

***ANTERIOR, LATERAL COMPARTMENTS OF THE
LEG & DORSUM OF THE FOOT***

**Dr JAMILA
EL MEDANY**

&

**Dr SAEED
VOHRA**

OBJECTIVES

At the end of the lecture, student should be able to

Identify the deep fascia of leg

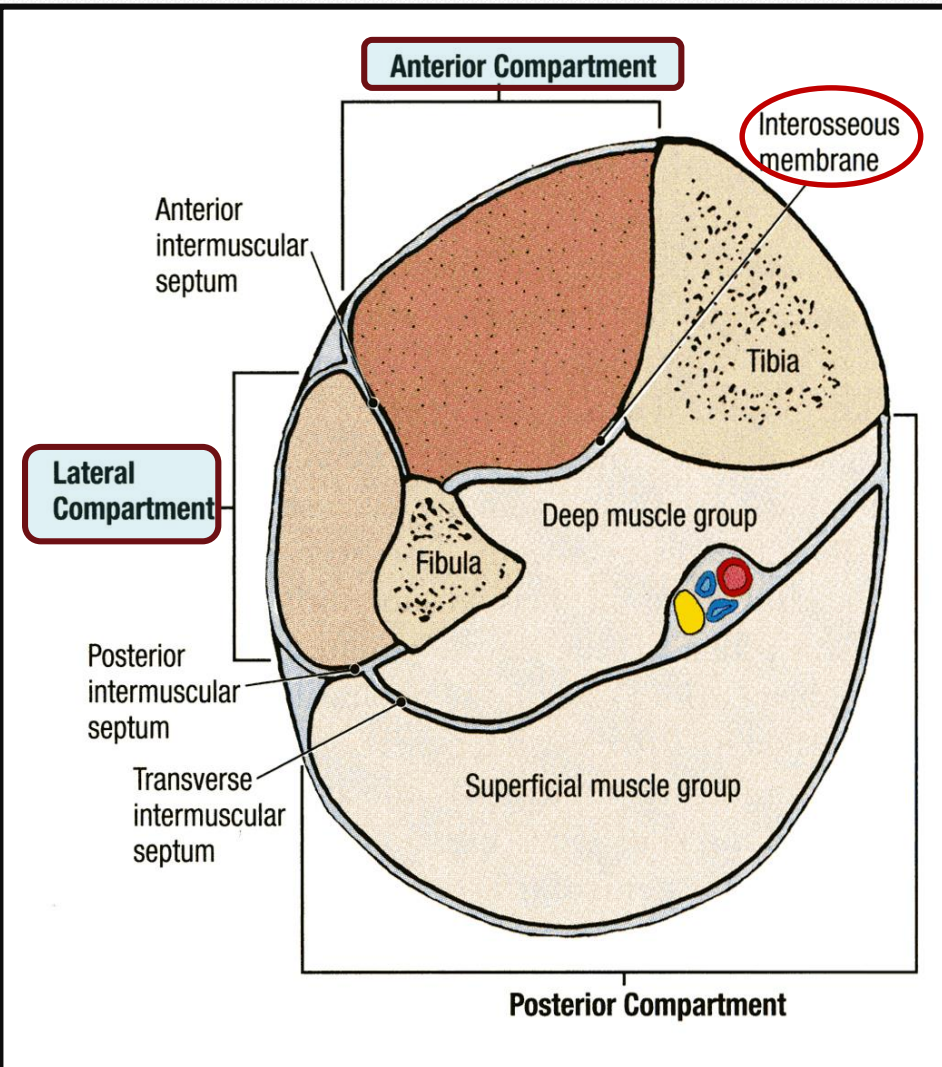
Identify the fascial compartments of the leg

Describe the anatomy of the anterior & lateral compartments

List the contents of each compartment (muscles, vessels & nerves)

Describe the anatomy and contents of the dorsum of the foot

Fascia of the Leg



- The deep fascia surrounds the leg and attached to Anterior & Medial borders of Tibia.

- Two Intermuscular Septa**

Pass from the deep aspect of this fascia to be attached to :

Anterior border of fibula (**Anterior intermuscular septum**)

Posterior border of fibula (**Posterior intermuscular septum**)

- Interosseous membrane:**

A thin & strong membrane, that binds the interosseous borders of tibia & fibula. It binds the two bones and provides attachment for muscles.

Fascial Compartments of Leg

Together with the interosseus membrane, the two intermuscular septa divide the leg into

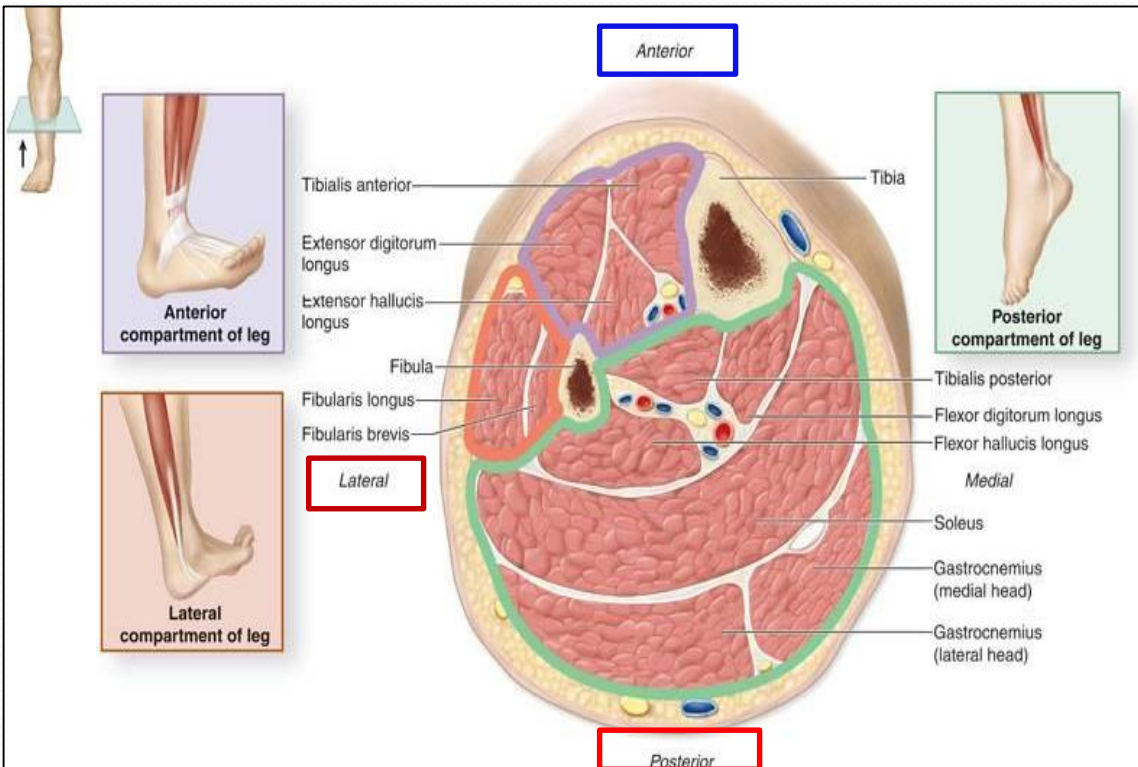
(3) Compartments :

1-Anterior

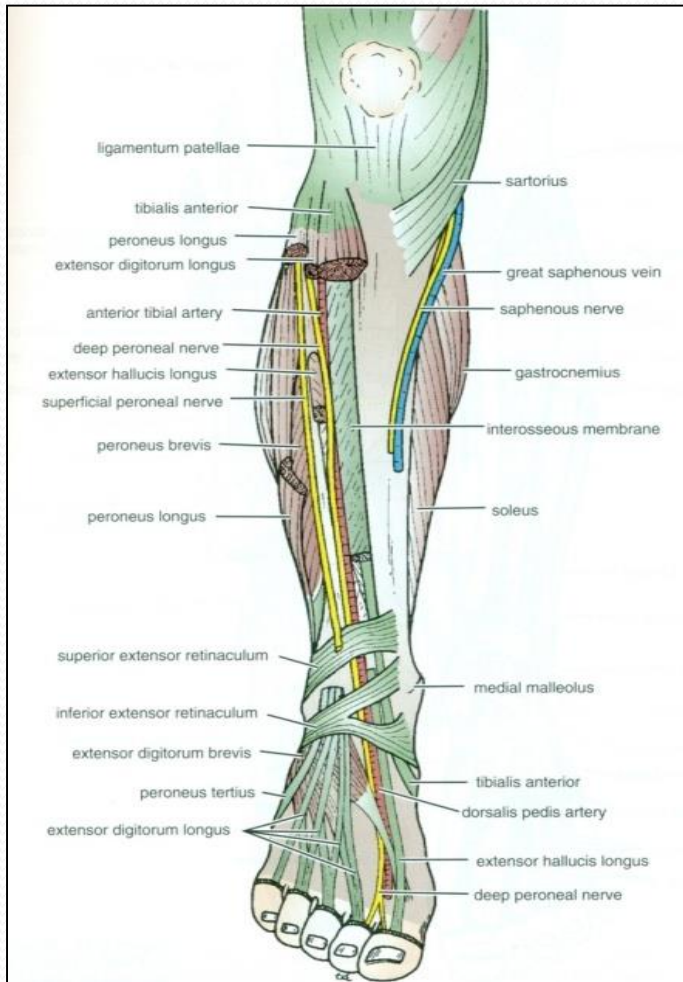
2-Lateral (peroneal)

3-Posterior

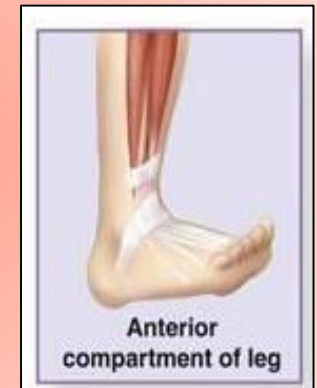
Each one has its own **Muscles** (with specific action), **Blood vessels** and **Nerves**.



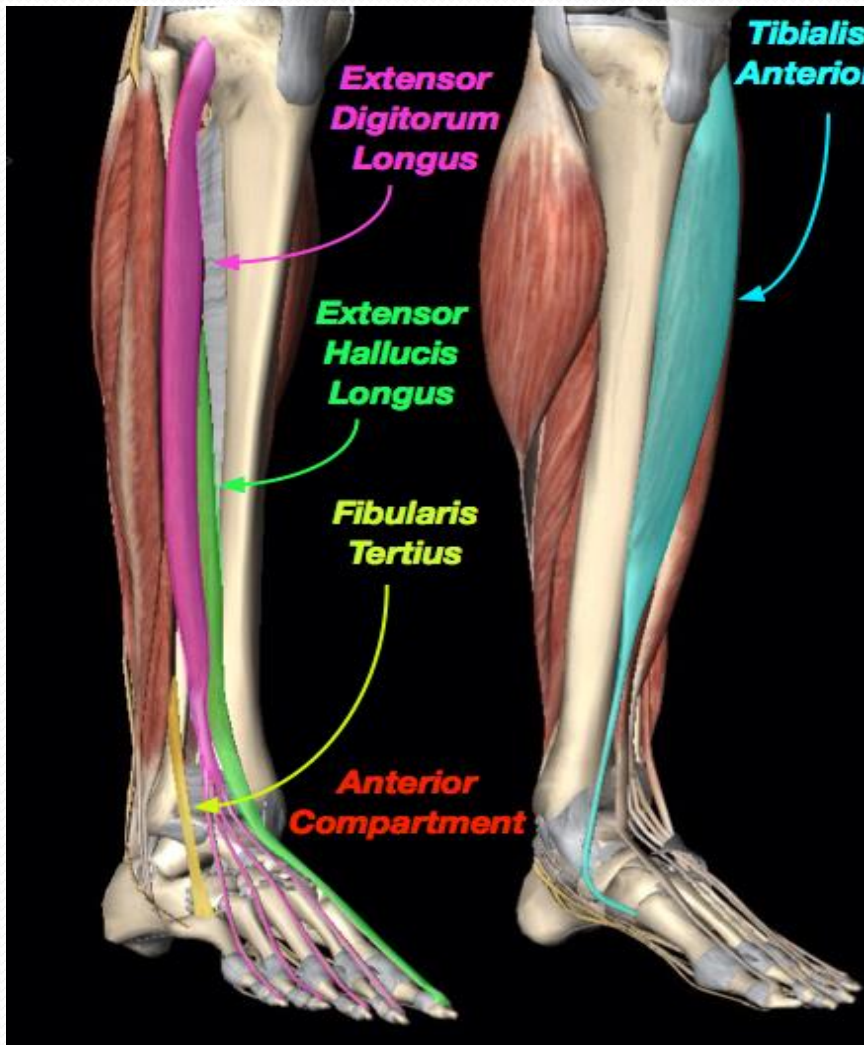
Criteria of the Anterior Compartment



- **Muscles :**
- All muscles take origin from the fibula EXCEPT **Tibialis Anterior**.
- **Nerve supply:**
- **Deep**
- **Peroneal.**
- **Blood Supply:**
- **Anterior tibial.**
- **Action: Dorsiflexion of the ankle joint & Extension of the toes & (Inversion).**



Muscles of Anterior Compartment



Tibialis Anterior

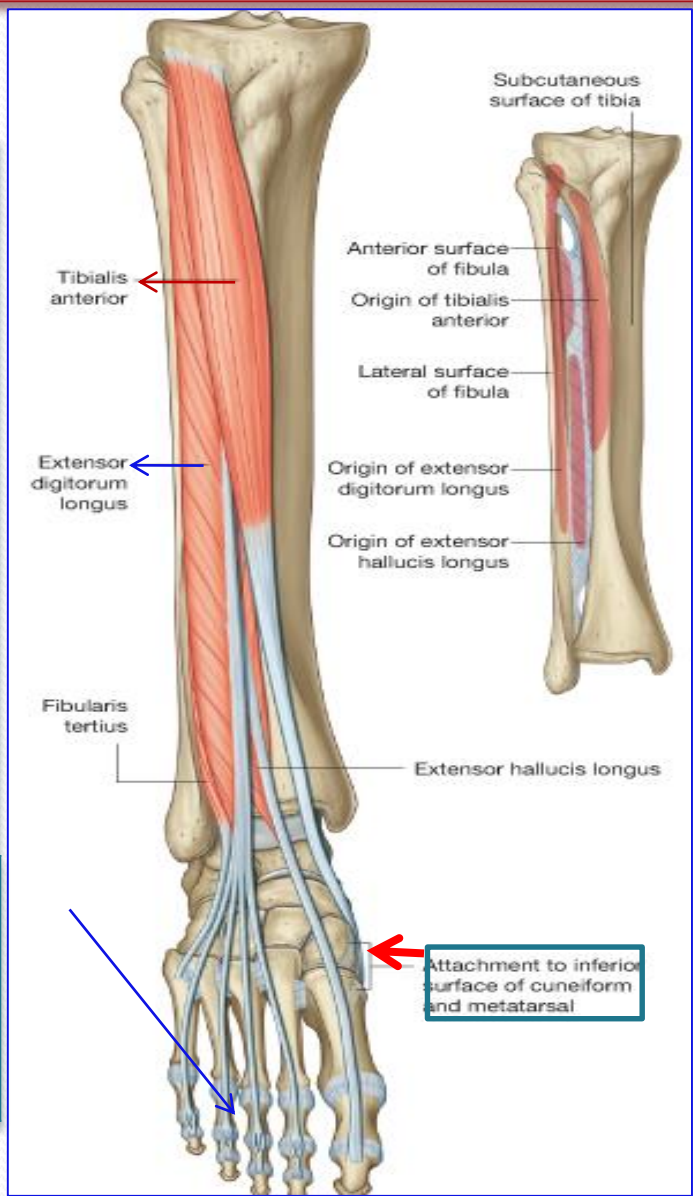
Extensor Hallucis Longus

Extensor Digitorum Longus

Peroneus Tertius

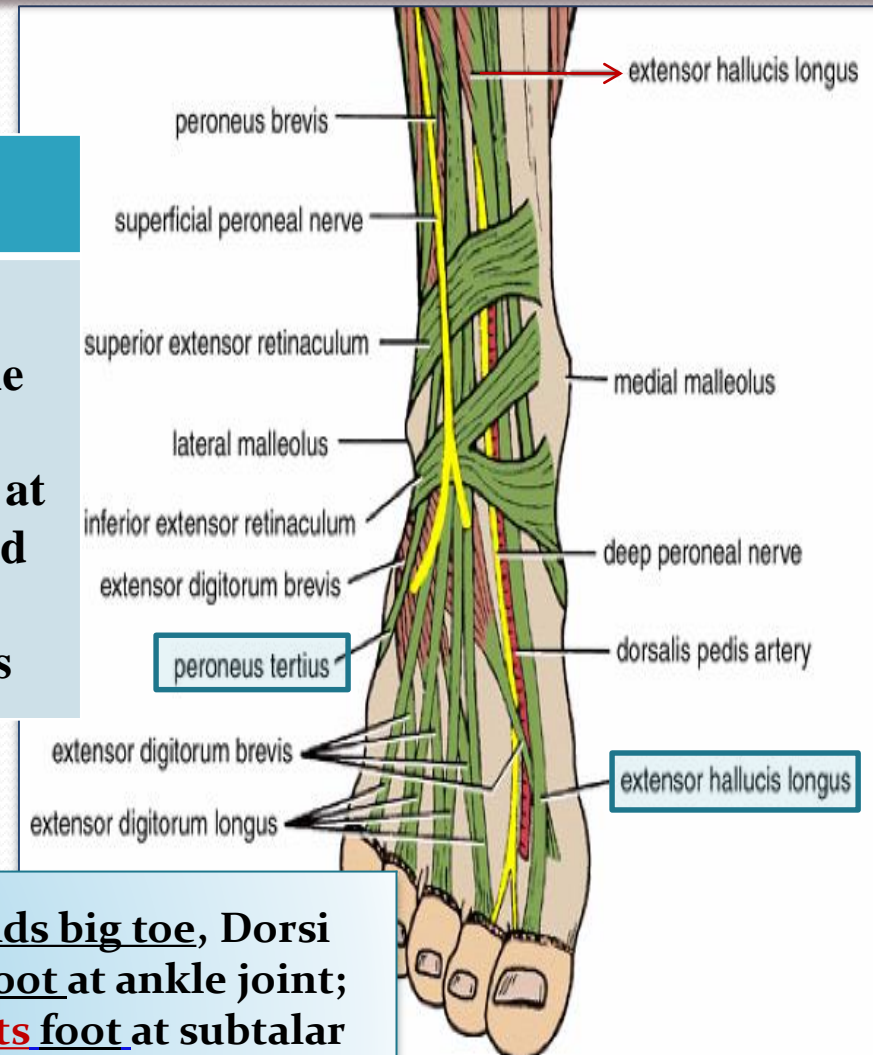
Tibialis Anterior & Extensor Digitorum Longus

Muscle	Origin	Insertion	Action
Tibialis Anterior	<u>Lateral</u> surface of shaft of <u>tibia</u> & interosseous membrane	Medial cuneiform & base of 1 st metatarsal bone	<u>Extends</u> foot at ankle joint; <u>Inverts</u> foot at subtalar & transverse tarsal joints & <u>Holds up</u> <u>medial longitudinal arch of foot</u>
Extensor Digitorum Longus	<u>Anterior</u> surface of shaft of <u>fibula</u>	Extensor expansion of lateral four toes	<u>Extends</u> toes; <u>Dorsi flex</u> foot at ankle joint



Peroneus Tertius, & Extensor Hallucis Longus

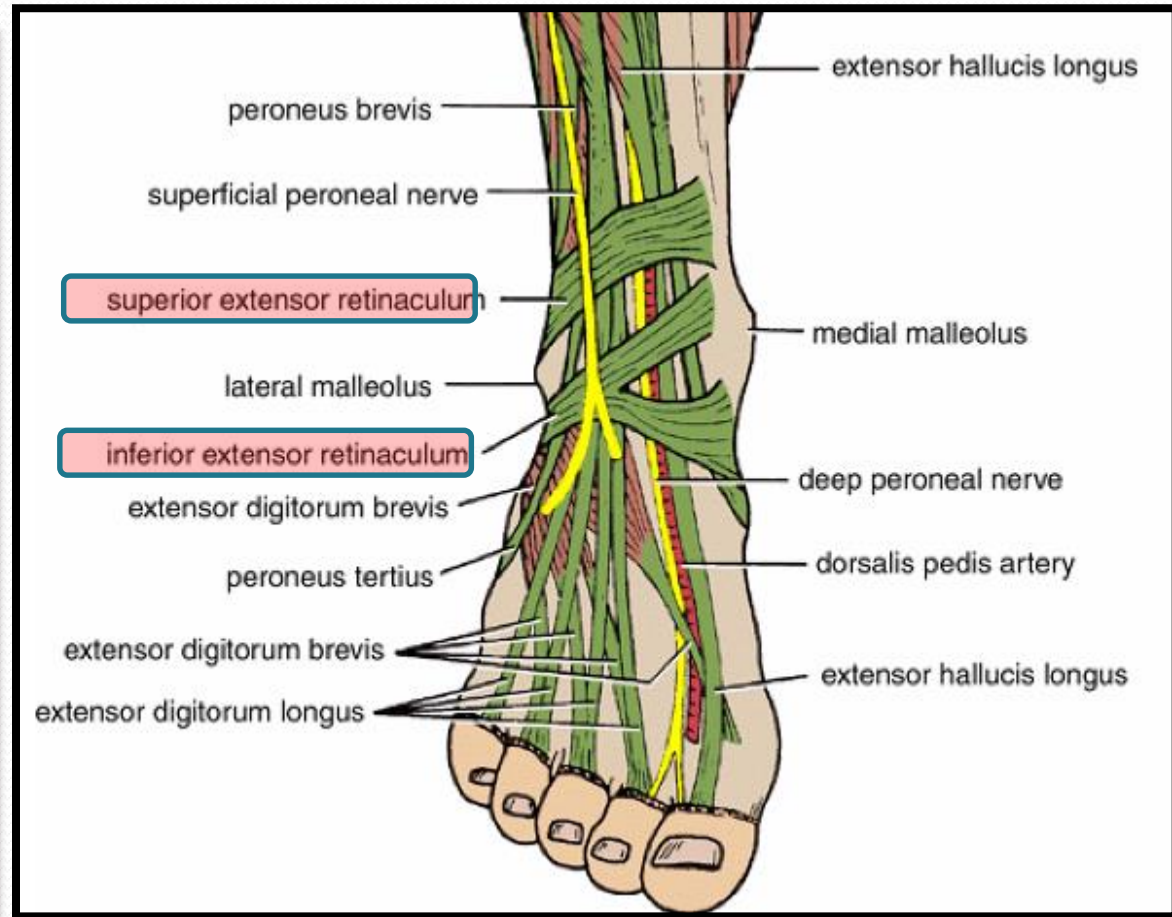
Muscle	Origin	Insertion	Action
Peroneus tertius	<u>Anterior</u> surface of shaft of <u>fibula</u>	<u>Base</u> of <u>5th</u> <u>metatarsal</u> bone	Dorsi flex foot at ankle joint; Everts foot at subtalar and transverse tarsal joints



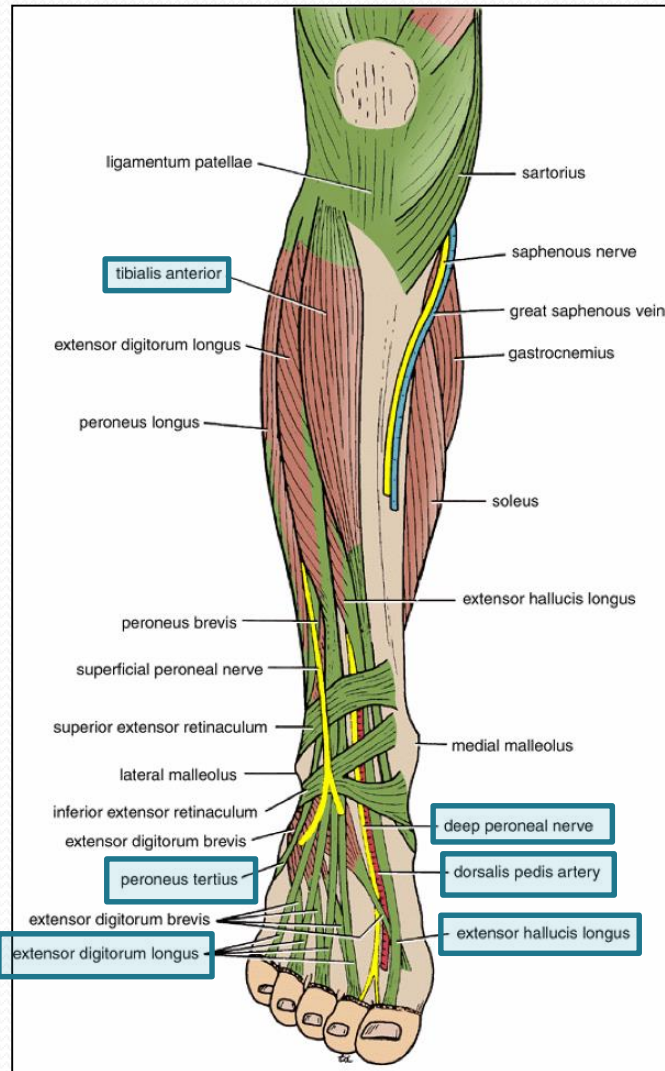
Extensor hallucis longus	<u>Anterior</u> surface of shaft of <u>fibula</u>	Base of distal phalanx of great toe	<u>Extends big toe</u> , Dorsi flex <u>foot</u> at ankle joint; Inverts foot at subtalar and transverse tarsal joints
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Extensor Retinacula

- A thickening of deep fascia that keep the long tendons around ankle joint in position
- **Superior Extensor retinaculum :**
- *Attached to anterior borders of tibia & fibula above ankle*
- **Inferior Extensor retinaculum:**
- *Y-shaped band located inferior to ankle*



Structures Passing Deep to Extensor Retinacula



From medial to lateral:

1. Tom

2. Has

3. Very (vessels)

4. Nice (nerve)

5. Dog &

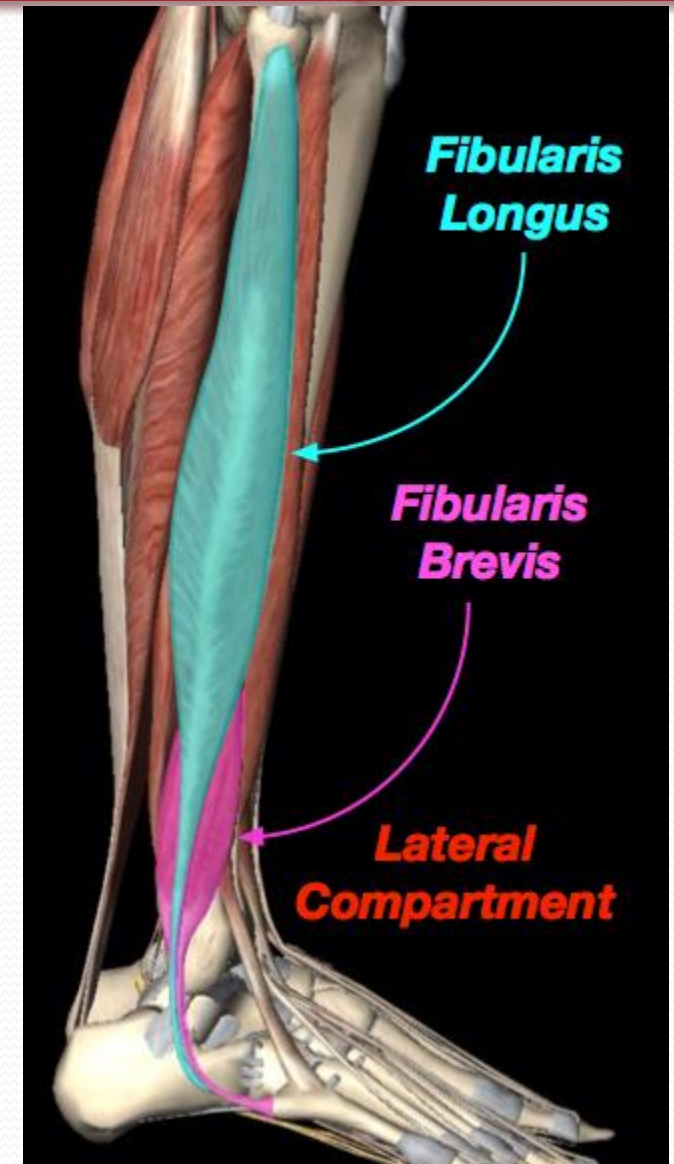
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Lateral Compartment of Leg

MUSCLES	NERVE	BLOOD SUPPLY
PERONEUS LONGUS	Superficial Peroneal	Peroneal A
PERONEUS BREVIS		



Action:
Plantar flexion &
Eversion



Peroneus Longus

Origin

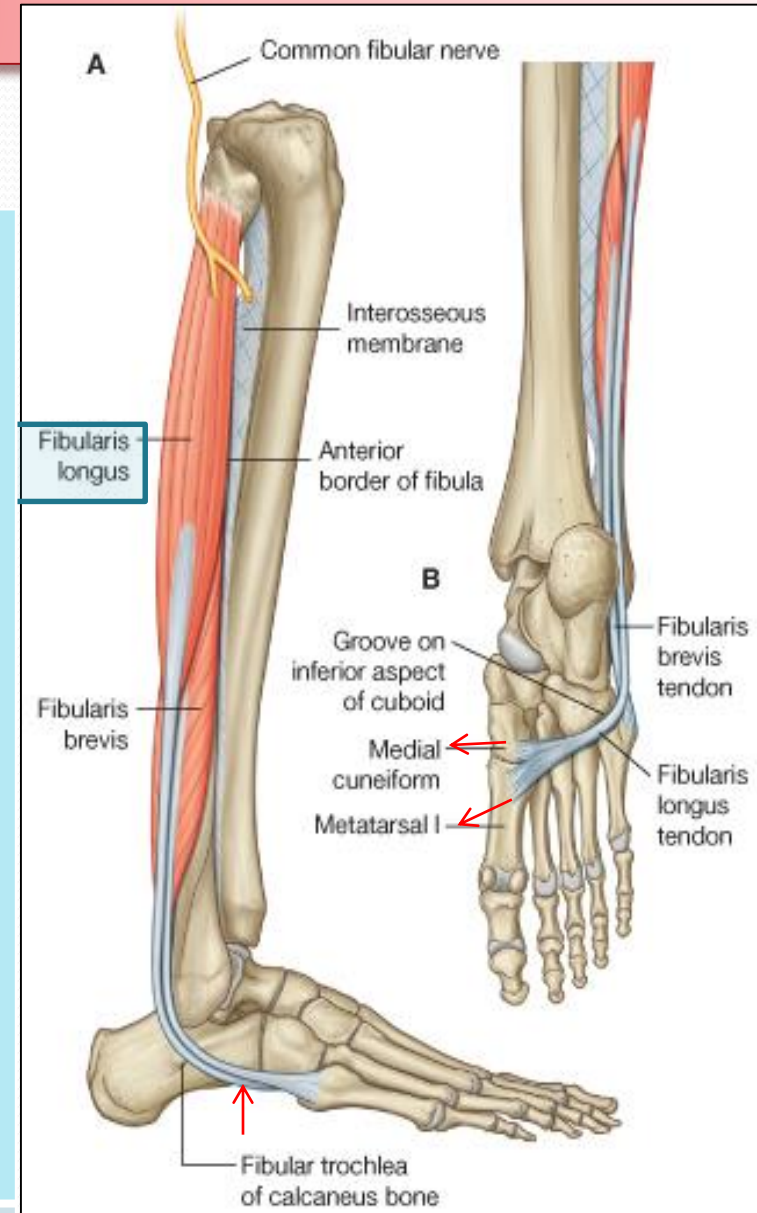
Insertion

Action

Lateral surface of shaft of fibula

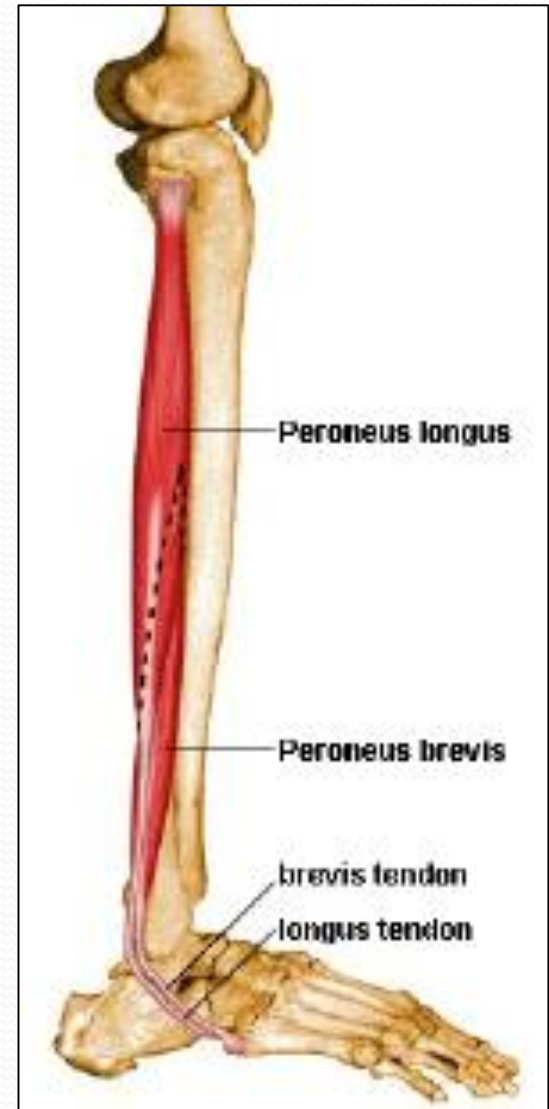
Base of first metatarsal & the medial cuneiform
(Insertion of?)

Plantar flexes foot at ankle joint;
Everts foot at subtalar and transverse tarsal joints;
Supports Lateral longitudinal & Transverse arches



Peroneus Brevis

Origin	Insertion	Action
Lateral surface of shaft of fibula	Base of fifth metatarsal bone (Insertion of?)	Plantar flexes foot at ankle joint; Everts foot at subtalar and transverse tarsal joint; Supports Lateral longitudinal arch of foot



Peroneal Retinacula

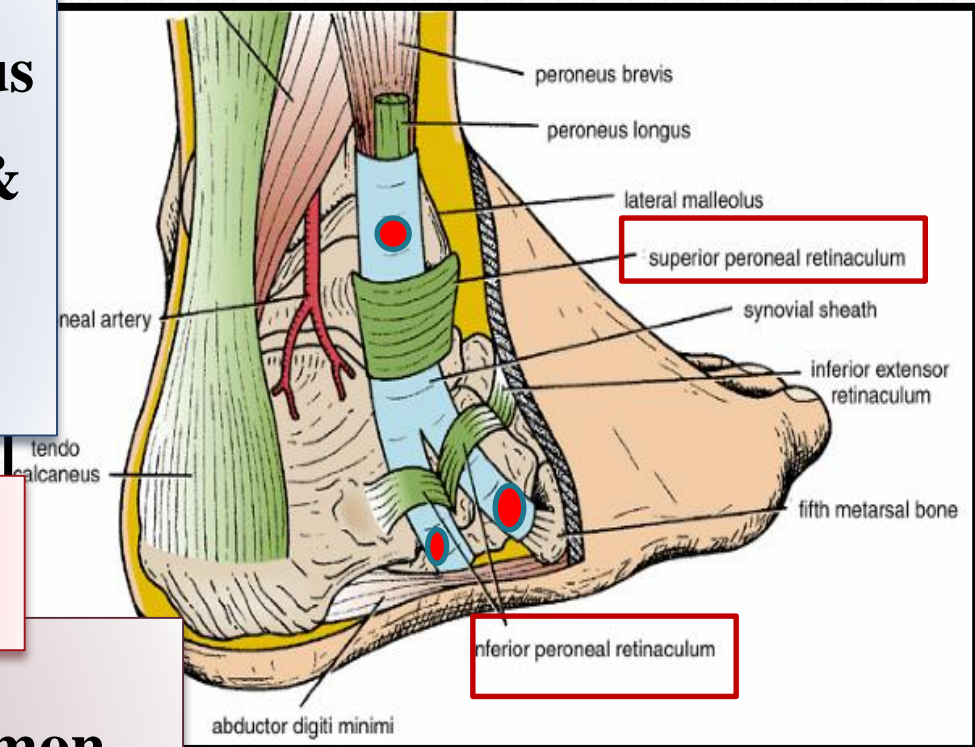
Superior peroneal retinaculum

Connects the lateral malleolus to calcaneum & holds the tendons of peroneus longus & brevis

Inferior peroneal retinaculum

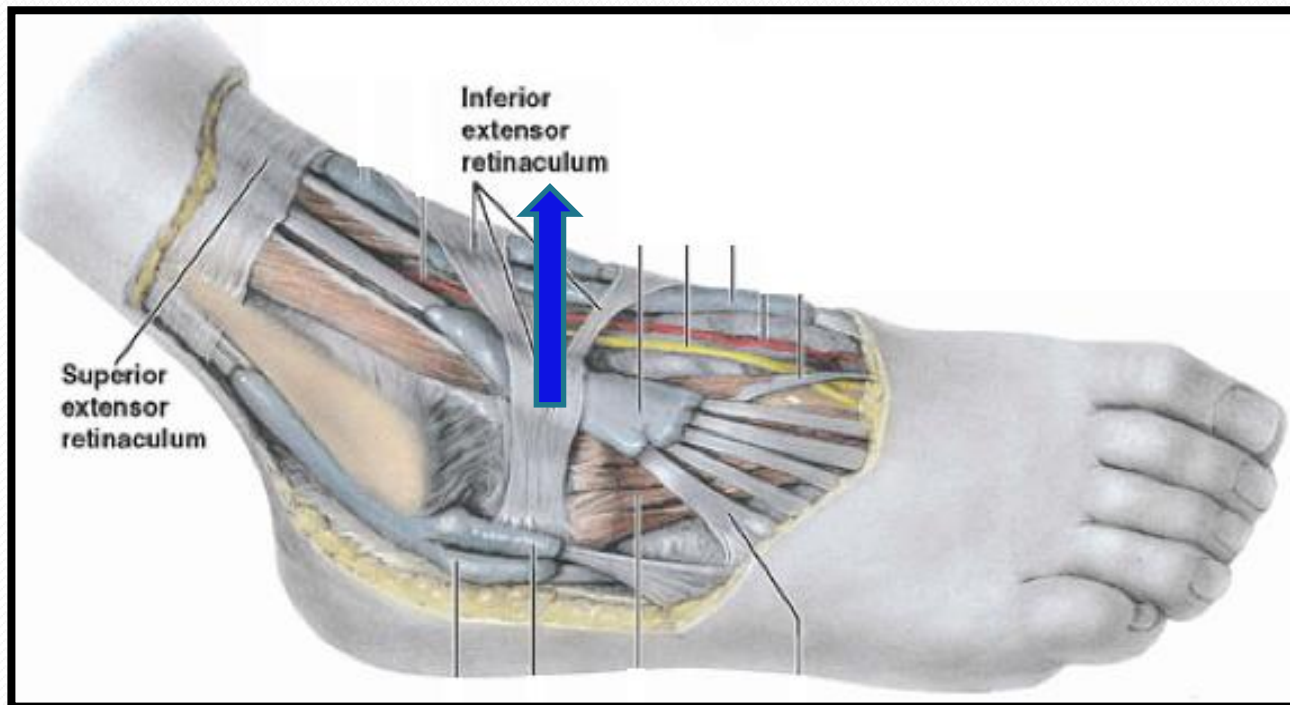
Synovial Sheaths of Peroneal Longus & Brevis:

Tendons of peronei are surrounded by a single common tubular synovial sheath, deep to inferior peroneal retinaculum, they have separate sheaths



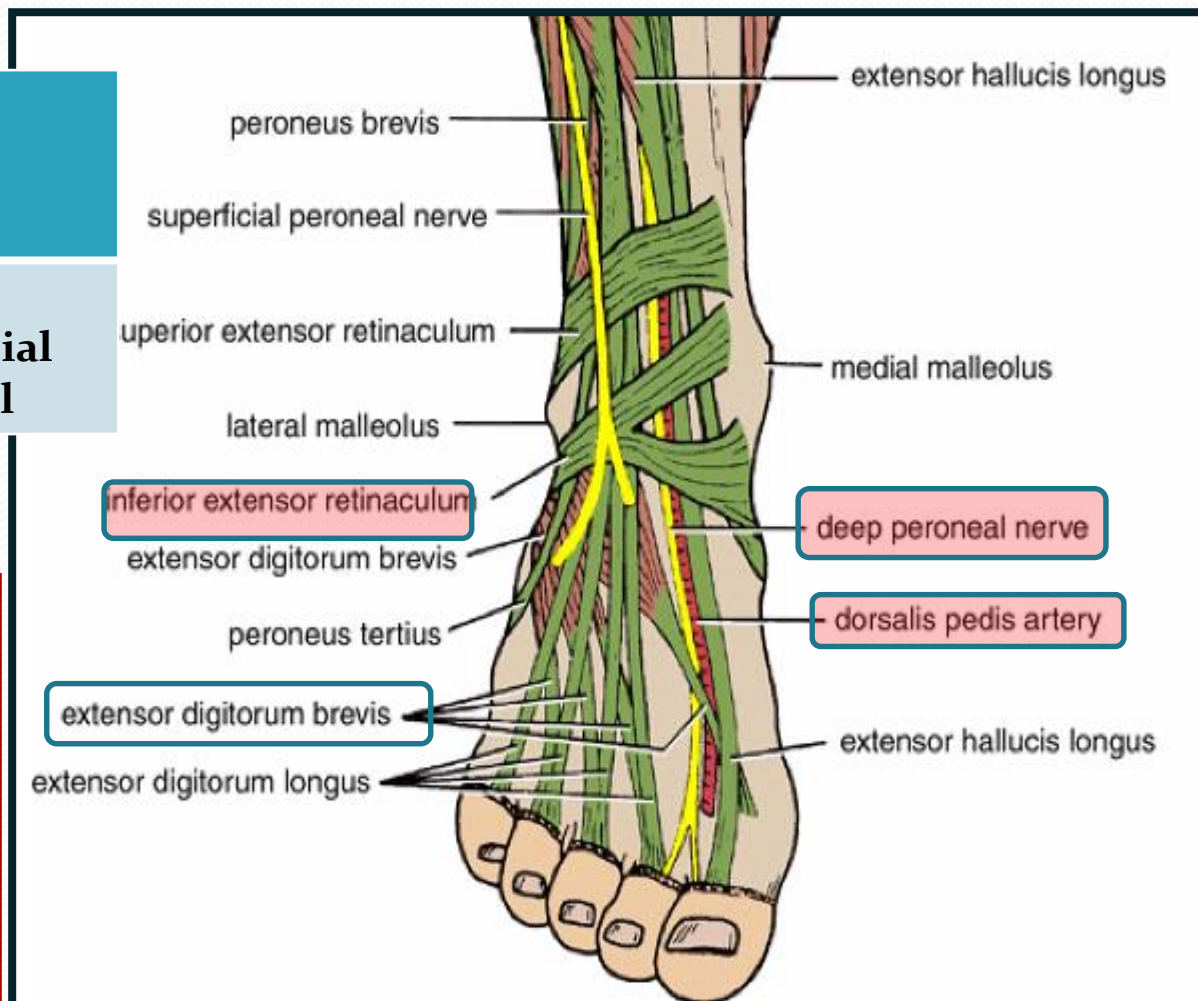
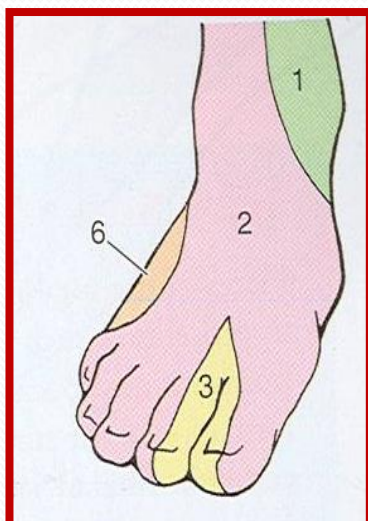
Deep Fascia of Dorsum of Foot

It is very thin, but just distal to ankle joint, it is thickened to form **Inferior extensor retinaculum**



Dorsum of Foot

MUSCLE	BLOOD VESSEL	NERVE
Extensor Digitorum Brevis	Dorsalis Pedis	<u>DEEP & Superficial Peroneal</u>



Extensor Digitorum Brevis

Origin

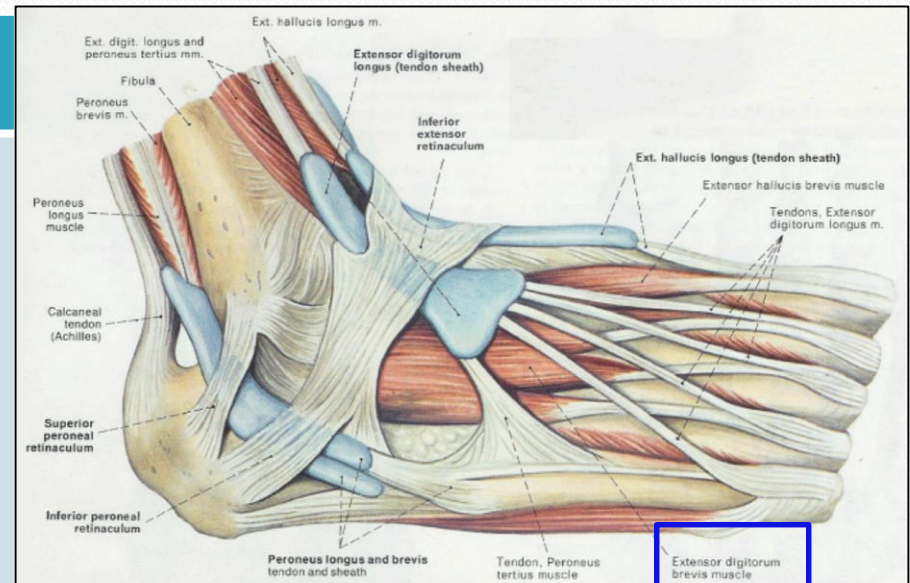
Anterior part of upper surface of the Calcaneum & from the **Inferior extensor retinaculum**

Insertion

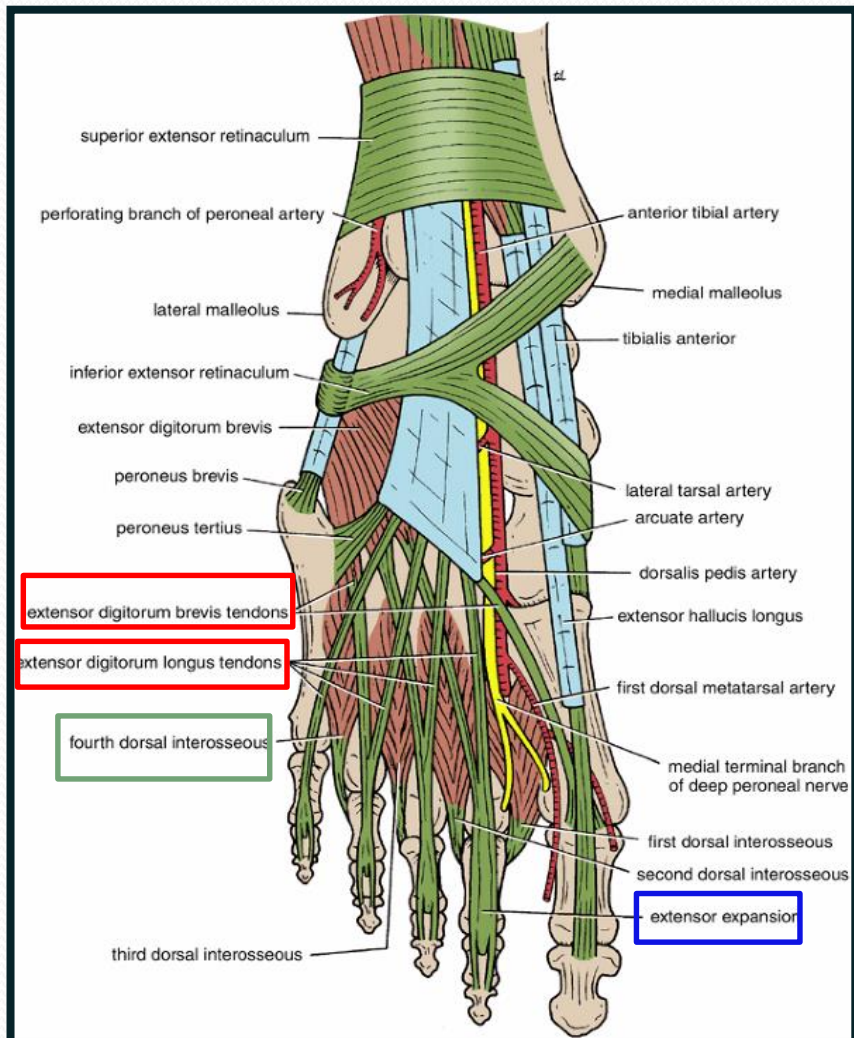
four tendons into the **proximal phalanx of big toe** (ex hall brevis) and second, third, and fourth toes

Action

Extend toes



Insertion of Long Extensor Tendons (Extensor Expansion)



- The tendons of Extensor digitorum longus pass **to the lateral four toes.**
- Each tendon to the 2nd, 3rd & 4th toes is joined on its lateral side by a tendon of **Extensor digitorum brevis.**
- The extensor tendons form
- a **Fascial Expansion (Extensor Expansion)** on the dorsum of each toe.
- The expansion divides into **(3) parts.**
- **Central part:** inserted into the **Base of Middle ph.**
- **Two Lateral parts:** inserted into the **Base of Distal ph.**
- The (Extensor Expansion) **receives insertion of :**
- **Interossei & Lumbrical** muscles.

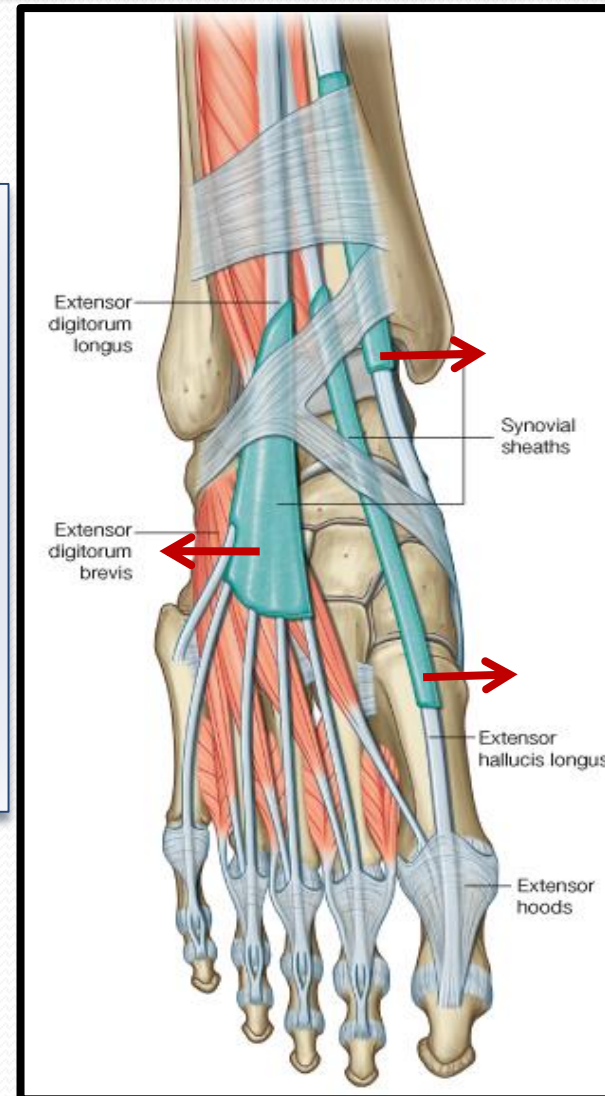
Synovial Sheaths of Extensor Tendons on the Dorsum of Foot

Tibialis anterior

Extensor hallucis longus

(Both have their own synovial sheath)

Extensor digitorum longus & peroneus tertius : have a common sheath, it extends to the level of **Base of 5th Metatarsal bone.**





THANK YOU