

# ANATOMY OF THE LOWER EXTREMITY

BONES- 32

JOINTS, JOINT CAPSULE

LIGAMENTS

MUSCLES- 58

TENDONS

BURSA

NEURO/ VASCULAR



# Beautiful, Balmy Buffalo



# HIP

deep seated ball & socket joint, pain often referred from back

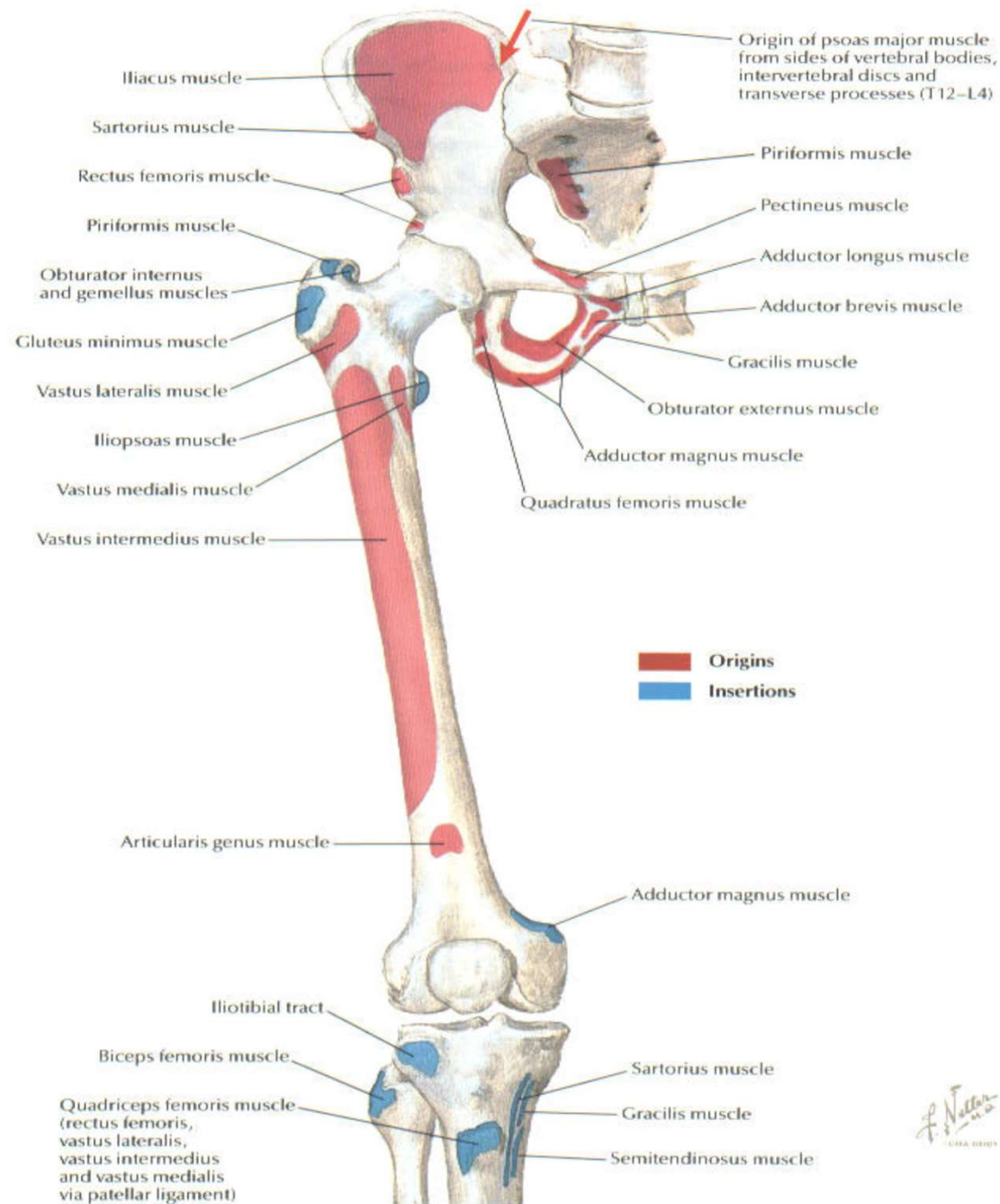
**BONES-** femur, coxal bone made up of ilium, ischium & pubic bone

**JOINTS-** acetabularfemoral (hip joint), sacroiliac, pubic

**BONY INJECTION LANDMARKS-** greater trochanteric process

**FRACTURE DESCRIPTIONS-** femoral head, neck, intertrochanteric, subtrochanteric, shaft

## Bony Attachments of Muscles of Hip and Thigh: Anterior View



# HIP- anterior view

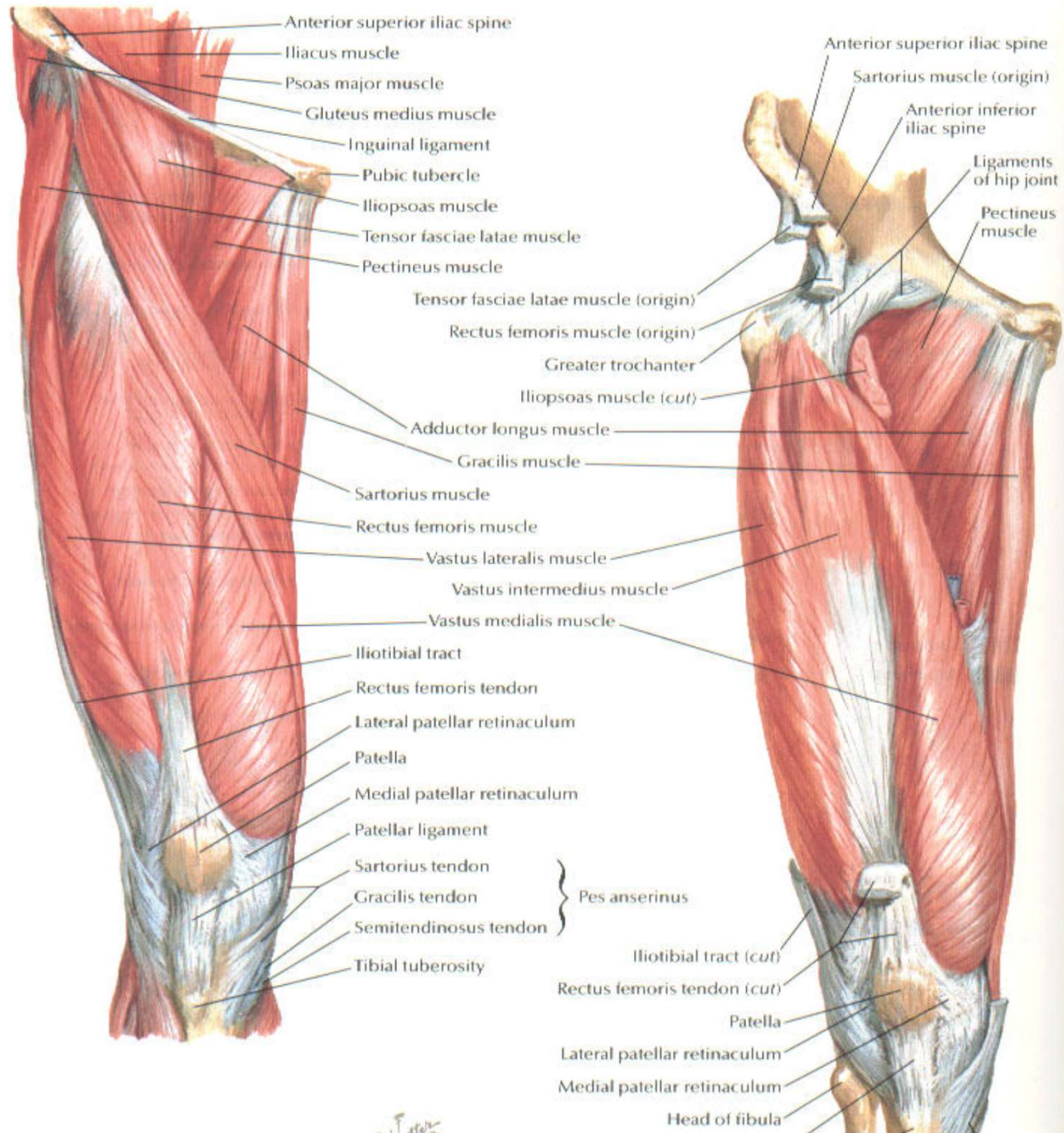
## MUSCLES-

adductors- gracilis, pectineus, adductor longus, brevis, magnus

flexors- iliopsoas, sartorius, rectus femoris

knee extension- vastus lateralis, medialis, intermedialis & rectus femoris (make up quadriceps)

# Muscles of Thigh: Anterior Views



# HIP- posterior view

## MUSCLES-

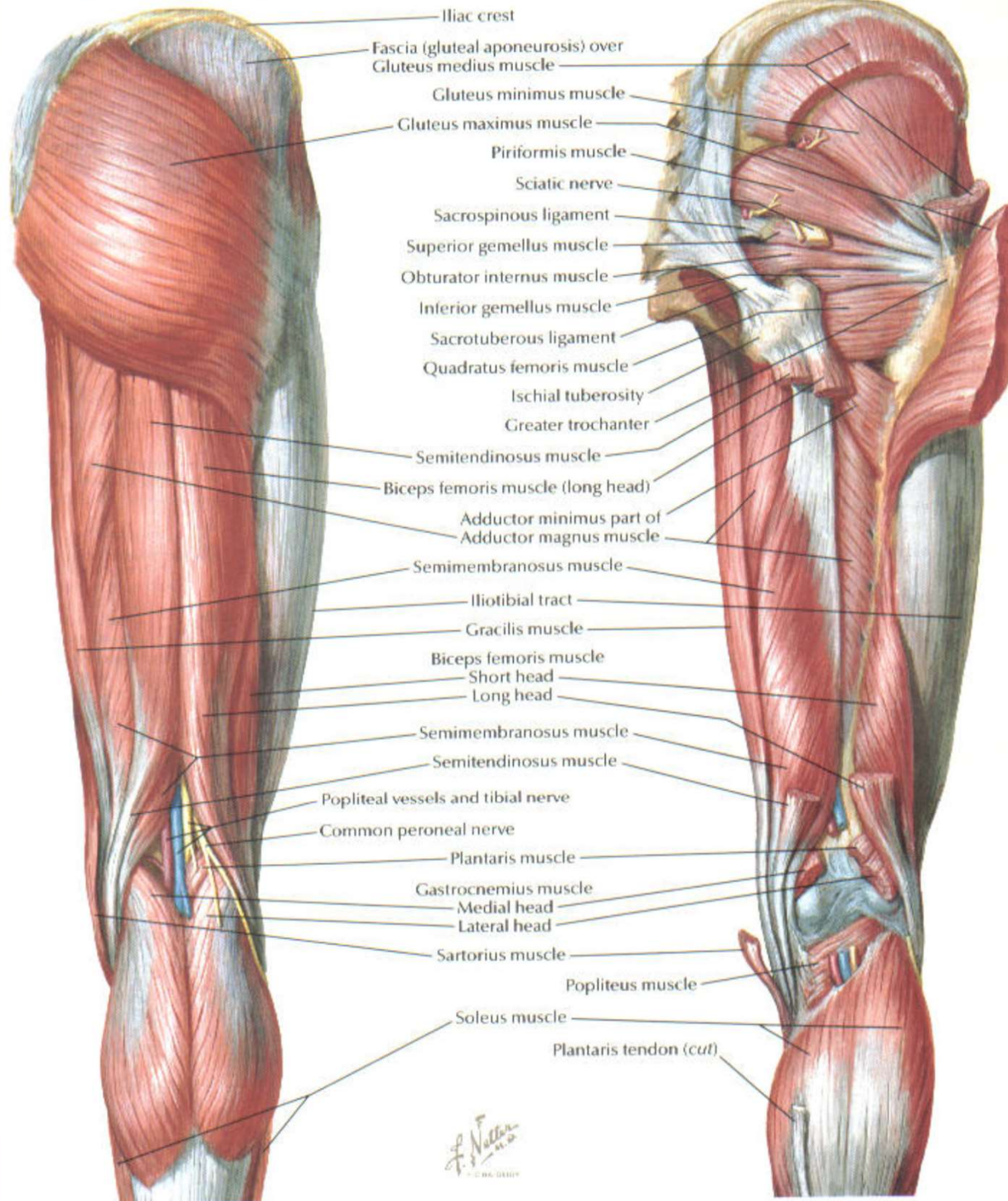
extensors- gluteus maximus,  
biceps femoris, semimembranosus, semitendinosus,  
(hamstrings)

abductors- gluteus medius

knee flexor- hamstrings

Superficial dissection

Deeper dissection





# ANATOMY OF THE KNEE

The largest, most accessible & most commonly injected joint

**BONES** - femur, tibia, fibula, patella

**JOINT**- knee joint (3 compartments)- medial, lateral, patellarfemoral

**BONY INJECTION LANDMARKS** - superior pole of the patella (A), inferior pole of patella (B), medial (D) & lateral (E) tibial plateau, anterior tibial tuberosity (C)

**SOFT TISSUE LANDMARK**- patellar tendon (F)

**INJECTION PORTALS**- superior lateral approach with knee straight (I)  
anterior medial approach with knee at 90 degrees flexion (J)  
anterior lateral approach with knee at 90 degrees flexion (K)

**SOFT TISSUE ANATOMY**- suprapatellar bursa/poach (G)  
synovial cavity (H)

# ANATOMY OF THE KNEE



# KNEE

**MUSCLES-** extensors- quadriceps- vastus lateralis, medialis, intermedius, rectus femoris  
flexors- hamstrings- biceps femoris, semimembranosus, semitendinosus

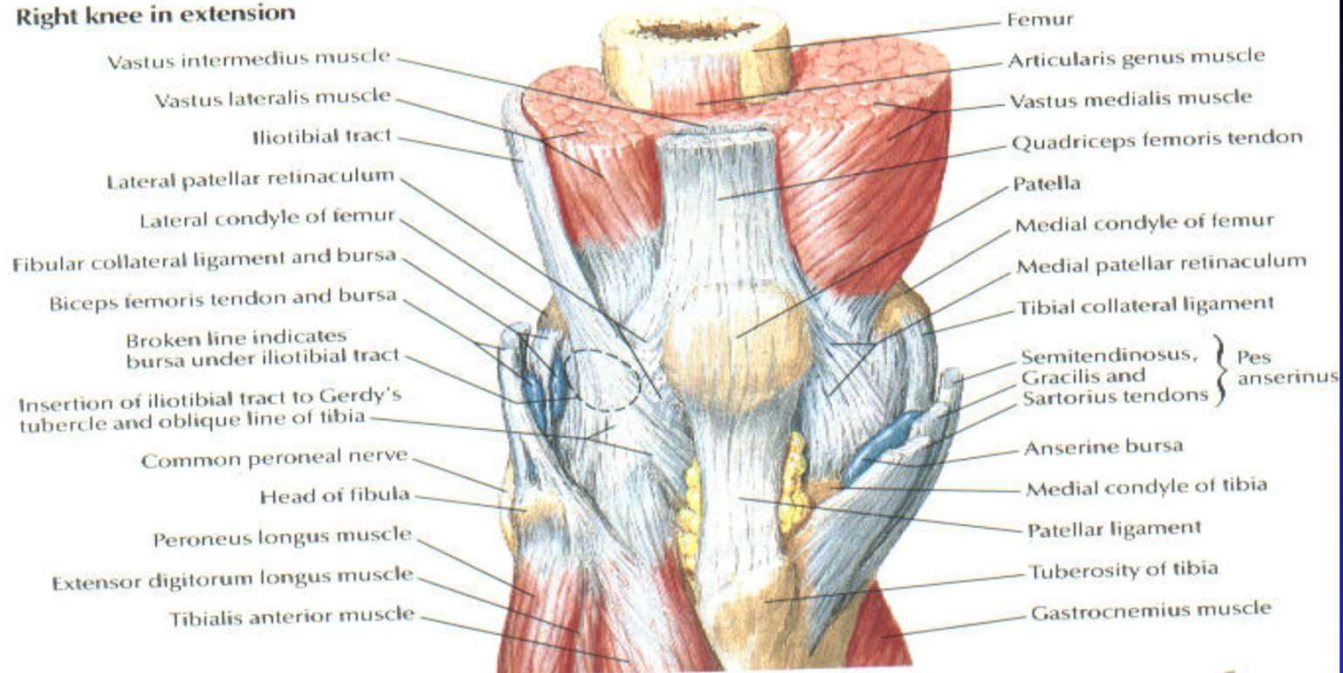
**LIGAMENTS-** medial & lateral collateral  
anterior & posterior cruciate

**MENISCUS-** medial & lateral

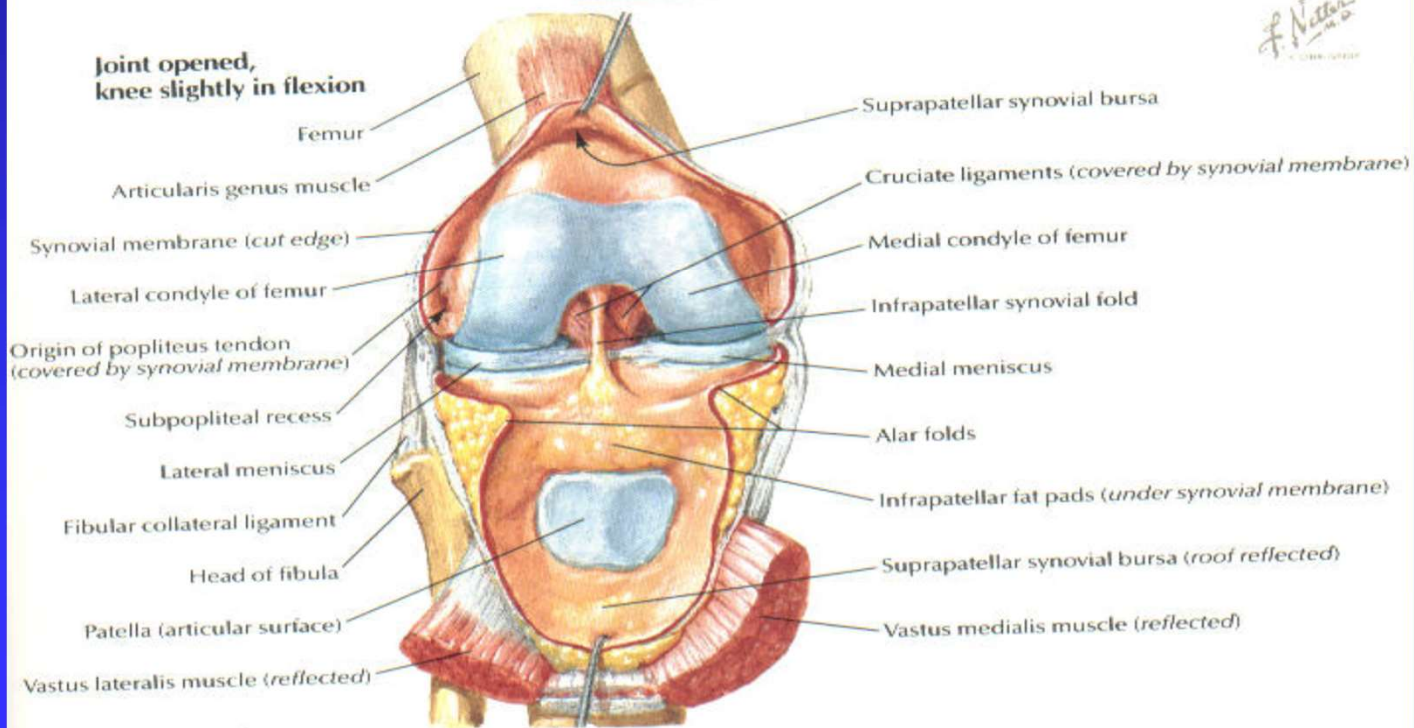
**BURSA-** prepatellar, pes anserine

**INJECTION LANDMARKS-** anterior tibial tubercle, medial joint line are used for pes anserine injection, superior & inferior patellar pole,  
medial & lateral joint line are used for knee joint injection

**Right knee in extension**



**Joint opened, knee slightly in flexion**



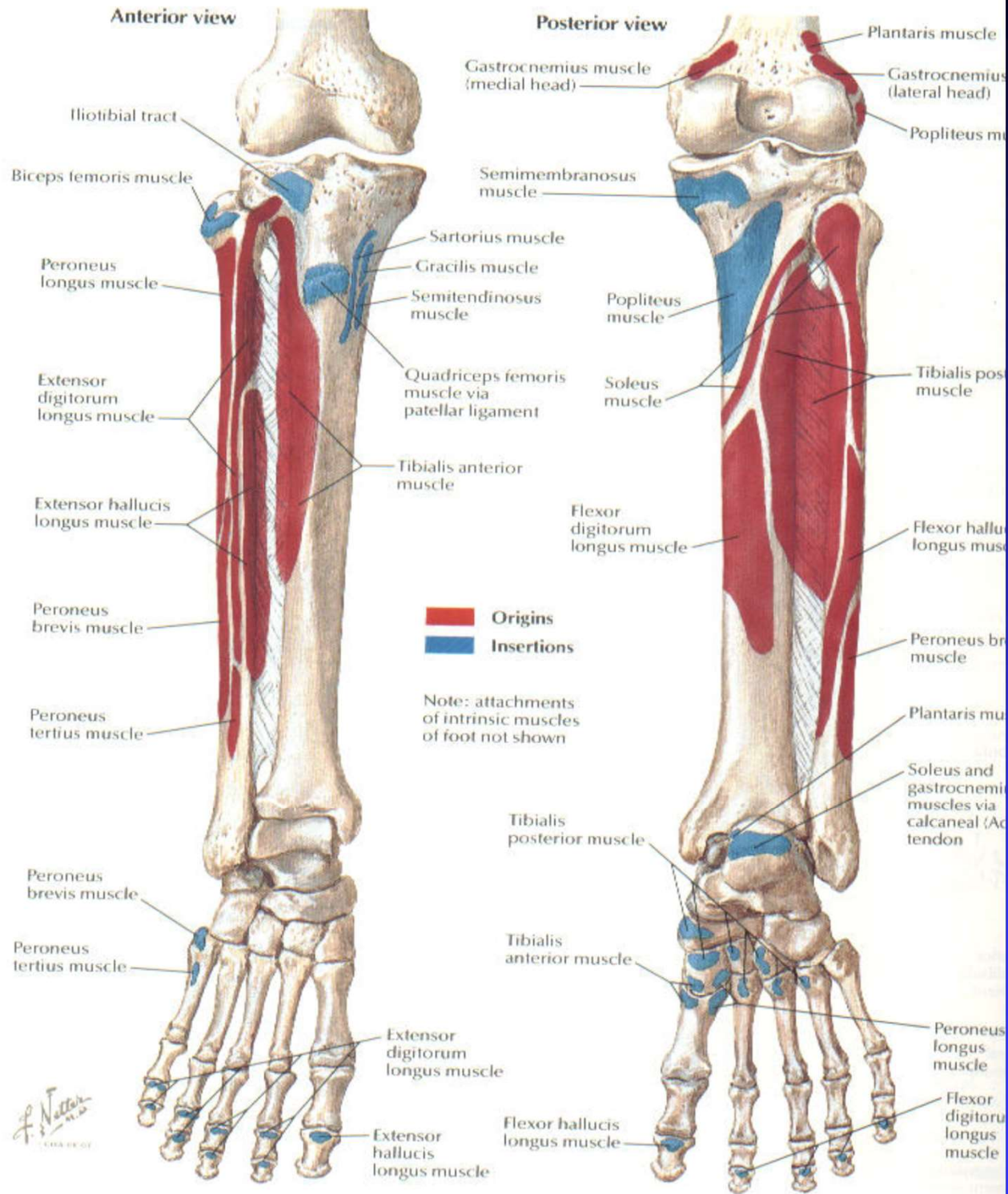
# ANKLE & FOOT

**BONES**- tibia, fibula, talus, calcaneus, navicular, cuboid, cunioforms (3), metaTarsals (5; T for toes), phalanges (toes) 2 thru 5 have proximal, middle, distal phalanx, 1<sup>st</sup> phalange (big toe) has proximal and distal

**JOINTS**- ankle (talofibular, talotibial), metatarsal phalangeal (mtp), proximal interphalangeal (pip), distal interphalangeal (dip)

**BONY INJECTION LANDMARKS**- lateral & medial malleolus, medial calcaneal tubercle

**FRACTURE DESCRIPTIONS**- lateral & medial malleolar, bi & tri malleolar, metatarsal (march), 5<sup>th</sup> metatarsal, base (Jones), body, neck

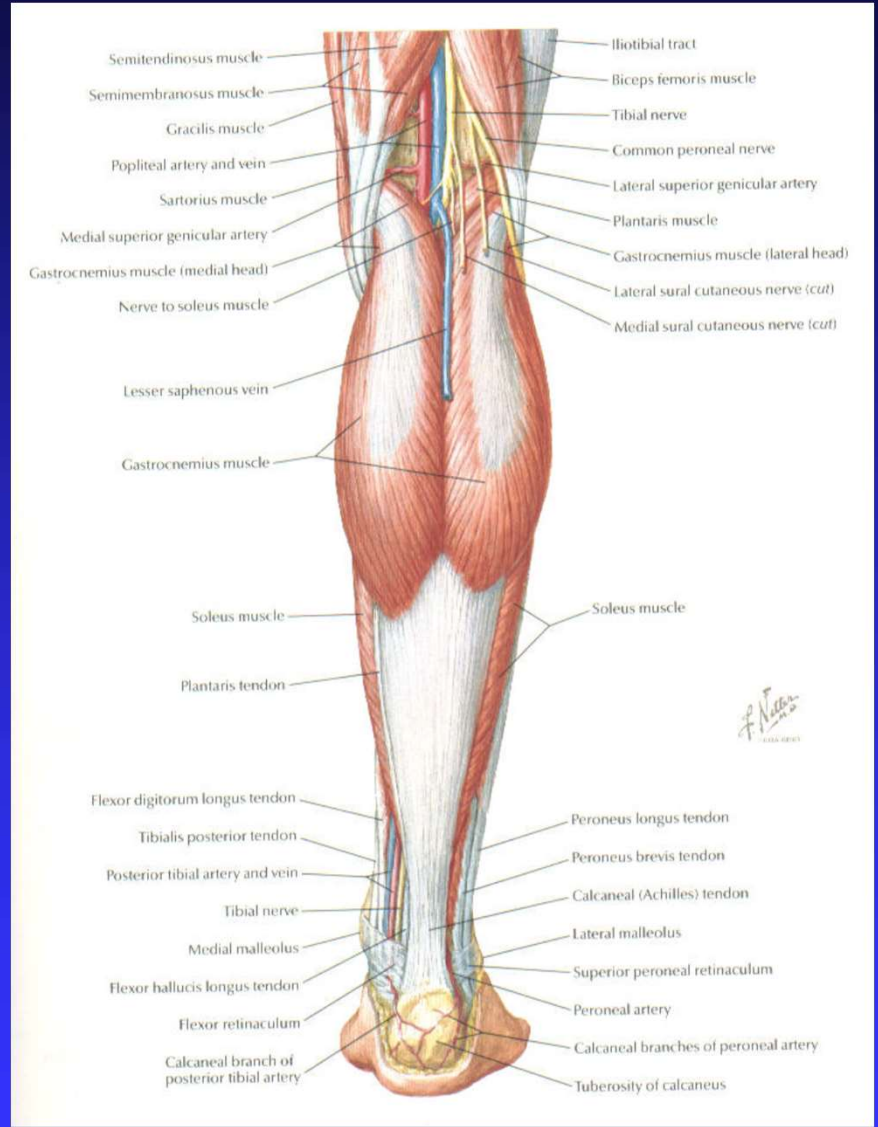
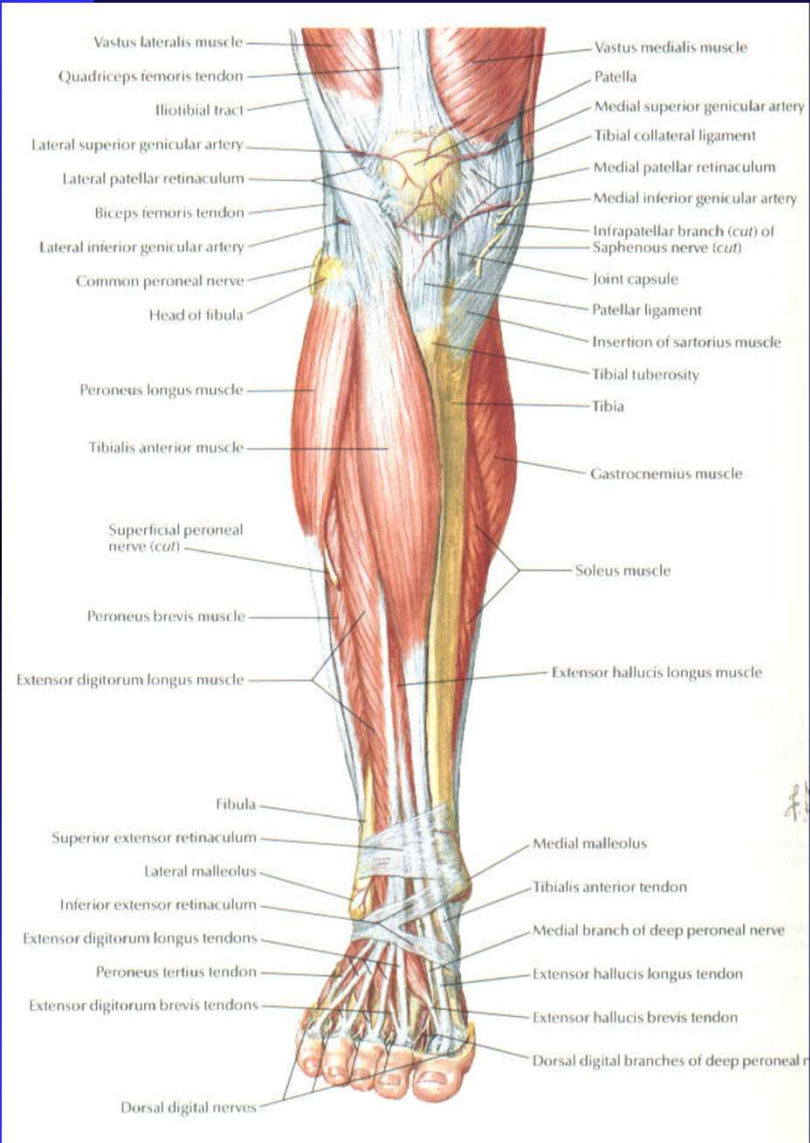


# ANKLE & FOOT

## MUSCLES-

dorsiflexion- tibialis anterior, extensor hallucis longus,  
extensor digitorum

plantarflexion- gastrocnemius, soleus





# ANKLE & FOOT

## MUSCLES-

everters- peroneus longus & brevis

inverters- Tibialis posterior, flexor Digitorum longus, flexor Hallicus longus (Tom, Dick, ANd Harry)

**FASCIA-** plantar fascia

**BURSA-** retrocalcaneal

**INJECTION LANDMARKS-** plantar fascia

