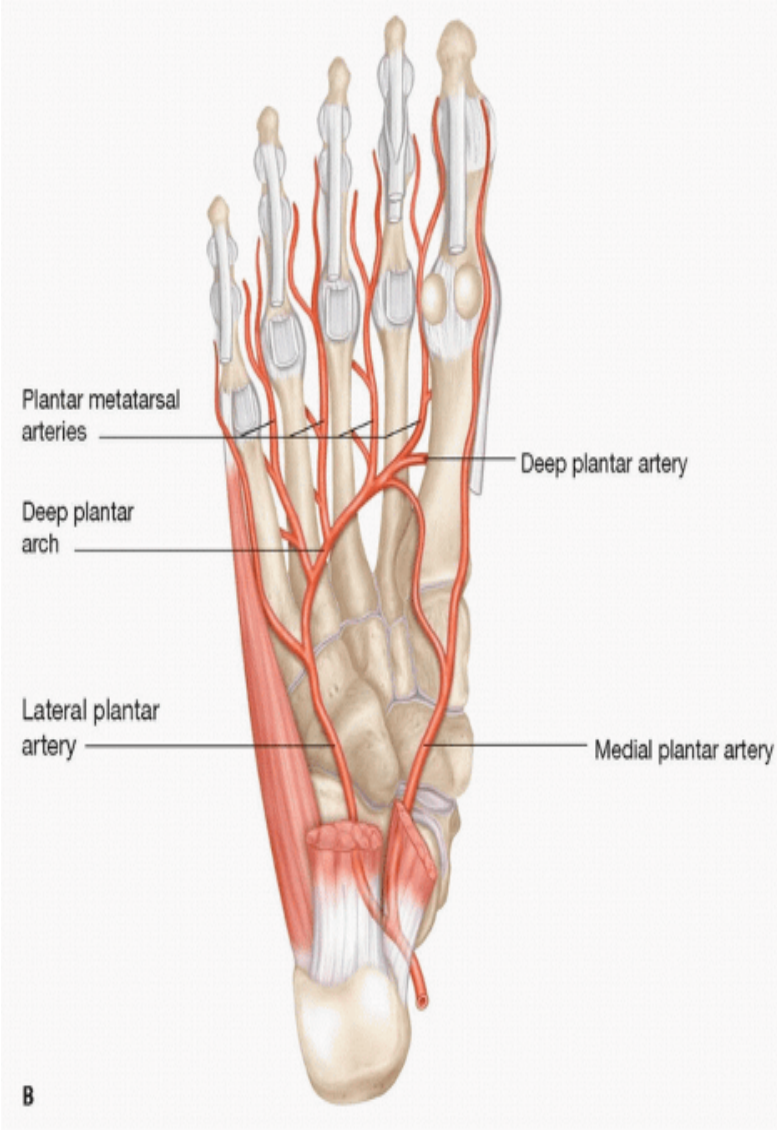
Branches of posterior tibial artery	Branches of anterior tibial artery
Circumflex Peroneal artery	Anterior & posterior tibial recurrent arteries.
Peroneal artery	
Medial malleolar & medial Calcaneal arteries	Medial & lateral malleolar arteries


First dorsal metatarsal
Deep plantar
Arcuate
Dorsalis pedis
Medial plantar
Lateral plantar
Anterior tibial
Posterior tibial
UMHC

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.

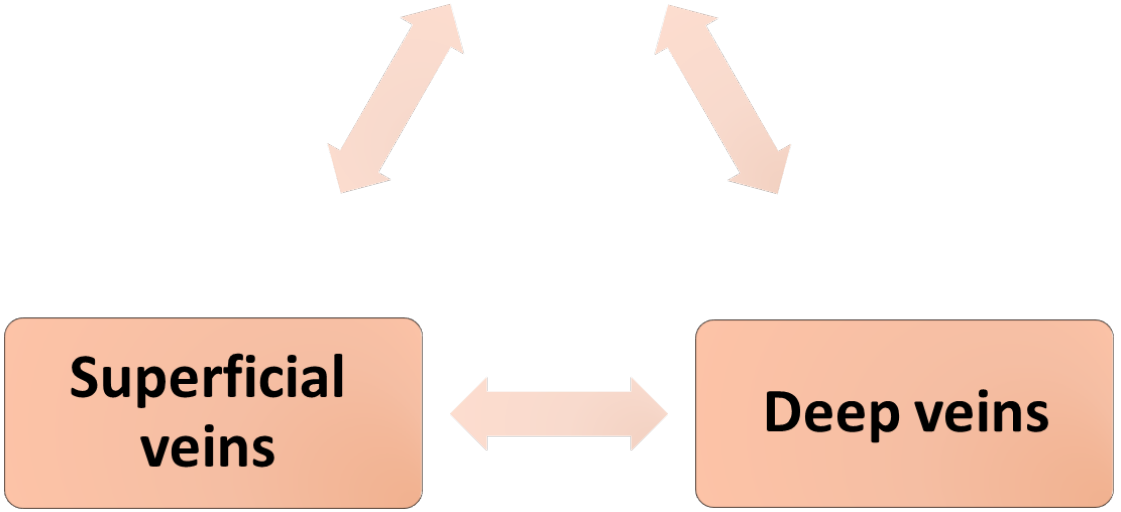


Pulsation of lower limb arteries

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

Veins of lower limb



Superficial group

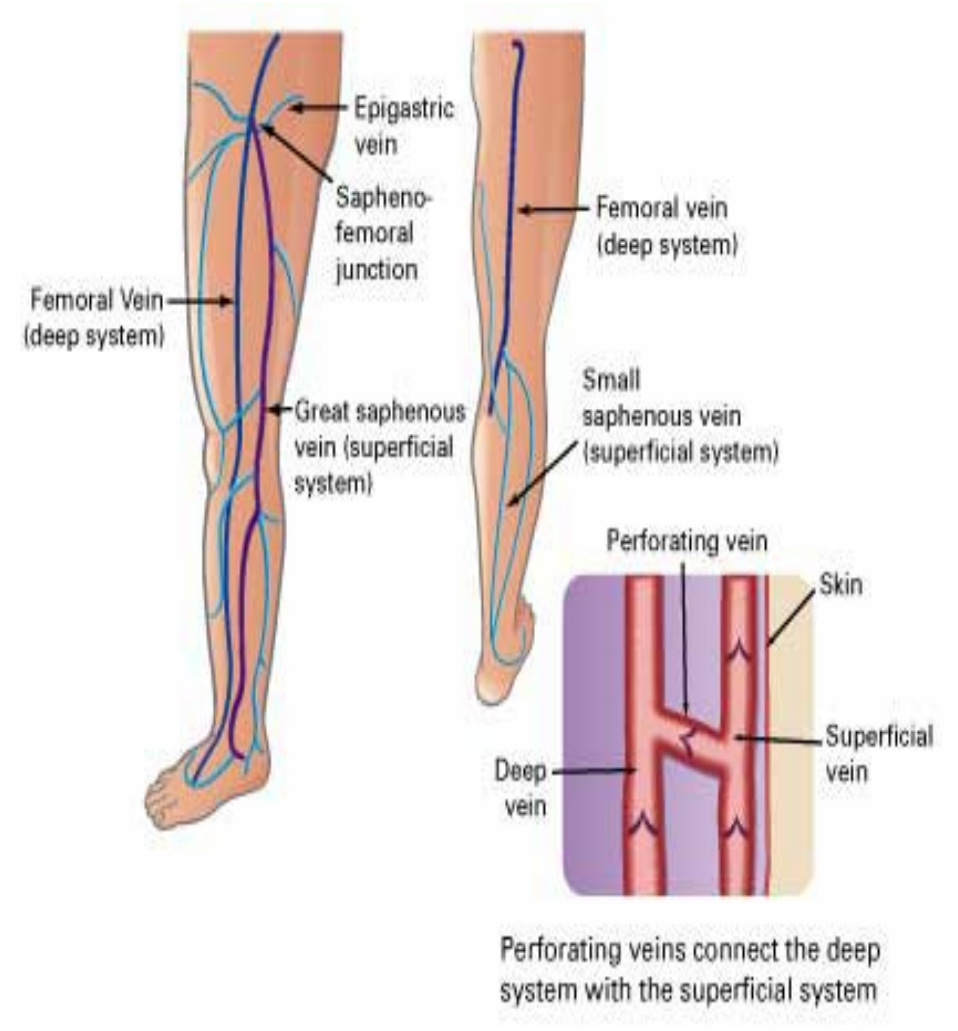
Dorsal venous arch on the dorsum of the foot is drained by 2 saphenous veins:

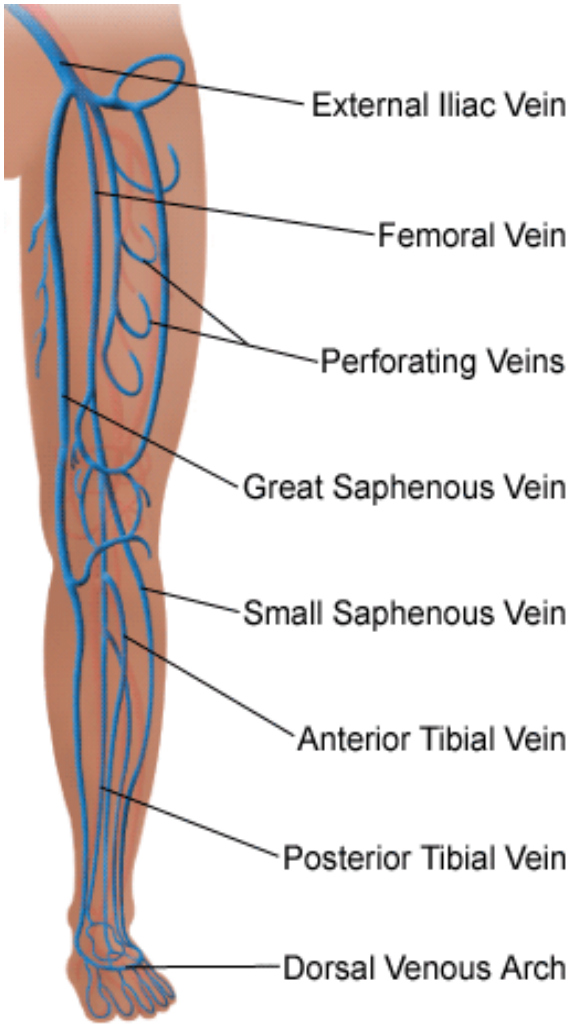
Great(long) saphenous vein:

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**


Epigastric vein
Sapheno-femoral junction
Femoral Vein (deep system)
Great saphenous vein (superficial system)
Femoral vein (deep system)
Small saphenous vein (superficial system)
Perforating vein
Skin
Superficial vein
Deep vein
Perforating veins connect the deep system with the superficial system


External Iliac Vein
Femoral Vein
Perforating Veins
Great Saphenous Vein
Small Saphenous Vein
Anterior Tibial Vein
Posterior Tibial Vein
Dorsal Venous Arch

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

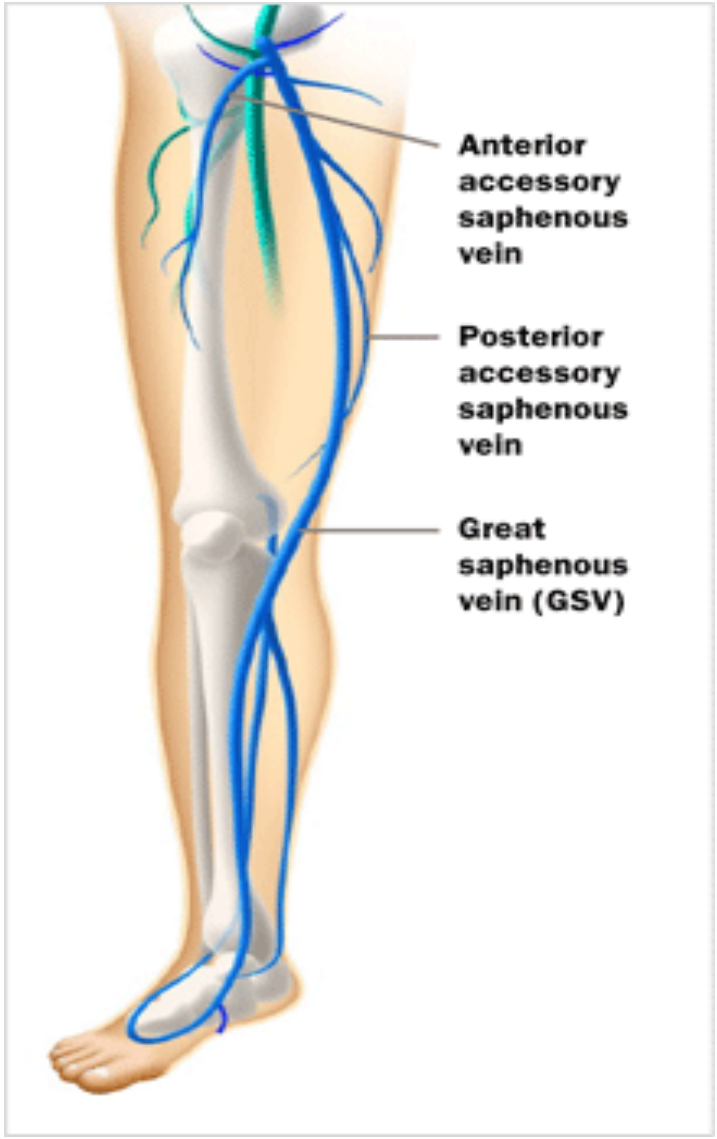
3- It passes superficial to

medial epicondyle **medial** to patella

4- It runs **superolateral** to

terminate at femoral vein through

saphenous opening .



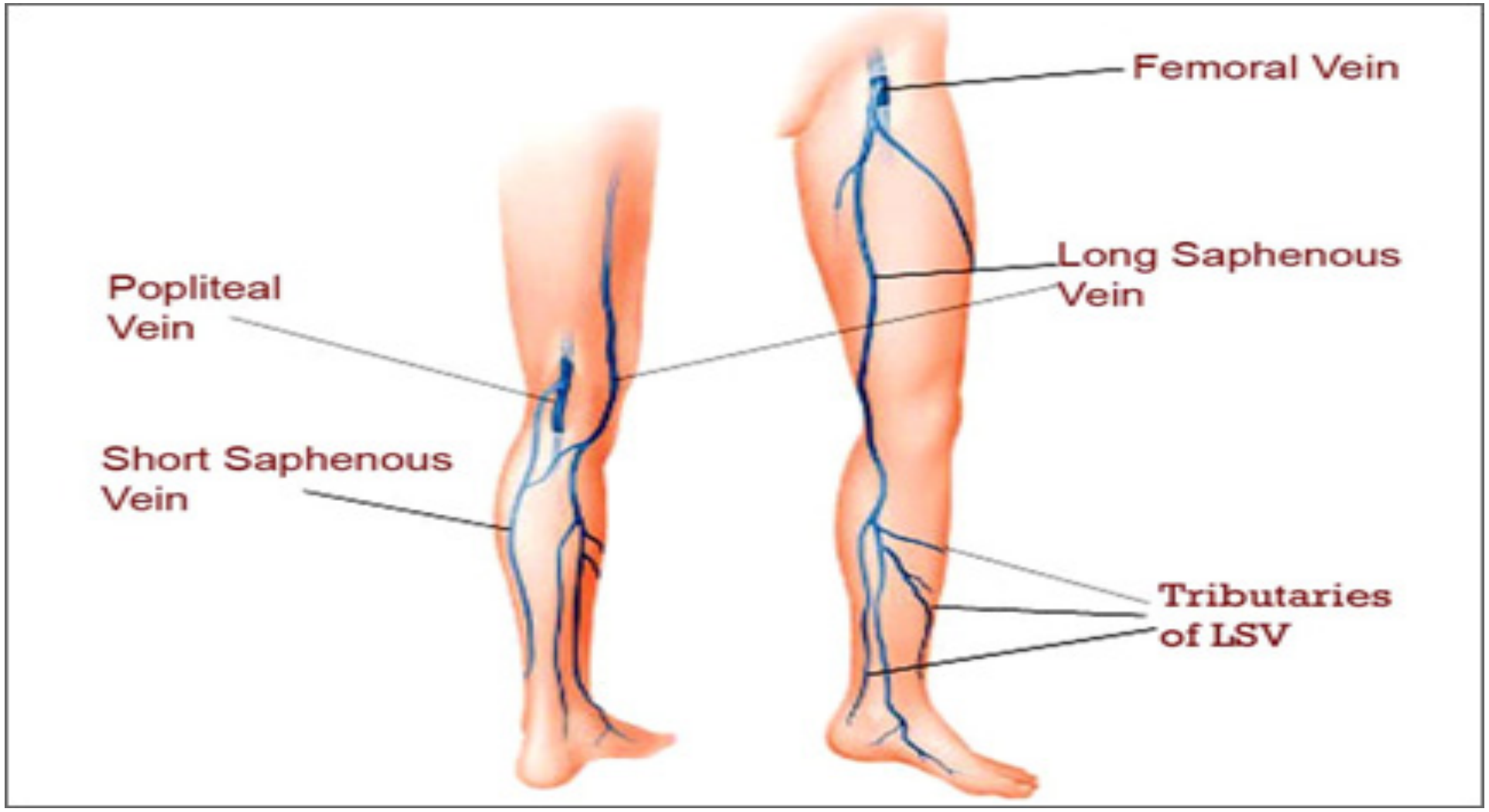
Tributaries

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

It connected to deep veins by veins with valves

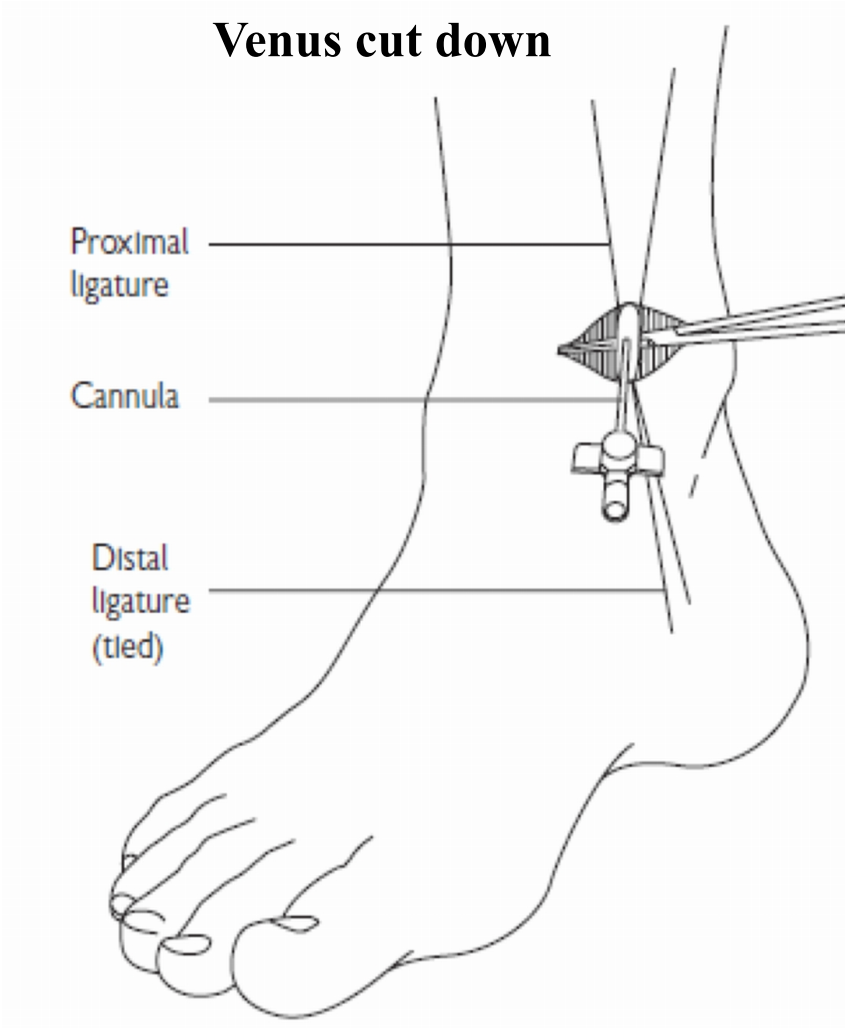
Clinical importance

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

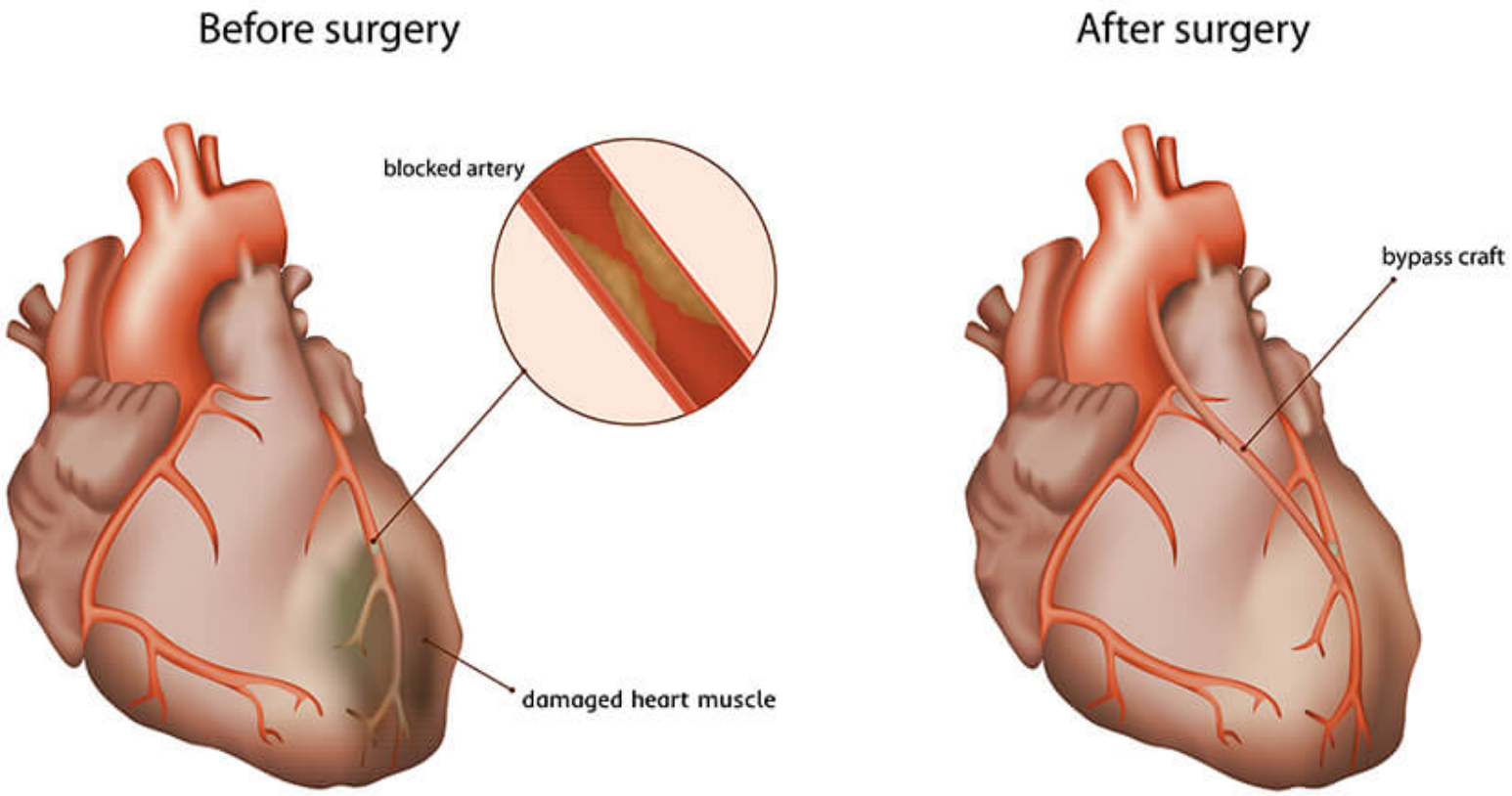

Femoral Vein
Long Saphenous Vein
Popliteal Vein
Short Saphenous Vein
Tributaries of LSV

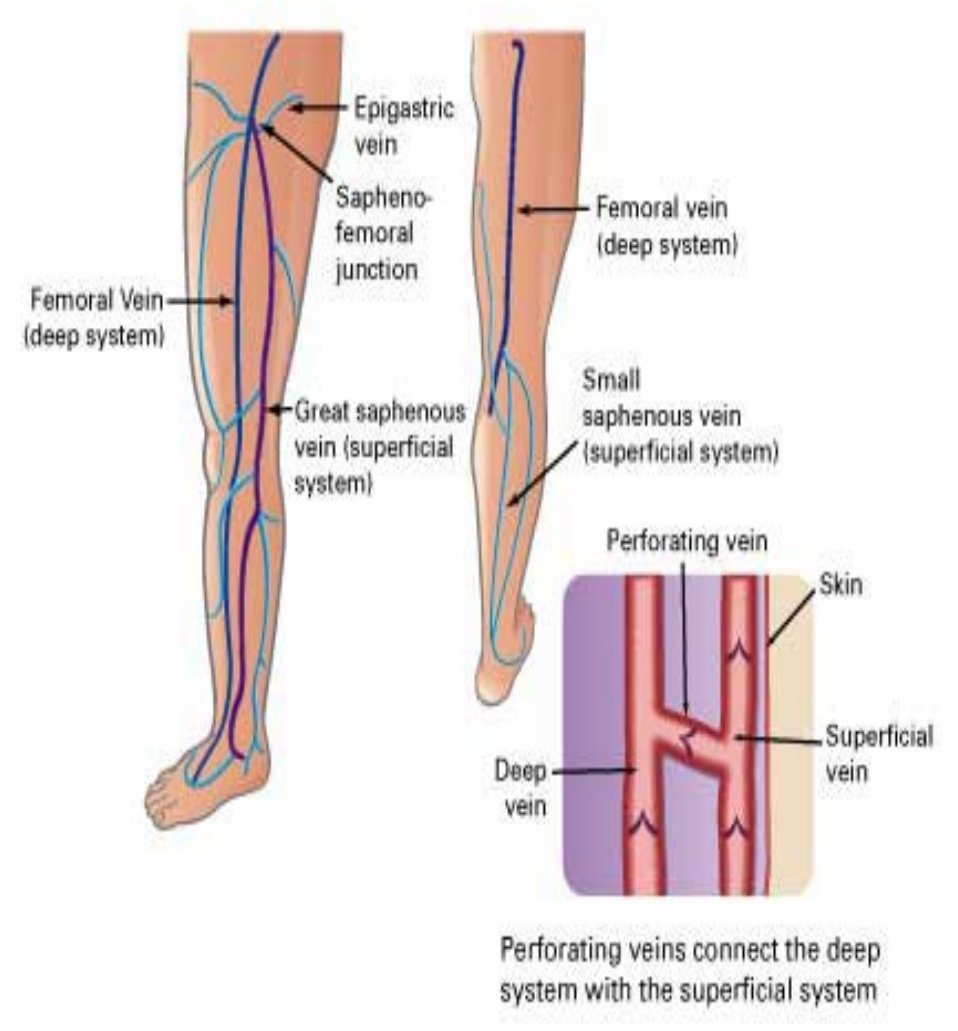
Varicose Vein

Venus cut down



Coronary Artery Bypass




Epigastric vein
Sapheno-femoral junction
Femoral Vein (deep system)
Great saphenous vein (superficial system)
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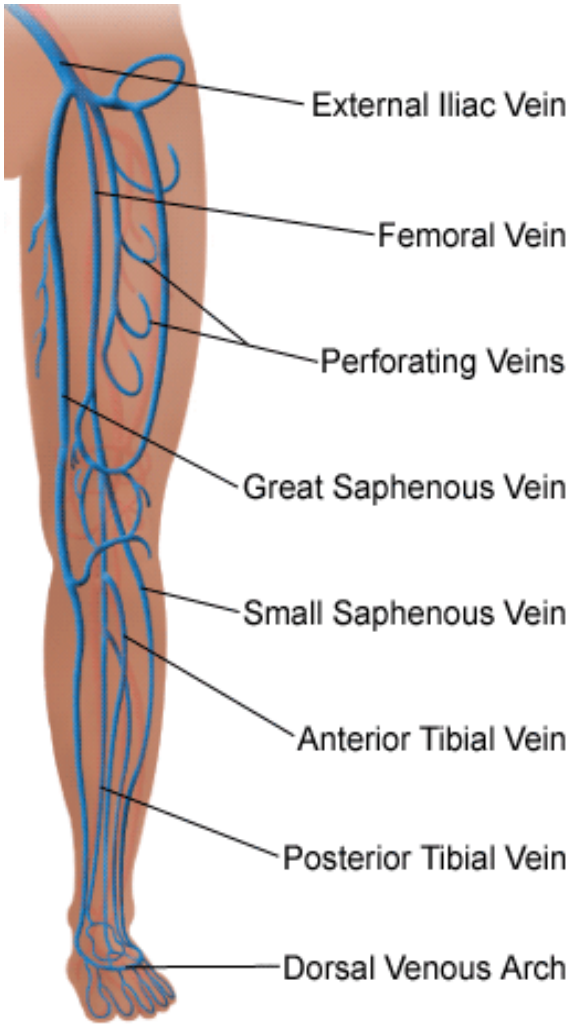
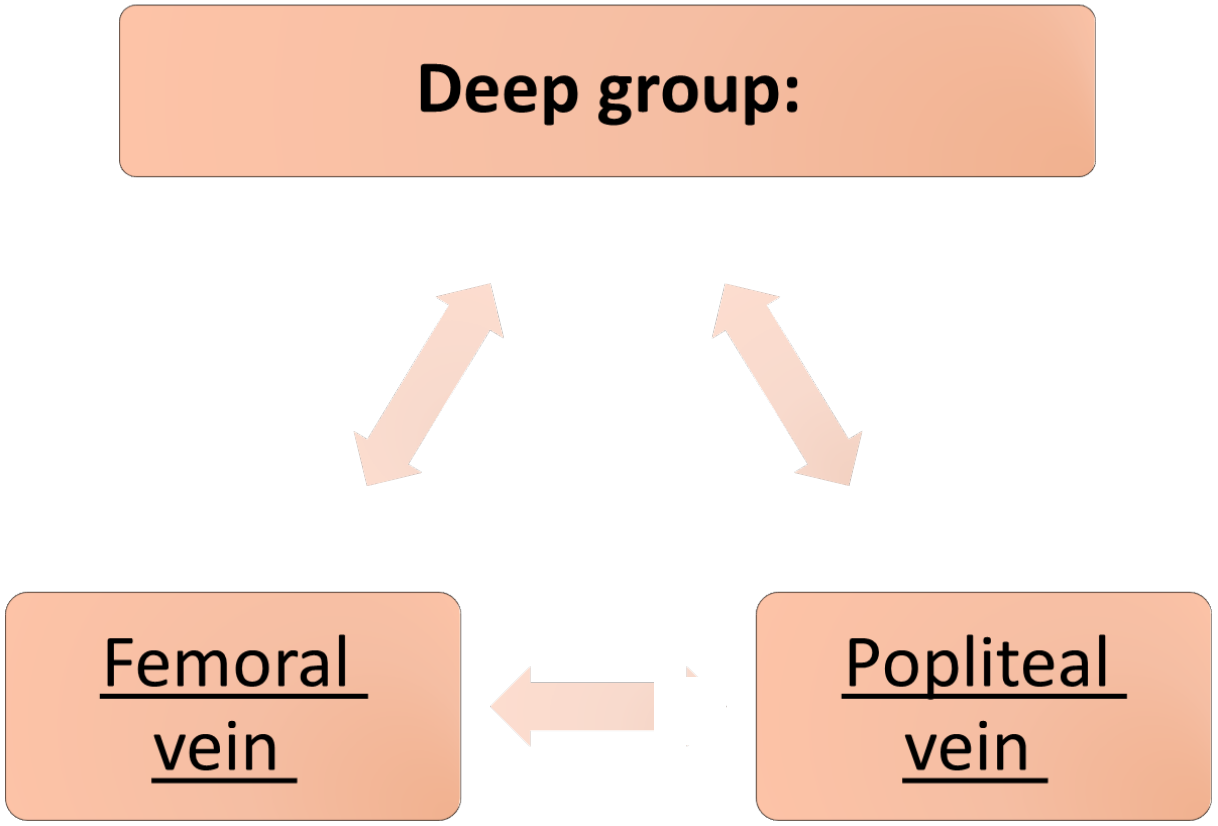
Small saphenous vein (superficial system)
Perforating vein
Skin
Superficial vein
Deep vein
Perforating veins connect the deep system with the superficial system


External Iliac Vein
Femoral Vein
Perforating Veins
Great Saphenous Vein
Small Saphenous Vein
Anterior Tibial Vein
Posterior Tibial Vein
Dorsal Venous Arch


Deep group:
Femoral vein
Popliteal vein

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