

Hip and Thigh Injuries in Athletes

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Topics to be discussed

- Snapping Hip Synd.
 - Internal
 - External
- Osteitis Pubis
- Apophyseal Injuries
- Age Related Hip Injuries
- Quad Contusions
- Hamstring Strains
- Stress Fractures
- Sports Hernias

Snapping Hip Syndrome

- Internal Snapping Hip
 - A common cause is suction within the hip capsule which occurs with hip flexion.
 - Ileofoemoral Ligament clicking over the Femoral Head
 - Psoas Tendon snapping over the iliopectineal eminence.
 - Iliopsoas Tendon snapping over the ASIS.
 - Rarer cases are caused by a loose body within the joint, osteochondromatosis, and subluxation

Internal Snapping Hip

- Care is conservative.
 - Often is more a nuisance than painful.
- If pain is not showing improvement within two weeks do imaging studies.
 - MR arthrogram is study of choice.
 - Loose bodies and acetabular labral tears are being repaired arthroscopically.

External Snapping Hip

- Gluteus Maximus Tendon or Iliotibial Band snapping over the Greater Trochanter.

- Contributing Factors: Tight ITB, narrow Bi-iliac width, Poor Flexibility, and Muscle Strength Imbalance.
- Most of the discomfort is from the associated bursitis.
- Care is conservative.

Hip Bursitis

- Pain has a gradual onset which increases with activity.
- Can involve the Psoas, Trochanteric or Ischial Bursae.
- Psoas Bursitis presents with inguinal pain which radiates to the Inguinal Triangle.
 - Extreme hip rotation while in flexion can elicit pain.

Hip Bursitis

- Trochanteric Bursitis (Iliotibial Band Friction Syndrome)
 - Characterized by a deep burning pain located just posterior to the Greater Trochanter and can radiate down the lateral thigh.
- Ischial Bursitis
 - Most commonly occurs after direct trauma.
 - Must rule out Hamstring tear, Epiphysitis in skeletally immature patients, and Osteomyelitis.

Hip Bursitis

- Care is conservative.
 - Aggressive stretching of the hip region.
 - Make sure with strengthening to keep proper ratios in mind.
 - Modalities as necessary.
 - OMT to correct and causing/resultant somatic dysfunctions.
- Rarely injections are necessary
- RTP once pain free and 90% of strength has returned.

Osteitis Pubis

- Aseptic inflammation of the pubic symphysis and surrounding structures.
- Probably caused by repetitive microtrauma.
- Any somatic dysfunction about the pelvis can cause abnormal forces across the symphysis.
- Therapy is usually conservative.

- Early injection can be very beneficial.
- Holt et al. AJSM 23:5, page 601(1995)

Osteitis Pubis

Apophyseal Injuries of the Pelvis

- ASIS- Sartorius M.
- AIIIS- Rectus Femoris M.
- Lesser Trochanter-Iliopsoas M.
- Greater Trochanter- Gluteus Medius M.
- Iliac Crest- External Oblique M.
- Ischial Tuberosity- Hamstring M.
- Superior Tubercle-Rectus Abdominus
- Inferior Pubic Rami- Adductors

Apophyseal Injuries of the Pelvis

- Caused by violent muscle contraction against a fixed resistance or forceful eccentric muscle contraction.
 - Hear a loud “pop” at the time of injury.
 - Point tender over bony landmarks.
- X-ray to assess for displacement.
- Conservative therapy - most return to sport within 3 mos.
- Refer large displacements to Ortho. (>3cm)

Slipped Capital Femoral Epiphysis

- 8- 15yo male > female, obese or tall thin
 - Pain in distal thigh-knee w/o effusion
 - Pain w/ internal rotation of hip
 - Pain decreased w/ abd/ext. rot/flex of hip
 - More common in Asians and African Americans.
- Occurs around growth spurt.
 - Hypothesized that this is due to an imbalance of sex and growth hormones.

SCFE

- With passive hip flexion the leg tends to move into external rotation and slight abduction.
- Tend to hold hip in flexion with antalgic gait and apparent LLD.
- X-ray- Loss of “S” shape of prox femur
- Tx- Surgery

Legg-Calve-Perthes Disease

- Usually in children 3-8 years old
- Self-limiting, non-inflammatory disease resulting in flattening of the wt. bearing surface of the femoral head.
- Most likely due to interruption in the blood supply to the femoral head.
- Treatment goal is to keep femoral head in the acetabulum.

Avascular Necrosis of the Hip

- Secondary to trauma, SCFE, Legg-Perthes disease, blood dyscrasias, extremes in barometric pressure, steroids
- Painful limp or unable to wt bear
- X-ray, Bone scan, MRI
- Tx- refer to orthopaedics- poor prognosis

Quadriceps Contusions

- Patient has an impact injury with resultant edema, erythema, and tenderness.
- Three step therapy
 - Acutely place in flexion with ice 20 min/hr for first 24 hours.
 - Once pain free restore motion.
 - Once FROM start strengthening

Hamstring Strains

- Biceps Femoris is the most commonly injures
 - Poor flexibility, and improper warm-up contribute to the injury
 - Seems to be associated with <60% hamstring:quad.
- Injury often occurs during sudden acceleration or over extending during deceleration.

Hamstring Strains

- Initial care is PRICE'S
- Once pain free, stretching and isometric strengthening can begin.
- Can begin sports specific rehab once pain-free and able to run 90%.
 - We are getting great results with terminal ballistic strengthening.

Stress Fractures

- Often occur in endurance athletes.
- Usually happens after increasing intensity or quantity of training.
- Be aware of Female Athlete Triad
- Poor training habits or equipment can contribute.
- Many have normal bone density studies.

Femoral Neck Stress Fracture

- Patients often present with
 - Pain in groin or inguinal area, night pain
 - Missed dx as trochanteric bursitis often
- Bone Scan when x-ray (-) and sx progress
- Tension- unstable - needs to be pinned.
- Compression- stable - can follow with serial X-rays and relative rest.

Femoral Neck Stress Fracture

Pelvic Stress Fracture

- Inferior Ramus is the most common site.
- Can also occur at the ischial and superior rami.
- Present as groin pain which is aggravated with activity.
- Because it is a single break in the ring the treatment is symptomatic.
- Can take 2 to 6 months to completely heal.

Stress Fractures

- Femoral Shaft Fractures
 - Often occur proximal 1/3 medially (Adductor Magnus)
 - Will report vague distal thigh pain.
 - 85% of the time they have a positive fulcrum &/or hop test.
- Sacral Stress Fracture
 - occurs in military recruits and patients with repetitive jumping.
 - SI dysfunction that does not resolve with OMT.

Sports Hernia

- Weakness of the posterior inguinal wall which causes groin pain.

- Does not respond to rest or conservative care.
- Players often continue to play with pain.
- Pain will be in groin, pubic symphysis, and external ring.
- Pain is diagnostically found with posterior pressure to the midinguinal canal.
- Herniography is diagnostic.
 - Repair is done laproscopically.

Sports Hernia

Hip Dislocations

- Occur with impact to an adducted flexed hip.
 - Often involve an acetabular lip fracture.
- 90% in sports are posterior
 - Hip is flexed, adducted, and internally rotated.
 - Splint and rapid transport is the Tx.
 - Leg appears short and foot points inward.

Hip Dislocations

- Anterior dislocations occur with a blow to the extended externally rotated leg.
 - The hip is flexed, externally rotated, and abducted.
 - Leg appears short and toes point out.
- **CAN HAVE SCIATIC NERVE DAMAGE WITH POSTERIOR DISLOCATION.**