

THE HIP

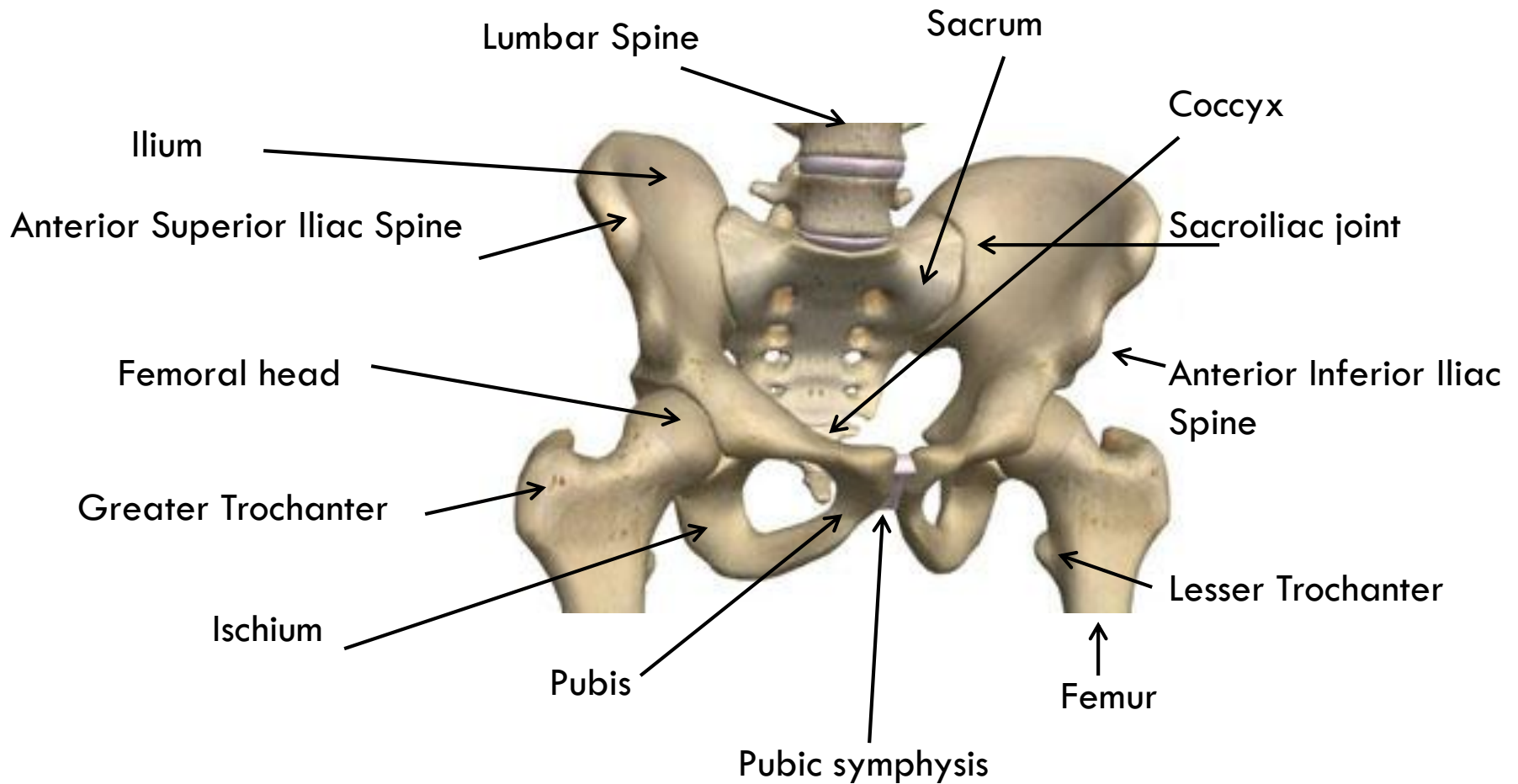
Cooler than cool, the pinnacle of what is "it". Beyond all trends and conventional coolness.

Objectives

- Hip anatomy
- Causes of hip pain
- Hip exam

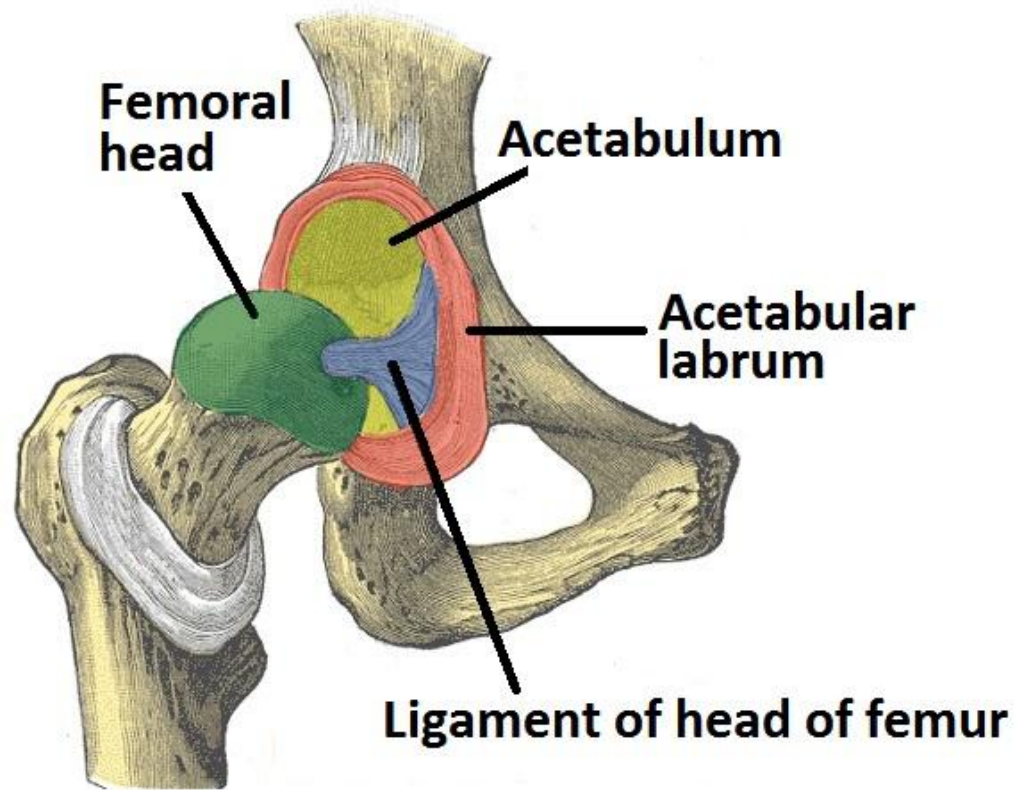
Anatomy

□ Bones



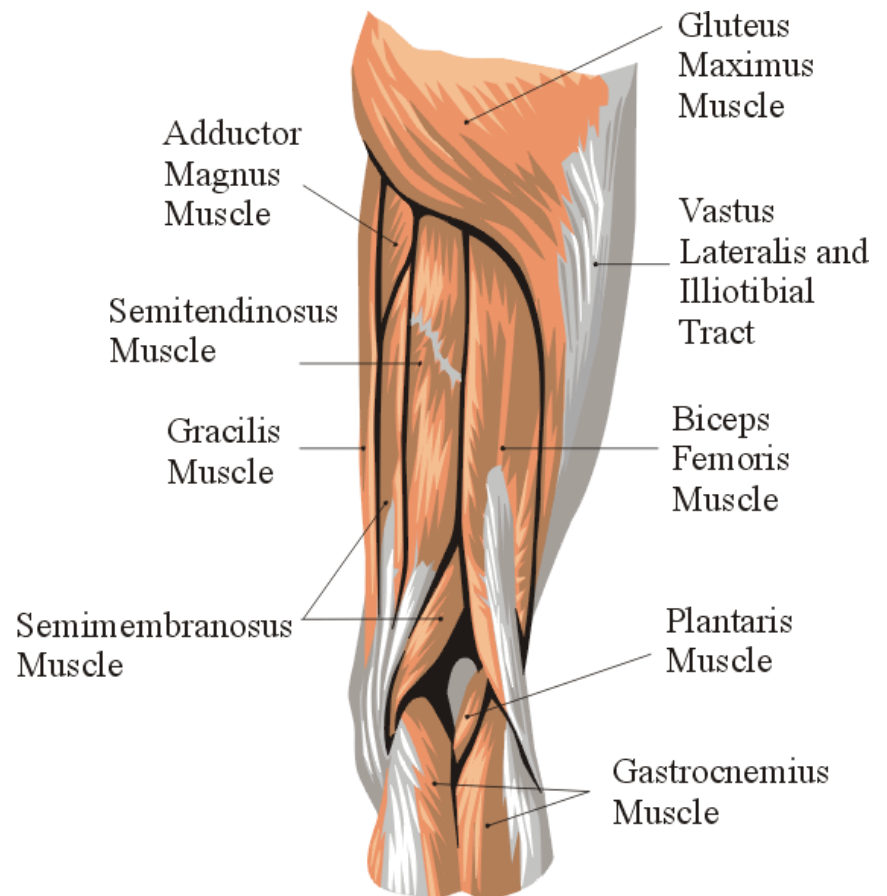
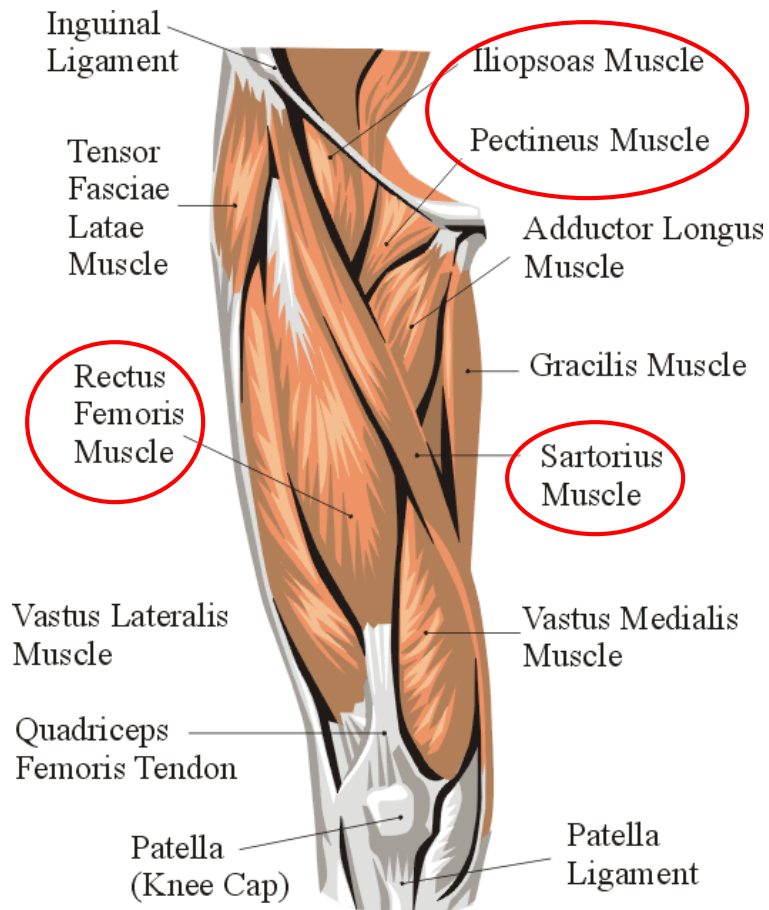
Anatomy

□ Joint



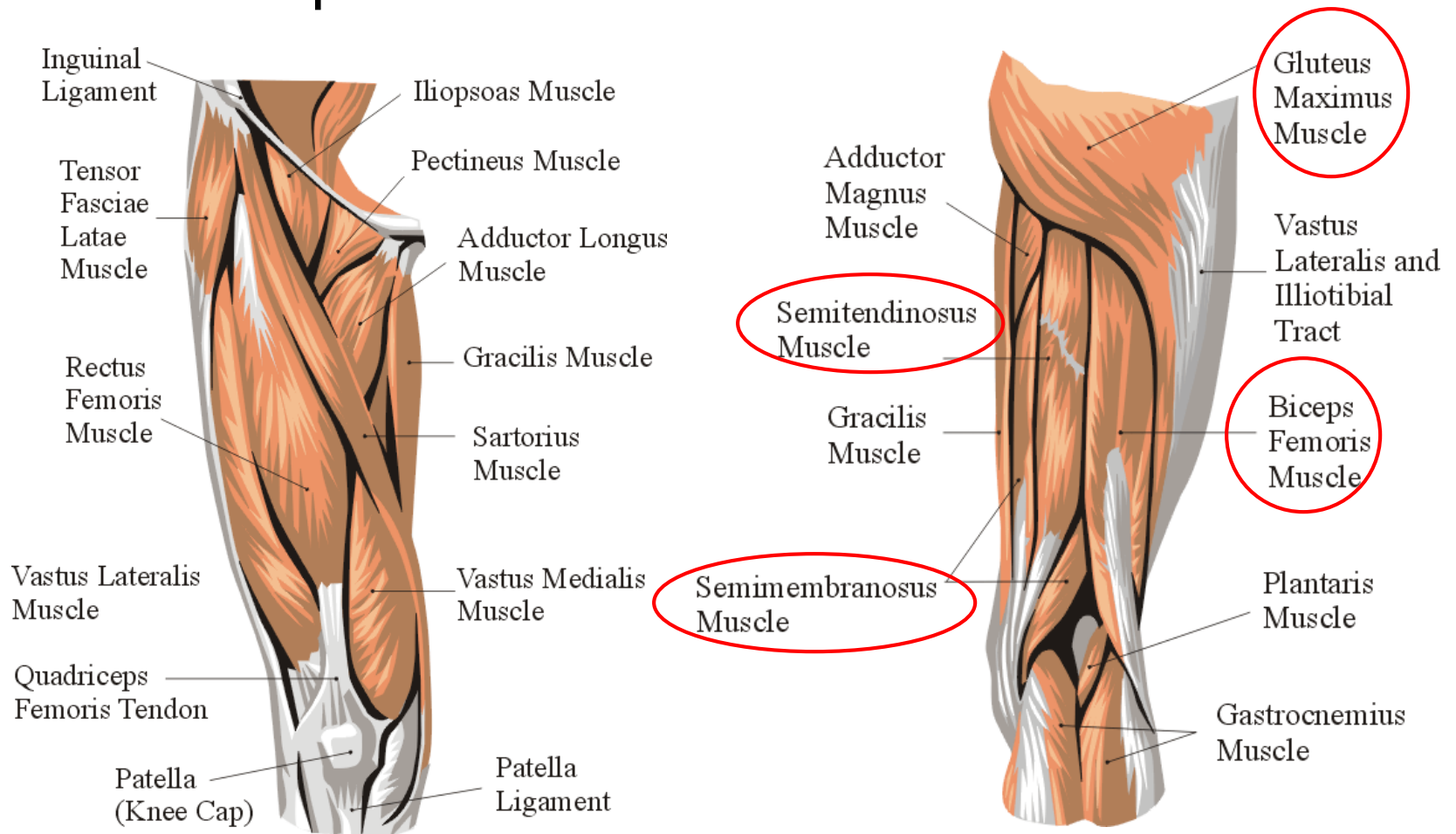
Anatomy

□ Muscles: hip flexion



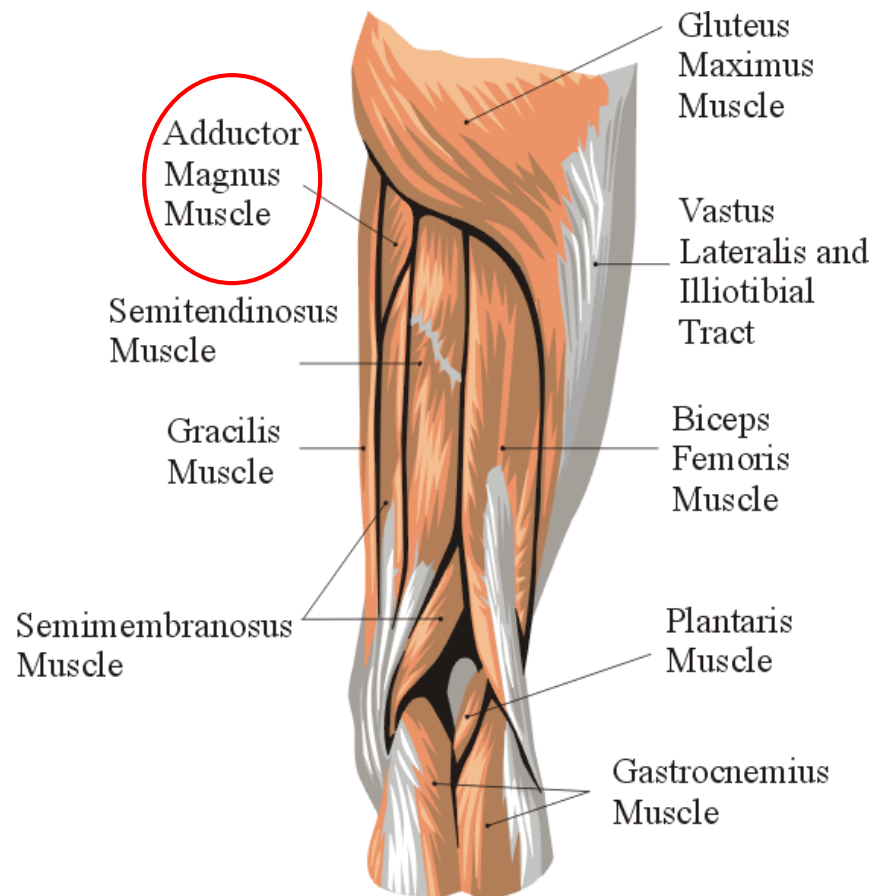
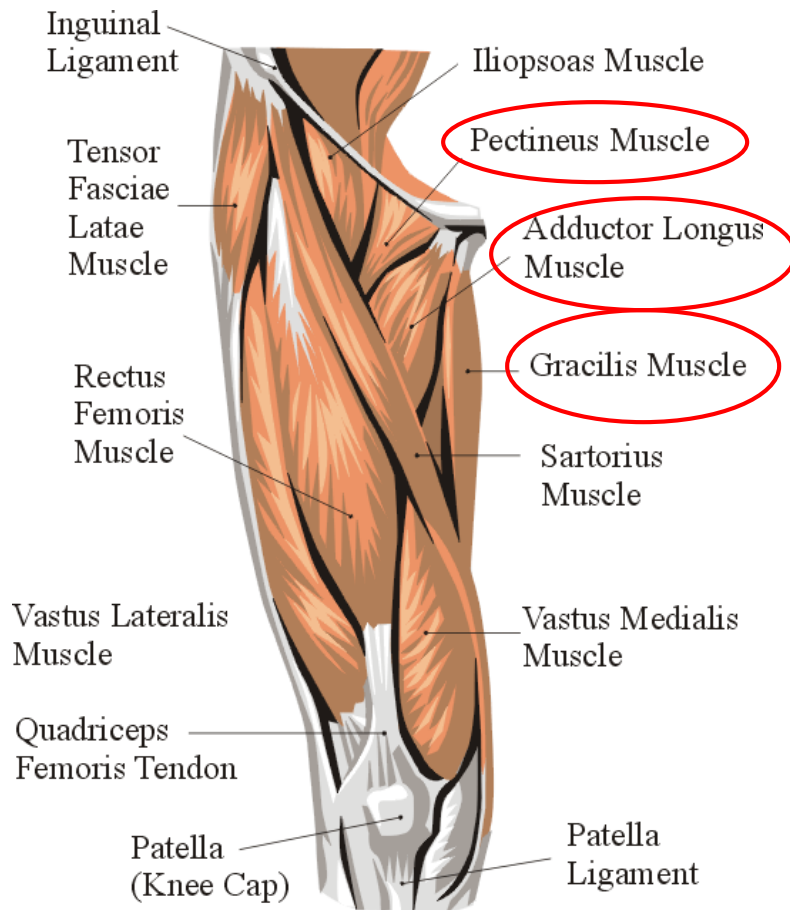
Anatomy

□ Muscles: hip extension



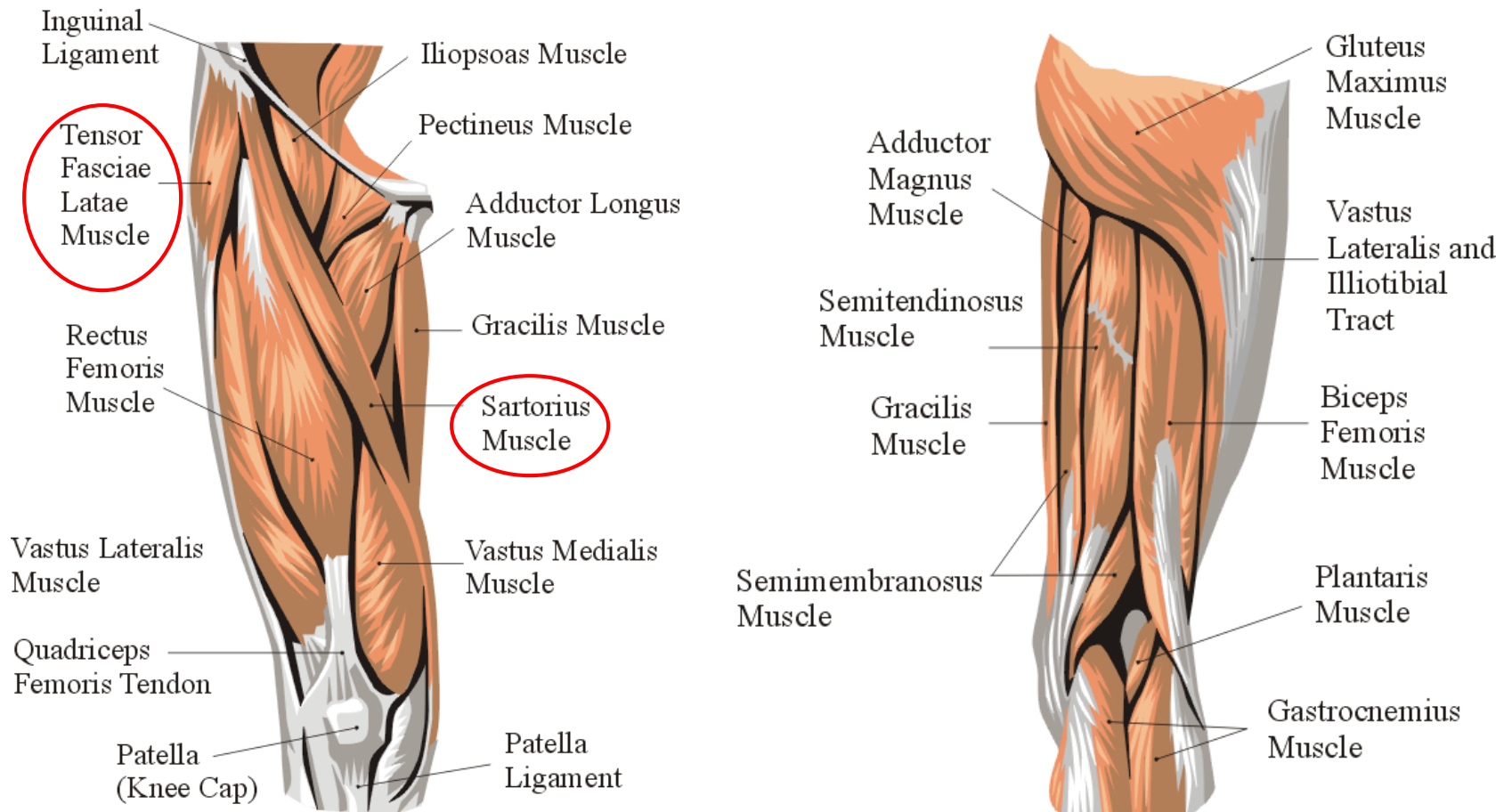
Anatomy

□ Muscles: hip adduction



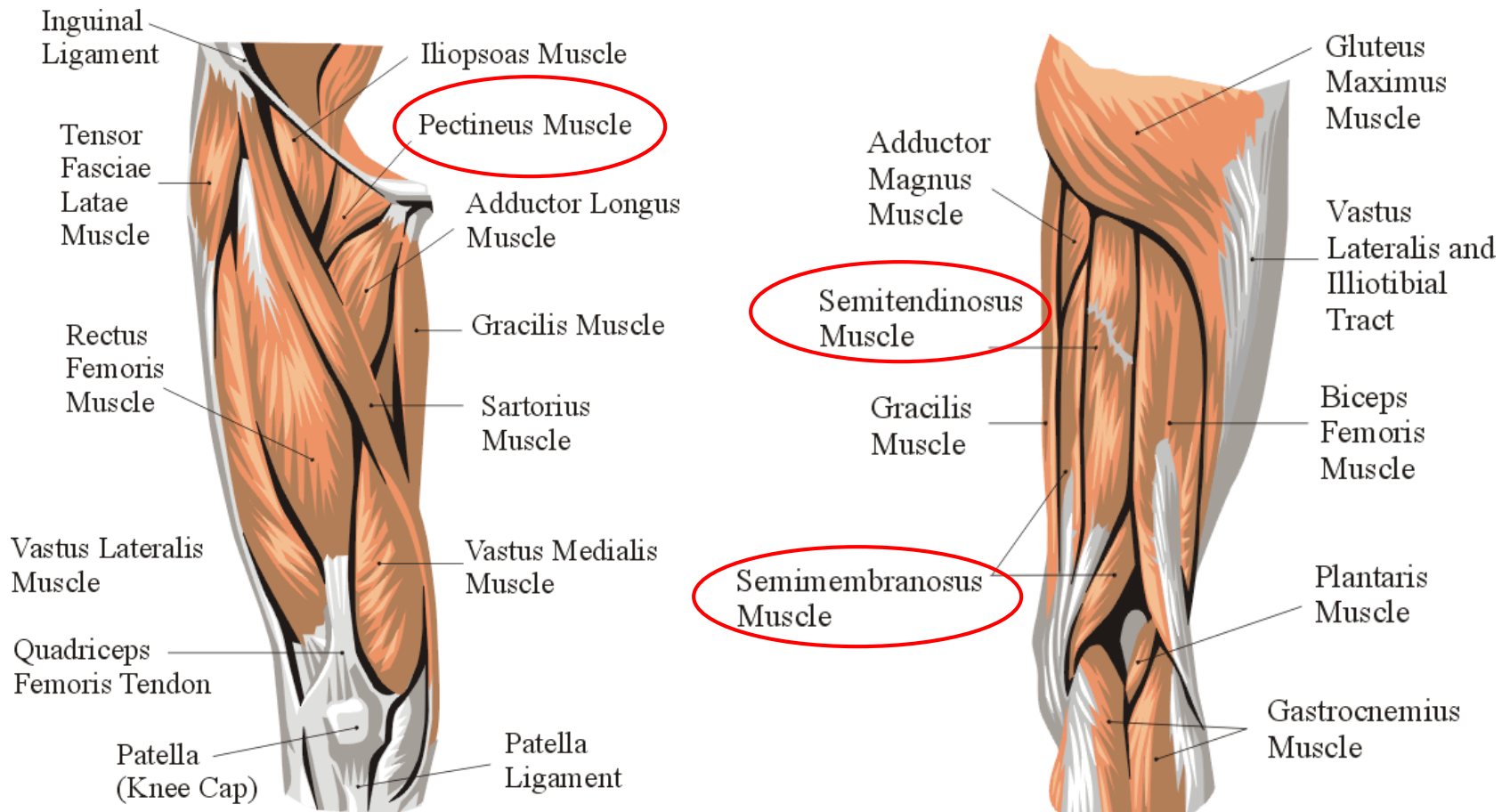
Anatomy

□ Muscles: hip abductors along with Glut med and min



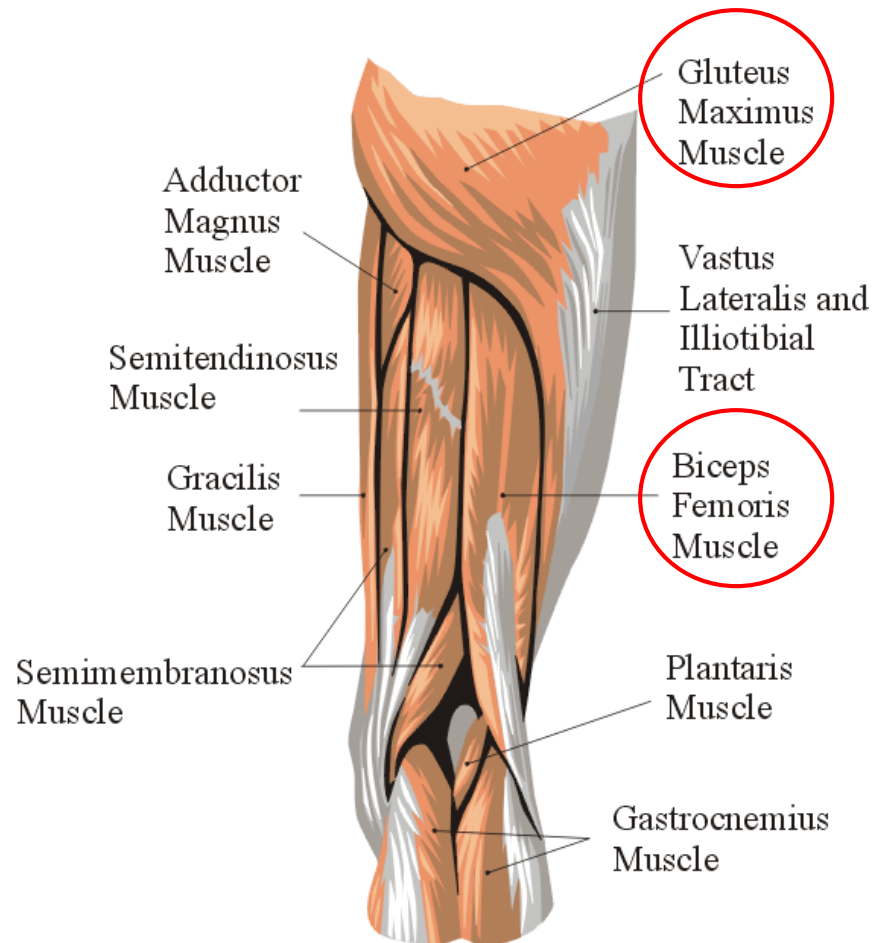
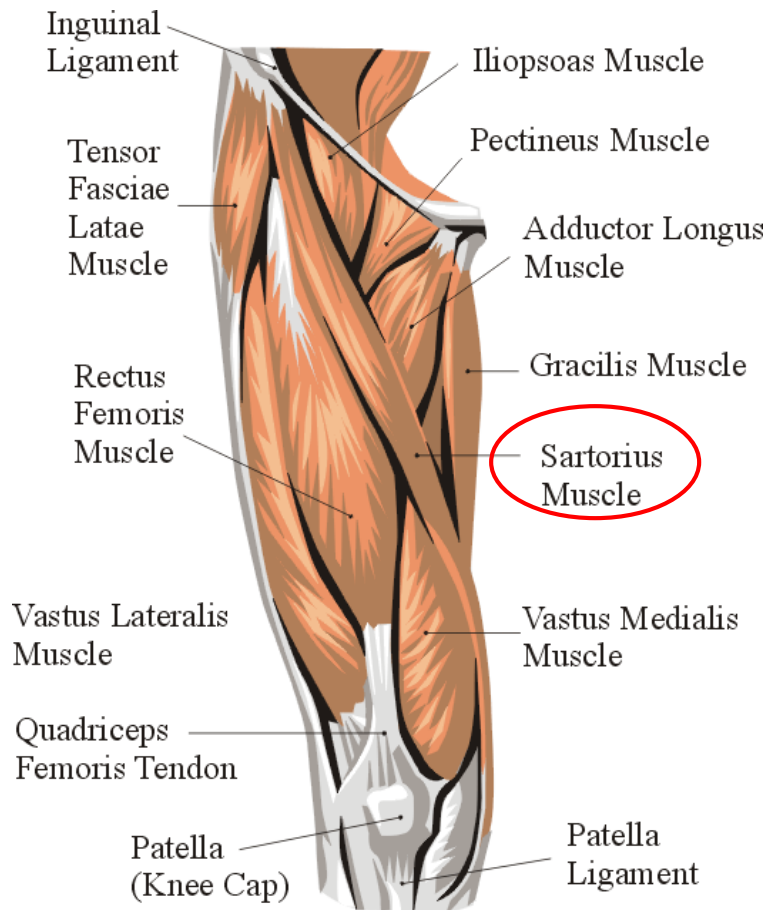
Anatomy

□ Muscles: Internal rotators with Glut med and min



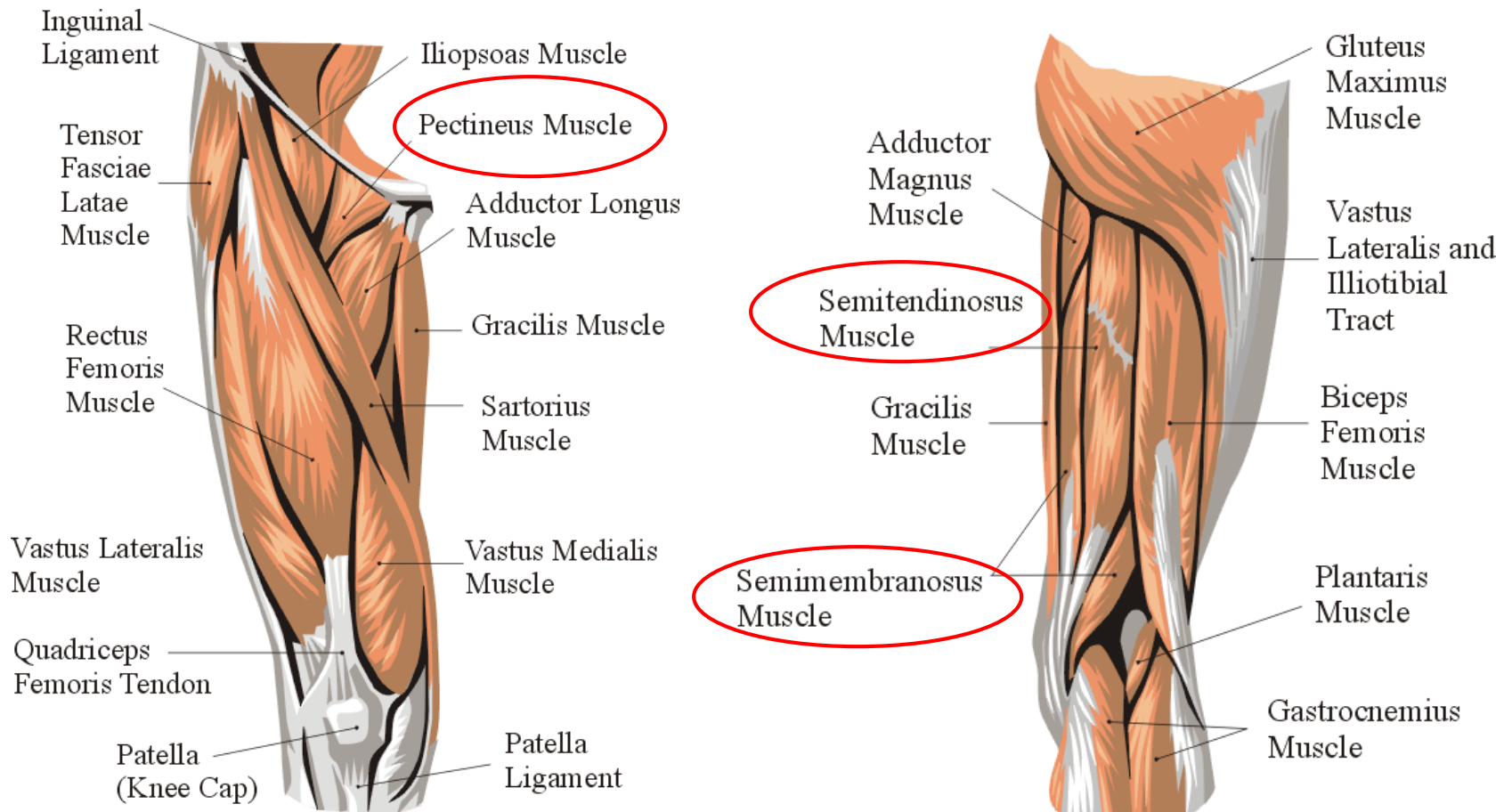
Anatomy

□ Muscles: External rotators



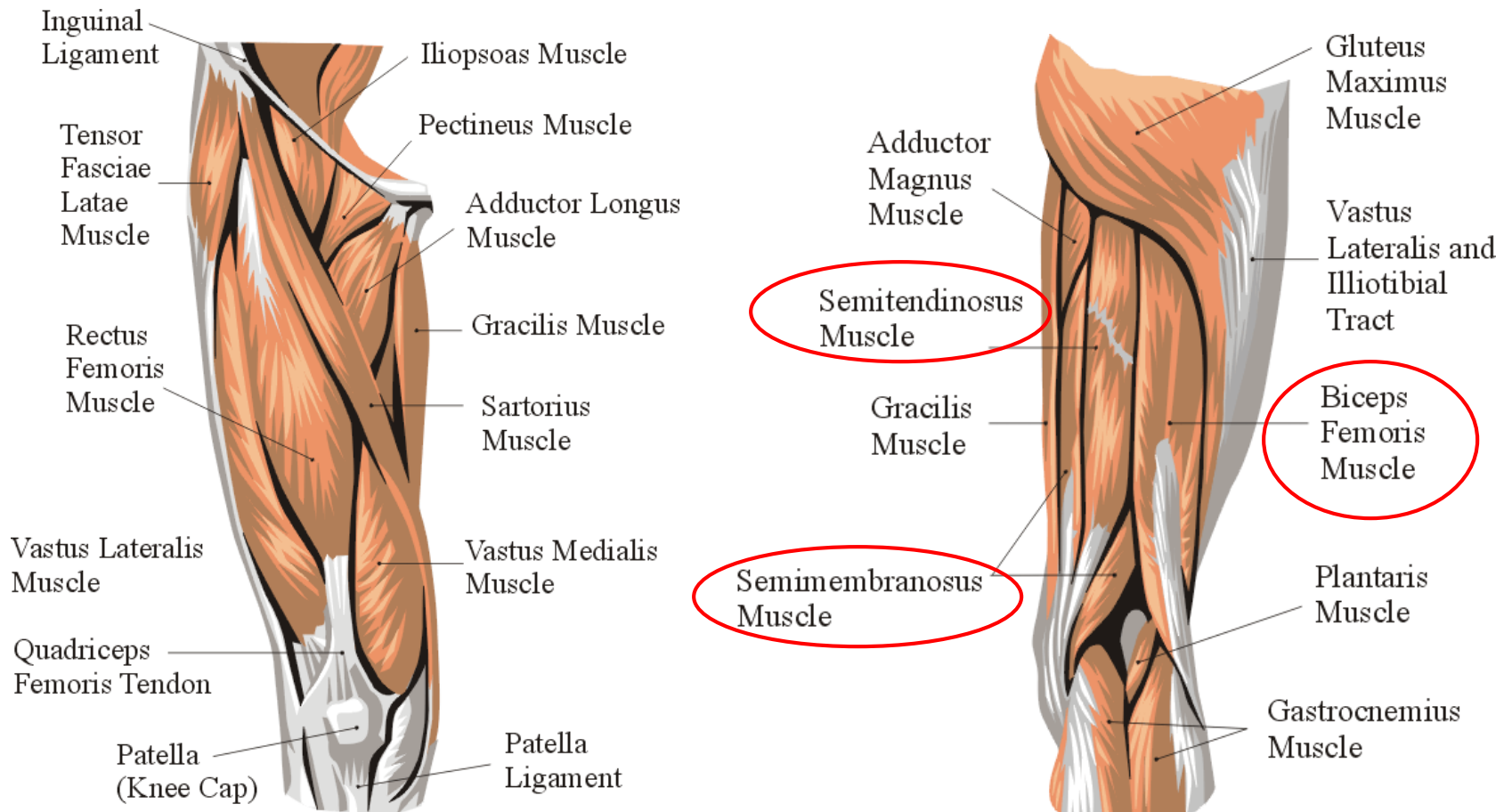
Anatomy

□ Muscles: Internal rotators with Glut med and min



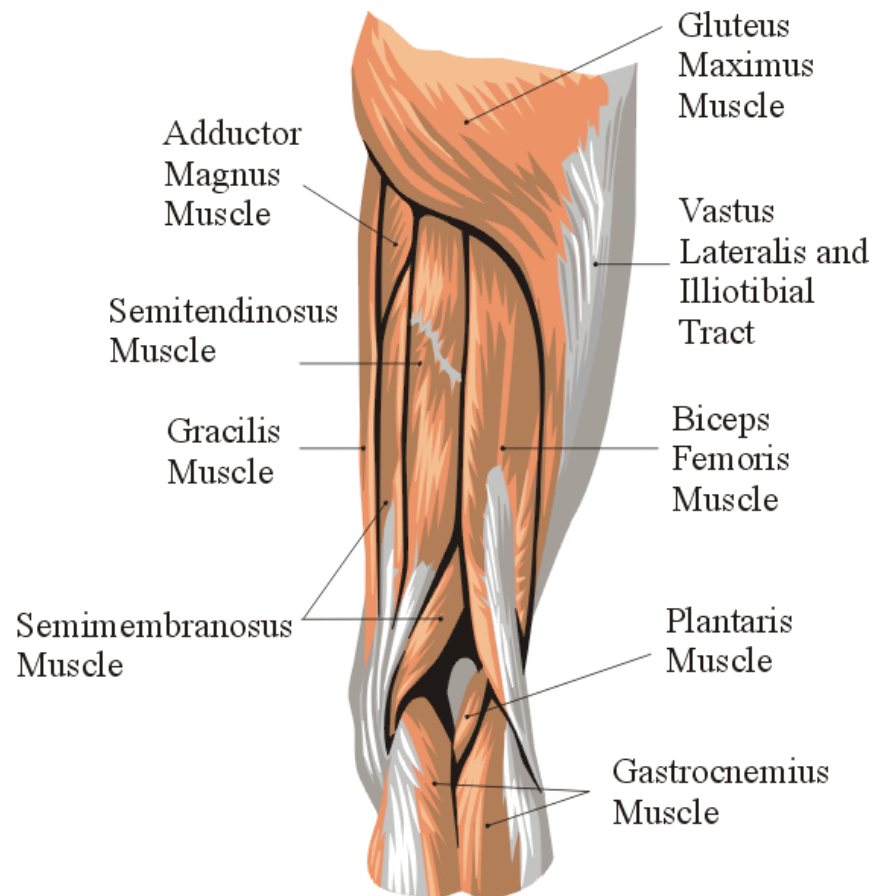
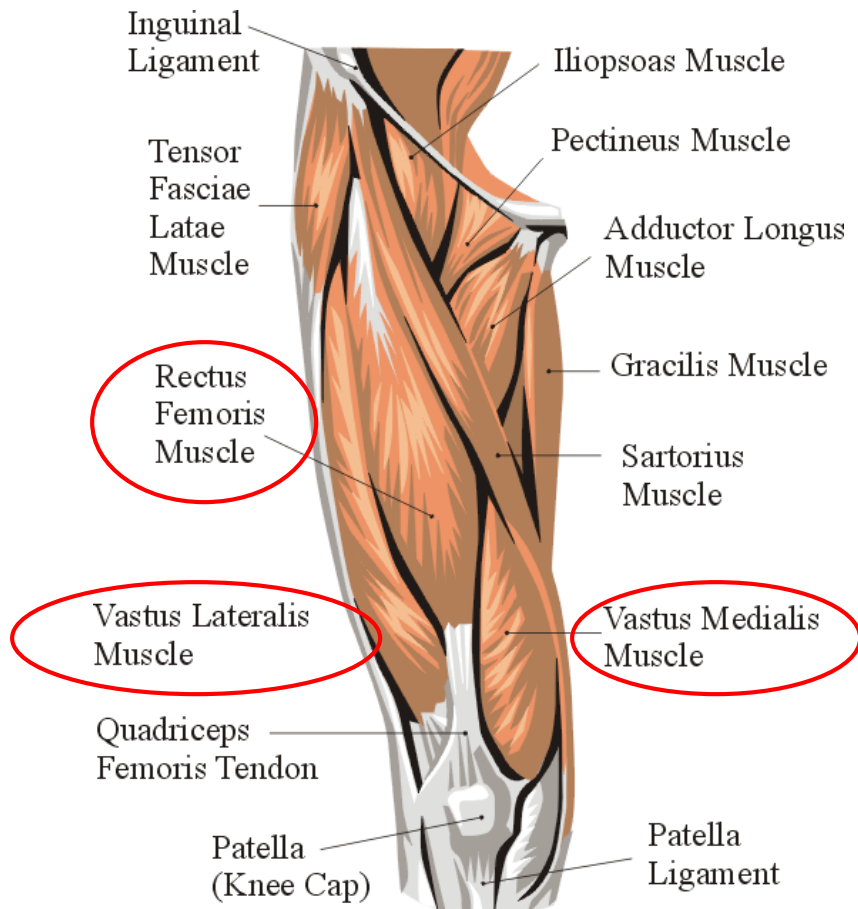
Anatomy

□ Muscles: Flexes leg



Anatomy

□ Muscles: Extends leg



Causes of Hip Pain

- Non-MSK things to rule out
 - Septic arthritis
 - Toxic synovitis
 - Osteomyelitis
 - Tumors; both benign and malignant primary tumors as well as metastasis
 - Sacroiliitis
 - Testicular pathology
 - Renal
 - Intra-abdominal

Causes of Hip Pain

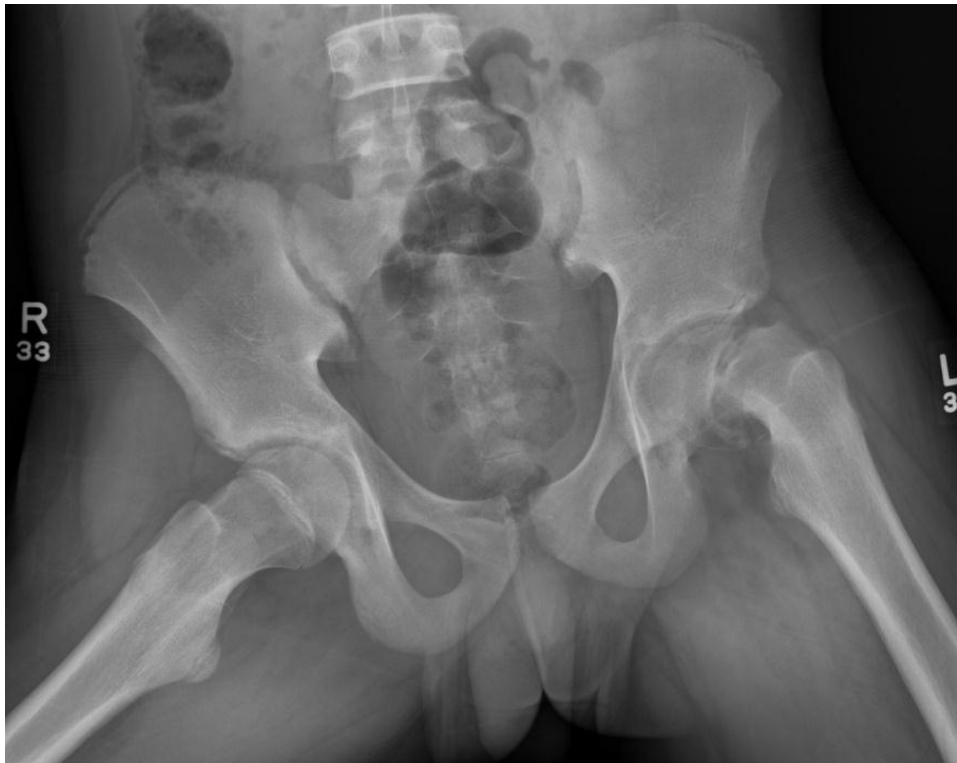
- Intra-articular
 - Slipped Capital Femoral Epiphysis
 - Legg-Calve-Perthes disease
 - Femoral acetabular impingement
 - Labral tear
 - Developmental Dysplasia
 - Dislocation
 - Osteoarthritis
 - Femoral fractures

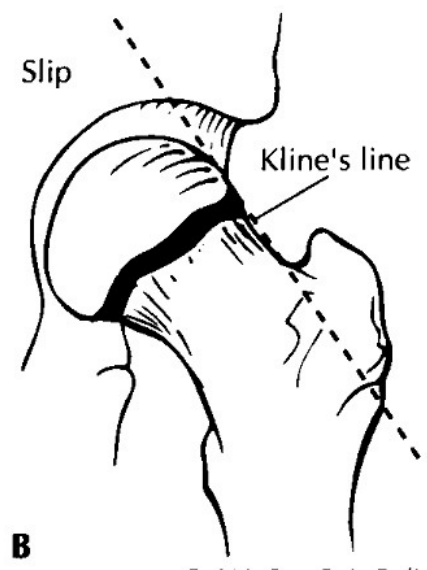
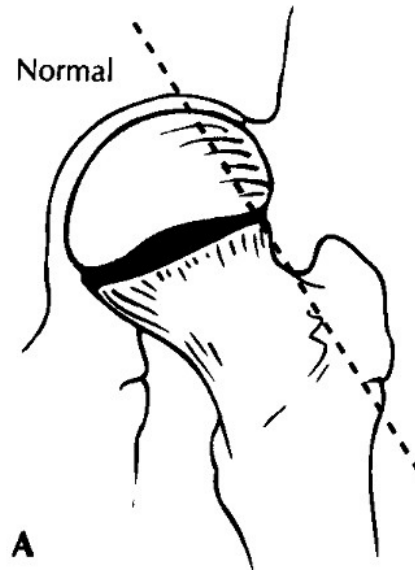
Causes of Hip Pain

- SCFE – Slipped capital femoral epiphysis
 - Pain anywhere from groin to knee
 - Males > females, adolescents during growth spurt (11-16yo), high BMI
 - +/- history of trauma
 - Leg length discrepancy, limping, leg in external rotation
 - Refer to ortho for pinning

Causes of Hip Pain

- SCFE – Slipped capital femoral epiphysis





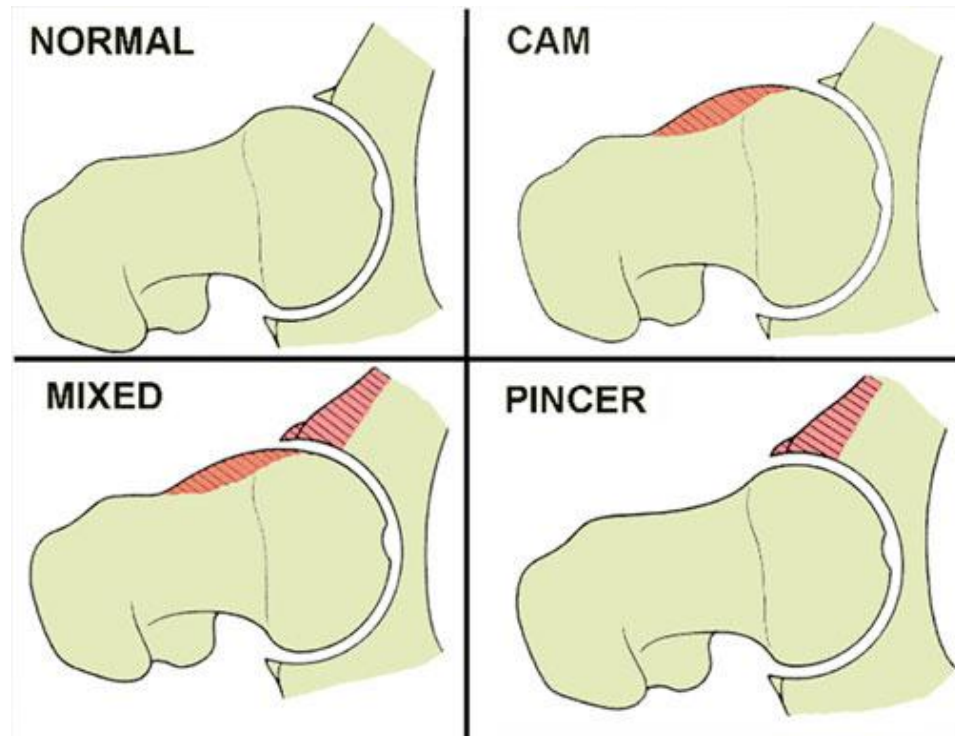
Causes of Hip Pain

- Legg-Calvé-Perthes Disease
 - Idiopathic AVN of the femoral head
 - Males > females, age 2-11
 - Limp, lack of internal rotation
 - Treatment involves containing the femoral head in the acetabulum



Causes of Hip Pain

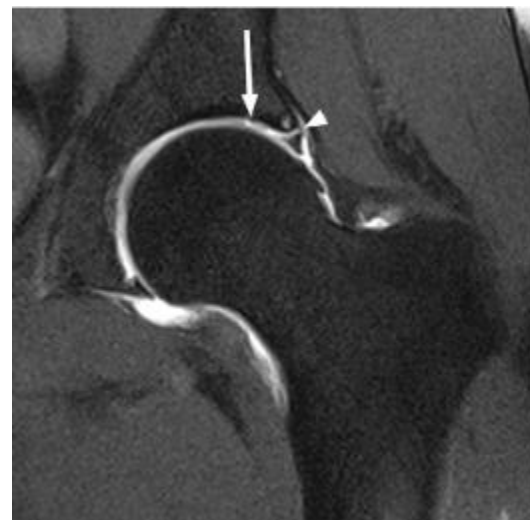
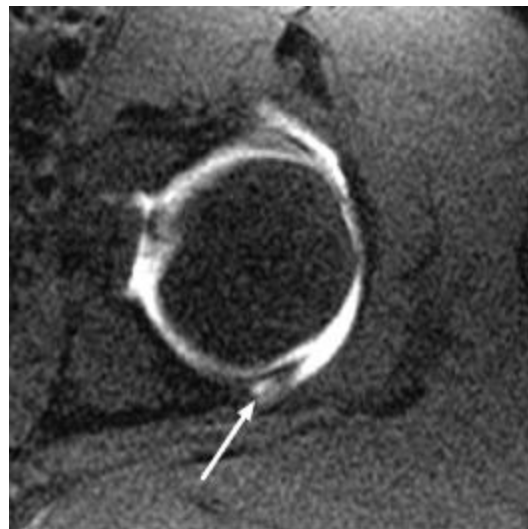
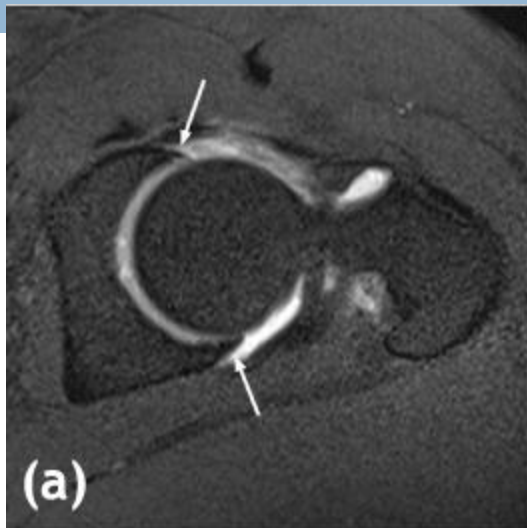
- Femoroacetabular impingement
 - ▣ Risk for early cartilage damage and arthritis
 - ▣ Diagnose with MRI



Causes of Hip Pain

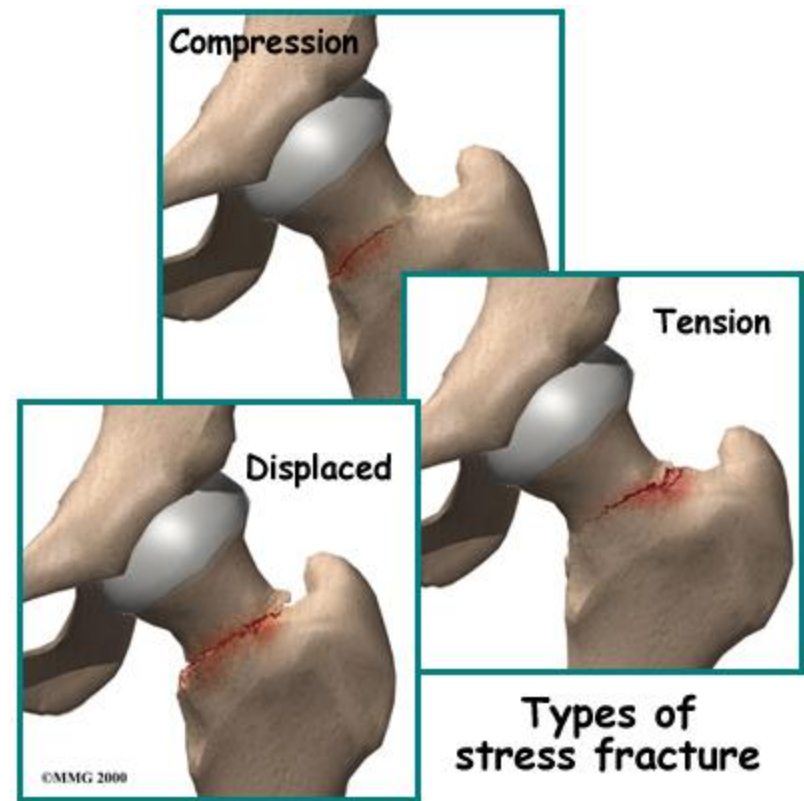
- Labral tear
 - Mechanism of twisting, cutting, or planting
 - Mechanical sensation or locking
 - + Scour test
 - Diagnosed with MR arthrography





Causes of hip pain

- Femoral neck stress fracture
 - Endurance athletes especially amenorrheic females
 - Antalgic gait and pain with ends of IR and ER
 - May need bone scan to diagnose
 - Compression vs tension side determines treatment



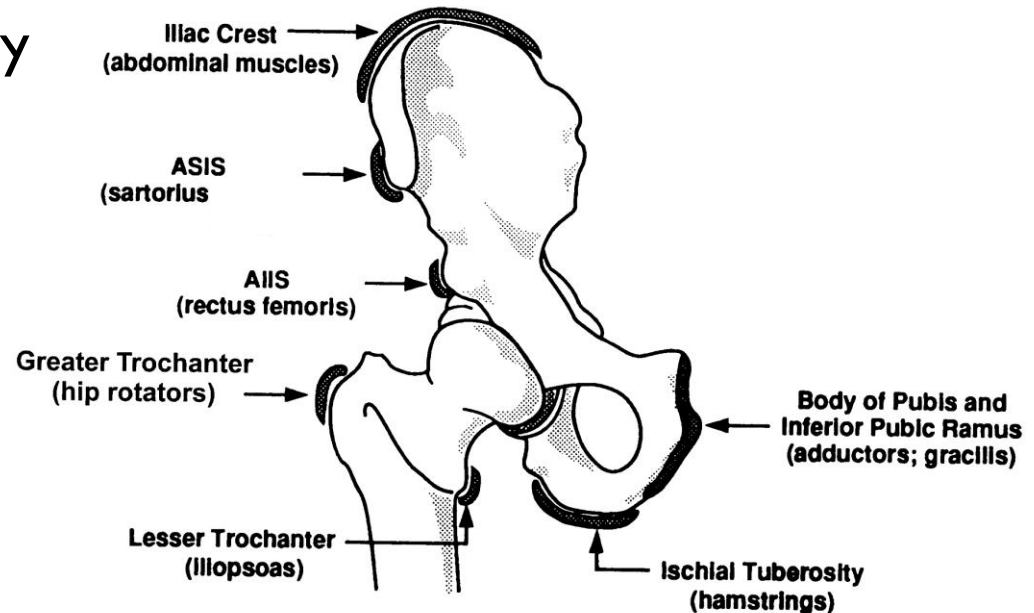
Causes of Hip Pain

- Extra-articular
 - Bursitis
 - Avulsion fracture
 - Muscle strain
 - Piriformis syndrome
 - Osteitis Pubis

Causes of hip pain

□ Avulsion fractures

- From forceful contraction of attached muscle
- Tenderness at the site and with contraction of the involved muscle
- Diagnosed with x-ray
 - Pelvic series



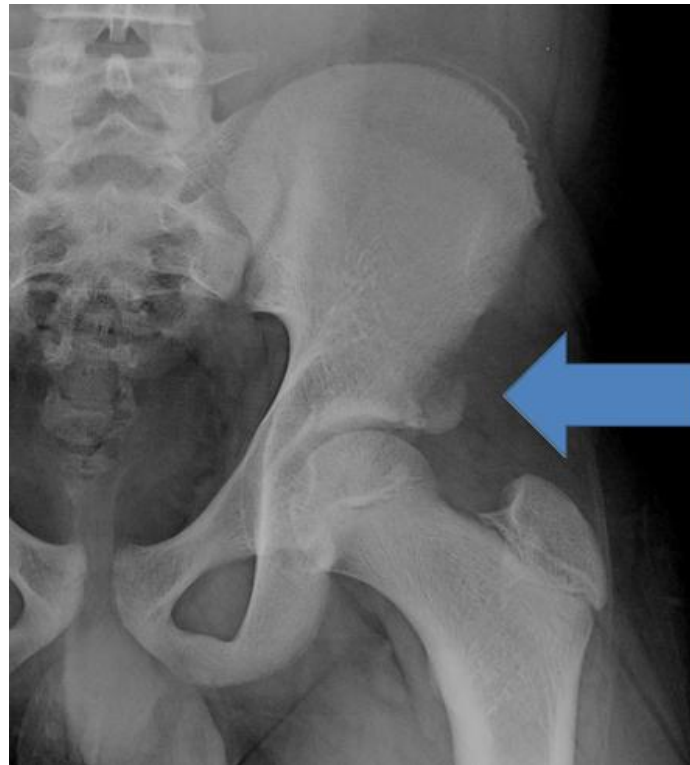
Causes of Hip pain

- Avulsion Fractures
 - ASIS



Causes of Hip Pain

- Avulsion fractures
 - AIIS



Causes of Hip Pain

- Avulsion fractures
 - ▣ Iliac crest



Causes of Hip Pain

- Avulsion fractures
 - Greater trochanter



Causes of Hip Pain

- Avulsion fractures
 - ▣ Lesser trochanter



Causes of Hip Pain

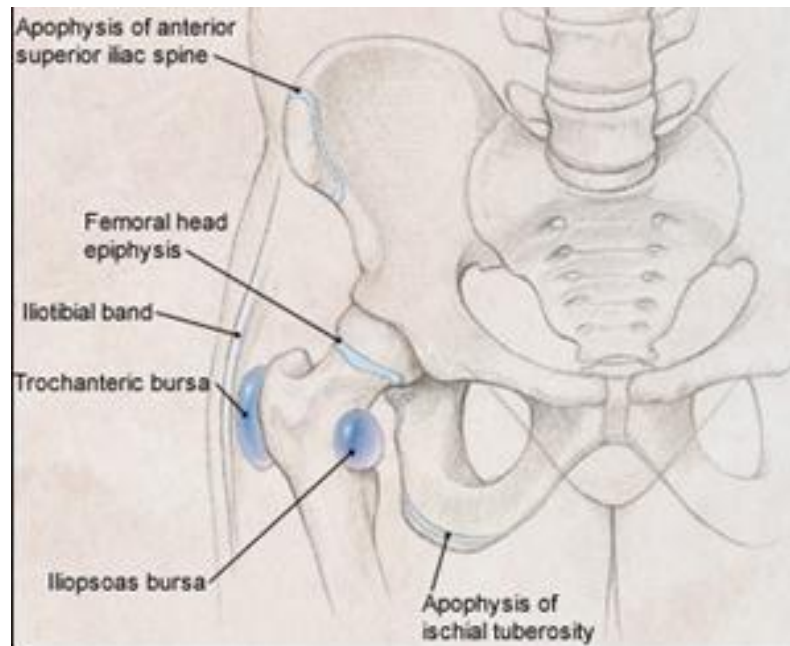
- Avulsion fractures
 - ▣ Ischial tuberosity



Causes of Hip Pain

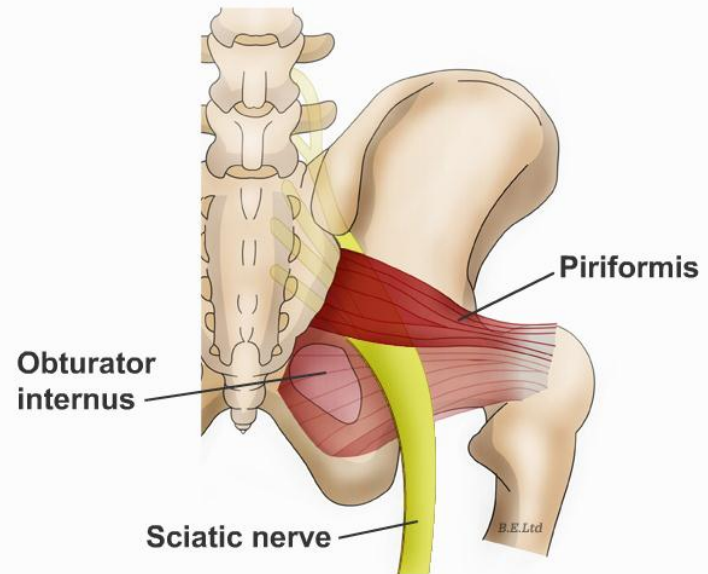
□ Bursitis

- Trochanteric: IT band causing friction with moving from flexion to extension
- Iliopsoas/Iliopectineal: Iliopsoas causes friction with hip flexion



Causes of Hip Pain

- Piriformis syndrome
 - ▣ Presents with sciatica
 - ▣ Tender over piriformis
 - ▣ Symptoms are reproduced with stretching or activation of piriformis



Causes of Hip Pain

- Osteitis Pubis
 - ▣ Inflammation of the pubic symphysis
 - ▣ Overuse injury of adductors
 - ▣ Tenderness over the pubic symphysis



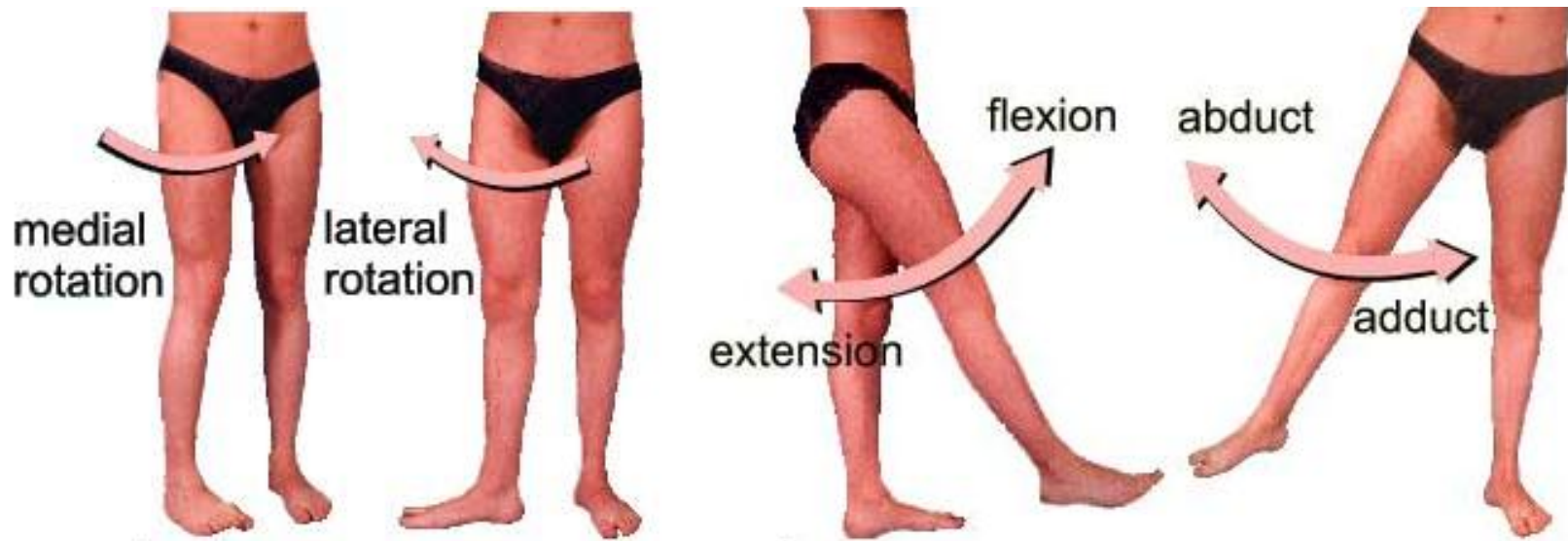
Physical Exam

- Inspection
- Palpation
- Range of Motion
 - ▣ Active
 - ▣ Passive
 - ▣ Resisted
- Provocative Tests
- Functional Tests

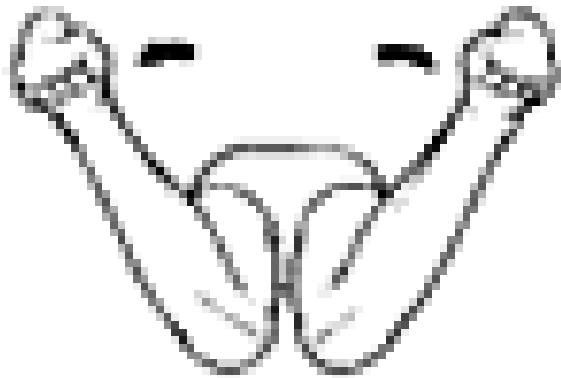
Physical Exam

- Inspection:
 - ▣ Bruising, sitting position, leg length, thigh circumference
- Palpation
 - ▣ ASIS
 - ▣ Pelvic crest
 - ▣ AIIIS
 - ▣ SI joint
 - ▣ Greater Trochanter
 - ▣ Ischial tuberosity
 - ▣ Muscles

Range of Motion



Range of Motion



Internal Rotation



External Rotation

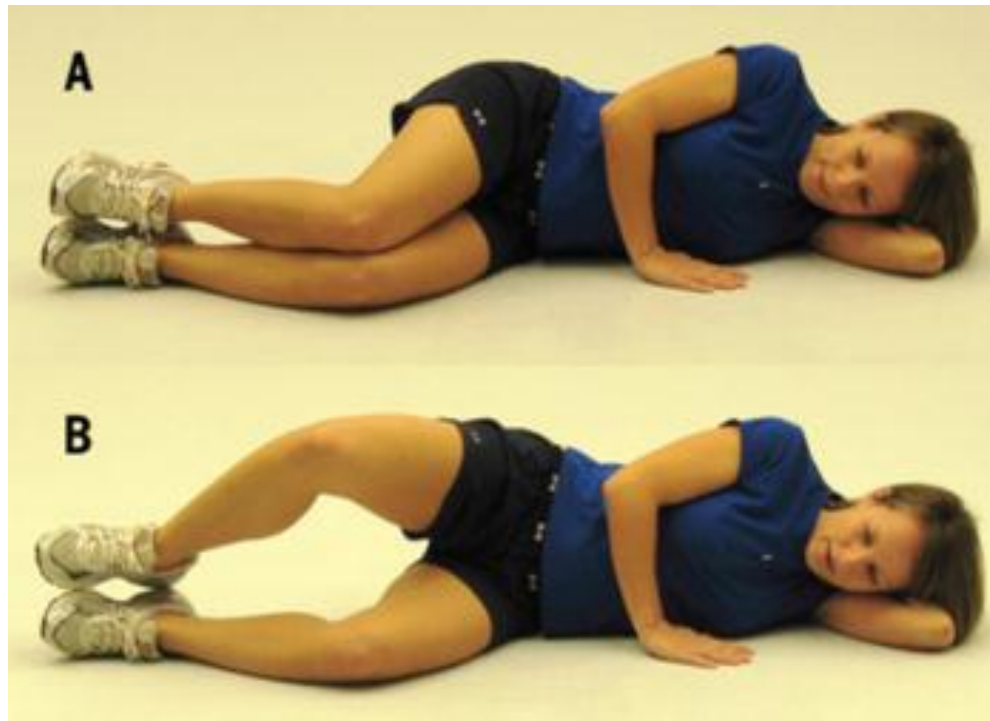
Provocative Tests

- Patrick's Test; SI joint



Provocative Tests

- Clam shell; piriformis



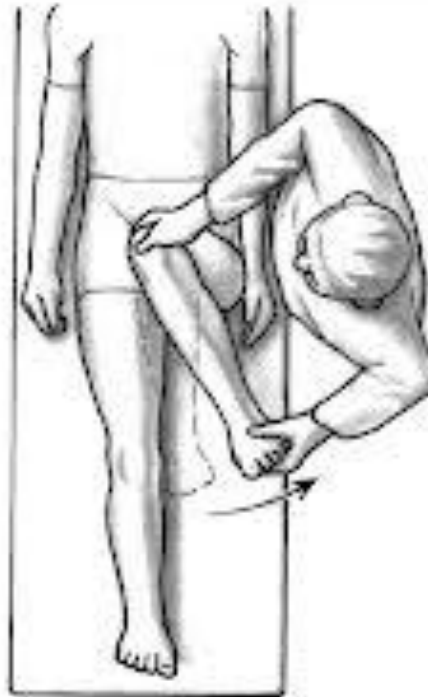
Provocative Tests

- Impingement



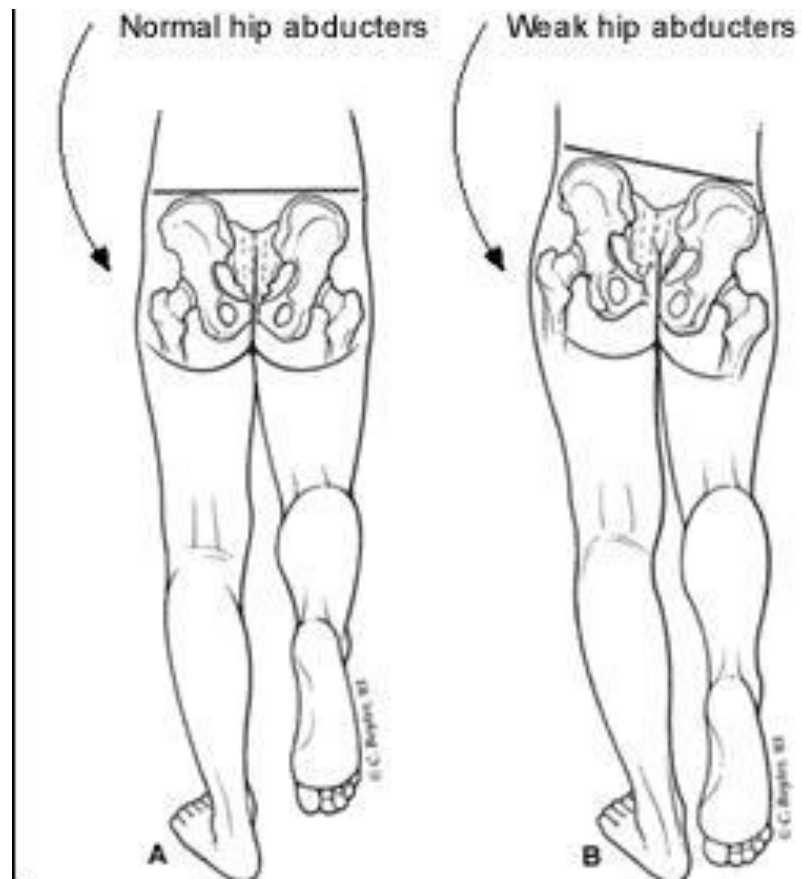
Provocative Tests

- Scour test; labral tear



Functional test

□ Single leg squat



Summary

- Remember anatomy
- Consider non-MSK causes of hip pain
- Use history to narrow differential
- Use physical exam to help rule diagnoses in or out

QUESTIONS???