



The Lower Limb V:



The Leg

Anatomy

RHS 241

Lecture 5

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General considerations

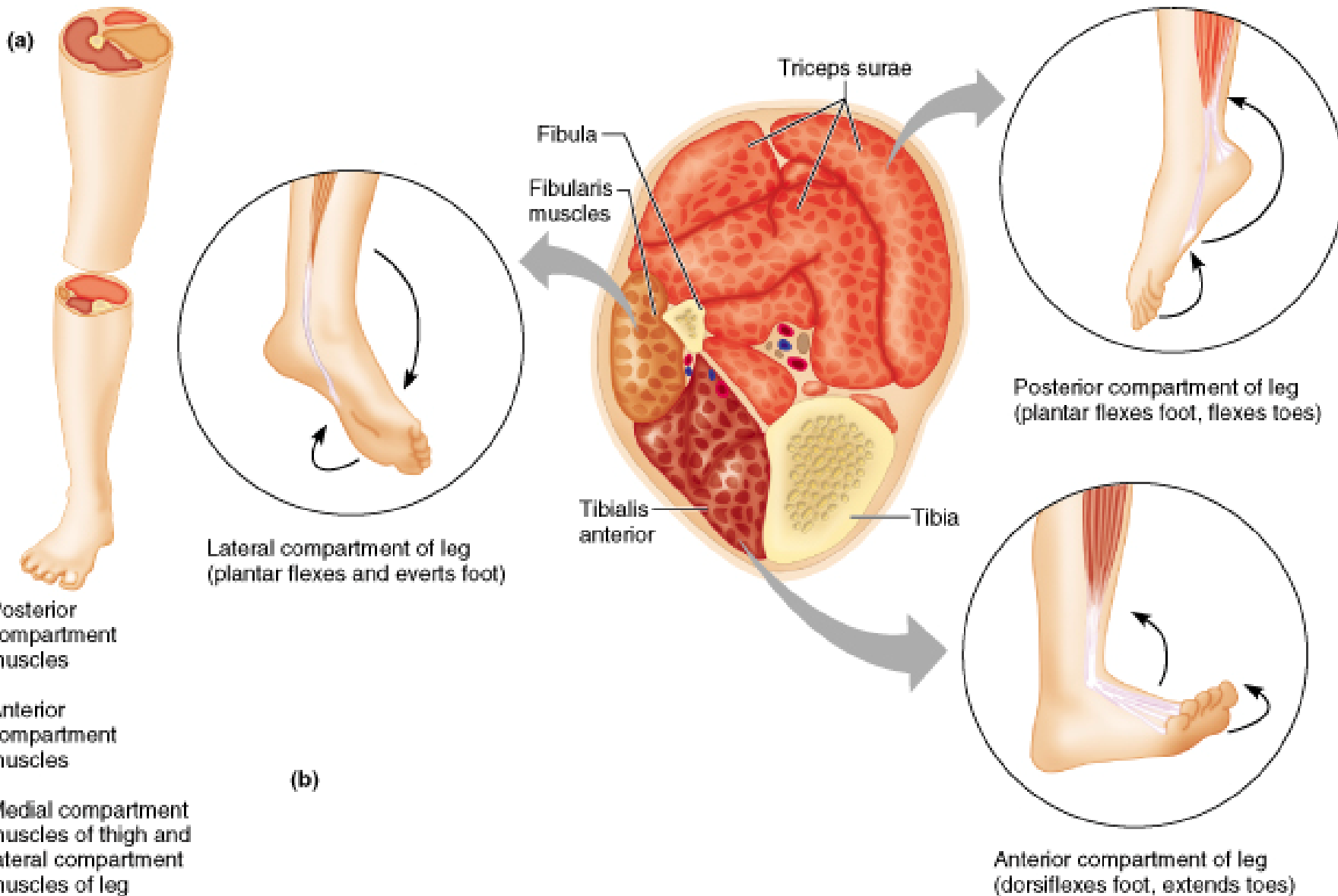
- **Plantar flexion of the foot** = rising upon the toes
- **Dorsiflexion of the foot** = standing upon the heels
- Through the “talocrural” joint

General considerations

- **Inversion** = the sole of the foot is turned inward
- **Eversion** = the sole of the foot is turned outward
- Distal to the talocrural joint (through joints among the tarsals)

Muscles of the leg

- **Posterior** compartment (superficial & deep):
 - primary plantar flexors of the foot
 - flexors of the toes
- **Anterior** compartment:
 - dorsiflexors & supinators (invertors) of the foot
 - extensors of the toes
- **Lateral** compartment:
 - muscles that assist plantarflexion and pronation (eversion) of the foot



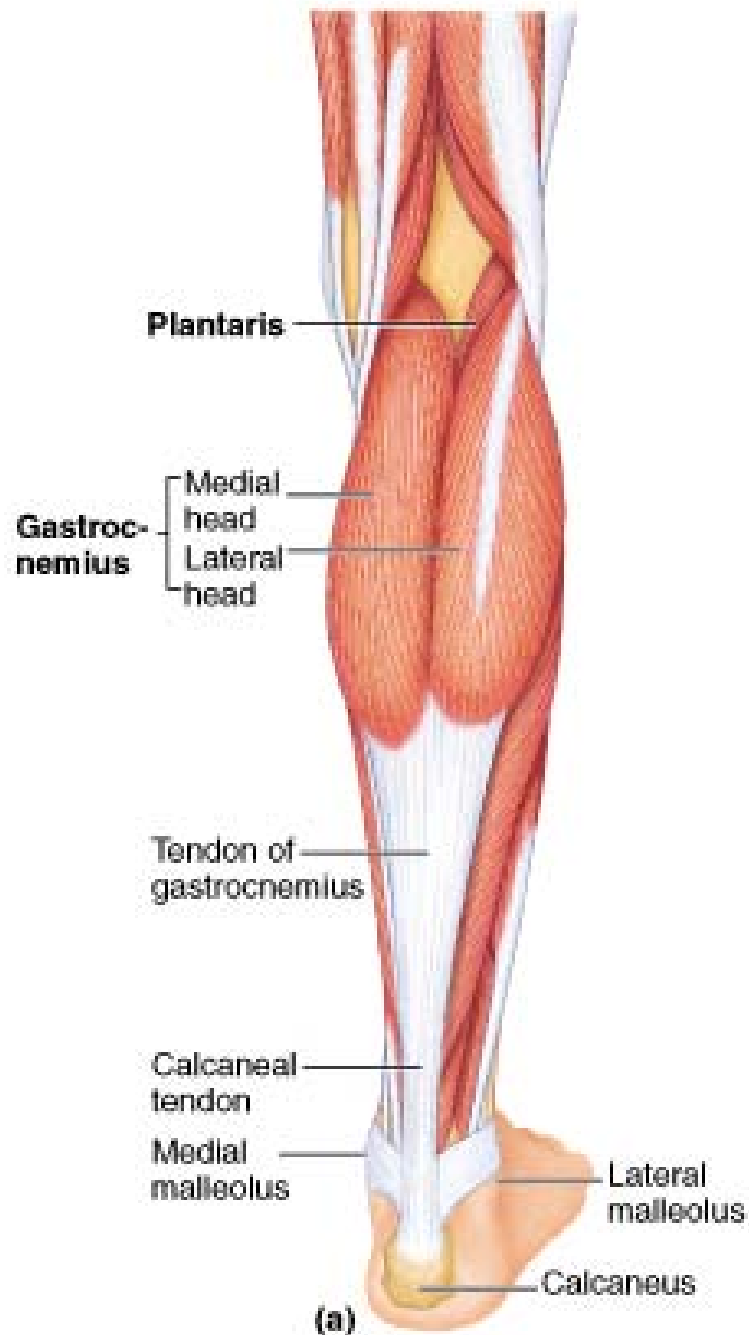
Posterior compartment

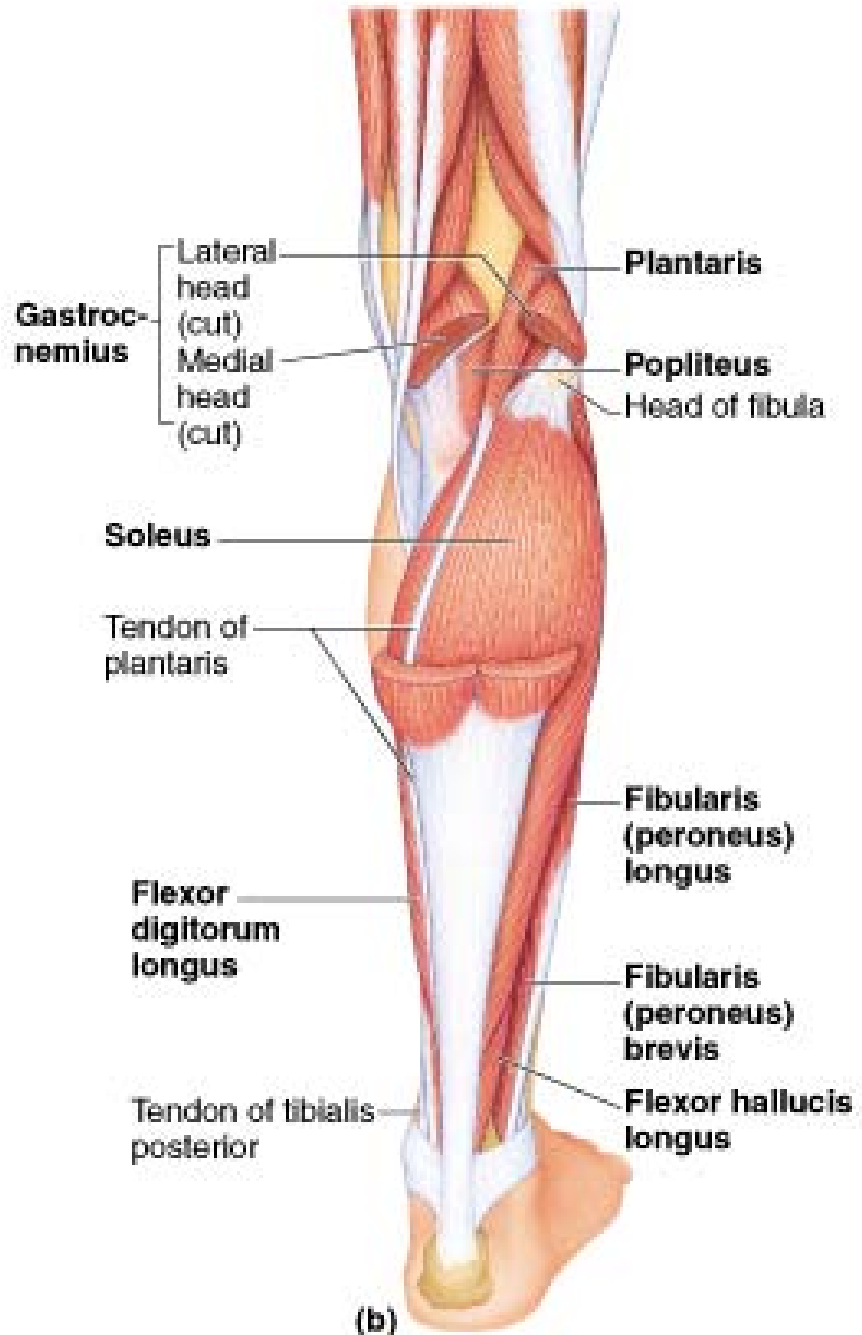
Superficial group

- **Gastrocnemius:** two heads or bellies that cross the knee joint (femur to calcaneus)
- **Soleus:** deep to the gastrocnemius (from tibia & fibula to calcaneus)

Posterior compartment Superficial group

- **Plantaris:** weakly assist gastrocnemius in plantarflexion and knee flexion
- The common tendon of these muscles is the **achilis tendon**





(b)

Posterior compartment

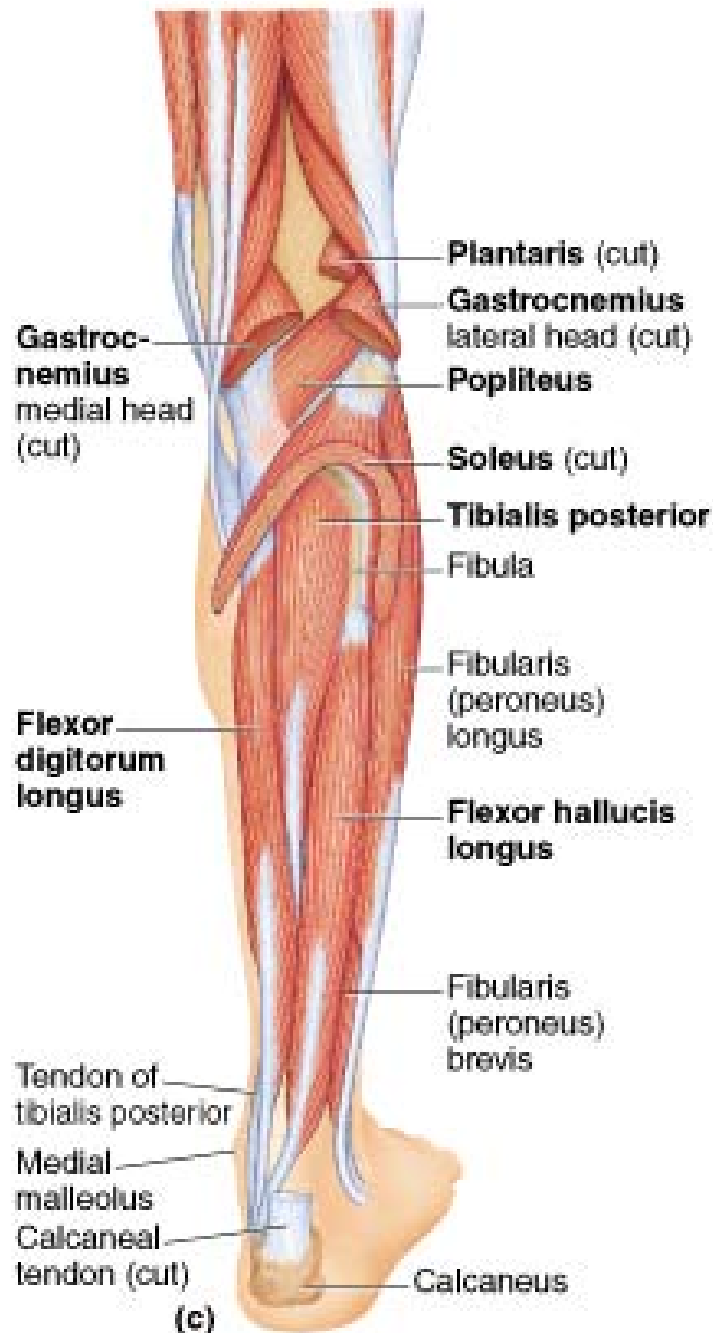
Deep group

- **Flexor hallucis longus:** from fibula & interosseous membrane to distal phalanx of hallux
- **Flexor digitorum longus:** from med. Tibia to distal phalanges of the lateral 4 digits

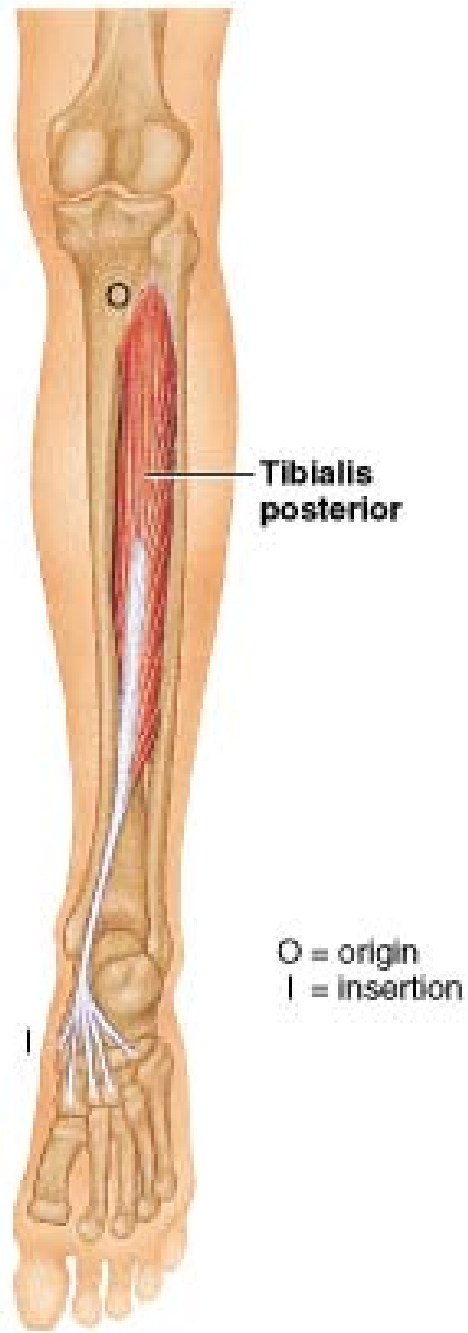
Posterior compartment

Deep group

- **Tibialis posterior:** plantarflexion and inversion
 - from interosseous membrane, tibia, & fibula
 - to navicular, cuneiform, cuboid, base of 2nd, 3rd, 4th, metatarsal



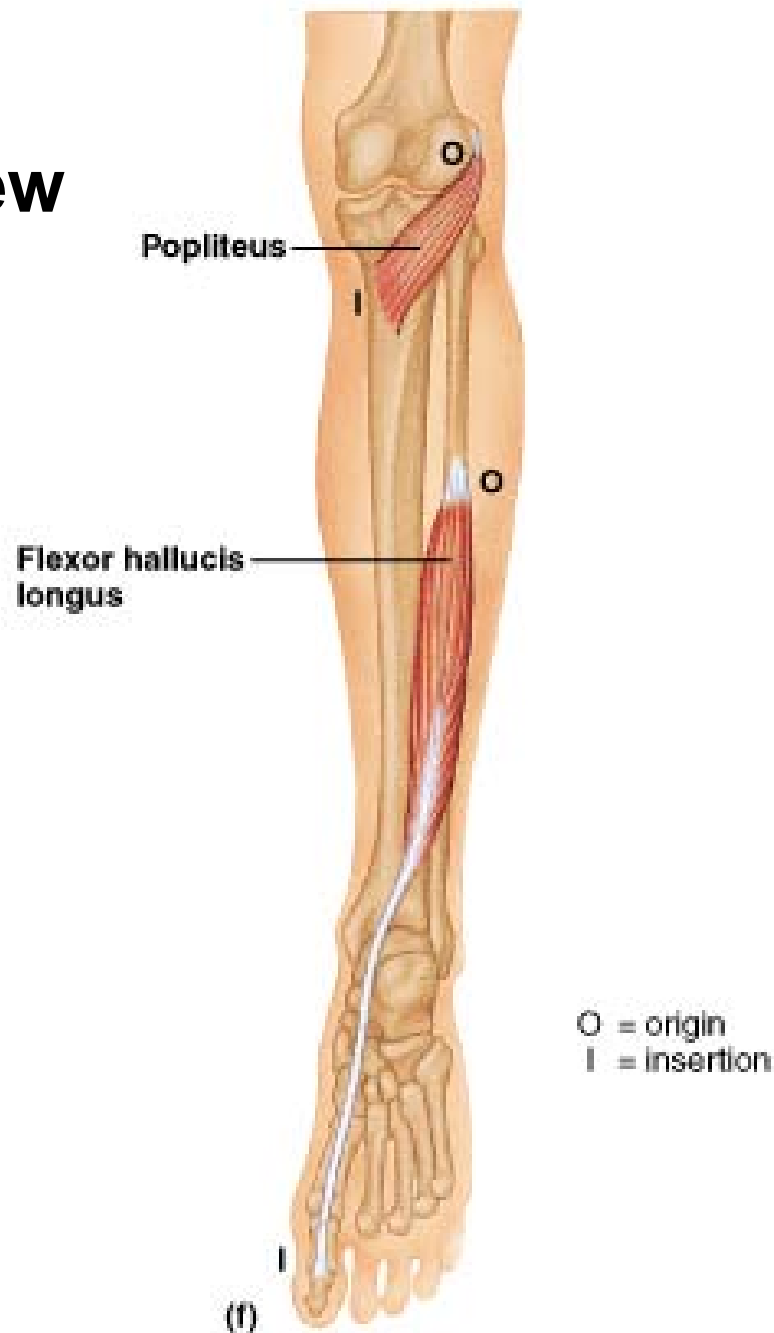
Posterior view



Posterior view



Posterior view



Posterior compartment

- Innervation: Tibial Nerve

Tibial nerve

- Arises as a terminal branch of the sciatic nerve
- Descends near the posterior midline of the **popliteal fossa**
- Enters the calf by passing deep to the soleus muscle
- Descends within the deep compartment of the leg
- Terminates by giving rise to the medial and lateral plantar nerves (near the medial malleolus)

Tibial nerve

Sensory distribution:

- **Cutaneous:** branches to the lateral side of the dorsum (the S1 dermatome of the foot)
- **Articular:** branches to the ankle and joints of the foot

Tibial nerve

- **Medial & lateral plantar nerves:**
 - supply the intrinsic muscles within the plantar foot
 - sensory to the plantar skin

Tibial nerve

Entrapment & clinical conditions

- Injuries to this nerve are most the result of trauma to the popliteal fossa (stab wounds)



- Weakened plantarflexion of the foot & flexion of the toes
- Most noticeable when walking, producing a weak heel-lift & weak toe-off