

وسهلا



أهلا

يُمنع أخذ السلايدات بدون
إذن المحرر واي اجراء
يخالف ذلك يقع تحت طائلة
المسؤولية القانونية
جميع المعلومات للاستخدام
التعليمي فقط

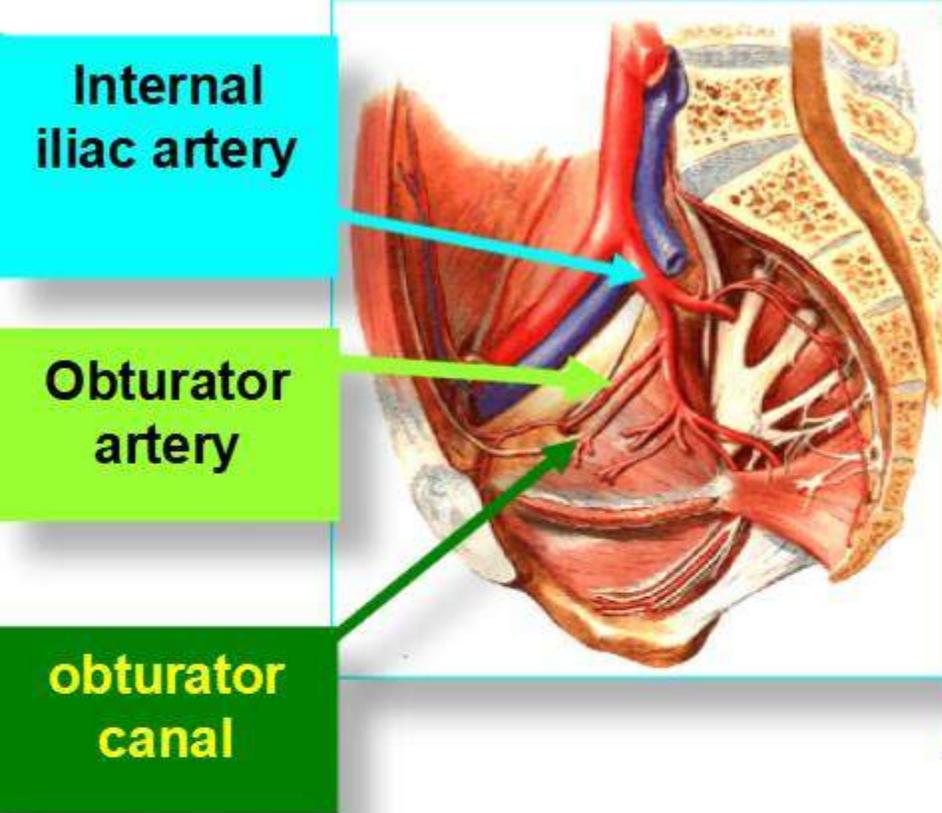
الأستاذ الدكتور يوسف حسين

كلية الطب - جامعة مؤتة - الأردن

دكتورة من جامعة كولونيا المانيا

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الواتس (أي استفسار)
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Obturator artery

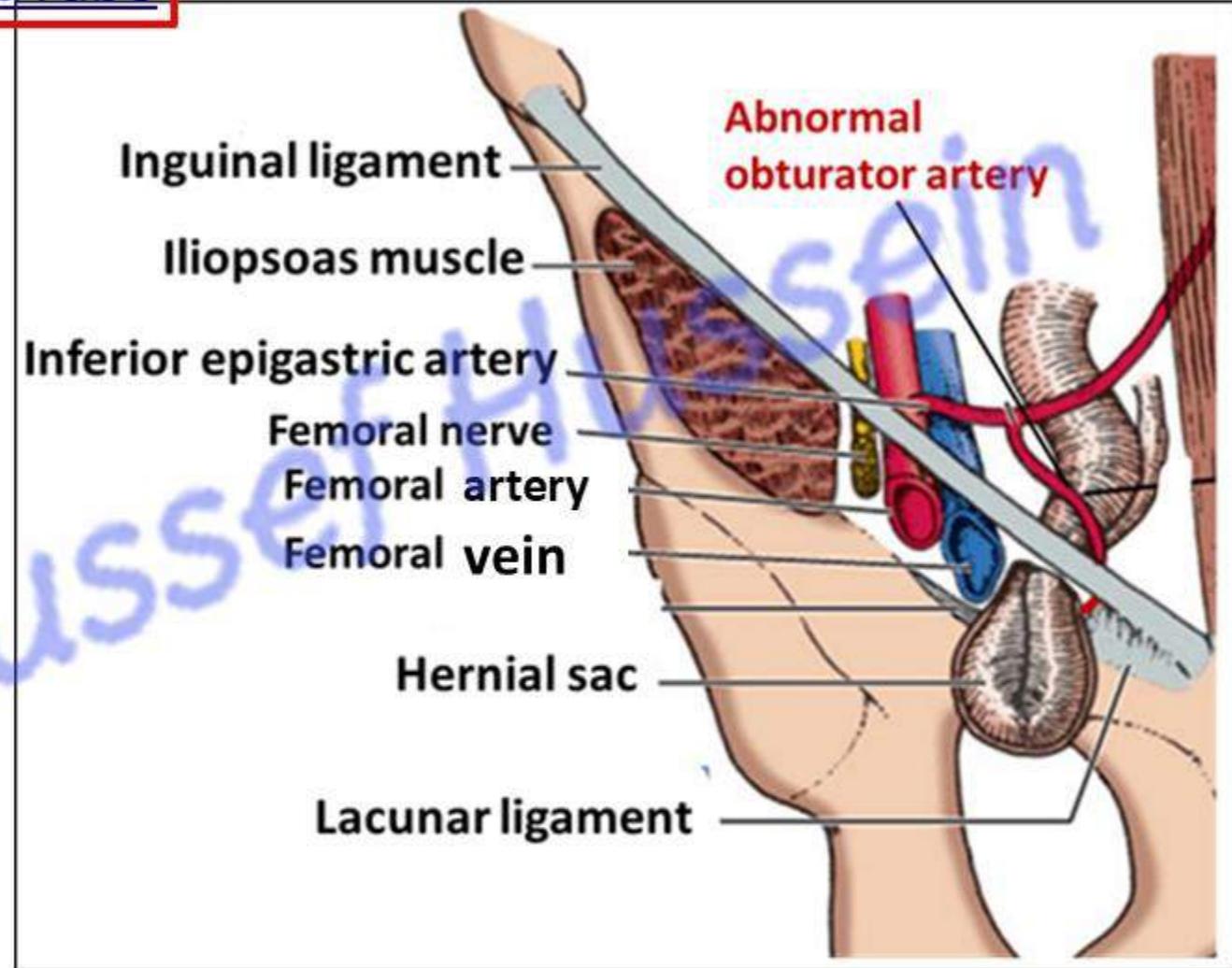
- ** **O**: anterior division of **internal iliac artery**.
- ** **Course**: it passes through the **obturator canal with the obturator nerve** and immediately divides into **anterior and posterior branches**, then anastomose together to form an **arterial circle** along the margin of the **obturator foramen**.

** Branches of obturator artery

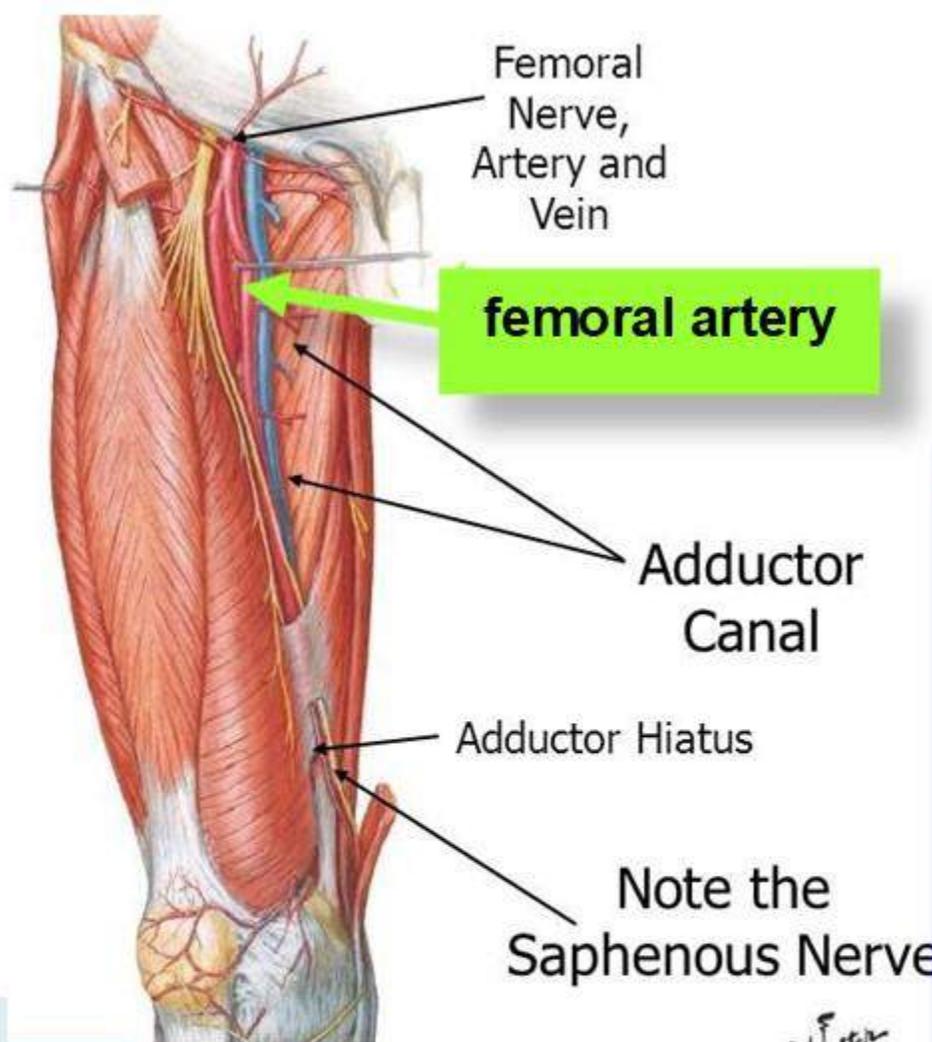
- **Acetabular branch** passes through the ligamentum teres to the **head of the femur** and hip joint.
- **Pubic branch**: ascend behind the lacunar ligament to anastomosis with the pubic branch of the **inferior epigastric artery** (**External iliac artery**).

**** Abnormal obturator artery,**

- in about 20 % of subjects the **obturator artery absent.**
- The **pubic branch of inferior epigastric artery** is enlarged and **descends behind the lacunar ligament** to replace the obturator artery.
- **So it is liable to injury during repair of the femoral hernia.**



Femoral artery



Begins as a continuation of the external iliac artery at the midinguinal point

**** Course and direction:**
It descends downward and medially

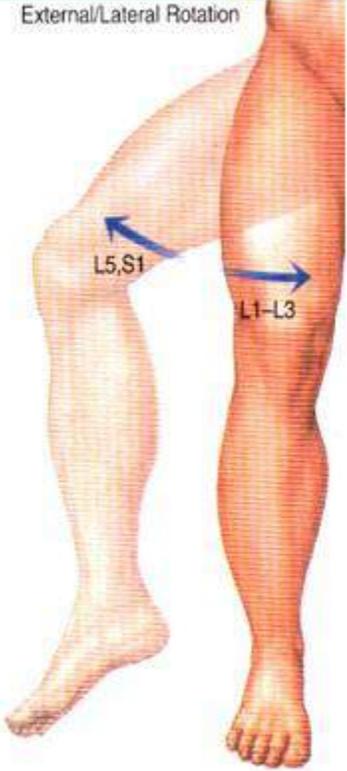
- Upper 1/2 lies in the femoral Triangle.
- Lower 1/2 lies in the adductor canal.

Termination: it passes through opening in adductor magnus from anterior to posterior to continue as **popliteal artery**

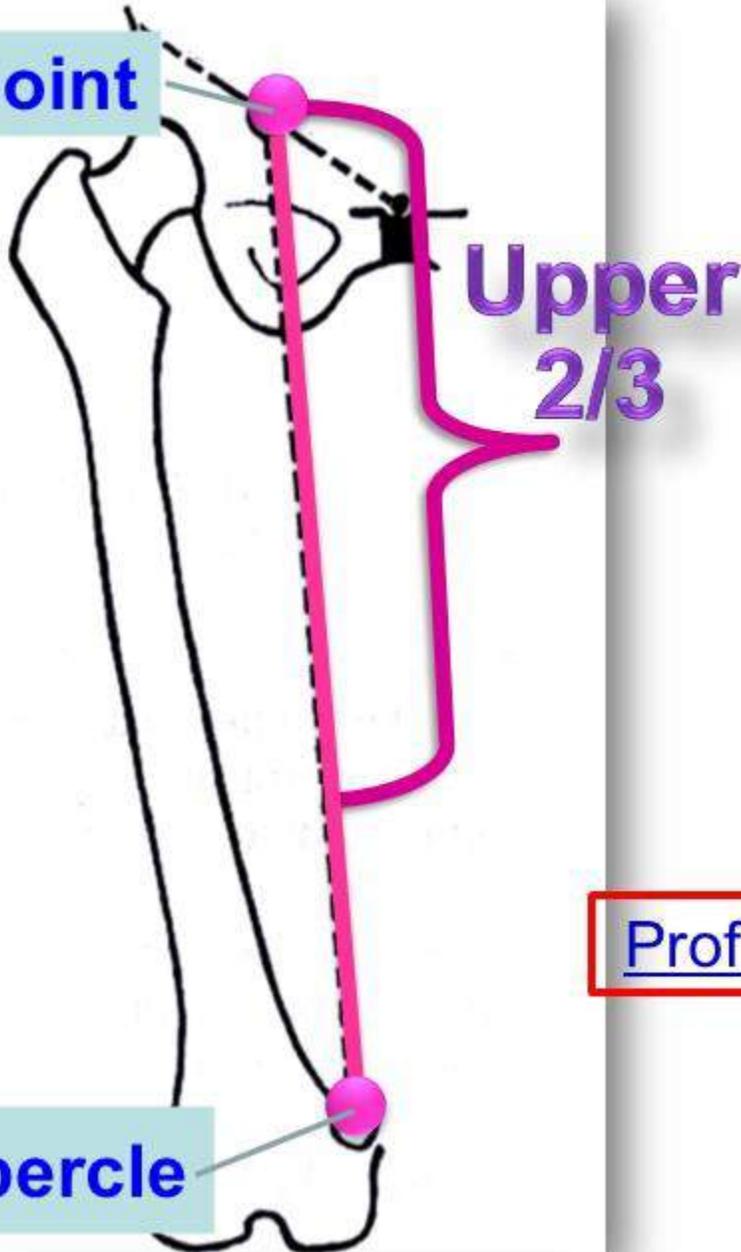
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Midinguinal point

External/Lateral Rotation



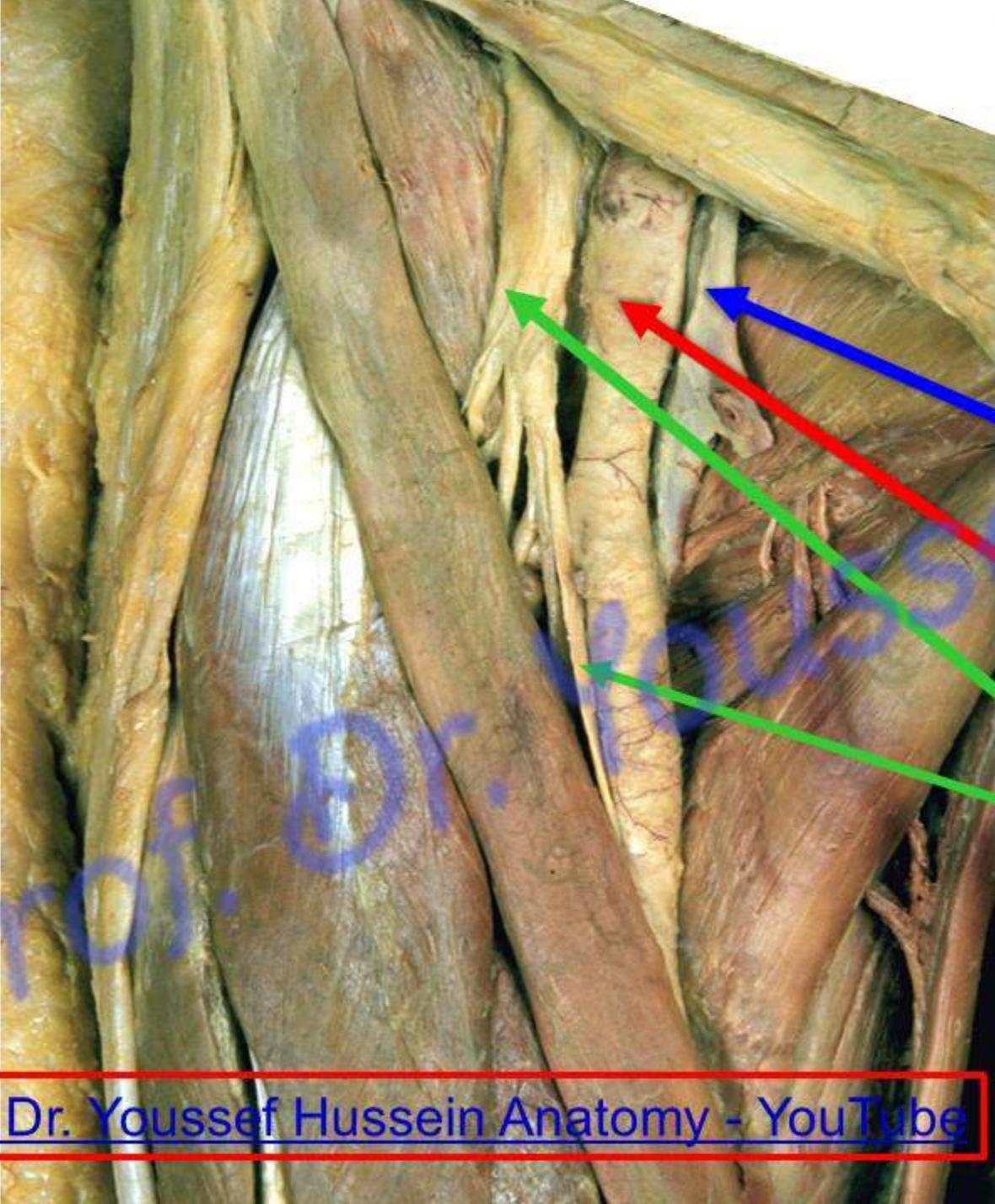
Adductor tubercle



** Surface anatomy:

- The thigh is slightly flexed, abducted and lateral rotation.
- The femoral artery corresponds to the upper 2/3 of a line between the midinguinal point and adductor tubercle.

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- **VAN** at the base of femoral triangle from medial to lateral
- The **psoas major** separates the femoral artery from the hip joint.

Femoral v.

Femoral a.

Femoral n.

saphenous n.

Relations of the femoral artery

Relations of the femoral artery to vein and nerve

1- Femoral vein

- **Upper** part: **medial** to artery.
- **Middle**: **behind** the artery
- **Lower**: **lateral** to the artery

2- Sphenous nerve (from femoral N)

- **Upper** part: **lateral** to artery.
- **Middle**: **in front** the artery
- **Lower**: **medial** to the artery

Cardiac Catheterization

Femoral artery ----- External iliac artery----- Common iliac artery ----- Abdominal aorta----- Descending thoracic aorta----- Arch of aorta----- Ascending aorta---- Coronary arteries.

Lateral



Saphenous nerve



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Lateral



Saphenous nerve



Branches of femoral artery

Superficial circumflex iliac artery.

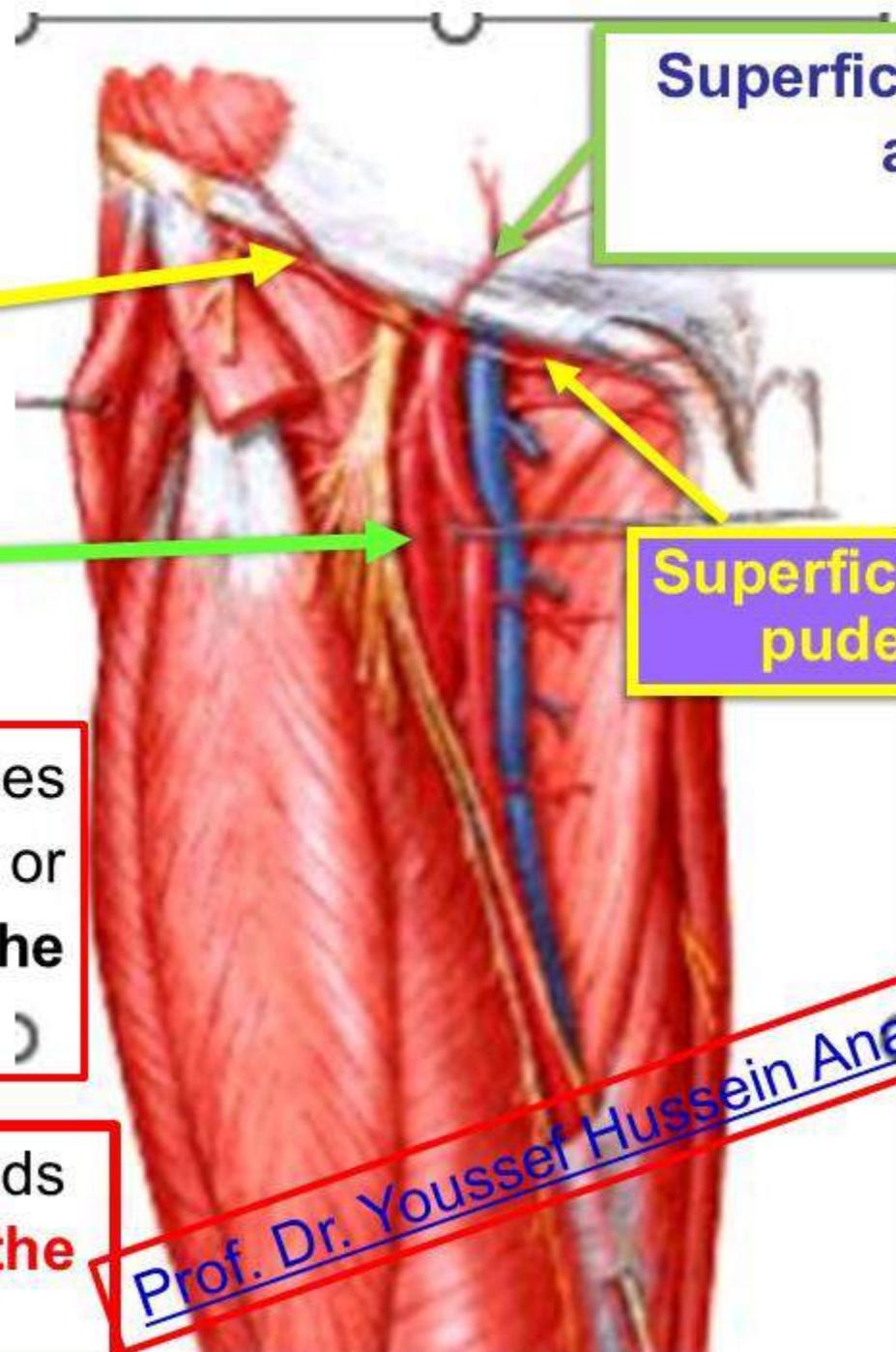
Profunda femoris artery

Deep external pudendal artery passes medially deep to the spermatic cord or round ligament of the uterus **to the external genitalia.**

Descending genicular artery descends to share in the **anastomosis around the knee joint**

Superficial epigastric artery

Superficial external pudendal artery



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Branches of Profunda femoris artery

Ascending trochanteric anastomoses

Transverse (cruciate anastomosis)

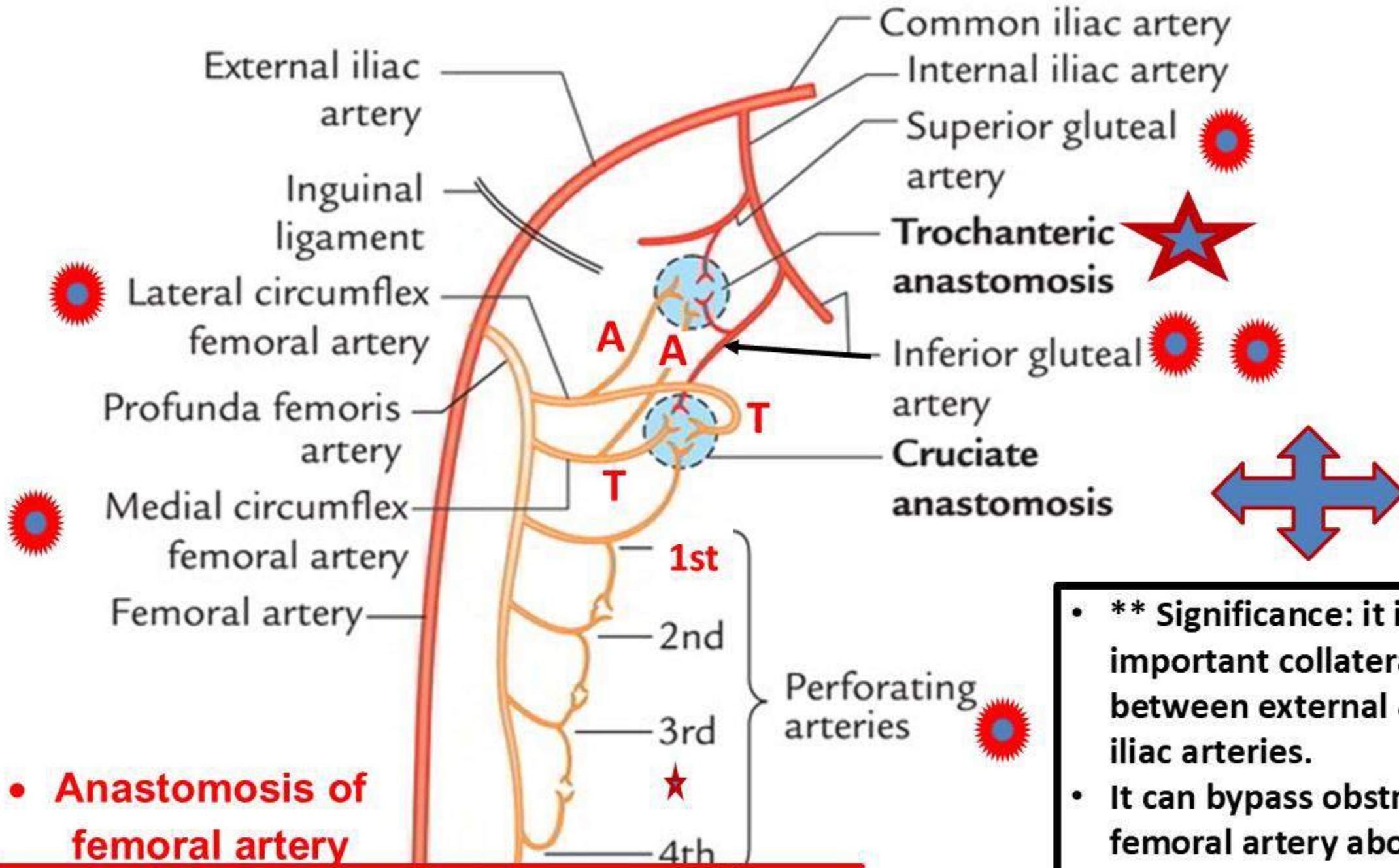
Descending

lateral circumflex femoral

- Medial circumflex femoral artery gives
- a- Ascending branch: to the trochanteric anastomoses.
- b- Acetabular branch: to the head of the femur and hip joint.
- c- Transverse branch: shares in cruciate anastomosis.

• Perforating arteries:

- The artery gives 3 perforating branches and ends as the 4th perforating artery.
- Each artery divides into ascending and descending branches anastomosis with each other in the back of the thigh.
- **Perforating arteries:** so called because they pass through the insertion of **adductor magnus**. They are protected by **tendinous arches**.



Anastomosis of femoral artery

- **** Significance:** it is an important collateral circulation between external & internal iliac arteries.
- It can bypass obstruction of the femoral artery above origin of the profunda femoris artery.

Popliteal artery

**** Origin:** continuation of the femoral artery at the opening in the **adductor magnus**.

**** Termination;** at the distal border of **popliteus** by dividing into anterior and posterior tibial arteries.

**** It is the deepest structures of fossa**

**** The tibial nerve and vein have Triple relations (lateral-behind- medial)**

Posterior view

Semitendinosus

Semimembranosus

Tibial nerve

Medial head of gastrocnemius

Lateral

Biceps Femoris

Popliteal lymph nodes

Common peroneal nerve

Popliteal vein

Popliteal artery

Fibrofatty tissues

Lateral head of gastrocnemius

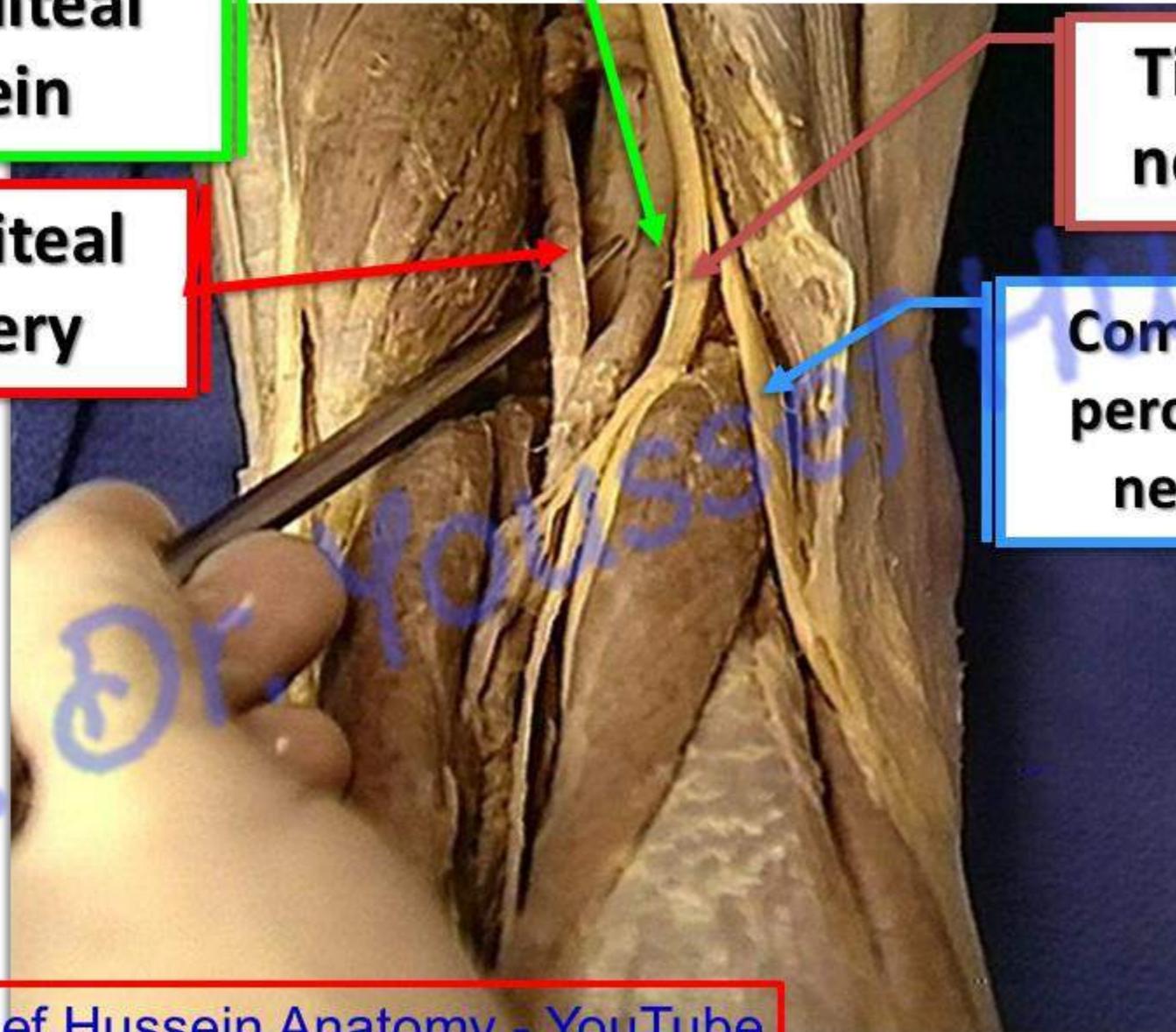
Popliteal vein

Popliteal artery

Tibial nerve

Common peroneal nerve

Lateral



Branches of popliteal artery share in anastomosis around knee joint

Sup. medial genicular a.

middle genicular a.

Inf. medial genicular a

Sup. Lateral genicular a.

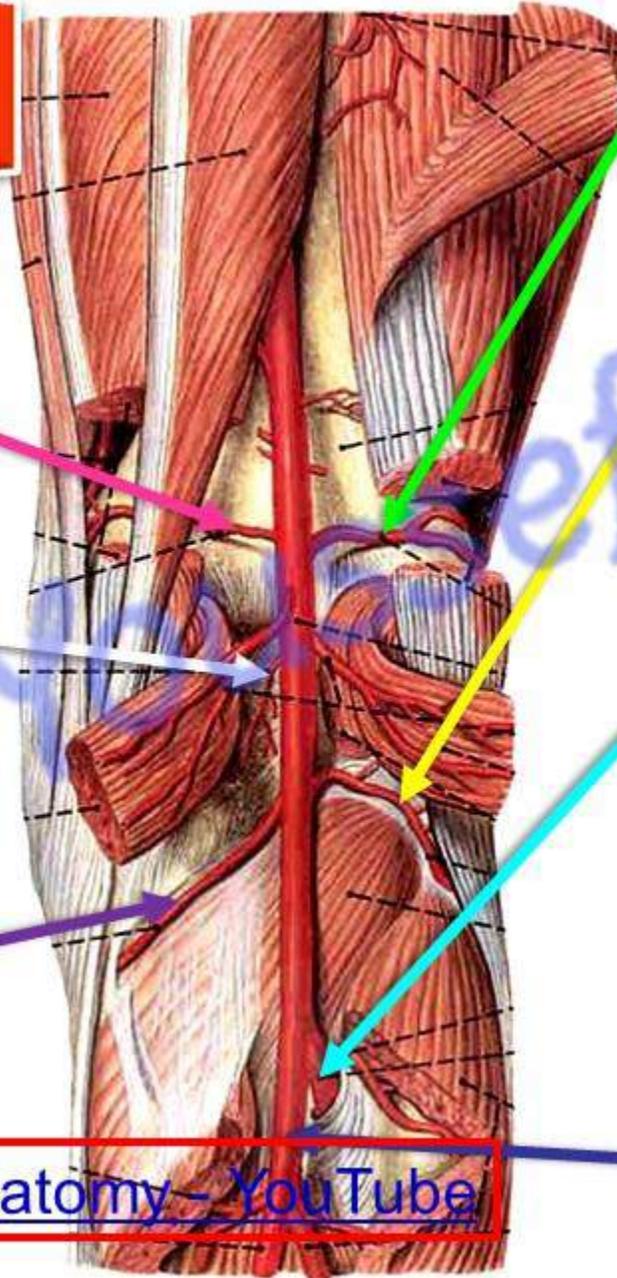
Inf. lateral genicular a.

Ant. Tibial artery

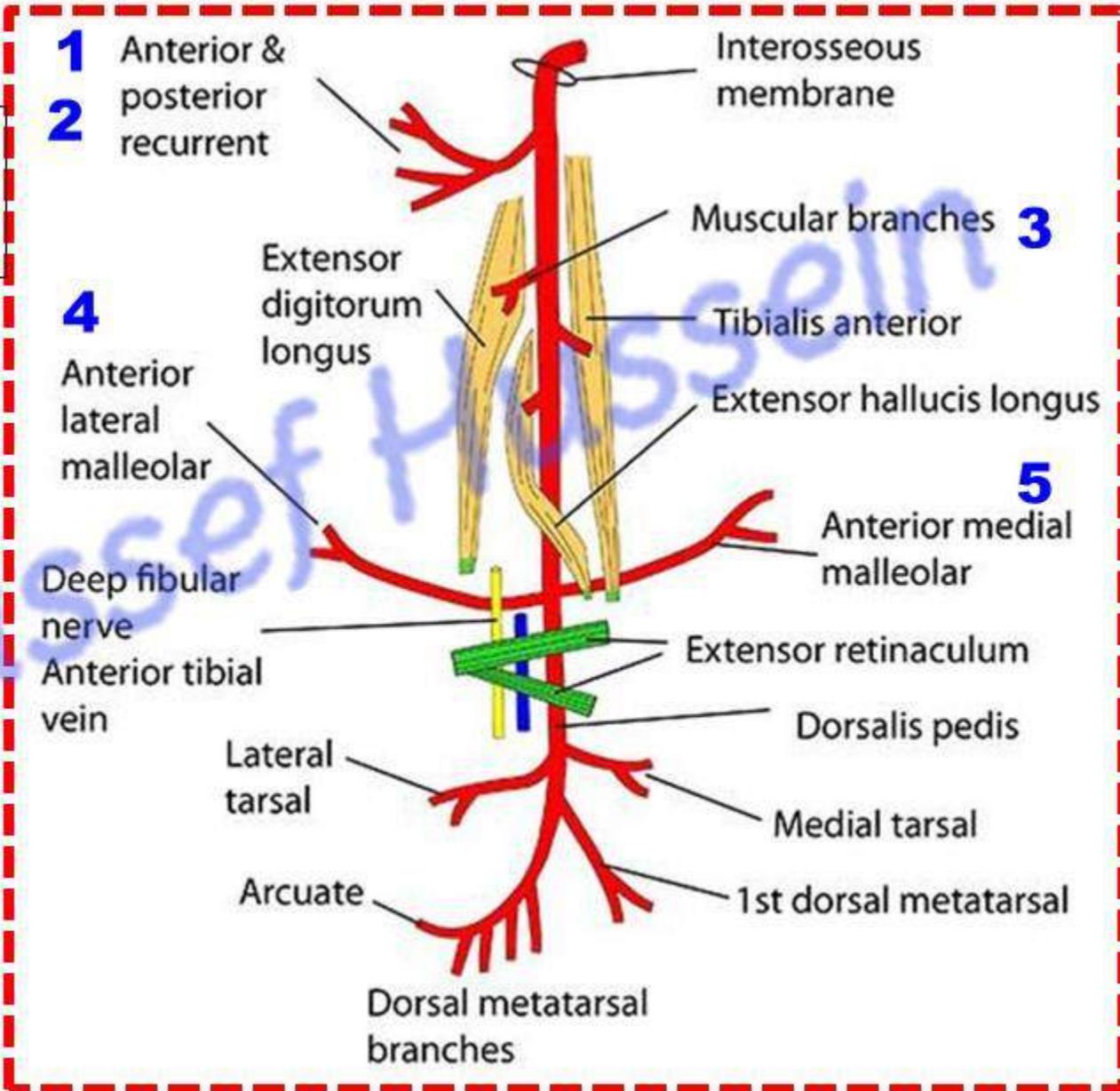
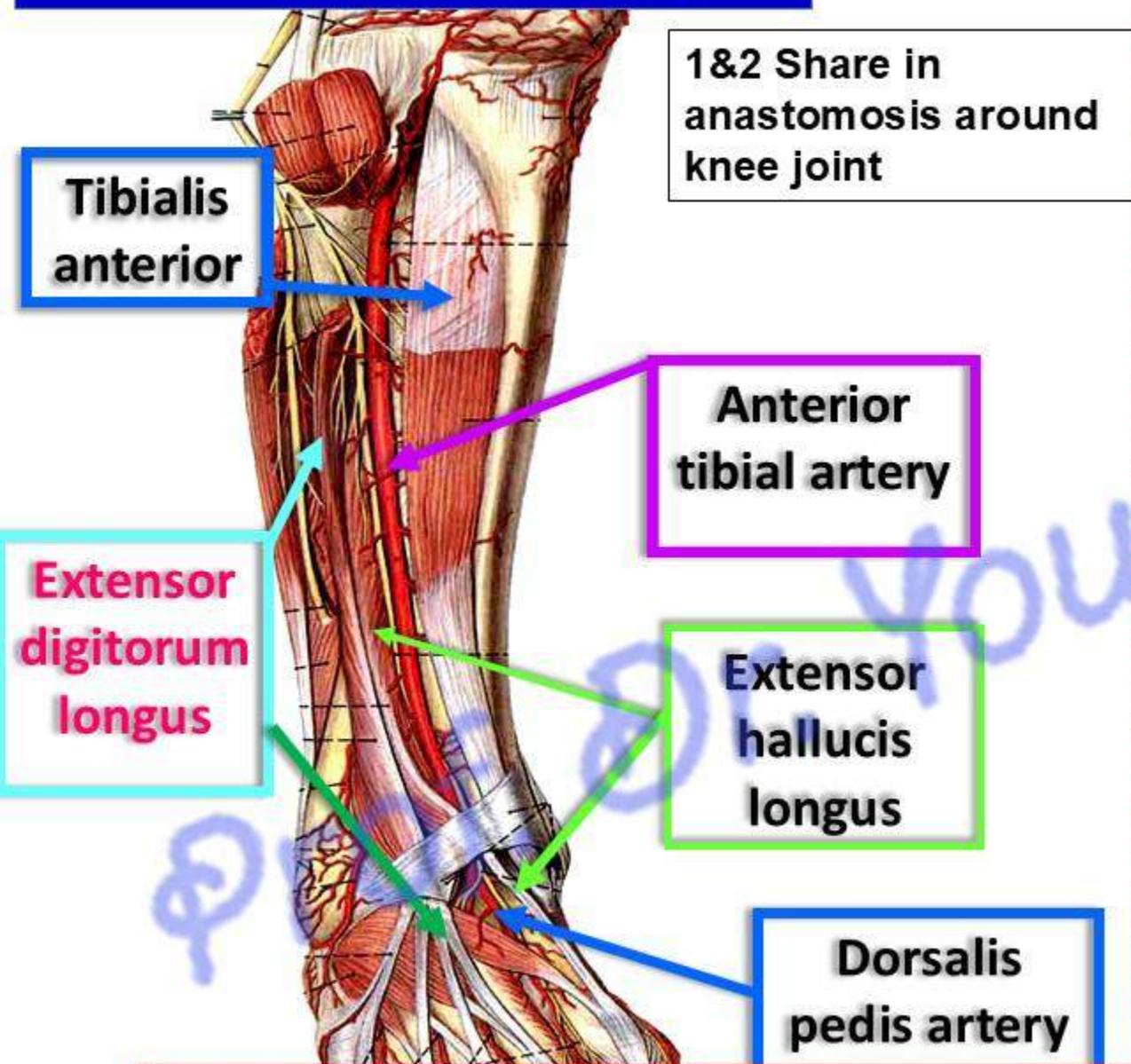
Post. Tibial artery

Muscular

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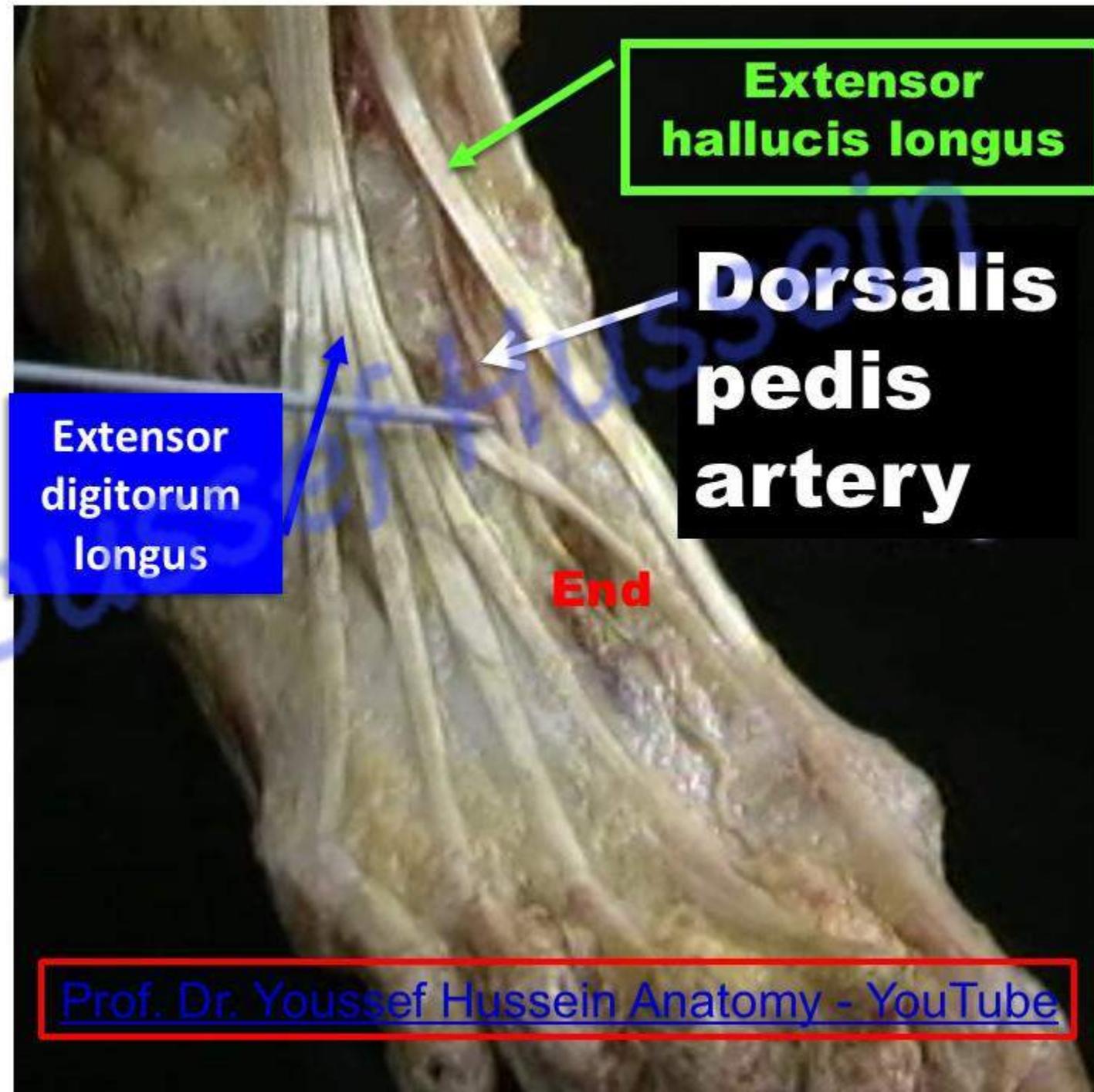
Anterior Tibial artery



Muscles relations and branches

Dorsalis pedis artery

- ** Origin:** continuation of the anterior tibial artery in front of the ankle joint between 2 malleoli.
- ** Course:** It passes between extensor hallucis longus (medial) & extensor digitorum longus (lateral).
- ** End;** at the proximal end of the first interosseous space, it sinks into the sole of the foot to **anastomose** with **lateral planter artery** to form **planter arch**.



Branches of Dorsalis pedis artery

Lateral tarsal artery

Medial tarsal artery

arcuate artery

first dorsal metatarsal artery

**2nd , 3rd , 4th
dorsal metatarsal arteries**

First plantar metatarsal artery

dorsal digital artery of big toe



**** Branches of dorsalis pedis artery**

1,2- Lateral and medial tarsal arteries share in anastomosis around ankle joint.

3- First dorsal metatarsal artery: gives branches to;

- a- Medial side of the big toe. b- Adjacent sides of the big and 2nd toes.

4- Arcuate artery gives: The **2nd, 3rd and 4th dorsal metatarsal arteries:** for the adjacent sides of the 2nd, 3rd, 4th and little toes.

- The 4th dorsal metatarsal artery gives a branch to the lateral side of the Little toe.

b- **Articular branches** to the joints of the foot.

5- First plantar metatarsal artery; from the artery in the sole of the foot.

- a- Medial side of the big toe. b- Adjacent sides of the big and 2nd toes.

- **So; Dorsalis pedis artery supplies plantar and dorsal surfaces of the big toe.**

- The blood supply of the big toe mainly 1st dorsal metatarsal, 1st plantar metatarsal and secondary from medial plantar artery.
- Diabetes leading to peripheral vascular disease (PVD) atherosclerosis and neuropathy (Amputation of the big toe- foot- leg)

Posterior Tibial artery

**** Origin:** is the larger of the two terminal branches of the **popliteal artery** at the distal border of popliteus muscle.

**** Course :** It descends deep to the **tendinous arch** between the tibia and fibula.

- It runs downward and medially **between** the superficial and deep muscles of the back of the leg.

• **Relations of the tibial nerve to posterior tibial artery**

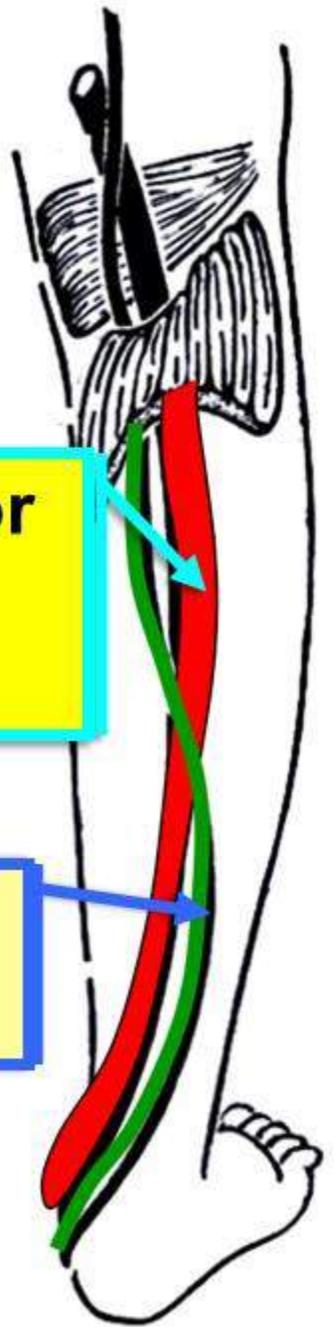
**** The tibial nerve have Triple relations (medial- behind (superficial) - lateral)**

**** Termination;** deep to the flexor retinaculum between the medial malleolus and heel by dividing into **medial and lateral planter arteries.**

Medial

Posterior tibial artery

Tibial nerve



Posterior tibial artery

Circumflex fibular artery
Shares in anastomosis around knee joint

Muscular branches

Nutrient branch to tibia

Communicating

Medial calcanean

Peroneal artery

Muscular branches

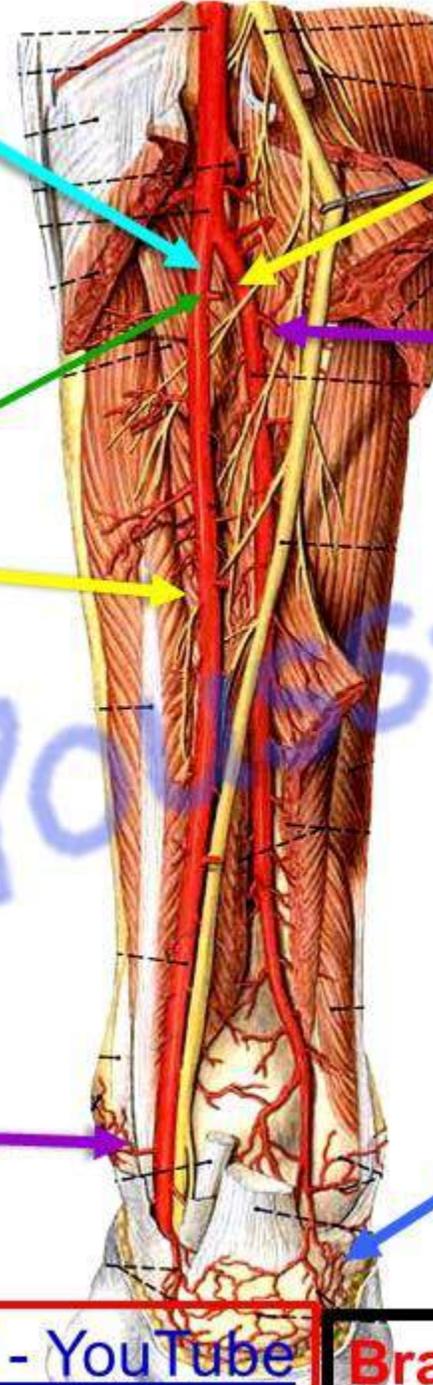
Nutrient branch to fibula

Communicating

Perforating

Lateral calcanean

Branches



Planter digital artery of little toe

2nd , 3rd , 4th
planter metatarsal arteries

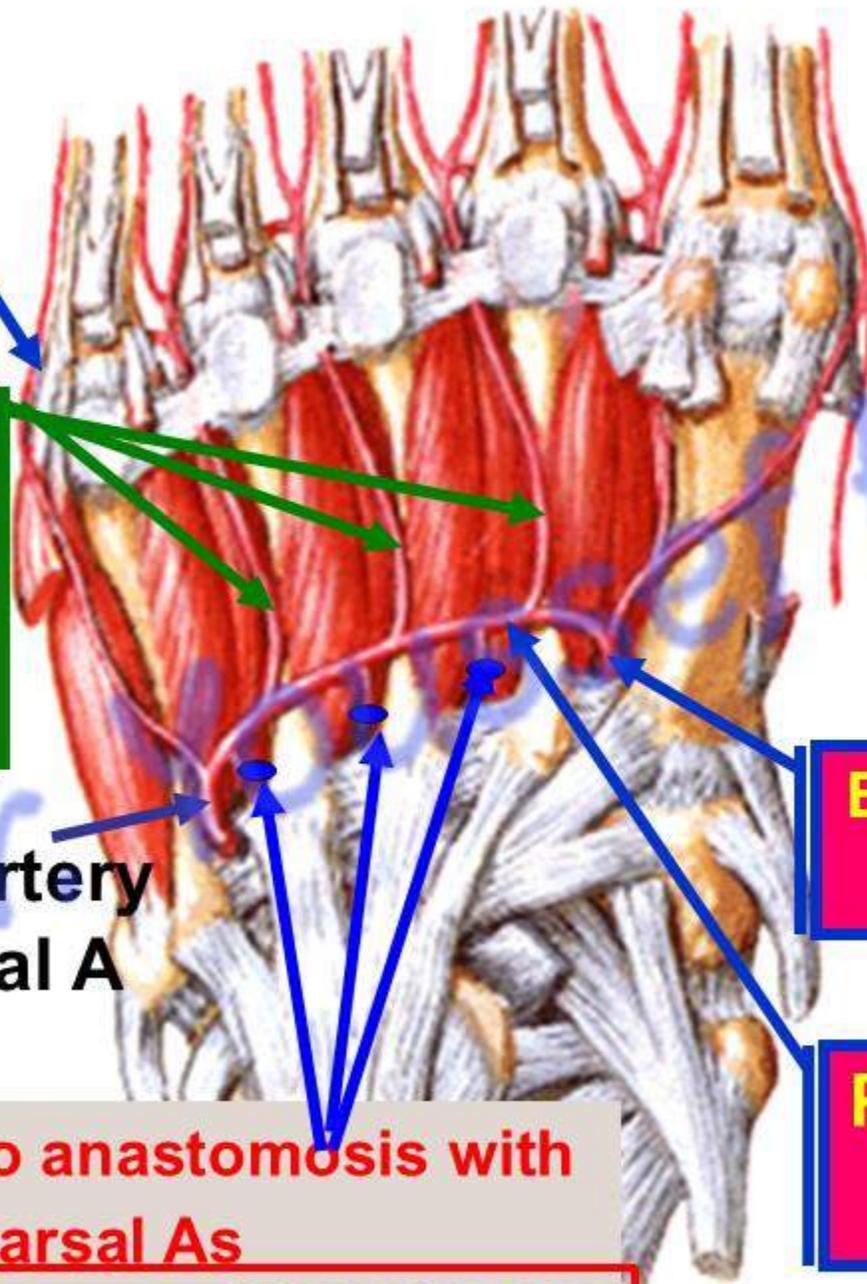
Lateral planter artery of posterior tibial A

3 perforating arteries to anastomosis with 2nd , 3rd , 4th dorsal metatarsal As

End of Dorsalis pedis artery

Planter arch

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Great saphenous vein



Femoral vein

Great saphenous vein

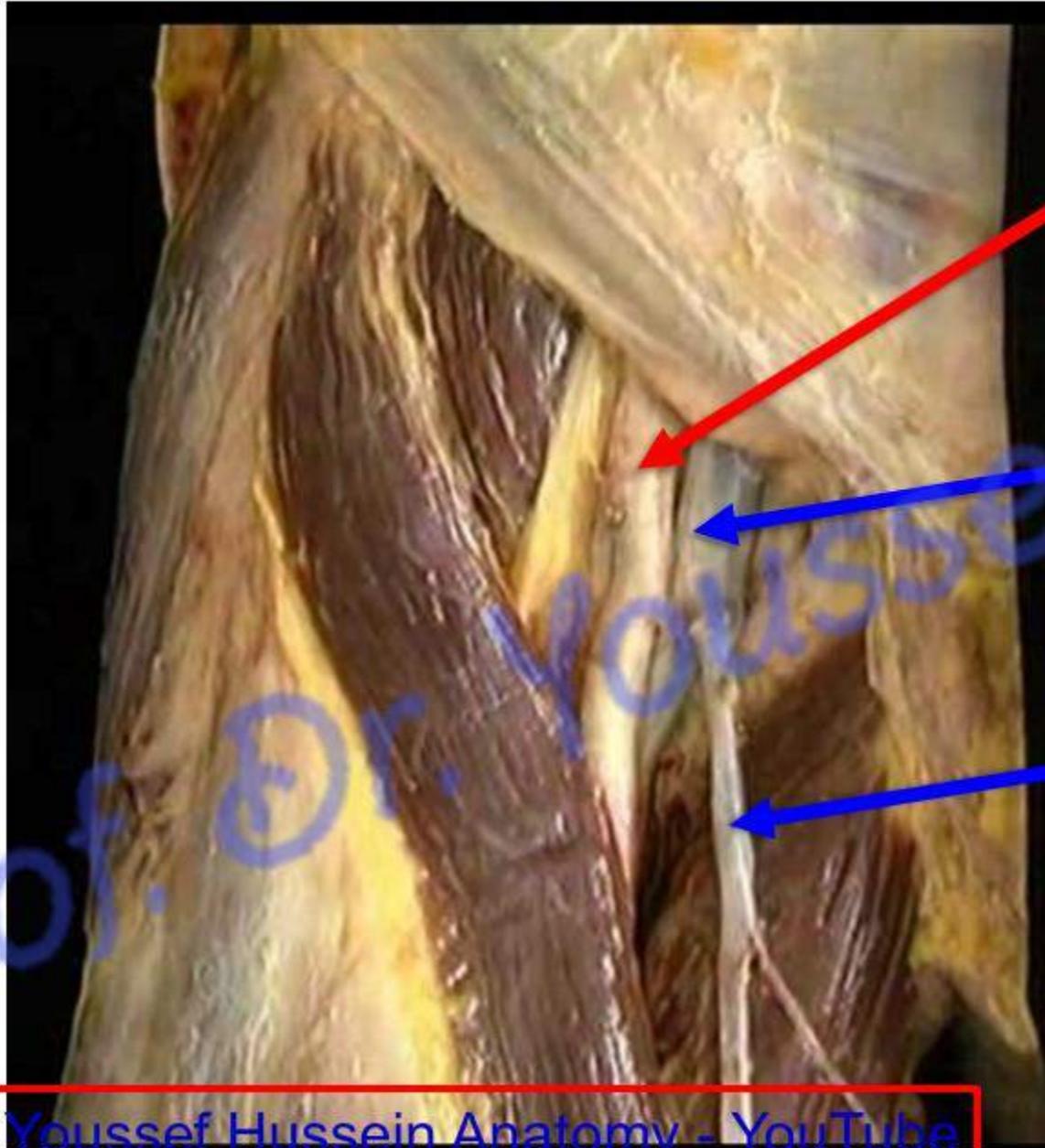
Beginning

Dorsal venous arch

Dorsal digital vein of big toe



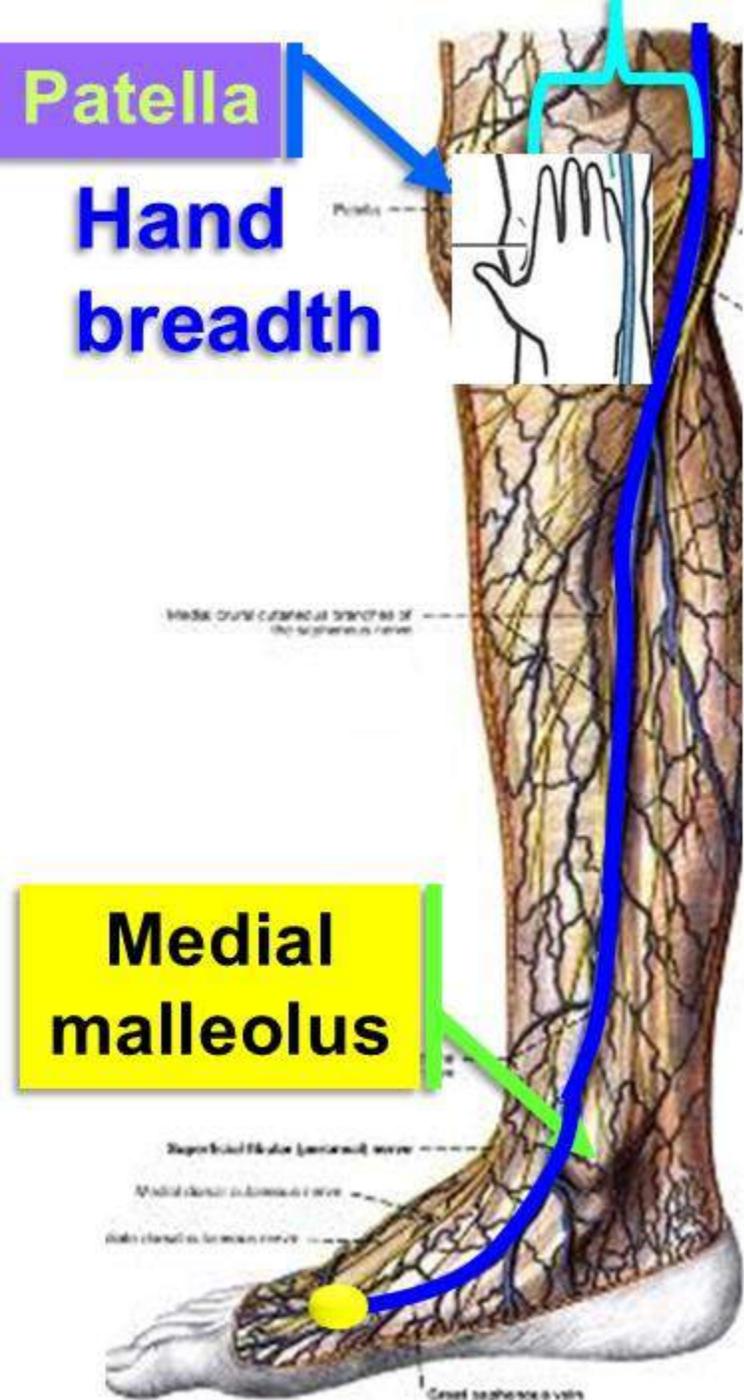
- It is the longest vein in the body.
- **Beginning**, on the dorsum of the foot by the union of Medial end of the dorsal venous arch and Dorsal digital vein of the big toe.
- **Termination**, it hooks the saphenous opening, piercing the cribriform fascia to end in the femoral vein.



Femoral artery

Femoral vein

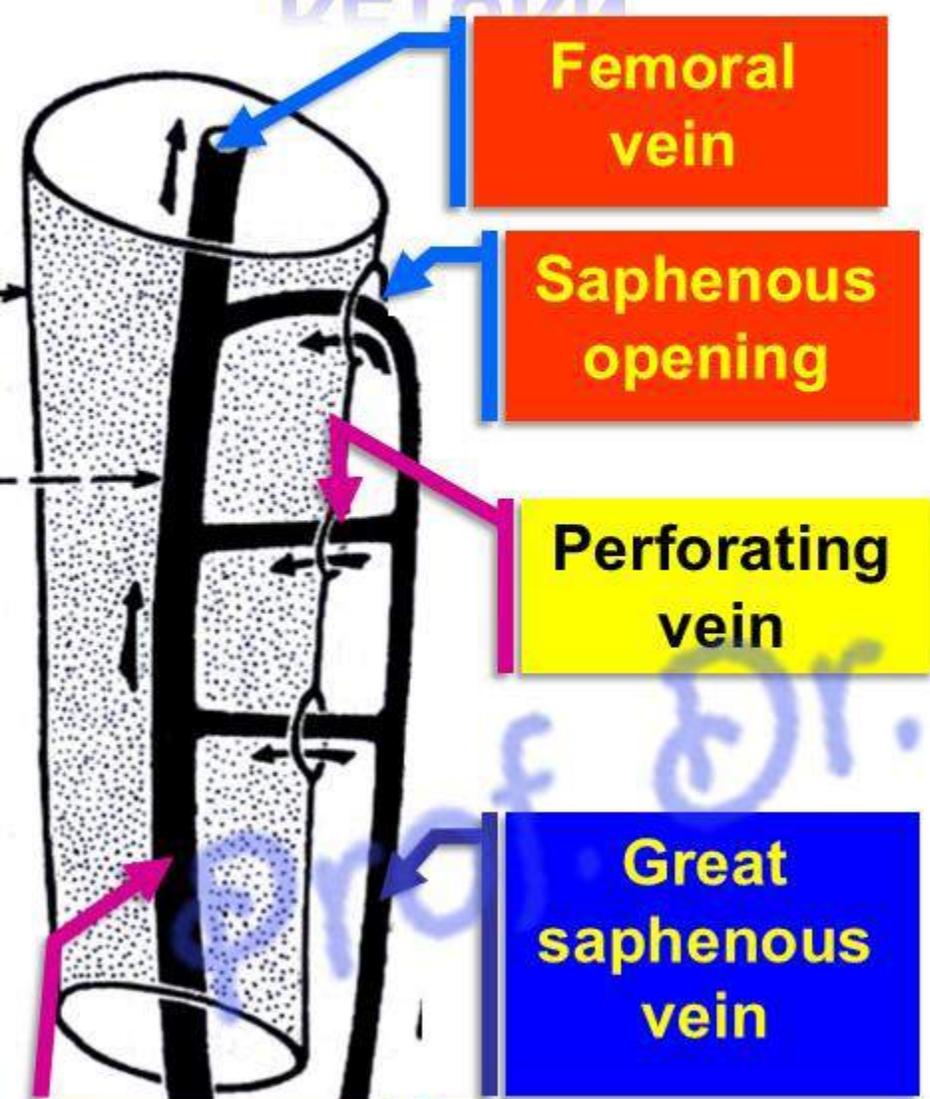
**Great
saphenous vein**



Great saphenous vein

- **Course,**
 - It passes posteriorly on the medial border of the dorsum of the foot.
 - The vein ascends to the leg **in front of the medial malleolus.**
 - It continues up on the medial side of the leg and knee
 - **Hand's breadth behind the medial border of the patella.**
 - Along its course on the dorsum of foot, in front the medial malleolus and medial side of the leg, it is accompanied by **saphenous nerve.**
 - It ascends to the thigh; deviates laterally to reach the saphenous opening (A point 3-4 cm below and lateral to the pubic tubercle) to end in the femoral vein.

NORMAL VENOUS RETURN



Femoral vein

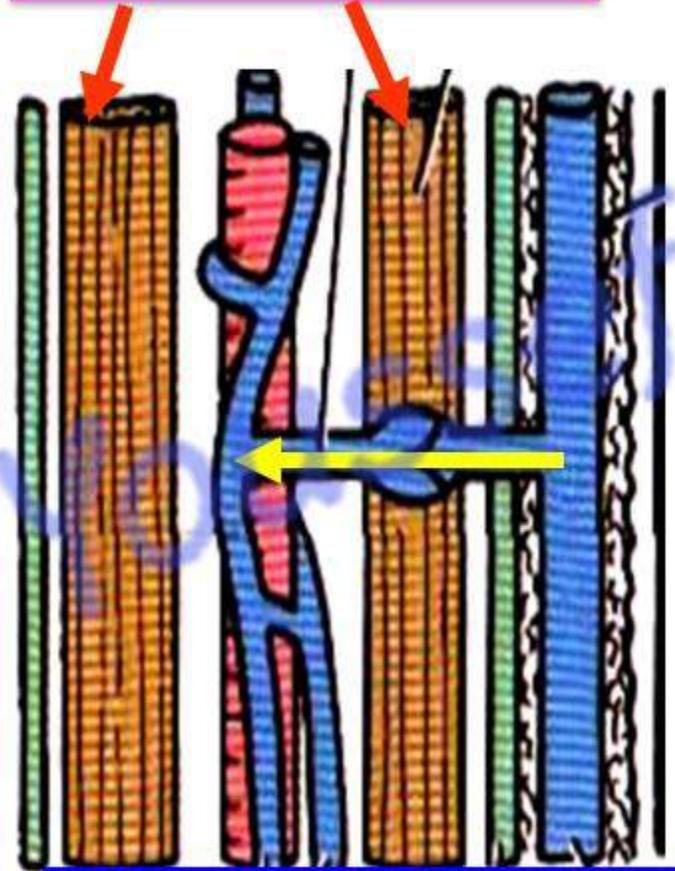
Saphenous opening

Perforating vein

Great saphenous vein

Deep vein

Muscular pump

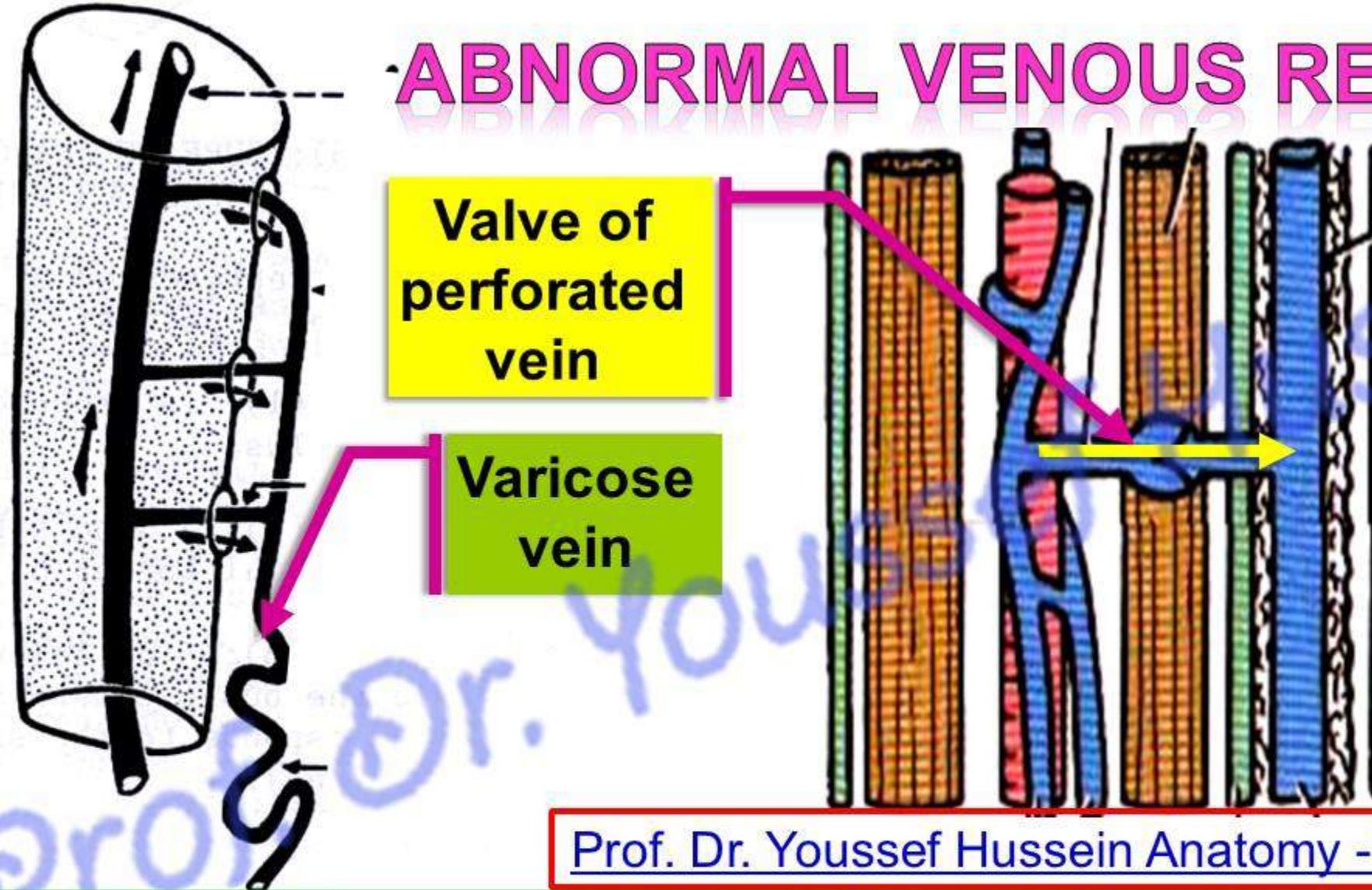


• Contraction of muscles leads to pump blood upward and pump blood from superficial veins to deep vein

The normal venous return of great saphenous vein to A- Deep vein through perforating veins B- The femoral vein

- Great saphenous vein contains **many valves** along its course, the most important valve at its termination
- **The valves** allow passage of the blood from greater saphenous vein to the deep vein and femoral vein.

ABNORMAL VENOUS RETURN



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- **Damage** of these valves (**Valves incompetent**) leads to regurgitation of blood to great saphenous vein resulting **varicose veins** (**the great saphenous vein become dilated, tortuous and engorged with blood**).

STAGES OF VARICOSE VEINS



1. Reticular veins or spider veins

2. Varicose veins or venous nodes

3. Edema of the lower legs

4. Varicose eczema or trophic ulcer



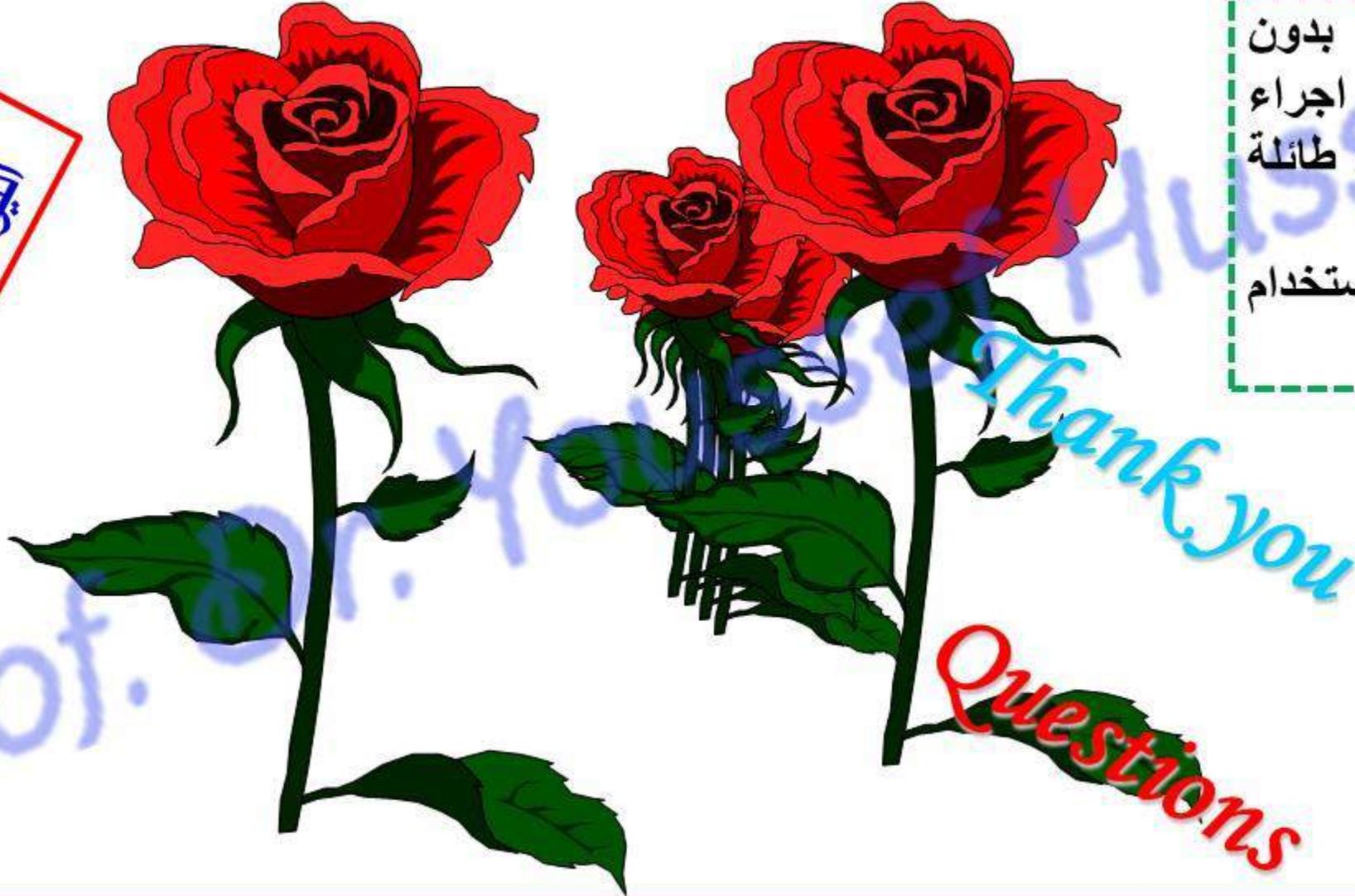
• Clinical notes of great saphenous vein

- It is commonly used for **coronary artery bypass** surgery, and the vein should be reversed so its valves do not obstruct blood flow in the **graft**.
- **Saphenous vein Cutdown:** **vein** is not visible in infants, obese people, patients in shock whose veins are collapsed, the great saphenous vein can always be located by making a skin incision anterior to the medial malleolus. This procedure is used to insert a cannula for prolonged administration of blood, plasma, electrolytes, or drugs.
- **Saphenous Nerve Injury:** The saphenous nerve accompanies the great saphenous vein anterior to the medial malleolus, So nerve may be cut during a saphenous vein cutdown, the patient may complain of pain or numbness along the medial side of the foot.
- **The soleus muscle** contains a **rich venous plexus** which drains the superficial veins and pumps it to the deep veins against gravity (**peripheral heart**). **Venous stasis (stagnation)** is an important cause of **thrombus formation** especially with old age, bed rest for long time, sitting for long time, bone fracture or **Venous inflammation (Thrombophlebitis)**

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Thank You
Questions

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