

GROIN/ HIP ENIGMA IN SPORTS...

A GP perspective...

*SA Academy of Family Physicians
21st GP Conference
River Club, Observatory*

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1918 · 2018

saam vorentoe · masiye phambili · forward together



Introduction

- SEM Consultant, ISEM Clinic
Tygerberg Hosp
- Experience – Rugby Medicine:
 - SARU
 - WP Rugby
 - Maties Varsity Cup
- No other disclosures (including financial)



- Risk factors
- Clinical approach
- Classification(s)
- Non hip-related groin pain
- Hip-related groin pain
- Conclusive remarks



Hip and Groin Pain in Athletes

- Sometimes obvious
- Most difficult area
- Generalized treatment for “groin strain”
- Under-researched area
- 5% of all sports injuries
- Twisting, turning, cutting at speed
- 28% lifetime incidence in soccer
- Rugby 2.4 per 1000 training hours
- 70% duration >7 wks



O'Connor J Sport Sci 2004

Risk factors for Hip and Groin Pain in Athletes



- Previous history of groin injury
- Greater abductor to adductor strength ratios
- Decreased pre-season sport specific training
- Core muscle weakness
- Soccer players
- Previous hamstring and knee injuries
- Pain on iliopsoas palpation
- Decreased external rotation of the hip



Holmich et al.,
Scand J Med Sci Sports 2010

Maffey & Emery
Sports Med 2007



Approach to groin/ hip pain

Junction between abdomen and leg

Acute vs Chronic

Trauma vs Overuse

Intraarticular vs Extraarticular

Orthopedic vs Nonorthopedic





Difficulties!

1. **Complex local anatomy** with large soft tissue sleeve
2. **Complex biomechanics**
 1. Biggest joint,
 2. Carry the body weight,
 3. 2nd biggest ROM
3. Wide differential diagnosis
4. Often diffuse, insidious symptoms with **nonspecific presentation**
5. Often **multiple diagnoses 27-90%** (one triggers the other)

TEAM APPROACH !

SIEVING

Conservative



Surgery

Free online



**1st World Conference
on Groin Pain in Athletes**
1st - 3rd November 2014

Hosted by Aspetaar
Venue: Aspire Academy for Sports Excellence
Doha, Qatar

June 2015 Volume 49 Issue 12

BJSM

The Journal of Sport & Exercise Medicine

**1st World Conference
on Groin Pain in Athletes**
Doha, Qatar
November 1-3, 2014



**Groin Pain:
Doha Agreement
Meeting**

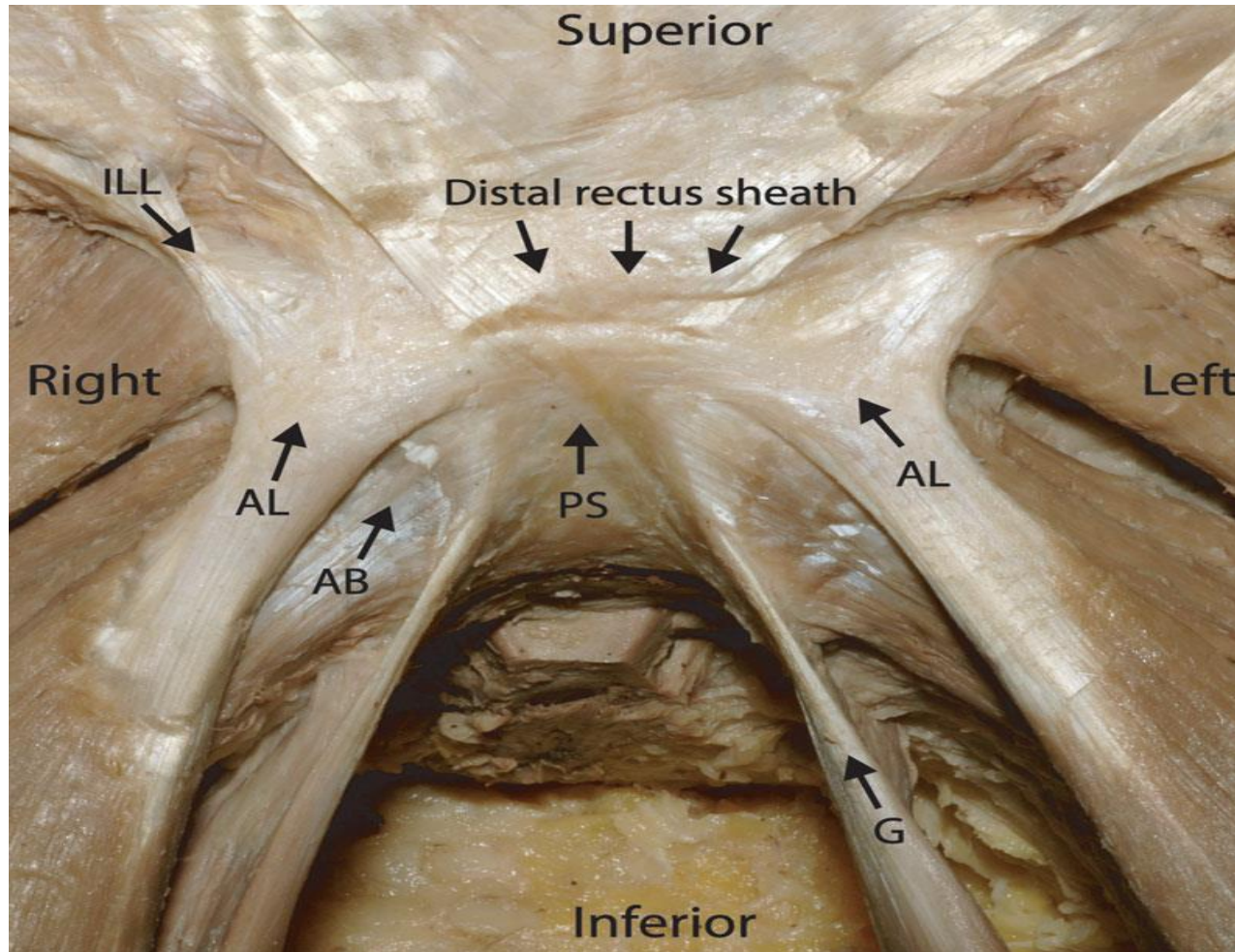
Editors: Adam Weir & Per Hölmich

ASPETAAR 

 bjsm.bmj.com 



Superficial tendon anatomy



Clinical examination based classification system



Clinical examination based classification system

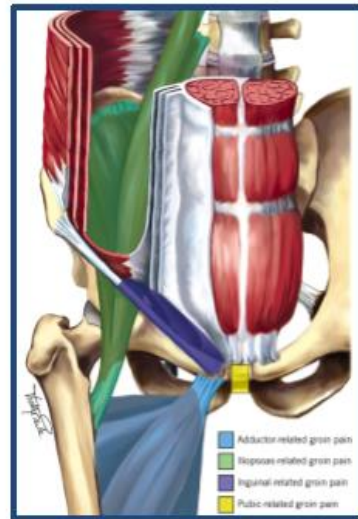
- Groin pain in athletes

1. Defined clinical entities

– Adductor, iliopsoas, inguinal, pubic-related groin pain

2. Hip-related groin pain

3. Other causes



Imaging modalities for groin pain

Principal and adjunct

- Magnetic resonance (MR) imaging **PRINCIPAL**
- Plain radiographs **ADJUNCT**
- Ultrasonography **ADJUNCT**

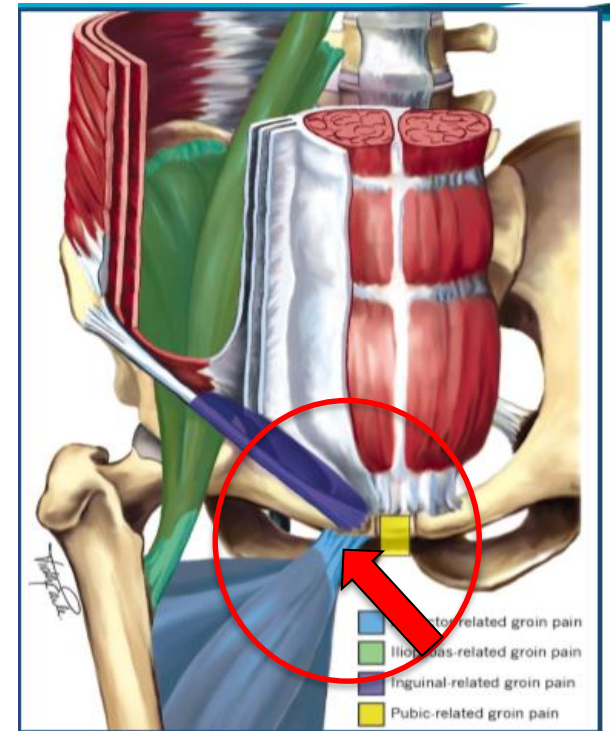


Adductor related groin pain

- Tenderness: adductor
- Resisted adduction=pain



Courtesy Robbart van Linschoten

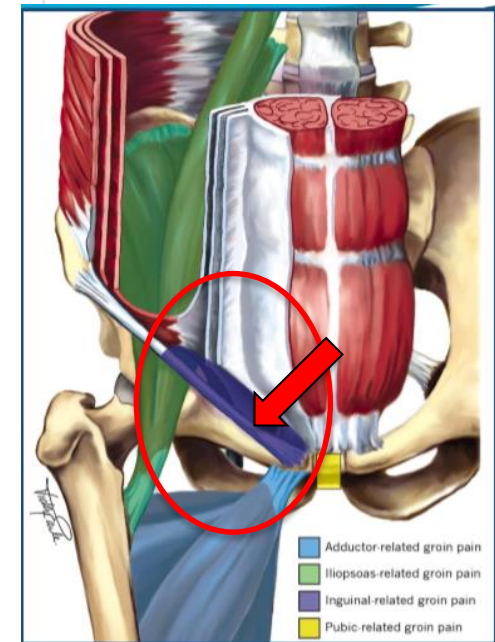


- Chronic: ~6 mos +
 - **Active muscle strengthening** better > Passive PT
- **Painless full ROM + 70% of strength** = return to Sport
- Early return to sport → recurrence + other pathologies
- Prevention !!! (**Adds = Min 80% of Abds**)



Inguinal-related groin pain

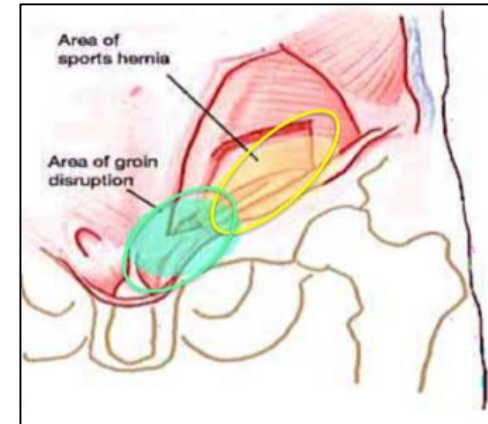
- Pain in the inguinal canal region
- Tenderness: inguinal canal
- No palpable inguinal hernia
- More likely if
 - Pain: Valsalva/cough/sneeze
 - Pain: resisted abdominals





Inguinal-related groin pain

- **Insidious**-onset, gradually worsening, deep chronic groin pain
 - **1/3 trauma** history (+)
 - No true hernia
 - Coughing and bearing down increases 10%
 - **Post exercise and next morning pain**
 - **Resisted adduction** 65% painful
-
- Surgery for groin pain → **30%** documented sports hernias
 - PE hernia ~
 - **Radiating pain 30%**
- Inguinal ligament, perineum, rectus muscles
- Imaging: MRI?
 - Nonoperative treatment **unsuccessful**
 - Surgery **90% success**



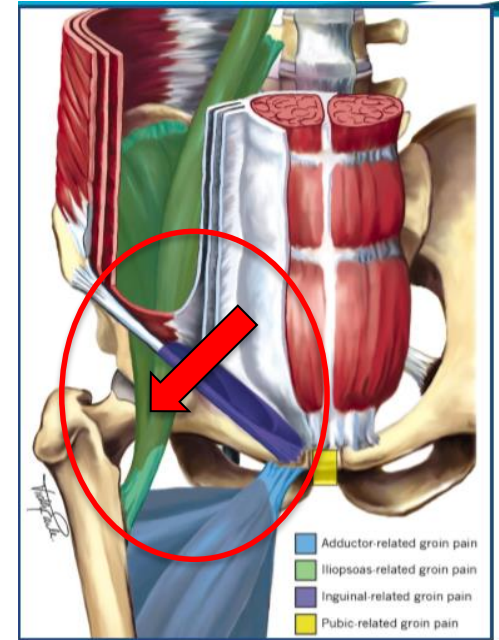
Imaging

- Best assessed initially with ultrasonography (US) to exclude true inguinal or femoral hernia
- US allows dynamic assessment of the posterior inguinal wall for incompetence and disruption
- Main role of MR imaging in this group is to exclude an alternative diagnosis such as inguinal canal masses
- MR imaging can also show occasional injury to the aponeurotic structures



Iliopsoas-related groin pain

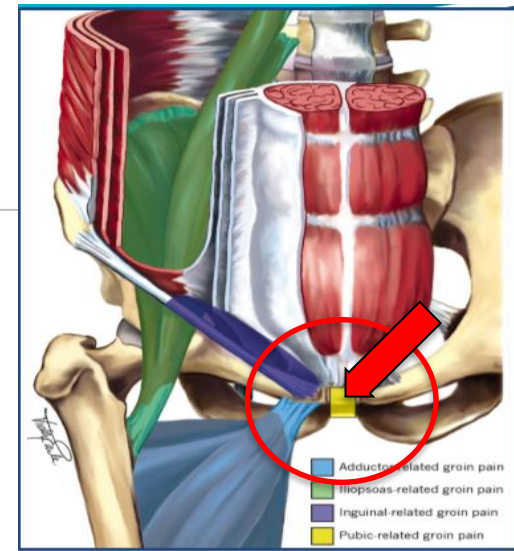
- Tenderness: iliopsoas
- More likely if
 - Pain: resisted hip flexion
 - Pain: hip flexor stretching



Pubic-related groin pain



- Tenderness: pubic symphysis/adjacent bone
- No specific resistance test



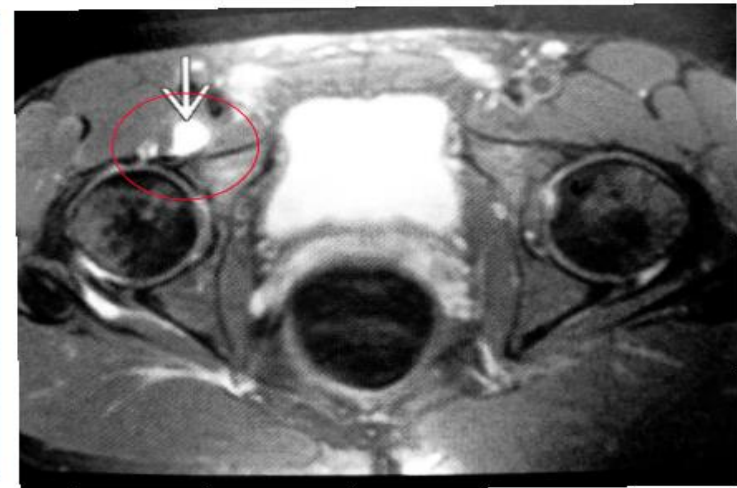
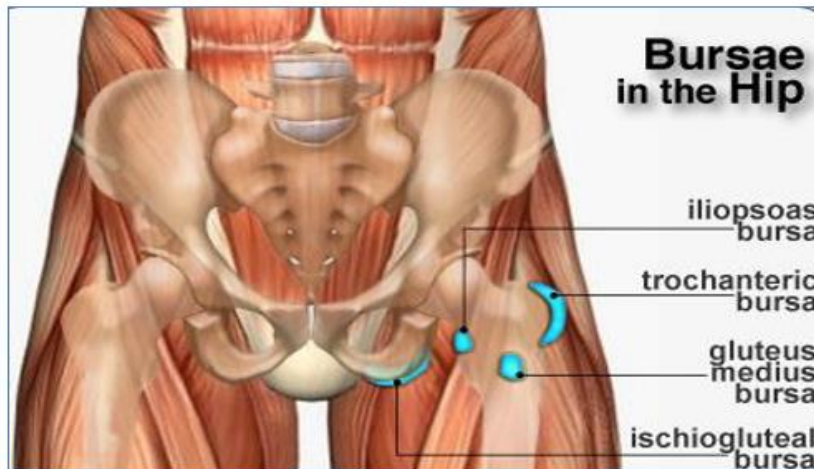
- *Over trained* adolescent and prepubescent
- Repetitive adductor pull shearing forces
- Symptoms
 - Adductor pain occurred 80%
 - Pain around the pubic symphysis 40%
 - Lower abdominal pain 30%
 - Hip pain 12%
 - Referred scrotal pain 8%





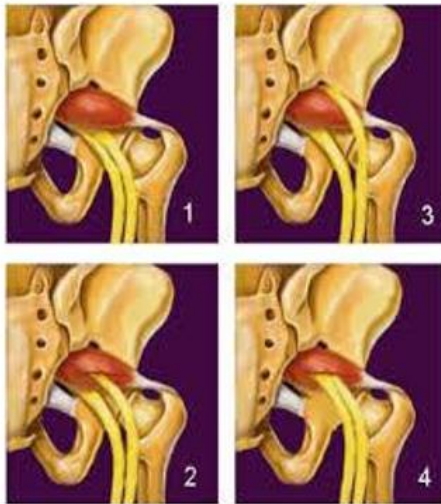
Bursitides

- Overuse or Trauma
- Conservative
- Aspiration and injection (Serial)
- Rarely surgery





Piriformis syndrome



- Never radiates down
- Anatomic variations !
- Hard to show
- Stretching
- Very rarely surgery



Avulsion and apophyseal injuries

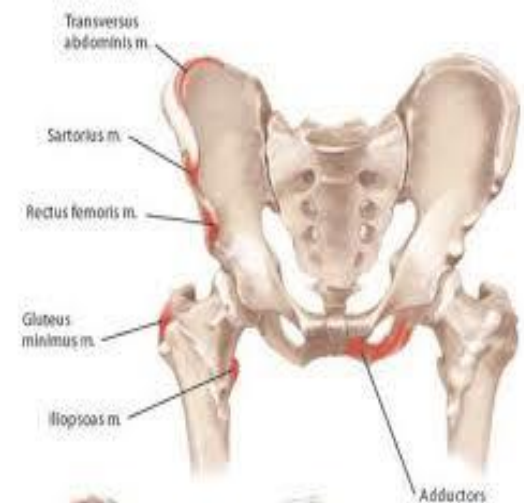
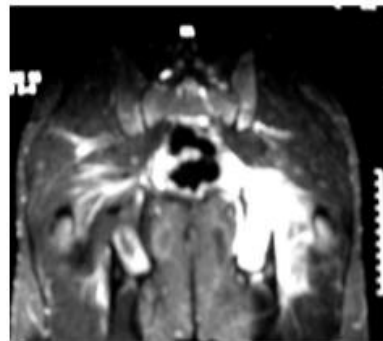
17y, M Soccer



Adolescent (14-17y)
Hard training
14-40% Avulsion
fracture

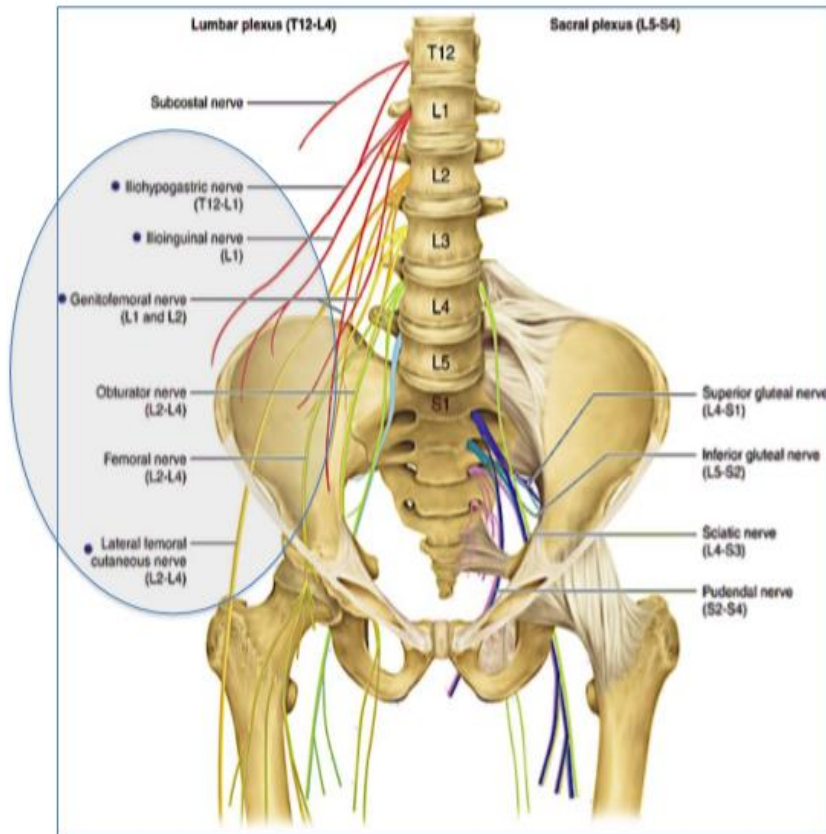


16y, M, Weight lifting





Nerve entrapment syndromes

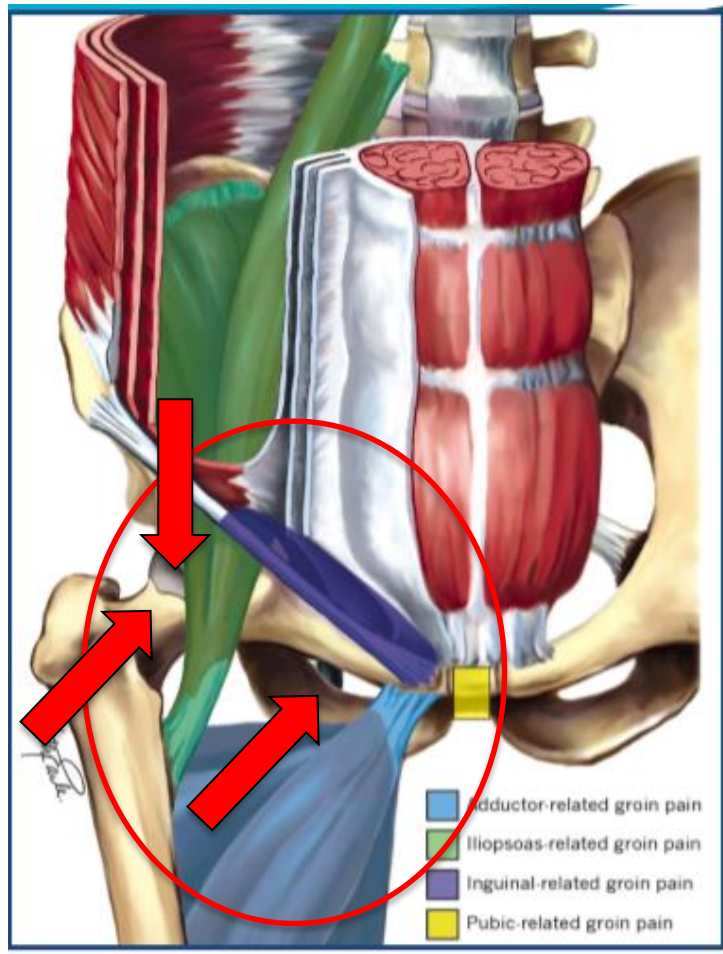


Reasons

1. Post surgical
 1. Appendectomy,
 2. Hernia repair
 3. Pfannen Steil incision: scar tissue or deep fascia impingement
2. Blunt trauma
3. Overstretching
4. Compression
 - Nerve block: Dx & Tx
 - Plexitis, Neuritis



Hip/ other bony-related groin pain





Hip/ other bony-related groin pain

Stress fractures

Femoral neck or Ischium pubis

IR, Hop test

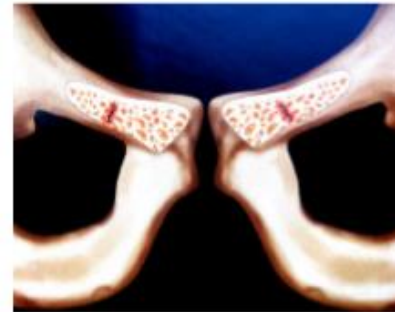
General risks:

1. History of **prior** stress fracture
2. **Low level** of physical fitness, non-athlete
3. **Increasing** volume and intensity
4. **Female** Gender
5. **Menstrual** irregularity
6. **Diet poor** in calcium
7. **Poor bone** health
8. **Poor biomechanics**

X-ray: 2-4w, 50% (-)

Bone scan: 72sa 32% false (-)

MRI !



Tx

4-6 w rest

3-5 mos for back to sport

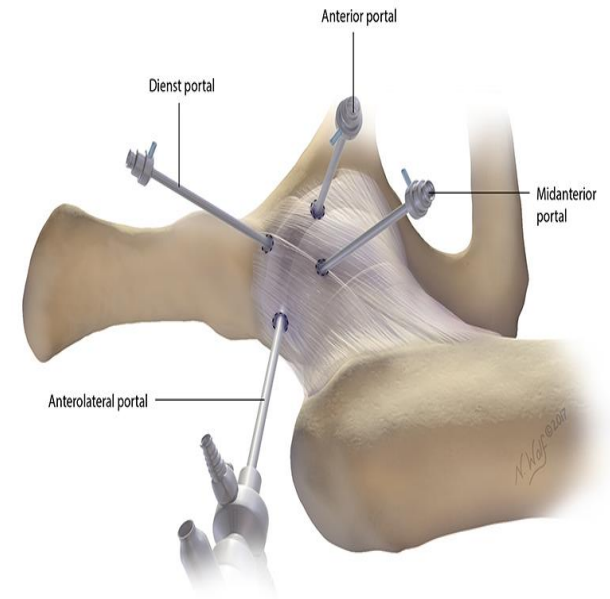
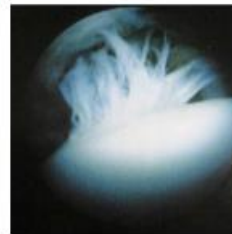
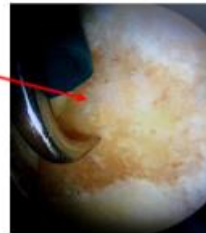
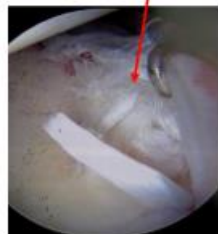
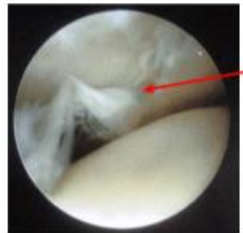


Hip/ other bony-related groin pain



Hip arthroscopy Indications

- Labral tears
- Loose body
- O.A.
- Chondral lesions
- Synovial pathologies
- AVN
- SA
- Lig. teres tears

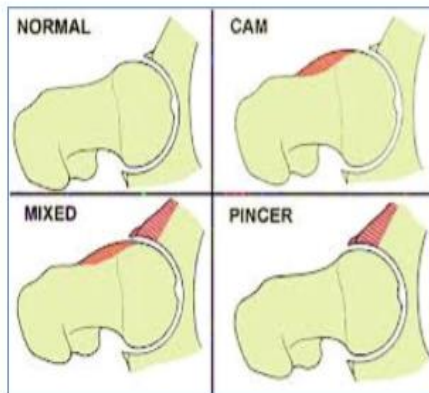
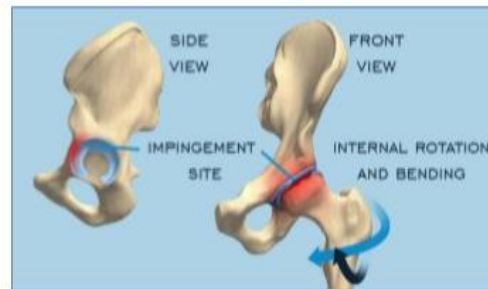




Hip/ other bony-related groin pain

FAI

- CAM Impingement
- Pincer Impingement



- First described 1990' s
- Abnormal contact between ant acetabular rim and femoral neck at the waist
- Either femoral head (non spherical), or overhang of acetabular rim
- Retroversion of acetabulum
- Increased pelvic tilt
- Young males
- Repeated wide movements
- Sitting in low chair
- Pain with hip in flexion/ click
- Induced by flexion + internal rotation – decreased ROM
- Have a high index of suspicion!



Hip/ other bony-related groin pain

Labral tears

Chronic groin pain → 22%

- Usually in the anterior/superior aspect
- Diffuse poorly localized groin pain and mechanical symptoms in the hip/groin area
- Association with adjacent articular cartilage damage
- PE 75 - 88%
- MRI arthrography + Local anesthetics
- Conservative at least 6 weeks
- Arthroscopic debridement / repair / reconstruction





Conclusion

- Try to make an **ANATOMICAL, STRUCTURAL and FUNCTIONAL** diagnosis
- Always look **beyond the OSTEITIS PUBIS**
- **EARLY IMAGING** (arthro MRI is the most helpful imaging study)
- Use of **local anaesthetic** (ultrasound guided) to assist in diagnosis
- If you are going to go the path of rest and rehabilitation **THEN MAKE THE REST COUNT!**
- These injuries **take TIME** to heal!



Thank you

