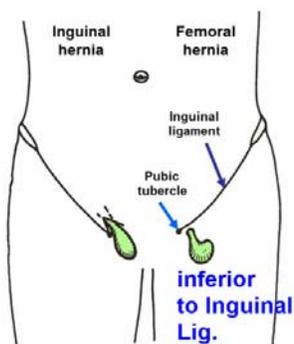


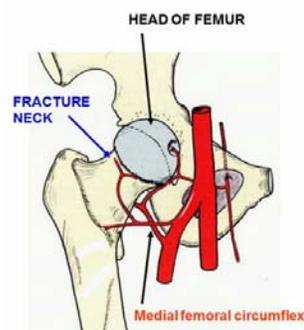
## LOWER EXTREMITY CLINICAL/ANATOMICAL REVIEW

Clinical Condition	Anatomy	Cause	Symptom
<b>Hip/Pelvis</b>			
<b>Femoral Hernia</b>	Femoral ring is a weak point in abdomino-pelvic cavity; Lymphatic vessels course through Femoral ring to Femoral Canal in medial part of Femoral sheath (Sheath surrounds Fem. Art, Vein, Lymph)	Increase in pressure in abdomen (lifting heavy object, cough, etc.) can force loop of bowel into Femoral Canal (out Saphenous opening)	<b>Bulge in anterior thigh below Inguinal Ligament</b>
<b>Hip Pointer</b>	Anterior Superior Iliac spine (origin of Sartorius, Tens. Fasc. Lata m.) is subcutaneous	Fall on hip causes contusion at spine	<b>Bruise on hip</b>
<b>Pulled Groin</b>	Adductor muscles of thigh take origin from pubis	<b>Tear in Adductor muscles</b> can occur in contact sports	Pain in groin (at or near pubis)
<b>Hamstring Pull</b>	Hamstring muscles of post. thigh have common origin at Ischial Tuberosity	Excessive contraction (often in running) produces tear or avulsion of hamstring muscles from Ischial tuberosity	<b>Agonizing pain in posterior thigh</b> if muscles are avulsed
<b>Gluteal Gait</b>	Gluteus Medius and Minimus act to support body weight when standing (essential when opposite leg is lifted in walking)	Damage to Superior Gluteal Nerve or polio	Gluteal Gait (Trendelenberg Sign): <b>pelvis tilts to down toward non-paralyzed side</b> when opposite (non-paralyzed) leg is lifted in walking
<b>Collateral circulation at hip</b>	Cruciate anastomosis links Inf. Gluteal artery (from Int. Iliac.) and Profunda Femoris, <b>Med. and Lat. Fem. Circumflex</b>	<b>Damage to External Iliac or Femoral arteries (stab wounds, etc.)</b>	Bleeding (can <b>ligate between Internal Iliac and Profunda femoris</b> )
<b>Avascular necrosis of head of femur</b>	<b>Medial Femoral Circumflex artery</b> supplies head of femur (also small supply from Obturator Artery)	Falls (common in elderly) can produce <b>fracture of neck of femur</b> (treatment is hip replacement)	<b>Leg is rotated laterally</b> (by action of Gluteus Maximus and short posterior rotator muscles)
<b>Dislocate Hip</b> (head of femur displaced superiorly)	Hip joint ligaments usually strong	<b>Congenital</b> - Upper lip of acetabulum can fail to form	<b>Leg is rotated medially</b> (by action of Gluteus Medius and Minimus)

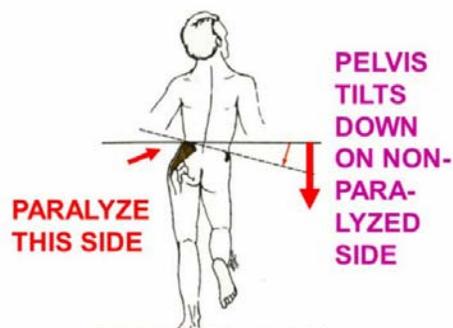
**FEMORAL HERNIA**



**'HIP' FRACTURE**



**GLUTEAL GAIT - Sup. Gluteal. nerve damage**

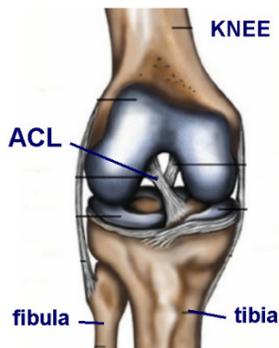


Clinical Condition	Anatomy	Cause	Symptom
<b>KNEE</b>			
<b>Tear Anterior Cruciate Ligament (ACL)</b>	Anterior Cruciate Ligament extends from Lateral Condyle of Femur to Ant. part of Intercondylar eminence of tibia; limits ant. movement of tibia	Rapidly rotate body when foot planted on ground	<b>Anterior drawer test - pull tibia anteriorly</b>
<b>Terrible Triad</b>	Medial Meniscus is firmly attached to Medial Collateral ligament	In sports, blow to lateral side of leg <b>tears Medial Meniscus, Medial Coll. Lig, ACL</b>	<b>Pain and high mobility (ACL - positive Anterior Drawer test)</b>
<b>LEG, ANKLE and FOOT</b>			
<b>Foot drop</b>	<b>Common Peroneal nerve</b> is subcutaneous at knee on head of fibula; <b>Deep Peroneal nerve</b> in anterior compartment;	<b>Blow to lateral leg</b> at head of fibula or sustained pressure in wearing a leg cast; Compartment syndrome	<b>Inability to dorsiflex foot</b> ); cannot lift foot from ground in walking
<b>Anterior Leg Syndrome</b>	Fascia of anterior muscular compartment of leg is very tight	Exercise or fracture of tibia; <b>compress of Deep Peroneal nerve in anterior compartment</b>	<b>Foot drop</b> (inability to dorsiflex foot); cannot lift foot from ground in walking
<b>Tarsal Tunnel Syndrome</b>	Tendons and vessels pass under Flexor retinaculum on medial side of ankle (Tom, Dick and Harry: Tibialis posterior, Flexor Digitorum longus, Posterior Tibial Artery and Tibial Nerve, Flexor Hallucis longus)	<b>Swelling of tendons under flexor retinaculum</b> produces compression of Tibial Nerve	<b>Numbness of sole of foot and toes, weakness in flexion of toes</b>
<b>Intermittent Claudication</b>	Posterior tibial artery (from Popliteal artery) supplies posterior compartment of leg and most of foot	<b>Atherosclerosis</b> produces narrowing of artery, limiting blood supply to leg and foot	<b>Painful cramps after exercise that subsides with rest</b>
<b>Ankle sprain</b>	Ligaments on lateral side of ankle are weaker than medial side	Excessive Inversion produces <b>stretch of Anterior Talofibular and Calcaneofibular ligaments</b>	<b>Pain on lateral side of ankle</b>
<b>Pott's Fracture</b>	Deltoid ligament on medial side of ankle is strong	Excessive eversion of ankle <b>fractures distal tibia (medial malleolus) and fibula</b>	Pain in ankle
<b>Fallen Arch (Pes planus)</b>	Medial arch of foot held by <b>Plantar Calcaneonavicular ligament</b>	Loss or decrease in medial arch; can be developmental or related to use	<b>Foot pain, particularly on medial side</b>

NOTE: DERMATOMES - L1 INGUINAL REGION; L4 BIG TOE, S1 LITTLE TOE

PATELLAR TENDON REFLEX - TEST L3-L4; ACHILLES TENDON REFLEX - TEST S1

FEMORAL TRIANGLE - STRUCTURES LAT. TO MED. - NAVL (Femoral Nerve, Artery, Vein, Lymphatics)



foot not lifted when walking

**FOOT DROP: DAMAGE EITHER 1) COMMON PERONEAL NERVE OR 2) DEEP PERONEAL NERVE**

