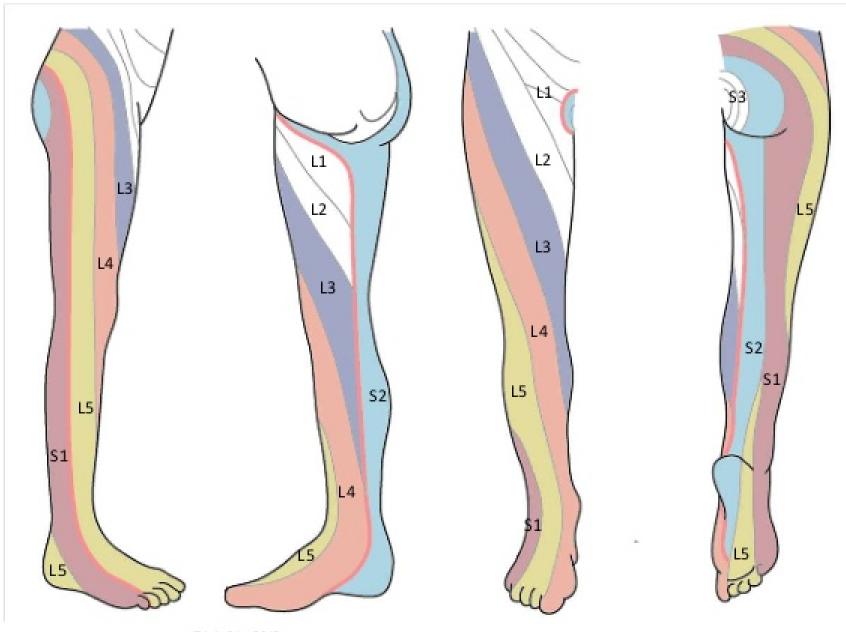
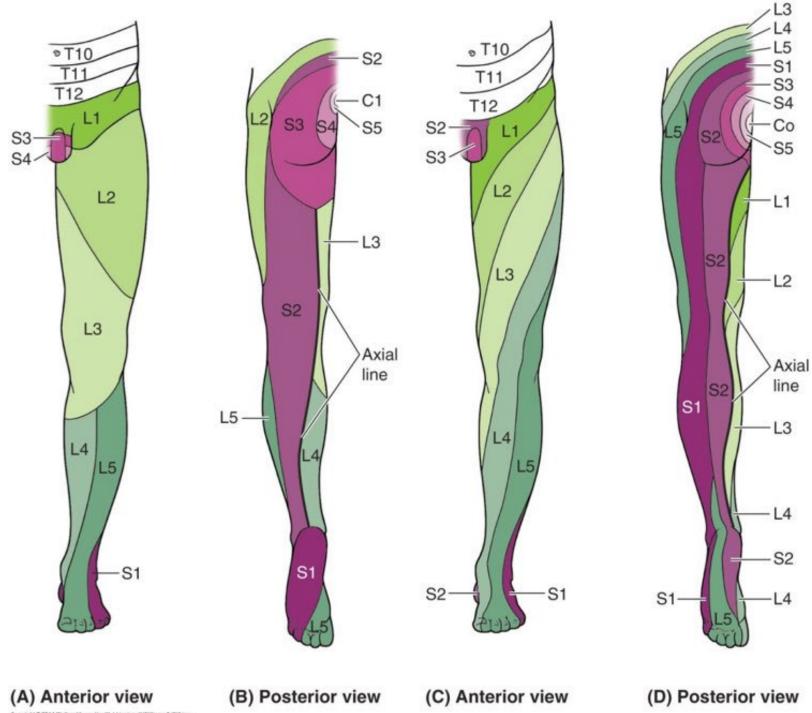
# Lower limb leg and foot region

By Dr Qaisar Zaman Afridi

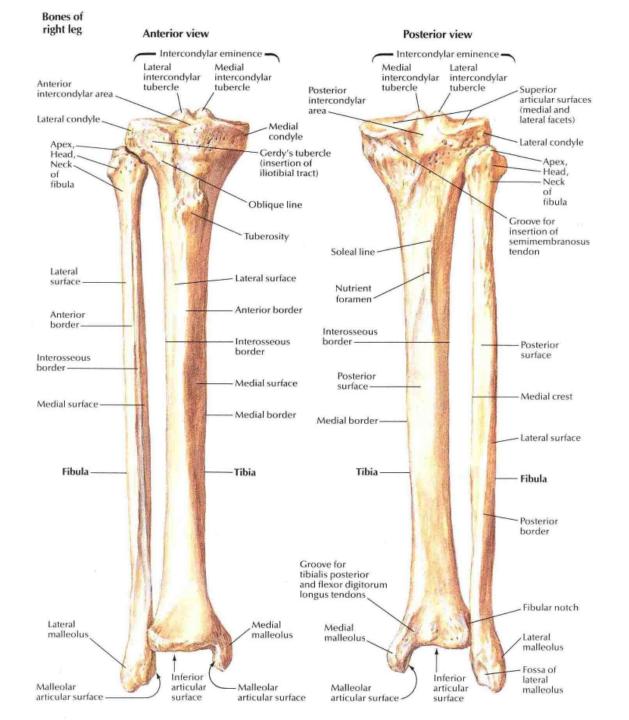
## Lower Extremity Dermatomes

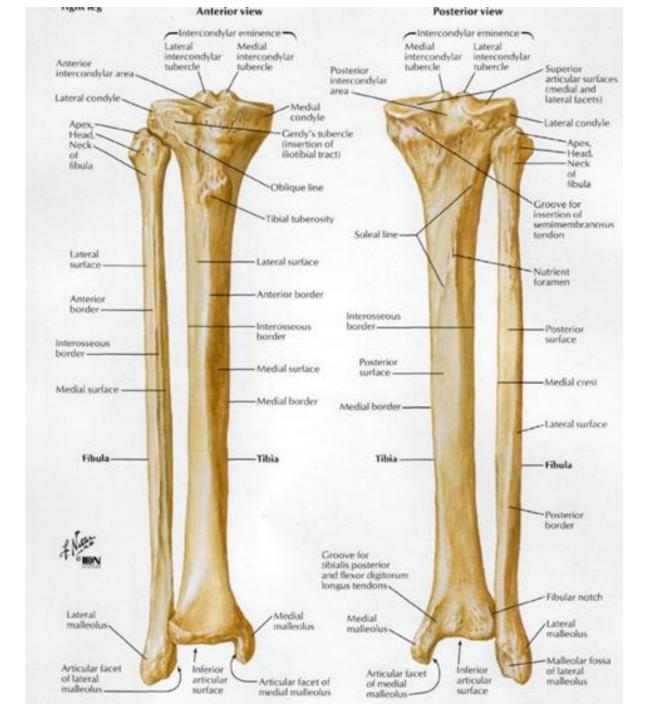


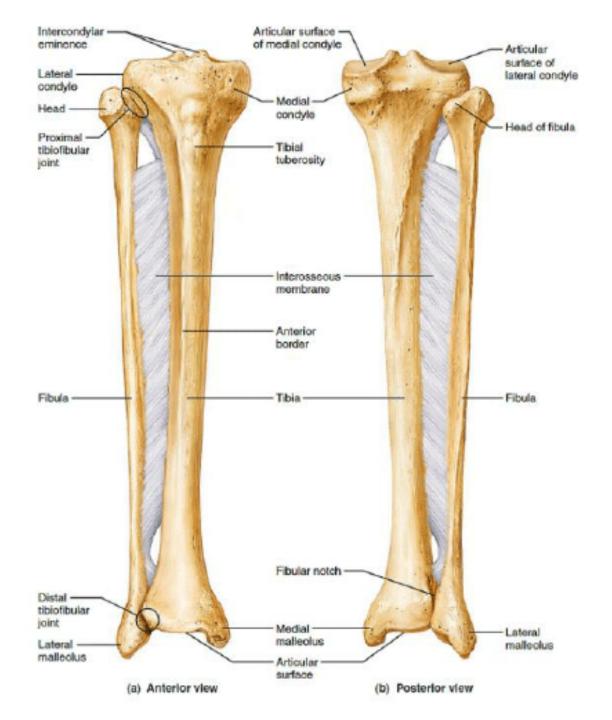
BFS A



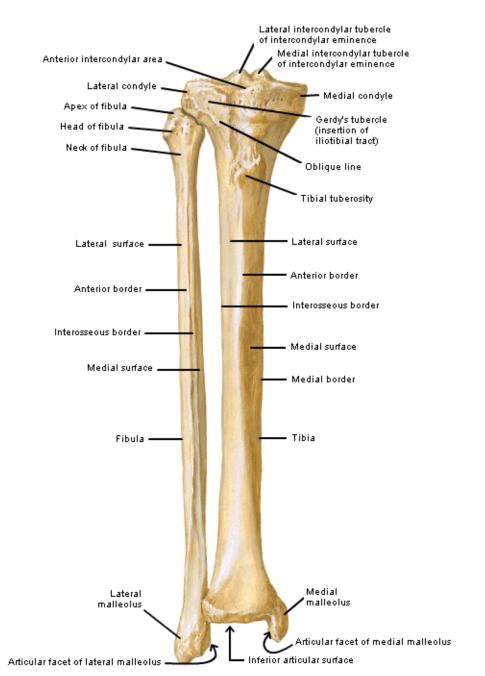
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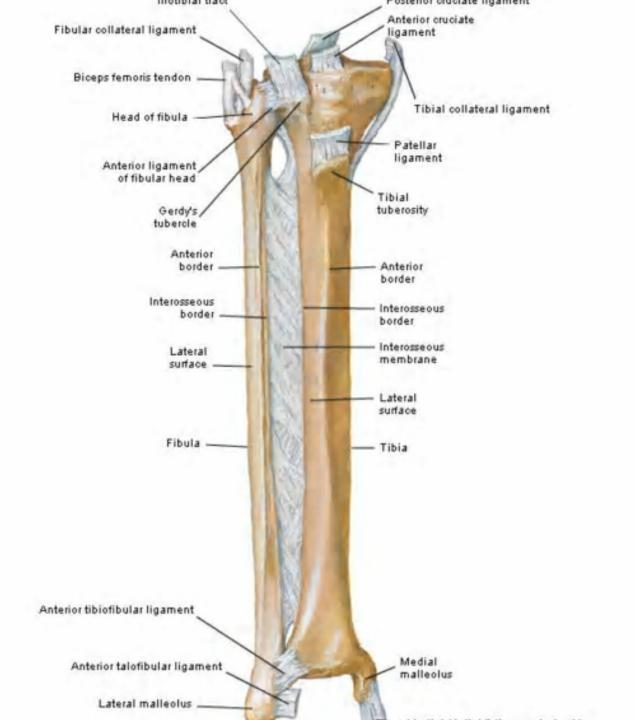




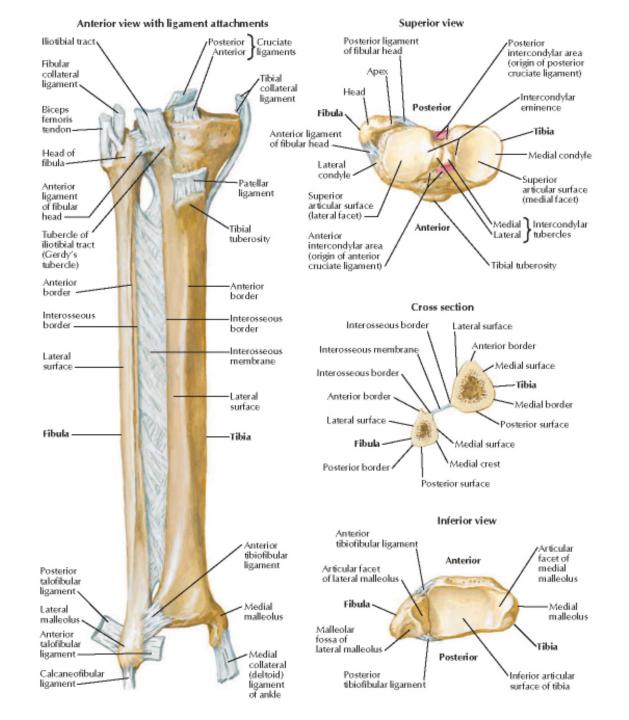
#### Tibia and Fibula of Right Leg Anterior View

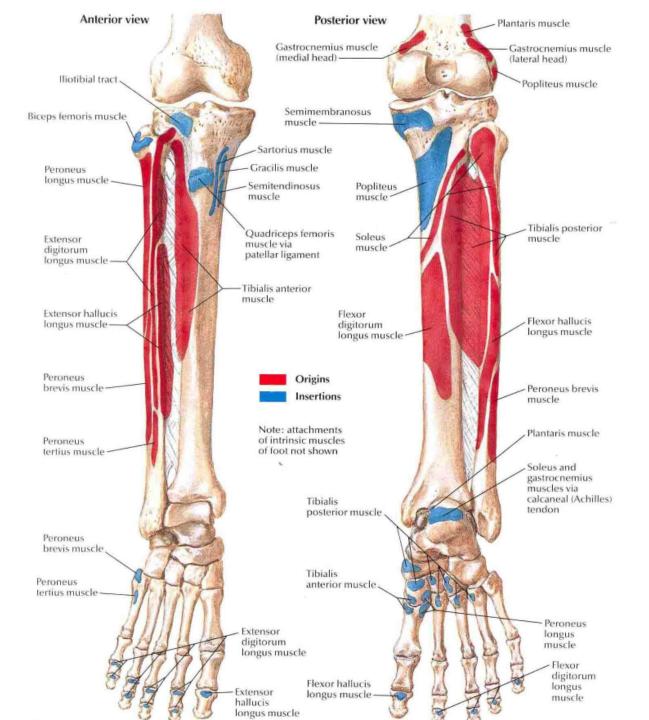






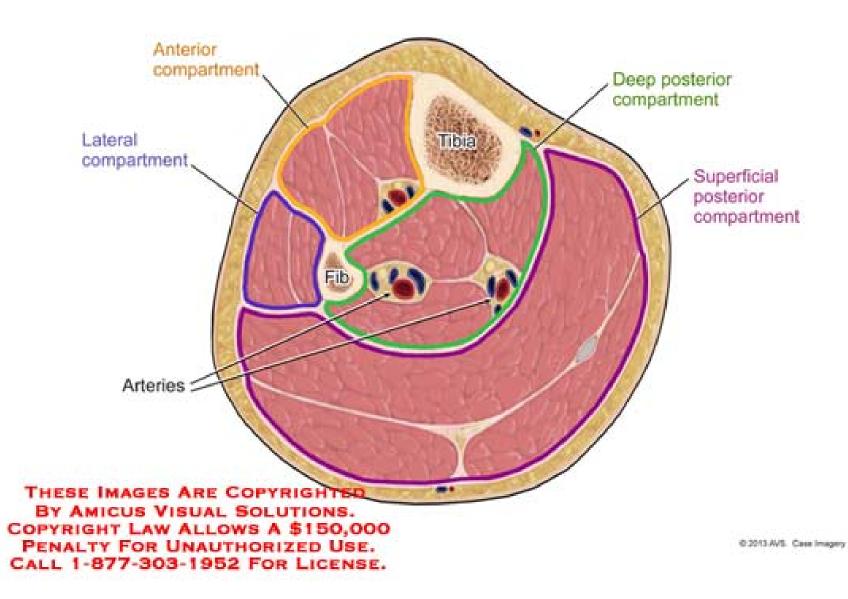
& Netters

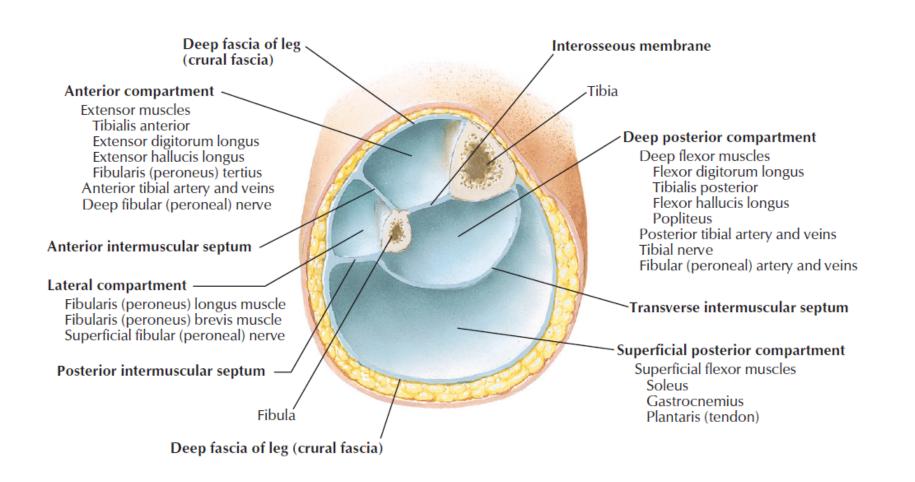


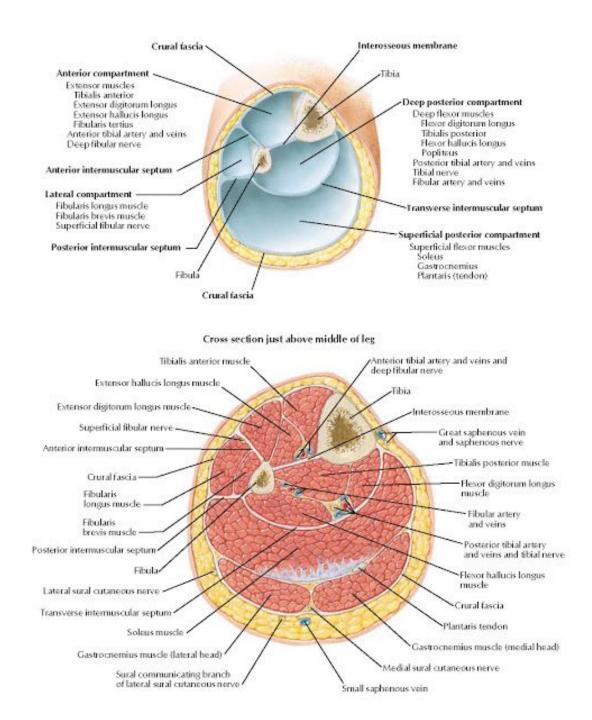


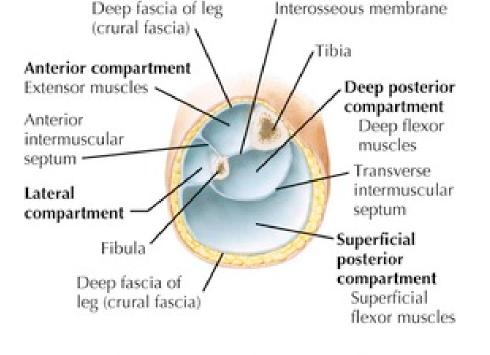
### **Compartments of Lower Leg**

**Axial View From Below** 

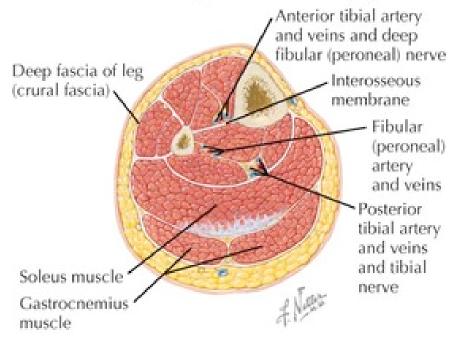




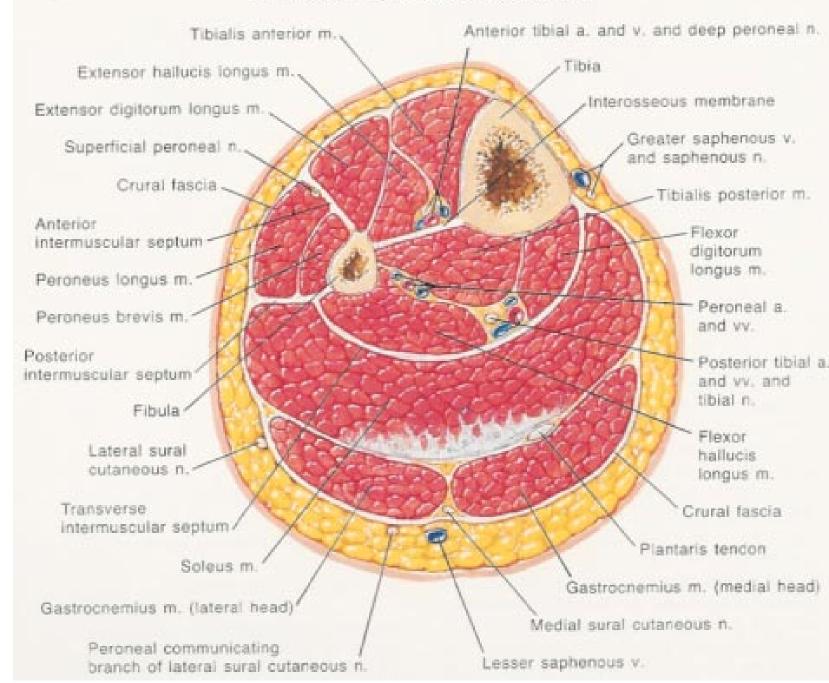


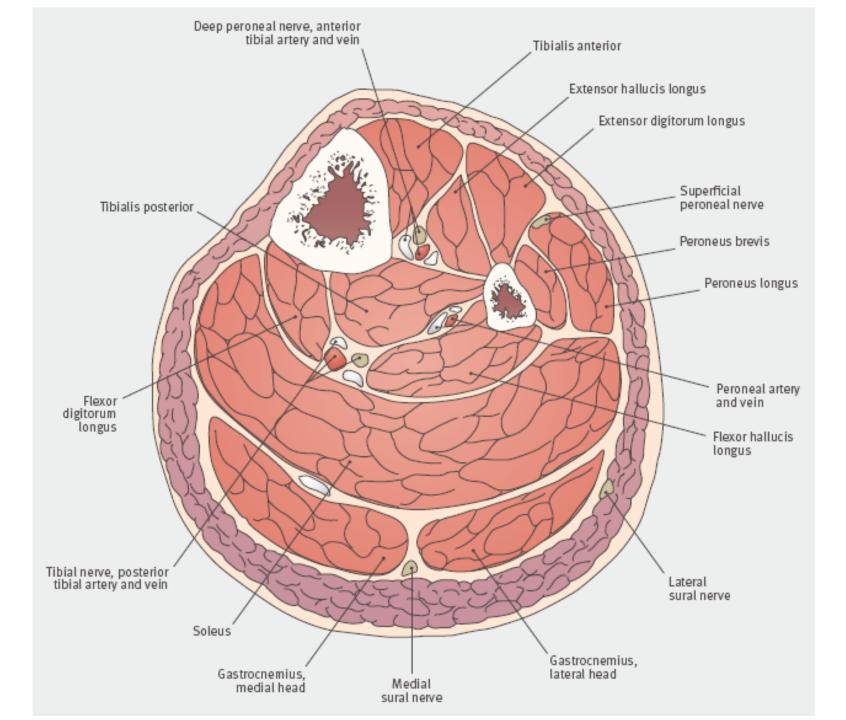


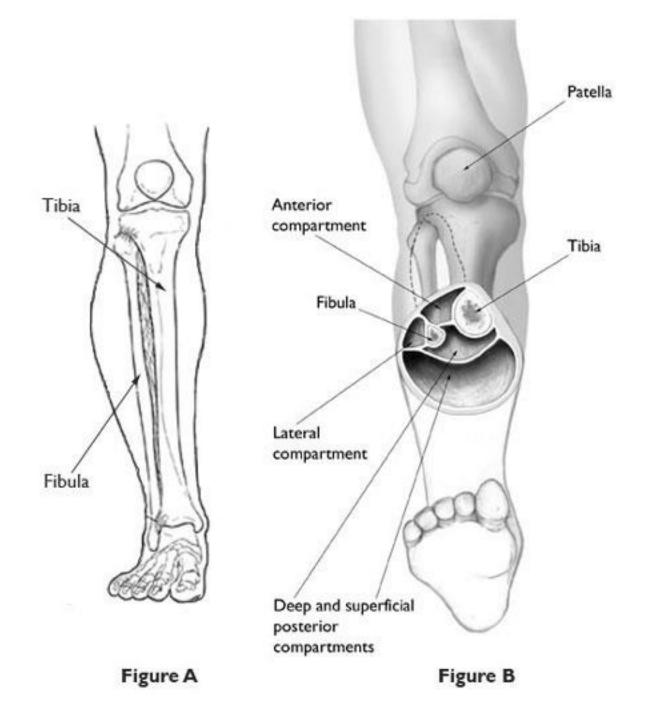
Cross section just above middle of leg

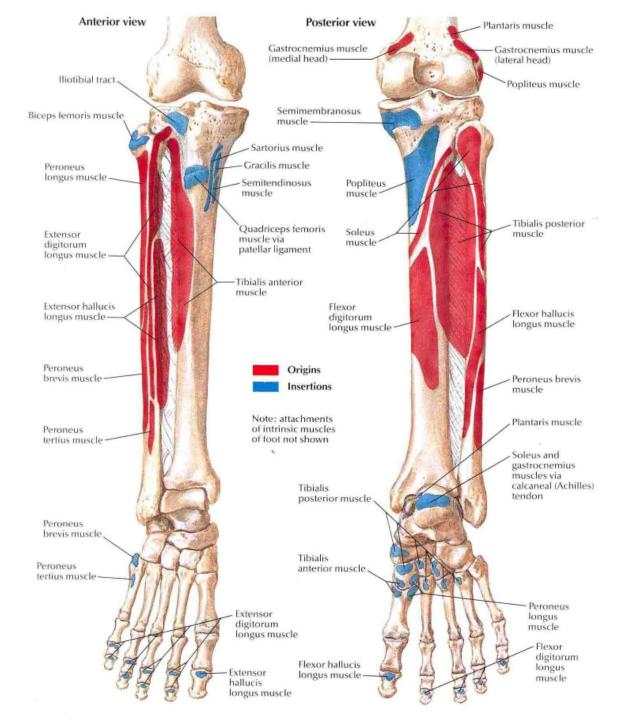


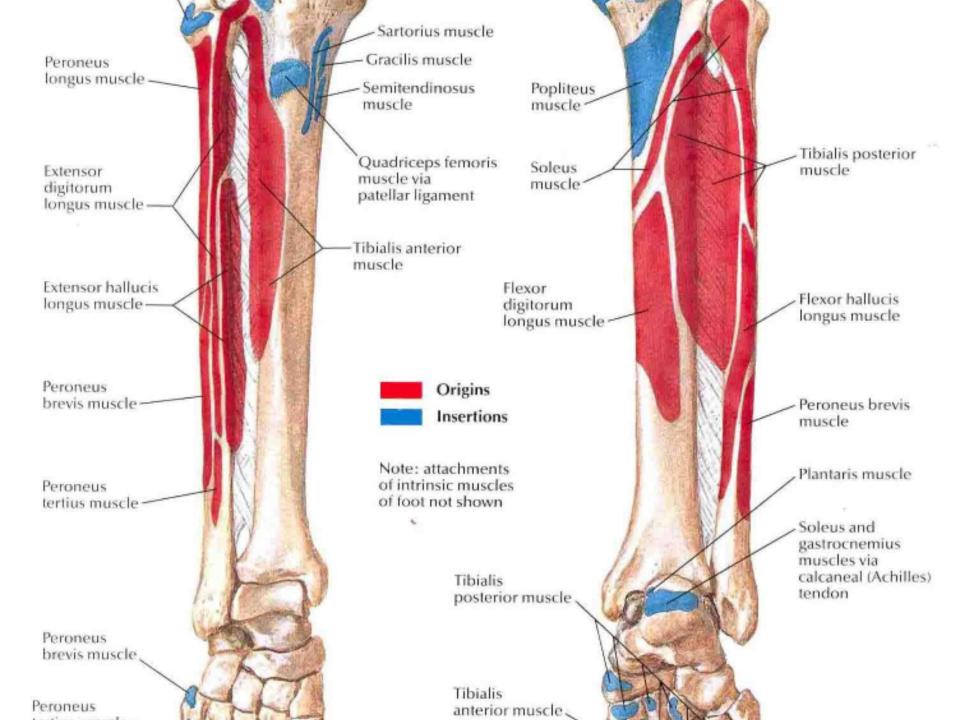
#### Cross section just above middle of leg

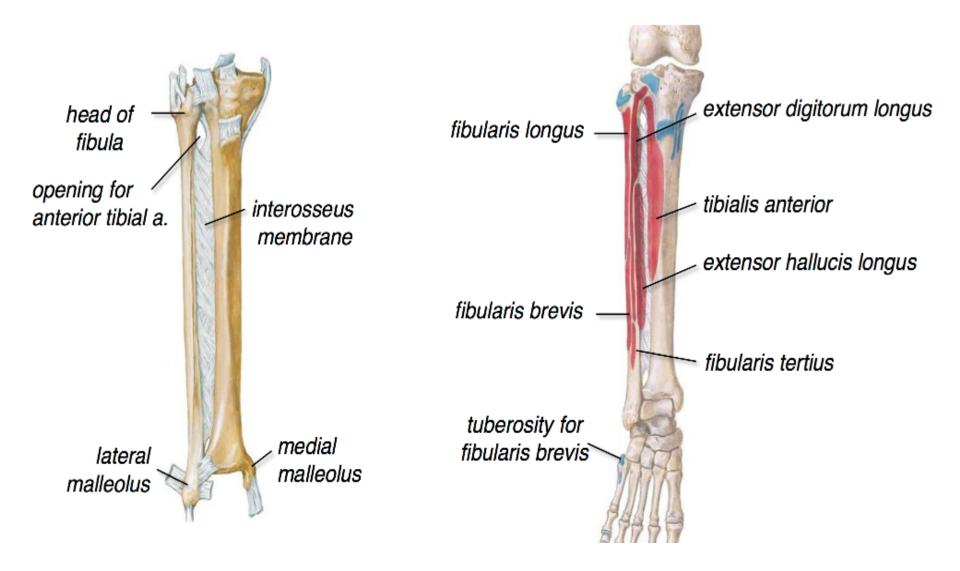


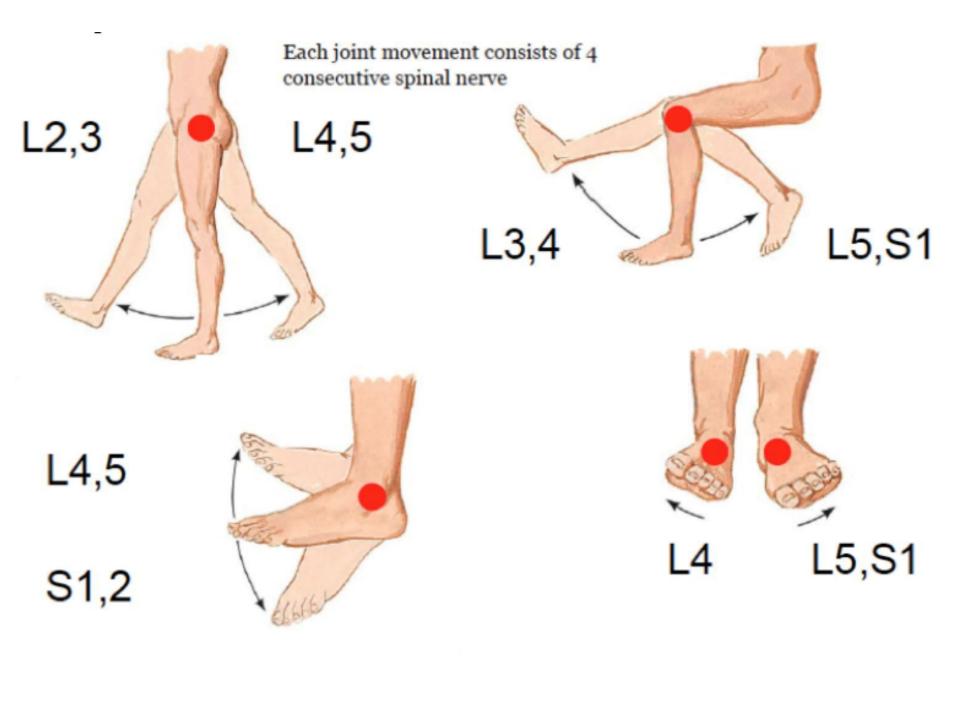


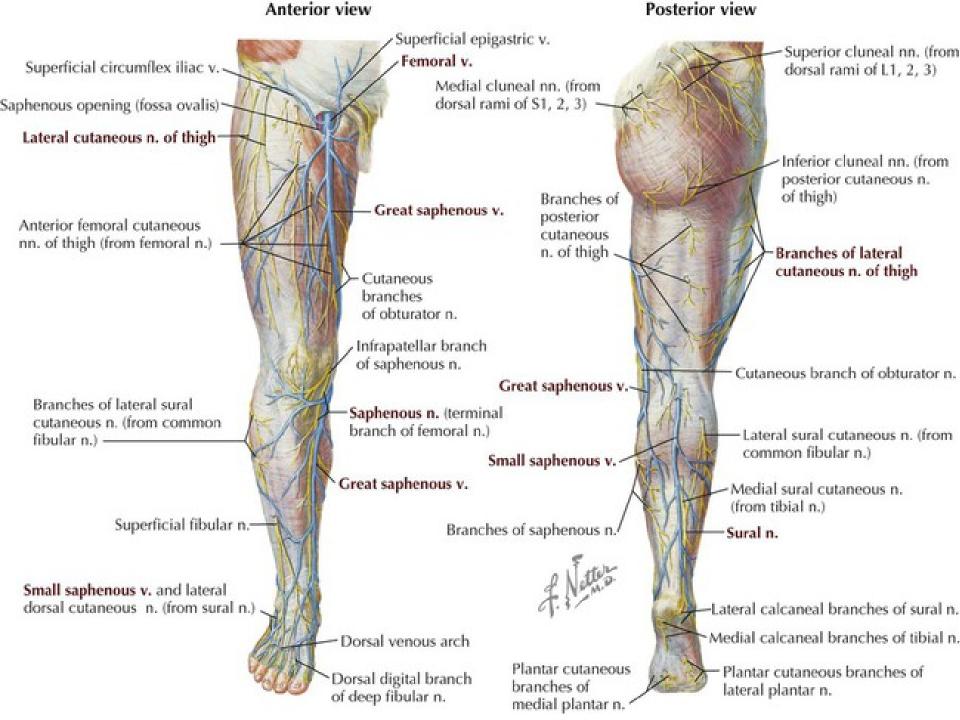




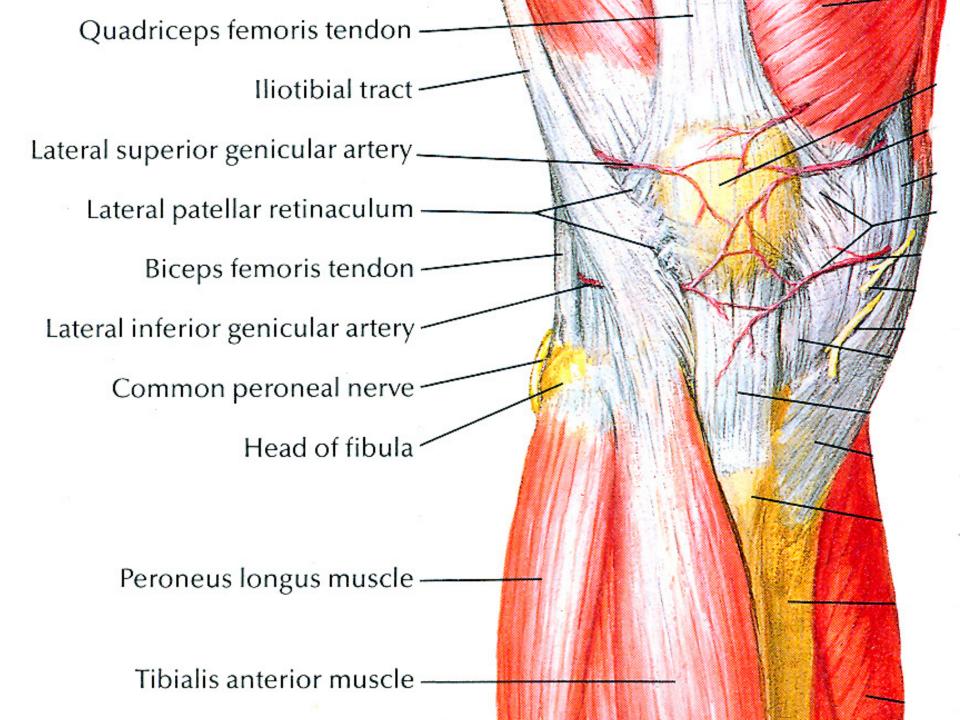


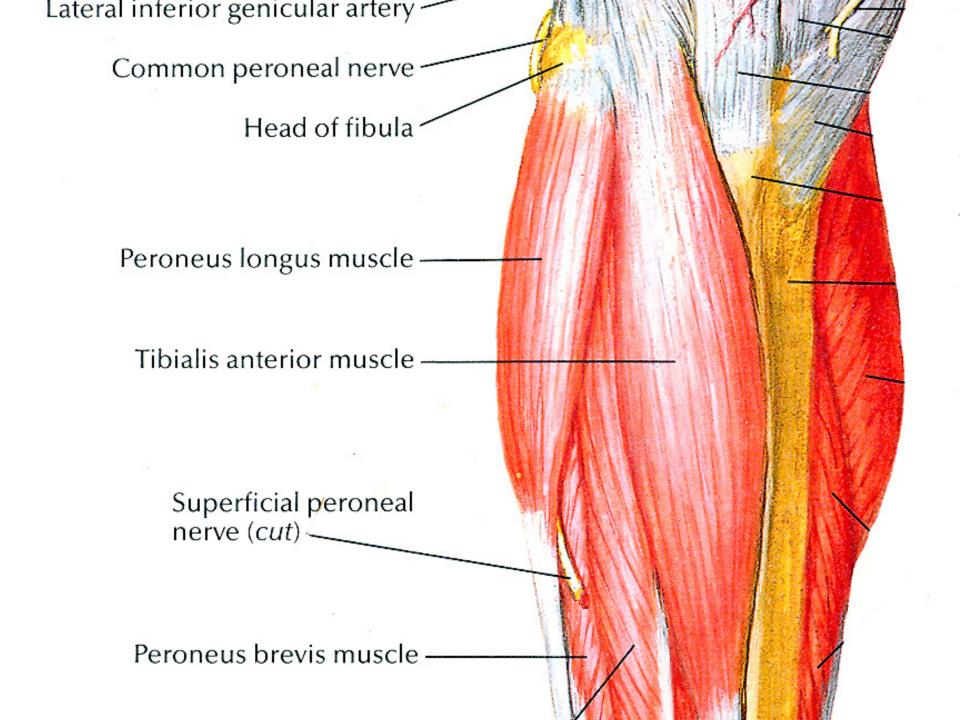


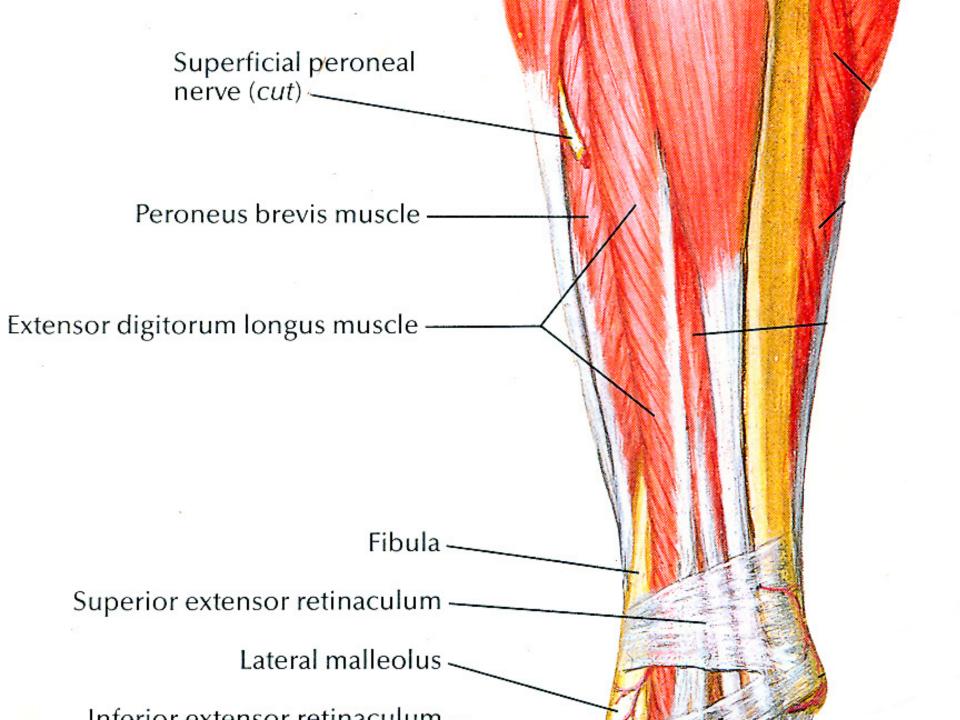


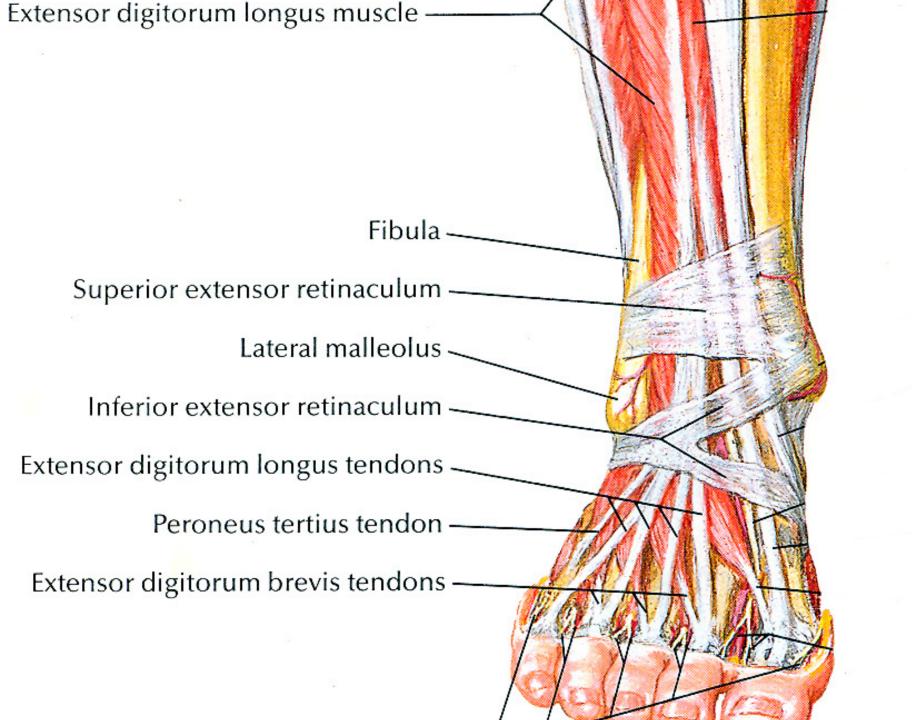


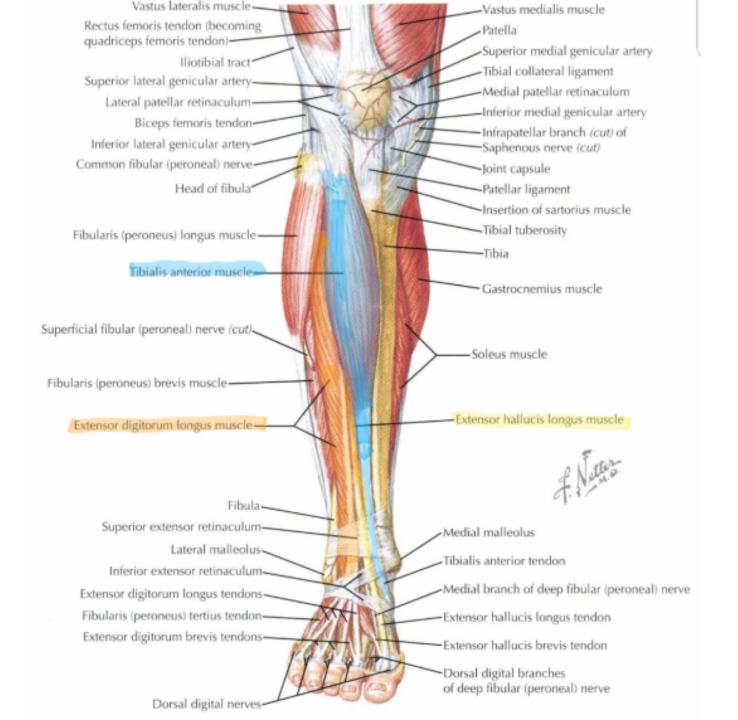


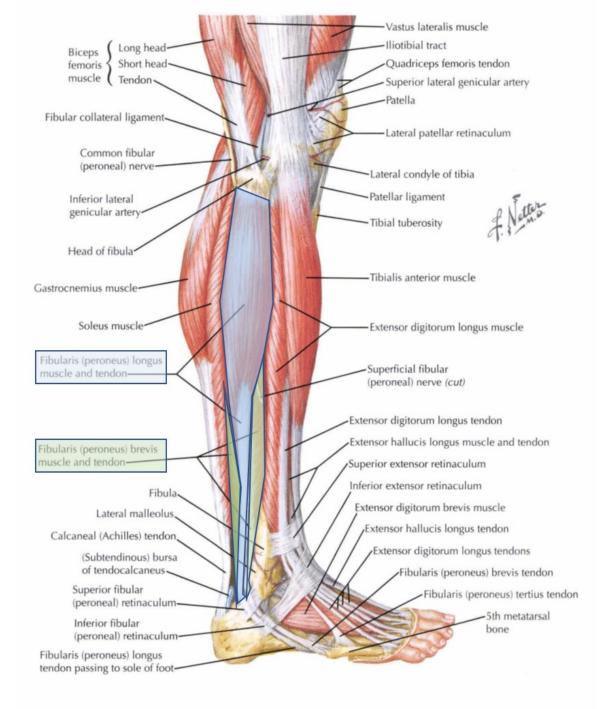


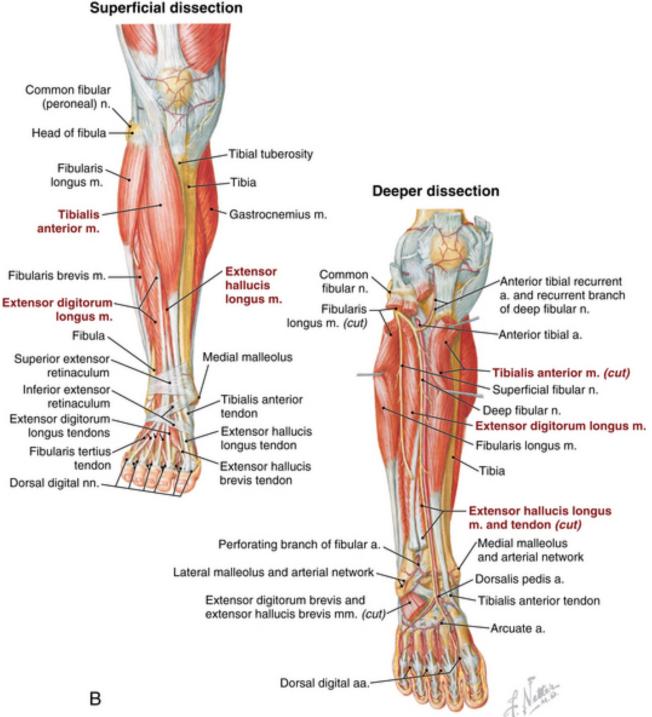


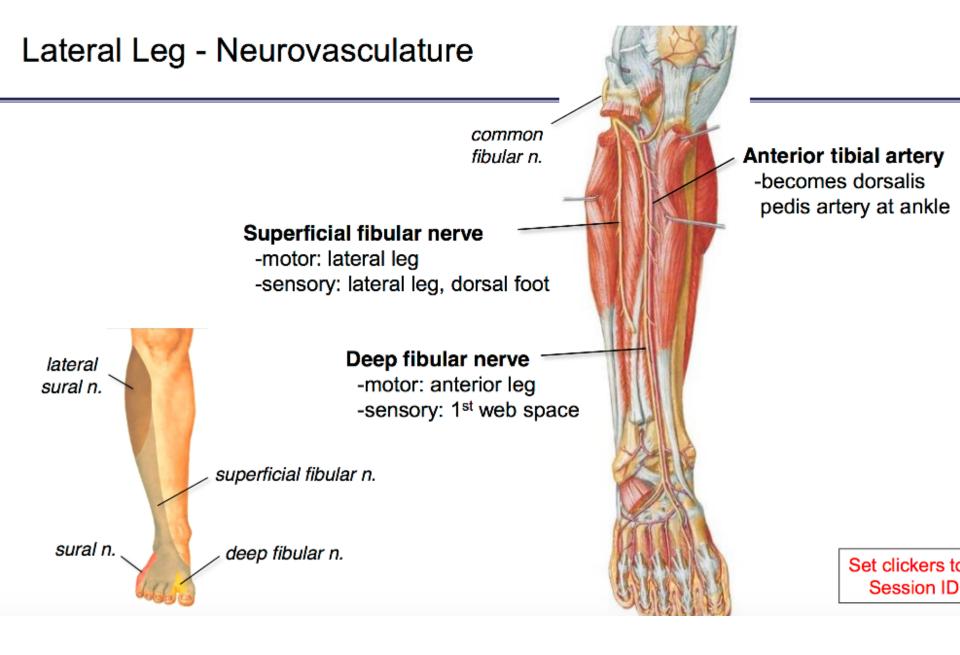


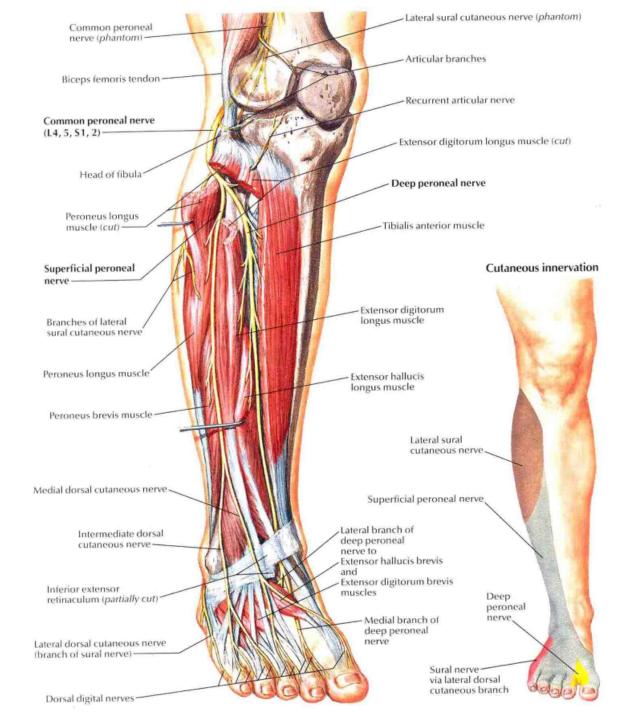


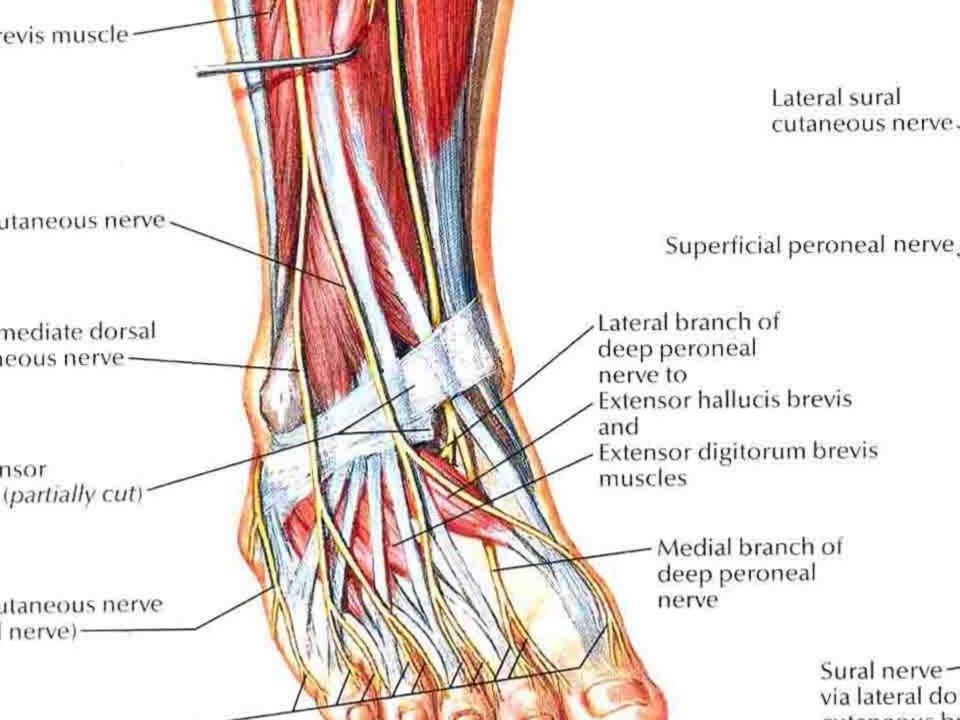












Lateral superior genicular artery Fibular collateral ligament. Lateral patellar retinaculum -Iliotibial tract (cut) -Biceps femoris tendon (cut) Lateral inferior genicular artery Common peroneal nerve\* Head of fibula' Peroneus longus muscle (cut) Anterior tibial artery Extensor digitorum longus muscle (cort) Superficial peroneal nerve Deep peroneal nerve Peroneus longus muscle-Extensor digitorum longus muscle Peroneus brevis muscle and tendon.

Peroneus longus tendon Perforating branch of peroneal artery Anterior lateral malleolar artery Lateral malleolus and arterial plexus Lateral malleolus and arterial plexus Lateral tarsal artery and lateral branch of deep peroneal nerve Extensor digitorum brevis and extensor hallucis brevis muscles (cut) Peroneus brevis tendon Posterior perforating branches from deep plantar arch Extensor digitorum longus tendons (cut) Extensor digitorum brevis tendons (cut)

Dorsal digital arteries

Branches of proper plantar digital arteries and nervesMedial superior genicular artery Quadriceps femoris tendon Tibial collateral ligament Medial patellar retinaculum Infrapatellar branch of saphenous nerve (cwl) Medial inferior genicular artery Saphenous nerve (cwl) Patellar ligament

Insertion of sartorius tendon

Anterior tibial recurrent artery and recurrent branch of deep peroneal nerve

Interosseous membrane

Tibialis anterior muscle (cut)

Gastrocnemius muscle

-Soleus muscle

-Tibia

Superficial peroneal nerve (cut)

- Extensor hallucis longus muscle and tendon (cut)

Interosseous membrane

Anterior medial malleolar artery

Medial malleolus and arterial plexus

Dorsalis pedis artery

Tibialis anterior tendon

Medial tarsal artery

-Medial branch of deep peroneal nerve

Arcuate artery

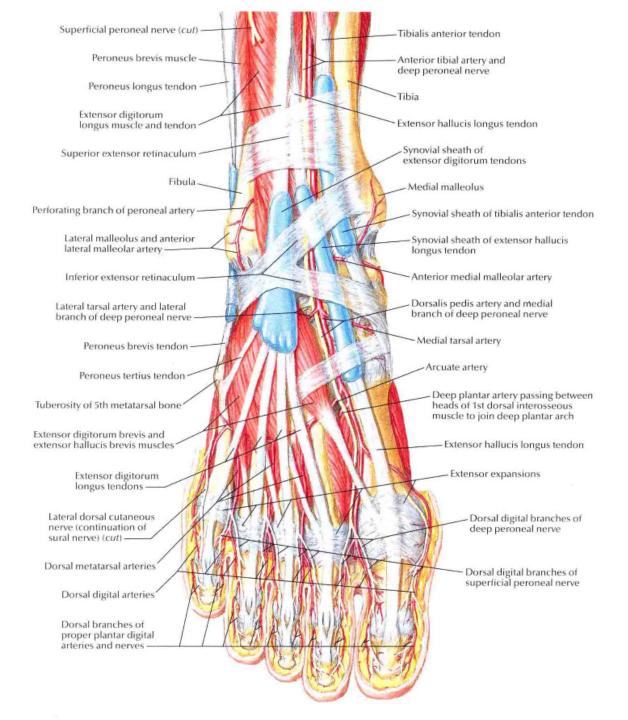
- Deep plantar artery

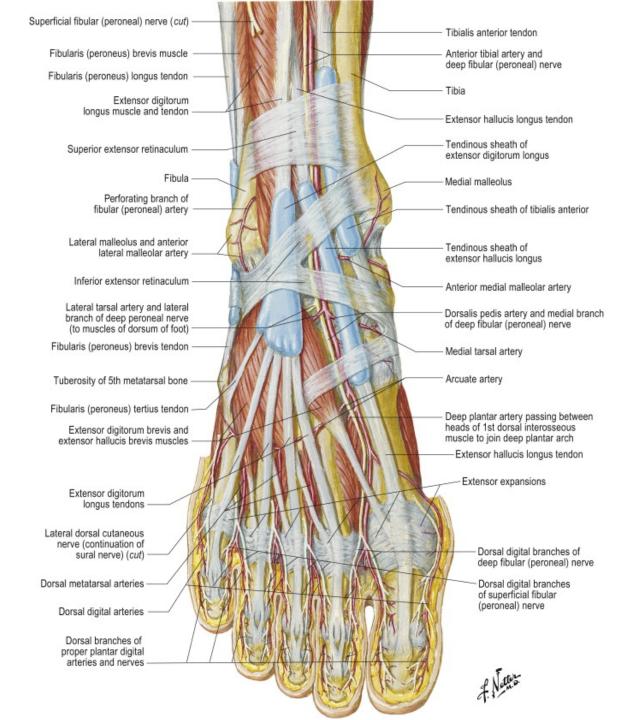
\*Dorsal metatarsal arteries

\* Extensor hallucis longus tendon (cut)

Extensor hallucis brevis tendon (cut)

Dorsal digital branches of deep peroneal nerve





Fibularis (peroneus) longus tendon-

Fibularis (peroneus) brevis muscle and tendon-

Extensor digitorum longus muscle and tendon-

Fibula \_\_\_\_

Perforating branch of fibular (peroneal) artery

Anterior lateral malleolar artery

Lateral malleolus

Lateral branch of deep peroneal nerve (to muscles of dorsum of foot) and lateral tarsal artery

Fibularis (peroneus) longus tendon (cut)

Extensor digitorum brevis and extensor hallucis brevis muscles (cut)-

Fibularis (peroneus) brevis tendon (cut)-

Fibularis (peroneus) tertius tendon (cut)-

Abductor digiti minimi muscle-

Dorsal metatarsal arteries -

Metatarsal bones-

Dorsal interosseous muscles-

Lateral dorsal cutaneous nerve (continuation of sural nerve) (cut)-

> Anterior perforating branches from plantar metatarsal arteries

> > Dorsal digital arteries-

Dorsal branches of proper plantar digital arteries and nerves-Soleus muscle Tibialis anterior muscle and tendon Tibia Anterior tibial artery and deep fibular (peroneal) nerve Extensor hallucis longus muscle and tendon Anterior medial malleolar artery Medial malleolus Dorsalis pedis artery Medial branch of deep fibular (peroneal) nerve Medial tarsal arteries Tuberosity of navicular bone Arcuate artery Posterior perforating branches from deep plantar arch Deep plantar artery to deep plantar arch

-Abductor hallucis muscle

-Extensor hallucis longus tendon

Extensor hallucis brevis tendon (cut)

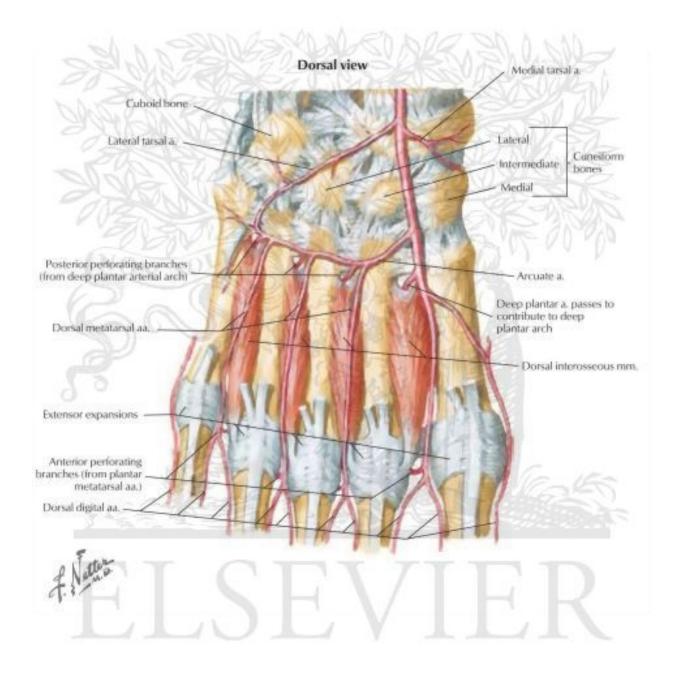
Extensor digitorum brevis tendons (cut)

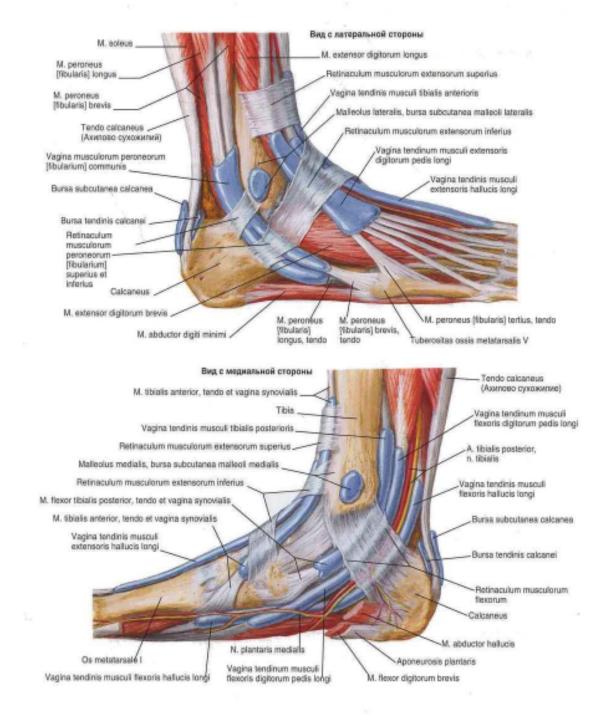
Extensor digitorum longus tendons (cut)

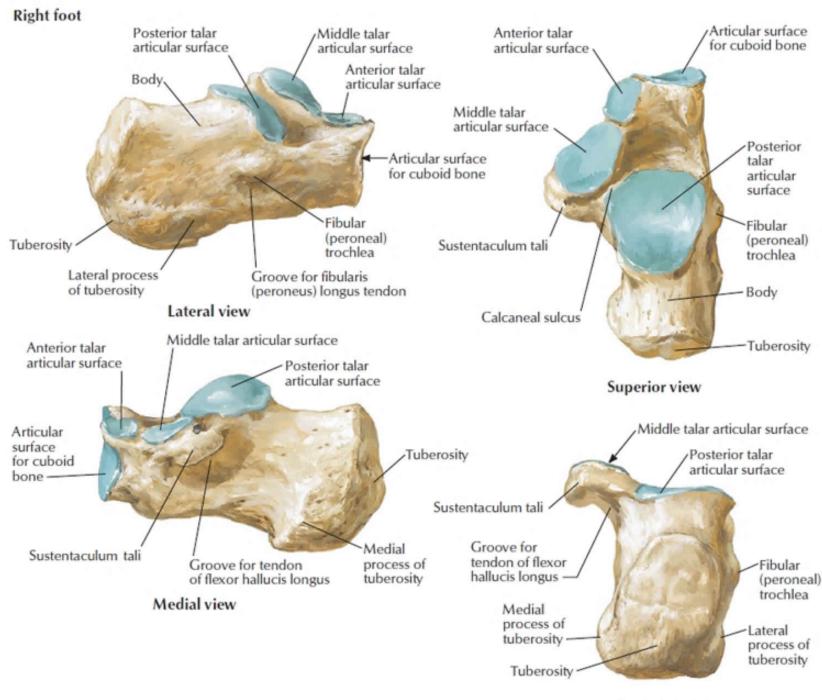
-Extensor expansions

 Dorsal digital branches of deep fibular (peroneal) nerve

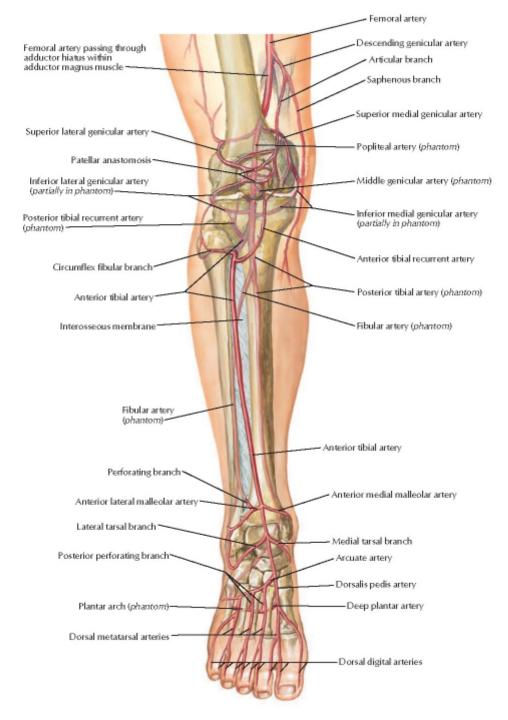
 Dorsal digital branches of superficial fibular (peroneal) nerve

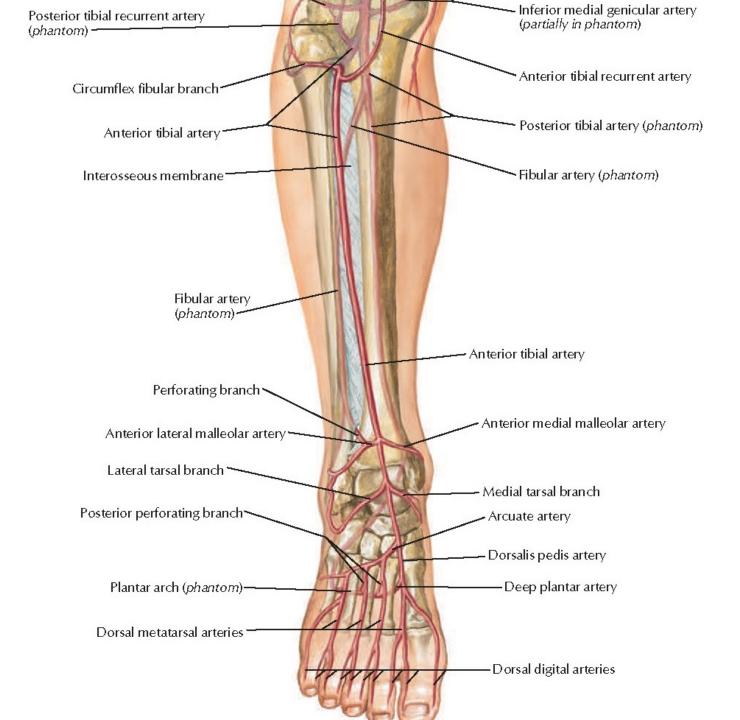


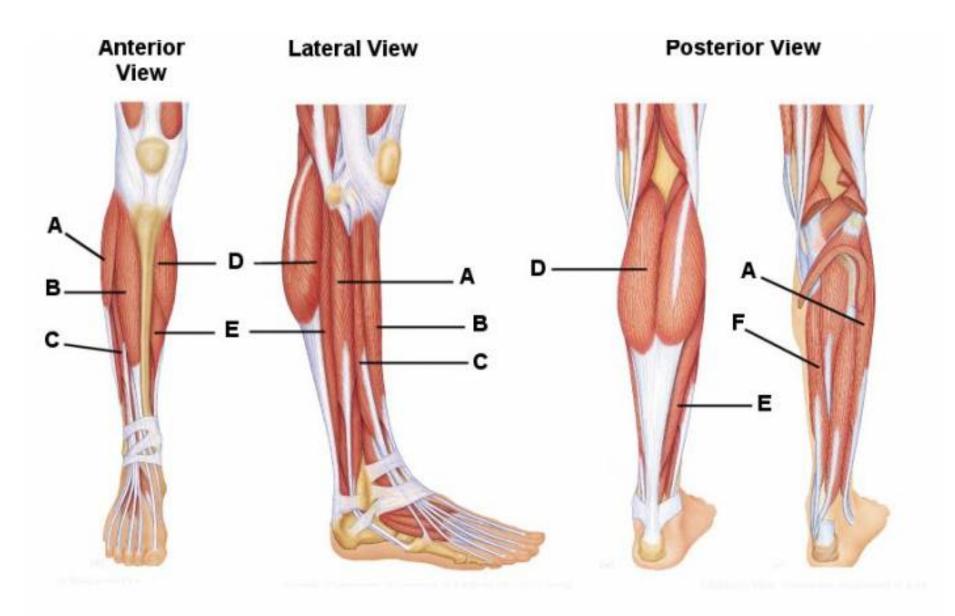




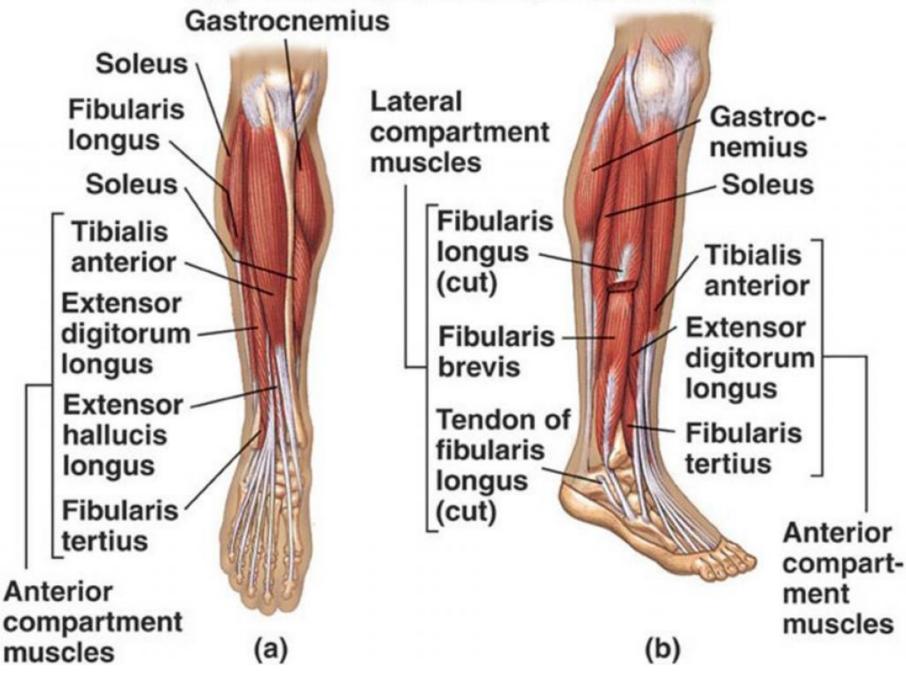
Posterior view



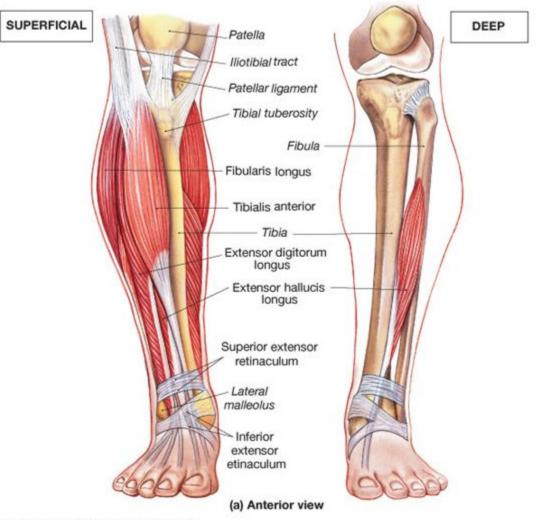




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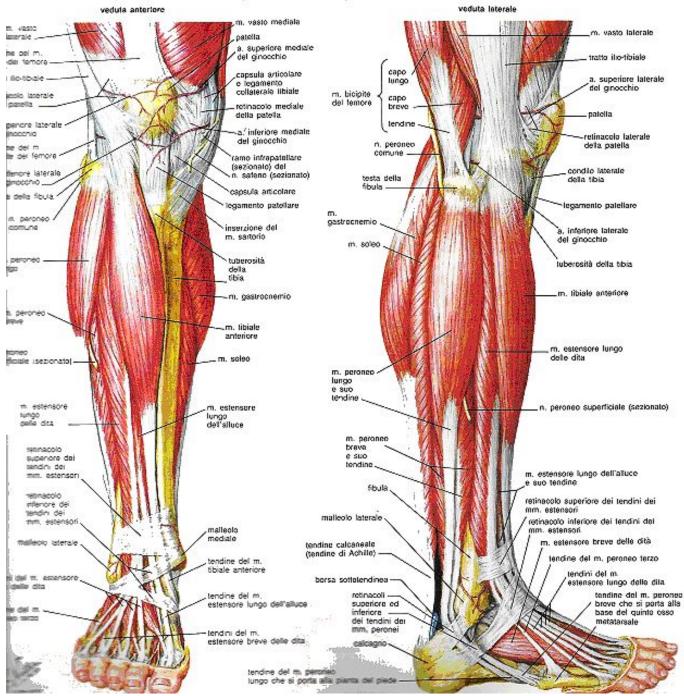


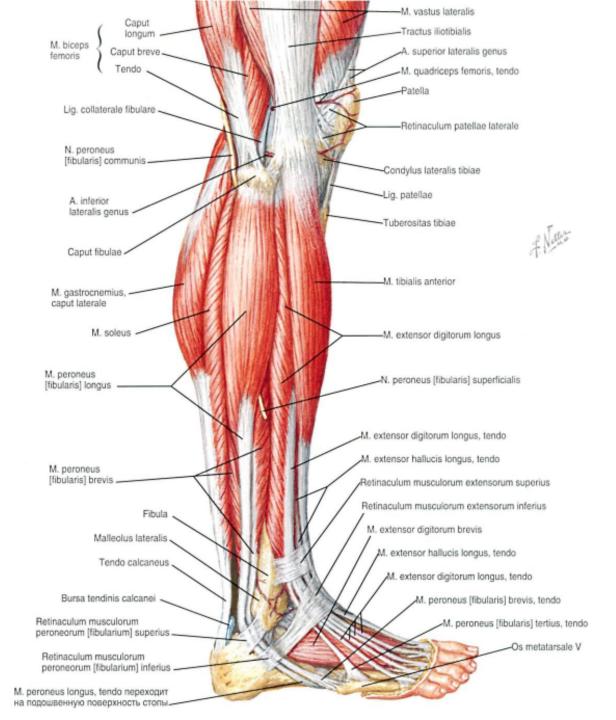
## Lower Leg: Anterior View

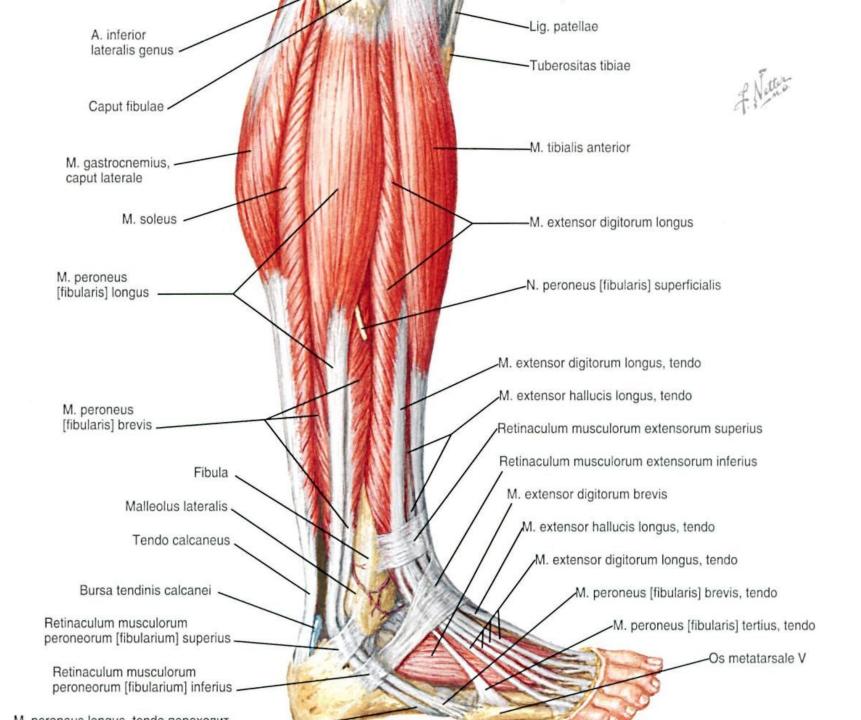


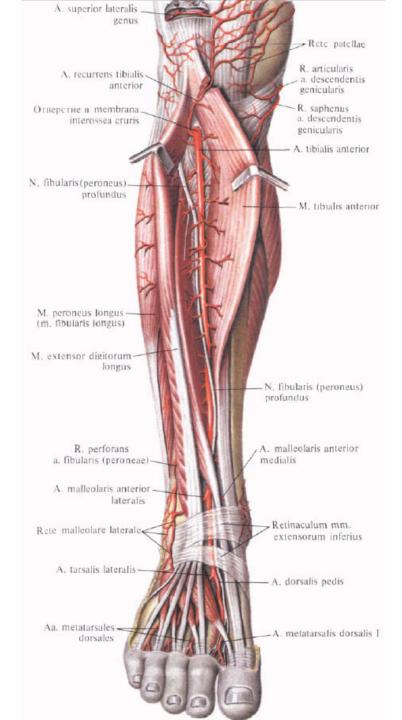
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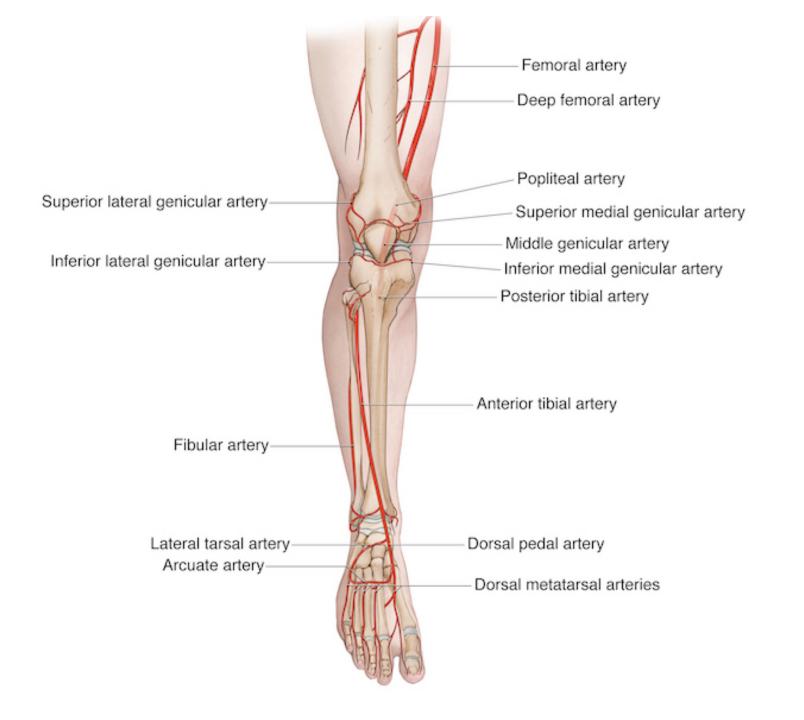
muscoli, arterie e nervi della gamba: strato superficiale

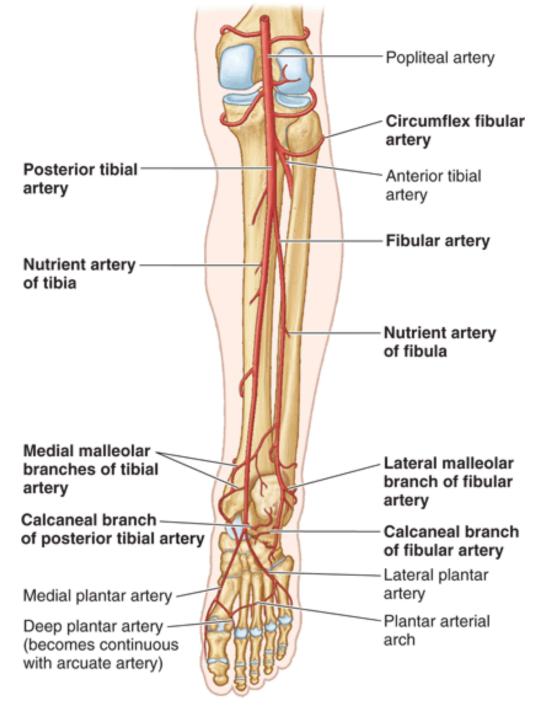




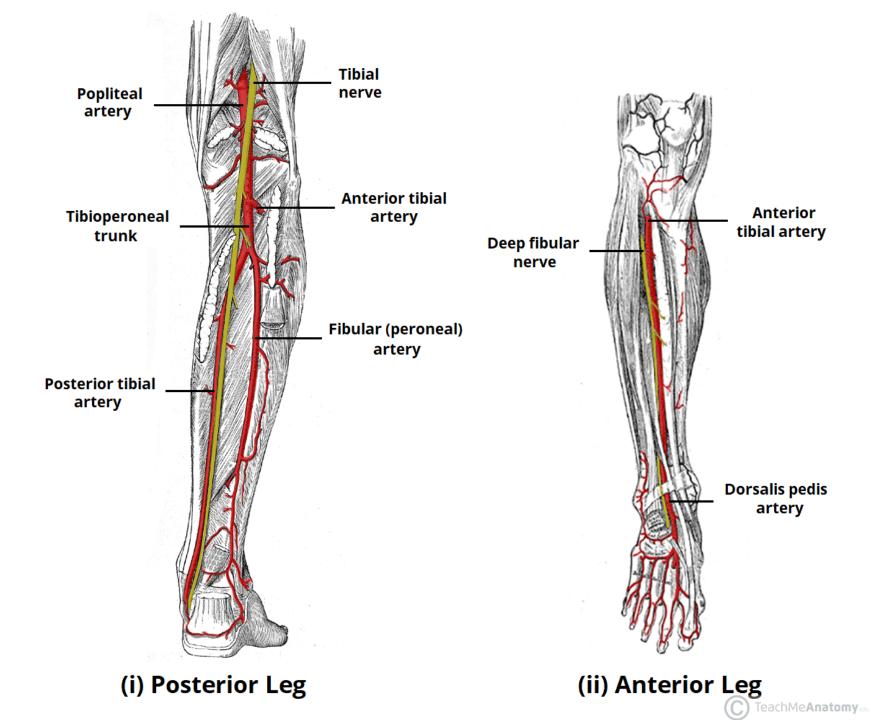


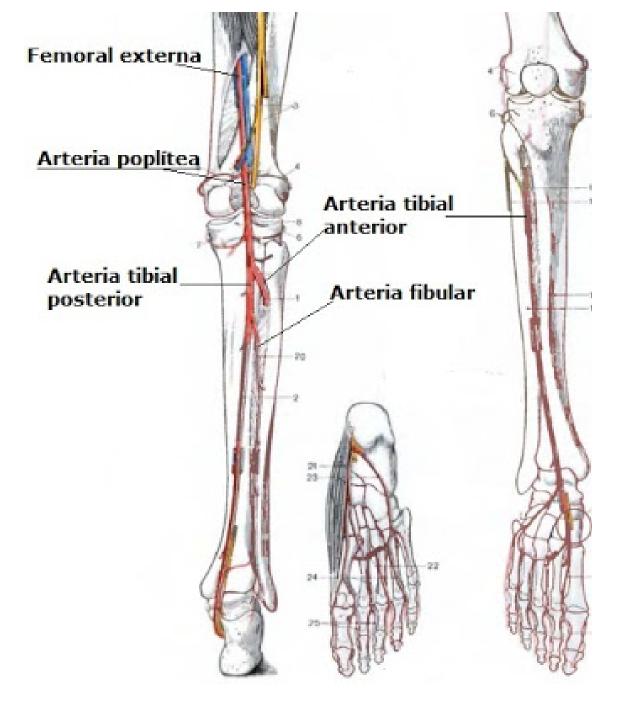


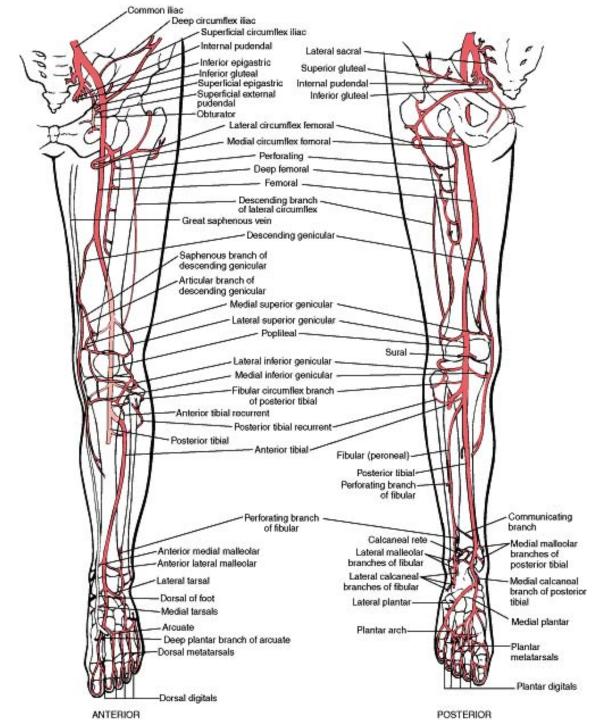


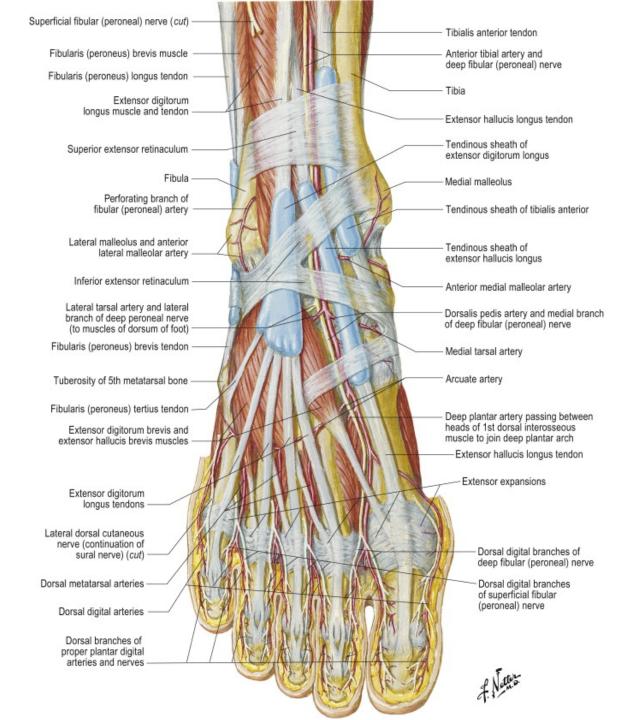


Posterior view with foot plantar flexed









Superficial fibular (peroneal) nerve (cut) -----

Fibularis (peroneus) longus tendon-

Fibularis (peroneus) brevis muscle and tendon-

Extensor digitorum longus muscle and tendon-

Fibula \_

Perforating branch of fibular (peroneal) artery

Anterior lateral malleolar artery

Lateral malleolus

Lateral branch of deep peroneal nerve (to muscles of dorsum of foot) and lateral tarsal artery

Fibularis (peroneus) longus tendon (cut)

Extensor digitorum brevis and extensor hallucis brevis muscles (cut)=

Fibularis (peroneus) brevis tendon (cut)-

Fibularis (peroneus) tertius tendon (cut)-

Abductor digiti minimi muscle -

Dorsal metatarsal arteries -----

Metatarsal bones-

Dorsal interosseous muscles-

Lateral dorsal cutaneous nerve (continuation of sural nerve) (cut)-

> Anterior perforating branches from plantar metatarsal arteries

> > Dorsal digital arteries-

Dorsal branches of proper plantar digital arteries and nerves - Soleus muscle - Tibialis anterior muscle and tendon - Tibia - Anterior tibial artery and deep fibular (peroneal) nerve - Extensor hallucis longus muscle and tendon - Anterior medial malleolar artery - Medial malleolus - Dorsalis pedis artery

/Medial branch of deep fibular (peroneal) nerve

Medial tarsal arteries

/Tuberosity of navicular bone

Arcuate artery

 Posterior perforating branches from deep plantar arch

Deep plantar artery to deep plantar arch

Abductor hallucis muscle

-Extensor hallucis longus tendon

Extensor hallucis brevis tendon (cut)

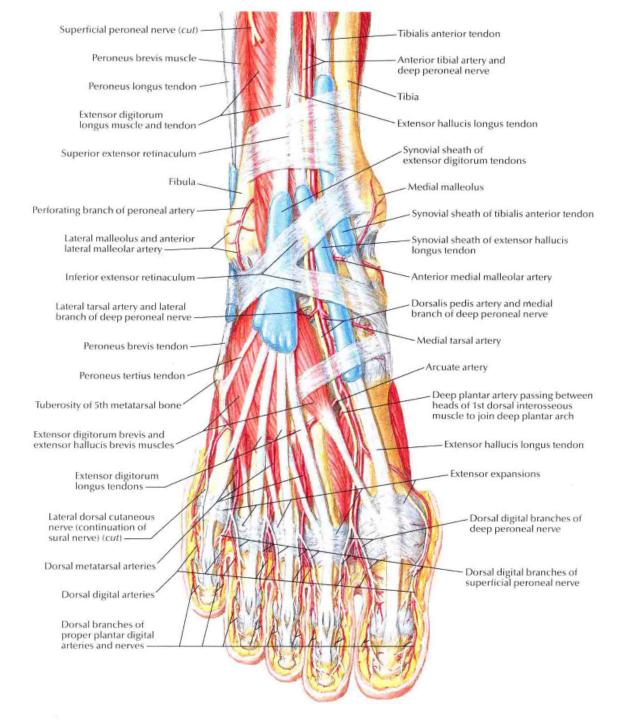
Extensor digitorum brevis tendons (cut)

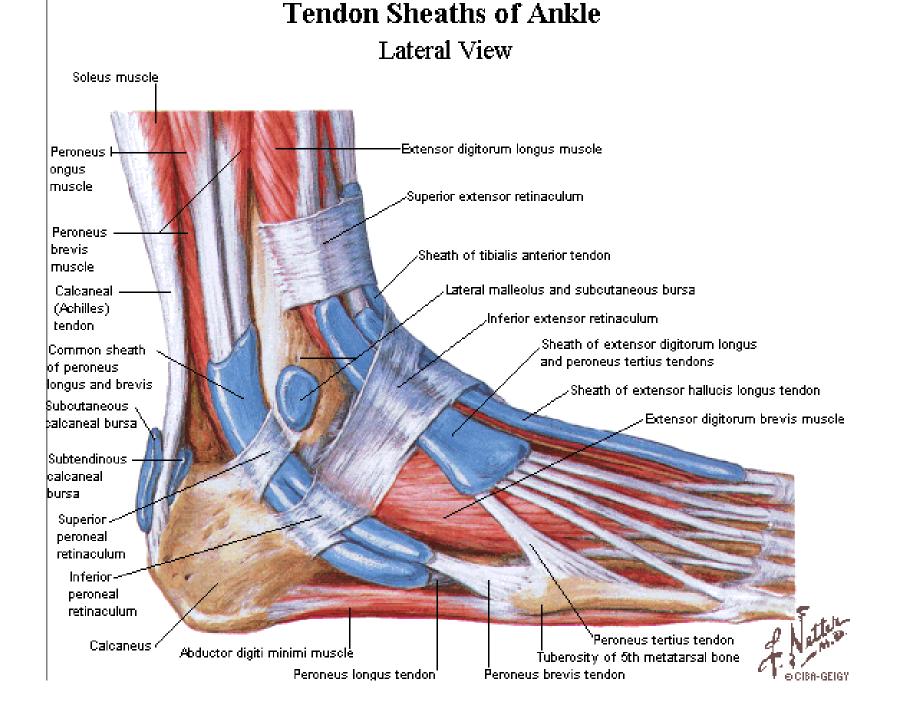
-Extensor digitorum longus tendons (cut)

-Extensor expansions

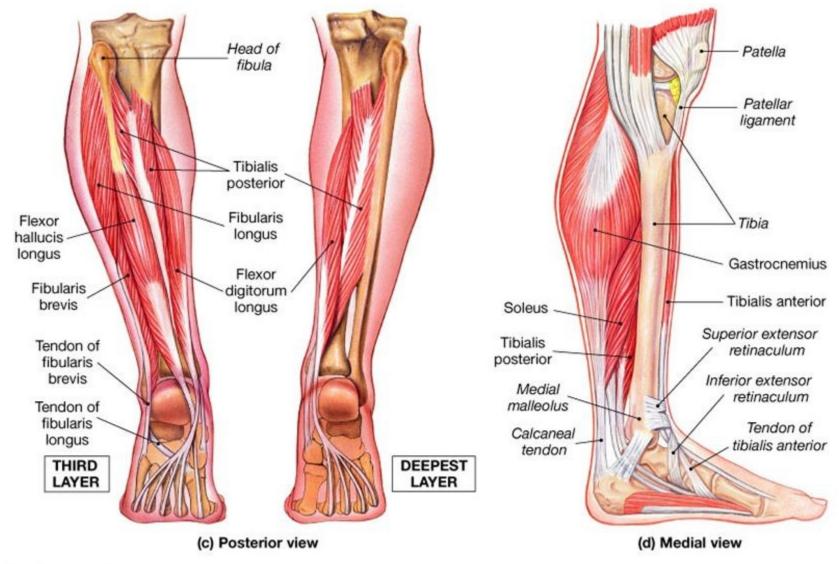
 Dorsal digital branches of deep fibular (peroneal) nerve

 Dorsal digital branches of superficial fibular (peroneal) nerve



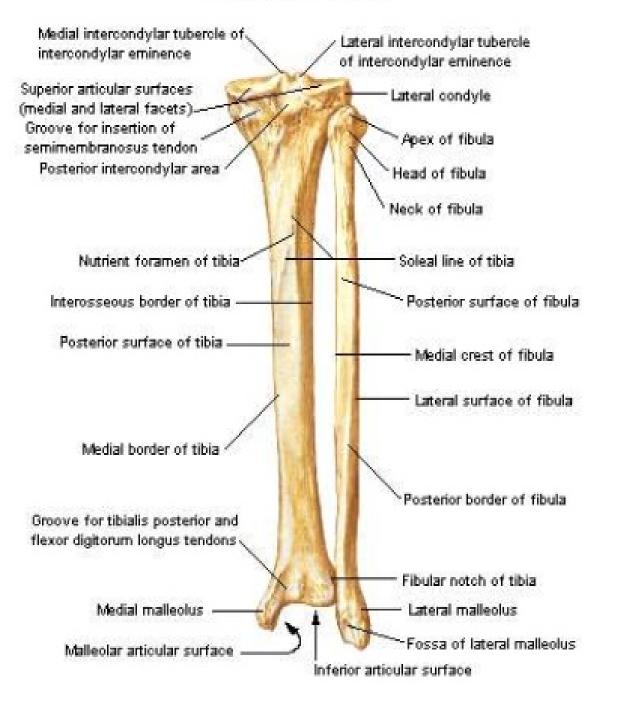


## Figure 11.21 Extrinsic Muscles That Move the Foot and Toes

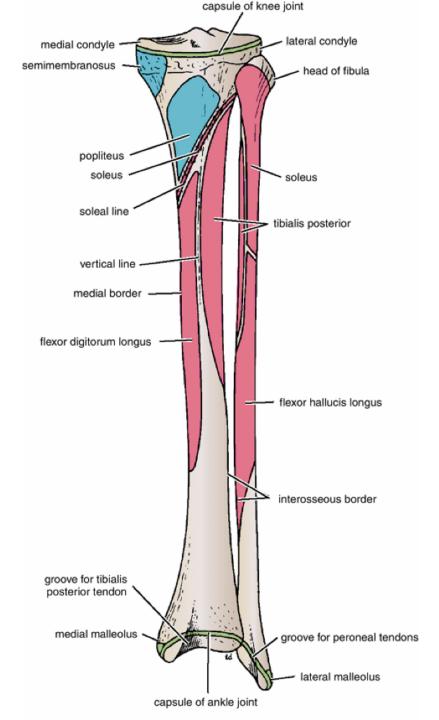


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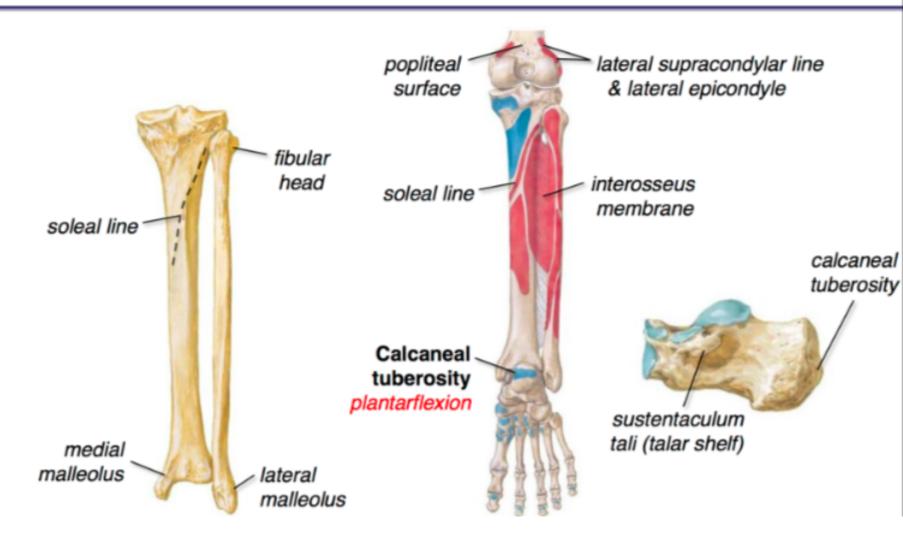
## T OPPORTOL A LOAN

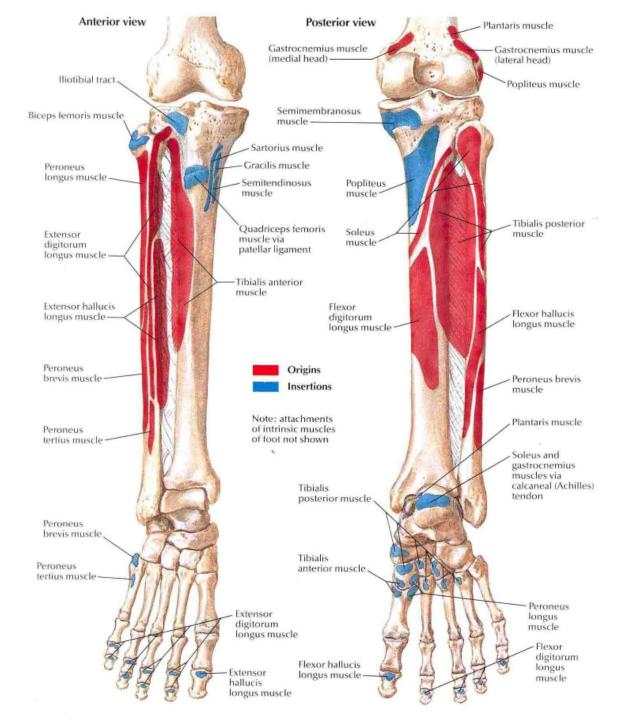


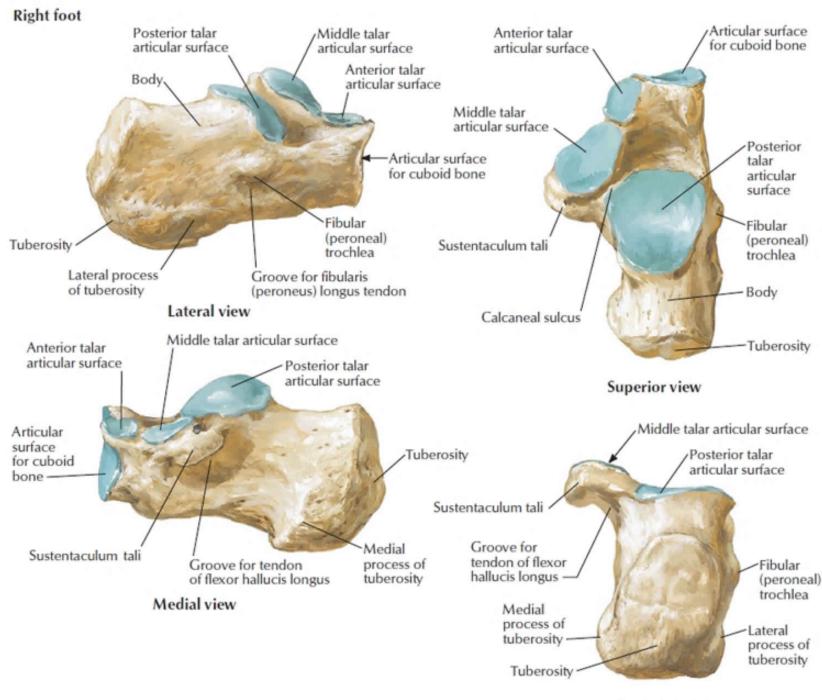




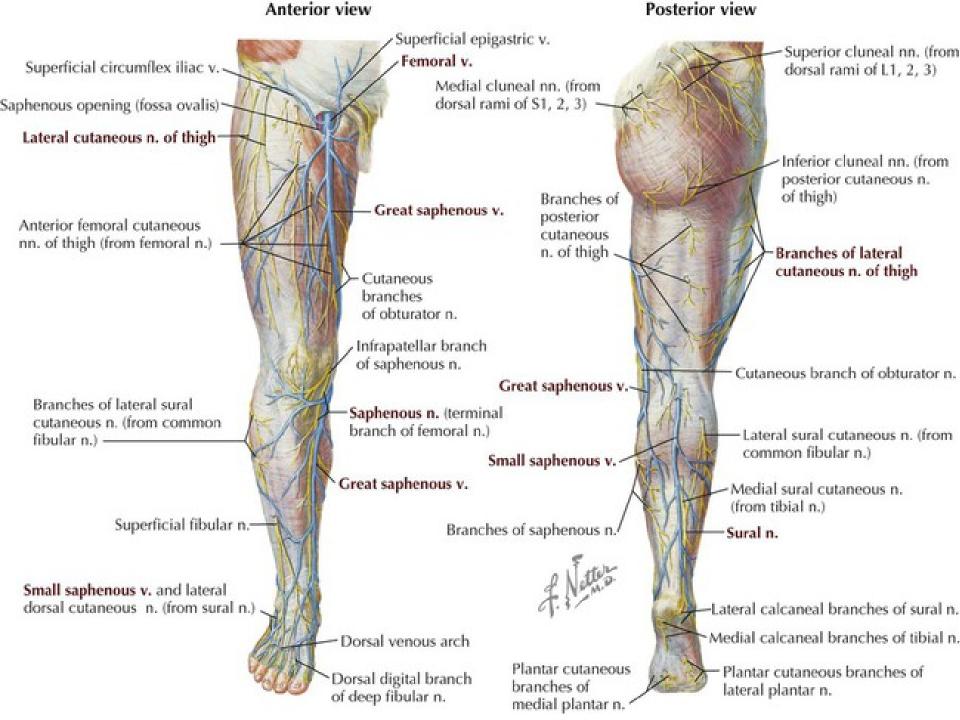
## Posterior Leg – Relevant osteology

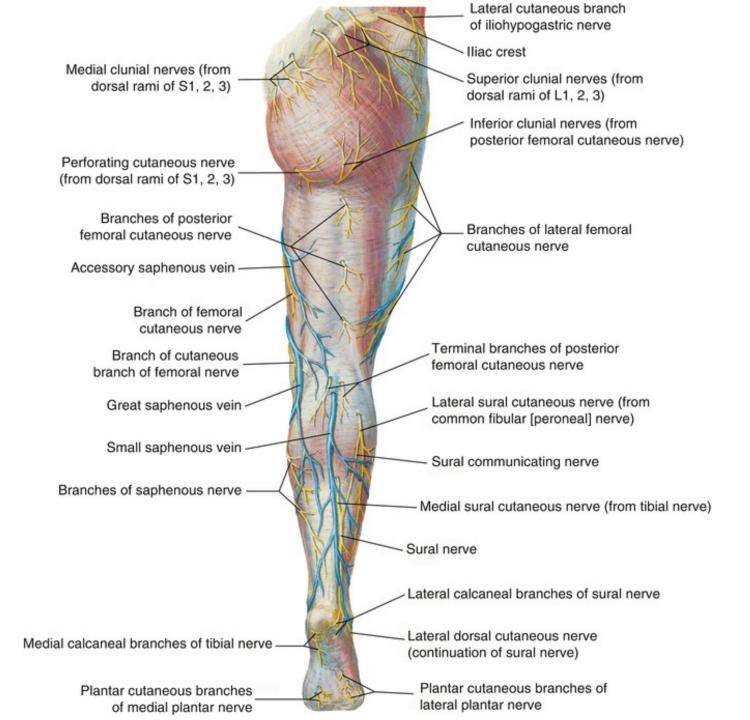


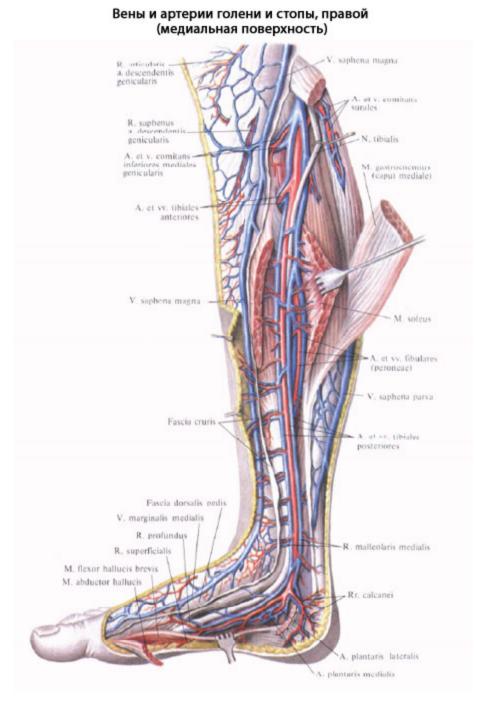




Posterior view







Semitendinosus muscle Iliotibial tract Semimembranosus muscle Tibial nerve Gracilis muscle Popliteal artery and vein Sartorius muscle Superior medial genicular artery Gastrocnemius muscle (medial head) Nerve to soleus muscle Small saphenous vein Gastrocnemius muscle Soleus muscle Plantaris tendon Soleus muscle Flexor digitorum longus tendon Tibialis posterior tendon Posterior tibial artery and vein Tibial nerve Lateral malleolus Medial malleolus Flexor hallucis longus tendon Fibular (peroneal) artery Flexor retinaculum Calcaneal branch of posterior tibial artery Calcaneal tuberosity

Biceps femoris muscle Common fibular (peroneal) nerve Superior lateral genicular artery Plantaris muscle Gastrocnemius muscle (lateral head) Lateral sural cutaneous nerve (cut) Medial sural cutaneous nerve (cut) Adductor magnus tendon Popliteal artery and vein Superior medial genicular artery Gastrocnemius muscle (medial head) (cut) Tibial collateral ligament Semimembranosus tendon (cut) Inferior medial genicular artery Popliteus muscle Tendinous arch of Soleus muscle Plantaris tendon Fibularis (peroneus) longus tendon Fibularis (peroneus) brevis tendon Calcaneal (Achilles) tendon Superior fibular (peroneal) retinaculum f. Netters

Calcaneal branches of fibular (peroneal) artery

Tibial nerve

Medial malleolus

Flexor retinaculum

Flexor hallucis longus tendon

Calcaneal (Achilles) tendon

Calcaneal branch of posterior tibial artery-

Tibial nerve

Common fibular (peroneal) nerve (cut)

Superior lateral genicular artery Lateral and medial sural cutaneous nerves (cut) Gastrocnemius muscle (lateral head) (cut)

Fibular collateral ligament

Biceps femoris tendon (cut)

Plantaris muscle

Inferior lateral genicular atery

Head of fibula

Common fibular (peroneal) nerve (cut)

Nerve to soleus muscle

Fibularis (peroneus) longus muscle

Soleus muscle

Gastrocnemius muscle (cut)

Soleus muscle inserting into calcaneal (Achilles) tendon Flexor digitorum longus tendon

Tibialis posterior tendon

Posterior tibial artery and vein

Fibularis (peroneus) longus tendon

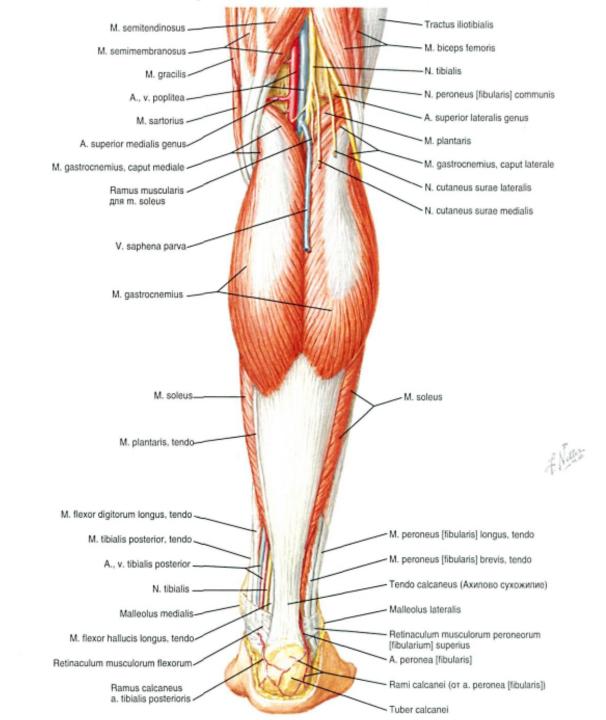
Fibularis (peroneus) brevis tendon

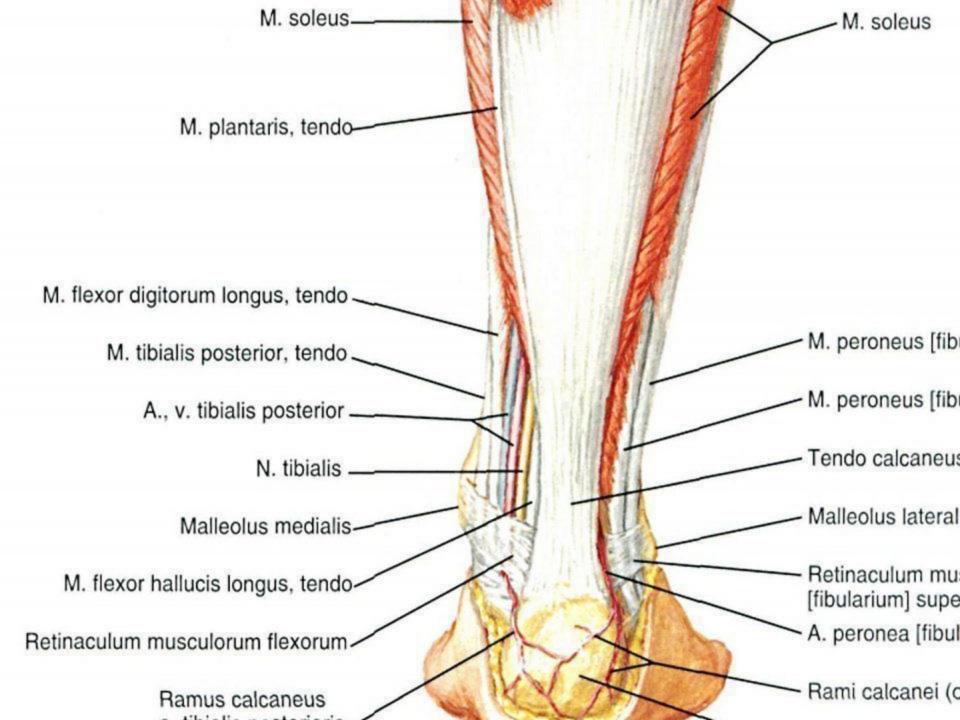
Lateral malleolus

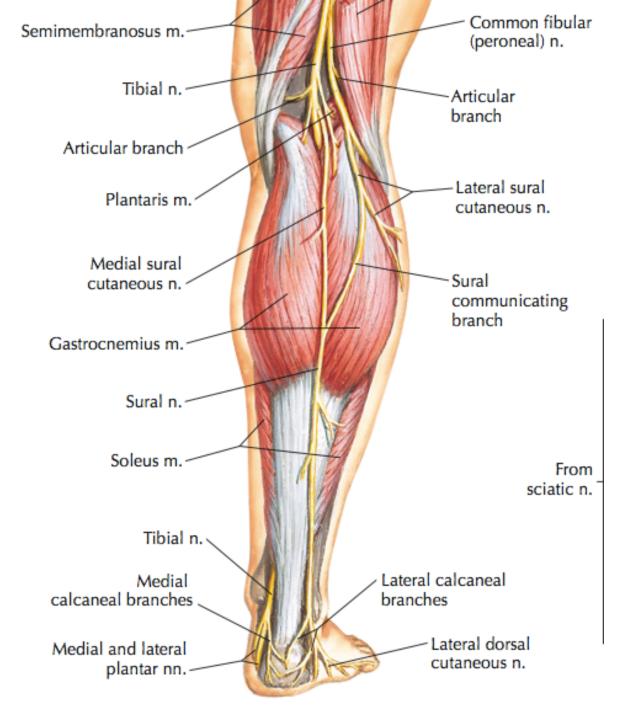
Superior fibular (peroneal) retinaculum

Fibular (peroneal) artery

Calcaneal branches of fibular Calcaneal tuberosity (peroneal) artery







Semimembranosus muscle Semitendinosus

muscle

Gracilis muscle

Popliteal artery and vein

Sartorius muscle

Superior medial genicular artery Gastrocnemius muscle (medial head) Nerve to soleus muscle Small saphenous vein Gastrocnemius muscle

> Soleus muscle Plantaris tendon

Flexor digitorum longus tendon

Tibialis posterior tendon

Posterior tibial artery and vein

Tibial nerve

Medial malleolus

Flexor hallucis longus tendon

Flexor retinaculum

Calcaneal branch of posterior tibial artery

Calcaneal tuberosity

Iliotibial tract Biceps femoris muscle Tibial nerve Common fibular (peroneal) nerve Superior lateral genicular artery Plantaris muscle

Gastrocnemius muscle (lateral head) Lateral sural cutaneous nerve (cut) Medial sural cutaneous nerve (cut)

Adductor magnus tendon Popliteal artery and vein Superior medial genicular artery

Gastrocnemius muscle (medial head) (cut)

Tibial collateral ligament Semimembranosus tendon (cut) Inferior medial genicular artery

Soleus Popliteus muscle muscle Tendinous arch of Soleus muscle

Plantaris tendon

Fibularis (peroneus) longus tendon Fibularis (peroneus) brevis tendon Calcaneal (Achilles) tendon Lateral malleolus

Superior fibular (peroneal) retinaculum F. Netters

Fibular (peroneal) artery

Calcaneal branches of fibular (peroneal) artery

Tibial nerve

Medial malleolus

Flexor retinaculum

Flexor hallucis longus tendon

Calcaneal (Achilles) tendon

Calcaneal branch of posterior tibial artery-

Tibial nerve

Common fibular (peroneal) nerve (cut)

Superior lateral genicular artery

Lateral and medial sural cutaneous nerves (cut)

Gastrocnemius muscle (lateral head) (cut)

Fibular collateral ligament

Biceps femoris tendon (cut)

Plantaris muscle

Inferior lateral genicular atery

Head of fibula

Common fibular (peroneal) nerve (cut)

Nerve to soleus muscle

Fibularis (peroneus) longus muscle

Soleus muscle

Gastrocnemius muscle (cut)

Soleus muscle inserting into calcaneal (Achilles) tendon

Flexor digitorum longus tendon

Tibialis posterior tendon

Posterior tibial artery and vein

Fibularis (peroneus) longus tendon

Fibularis (peroneus) brevis tendon

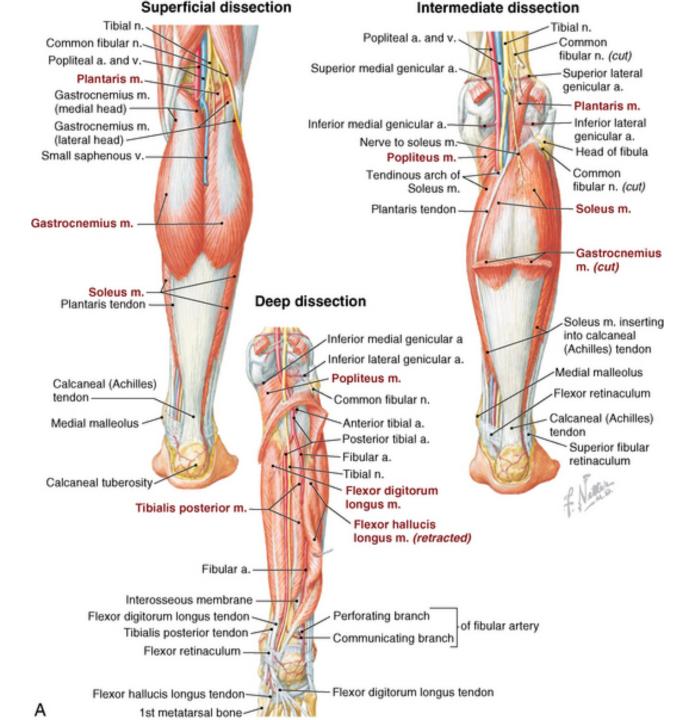
Lateral malleolus

Superior fibular (peroneal) retinaculum

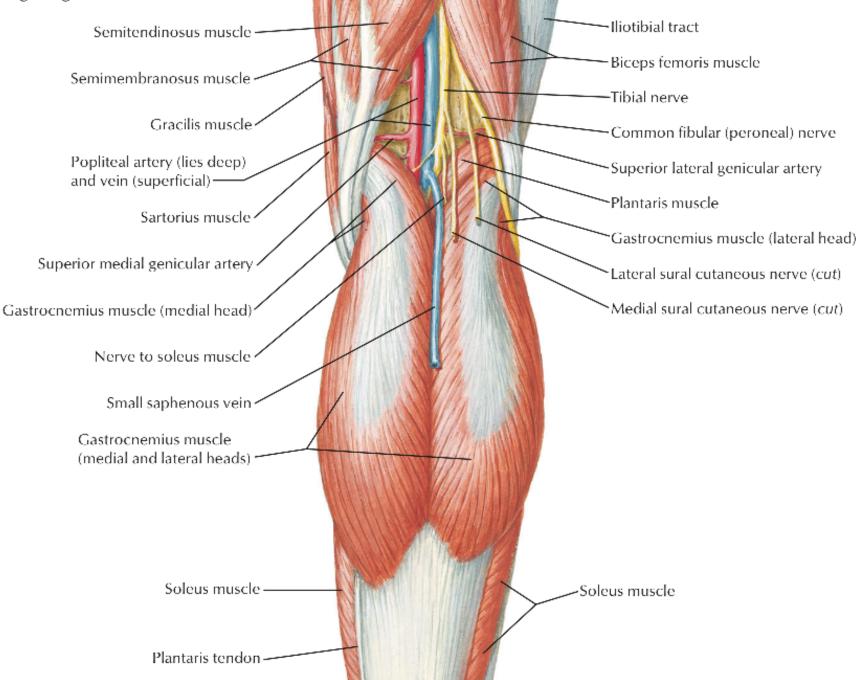
Fibular (peroneal) artery

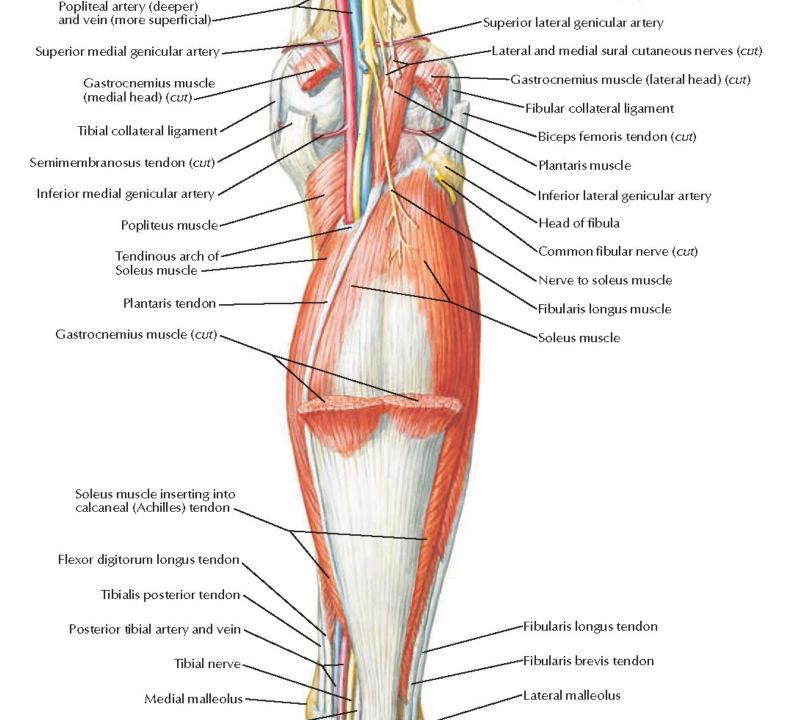
Calcaneal tuberosity

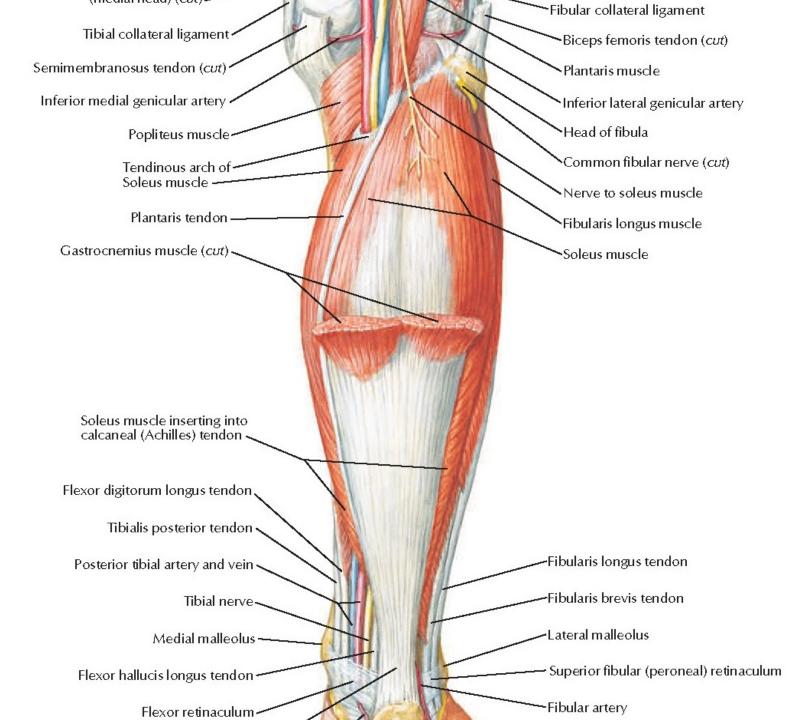
Calcaneal branches of fibular (peroneal) artery

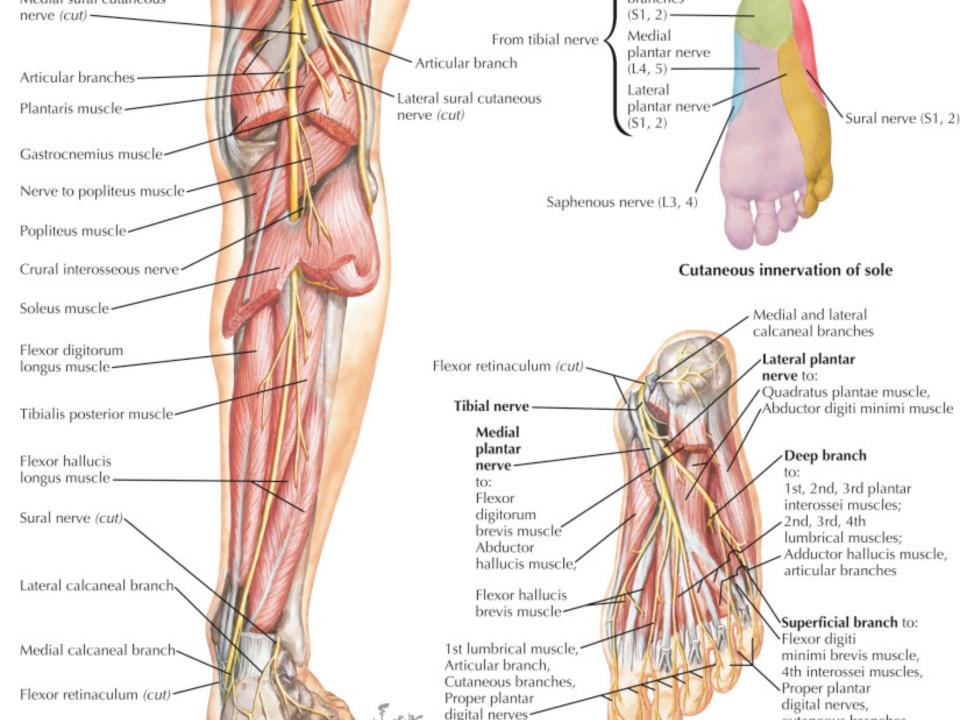


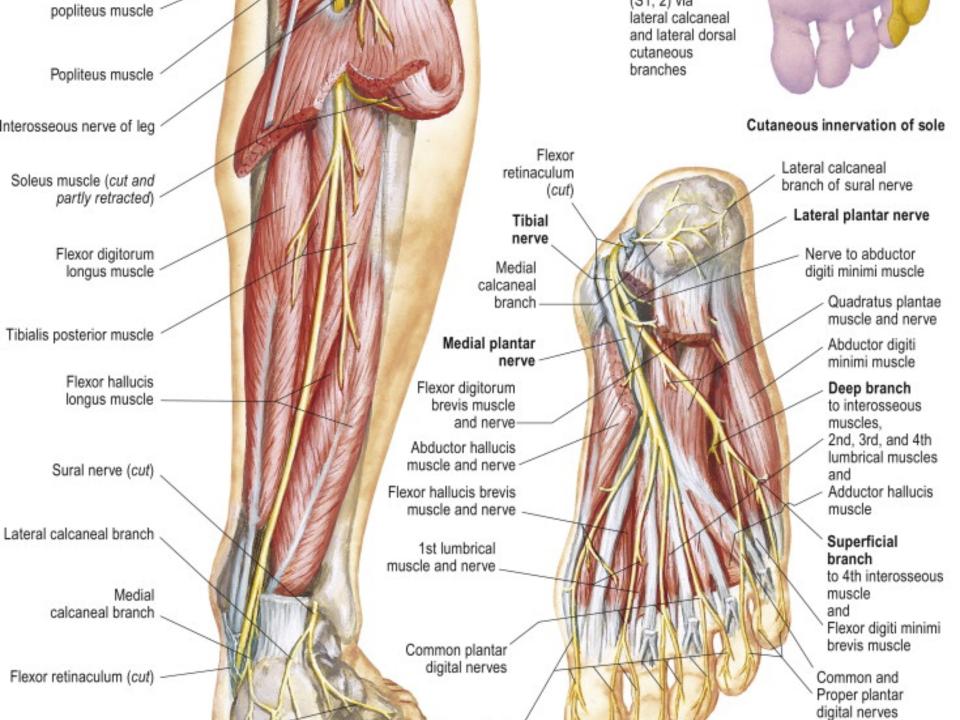
## **Right** leg

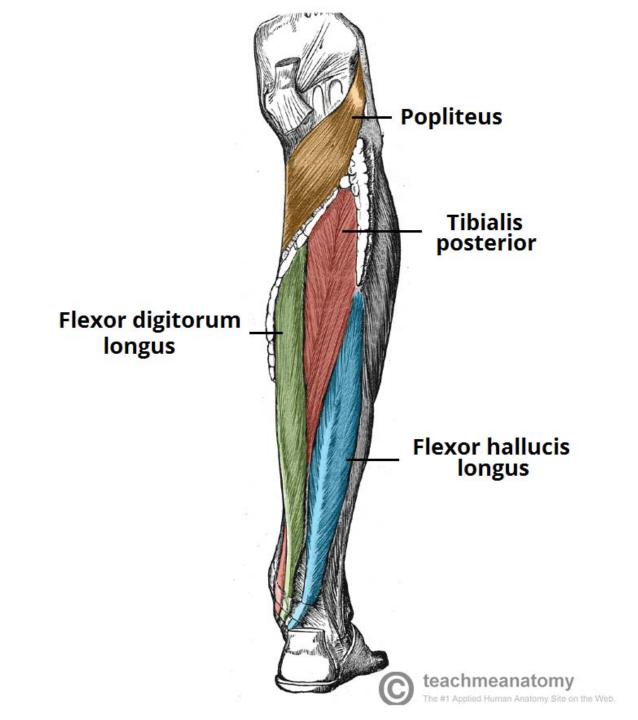


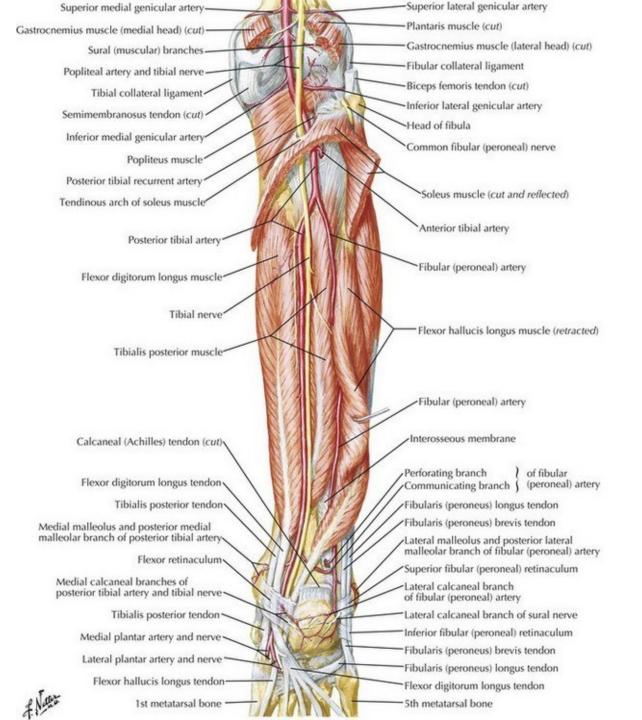


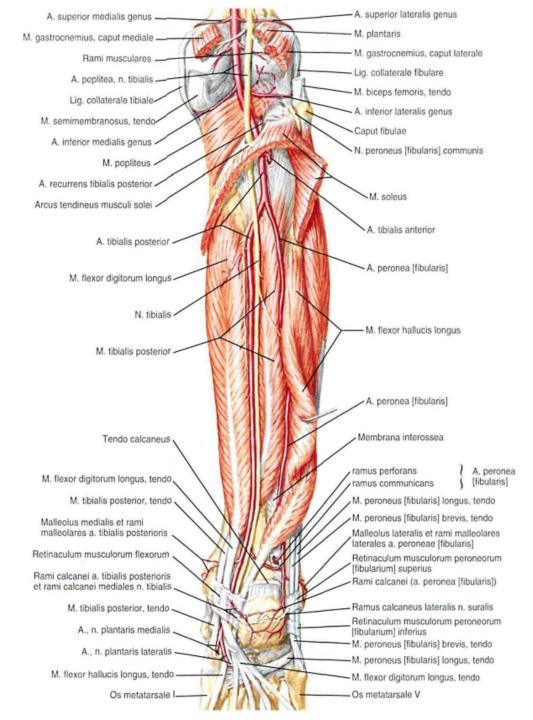


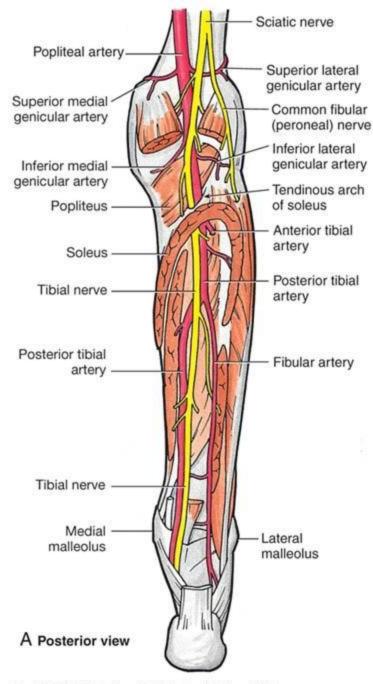






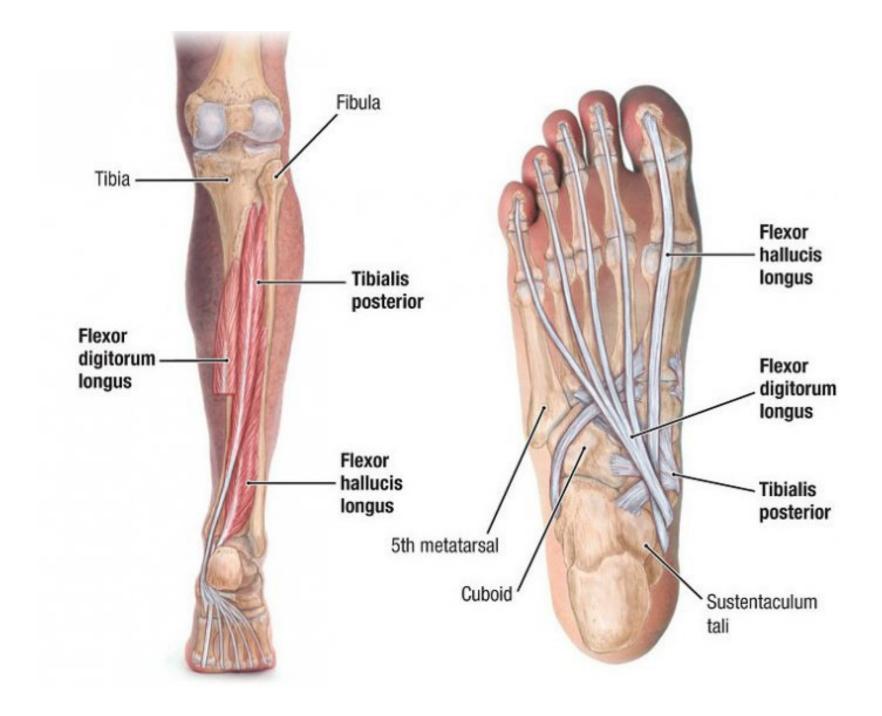


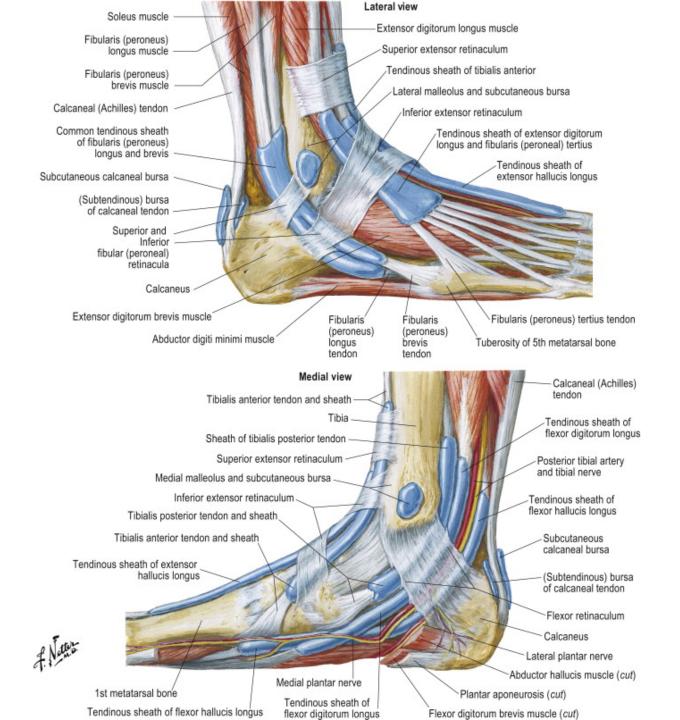


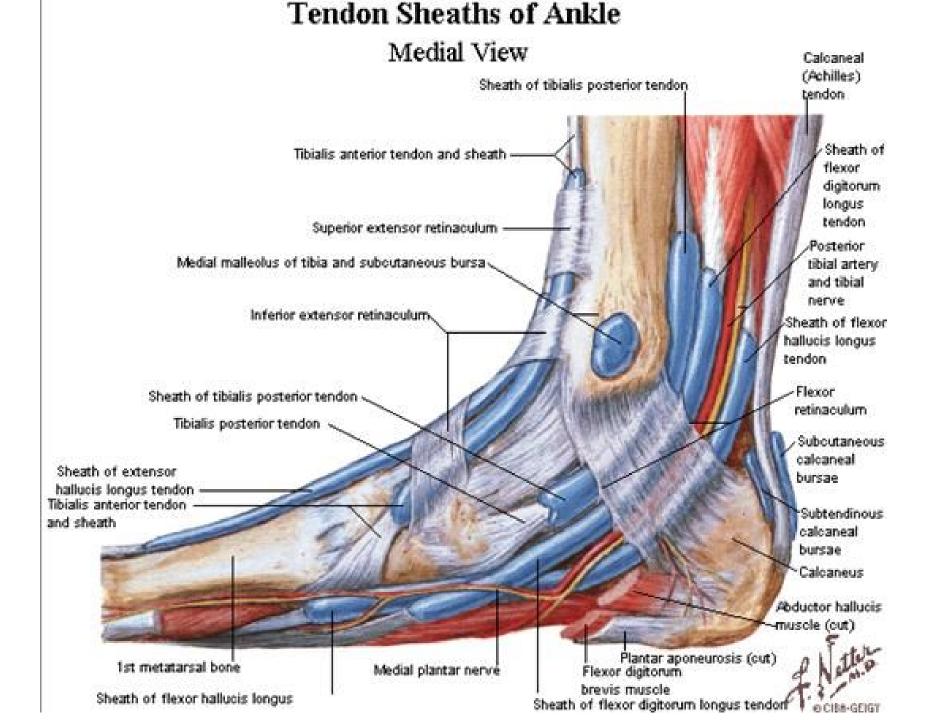


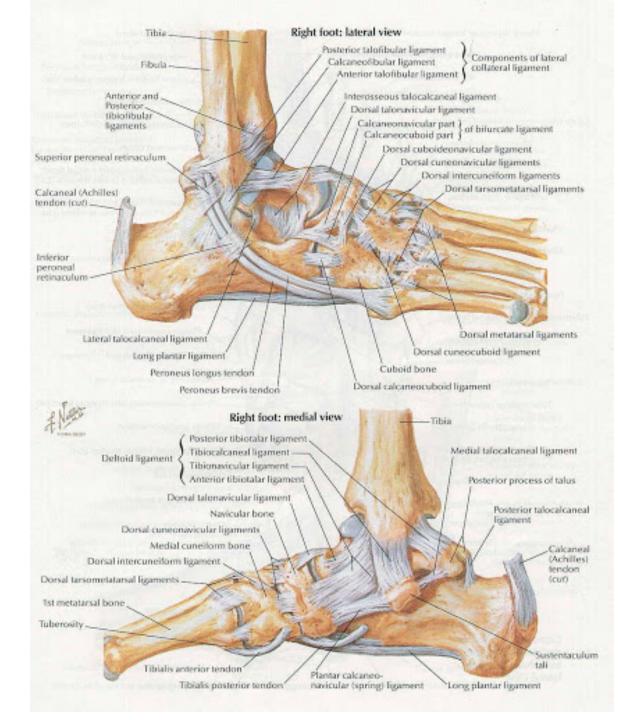
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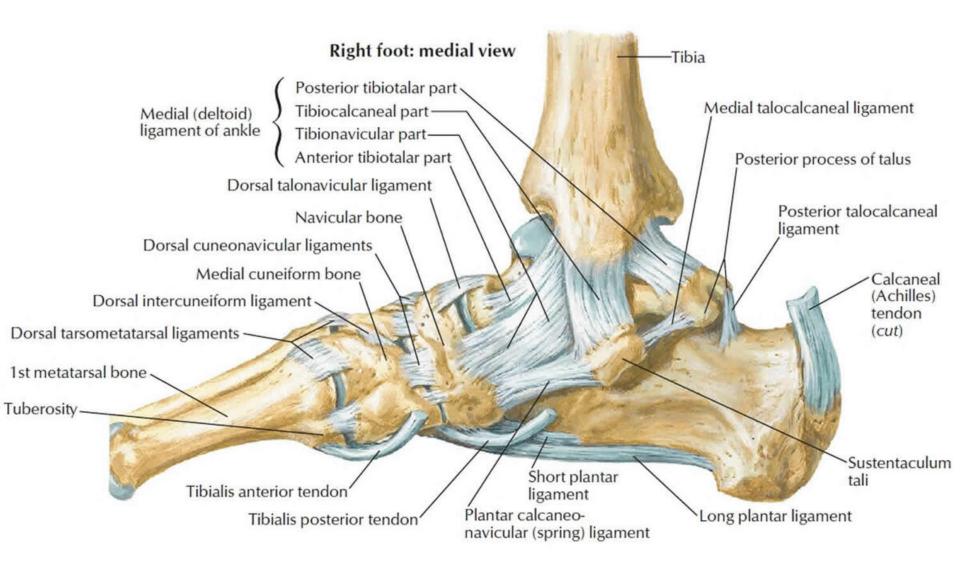
-Superior lateral genicular artery Superior medial genicular artery -Plantaris muscle (cut) Gastrocnemius muscle (medial head) (cut)-Gastrocnemius muscle (lateral head) (cut) Sural (muscular) branches--Fibular collateral ligament Popliteal artery and tibial nerve--Biceps femoris tendon (cut) Tibial collateral ligament--Inferior lateral genicular artery Semimembranosus tendon (cut)\* Head of fibula. Inferior medial genicular artery-Common fibular (peroneal) nerve Popliteus muscle Posterior tibial recurrent artery-Soleus muscle (cut and reflected) Tendinous arch of soleus muscle-Anterior tibial artery Posterior tibial artery -Fibular (peroneal) artery Flexor digitorum longus muscle Tibial nerve-Flexor hallucis longus muscle (retracted) Tibialis posterior muscle-Fibular (peroneal) artery Interosseous membrane Calcaneal (Achilles) tendon (cut) Perforating branch ) of fibular Communicating branch { (peroneal) artery Flexor digitorum longus tendon Fibularis (peroneus) longus tendon Tibialis posterior tendon, Fibularis (peroneus) brevis tendon Medial malleolus and posterior medial Lateral malleolus and posterior lateral malleolar branch of posterior tibial artery, malleolar branch of fibular (peroneal) artery Flexor retinaculum, Superior fibular (peroneal) retinaculum Medial calcaneal branches of Lateral calcaneal branch posterior tibial artery and tibial nerve, of fibular (peroneal) artery Tibialis posterior tendon, -Lateral calcaneal branch of sural nerve Inferior fibular (peroneal) retinaculum Medial plantar artery and nerve-Lateral plantar artery and nerve--Fibularis (peroneus) brevis tendon -Fibularis (peroneus) longus tendon Flexor hallucis longus tendon-Flexor digitorum longus tendon 1st metatarsal bone-5th metatarsal bone



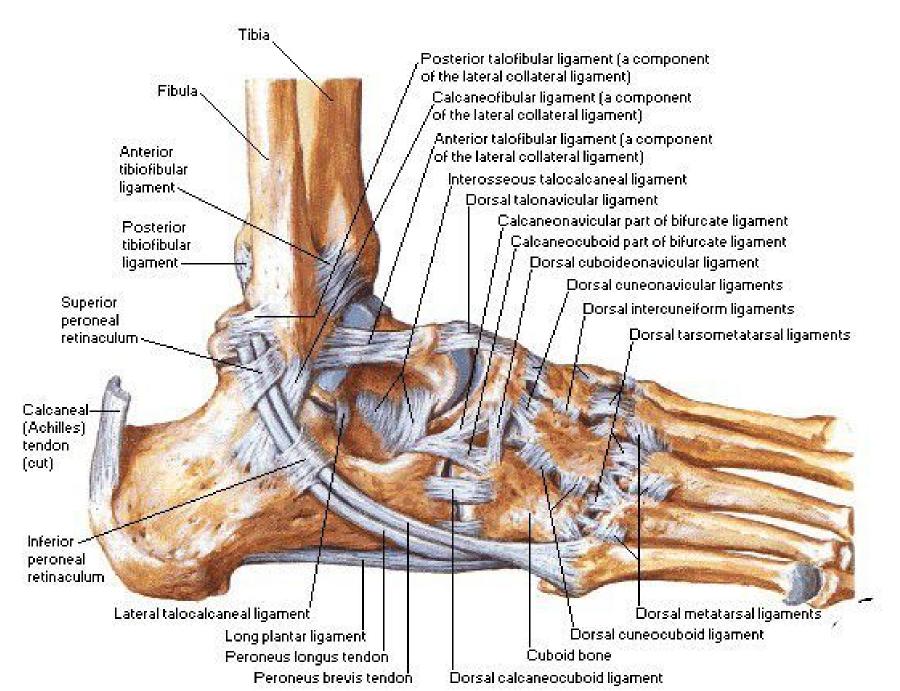


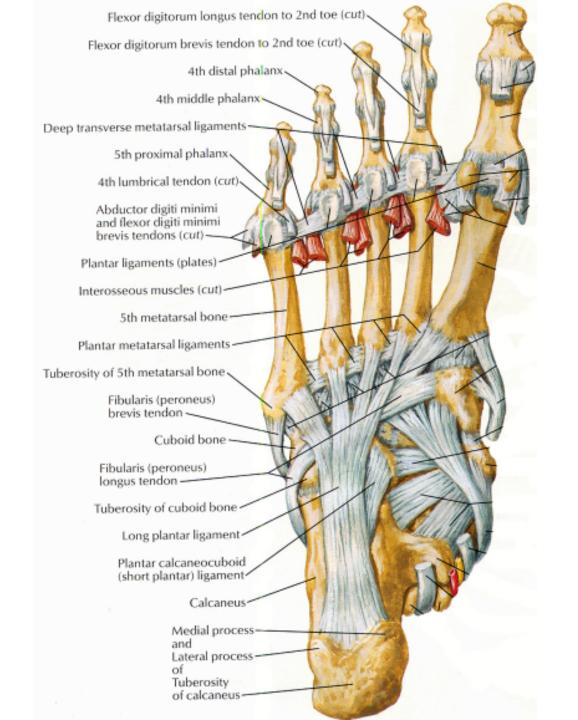


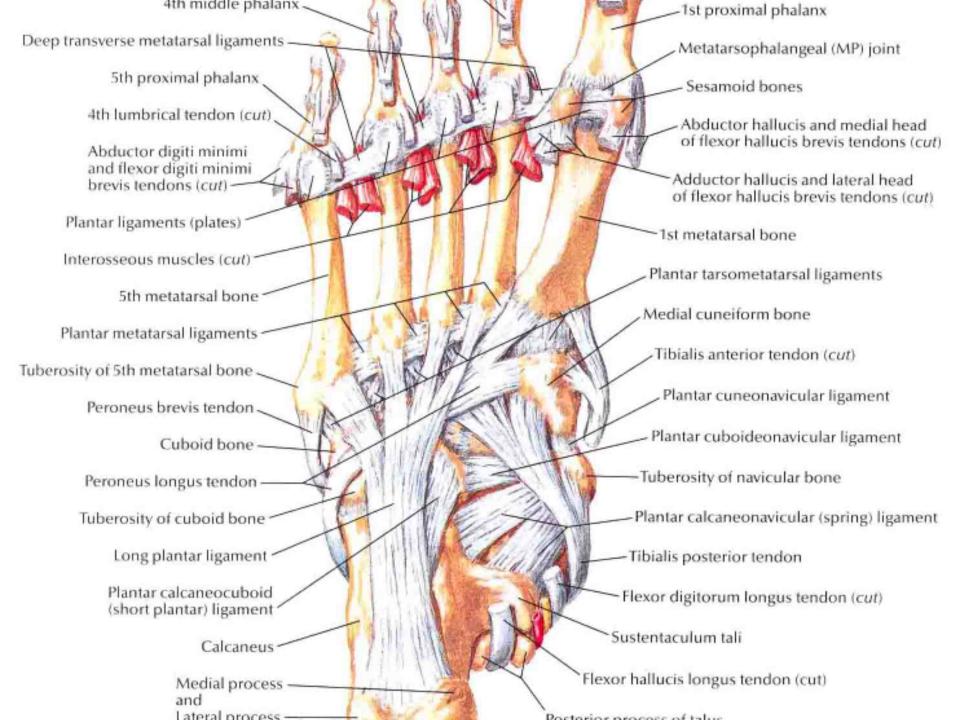


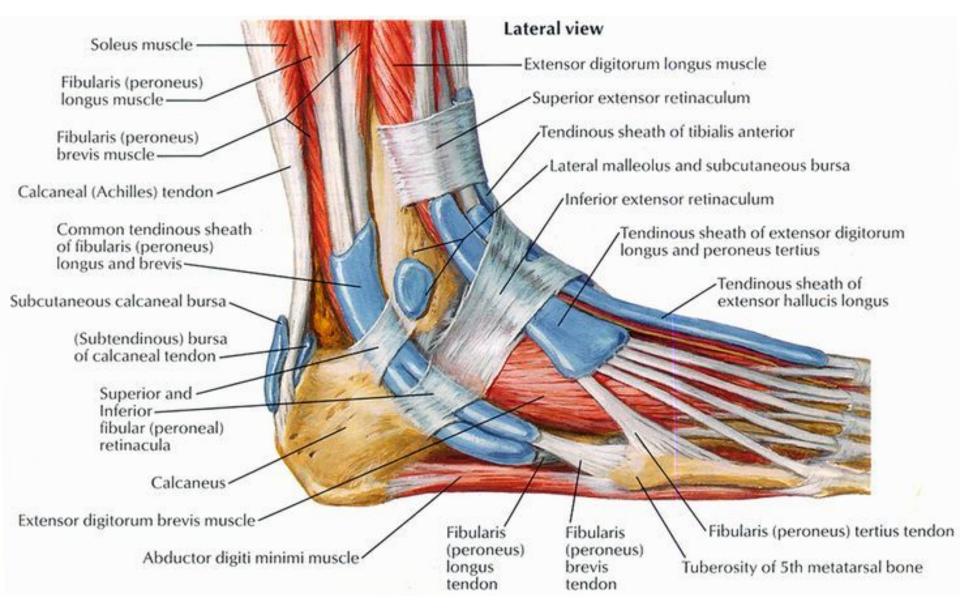


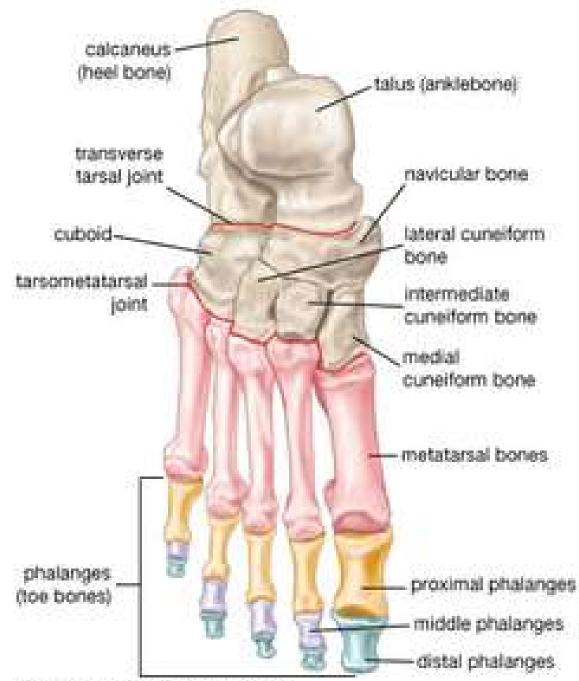
## Lateral View



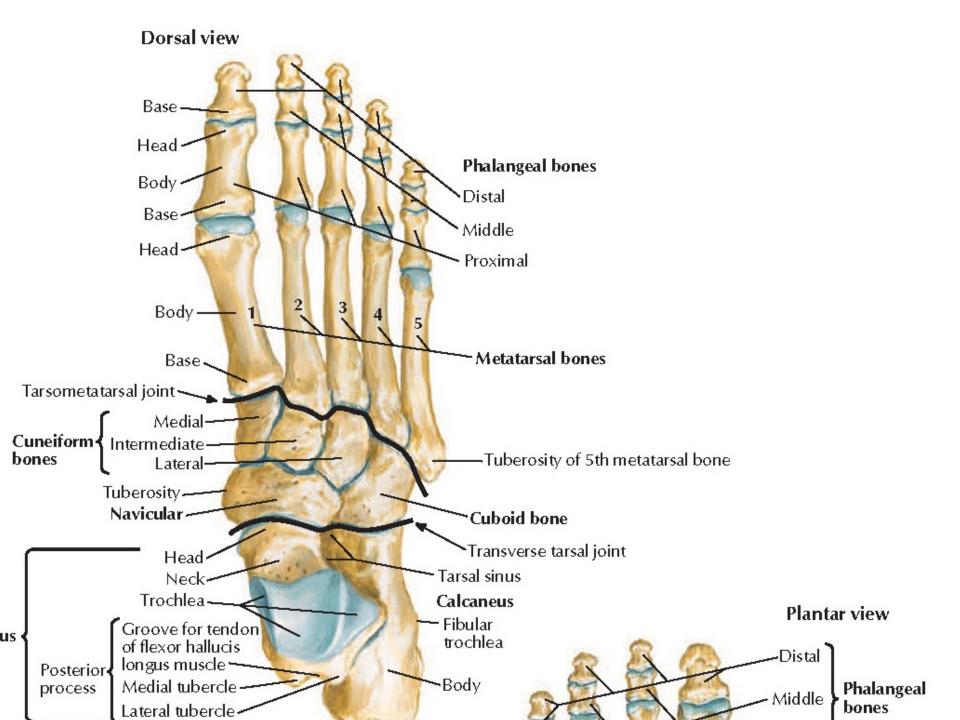


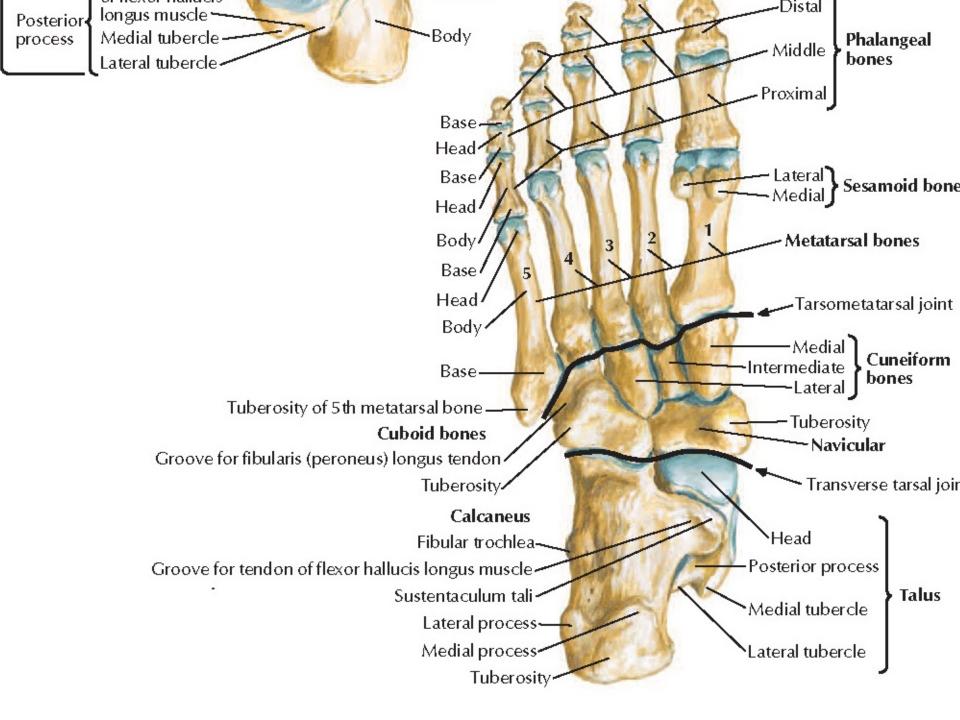


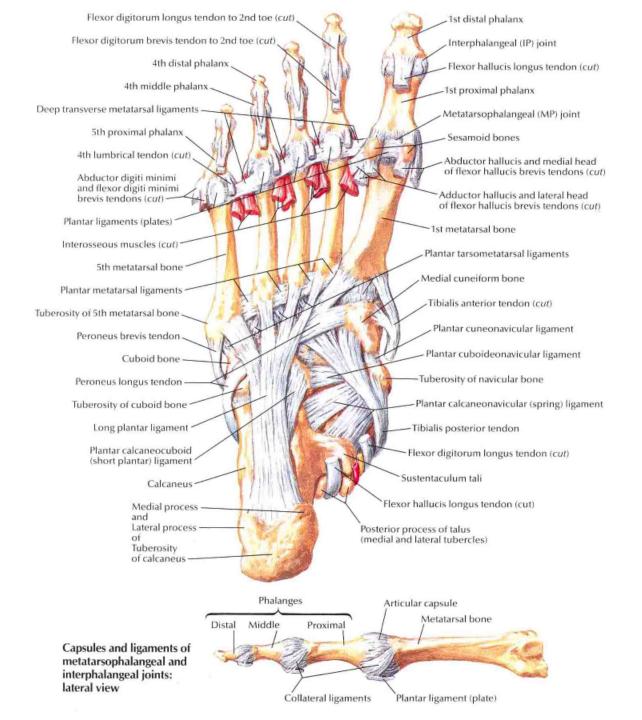


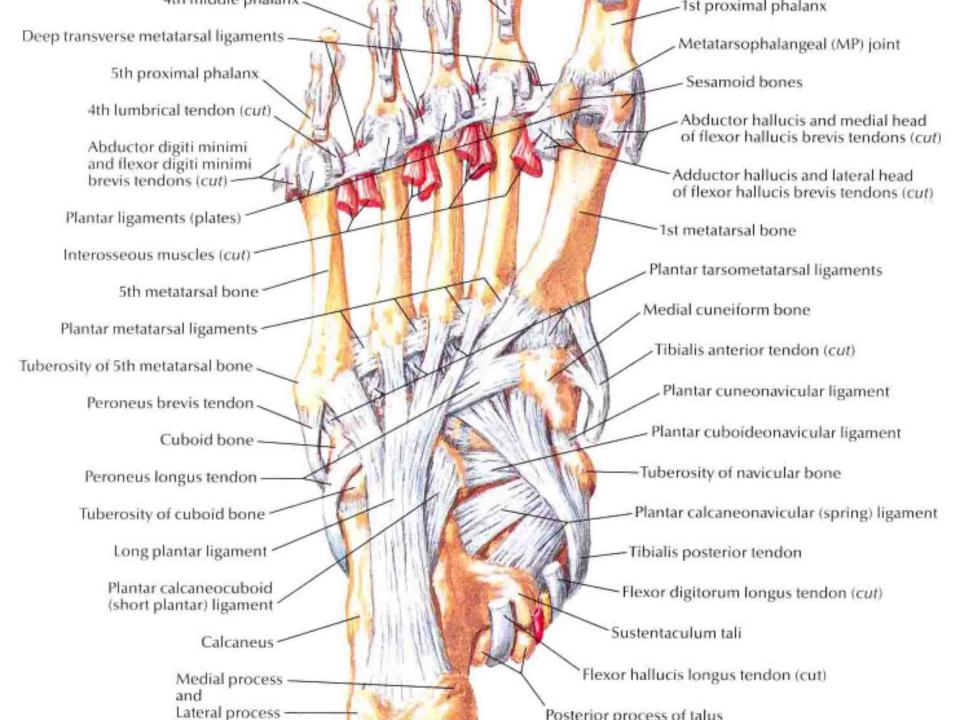


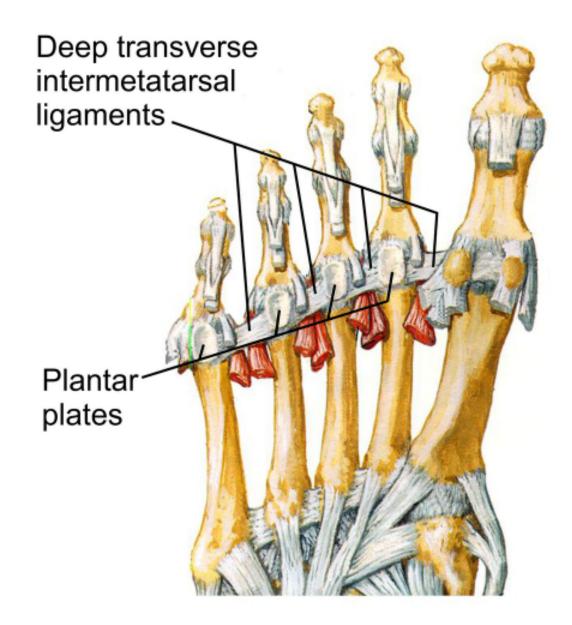
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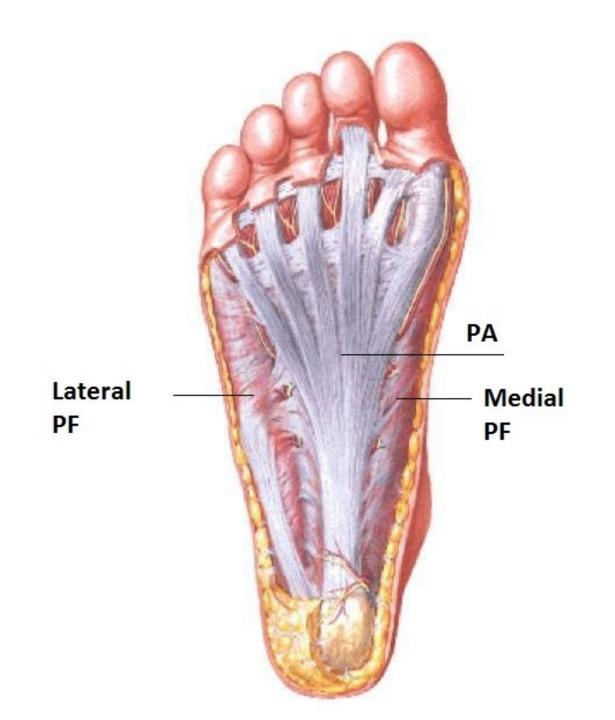




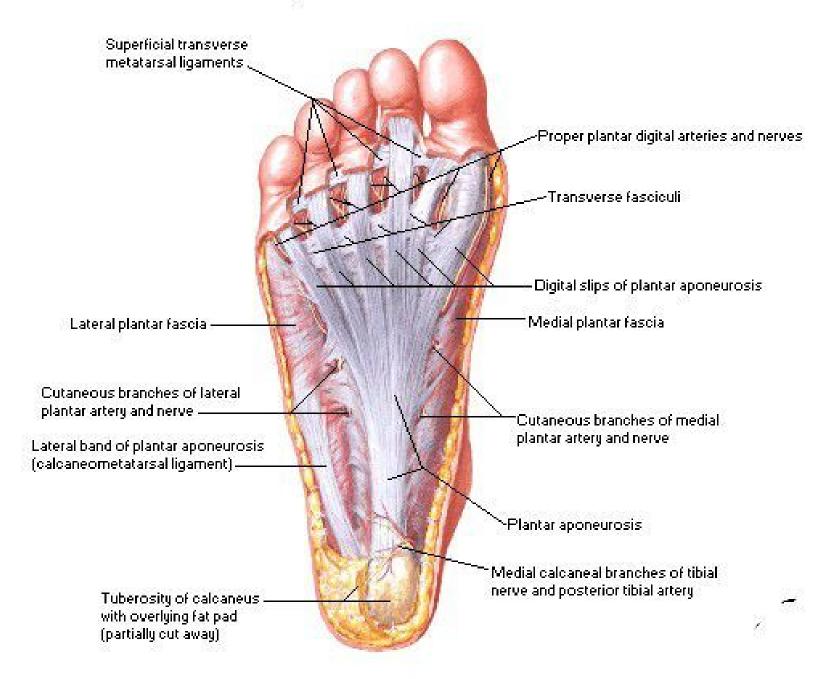


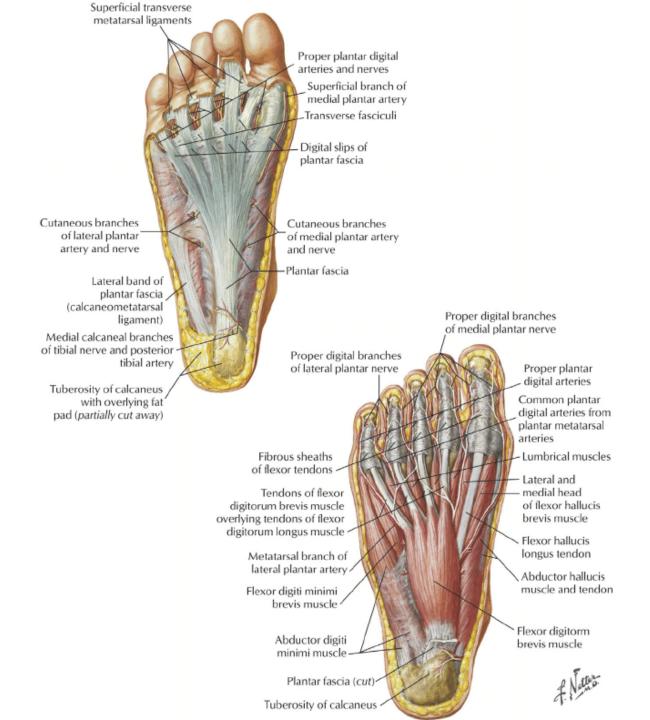


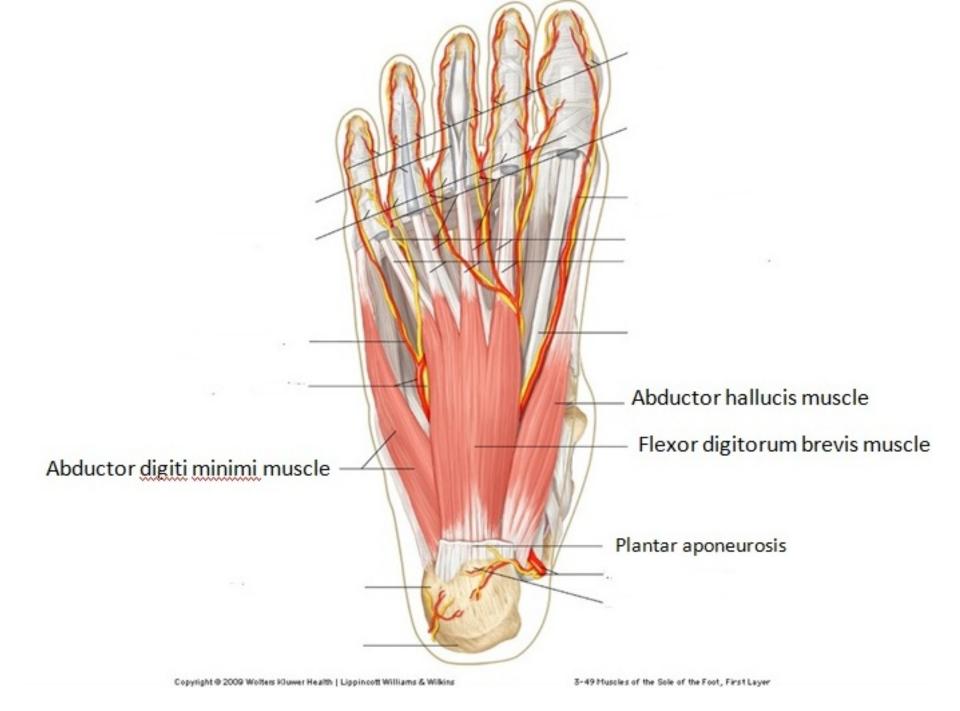


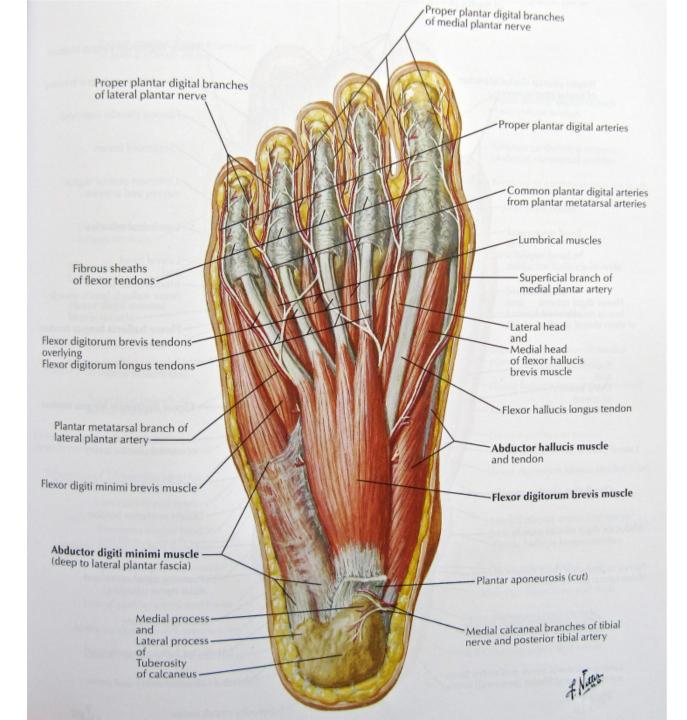


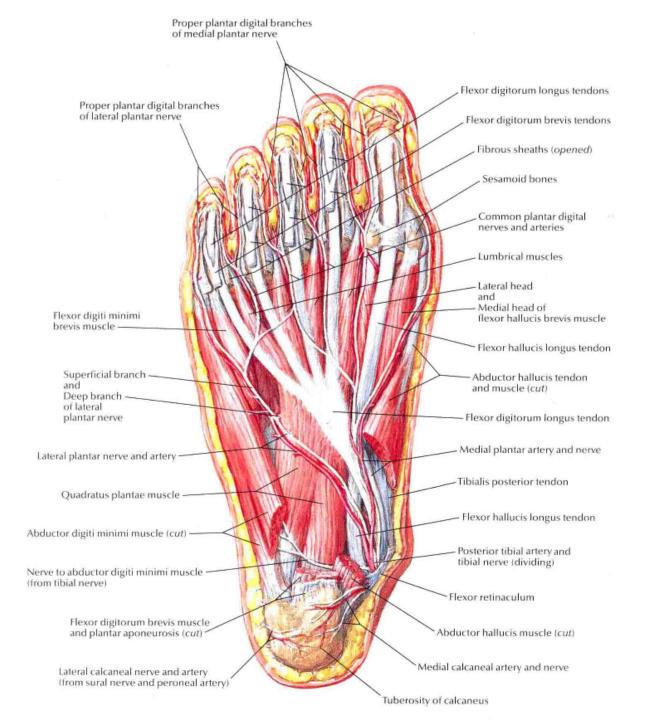
## Superficial Dissection

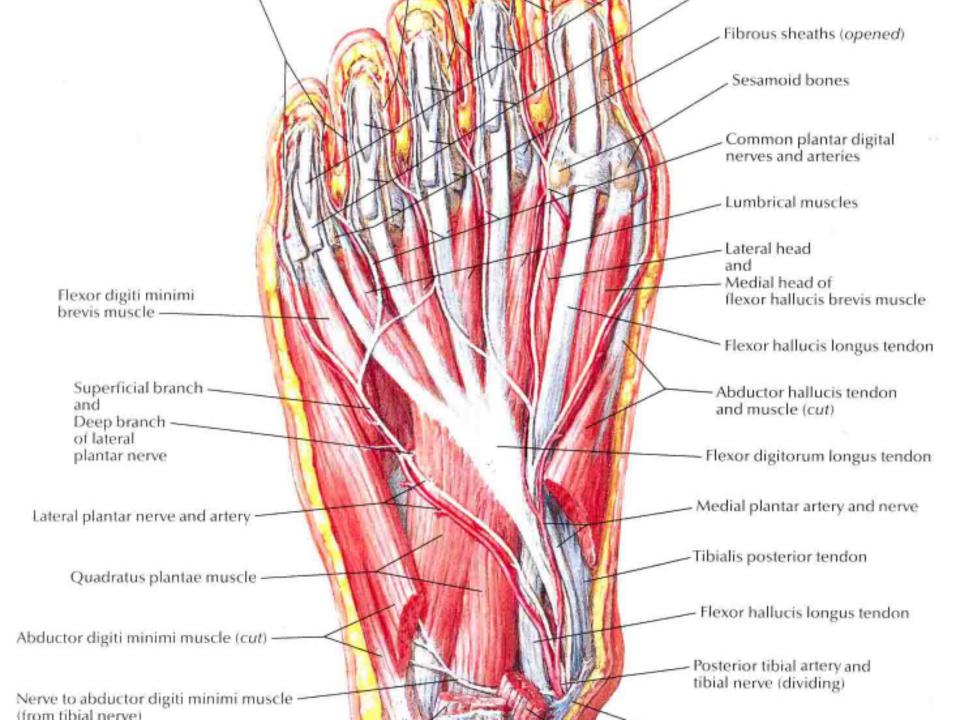


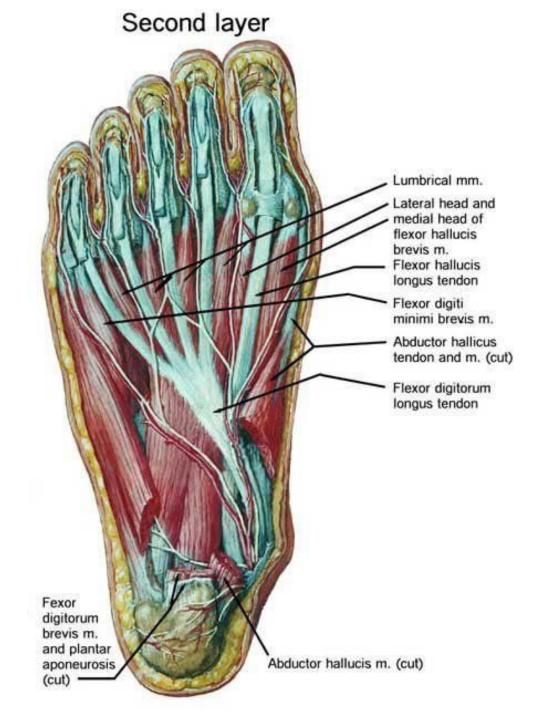


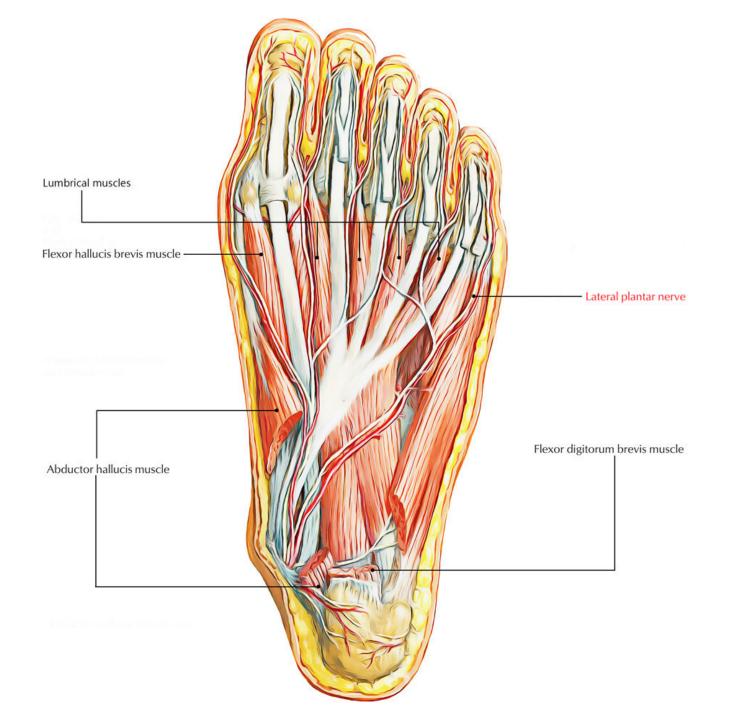


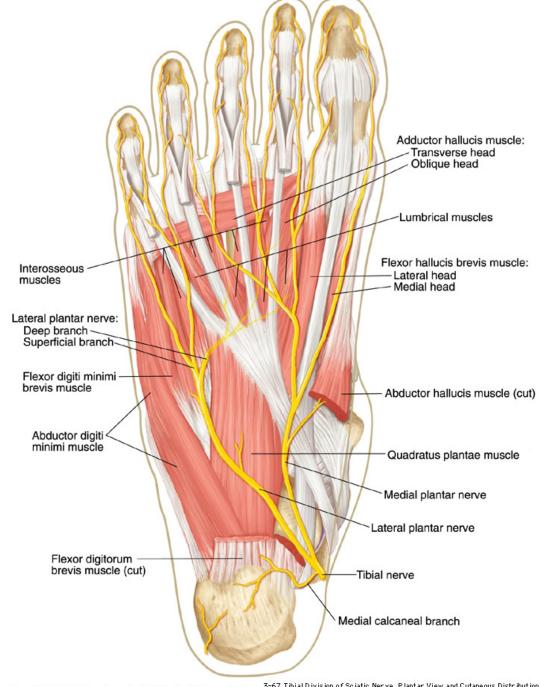


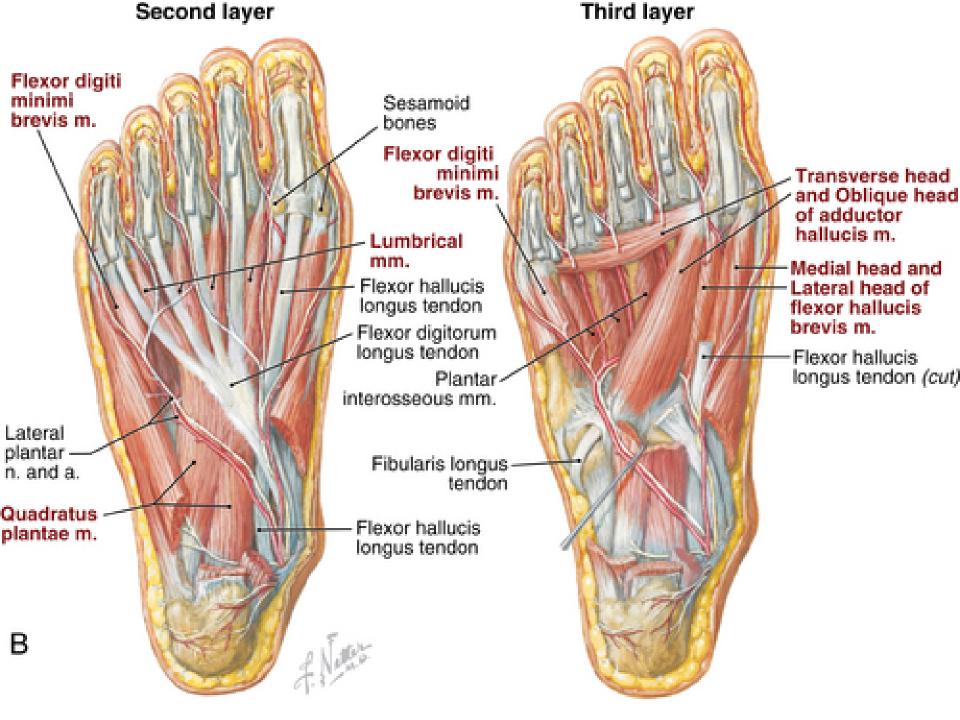


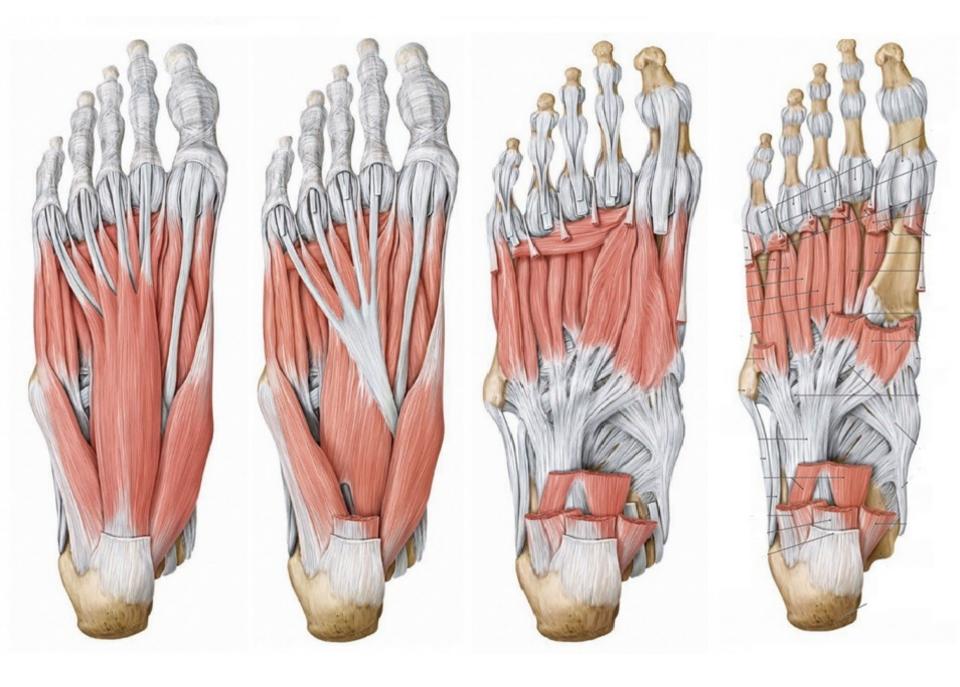


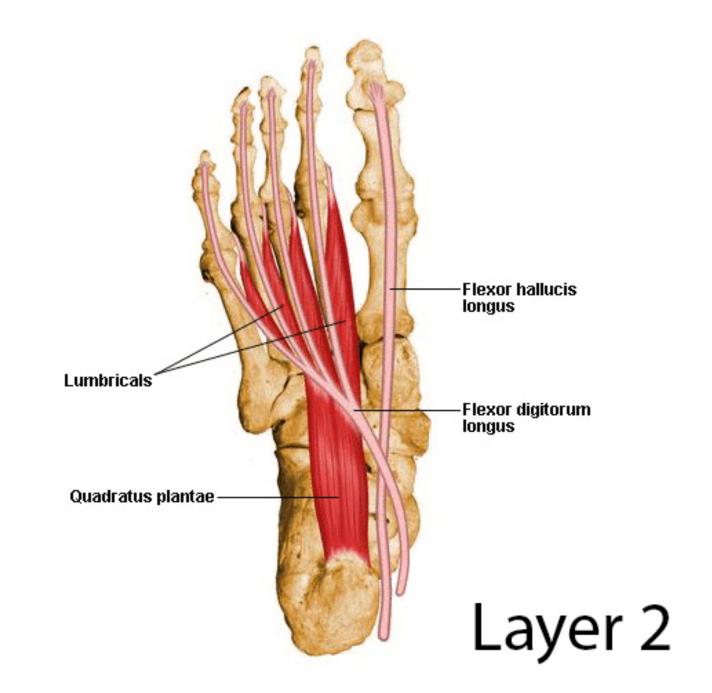




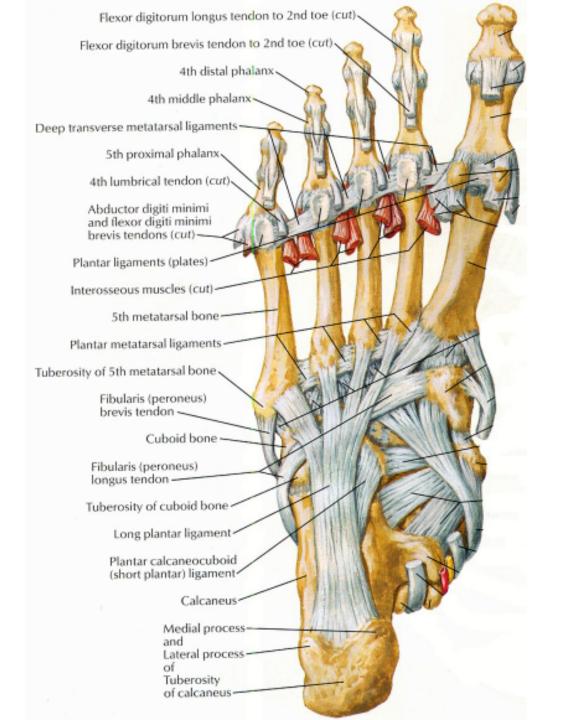


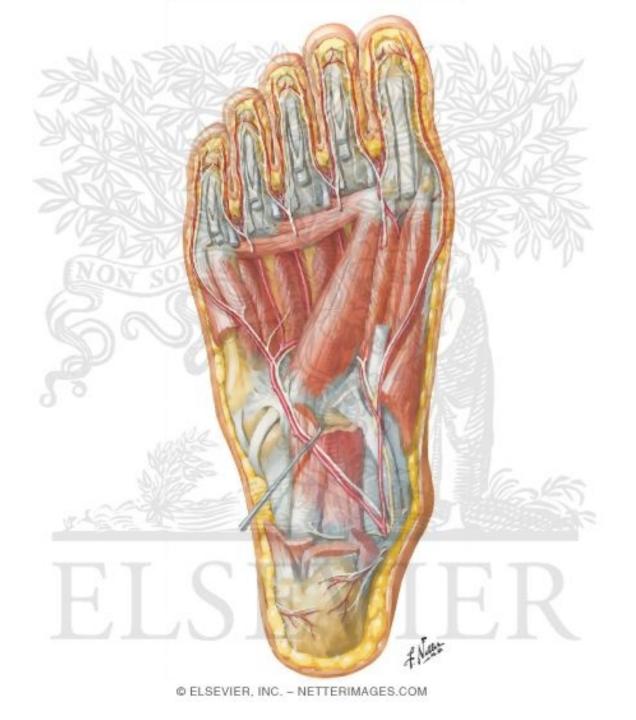


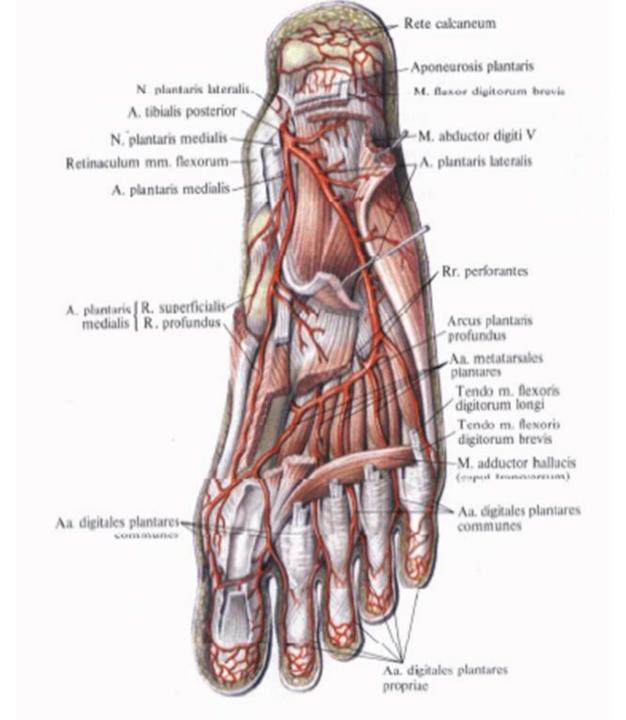


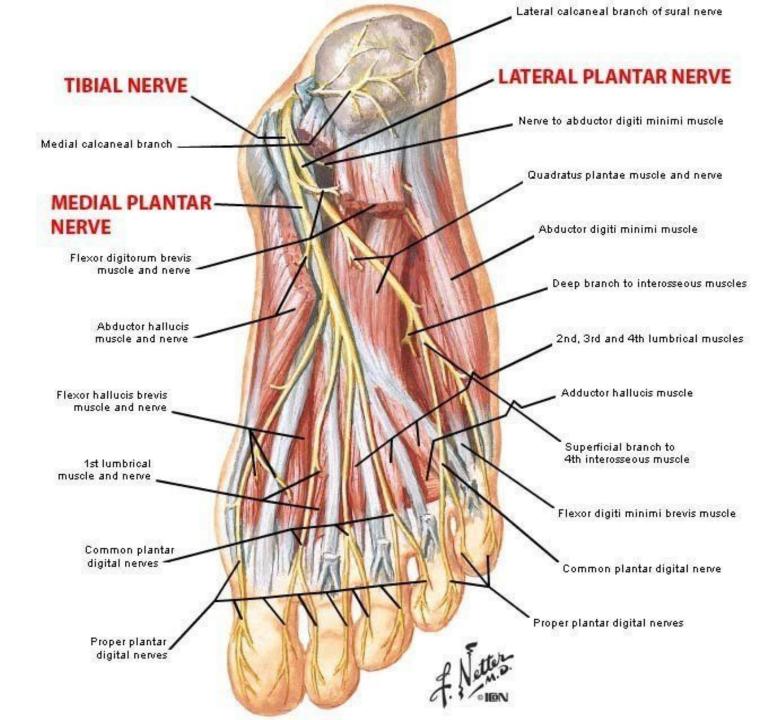




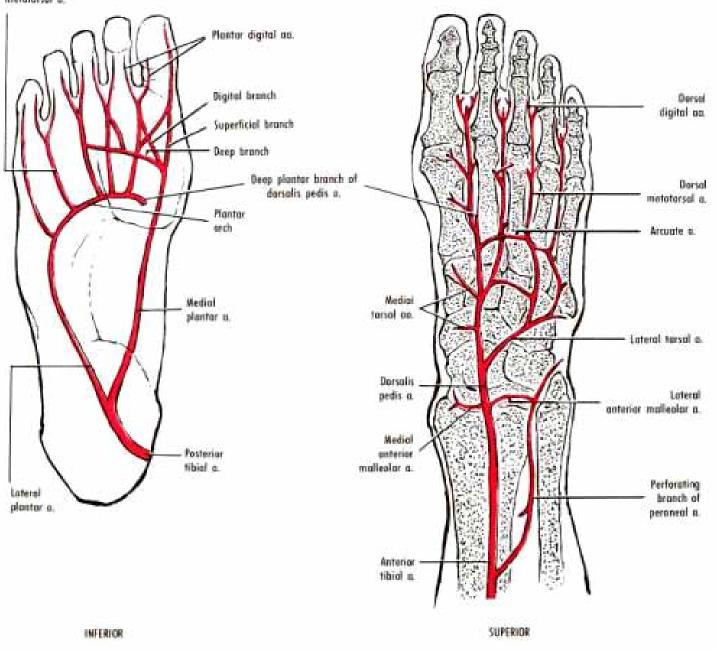


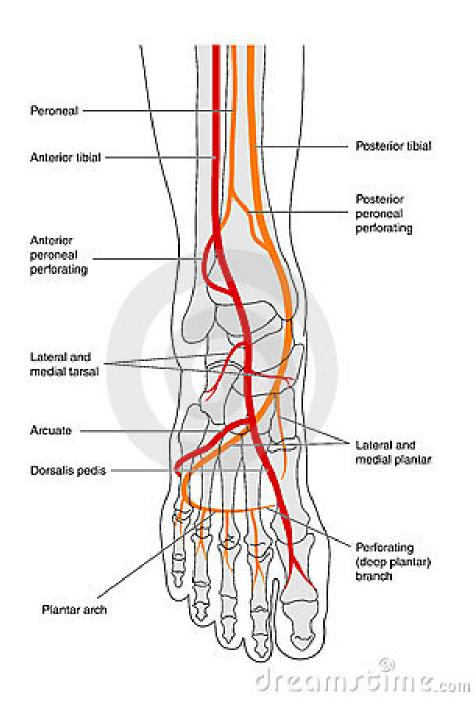


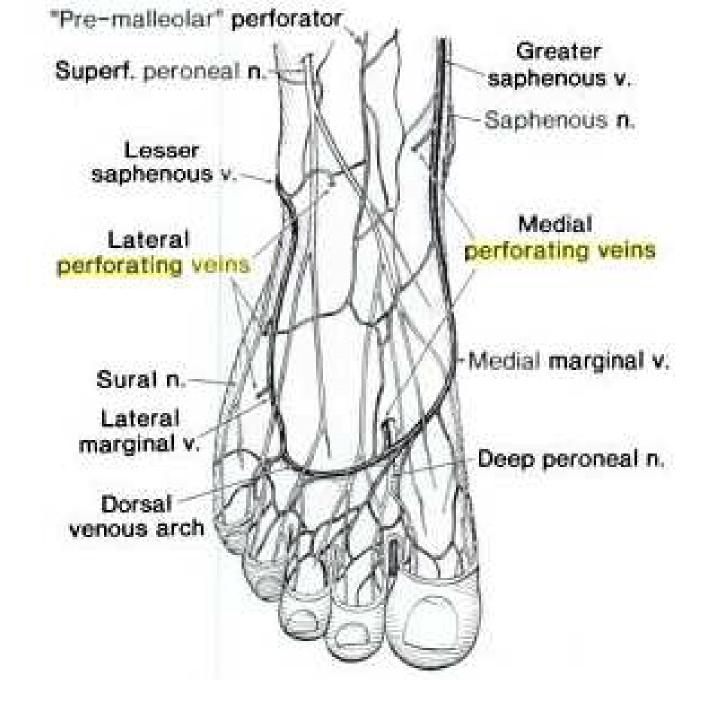


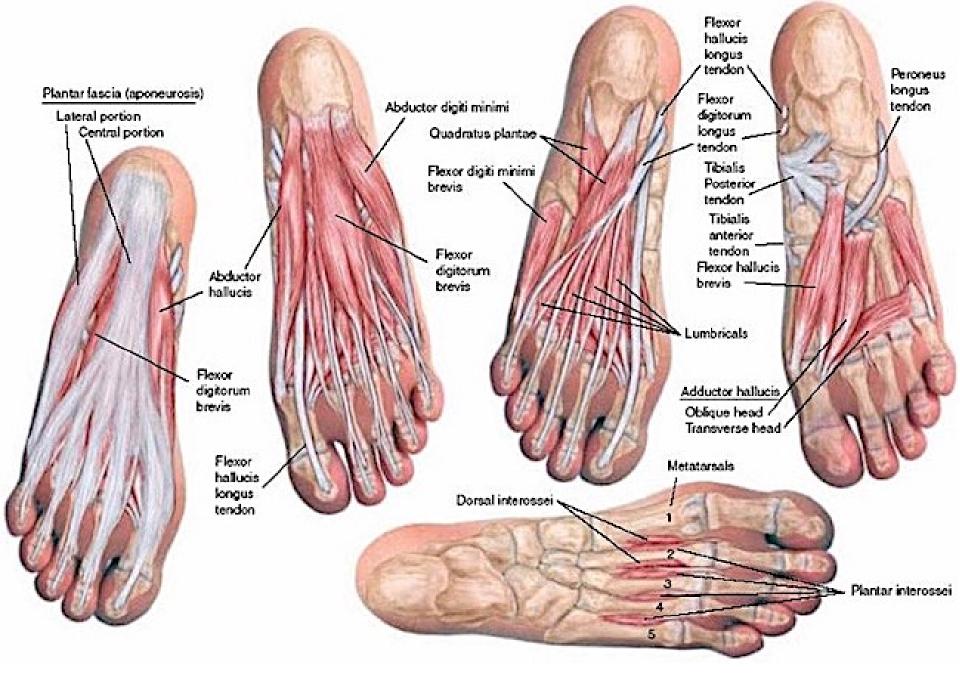


Plantor metatorspi a.



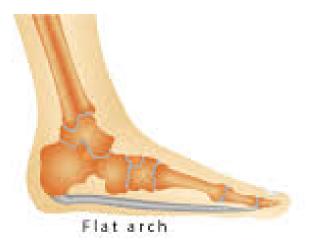


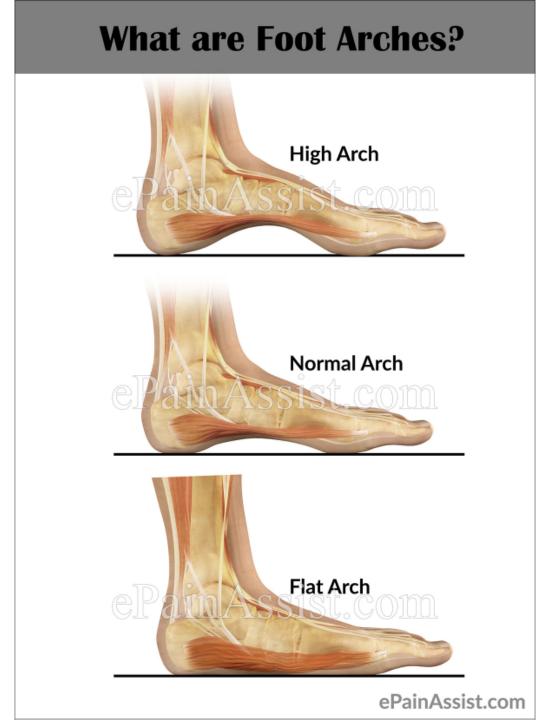


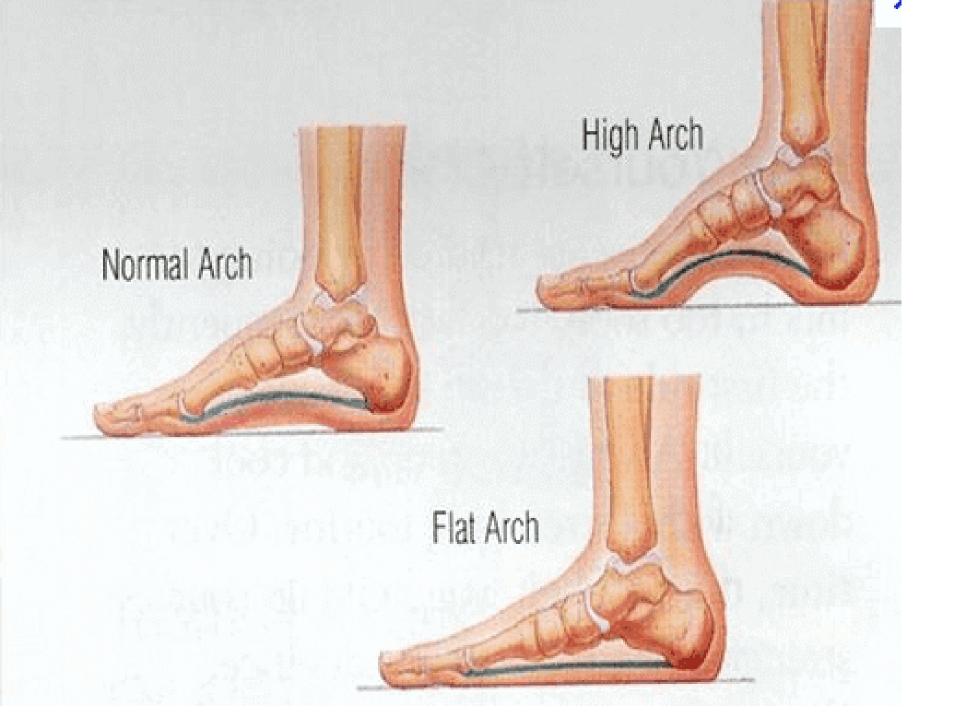


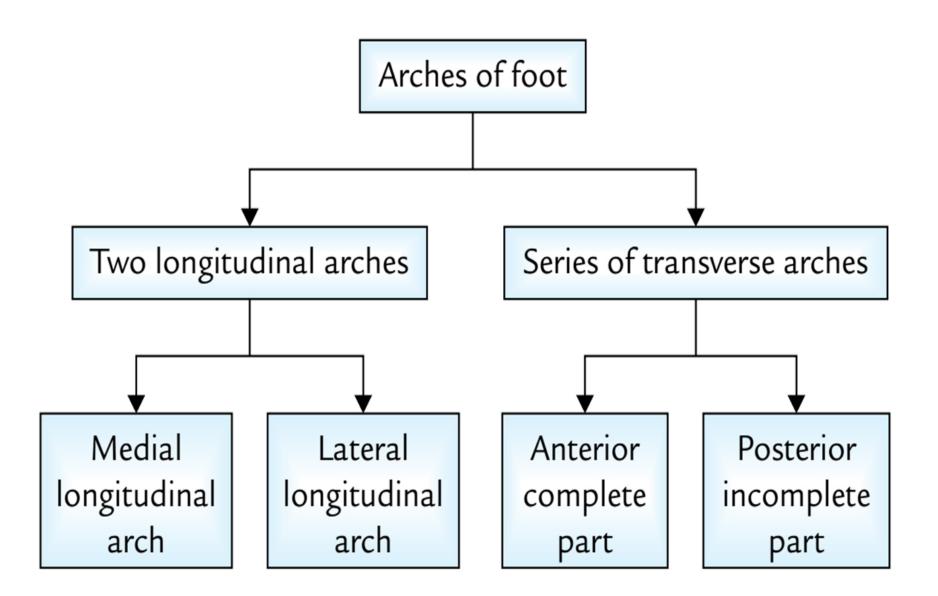




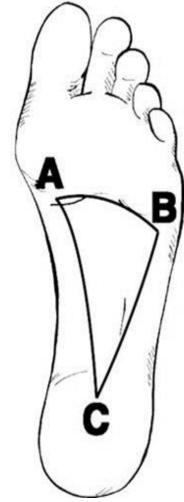


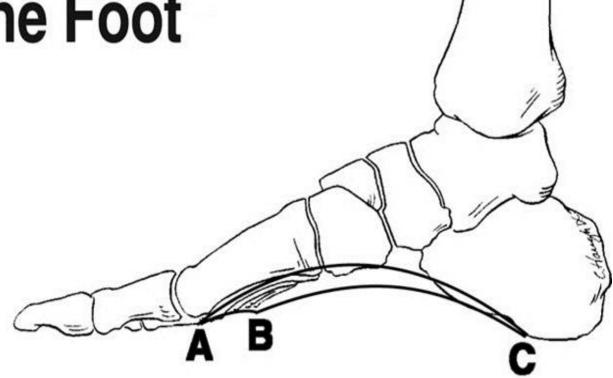




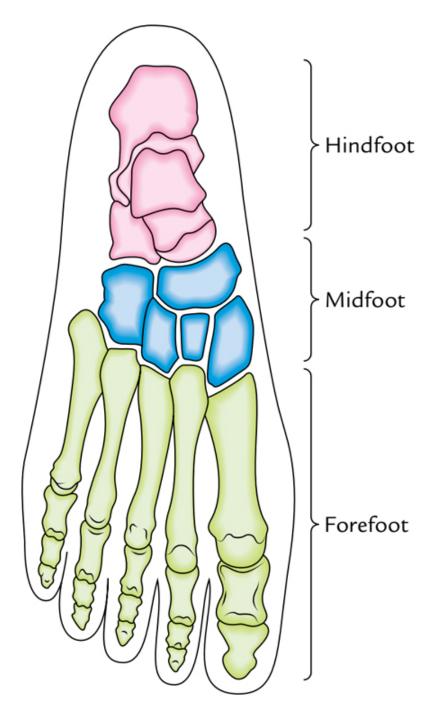


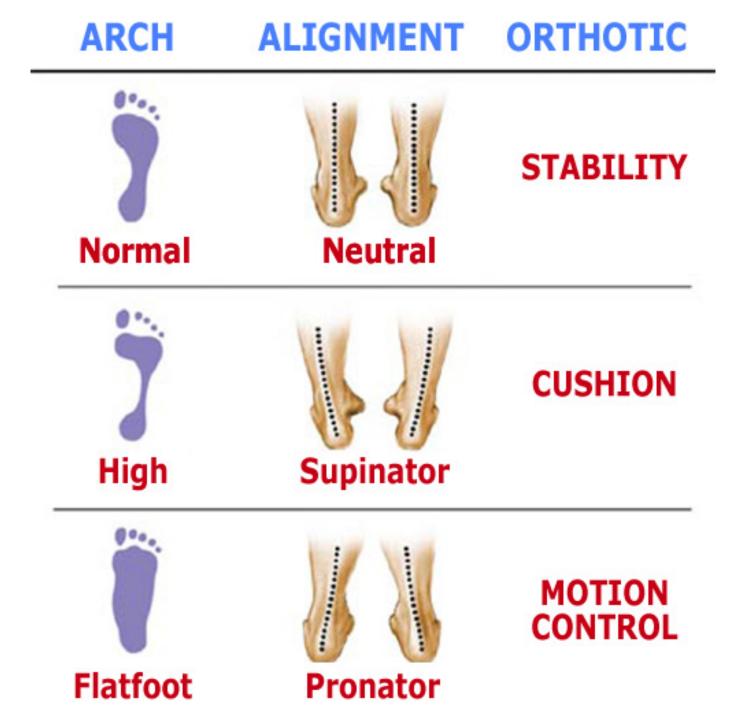
## Arches of the Foot





A-B Anterior Transverse Arch B-C Lateral Longitudinal Arch A-C Medial Longitudinal Arch







## Method of maintaining the arch

- Shape of stones
- Intersegmental ties
- Tie beams
- Slings or suspension bric

or other through the



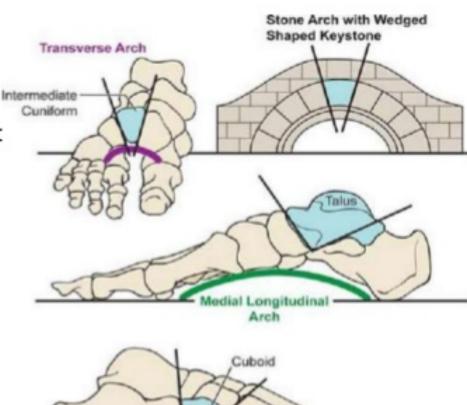






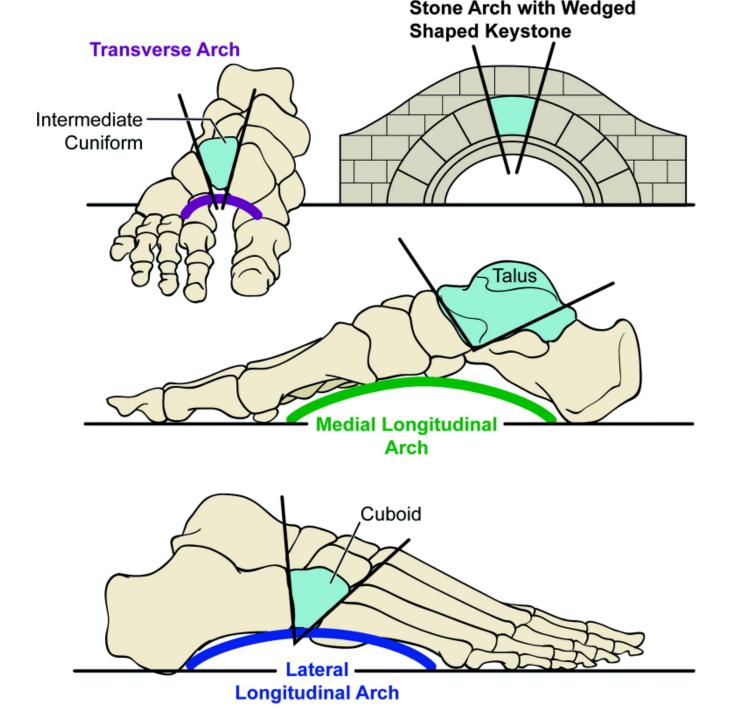


Has So: Underson products by which action of line, then by supported,





Longitudinal Arch



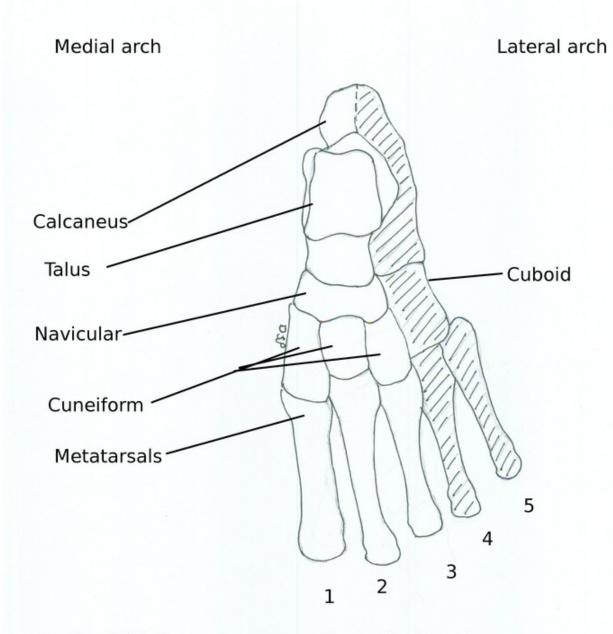
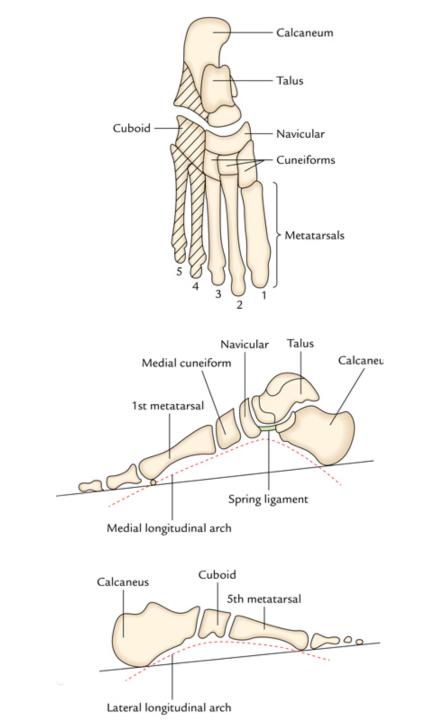
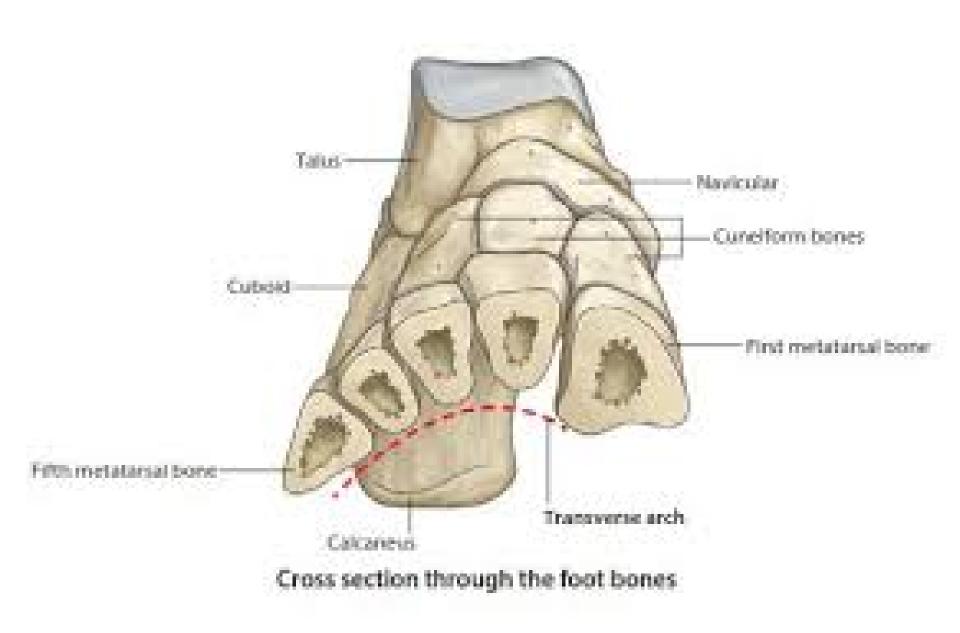
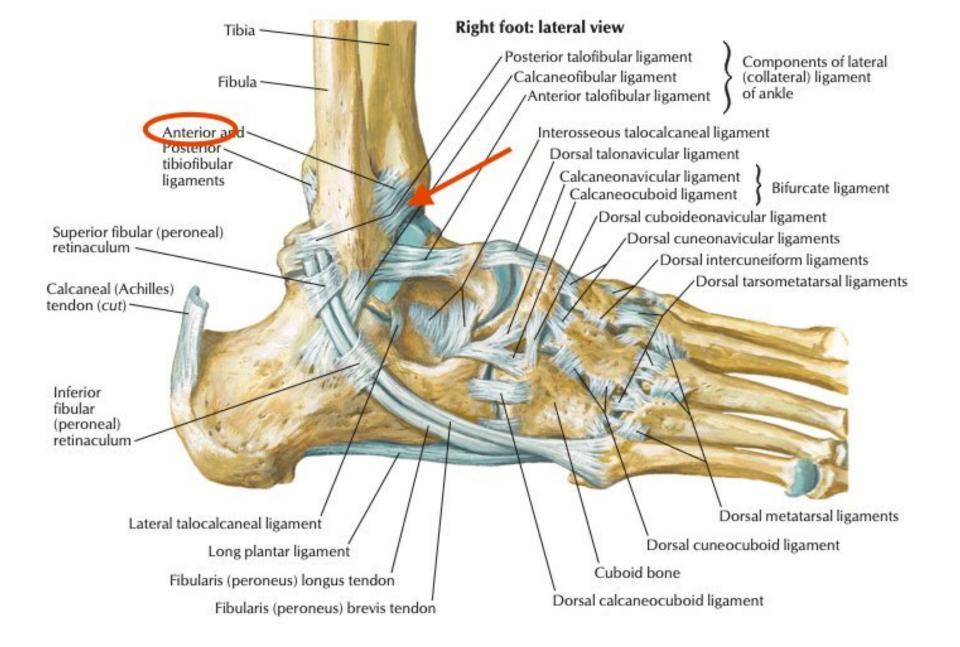
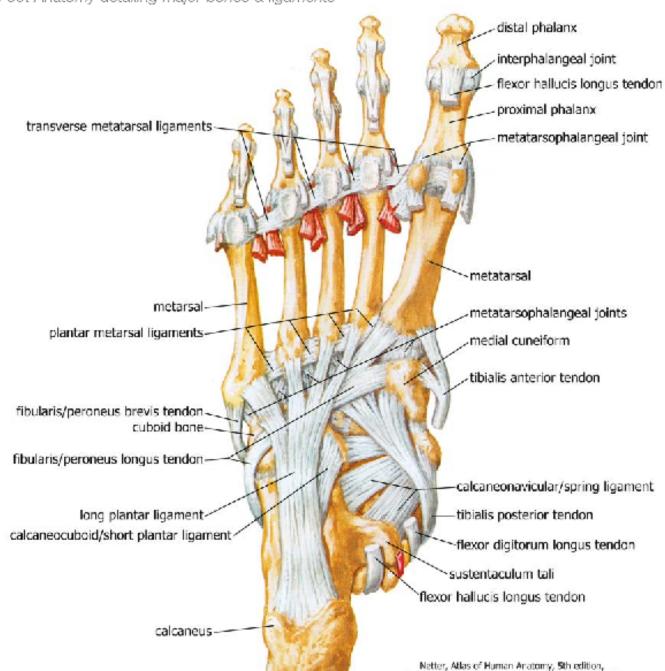


Fig. 10.1 Bones forming arches of foot



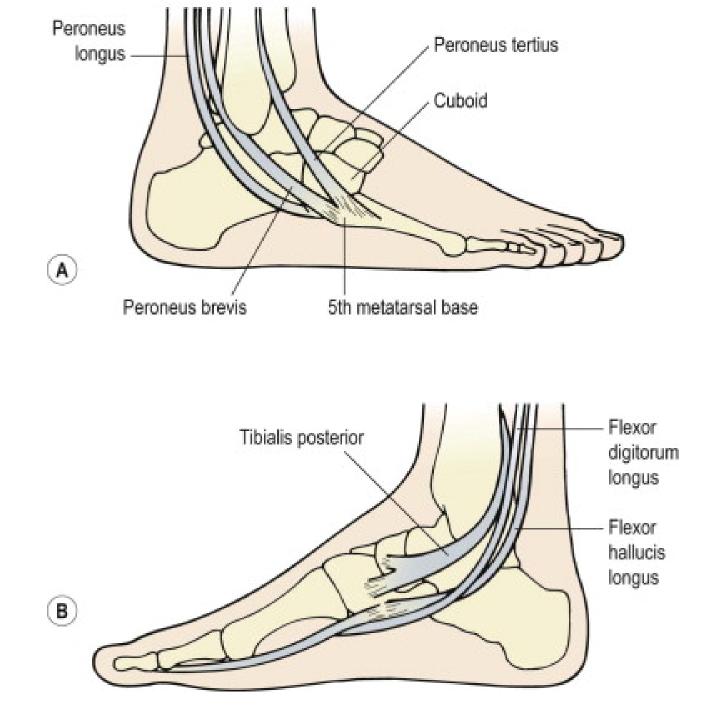


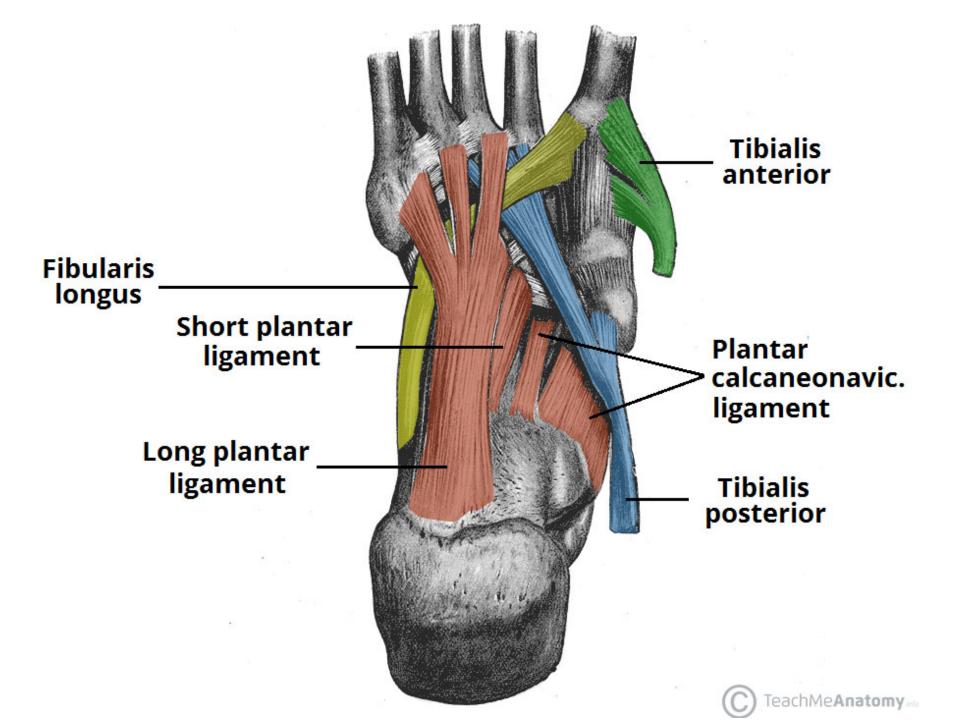




I: Foot Anatomy detailing major bones & ligaments

Netter, Atlas of Human Anatomy, 5th edition, Saunders, 2011, ISBN 978-1-4160-5951-5, plate 516.











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