The Neuromusculoskeletal Medicine
The disorders of Hip, Knee, leg, ankle and foot

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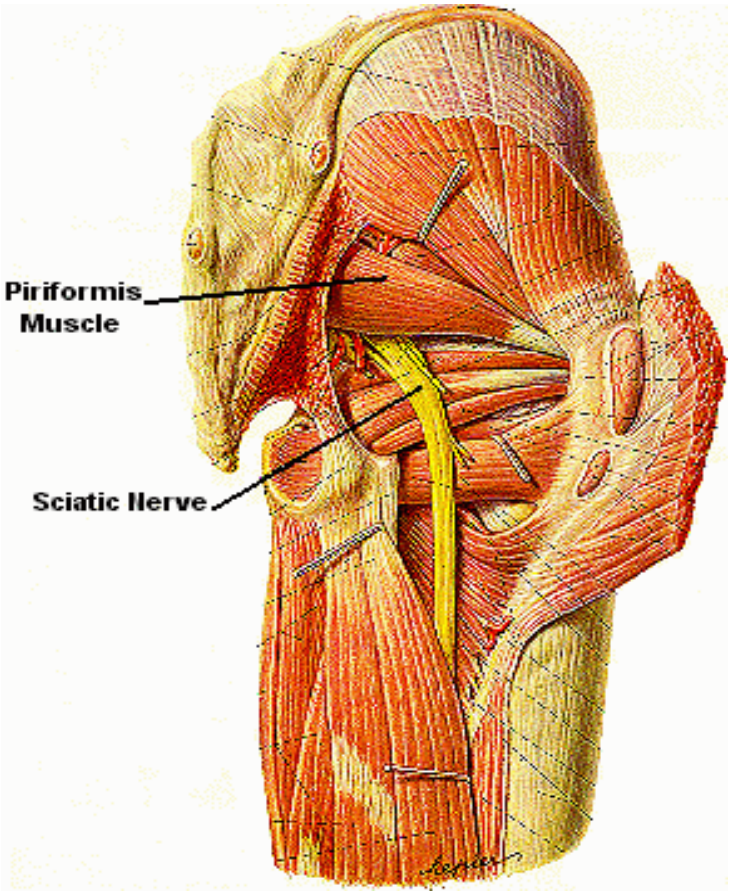
Piriformis Syndrome



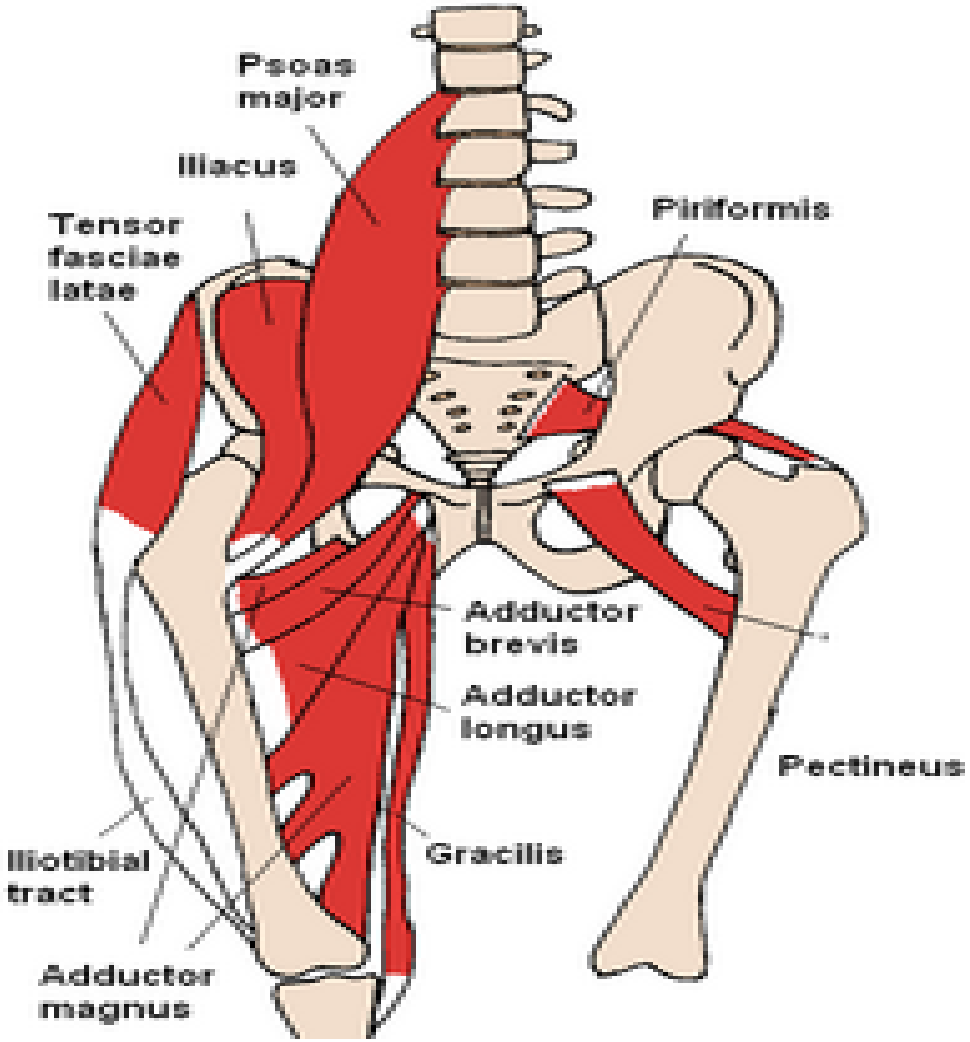
- Original: Pelvic surface of sacrum
- Insertion: Upper greater trachanter through greater sciatic foramen.
- A painful muscle injury with forceful hip internal rotation.

Piriformis Syndrome Treatment: Acupuncture

- GB 30 + Arshi points.
- Moxa + electrical stimulation.
- Steroid injection.
- Deep massage.
- Stretch exercise.

Iliopsoas Bursitis and Tendonitis

Iliopsoas Snapping-Tendon Syndrome



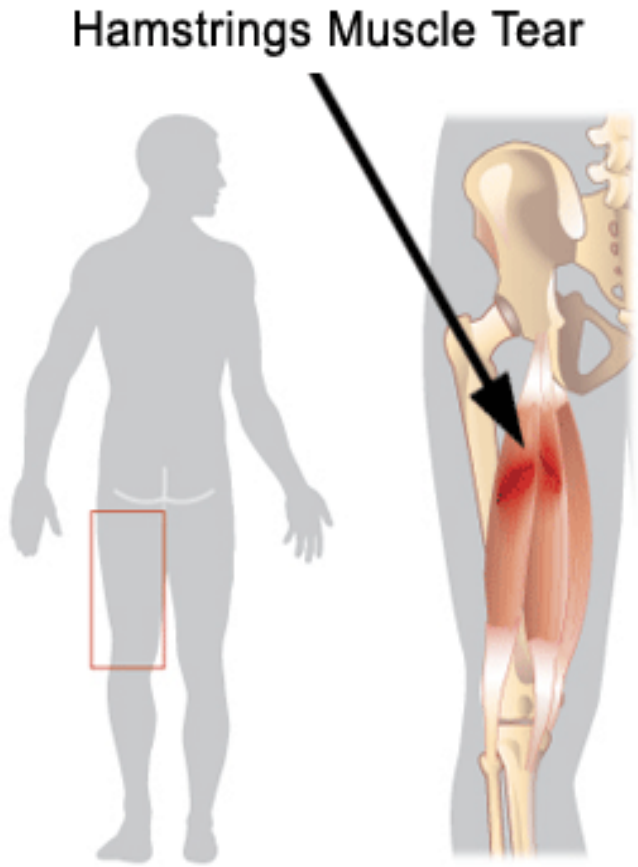
- Hip snapping: due to the iliotibial band snapping over the greater trochanter or the iliopsoas tendon subluxating over the pectineal eminence of the pelvis.

Iliopsoas Bursitis and Tendonitis

Iliopsoas Snapping-Tendon Syndrome

- Clinical: Hip snapping may occur with flexion and may cause pain.
- The pain and tenderness is over the iliopsoas muscle.
- Provocative test: pain on hip flexion.
- Treatment: Ice, stretching and strengthening, steroid injection.
- Acupuncture: Archi points with electrical stimulation and Moxa.

Hamstring Strain



- Predisposing factors: inadequate warm up, poor flexibility, exercise fatigue, poor conditioning, and muscle imbalance.
- Grade 1: Strain
- Grade 2: partial Tear
- Grade 3: complete Tear
- Strength ratio of H/Q: 3/5
- Track and Gym injuries

Hamstring Strain

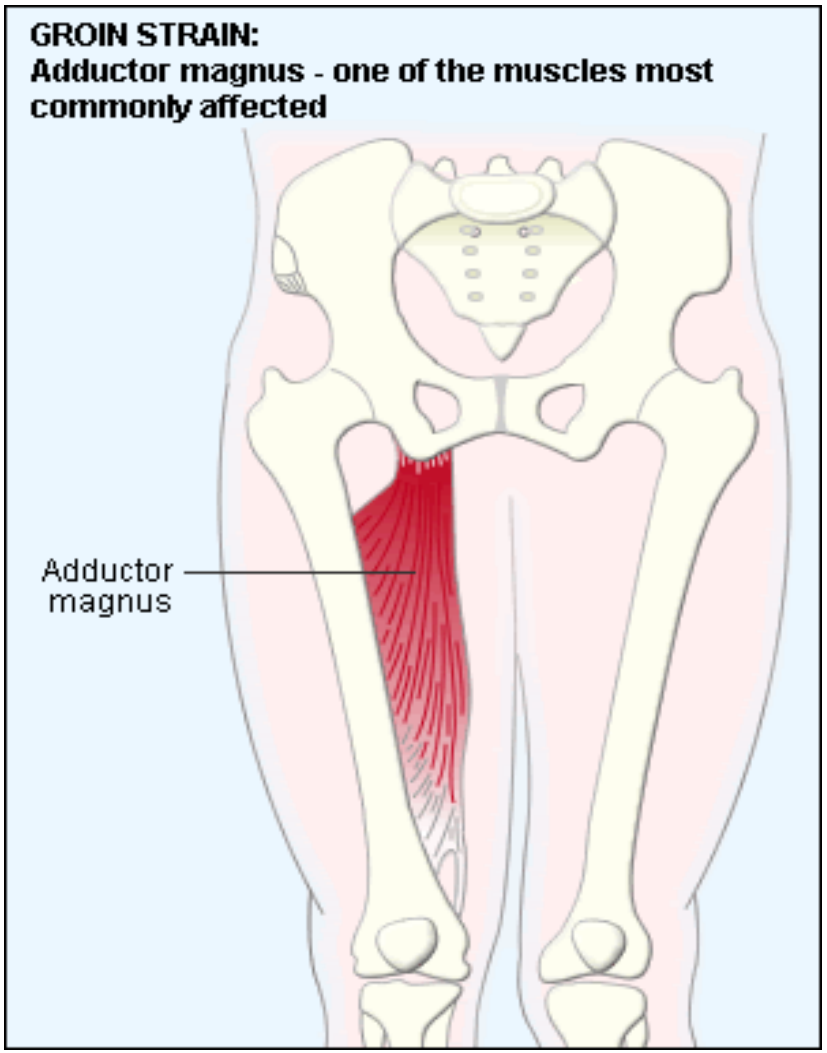
- Treatment:

  -Ice pad for acute injury

  -Acupuncture for Archi, and WeiZhong, if chronic pain, Moza.

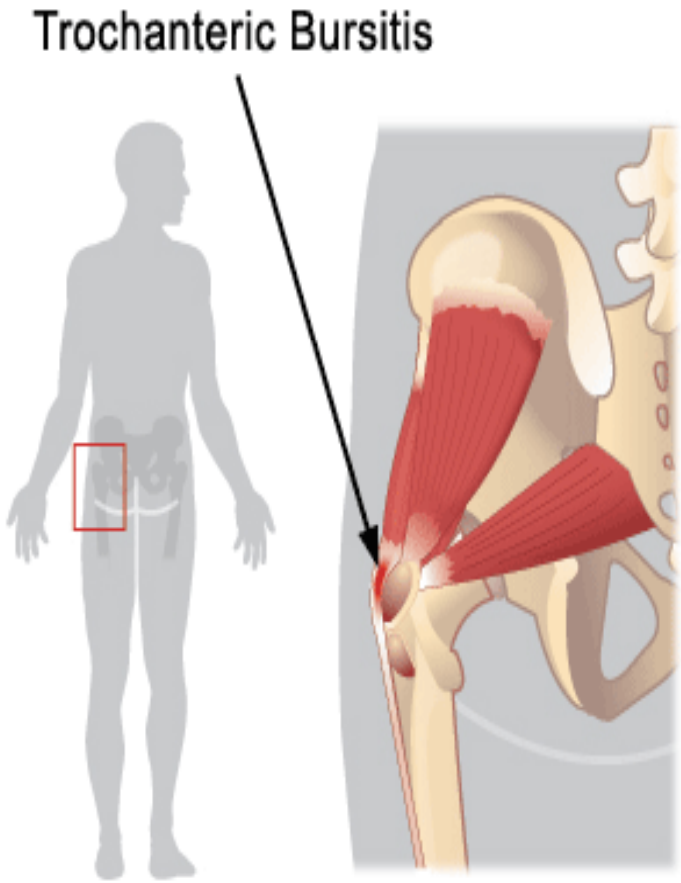
  -Weight bearing reduction, gentle stretch

Hip Adductor Strain-Groin Strain



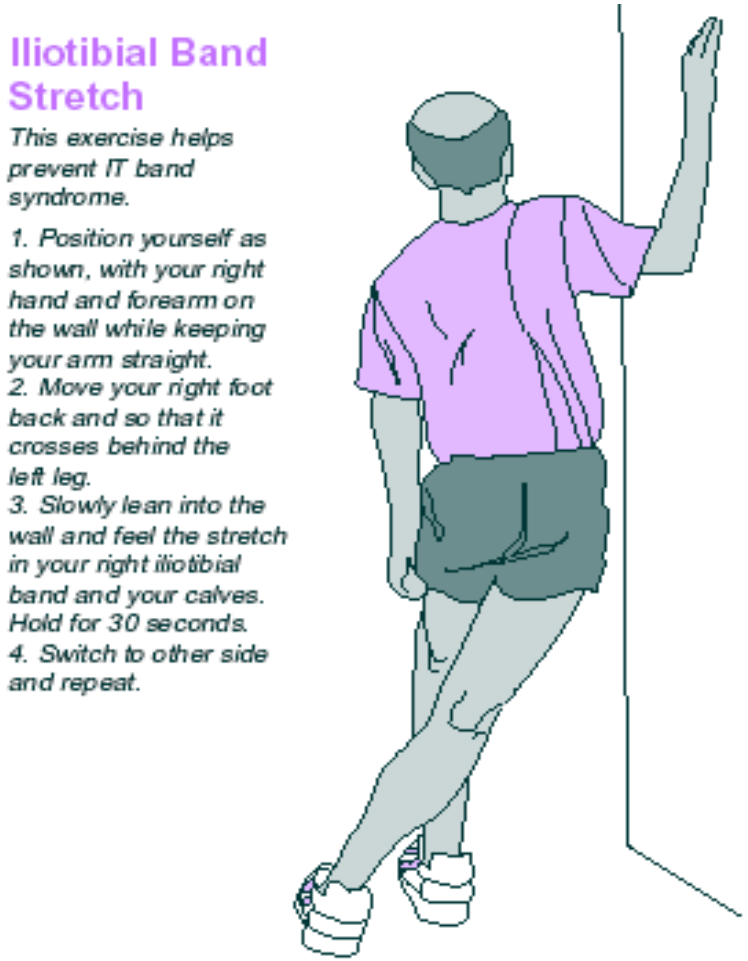
- A common injury in sports due to resisted forceful abduction of hip.
- Ice, gentle stretch, Archi points plus moxa if become chronic.

Greater Trochanter Bursitis



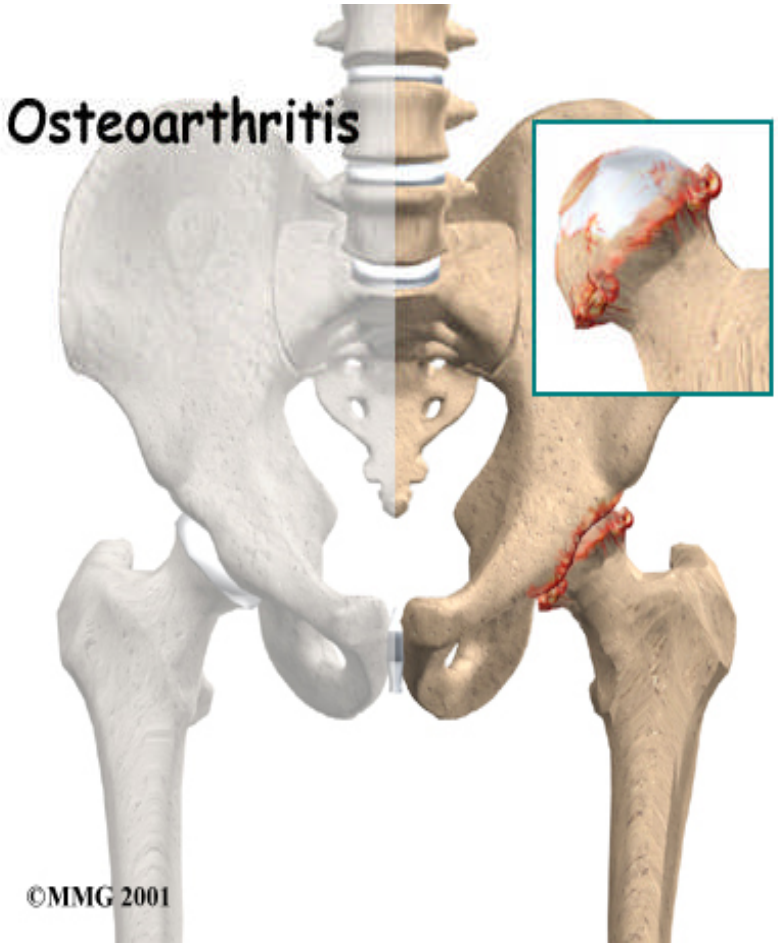
- Inflammation of the bursa located over the greater Trochanter and deep to the gluteus medius and gluteus minimus and tensor fasciae latae.
- Night pain and are unable to lie on the affected side.
- Provocative test: pain over the bursa during movement from full extension to flexion.

Greater Trochanter Bursitis Treatment



- Iliotibial band stretching, Nsaid and cane.
- Acupuncture, Arshi points, electrical stimulation, Moxa
- Local steroid injection.

Hip Osteoarthritis



- OA of the hip is characterized by loss of articular cartilage of the hip joint, whether from trauma, infection, heredity of for idopathic reasons.
- Gradual onset of pain in the groin, buttock or the lateral aspect of the thigh. The pain is related with activity. Night pain is associated with severe arthritis. With limited motion and limp.

Hip Osteoarthritis

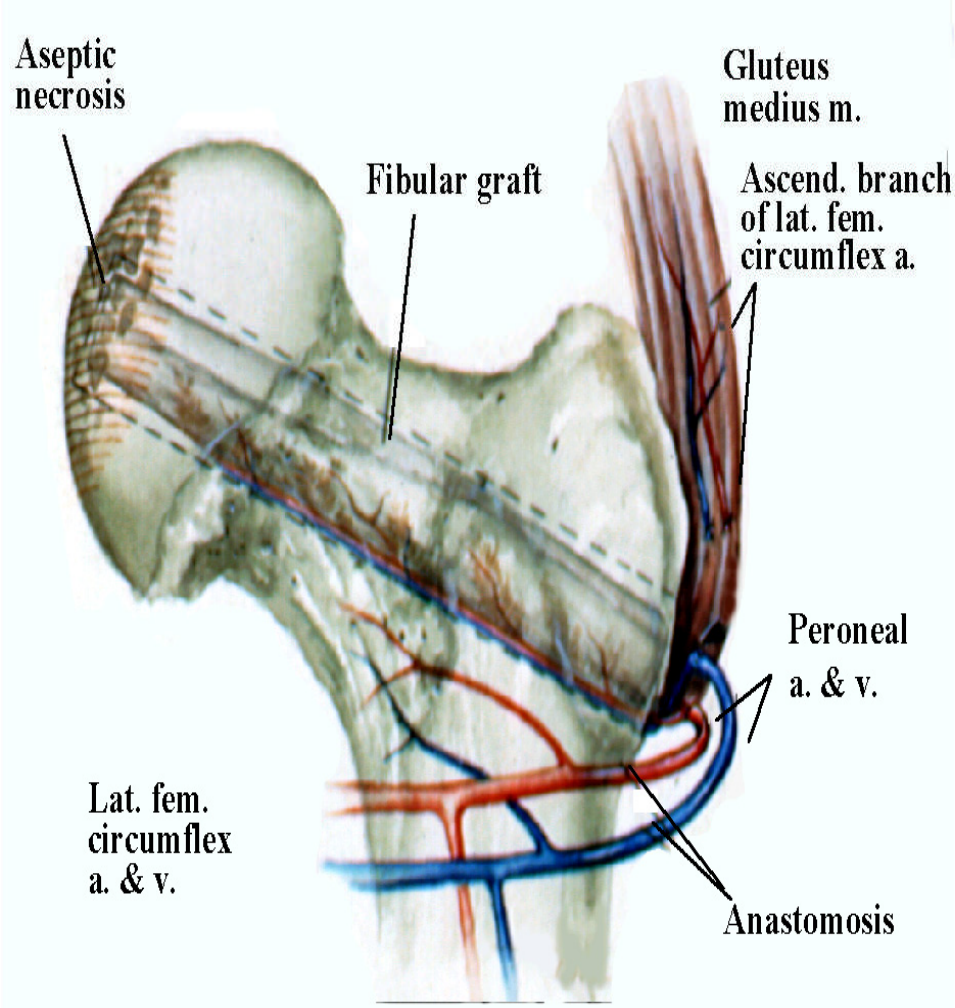
- X-Ray:
  - Joint space narrowing.
  - Osteophytes
  - Cyst formation
  - Subchondral sclerosis

  Tx:

  Acupuncture, Arshi, Moxa, electrical stimulation.

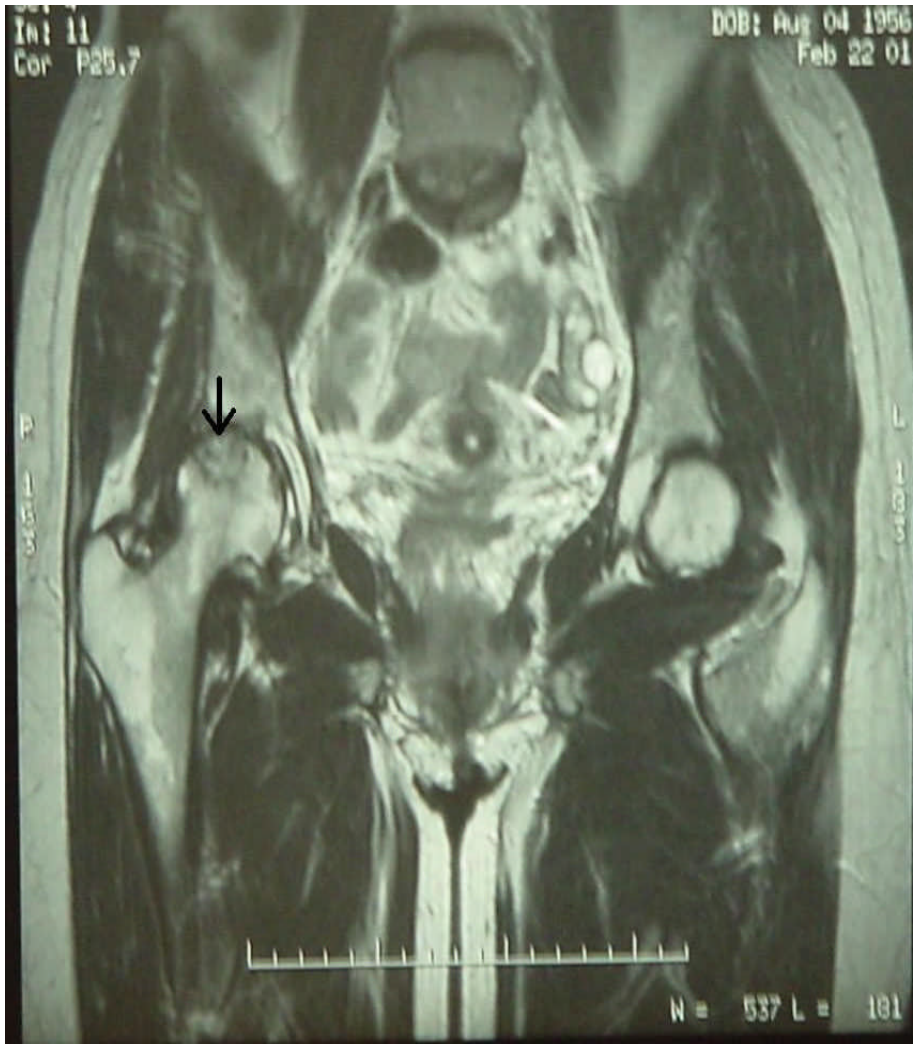
  Heating pad, ROM, etc.

Avascular Necrosis of the Femoral Head



- Death of the femoral head without sepsis.
- Interruption of the vascular supply.
- Most common causes: steroid use and alcohol abuse.

Avascular Necrosis of the Femoral Head

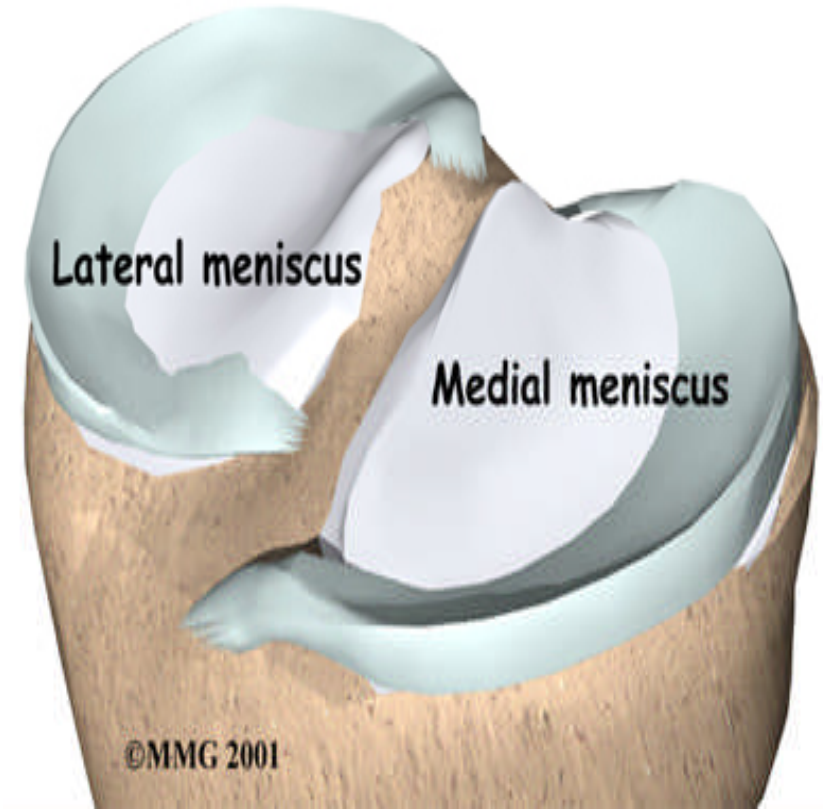


- Pain in the groin, anterior thigh, or even the knee
- Symptoms are of insidious onset.
- Short swing and stance phase on the affected side.
- Loss of external and internal rotation of Hip.
- Pain elicited on RPM.

Avascular Necrosis of the Femoral Head--Treatment

- Acupuncture: help to reduce pain. Arshi, moxa, and electrical stimulation.
- Chinese herbs: Improving blood circulation at the femoral head.
- Help to maintain the femoral head within the acetabulum while healing and remodeling.
- Last resort: total hip replacement.

Knee Disorders - Meniscal Injuries



- Medial meniscus injuries: cutting injuries, tibial rotation while the knee is partially flexed during weight bearing (football, soccer)
- Lateral meniscus injuries: during squatting, full flexion with rotation (wresting)

Knee Disorders - Meniscal Injuries

- Acute tears are often associated with a pop sound.
- May cause true locking.
- Effusion may occur within 24 hours.
- Patients frequently C/O knee stiffness.
- Degenerative tears often involve minimal trauma. Patients' age > 40 yo.
- Impingement episodes may be minimal.

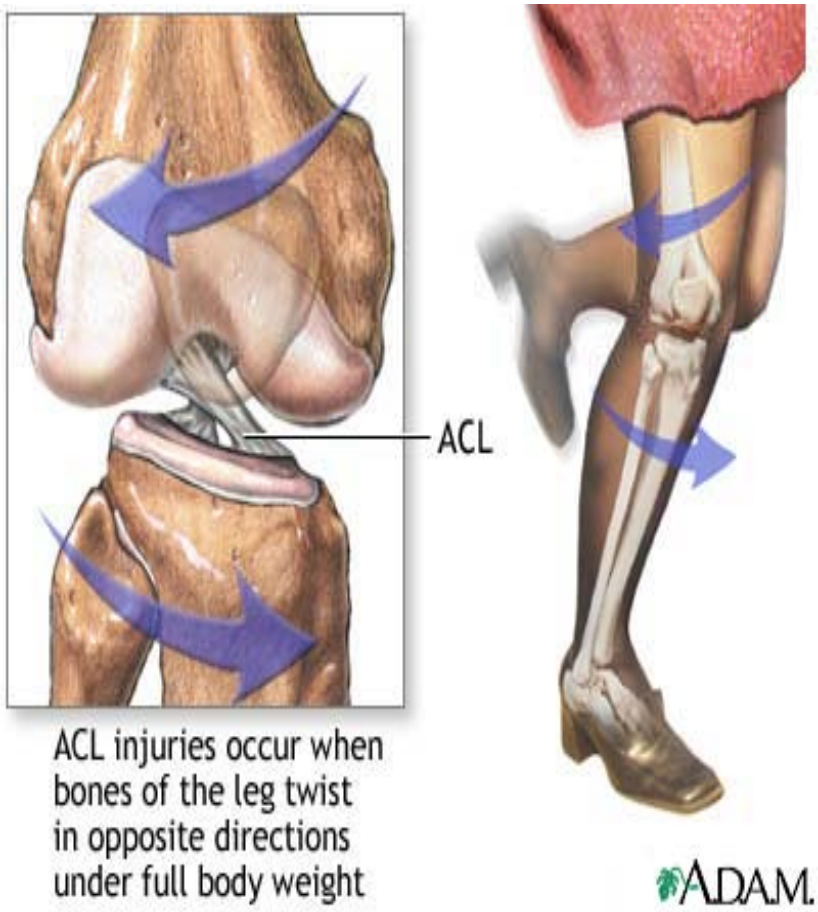
Knee Disorders - Meniscal Injuries

- PE
- Range of Motion is decreaed
- Effusion will limit flexion
- Menical fragment impingement will limit extension
- Tenderness of the medical joint line for medial meniscus damage, lateral joint line tenderness indicates the lateral menicus damage.
- Apley and McMurray tests./

Knee Disorders - Meniscal Injuries

- MRI is gold standard.
- The inner two thirds of the meniscus is not well vascularized, often requires surgical removal of the damaged tissue.
- Non weight bearing for 4-6 weeks. If surgical removal, weight bearing within 1-2 days.
- Acupuncture arshi points.

ACL INJURIES



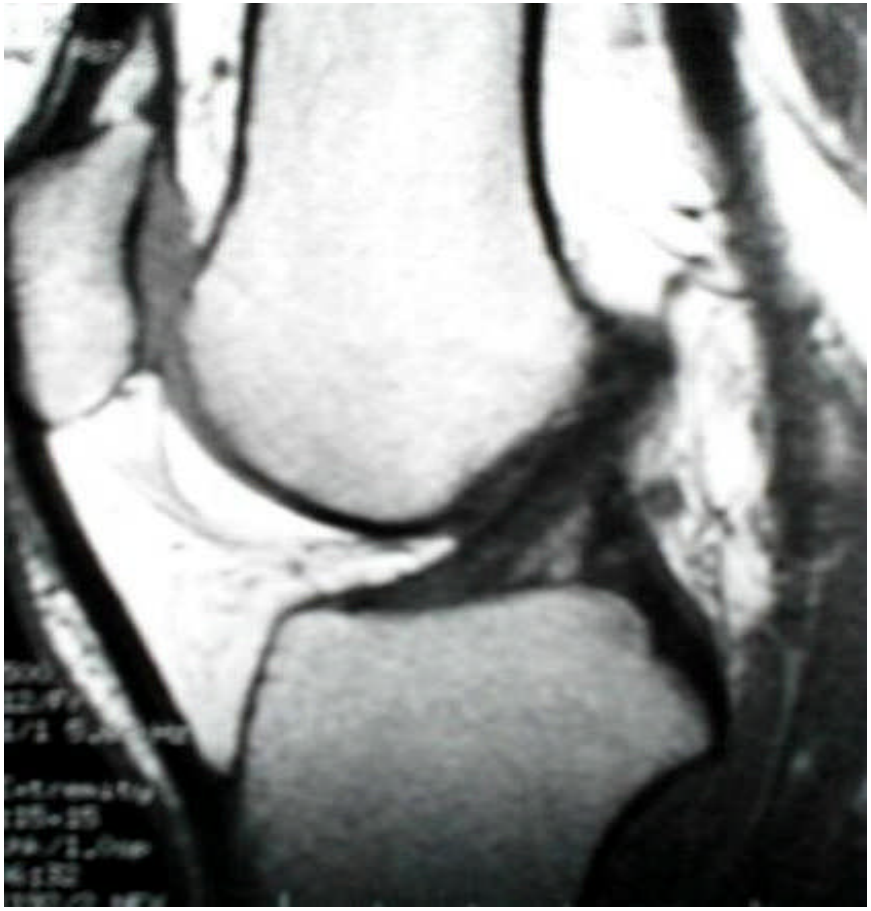
- Cutting, deceleration and hyperextension of the knee.
- Seeing in the athletics
- >50% of ACL tears occur with meniscal tears.
- O’Donoghue’s Triad: ACL, MCL and medial meniscus.

ACL INJURIES

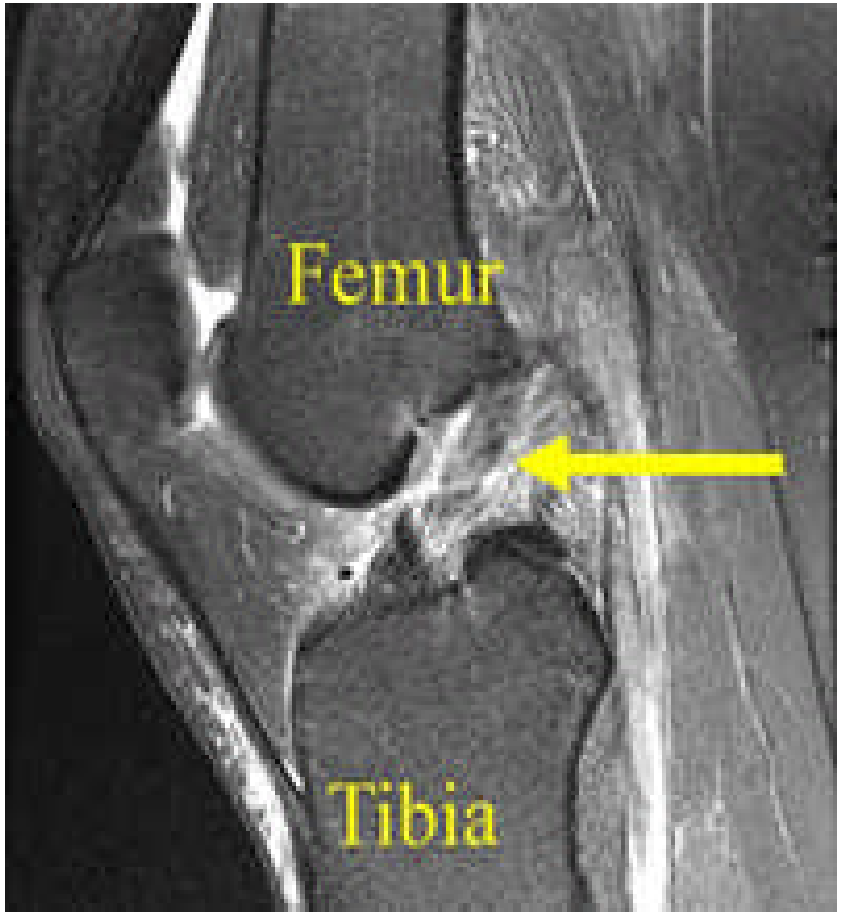
- Clinical: sudden pop and anterior knee pain.
- Instability of the knee
- Early swelling
- Anterior draw sign +
- MRI 85 to 90% +
- Arthroscopy close to 100% +
- Tx: partial wt bearing
- Ice and compression
- Arthroscopy surgical reconstruction.
- Early range of motion.
- Closed chain kinetics
- Acupuncture for pain relief.
- Complete rehab 1 yr.

ACL INJURIES

- Normal ACL



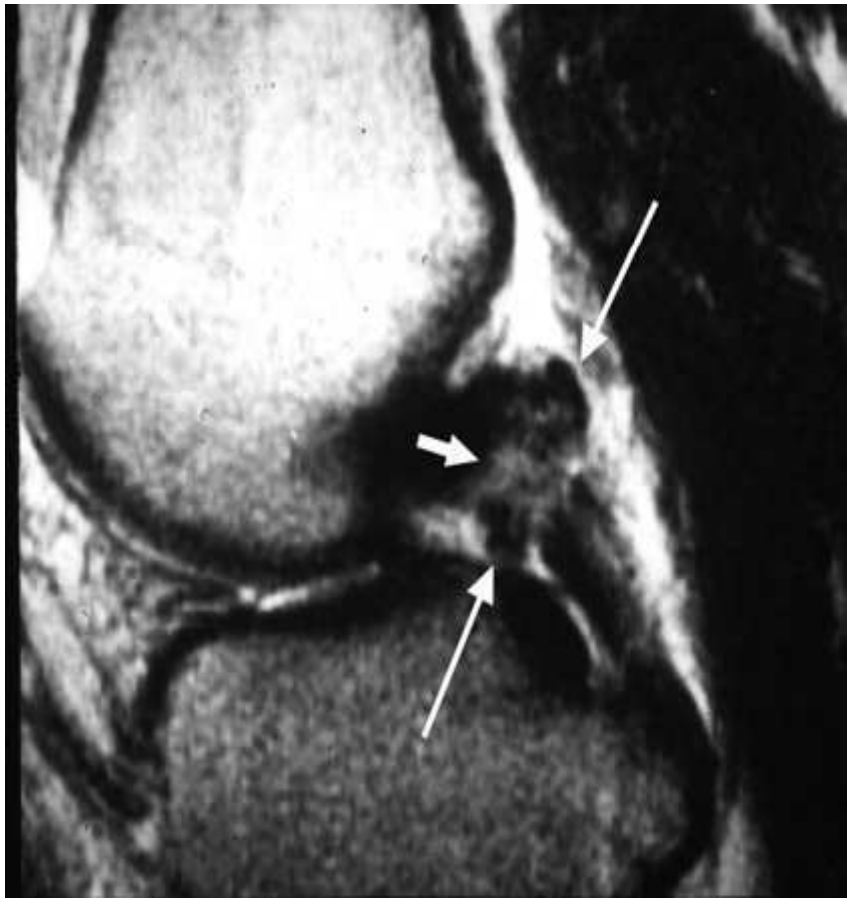
- Complete ACL tear



PCL INJURIES

- Normal PCL

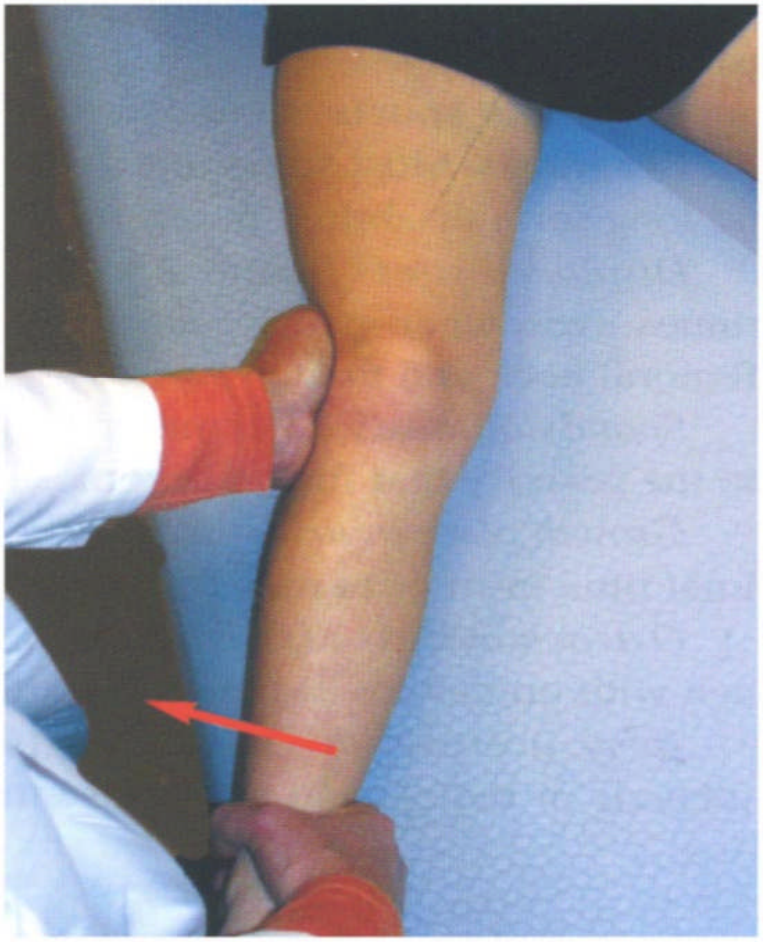
- PCL tear

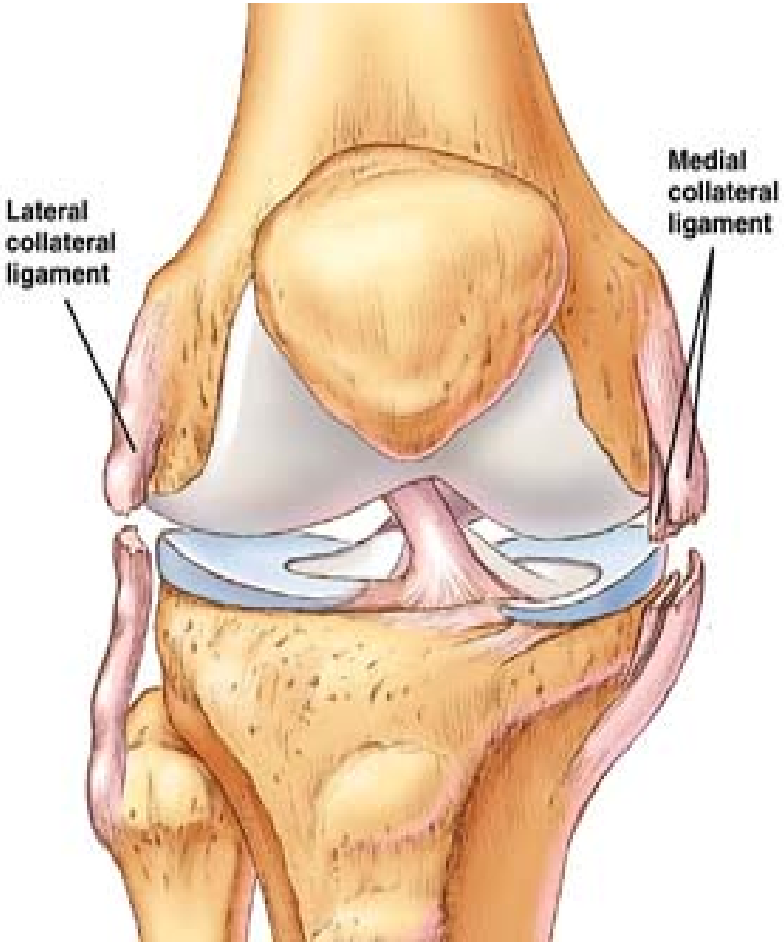


PCL INJURIES

- Dashboard injury
- May not have pop
- Injury with Knee Hyperextension
- Less common than ACL injury
- Minimal swelling at early stage, increasing over 24 hr.
- Effusion
- Popliteal tenderness
- Posterior drawer and Sag tests +
- Arthroscopic repair.
- Quadriceps strengthening
- Arshi points.

Lateral & Medial Collateral Lig. Tears

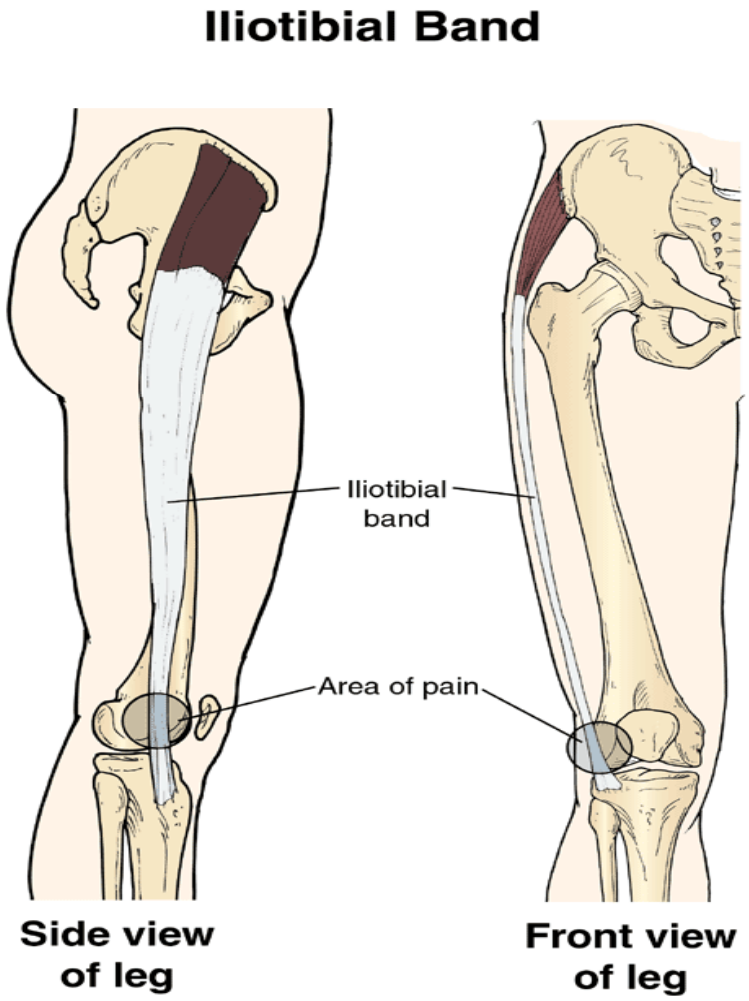




Lateral and Medial Collateral Lig. Tears

- MCL tears are common in football and skiing after lateral blow to the knee and a pop.
- Medial knee pain and swelling are often immediately present.
- LCL tears usually are the result of knee dislocations.
- Isolated LCL tears are rare.
- Tx: conservative, ice, brace, Acupuncture, strengthening and stability.
- Triad of MCL tear, ACL tear and medial meniscal tear (O'Donghue's Triad) needs evaluation.

Ilial Tibial Band Syndrome (ITB Syndrome)

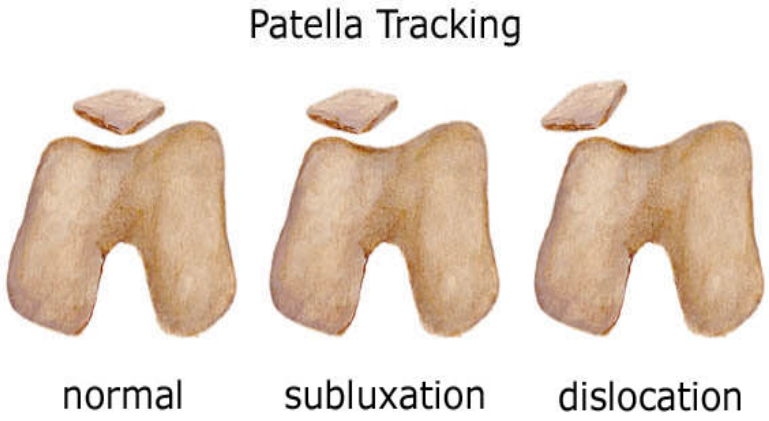


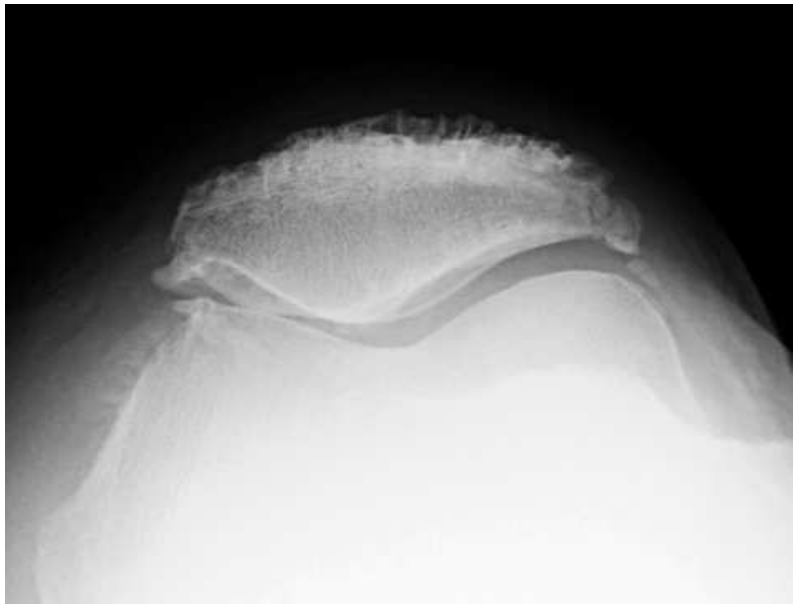
- The ITB slides over the lateral femoral condyle with the knee in flexion and extension.
- The pain is worse with running and walking.
- Evaluated by the Ober test.

Ilial Tibial Band Syndrome (ITB Syndrome)

- Stretching the ITB, hip flexors and gluteus maximus.
- Acupuncture, archi points and mexa. Electrical stimu.
- Orhtotics and foot overpronation must be corrected.
- Injection at the lateral femoral condyle.

RECURRENT PATELLAR SUBLUXATION





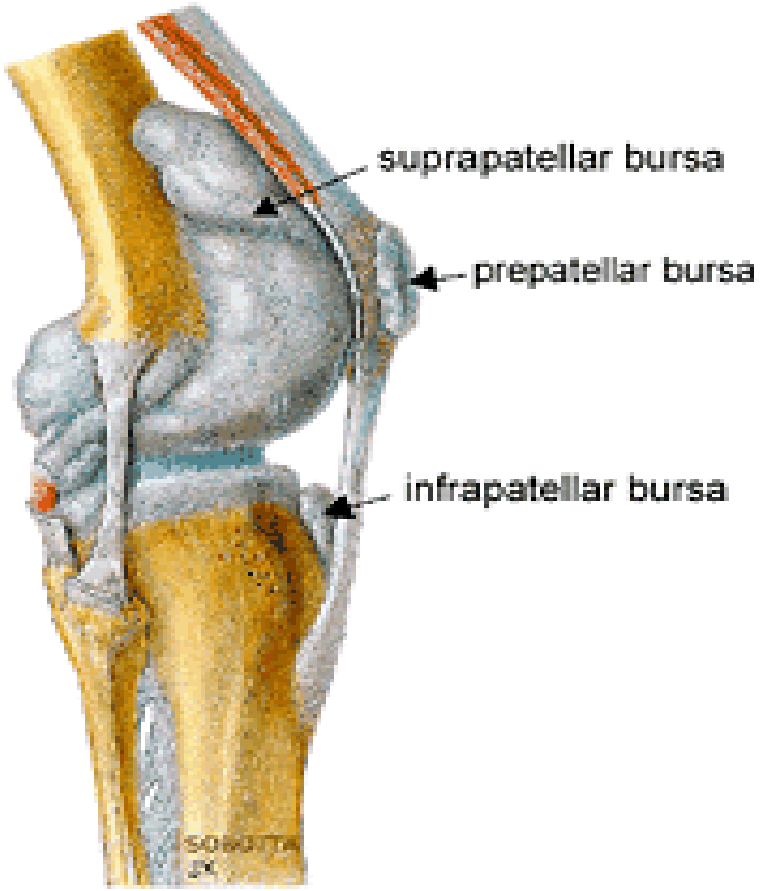
- The patella may be displaced medially or laterally in the acute phase.
- The knee tends to buckle after a subluxation.
- Pain at the peripatellar region.
- Effusion.

RECURRENT PATELLAR SUBLUXATION

- R:Patellar subluxation
- L: Patellar tilt

- Wasting of the vastus medialis.
- Impaired full extension
- The patella will often reset at 25-30 degree of flexion.
- Tx: see below

Patellofemoral Pain and Overload Syndrome (Runner's or Biker's Knee)



- The most common anterior knee pain syndrome.
- Overuse injury caused by repeated microtrauma leading to peripatellar synovitis.
- Recurrent patellar subluxation predisposes the syndrome.

Patellofemoral Pain and Overload Syndrome (Runner's or Biker's Knee)

- Tx: Non Surgical-most cases are successful
  - Controlling symptoms: Decreasing pain, increasing strength, increasing range of motion.
  - Activity modification: Reduce the pace of climbing, jumping, squatting.
  - Ice 15 min before and after activities.
  - Nonsteroidal anti-inflammatory medications.

Patellofemoral Pain and Overload Syndrome (Runner's or Biker's Knee)

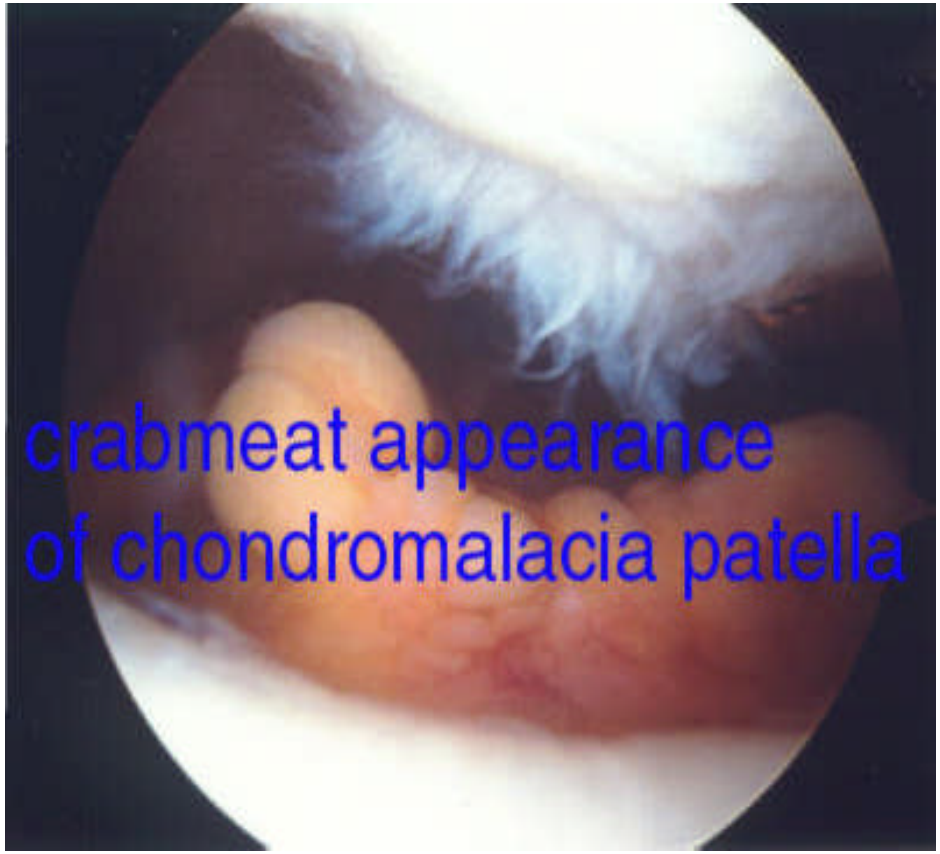
Therapeutic exercise

- Quadriceps, especially VMO.
- Straight leg raising.
- Stretching of the hamstrings, ITB, adductors, and VL.
- swim slowly.

Chondromalacia Patella

- Normal View

- Chondromalacia View



Chondromalacia Patella

- Softening of the patellar articular cartilage.
- Culmination of cartilage degeneration.
- Essentially an arthroscopic diagnosis.
- Roughened orfibrillated cartilage on arthroscopy.
- Often seen with chronic patellofemoral overload and tracking dysfunction.
- Treatment: the same as above.

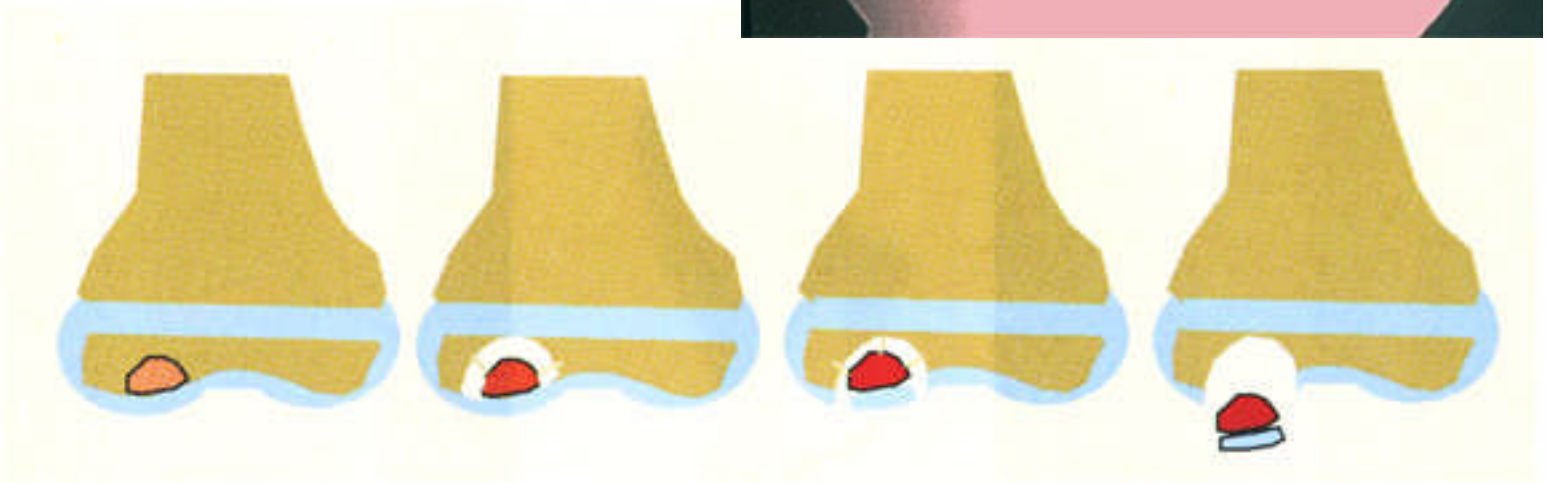
Plica

- A redundant fold of the synovial lining of the knee.
- Susceptible to tearing as it pass over the condyles.
- Occur in the the medialpatellar, infrapatellar or suprapatellar region.
- The symptom and Tx similar to the knee overload syndrom.
- May indicate surgery.

Jumper’s Knee

- Patellar tendinitis.
- Micro-tears of the tendon.
- Involving pole of the patella.
- Most common site: inferior pole of the patella.
- Sometimes superior pole of the patella or the insertion over the tibial tubercle.
- Pain on activity.
- Tx: the same.

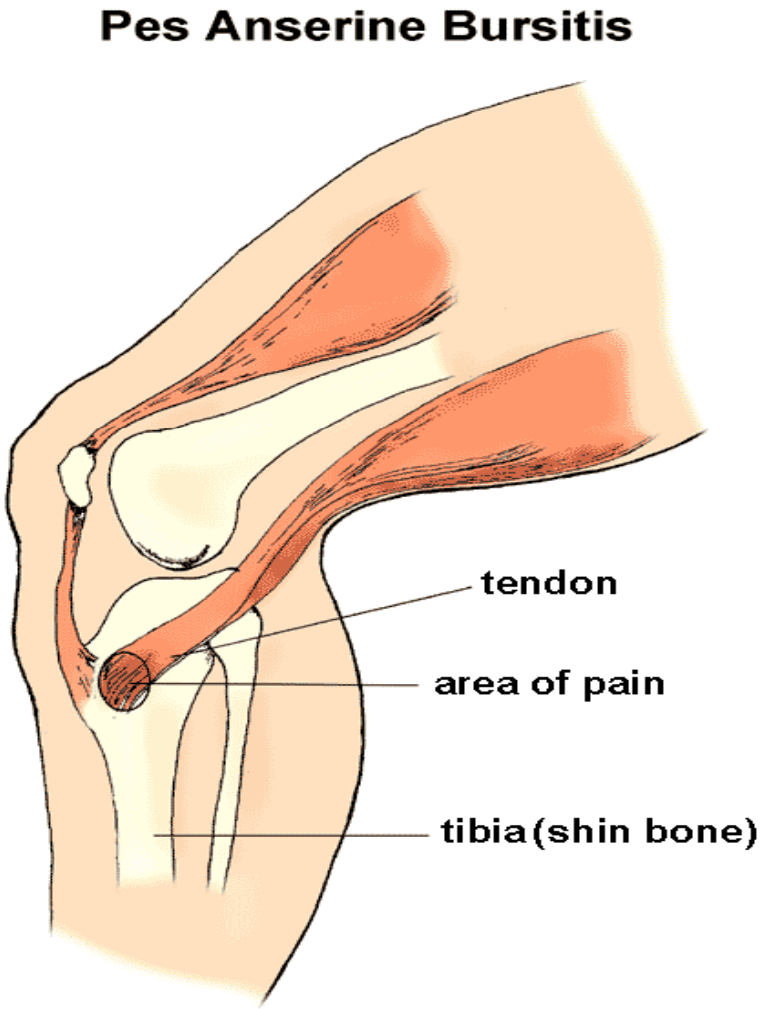
Osteochondritis Dissecans



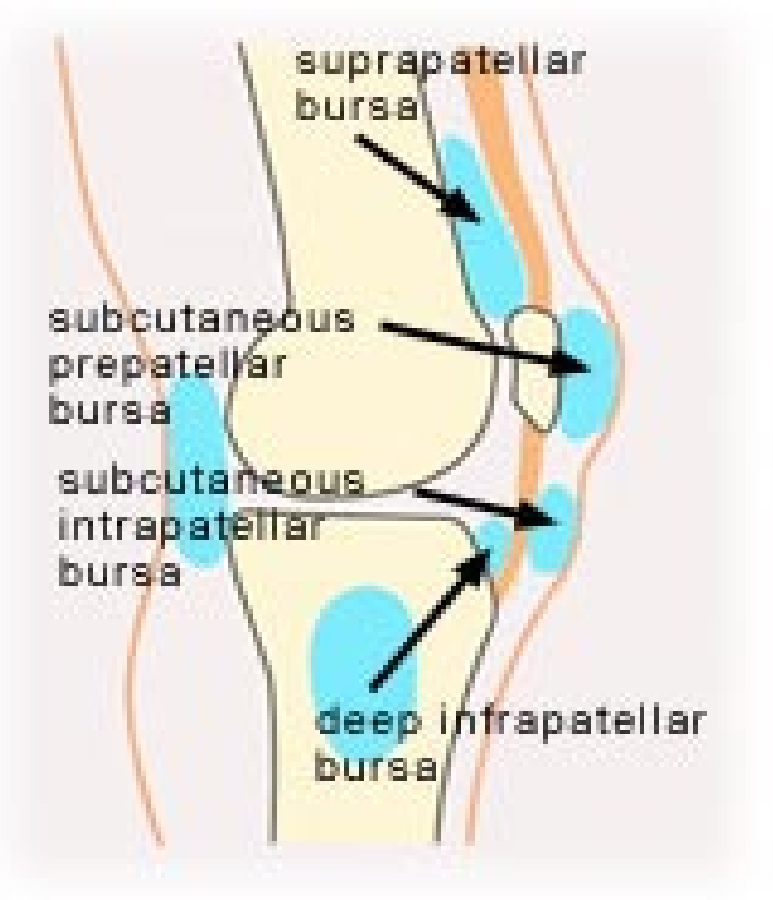
Osteochondritis Dissecans

- Localized area of avascular necrosis.
- Formation of dead subchondral bone covered with articular hyaline cartilage.
- The entire piece may detach, enter the joint space as a loose body.
- Locking, irritation, buckling.
- Rest, non wt bearing, surgery.

Pes Anserine Bursitis



Bursa Around Knee

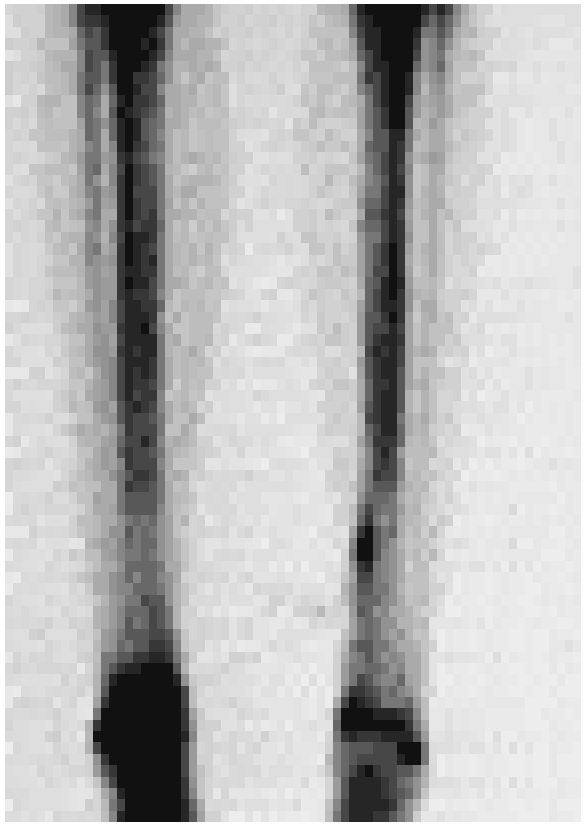


- Repetitive activities may cause different bursitis.
- Location, Location!
- Acupuncture, archi points.
- Moxa, electrical stimulation, if acute, use ice.
- Steroid injection.

Shin Splints
(Medial Tibial Stress Syndrome)

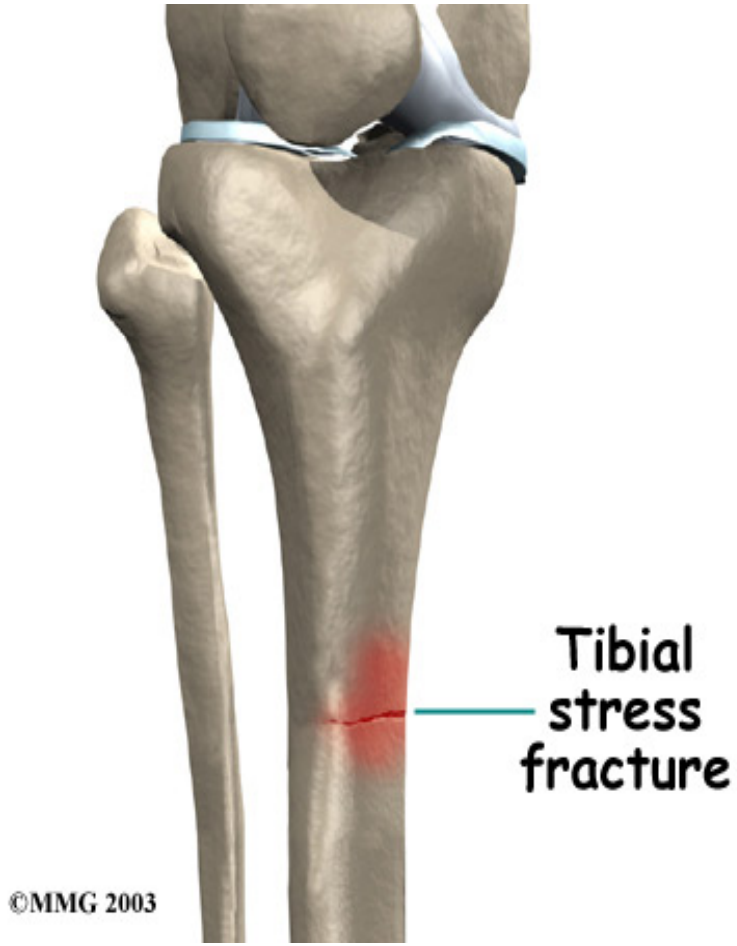
- Exercise induced chronic traction on the periosteum at the poeriosteal-fascial junction.
- Gradual onset of pain along the anterior medial border of tibia or the lower medial ankle.
- Hx of repetitive running on hard surfaces and inappropriate warm-up.
- Recently changed footwear.

Shin Splints
(Medial Tibial Stress Syndrome)



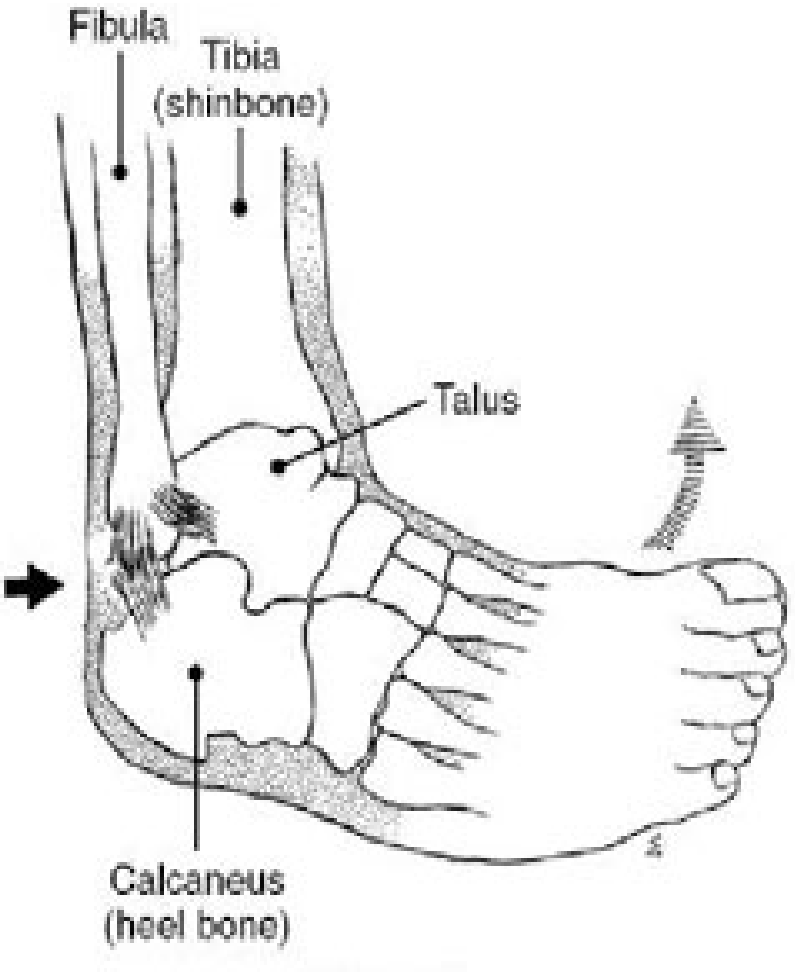
- Bone scan or MRI rule out stress fracture.
- Rest is the best and first.
- Ice and stretch or walking with crutch.
- Acupuncture points stimulation, no heat.
- Orthotics to correct over-pronation.
- Fasciotomy.

Stress Fractures



- Most common in running sports.
- 25% incidence in athletes with lower leg pain.
- Low bone mineral density imposes a higher risk.
- Over-pronation places higher stress on the fibula and tibia.

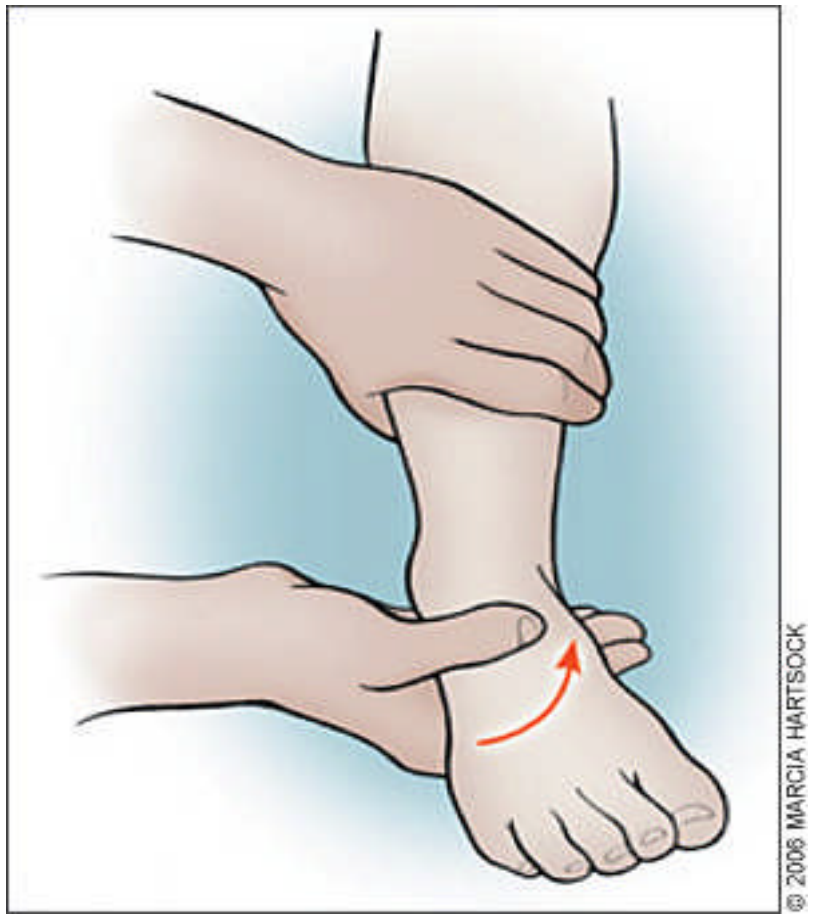
Lateral Ankle Sprain



Lateral Ankle Sprain

- Mechanism: inversion on a plantarflexed foot.
- Anterior draw tests for the integrity of the ATFL.
- Talar tilt tests for the integrity of ATFL and CFL.

Lateral Ankle Sprain

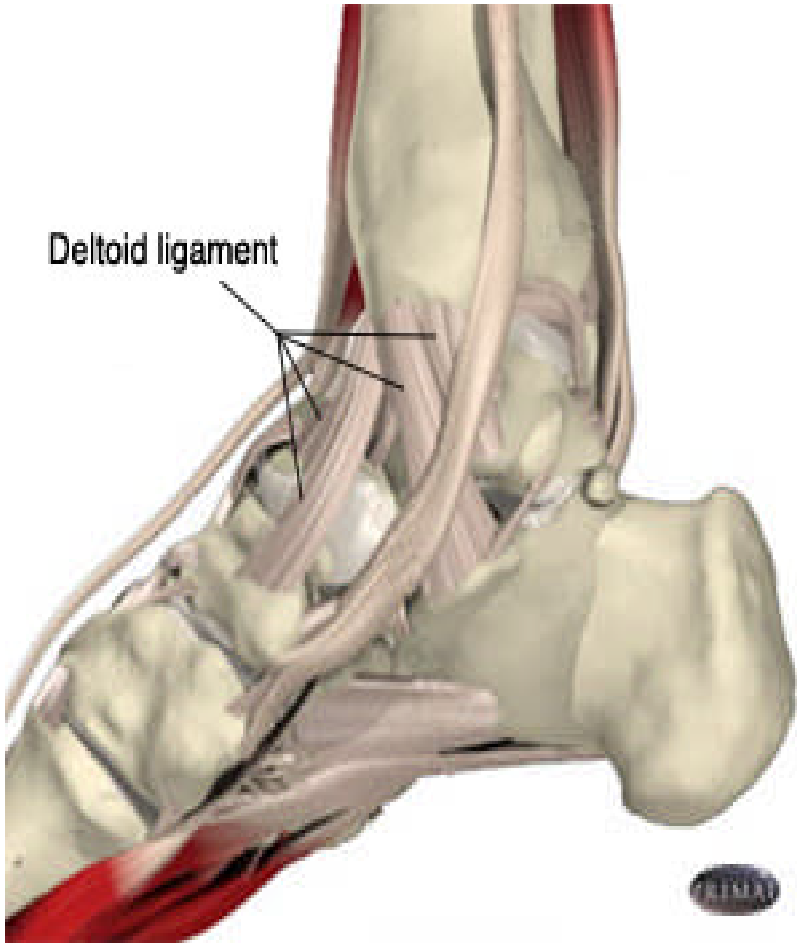


- Grade I (mild): Partial tear of ATFL.
- Grade II (Mordrate): Complete tear of the ATFL, partial tear of the CFL.
- Grade III (Severe): Complete tear of ATFL and CFL.

Lateral Ankle Sprain

- Grade I and II: Ice, rest, compression, elevation , NSAIDs, analgesics, immobilization. Acupuncture, archi, etc.
- Grade III: controversial : conservative vs. surgical.
- Acupuncture only can treat for Grade I.

Medial Ankle Sprain



- Rare ankle injury, 5% occurrence rate.
- Pure eversion injury.
- Grade I: Stretch
- Grade II: Stretch partial tear.
- Grade III: Full tear.
- Tx: The same as lateral ankle sprain.

Achilles Tendon Disorders

- Tendonitis: Posterior ankle pain, swelling, pain elicited on push-off.
- Rupture: Sudden audible snap with immediate swelling, ecchymosis and weakness in plantar flexion.

Achilles Tendon Disorders

- Positive Thompson test on right leg indicates ruptured achilles tendon by squeezing the calf.
- Negative Thompson test on left leg indicates intact achilles tendon.

Achilles Tendon Disorders Treatment

- Achilles tendonitis: relative rest, ice, anti-inflammatory medications, acupuncture, arshi points. Moxa in chronic phase.
- Rupture:
  - Conservative: Bracing in a plantar-flexed position for a period of 8 – 12 weeks
  - Surgical, cast for 2 weeks. Then plantar flexion dial lock brace for 4 to 6 weeks. Acupuncture may help for stiffness of the ankle postsurgically.

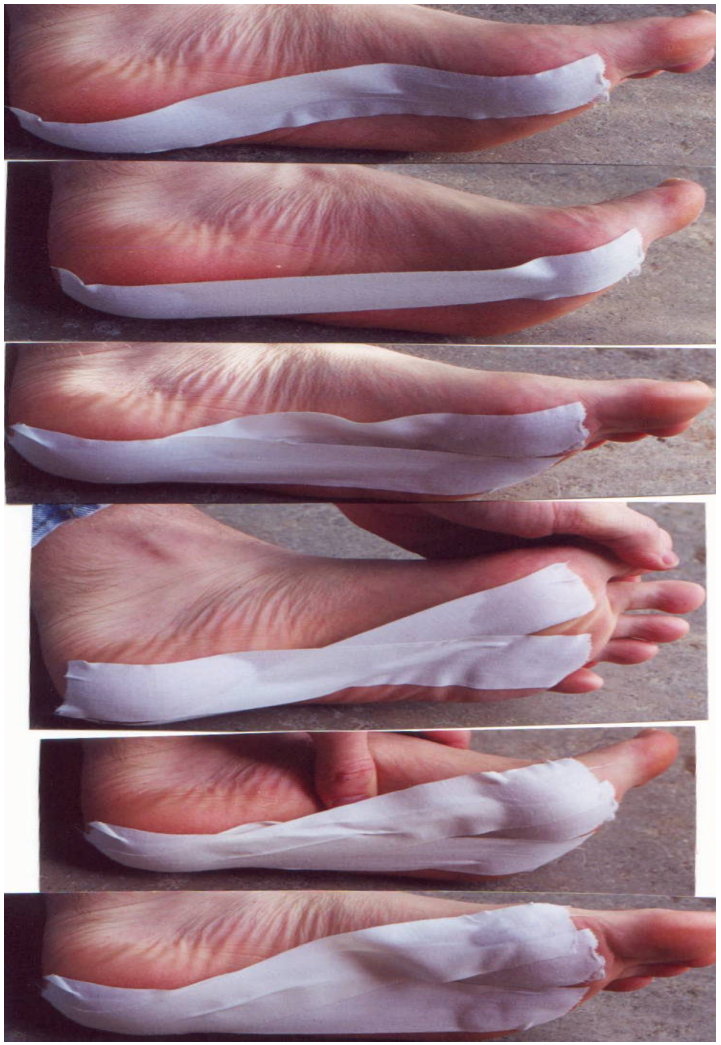
Plantar Fasciitis

- Medial plantar heel pain, which may evolve from heel spur or plantar fascia.
- Tension on the plantar fascia leading to chronic inflammation most commonly at its origin.

Plantar Fasciitis

- Tenderness over the medial aspect of the heel and the entire plantar fascia.
- Increased on awakening and decreased with activity.
- Tight Achilles tendon frequently associated.

Plantar Fasciitis



- Heel pads, cushion and taping.
- Acupuncture, archi, capping, moxa, very useful.
- Achilles and plantar fascia stretching.
- Night splints, NSAIDs and modalities.

Morton’s Neuroma

- A painful mass near the area of the metatarsal heads. The mass is secdondary to the nerve fibrosing. More women.
- Sharp shooting forefoot pain.
- Tx: Shoes with soft sole and wide toe box with pad.
- Acupuncture: archi with electrical stim, moxa, cupping.