

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

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OBJECTIVES

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

Identify the deep fascia of leg

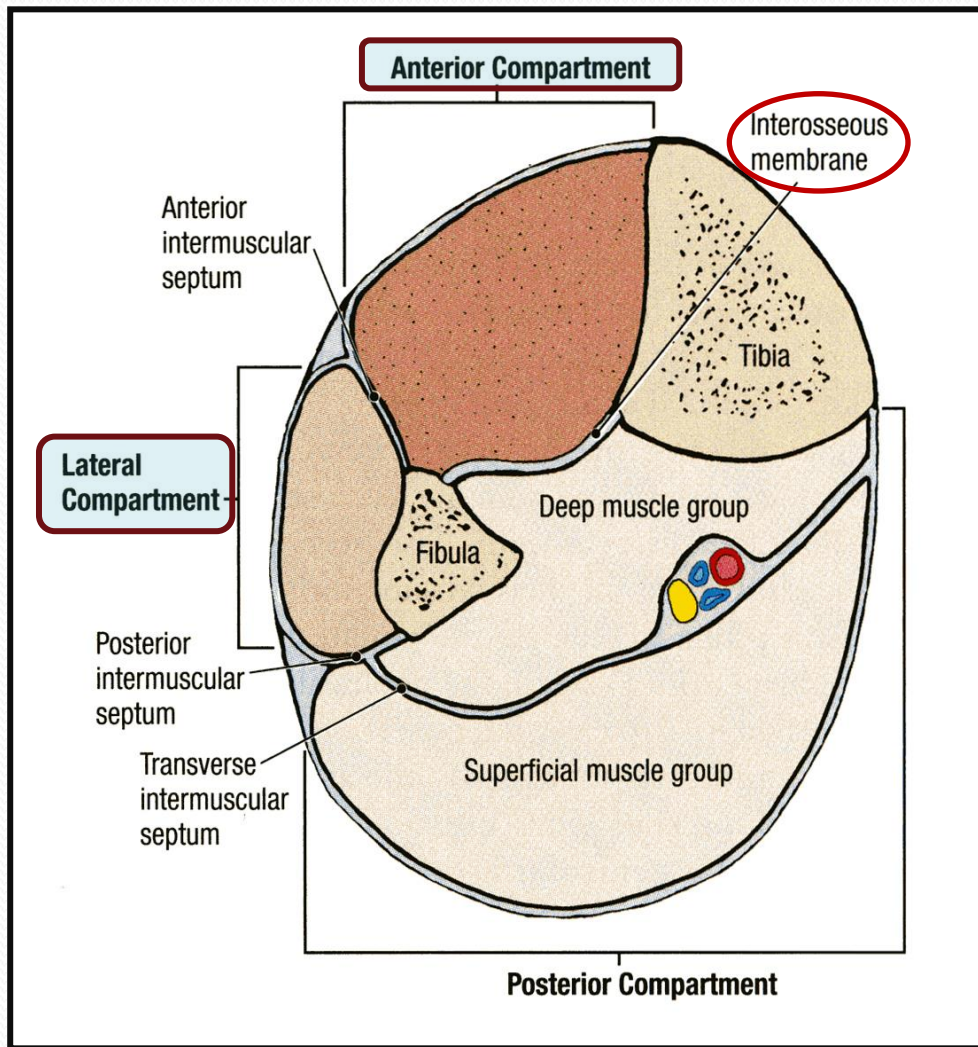
Identify the fascial compartments of the leg

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:

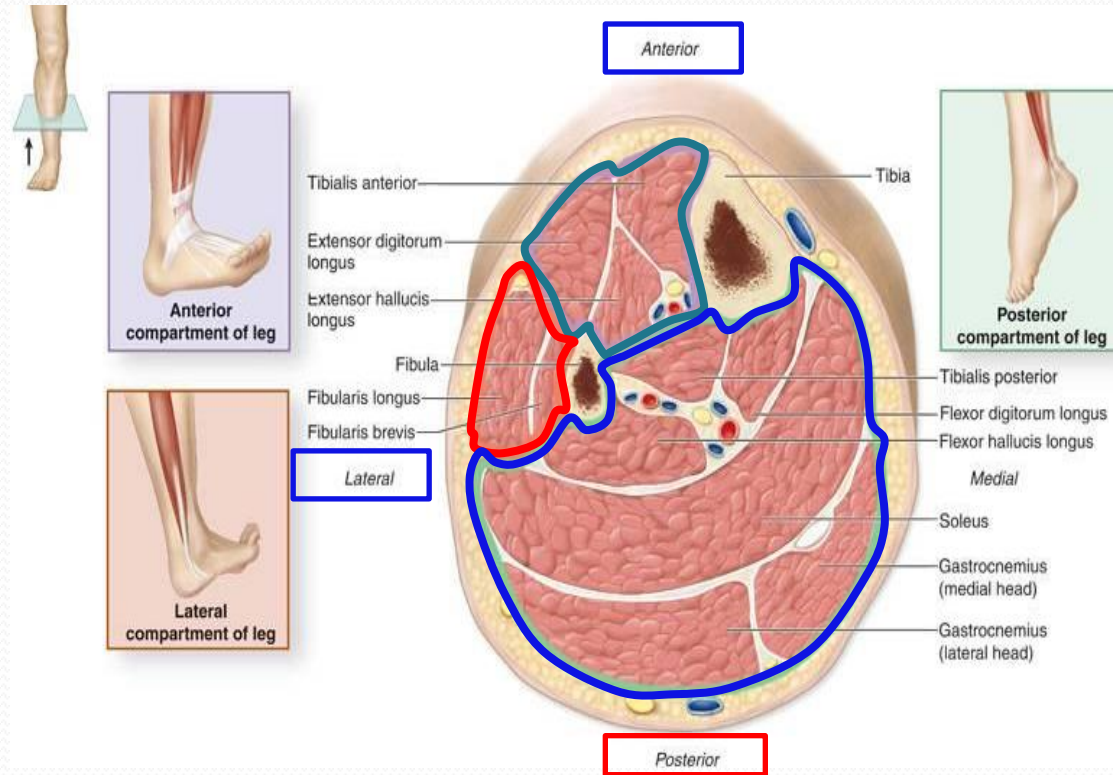
Anterior border of fibula
(Anterior fascial septum)

Posterior border of fibula
(Posterior fascial 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



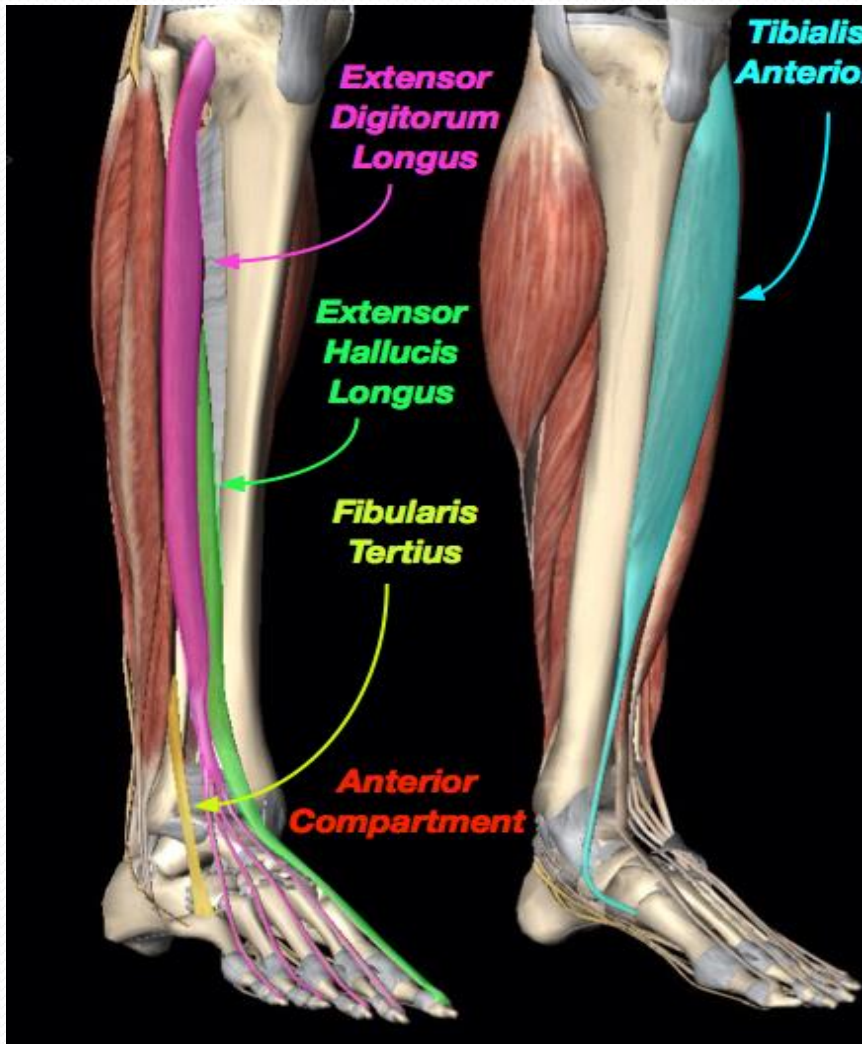
Together with the interosseus membrane, the septa divide the leg into

Three Compartments:

1. Anterior
2. Lateral (peroneal)
3. Posterior

Each compartment has its own **Muscles**, **Blood** and **Nerve** supply and its specific action.

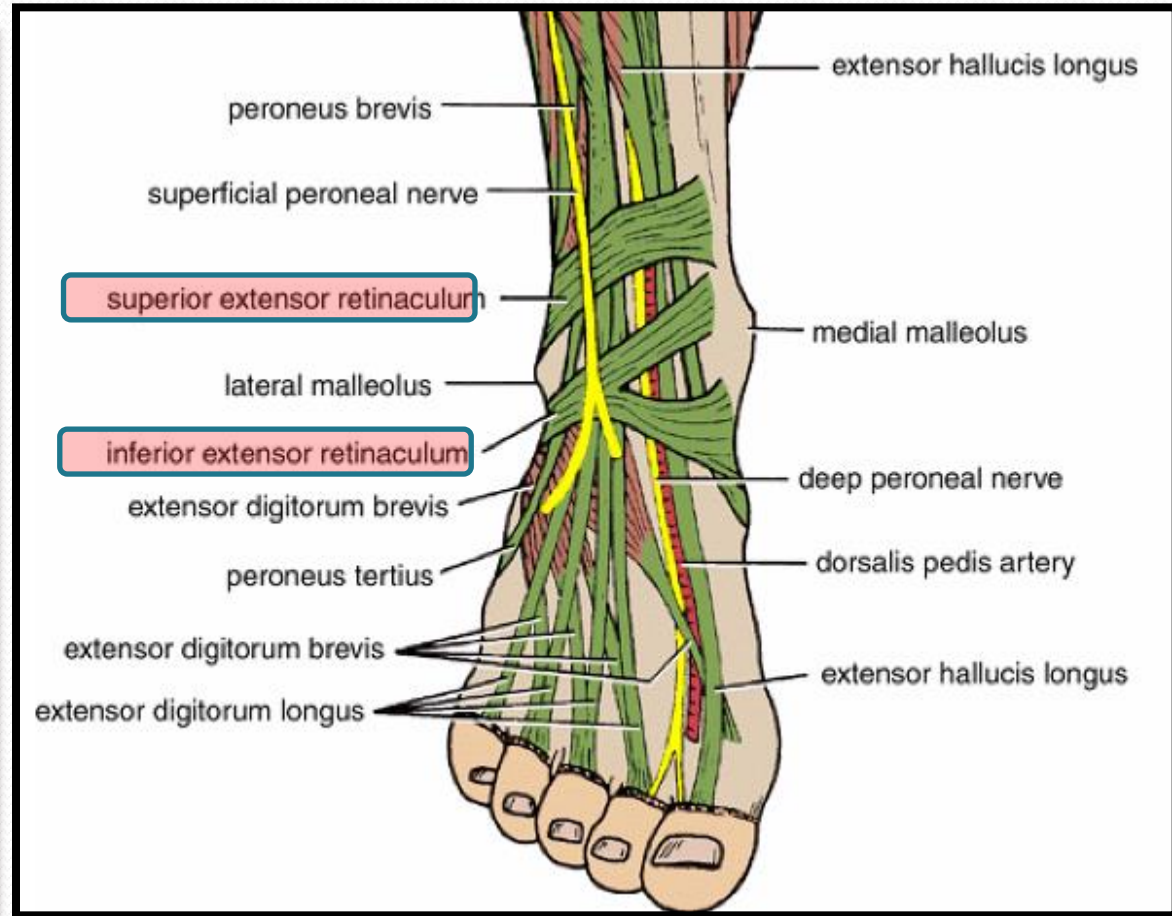
Anterior Compartment



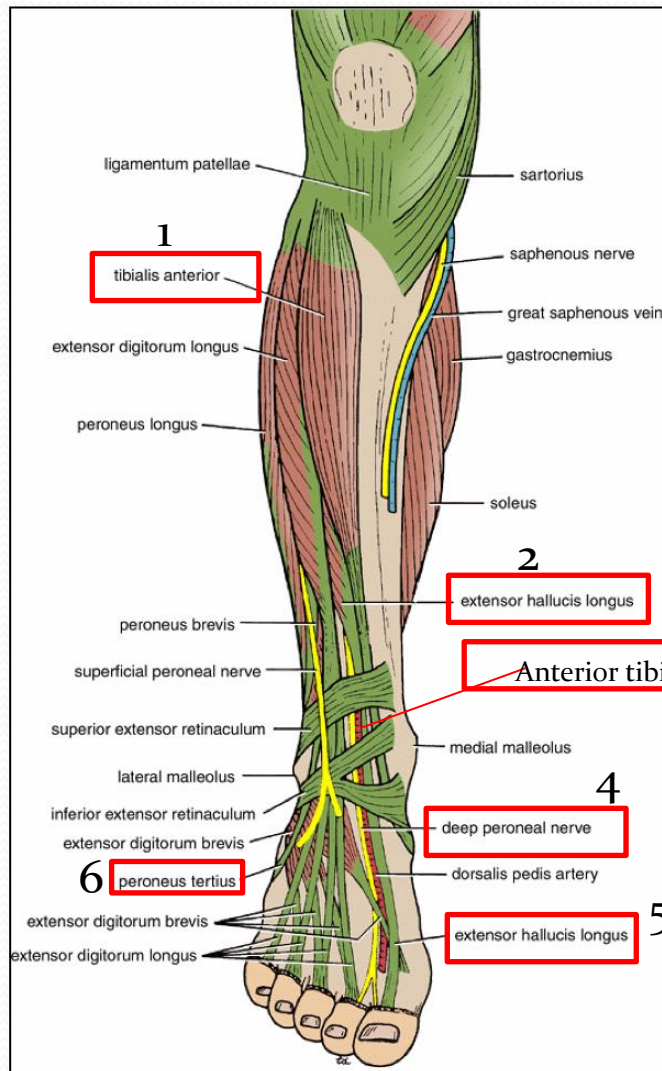
<u>MUSCLES</u>	BLOOD SUPPLY	NERVE SUPPLY
TIBIALIS ANTERIOR	ANTERIOR TIBIAL	DEEP PERONEAL
EXTENSOR DIGITORUM LONGUS		
PERONEUS TERTIUS		
EXTENSOR HALLUCIUS LONGUS		

Extensor Retinacula

- A thickening of deep fascia that keeps 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:** *Tibialis Anterior*
 2. **Has:** Extensor hallucis longus tendon
 3. **Very:** Anterior tibial artery
 4. **Nice:** Deep peroneal nerve
 5. **Dog:** Extensor digitorum longus tendons
- &
6. **Pigion:** Peroneus tertius

3 7.

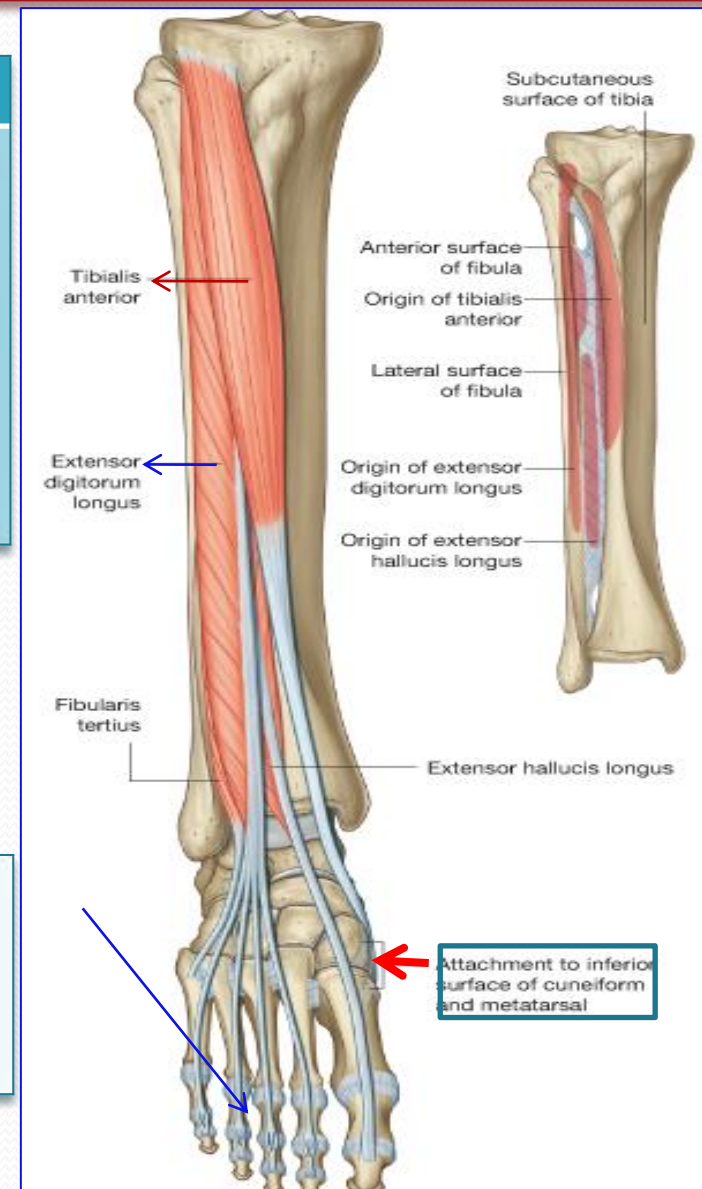
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Tibialis Anterior & Extensor Digitorum Longus

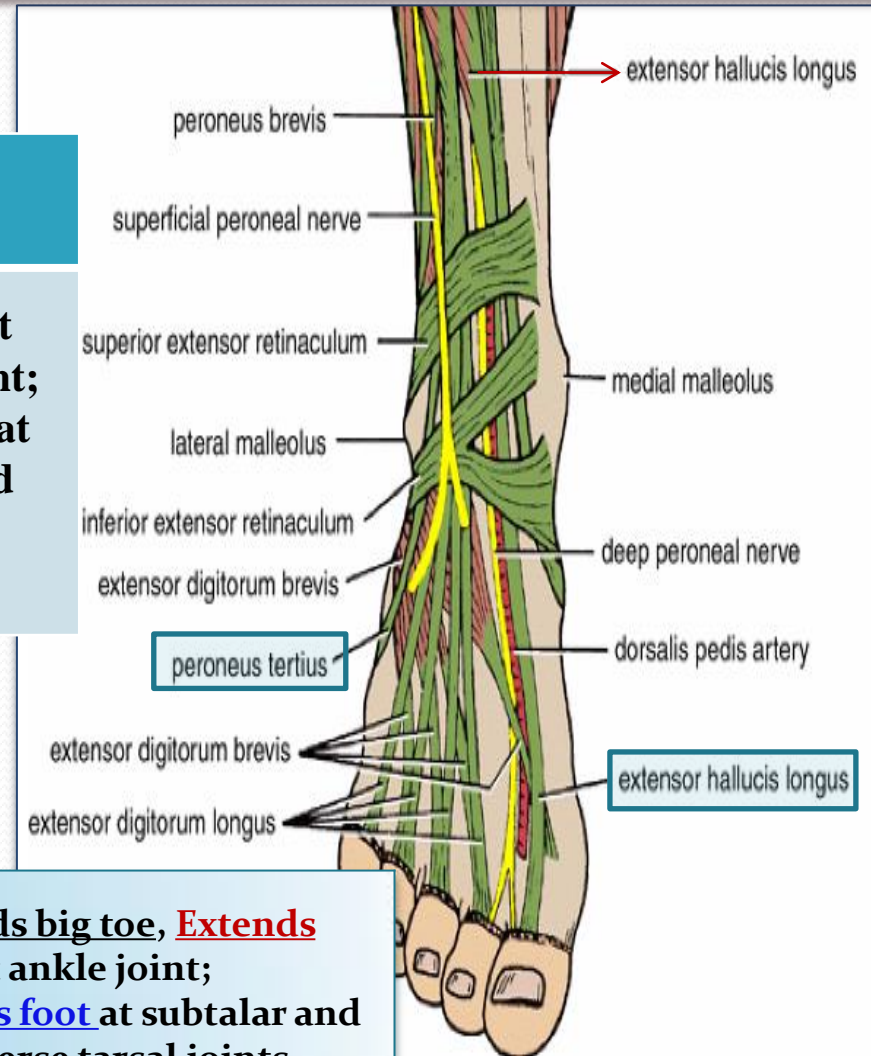
Muscle	Origin	Insertion	Action
Tibialis anterior	<u>Lateral</u> surface of shaft of <u>tibia</u> and <u>interosseous</u> membrane	Medial cuneiform and base of first metatarsal bone	<u>Extends</u> foot at ankle joint; <u>Inverts</u> foot at subtalar & transverse tarsal joints & <u>Holds up medial longitudinal 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>Extends foot</u> at ankle joint
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Peroneus Tertius, & Extensor Hallucis Longus

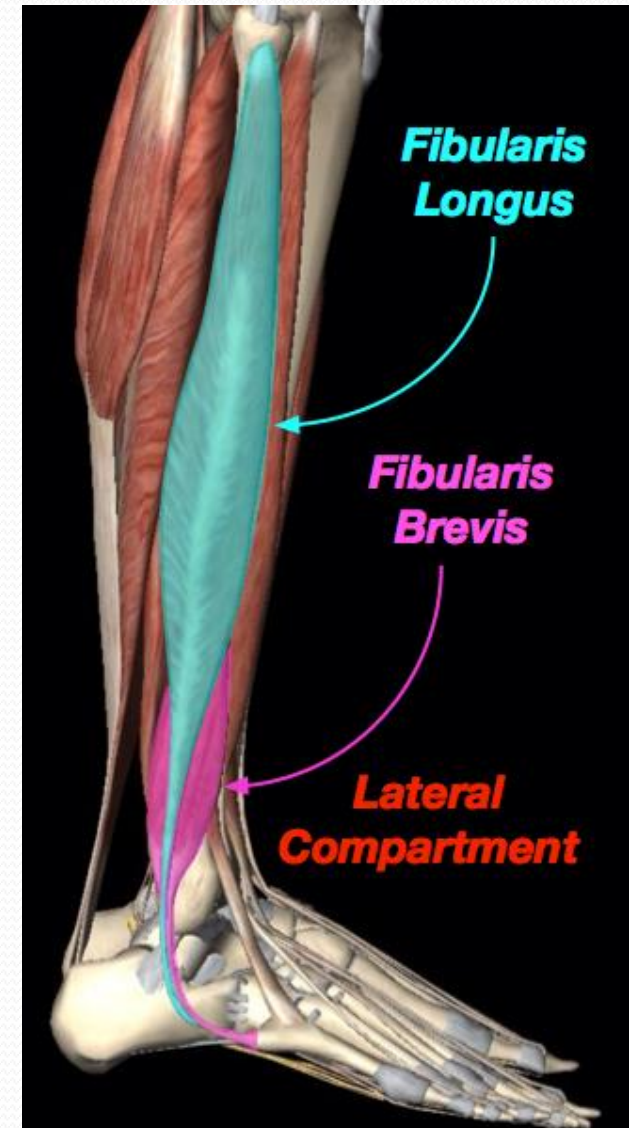
Muscle	Origin	Insertion	Action
Peroneus tertius	<u>Anterior</u> surface of shaft of <u>fibula</u>	<u>Base</u> of <u>5th</u> <u>metatarsal</u> bone	<u>Extends</u> foot at ankle joint; <u>Everts</u> foot at subtalar and transverse tarsal joints



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

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



Peroneus Longus

Origin

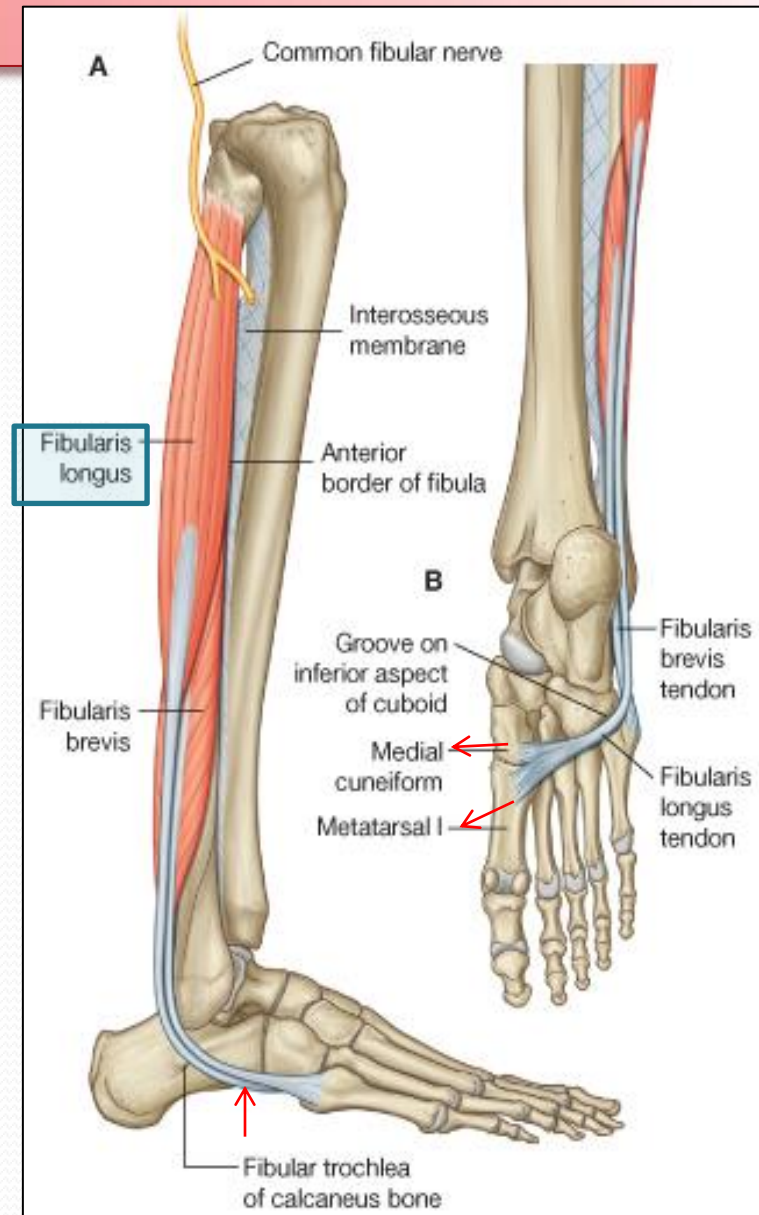
Lateral surface of shaft of fibula

Insertion

Base of first metatarsal and the medial cuneiform

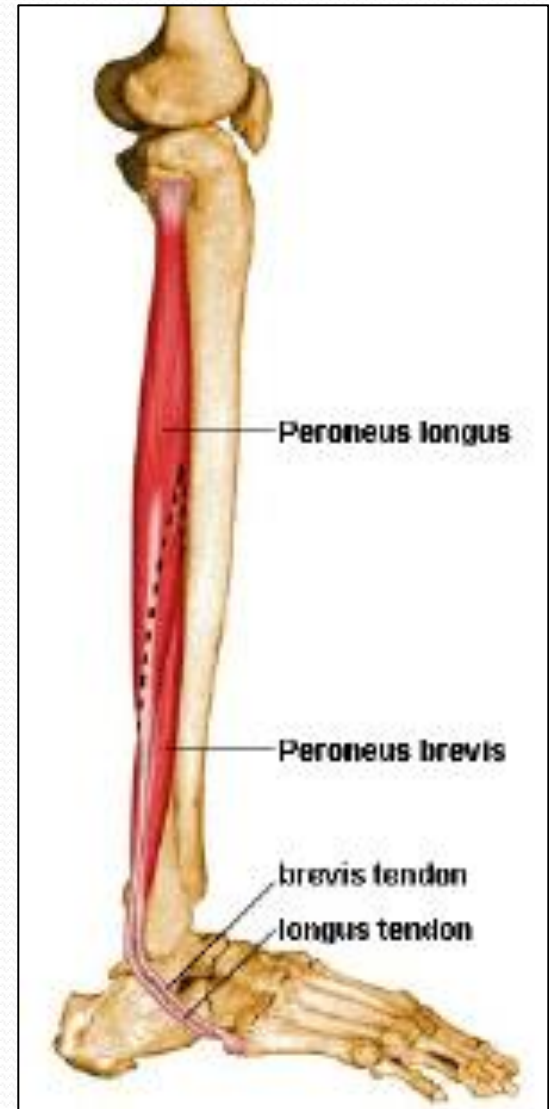
Action

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	<u>Plantar flexes</u> foot at ankle joint; <u>Everts foot</u> at subtalar and transverse tarsal joint; <u>Supports Lateral longitudinal arch</u> of foot



Peroneal Retinacula

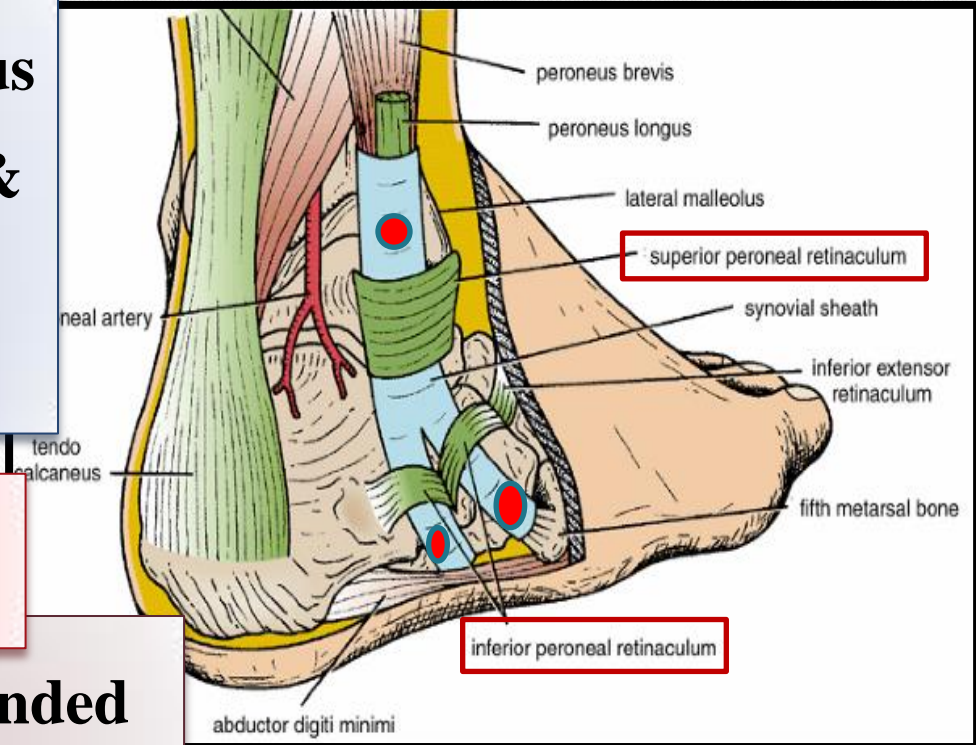
Superior peroneal retinaculum

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

Inferior peroneal retinaculum

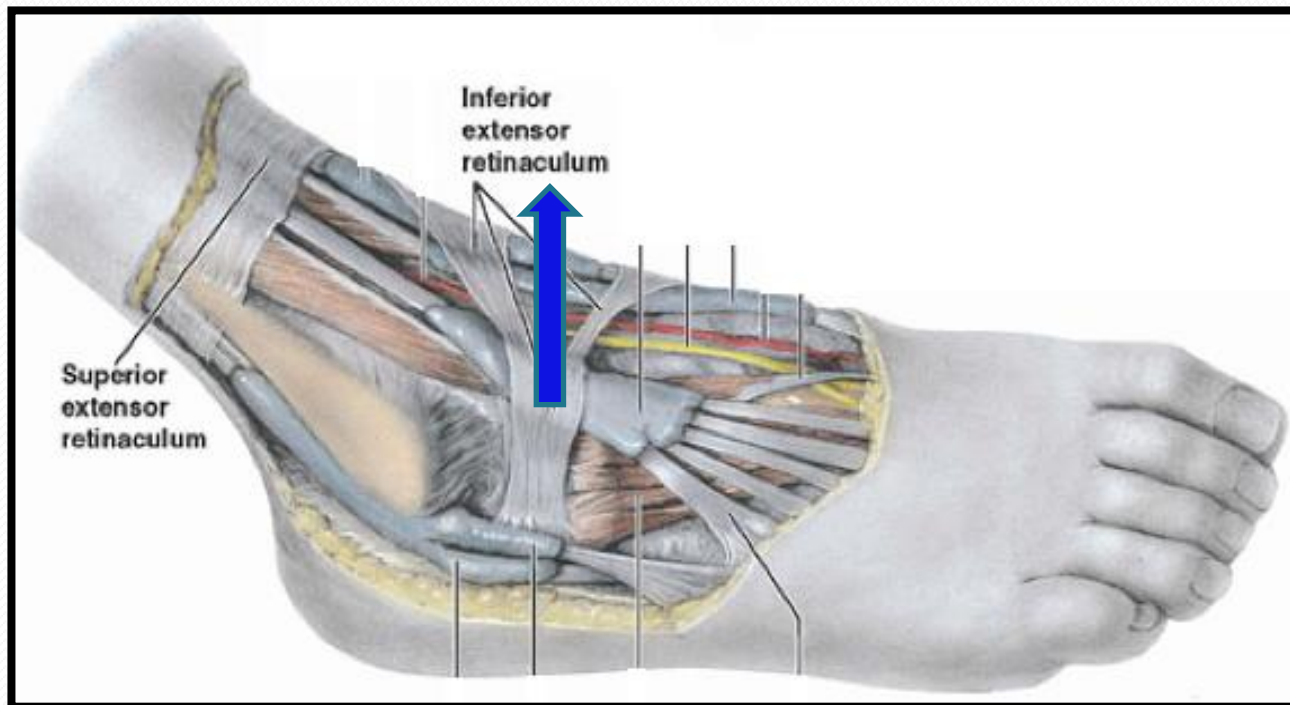
Synovial Sheaths of Peroneal Longus & Brevis:

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



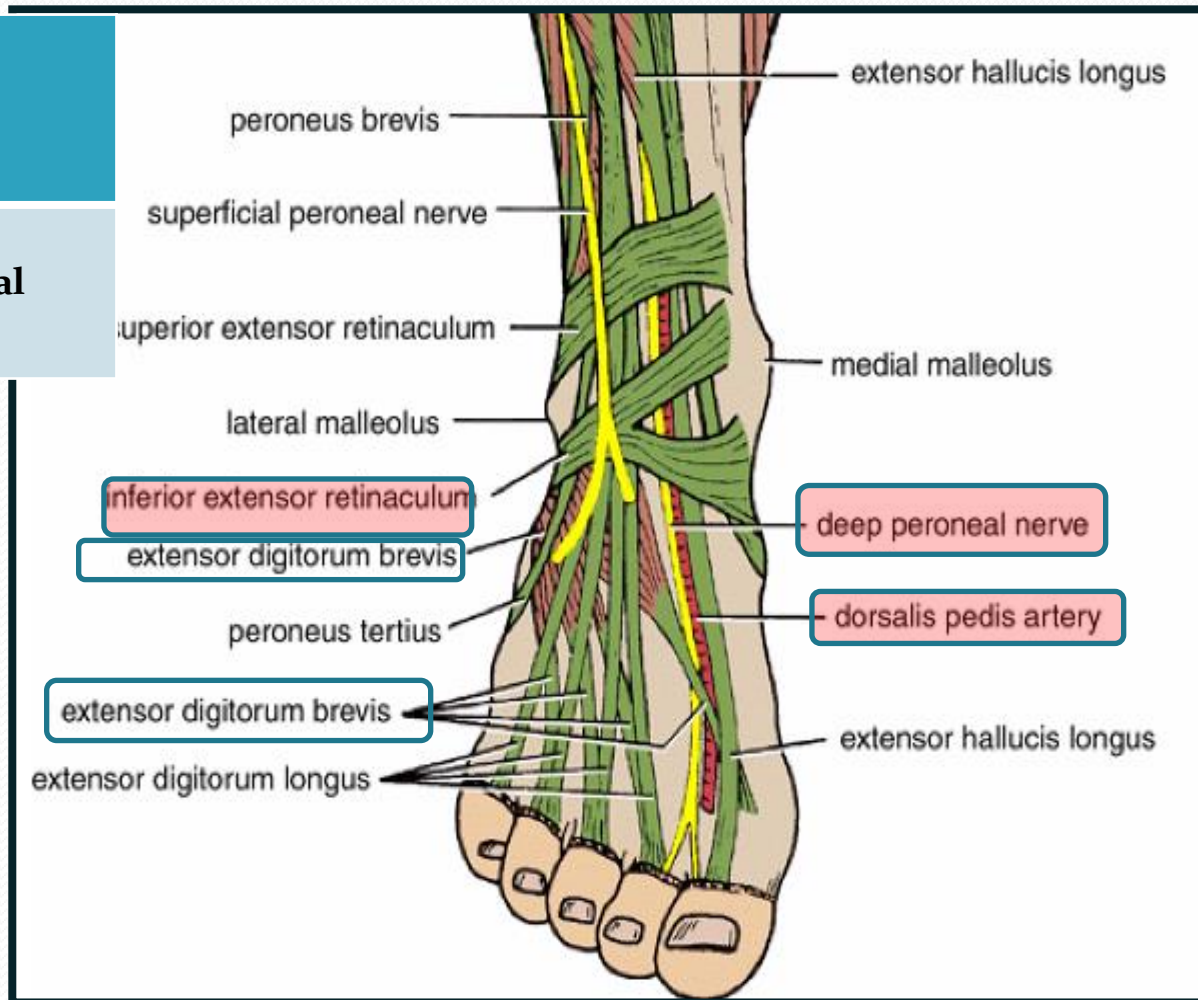
Deep Fascia of Dorsum of Foot

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



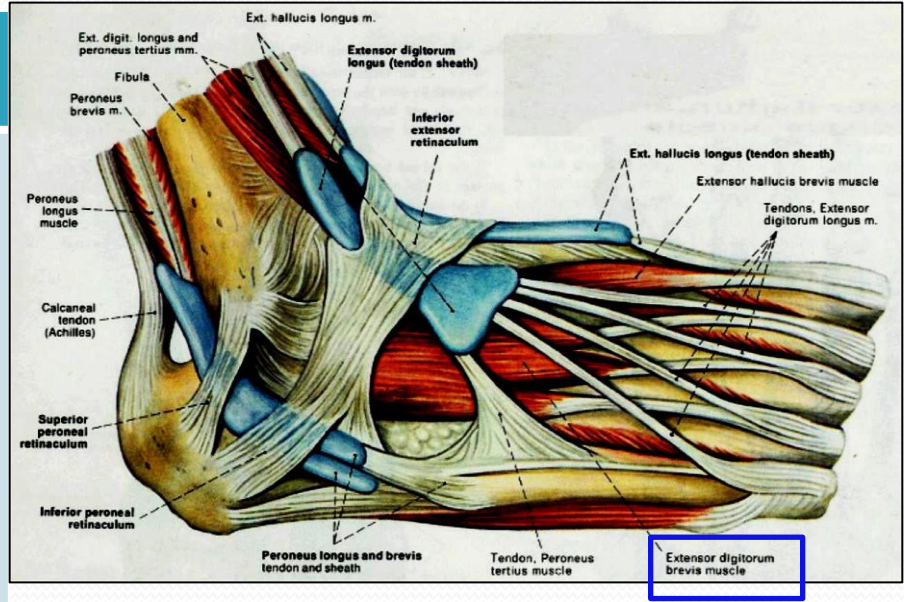
Dorsum of Foot

MUSCLE	BLOOD VESSEL	NERVE
Extensor Digitorum Brevis	Dorsalis Pedis	Deep & Superficial Peroneal

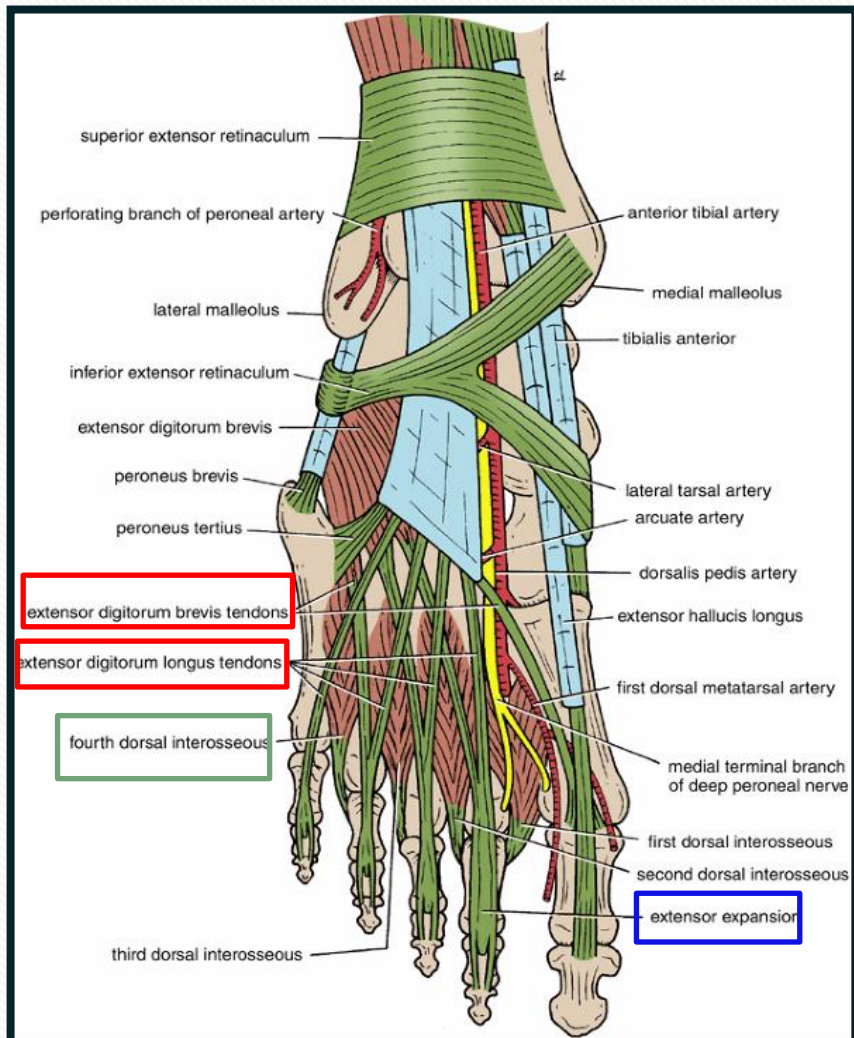


Extensor Digitorum Brevis

Origin	Insertion	Action
<p>Anterior part of upper surface of the Calcaneum and from the Inferior extensor retinaculum</p>	<p>By four tendons into the proximal phalanx of big toe and long extensor tendons to second, third, and fourth toes</p>	<p>Extend toes</p>



Insertion of Long Extensor Tendons



- 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.

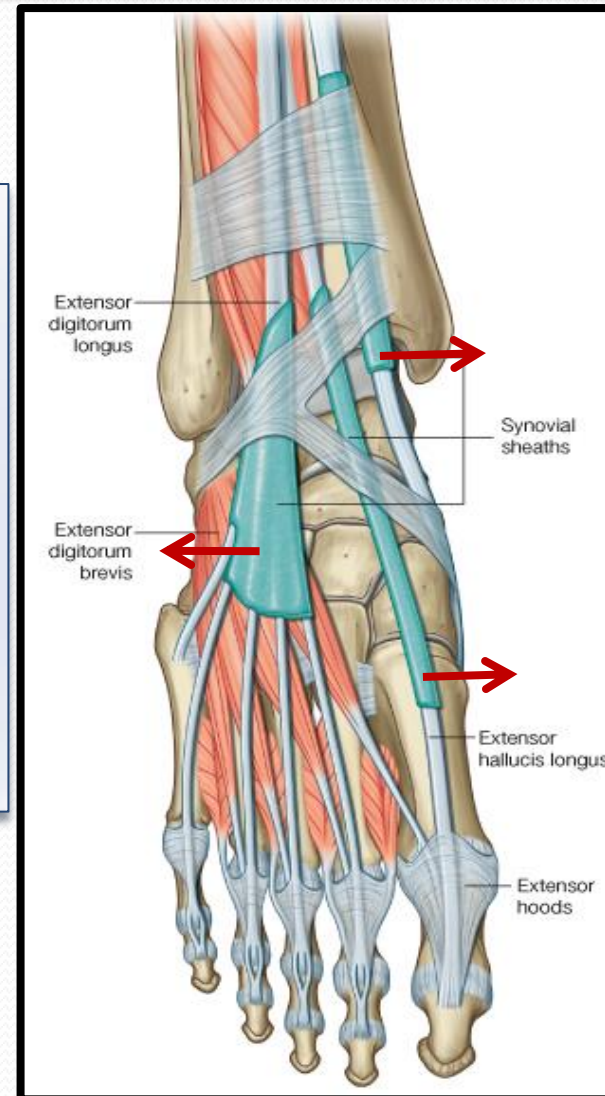
Synovial Sheaths of Extensor Tendons on the Dorsum of Foot

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
&
BEST WISHES