An Osteopathic approach to the Athletic Hip

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CASE STUDY

- 35 yo f with 2 years of right hip pain
- Referred by colleague who is on same indoor soccer team
- Patient in not involved in soccer because of pain
- 3 intra-articular injections/PT – no benefit
- MRI shows labral tear – surgery recommended

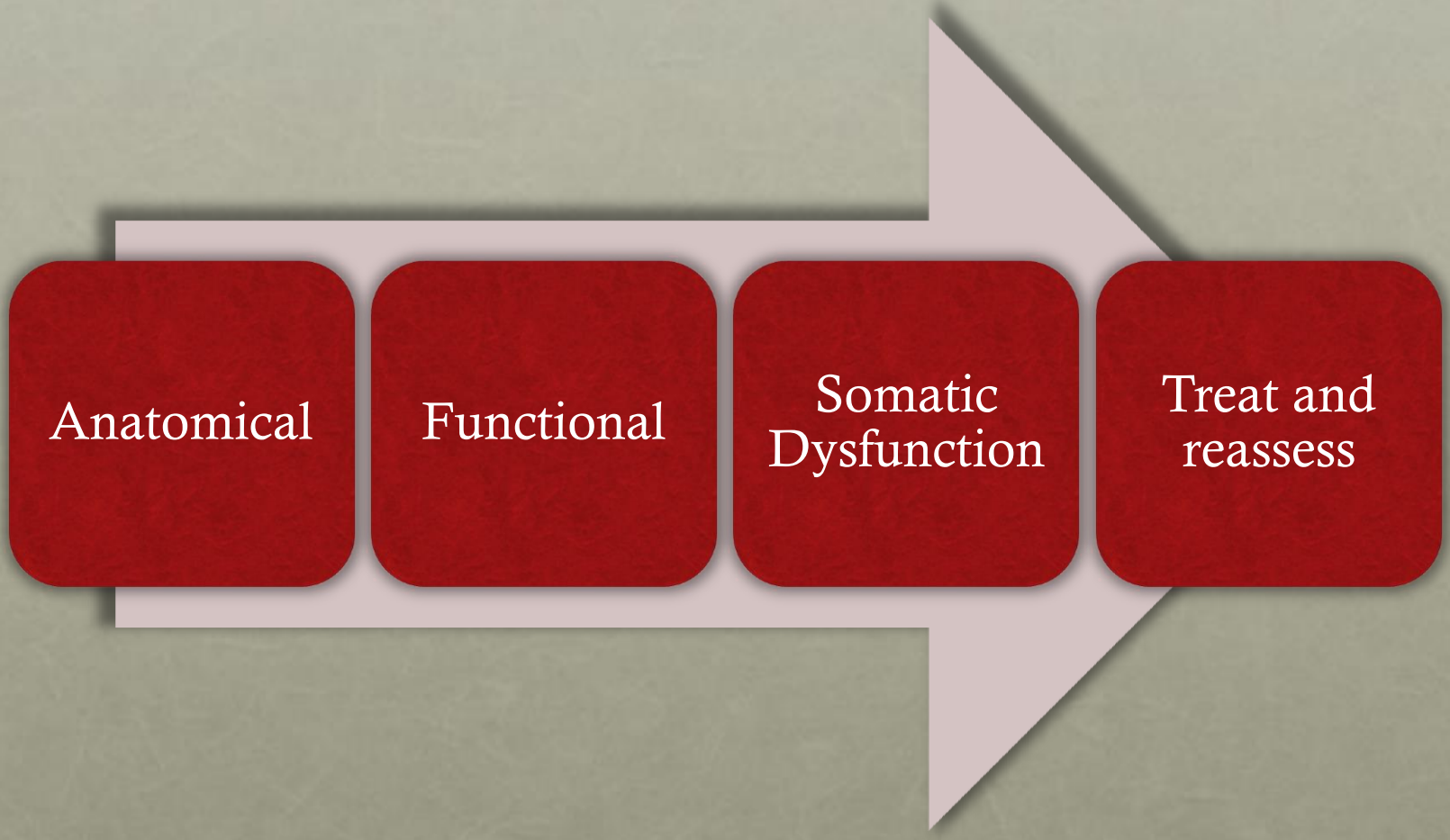
Annals of Family Medicine
5/1/11 pg 226-234.

- “Although Greater Trochanter Pain Syndrome was previously thought to be caused by inflammation of the bursa, recent histological investigation could not confirm this hypothesis.7 In 2001 a study of the classification of hip disorders showed that edema around the greater trochanteric tendons…”

Annals of Family Medicine

- "(seen on sonography), but not sonographic signs of trochanteric bursitis, was closely related to the symptoms of GTPS.8 Magnetic resonance imaging also suggests that pathologic findings of the gluteus medius is associated with GTPS."
- Study suggested that steroid injection may help

FLOW OF ASSESSMENT



General MSK Categories

- **Traumatic**: damage
  - sprains, trains, fractures
  - REST IS NEEDED
  - Analgesics/anti-inflammatory
  - Physical therapy
- **Acute Overload**: inflammation
  - Steroid injection
  - Physical therapy
- **Chronic Overuse:** scar tissue
  - Analgesics
  - +/- inflammation
  - Physical therapy
- ***Somatic Dysfunction***:
  - Painful movement w/o anatomical change
- **Mix**

EVALUATION & REHABILITATION PRINCIPLES

- **Rule Out**:
  - Anatomical problems
  - Acute Surgical issues
- **Imaging:**
  - X-ray: fracture, mass
  - MRI: surgical
- **Treatment:**
  - Relative rest
  - NSAIDS: +/-
  - Physical therapy
- **Return to play:**
  - Surgical or fracture: have definite timeline
  - Soft Tissue: based upon:
    - Pain
    - function: strength, flexibility, balance
  - Shut down??
    Great reason why athletes try to "work through it"

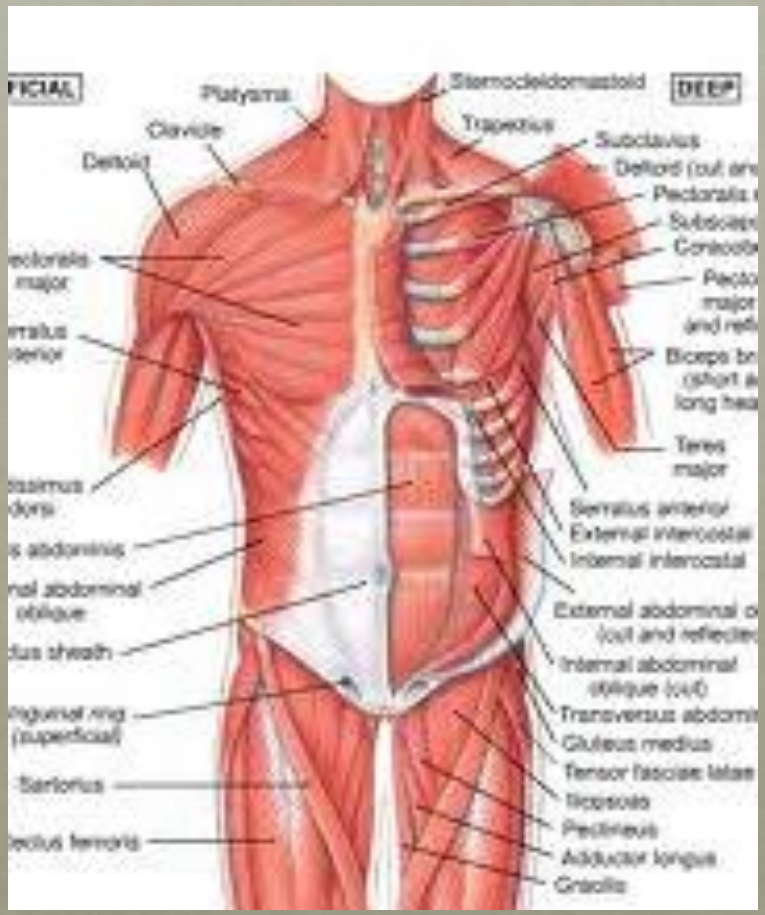
PELVIC OUTLET SYNDROME

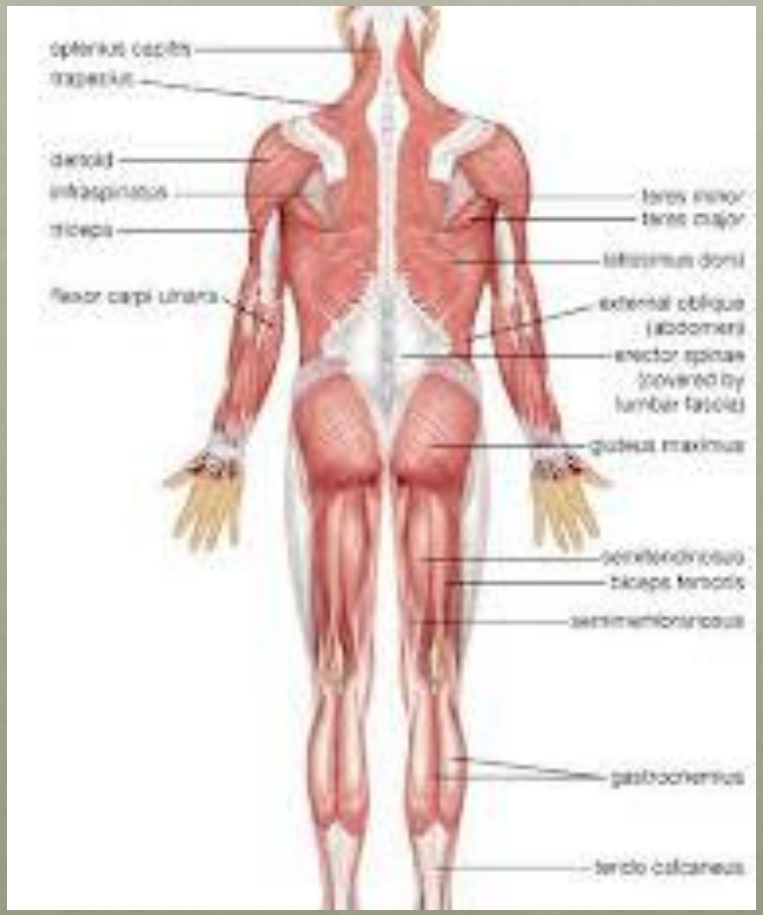
- Non-specific term – not a ICD-9 dx (ICD-10??)
- Conceptual idea to help explain:
  - Nonspecific Neurological presentation
  - Nonspecific History and Exam
  - Normal imaging
  - Abnormal imaging and unsuccessful standard care
- Great opportunity for OMT!!

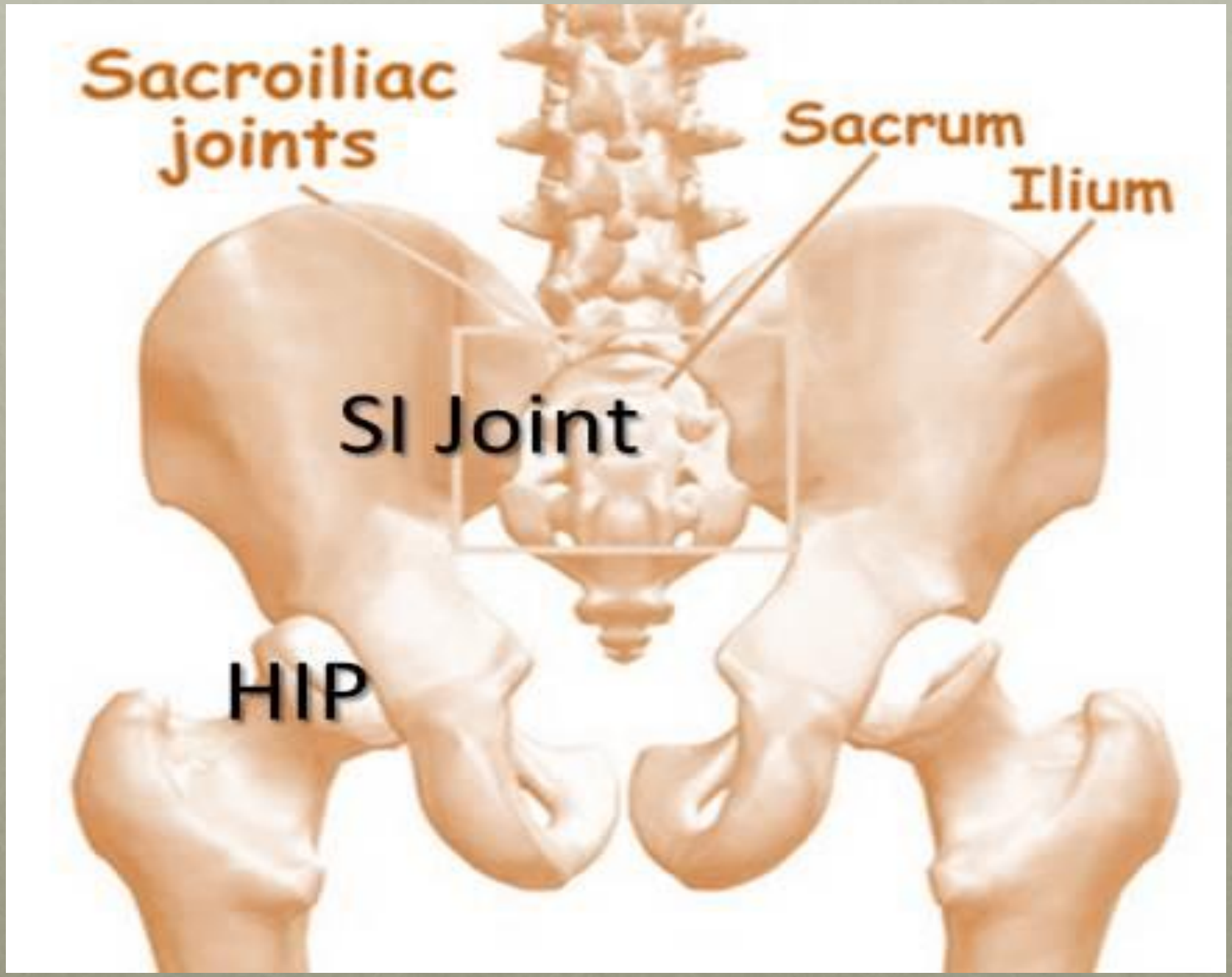
ANATOMY

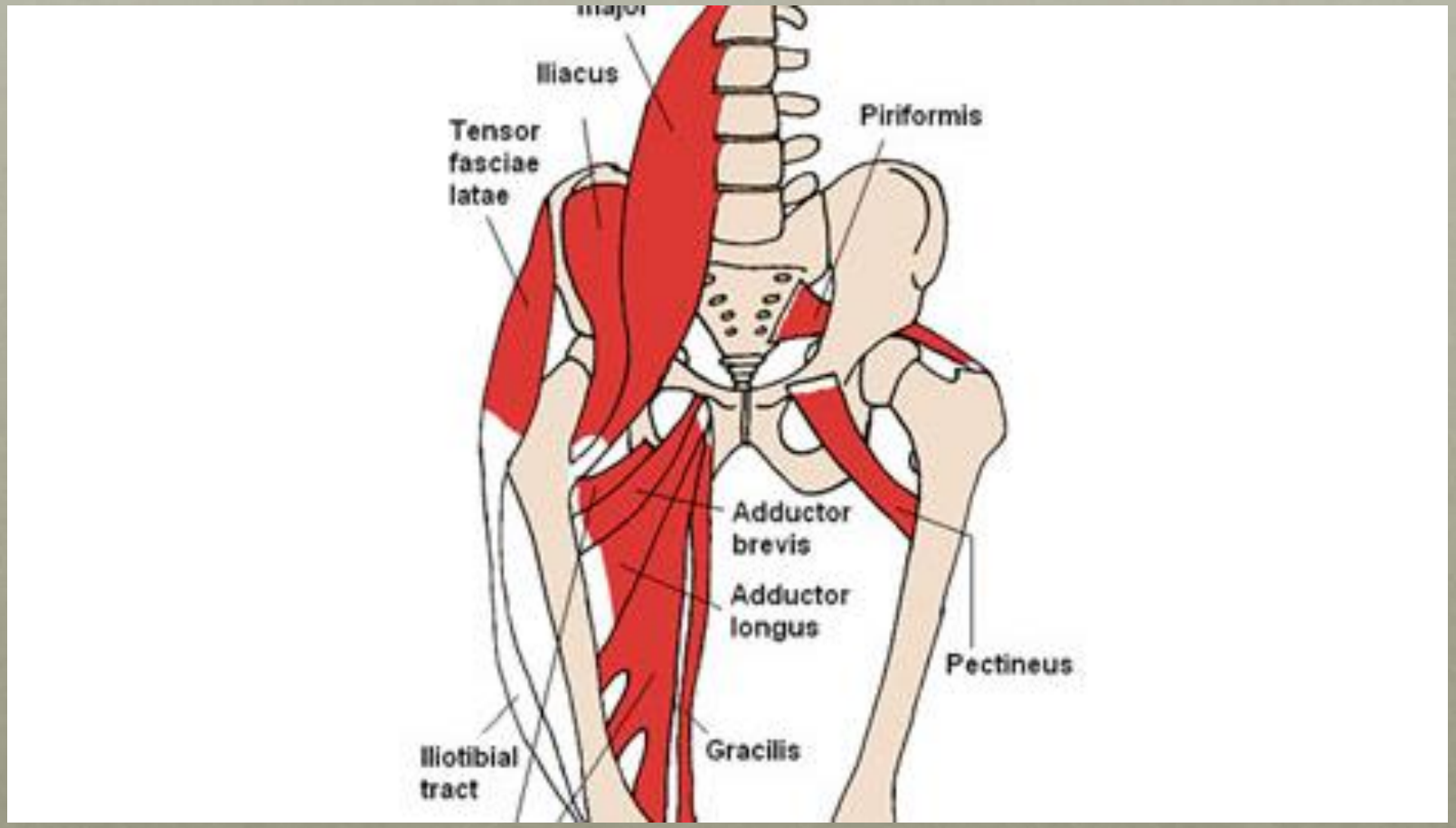
- Joints (21):
  - 5 lumbar x 3 articulations
  - Lumbo-sacral
  - 2 sacroiliac
  - 2 aceto-femoral
  - Pubic bone
- Ligaments:
  - Support all the above joints

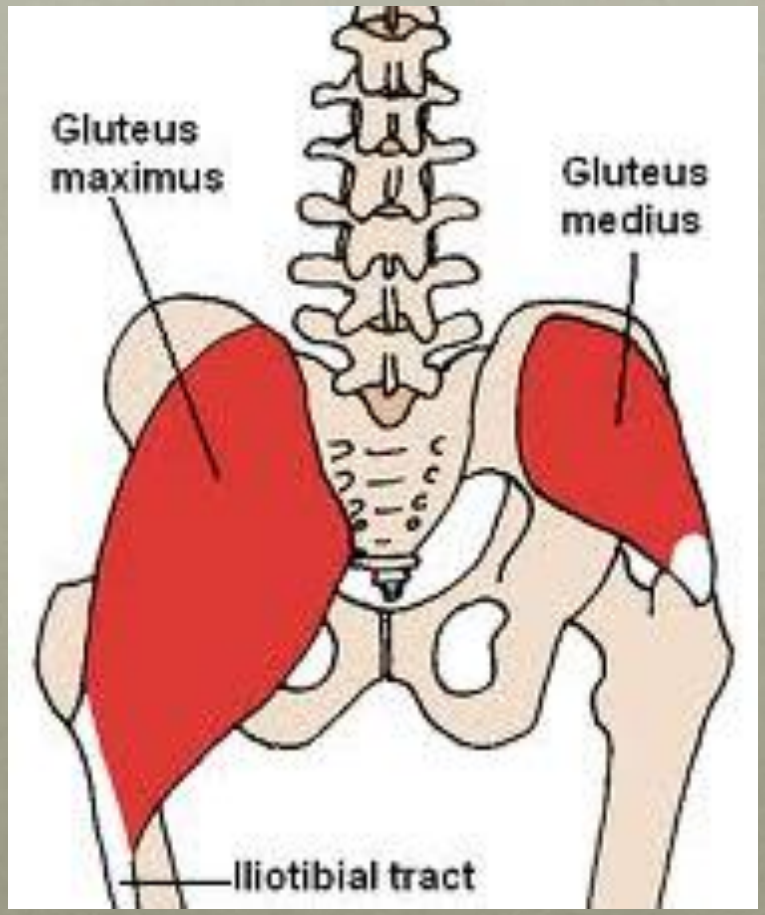
- Muscles:
  - Lumbar spinal muscles
  - Latisimus dorsi
  - G. Max, medius, minimus
  - Piroformis
  - Pelvic floor
  - Psoas
  - ITB
  - Inter vs exter rotators
  - Adductiors
  - Hamistrings
  - Abdominal muscles

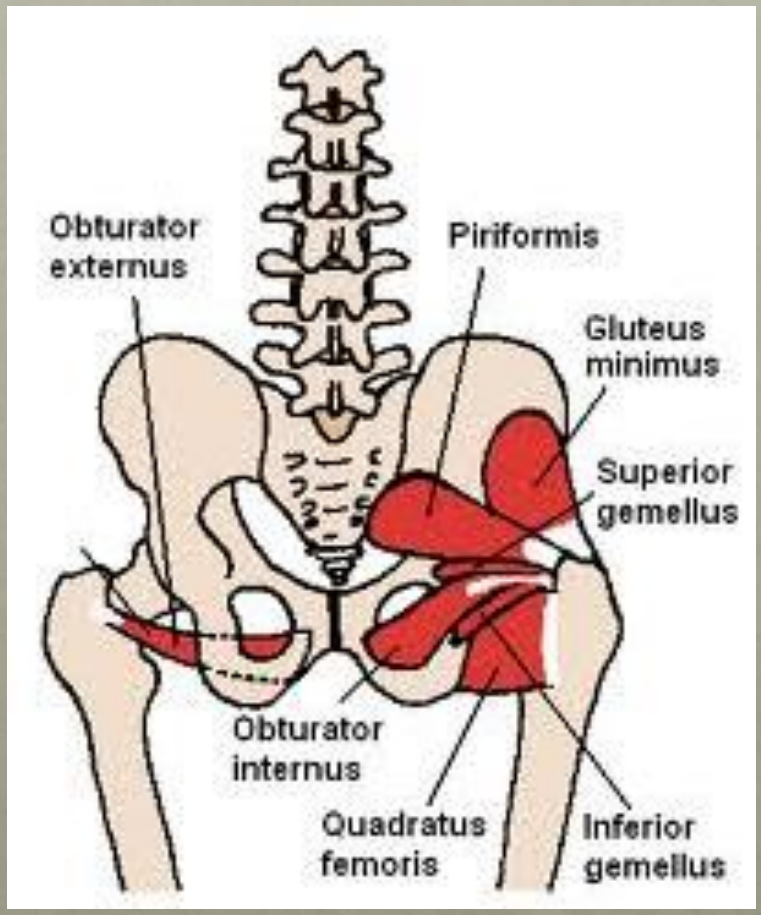

FICIAL
Platysma
Sternocleidomastoid
DEEP
Clavicle
Trapezius
Deltoid
Subclavius
Deltoid (cut and
Pectoralis
major
Subscap
Coracob
Pecto
major
and refl
Biceps br
(short a
long hea
Teres
major
major
Serratus anterior
External intercostal
Internal intercostal
External abdominal o
(cut and reflecte
Internal abdominal
oblique (cut)
Transversus abdomi
Gluteus medius
Tensor fasciae latae
Iliopsoas
Pectineus
Adductor longus
Gracilis
Sartorius
rectus femoris


splenius capitis
trapezius
deltoid
infraspinatus
triceps
flexor carpi ulnaris
teres minor
teres major
latissimus dorsi
external oblique
(abdomen)
erector spinae
(covered by
lumbar fascia)
gluteus maximus
semitendinosus
biceps femoris
semimembranosus
gastrocnemius
tendo calcaneus


Sacroiliac joints
Sacrum
Ilium
SI Joint
HIP


Iliacus
Tensor fasciae latae
Piriformis
Adductor brevis
Adductor longus
Pectineus
Iliotibial tract
Gracilis


Gluteus maximus
Gluteus medius
Iliotibial tract


Obturator externus
Piriformis
Gluteus minimus
Superior gemellus
Obturator internus
Quadratus femoris
Inferior gemellus

HIP PATHOLOGY

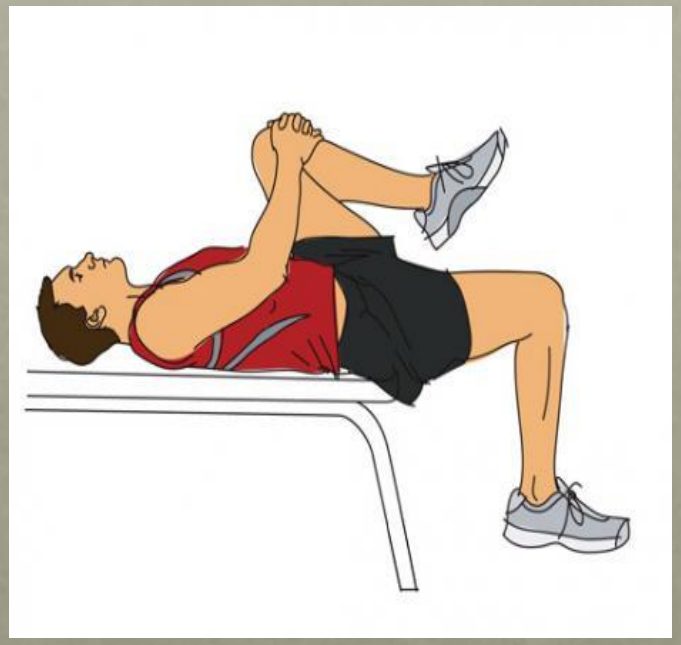
- Snapping Hip
- Bursitis
- Stress fractures
- Age:
  - Peds: apophysitis
  - Masters: DJD
- Lateral hip pain
  - gluteus medius
- Posterior hip pain
  - SI pain
  - Gluteus Maximus
  - Piriformis
- Lumbar muscles spasms into hip

Snapping Hip Syndrome

Tendon moving over femur causing a "catch" that feels or sounds like a click or snap

Ilipsoas

- Thompson Test – lack of extension of hip, or pain



- Ilio-tibial Band
- Ober test – pain or hip stays elevated

BURSITIS -

- Treatment:
  - Rest
  - NSAIDS: +/-
  - Physisal therapy
  - Steroid injections

  - Is this:
    - Acute overload
    - Chronic overuse
    - Somatic dysfunction

STRESS FRACTURE

- Gradual increase of pain with decrease in performance
- Deep intra-articular pain
- Pain with passive ROM and hopping in a high performance athlete
- Femur fractures are “high risk” – high likelihood of through-and-through fracture

GROIN PAIN

- Common – soccer and hockey
- Due to stability nature of adductors, hard to heal
- Tender to palpation in the groin
- Painful with hip abduction
- Rehab: slow and often recurs because return to play too soon
- Can take many weeks, months

STRESS FRACTURE

STRESS FRACTURE

- Absolute Rest: SHUT DOWN
- Look for somatic dysfunctions
- NEED physical therapy
- Return to play: painless walk -→ painless running

SPECIAL POPULATION

- Pediatric
  - Growth plates are weaker then tendons
  - NEVER, NEVER diagnose a soft tissue injury without an x-ray
  - If maximal tenderness is at bone – fracture or apophysitis, NOT muscle strain
- Masters
  - Soft tissue: lose of fluid and elasticity
  - Repair takes longer
  - DJD can be an co-morbid condition
  - DJD may not even be relevant
  - DJD may be a persistent underlying condition

PEDIATRIC - APOPHYSITIS

- Common
- TTP at these sites
- Acute onset
- X-ray may show asymmetric growth plates
- >1.5 cm displacement – ortho referral

MASTERS - HIP DJD

- >15 degrees difference on hip internal rotation
- Hard end feeling in hip passive ROM
  - Extension/flexion
  - Internal/external rotation
- Surgical Candidates
  - Progressive pain
  - Decrease in function
  - Radiographic evidence of DJD
  - (failure of rehab to improve condition)

MASTERS: DJD

Conclusion on these diagnoses

- These diagnoses are “anatomical”
  - you can do imaging to identify
  - Actual tissue damage is considered the underlying problem
  - BUT….

ROLE OF OSTEOPATHIC APPROACH

- A functional component is not excluded
- Functional problems are often the underlying cause
- An Osteopathic exam seeks to find the “dys”functional components
- OMT seeks to treat somatic dysfunctions so as to make the body “functional.”

OSTEOPATHIC REHABILITATION PRINCIPLES

- Active component of MSK:
  - Governed by Alpha motor control
  - Improved by exercise, training
- Passive component of MSK
  - Mechanoreceptors: golgi tendons, musc. Spindle
  - Reciprocal inhibition
  - Sensori-motor:
    - Feedback
    - Feedforward: shoulder and TrA