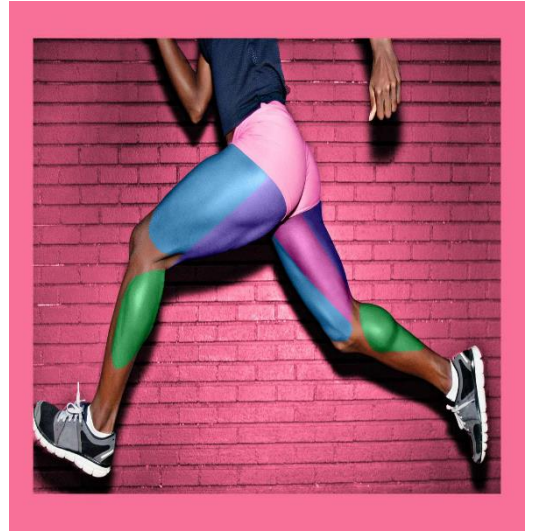


# LEG ANATOMY

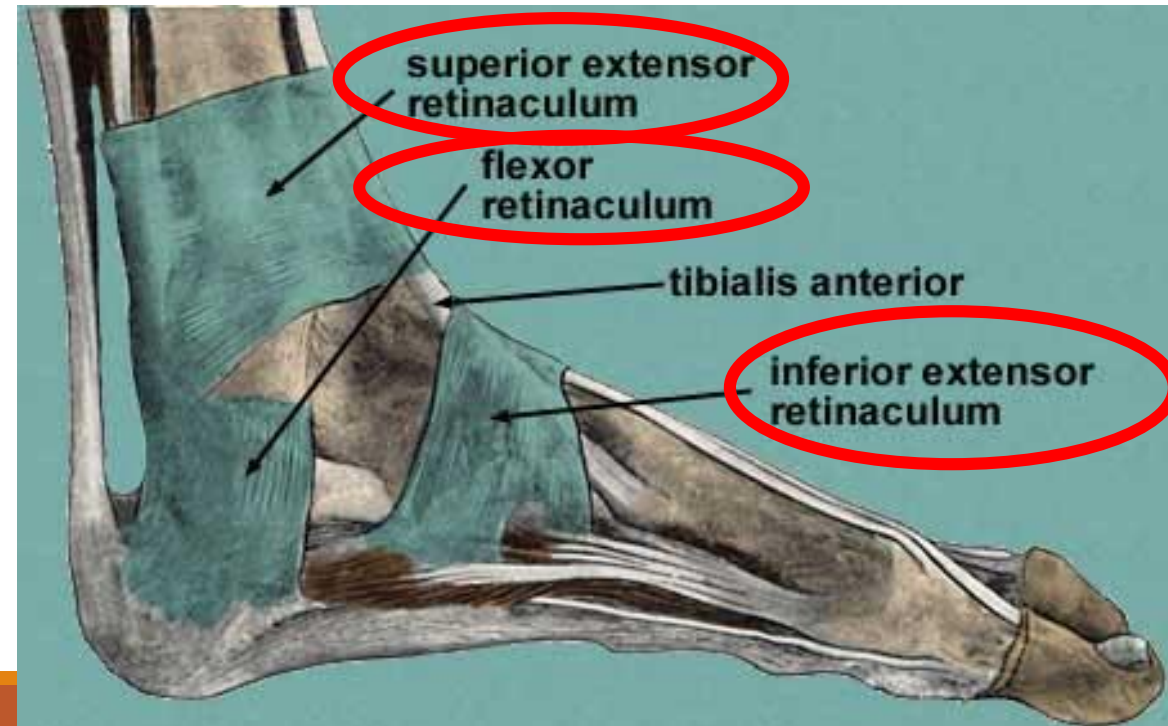
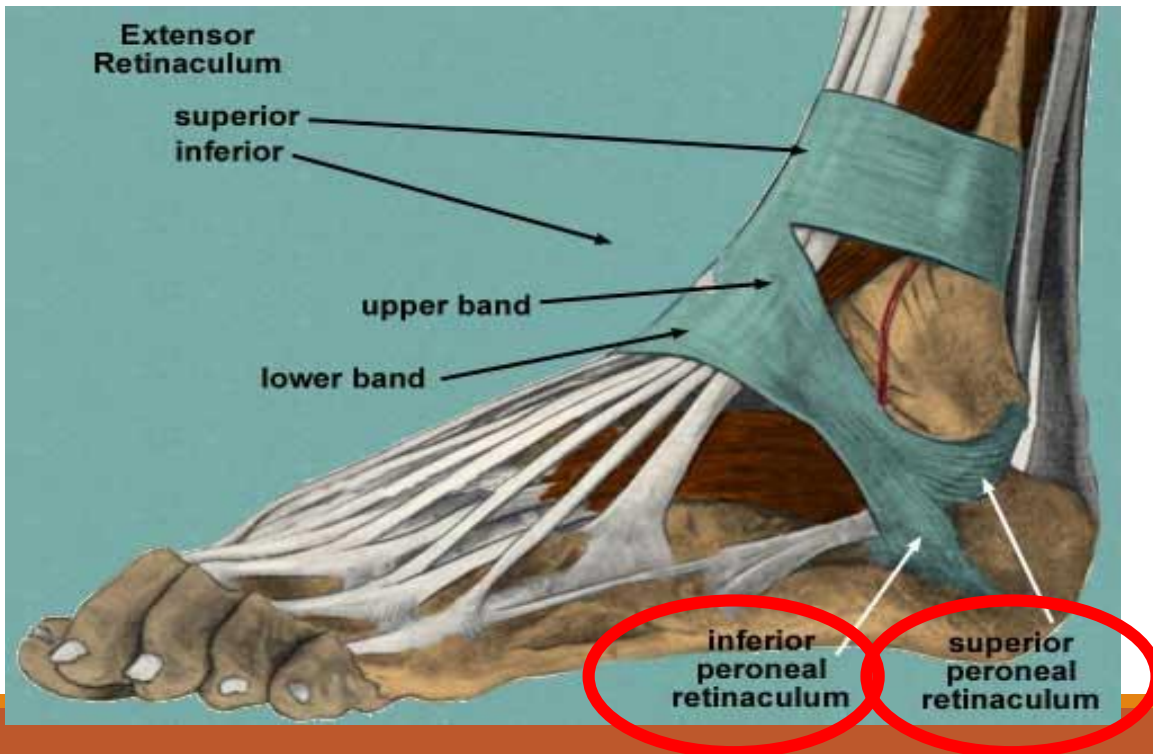


**Dr. Maha ELBeltagy**  
Associate professor of Anatomy and Histology  
The University of Jordan



# The Deep Fascia of the Leg

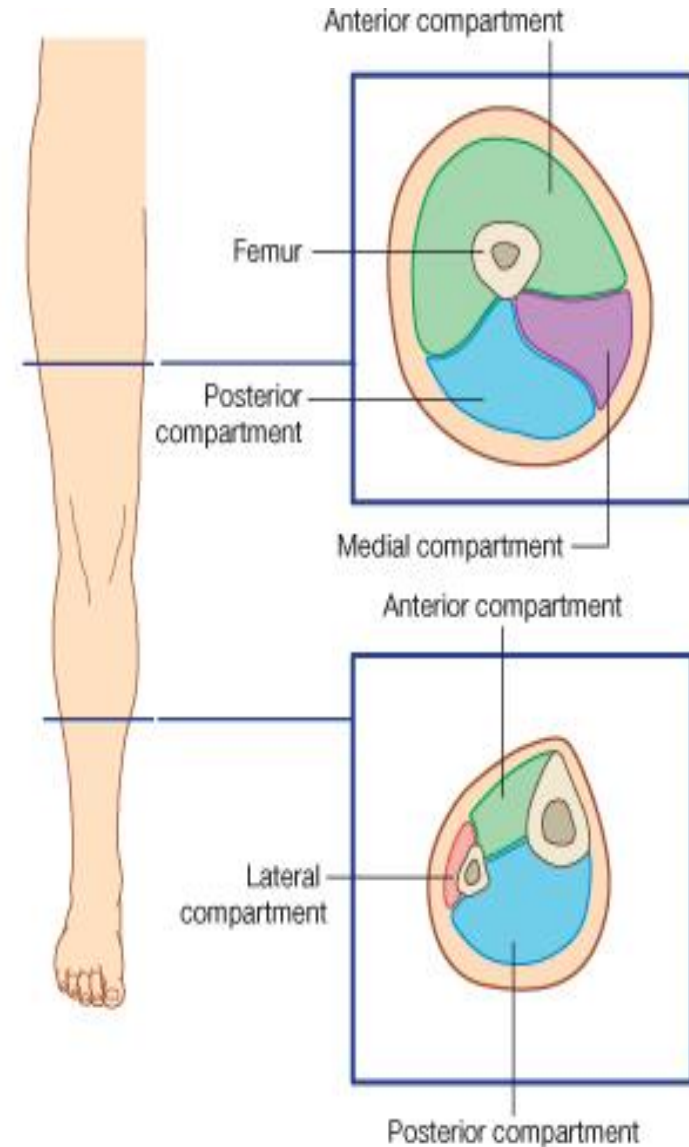
1. It is very strong and surrounds the leg
2. It is thickened to form 5 retinaculae:
  - Two extensor retinaculae (superior and inferior)
  - Two peroneal (Fibular) retinacula (superior and inferior)
  - One flexor retinaculum.



## The Deep Fascia of the Leg

1-The deep fascia of the leg sends anterior and posterior intermuscular septa attached to the anterior and posterior borders of the fibula.

2- It is divide leg into 3 anatomical compartments (**Anterior ,posterior and lateral**)



Sciatic nerve

Tibial nerve

Posterior group of the leg

Common peroneal

Medial Planter

- ✓ Abductor hallucis
- ✓ Flexor digitorum brevis
- ✓ Flexor hallucis brevis
- ✓ 1st Lumbricalis

Superficial peroneal

Lateral group of the leg

Deep peroneal

Anterior group of the leg

Lateral Planter

Supply all muscles of the foot **Except** muscles supplied by medial planter

**Hallucis** : Big Toe

**Digitorum** : Lateral four toes (medial four fingers)

**Digiti Minimi**: Little toe or finger

**Pollicis** : Thumb

**Extensor** : Muscles for toes of fingers inserted into extensor expansion

**Flexor** : Muscles are inserted into terminal phalanx of big toe and  
Lateral four toes

# The leg is divided into

## Anterior

Dorsiflexion  
And  
Toes Extension

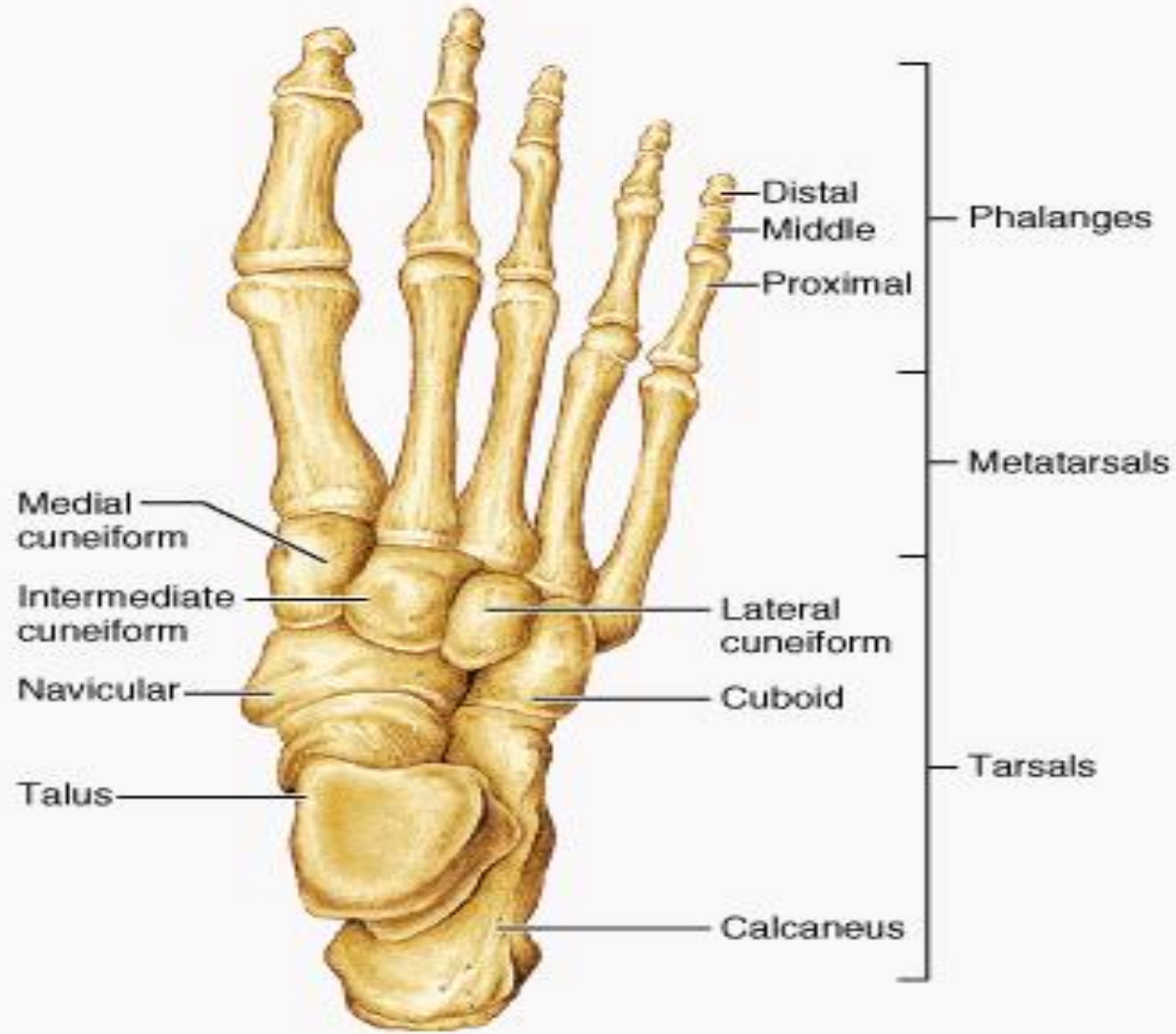
## Lateral

Eversion of the  
foot  
And  
Planter flexion

## Posterior

Mainly Planter  
flexion  
And  
Toes flexion

**Peroneus : Eversion**  
**Tibialis : Inversion**



نیفہ

کباب و

۳ کیلو

کل

طارق

Navicular

Cuboid

Cuneiform

Calcaneus

Talus

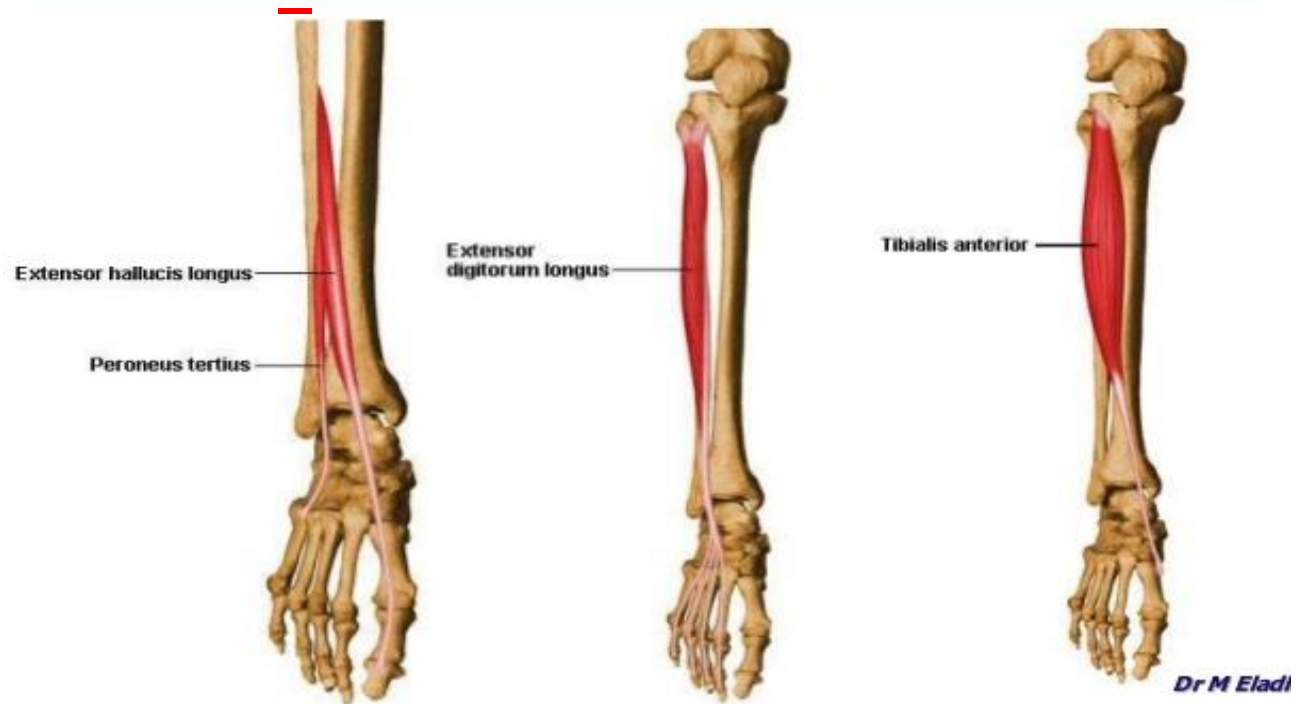




# Muscles of Anterior Compartment

Tibialis anterior❖  
Extensor hallucis longus❖  
Extensor digitorum longus❖  
Peroneus tertius❖

All are innervated by  
Deep fibular nerve



# Muscles of Anterior Compartment

## Origin

All from Anterior surface of fibula **EXCEPT** Tibialis anterior from lateral surface of the Tibia.

## Insertion :

### *Tibialis anterior*

Medial cuneiform and 1<sup>st</sup> metatarsal bone

### *Extensor hallucis longus*

Distal Phalanx big toe

### *Extensor digitorum longus*

Extensor expansion of lateral four toes

### *Peroneus tertius*

Base of 5th metatarsal bone.

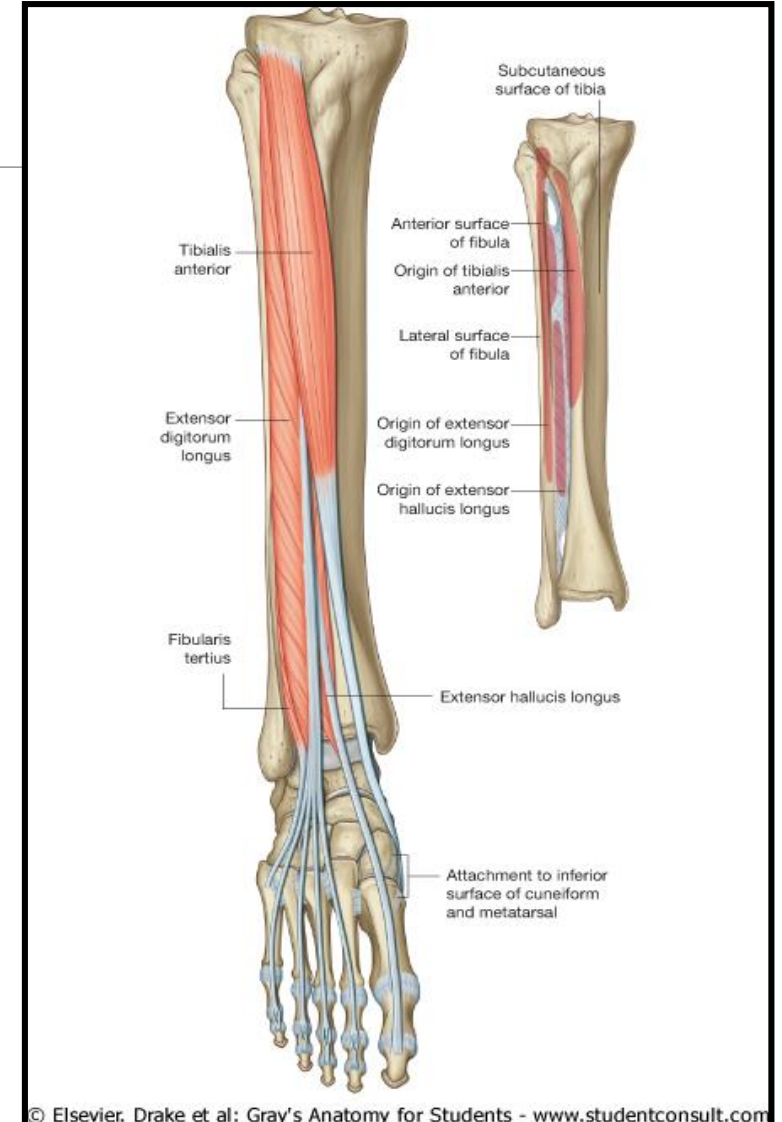
**Action:** All dorsiflexion of the foot Plus

**Hallucis :** Extends big toe

**Dgitorum :** Extends four toes

**Tibialis :** inversion of the foot

**Peroneus :** eversion of the foot



## **Extensor digitorum brevis**

**Location** : Dorsum of The foot

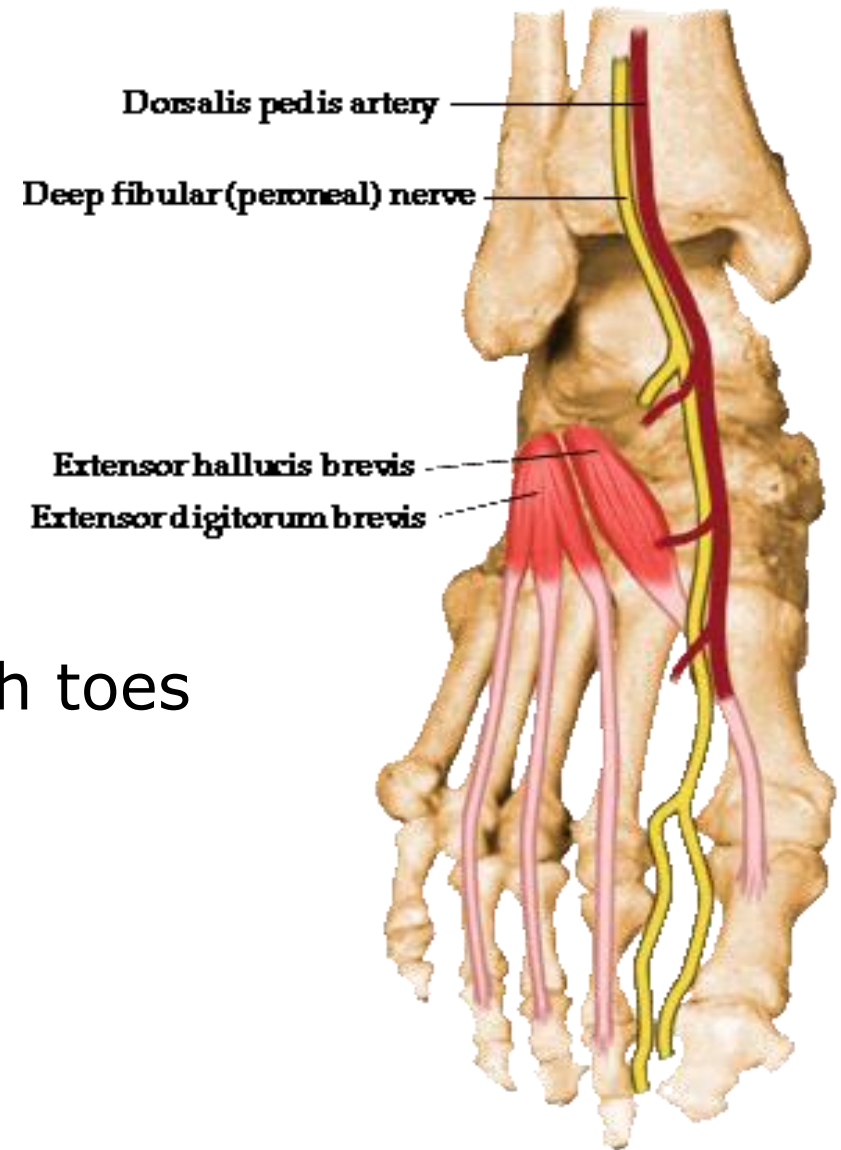
**Origin** : Calcaneus

**Insertion** : Four Tendon into :

- ❖ Proximal Phalanx of big toe
- ❖ Long Extensor tendon of 2nd ,3rd and 4th toes

**Nerve Supply** : Deep Peroneal nerve

**Action** : Extends Medial four toes



# Extensor retinaculum

It is thickened deep fascia of the leg in front of the ankle

**Structures passes below Extensor retinaculum from medial to lateral**

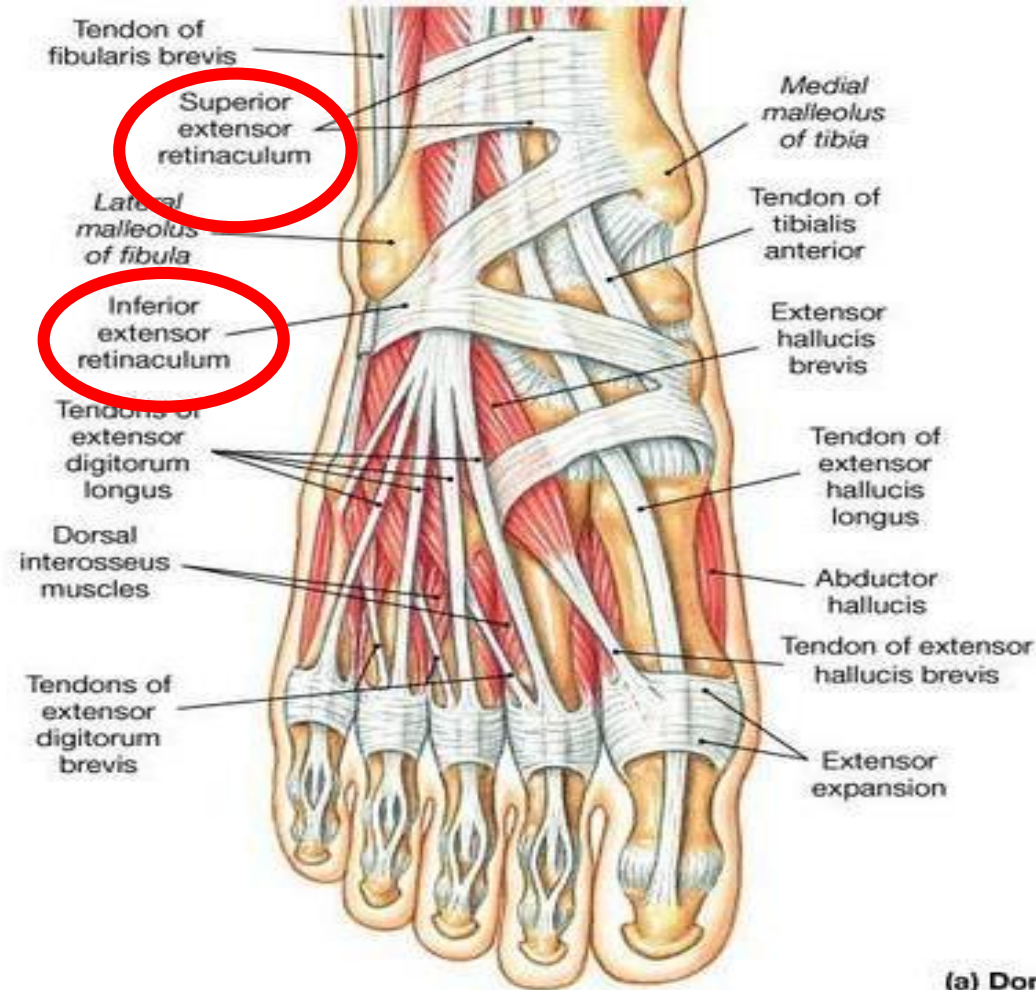
**Tom** Tibialis Anterior

**Has** Extensor hallucis

**AVery** Vessels (Anterior tibial)

**Nice** Nerve (Deep peroneal )

**Dog** Extensor Digitorum

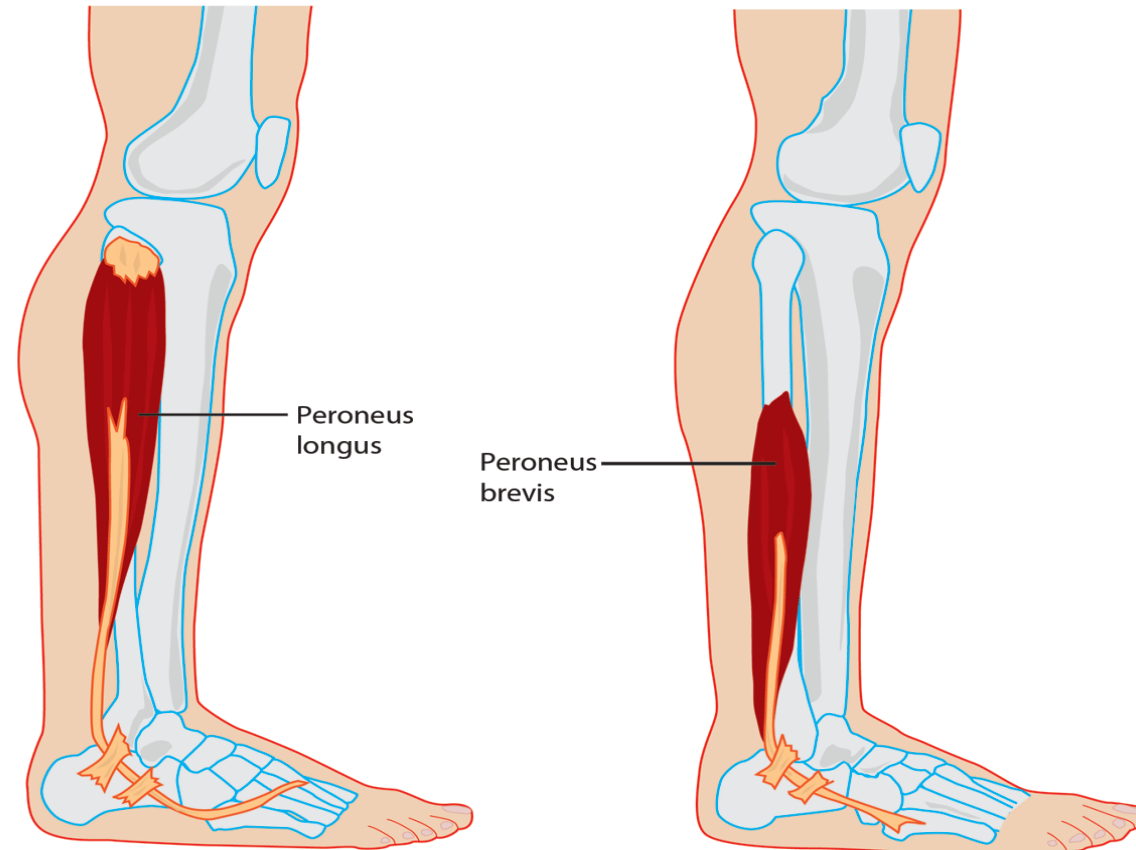


# Lateral Compartment

Fibularis (peroneus) longus ❖

Fibularis (peroneus) brevis ❖

All are innervated by  
the Superficial fibular nerve



# Lateral Compartment

**Origin :** lateral surface of the fibula

**Insertion :**

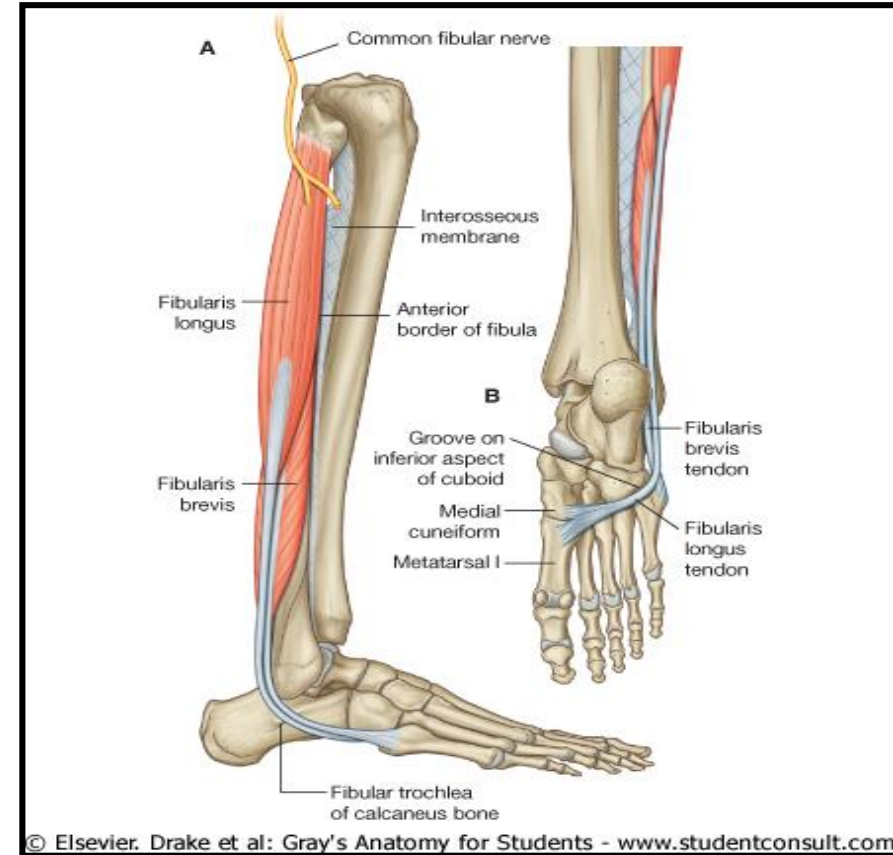
***Fibularis (peroneus) longus***

1<sup>th</sup> metatarsal

***Fibularis (peroneus) brevis***

5<sup>th</sup> metatarsal

Action : plantarflexion and eversion of foot



# Posterior Compartment

```
graph TD; PC[Posterior Compartment] --- S[Superficial]; PC --- D[Deep]; S --- S1[1. Gastrocnemius]; S --- S2[2. Soleus]; S --- S3[3. Plantaris]; D --- D1[1. Popliteus]; D --- D2[2. Tibialis Posterior]; D --- D3[3. Flexor digitorum longus]; D --- D4[4. Flexor hallucis longus];
```

## Superficial

1. Gastrocnemius
2. Soleus
3. Plantaris

## Deep

1. Popliteus
2. Tibialis Posterior
3. Flexor digitorum longus
4. Flexor hallucis longus

All are innervated by the tibial nerve

# Superficial group

## Origin :

### *Gastrocnemius (2 heads)*

Medial and lateral condyles of femur

### *Soleus*

Shaft of Tibia and fibula

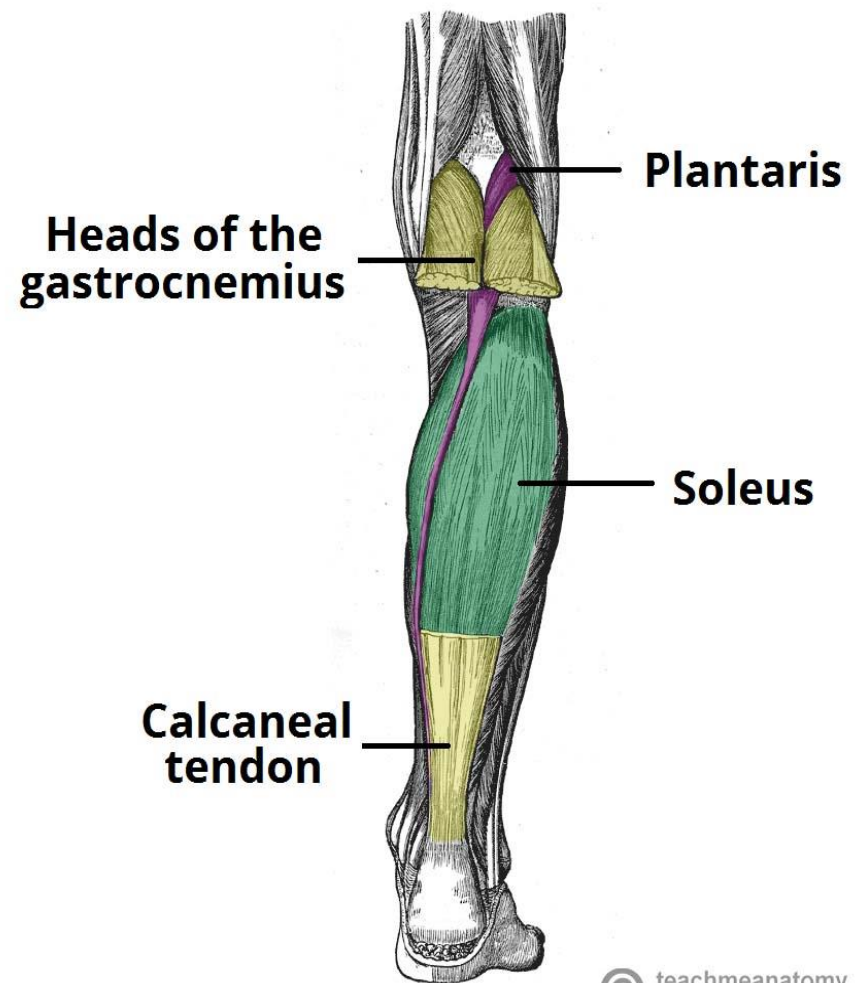
### *Plantaris*

lateral supracondyle ridge  
of femur

**Insertion :** tendo calcaneus  
into of Calcaneus bone of the foot







**Action :** Plantarflex foot, weak knee flexion

- Propulsive force in walking and running
- Soleus is antigravity muscle
- Soleus is the heart of lower limb

# Deep Group

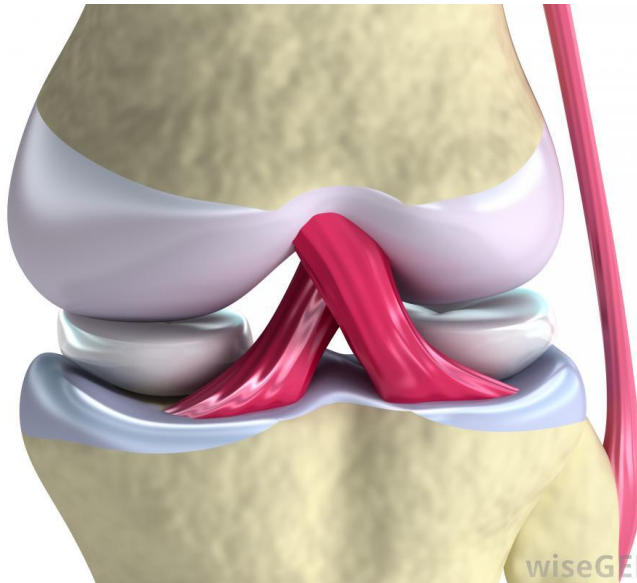
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## Popliteus

**Origin :** Lateral surface of lateral condyle of femur

**Insertion:** Posterior surface of tibia above soleal line

**Action :** Flex and unlock the knee.



# Locking of the knee joint

Occurs at terminal stage of full extension of the knee joint.

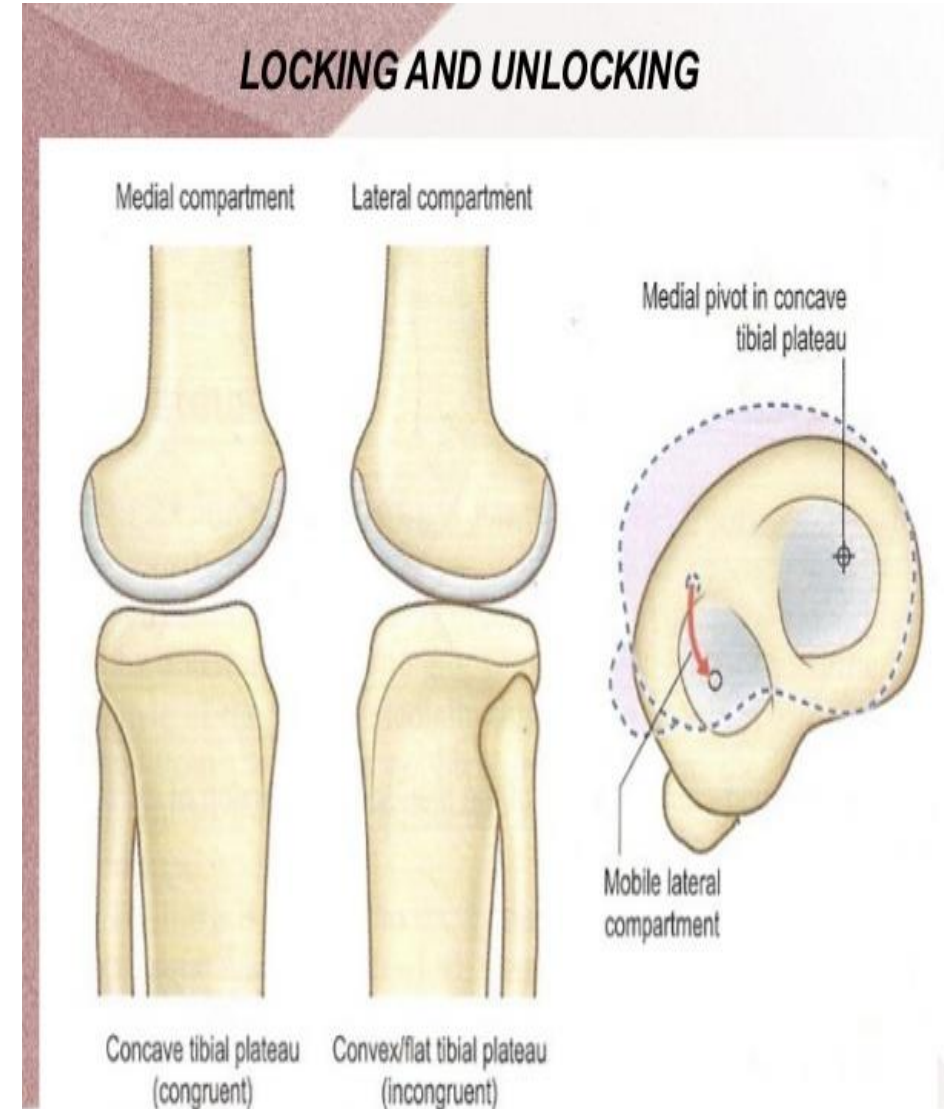
Responsible muscle (**Biceps femoris**)

## **MECHANISM:**

The (tibia) is laterally rotated **OR** the (femur) is medially rotated.

This rotatory movement locks the knee joint (the joint can not be flexed unless it is unlocked by the reverse muscle

**(popliteus).**



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**Unlocking means**

Lateral rotation of the femur

Or Medial rotation of the tibia

**Locking means**

..... rotation of the femur

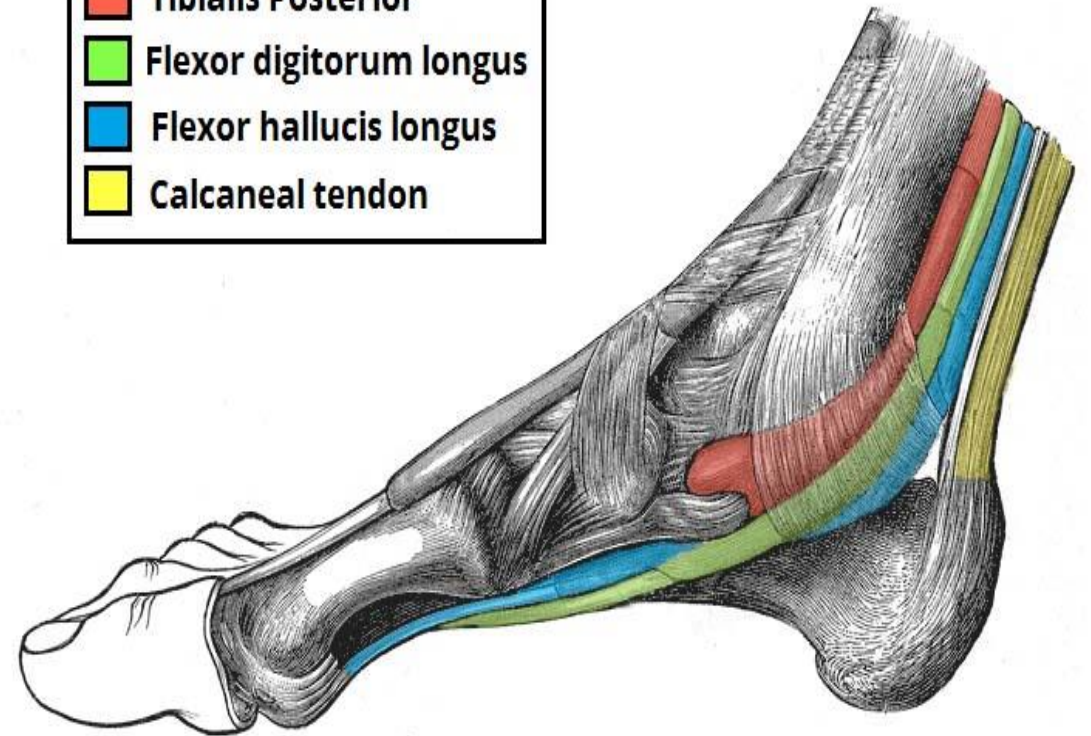
Or .....rotation of the tibia

# Deep group

**Flexor digitorum longus**

**Flexor hallucis longus**

**Tibialis posterior**



# Deep group

## Flexor digitorum longus

**Origin :** Posterior surface of Tibia

**Insertion :** distal phalanges of lateral four toe

## Flexor hallucis longus

**Origin :** Posterior surface of fibula

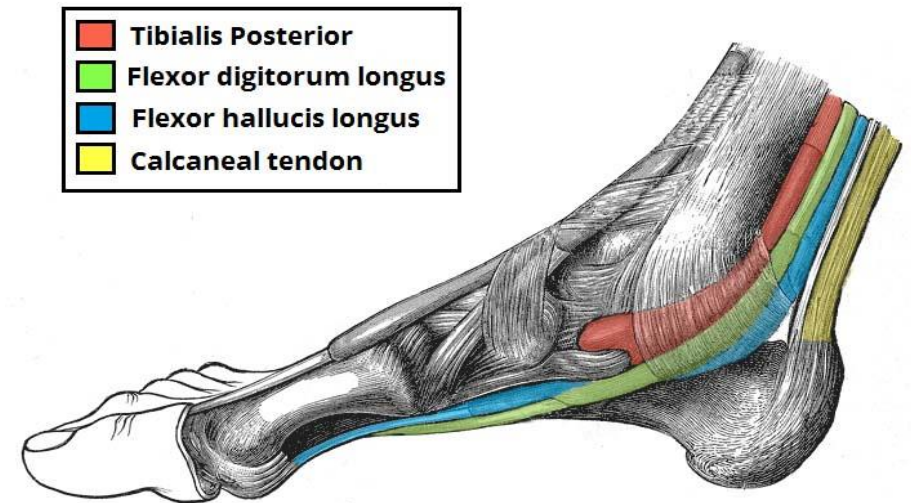
**Insertion** distal phalanx of big toe

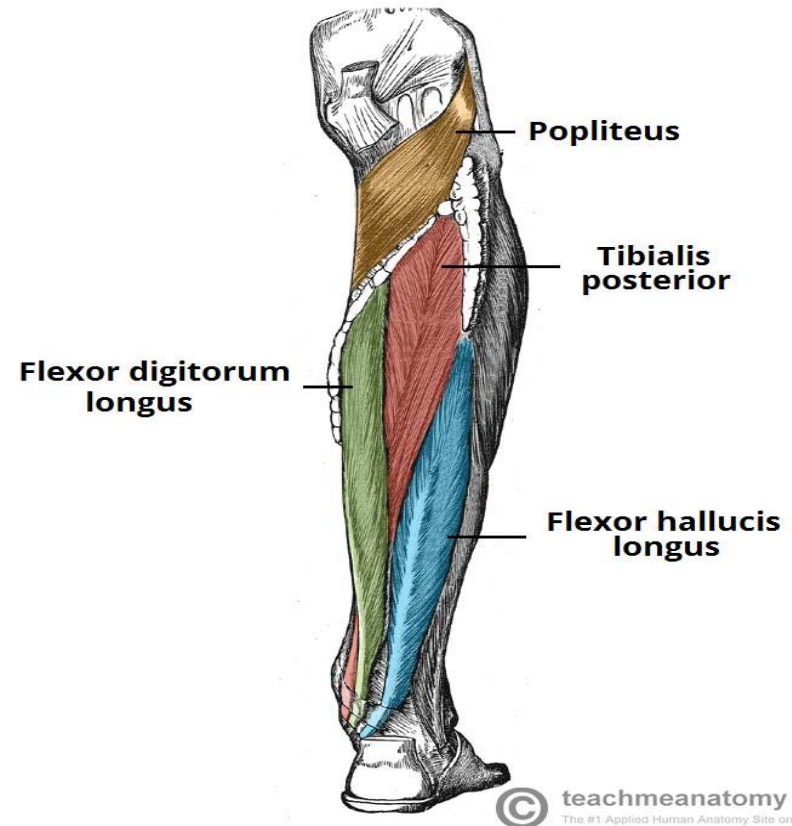
## Tibialis posterior

**Origin :** Posterior surface of tibia and fibula

**Insertion** – All tarsals

bones **EXCEPT** talus





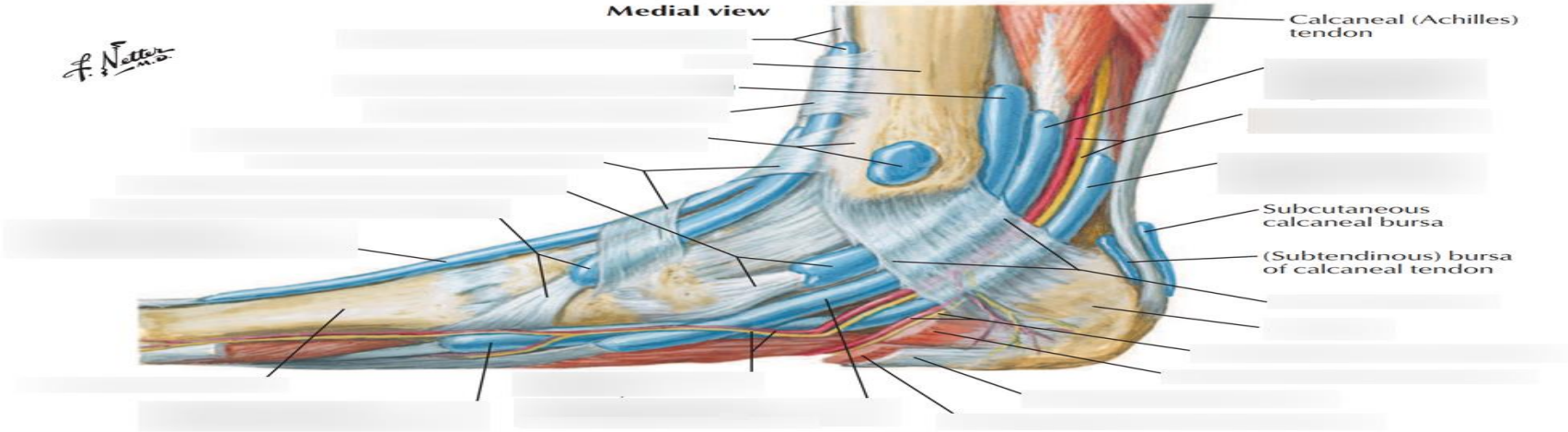
**Action :** All Plantarflexion of the foot **plus**

- **Flexor digitorum longus** : flexes the toes
- **Flexor hallucis longus** : flexes big toe
- **Tibialis posterior** : inversion of foot

# Flexor Retinaculum

Structures passing below it  
from medial to lateral

- Tom Tibialis Posterior
- Does Flexor Digitorum
- AVery Vessels (Posterior tibial)
- Nice Nerve (Posterior tibial)
- Homework Flexor hallucis





THANK YOU

The image features the words "THANK YOU" in a bold, bubbly, 3D font. The word "THANK" is rendered in a bright pink color with a yellow-to-orange gradient on its sides, while "YOU" is primarily yellow with a pink-to-red gradient on its sides. Both words have thick black outlines and are set against a background of black motion lines and several small, five-pointed stars in yellow and pink. The entire graphic is centered on a white background.