أهلا وسهلا

الأستاذ الدكتور يوسف حسين

أستاذ التشريح وعلم الأجنة ـ كلية الطب ـ جامعة الزقازيق ـ مصر

رئيس قسم التشريح و الأنسجة و الأجنة ـ كلية الطب ـ جامعة مؤتة ـ الأردن

دكتوراة من جامعة كولونيا المانيا

جروب الفيس د. يوسف حسين (استاذ التشريح)

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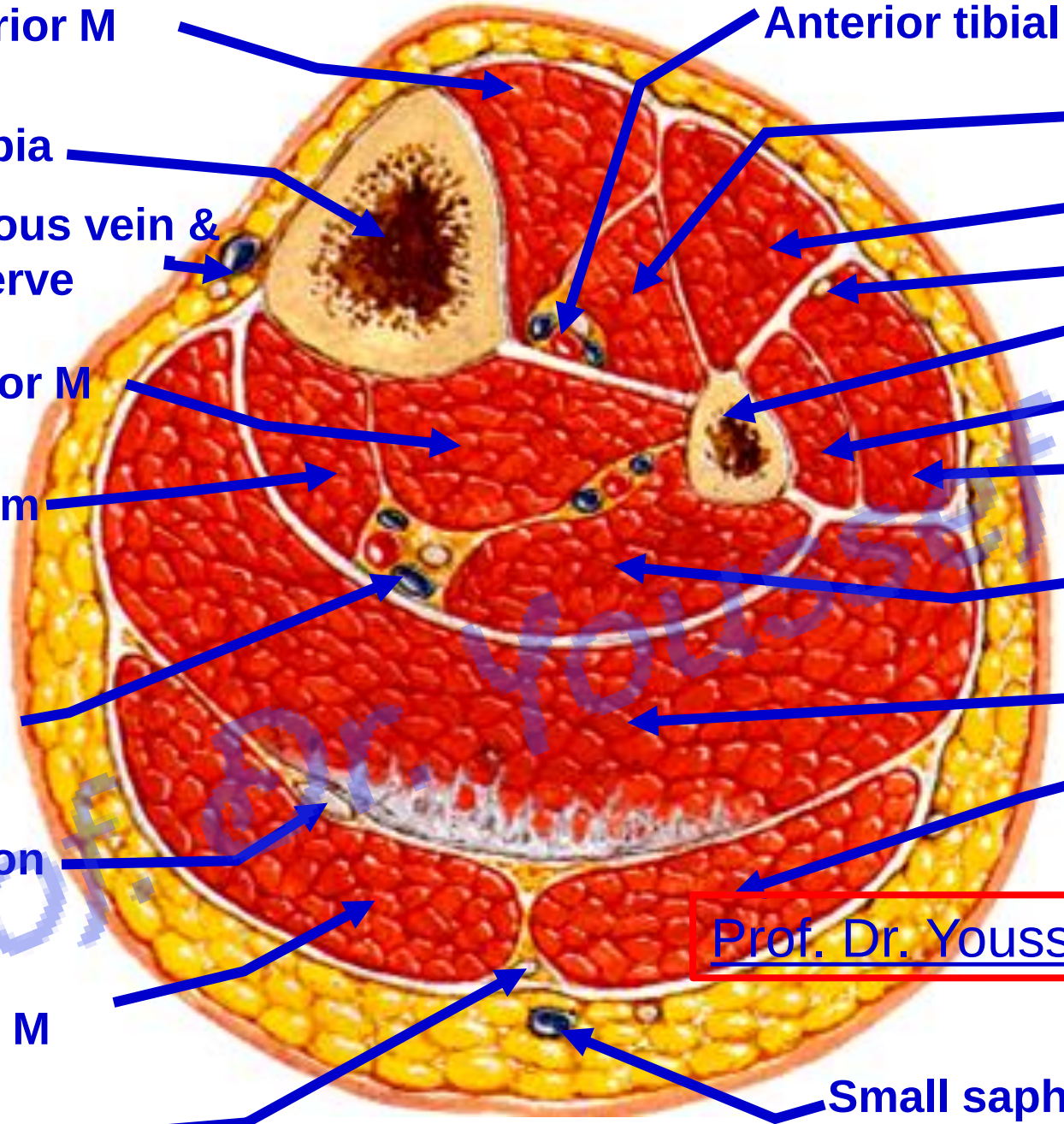
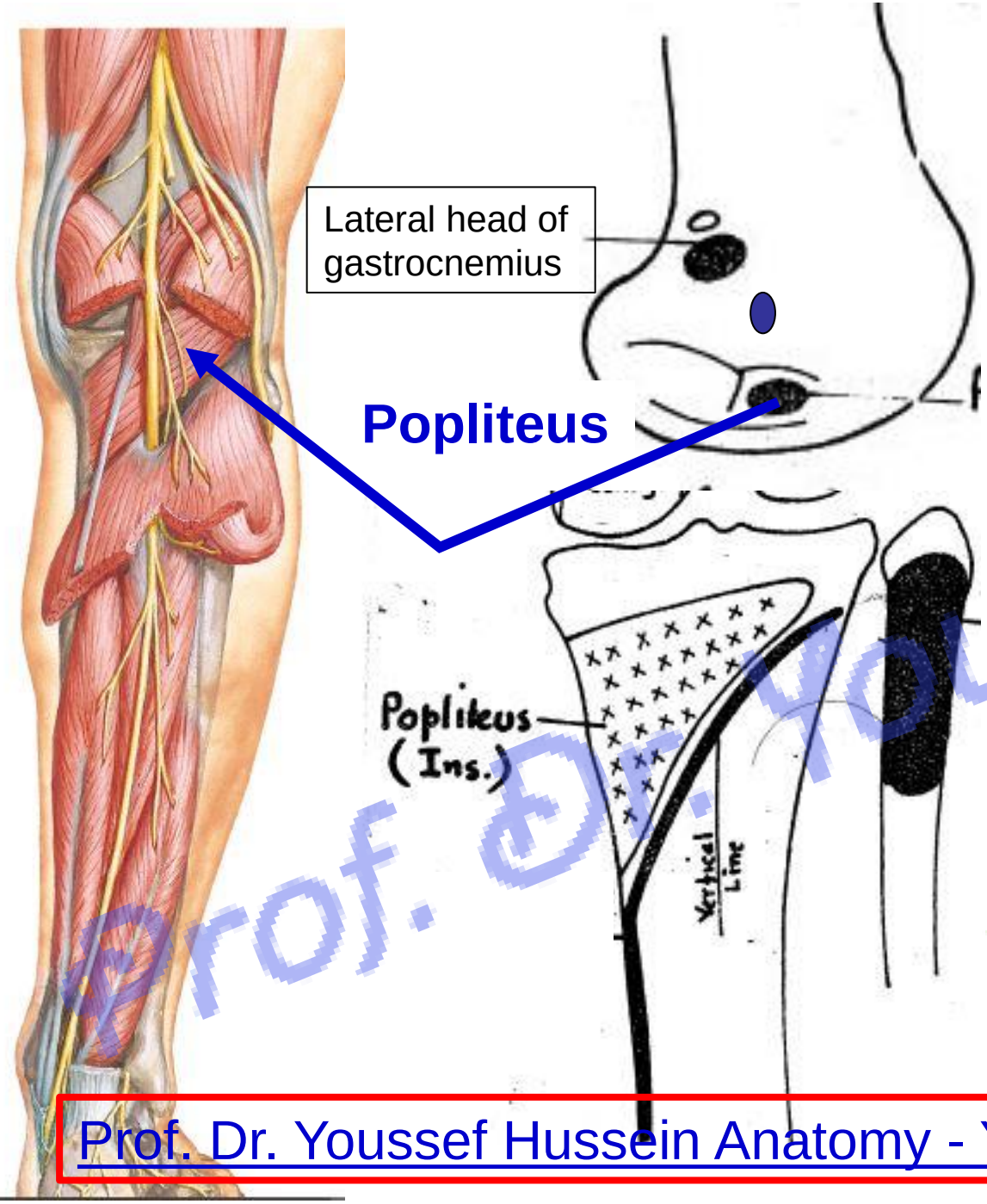
Transverse section of the middle of the leg



Deep group
Posterior Compartment
of the Leg

1- Tibialis posterior (Posterior Tibial nerve)
2- Flexor digitorum longus (Posterior Tibial nerve)
3- Flexor hallucis longus (Posterior Tibial nerve)
4- Popliteus (Tibial nerve)



- **PopLiteus**

** **Origin:** groove on lateral surface of **Lateral** condyle of femur below the lateral epicondyle.

- **The muscle is intracapsular extrasynovial.**

** **Insertion:** triangular area on posterior surface of the tibia above the soleal line.

** **Nerve supply:** Tibial nerve.

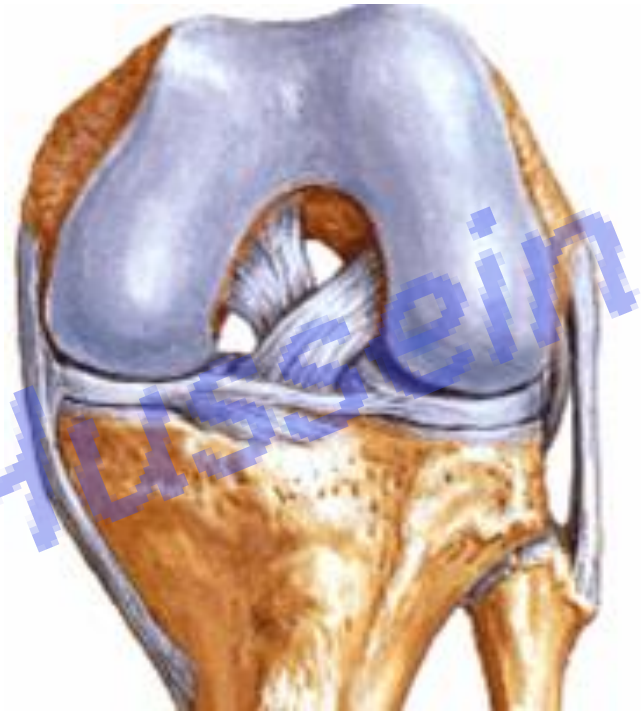
- It descends superficial to the muscle and then hooks on the lower border to supply the muscle through its deep surface.

Unlocking of knee joint

At the beginning of flexion of knee joint

Lateral rotation of femur on tibia when the foot is fixed on the ground

Or medial rotation of tibia on femur when the foot is raised from the ground



Protection of the lateral meniscus.

- **Origin of Flexor Digitorum Longus**

** Posterior surface of the tibia below the soleal line and medial to the vertical line.

- **Origin of Flexor Hallucis Longus**

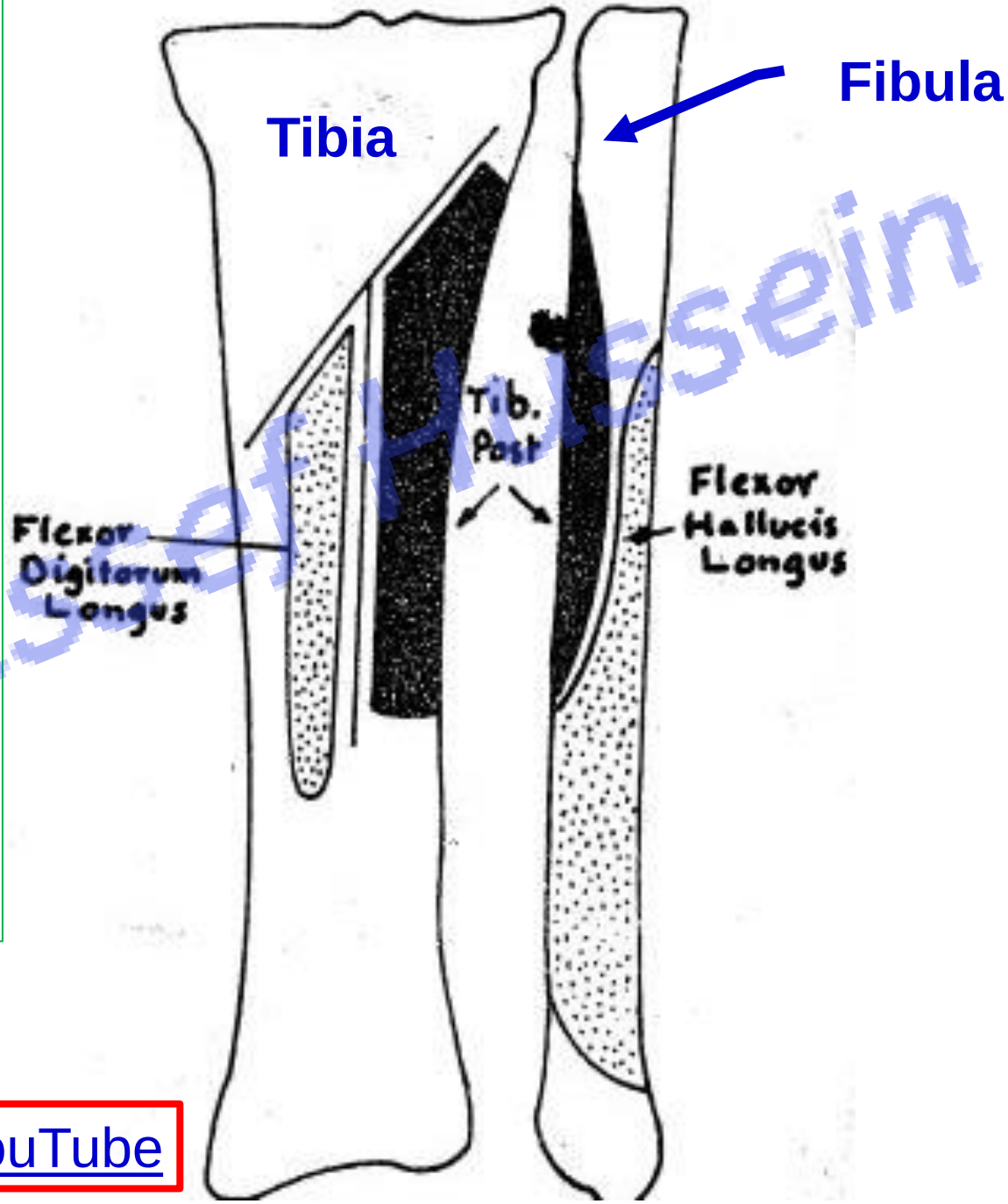
** Lower 2/3 of posterior surface of fibula lateral to the median crest.

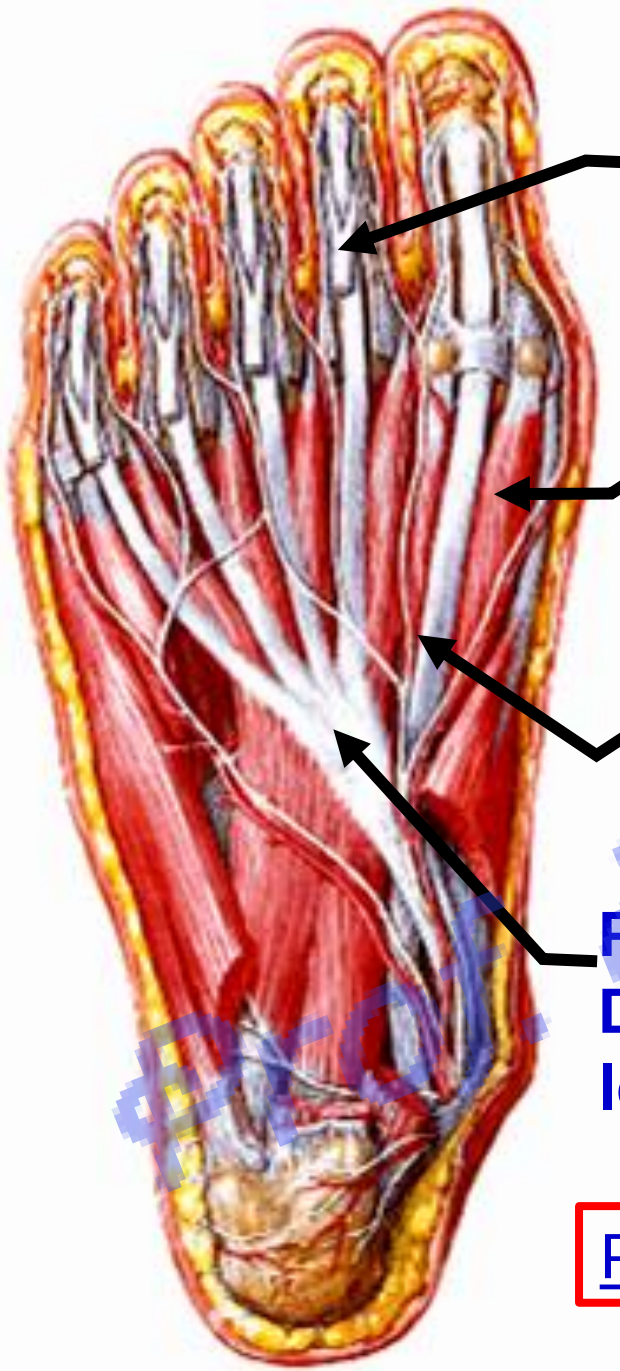
- **Origin of Tibialis Posterior**

1- Posterior surface of tibia below soleal line and lateral to the vertical line

2- Posterior surface of fibula medial to median crest

3- Interosseus membrane.

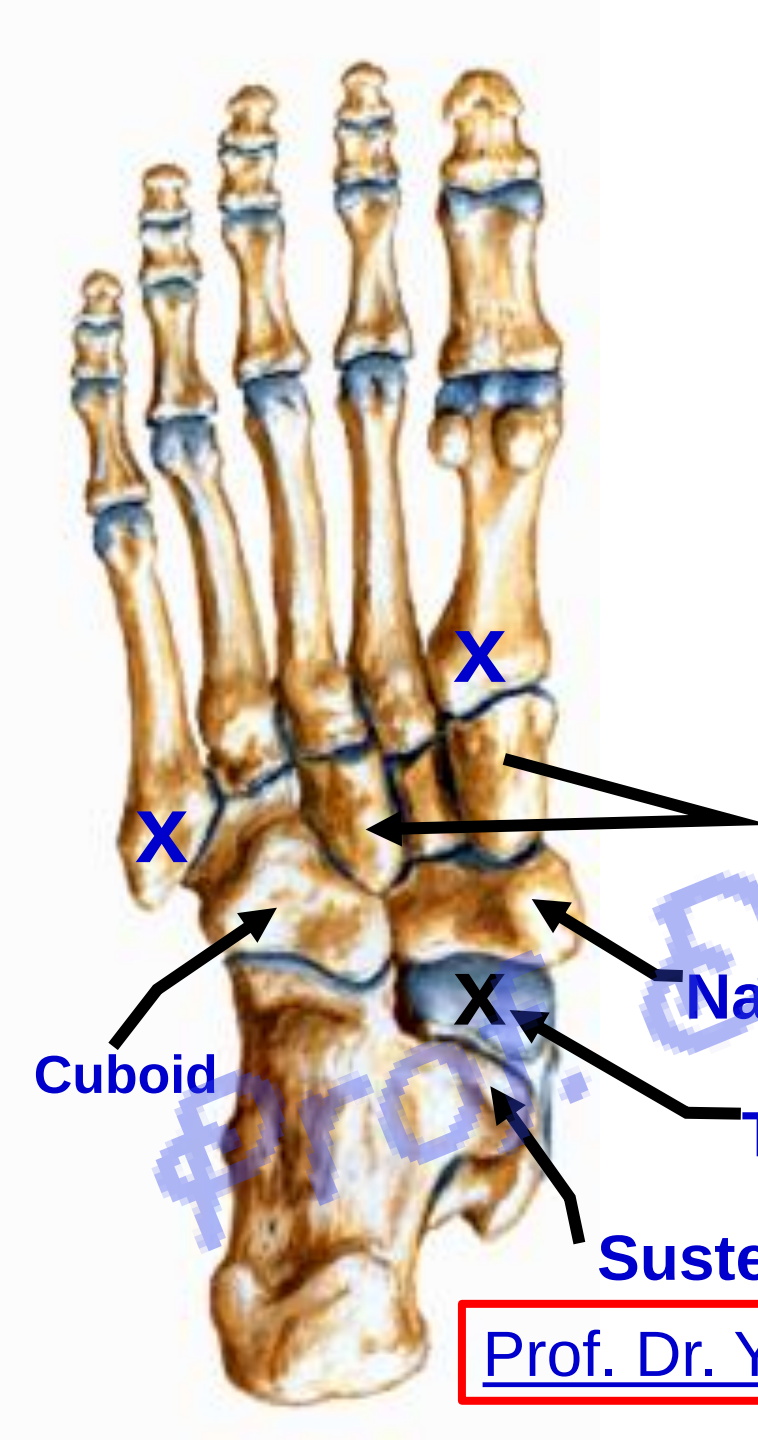




- **Insertion of Flexor Hallucis Longus:** plantar surface of terminal (distal) phalanx of **the big toe (hallux)** (Flexor hallucis brevis splits into lateral and medial to allow the passage of FHL)
- **Insertion of Flexor Digitorum Longus**

- They divide into 4 tendons which are **inserted into** plantar surface of the **distal (terminal) phalanges** of the **lateral 4 toes.**

- Each tendon passing through an opening in corresponding tendon of **Flexor digitorum brevis** opposite the proximal phalanx.



- **Insertion of Tibialis Posterior**

- It divided into 2 slips:

A- Medial slip to the tuberosity of navicular bone (**main insertion**).

B- Lateral slip divided into several slips to**:**

1- All tarsal bones **except** talus.

2- Bases of all metatarsal bones **except** the first and the 5th metatarsal bones.

- ** Actions of Flexor Hallucis Longus

1- Plantar flexion of the foot.

2- Inversion of the foot.

3- Supporting the longitudinal arch of the foot

4- Flexion of all Joints of the big toe.

- ** Actions of Flexor Digitorum Longus

1- Plantar flexion of the foot.

2- Inversion of the foot.

3- Supporting the longitudinal arch of the foot.

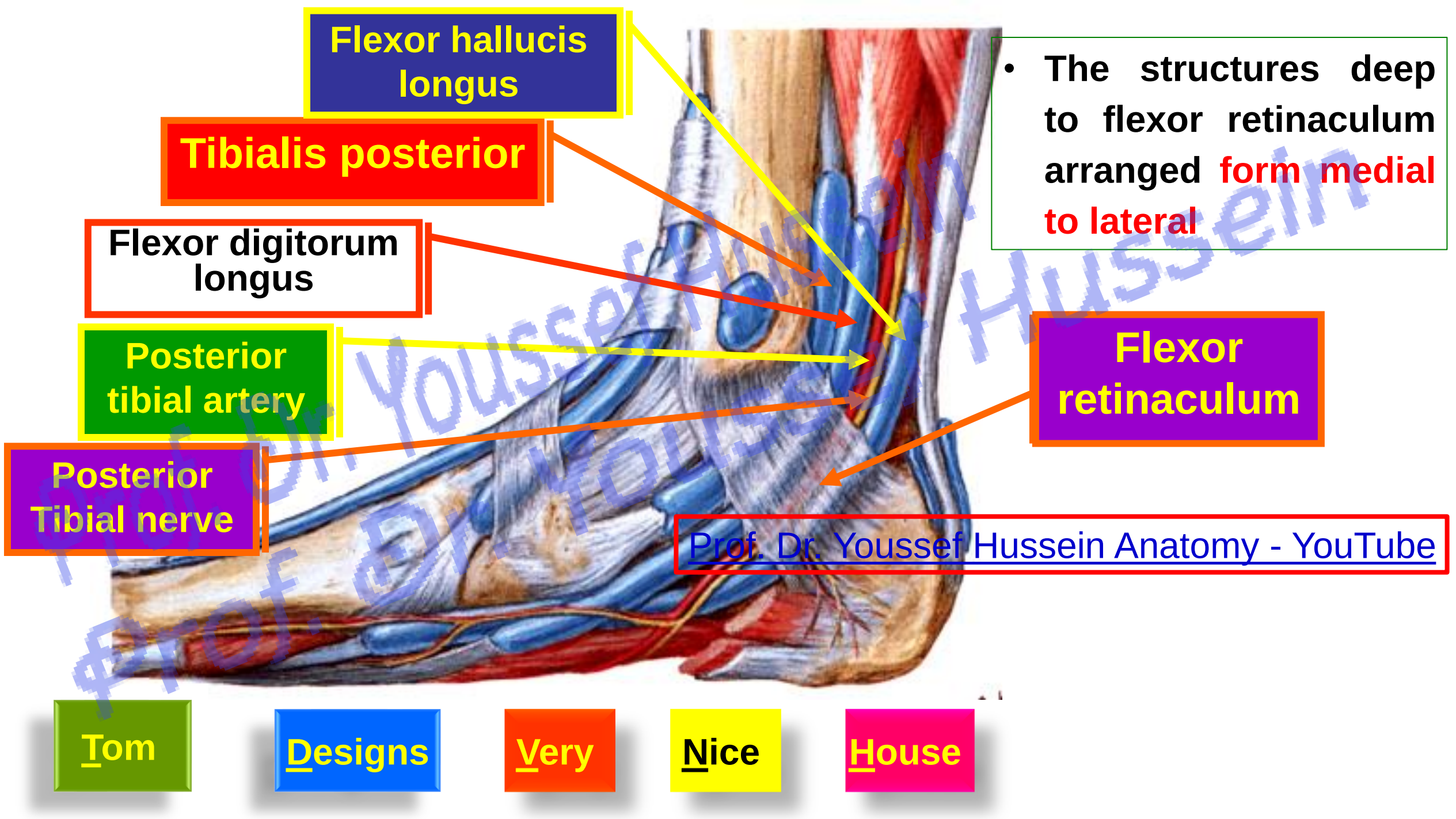
4- Flexion of all joints of the lateral 4 toes.

- ** Actions of Tibialis Posterior

1- Plantar flexion of the foot.

2- Inversion of the foot.

3- Supporting the longitudinal arch of the foot.


Flexor hallucis longus
Tibialis posterior
Flexor digitorum longus
Posterior tibial artery
Posterior Tibial nerve
Flexor retinaculum
• The structures deep to flexor retinaculum arranged form medial to lateral
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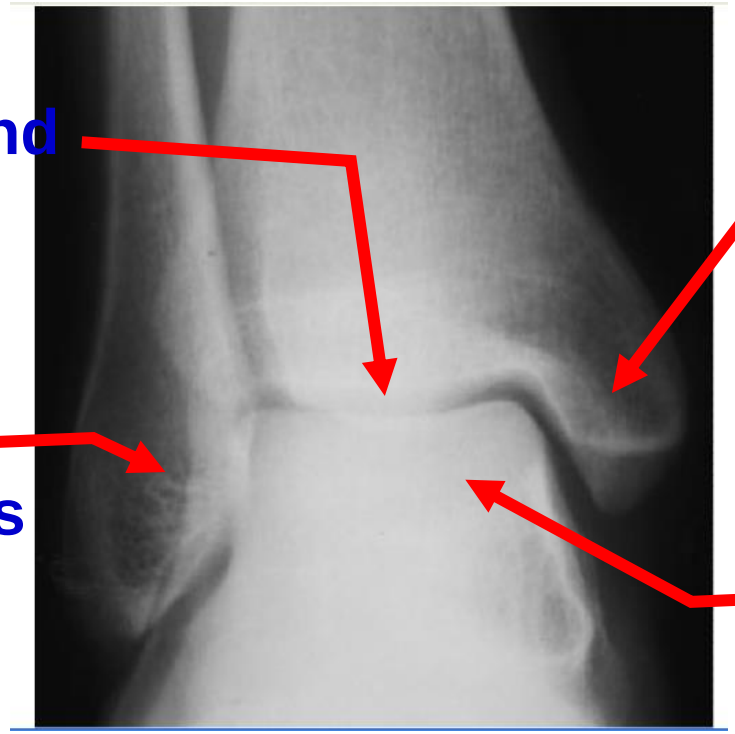
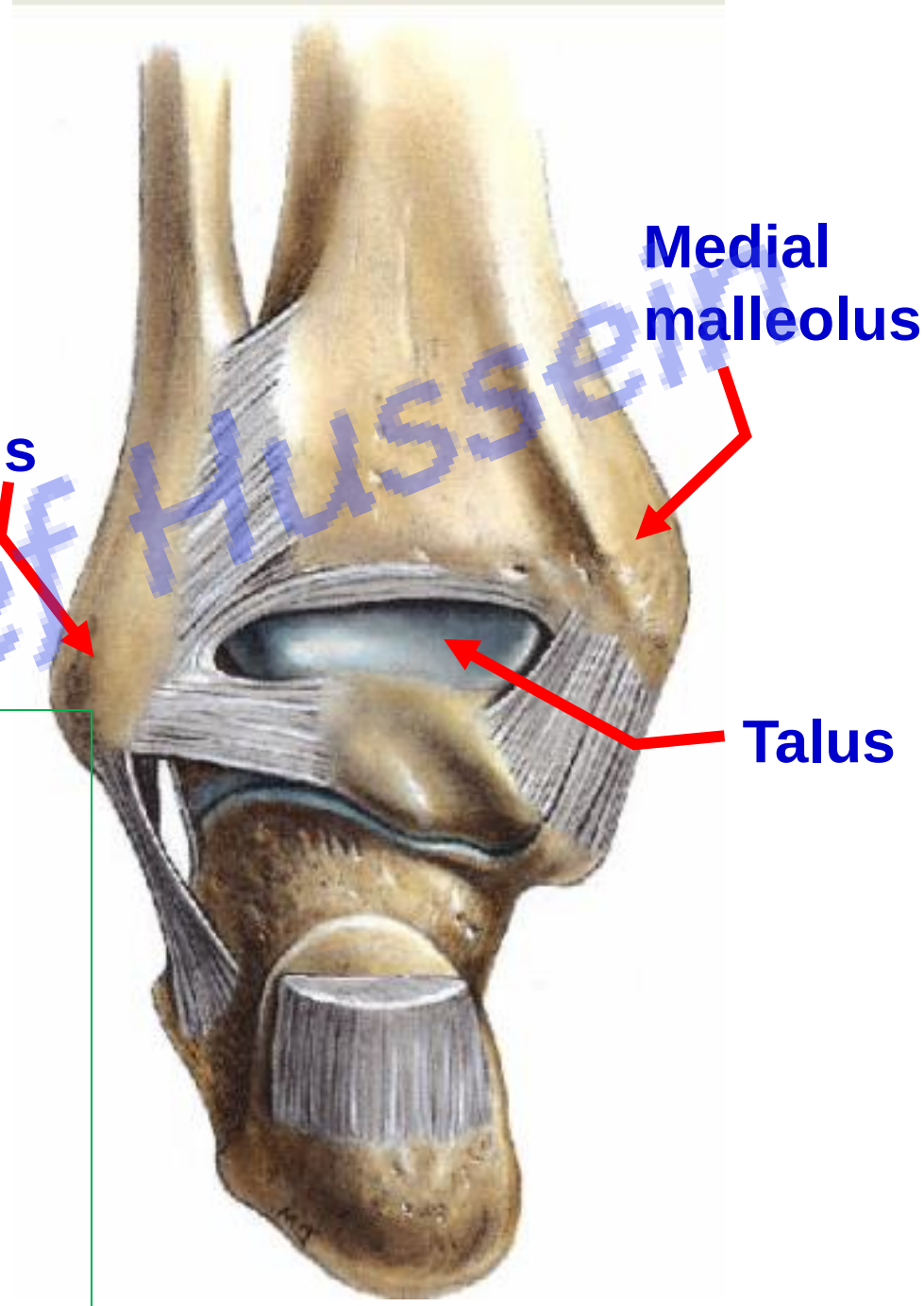
Tom
Designs
Very
Nice
House

Ankle joint





- **Ankle Joint**

I- Type; Synovial joint, hinge variety.

II- Articular surfaces

A- Superior articular surface:

1) Lower end of the tibia.

2) Lateral surface of the medial malleolus.

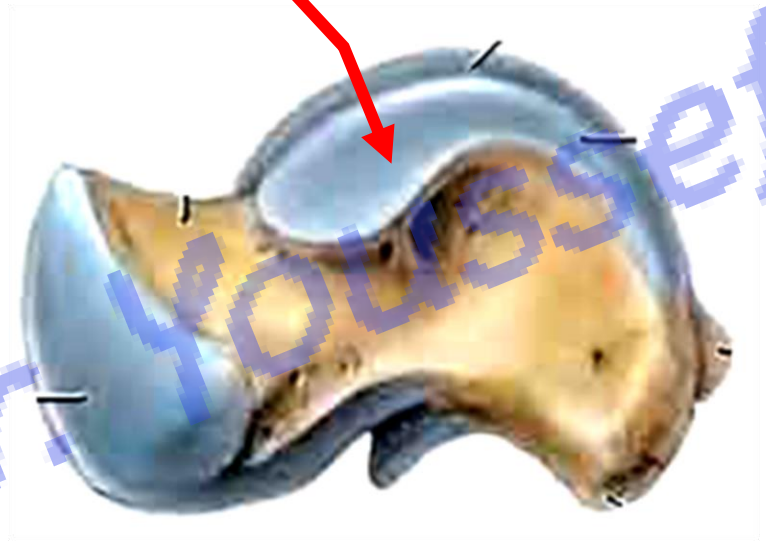
3) Medial surface of the lateral malleolus.

B- Inferior articular surface; talus.

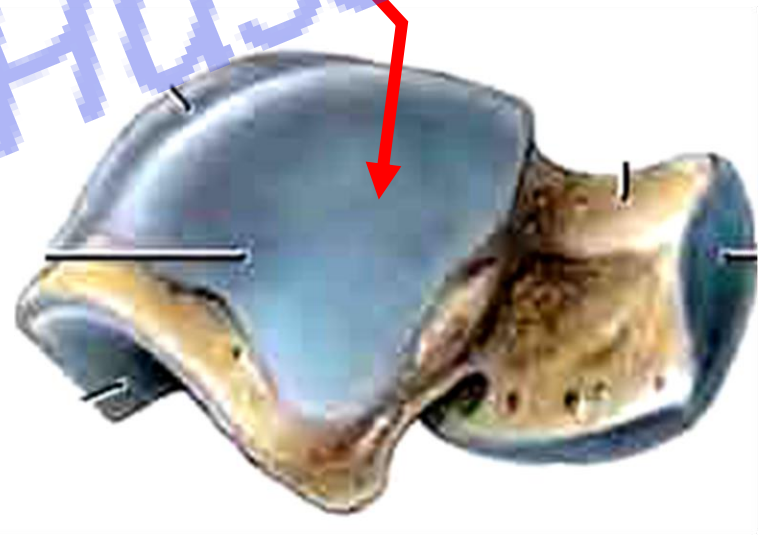
Articular surface of Talus

Superior trochlear surface articulates with lower end of tibia

Coma shape articulates with medial malleolus



Triangle shape articulates with lateral malleolus



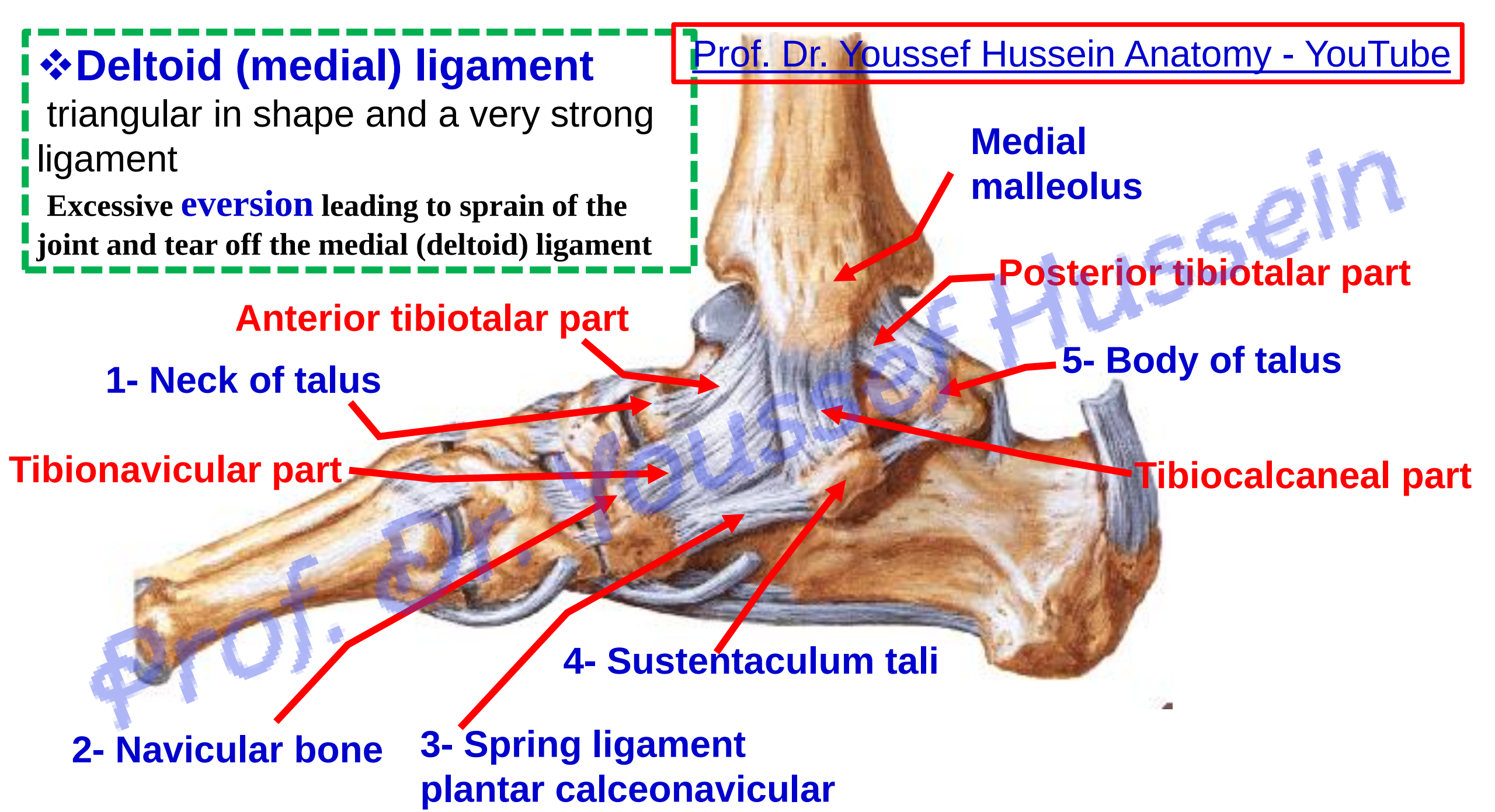
- **Capsule:** surrounds the articular surfaces.
- **Synovial membrane:** lines the capsule.

Ligaments of Ankle joint

❖Deltoid (medial) ligament

triangular in shape and a very strong ligament

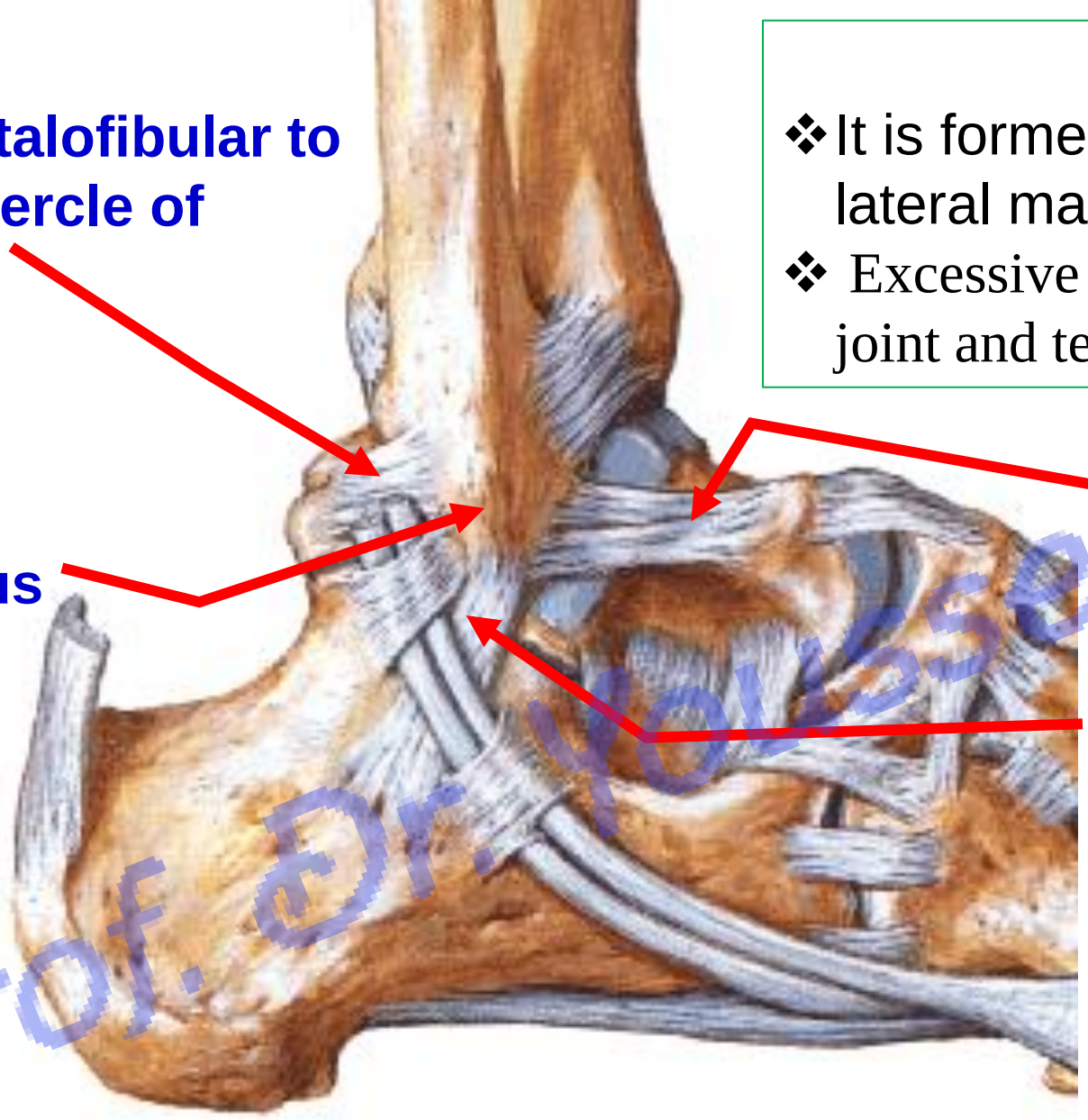
Excessive eversion leading to sprain of the joint and tear off the medial (deltoid) ligament



❖Lateral ligament

❖It is formed of three bands attached to the lateral malleolus of fibula

❖ Excessive **inversion** leading to sprain of the joint and tear off the lateral ligament



Posterior talofibular to lateral tubercle of talus

Lateral malleolus

Anterior talofibular to neck of talus

Calcaneofibular to the lateral surface of calcaneus

Relations of Ankle joint

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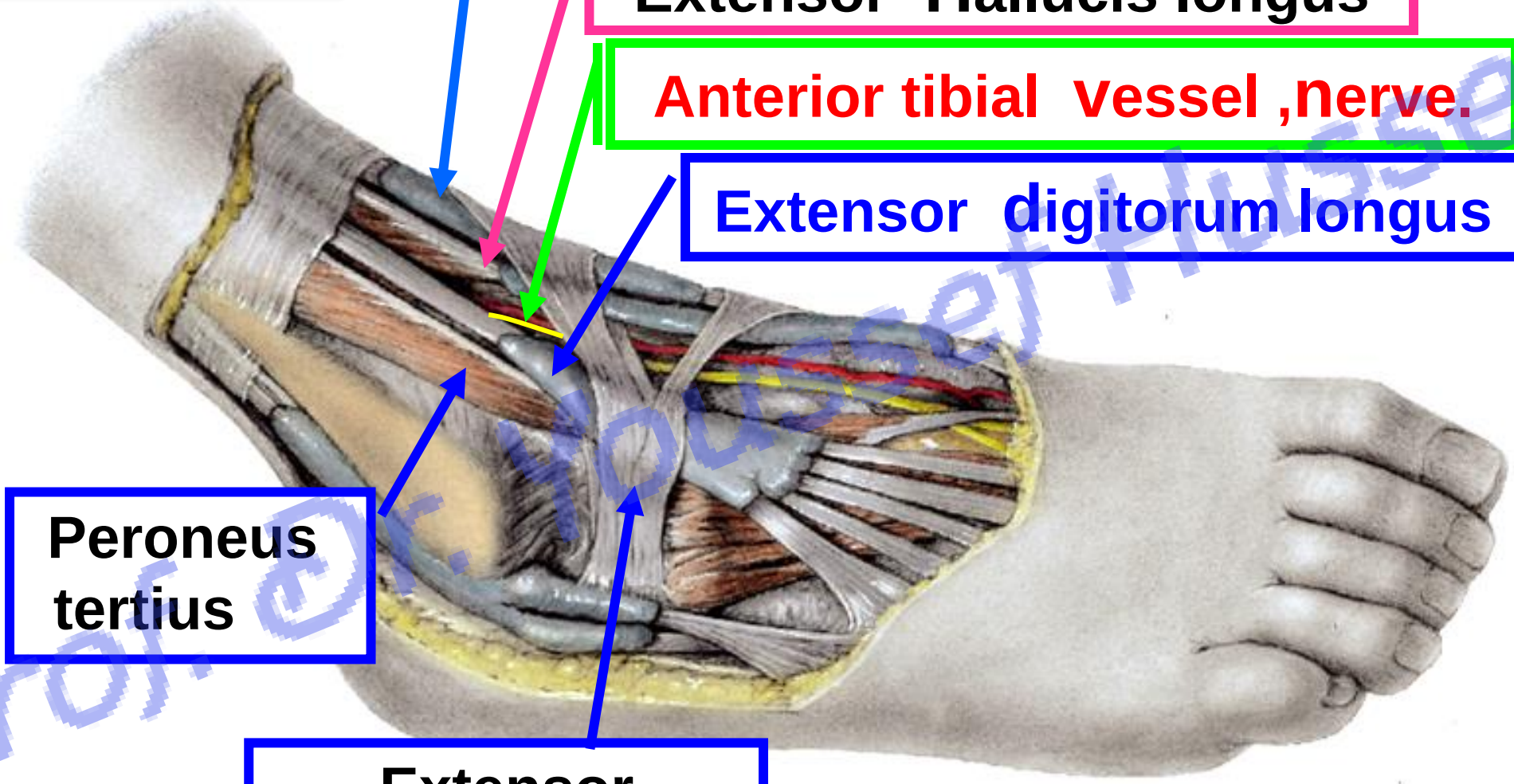
Anterior relations



Tibialis anterior

Extensor Hallucis longus

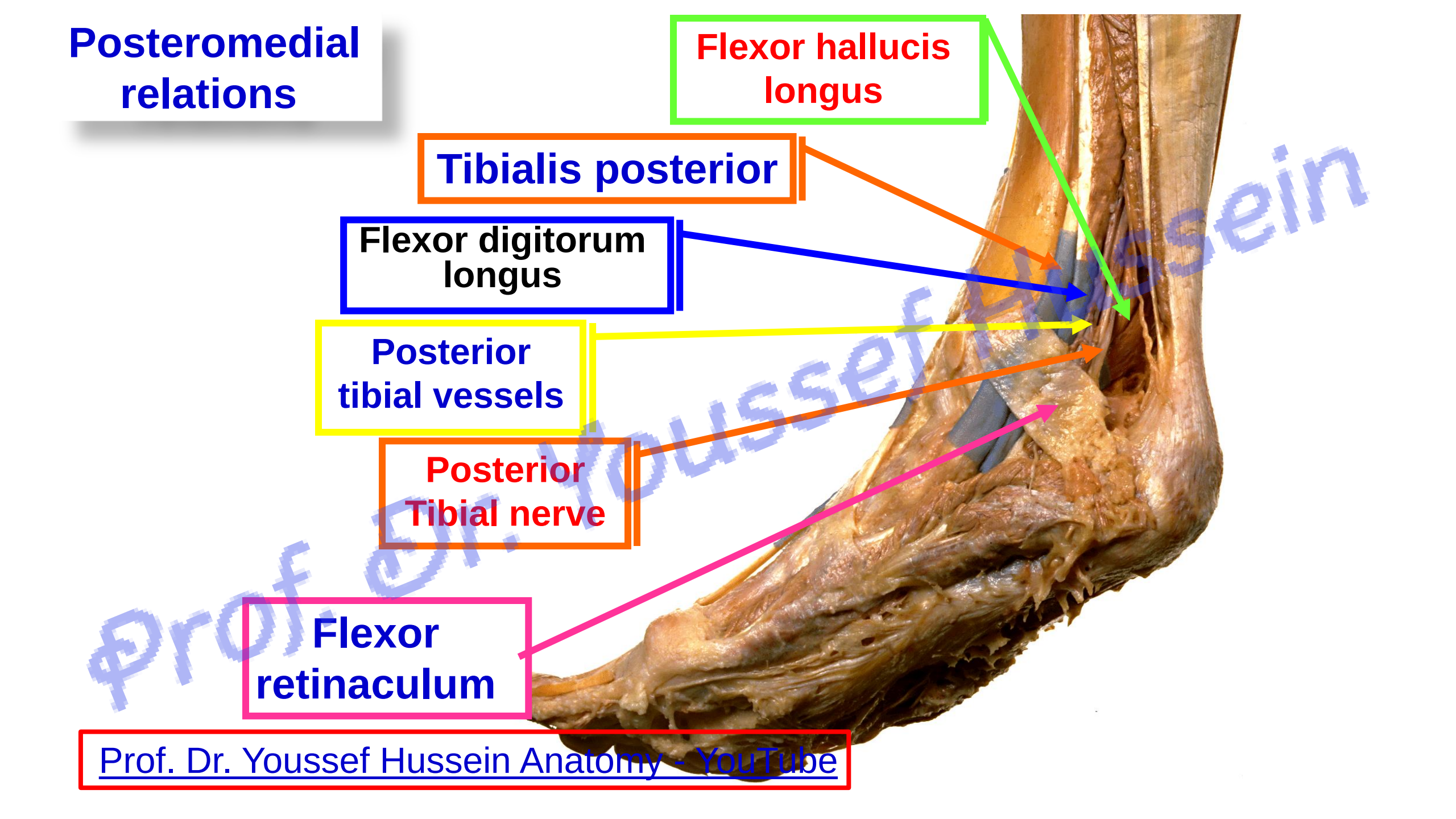
Anterior tibial vessel ,nerve.

Extensor digitorum longus

Peroneus tertius

Extensor retinacula

Posteromedial relations



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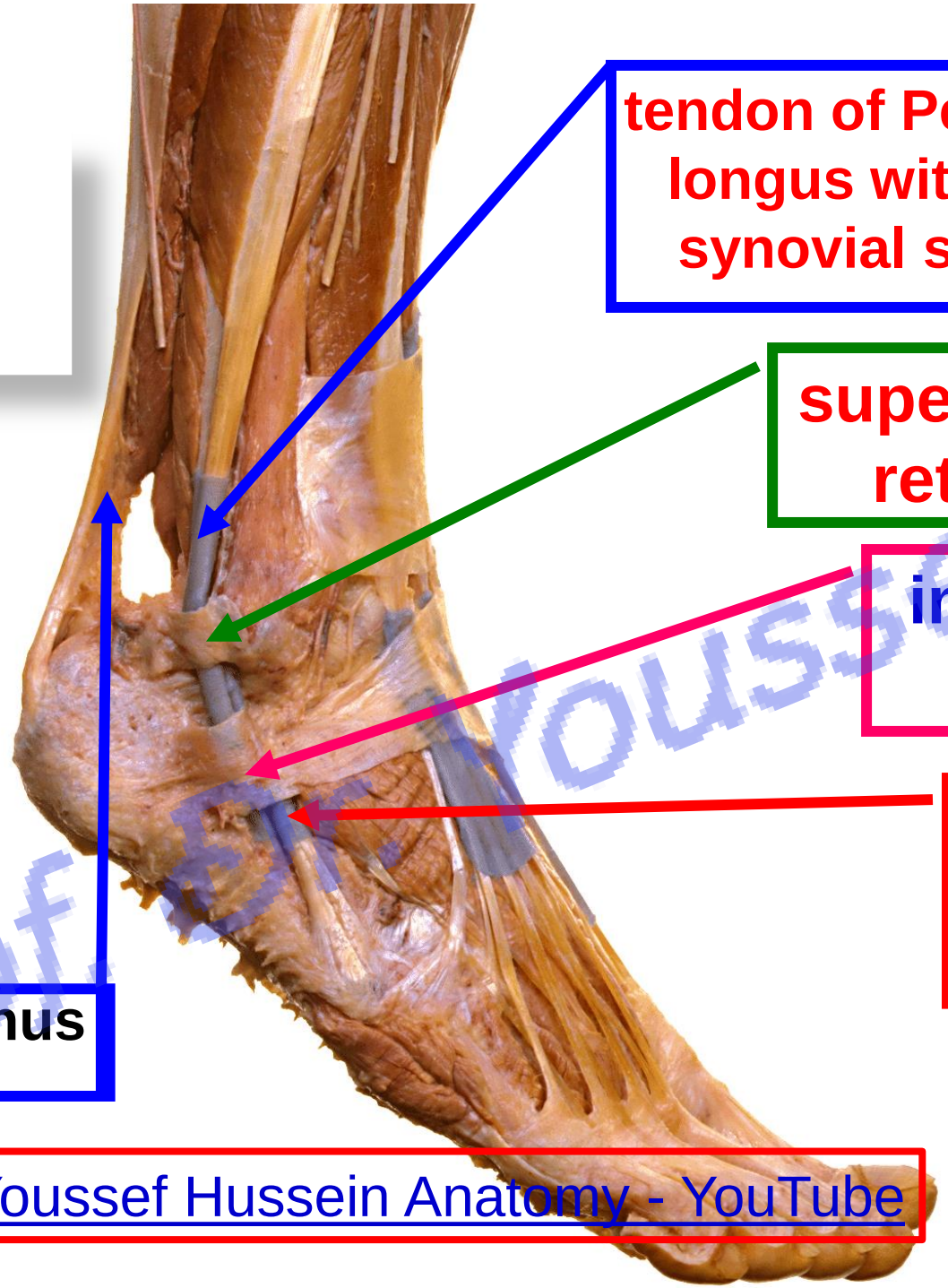

Posterior relations

Tendocalcaenus

tendon of Peroneus longus within its synovial sheath

Lateral relations

superior peroneal retinaculum

inferior peroneal retinaculum

tendon of Peroneus brevis within its synovial sheath

- **Movements of the ankle joint**

A- Dorsiflexion: by the muscles of the anterior compartment of the leg (1- Tibialis anterior, 2- **Extensor** hallucis longus., 3- **Extensor** digitorum longus.,4- Peroneus tertius)

B- Plantar flexion by muscles of the posterior compartment of the leg (1- Tendocalcaneus. 2- **T**ibialis posterior. 3- **Flexor D**igitorum longus. 4- **Flexor H**allucis longus)

- **Locking and unlocking of the ankle joint:**

a- Locking, during **dorsiflexion**, the **wide anterior part** of the trochlear surface of the talus is lodged into the **narrow posterior part** of the superior articular surface (socket).

b- Unlocking, during **plantar flexion**, the **narrow posterior part** of the trochlear surface is lodged in the **wide anterior part** of the superior articular surface. In this position, the foot can be moved slightly from side to side.

dorsiflexion

Plantar flexion

❖Blood supply

❖Anastomoses around the ankle joint

- **Branches of the anterior tibial artery**.
  - **Anterior medial malleolar** artery.
  - **Anterior lateral malleolar** artery.
- **Branches of dorsalis pedis artery.**
  - Medial **tarsal** artery.
  - Lateral **tarsal** artery.
- **Branches of posterior tibial artery.**
  - Posterior medial malleolar branches.
  - Medial Calcanean branches
- **Branches of peroneal artery**.
  - Perforating branches.
  - Lateral Calcanean branches.

❖ **Nerve supply:** from the anterior and posterior tibial nerves.

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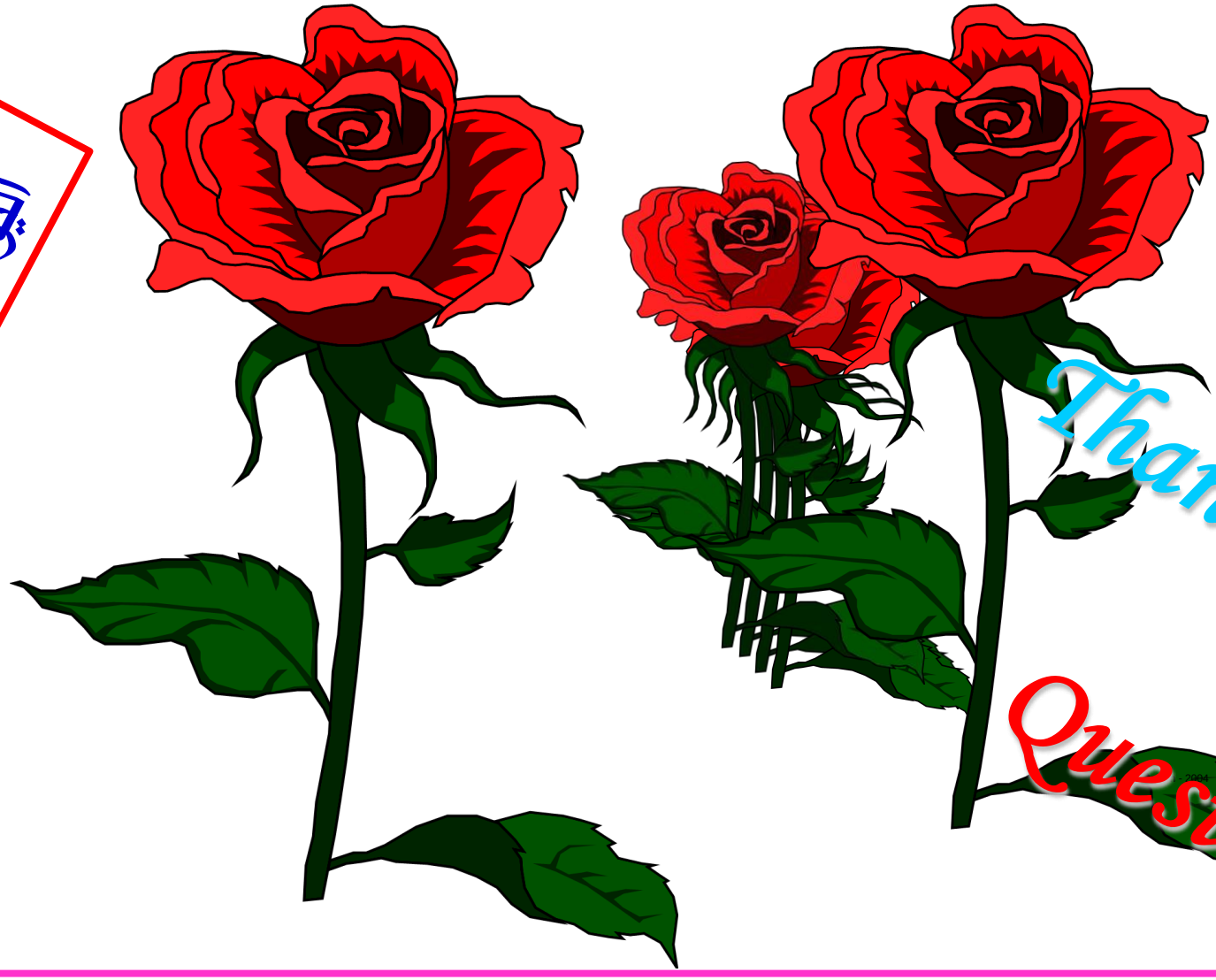
https://www.youtube.com/channel/UCVSNqbibj9UWYaJdd_cn0PQ



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