Chp 11 The Hip and Thigh

Kines 80

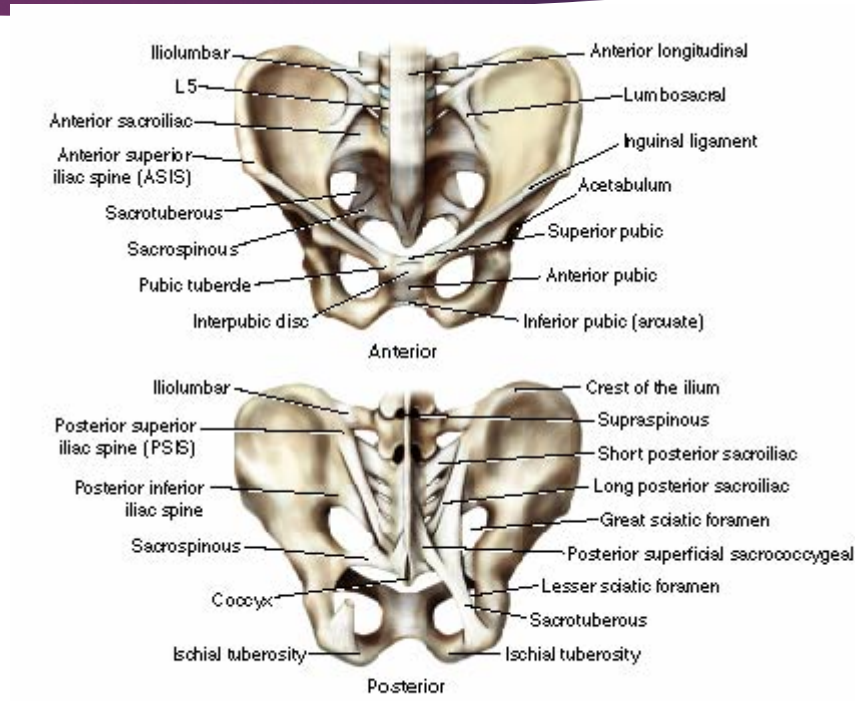
Hip Joint Movements

Flexion	Sagittal
Extension	
Adduction	Frontal
Abduction	
Internal Rotation	Transverse
External Rotation	
Circumduction	

BALL AND SOCKET JOINT

Pelvic Landmarks

- Review anatomical landmarks
  - Innominate bone
  - Acetabulum
- Hip Joint
  - Triaxial/Ball & Socket
  - 6 fundamental mvmts



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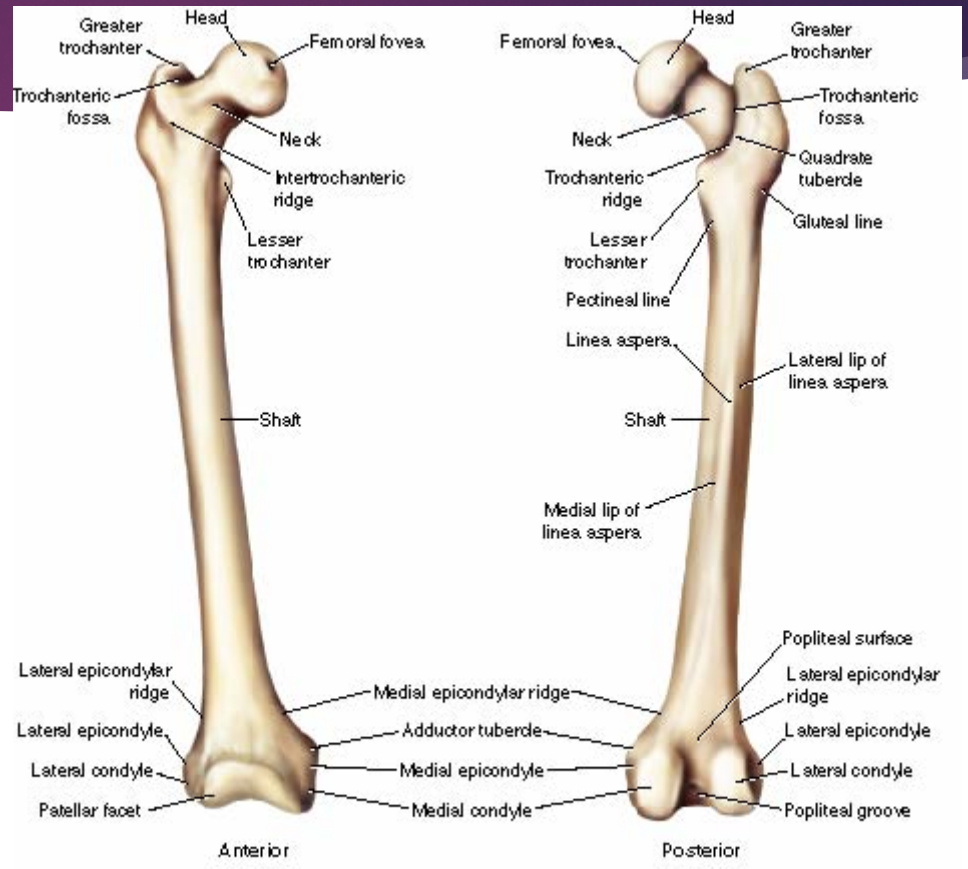
Femur

- Bone type
  - Long bone
  - Epiphysis
  - Epiphyseal plate
    - Cartilage
    - Maturity
    - injuries



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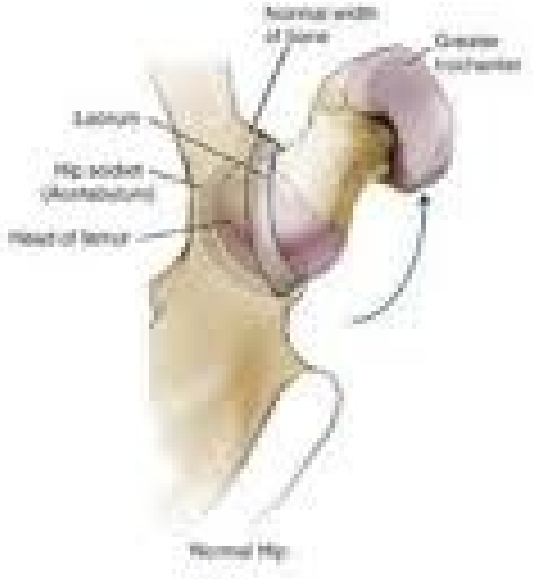
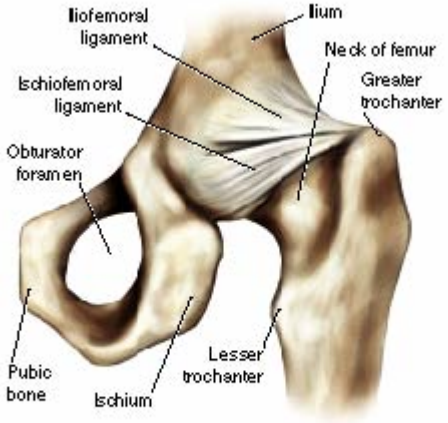
Normal Anatomy

- Acetabulofemoral joint synovial joint
- Articulation between the acetabulum and femoral head
- Fibrocartilage called the labrum rings around the acetabulum
  - Deepens acetabulum improving stability
- Hip is a very stable joint
- During hip flexion the femoral rolls superiorly and the femoral neck moves closer to the acetabulum



Acetabulofemoral Joint

Ligaments



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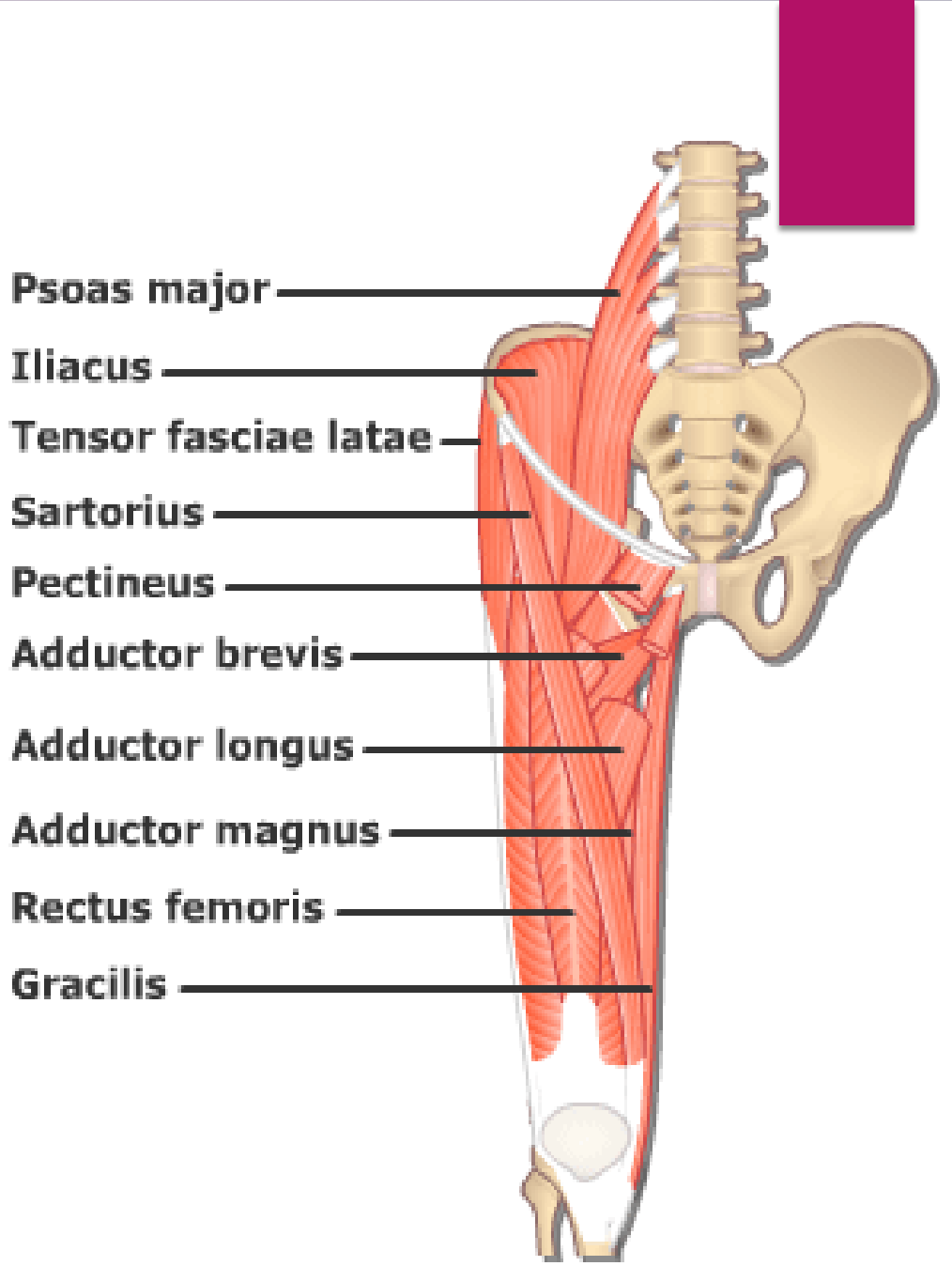
Muscles

- Hip flexor muscles are used in moving thighs up toward trunk
- Hip extensor muscles used eccentrically when pelvis & trunk move downward slowly on the femur and concentrically when trunk is raised on femur (rising to standing position)
- In downward phase of knee-bend exercise, movement at hips & knees is flexion
  - muscles primarily involved - hip & knee extensors in eccentric contraction

Muscles

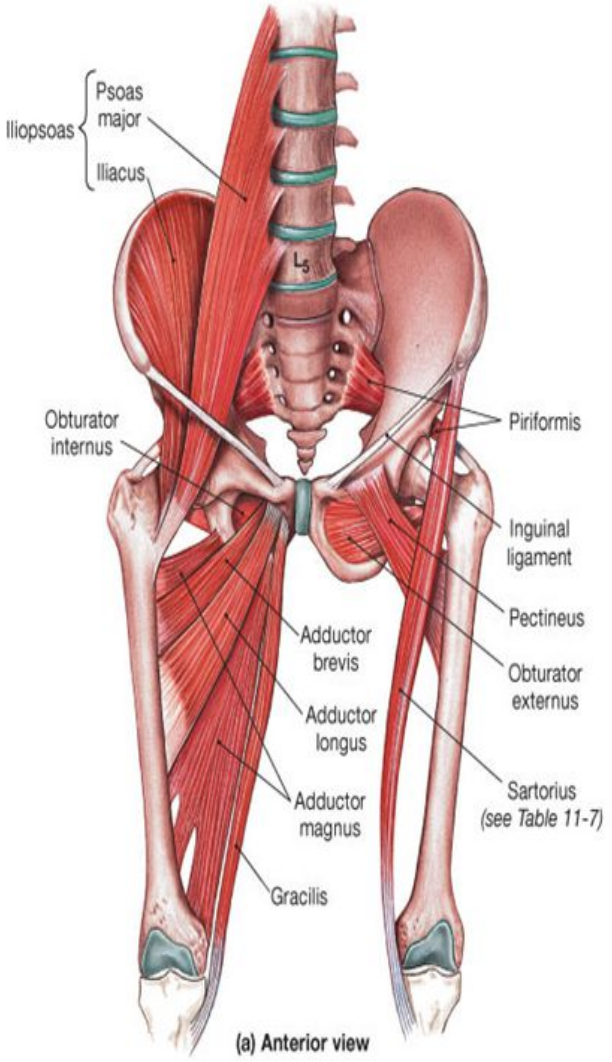
- Muscles involved in hip & pelvic girdle motions depend largely on direction of movement and position of body in relation to earth & gravitational forces
- Body part that moves most will be the part least stabilized
  - Standing on both feet & contracting hip flexors, the trunk & pelvis rotate anteriorly
  - Lying supine & contracting hip flexors, the thighs move forward into flexion on the stable pelvis

Hip Flexors


Psoas major
Iliacus
Tensor fasciae latae
Sartorius
Pectineus
Adductor brevis
Adductor longus
Adductor magnus
Rectus femoris
Gracilis

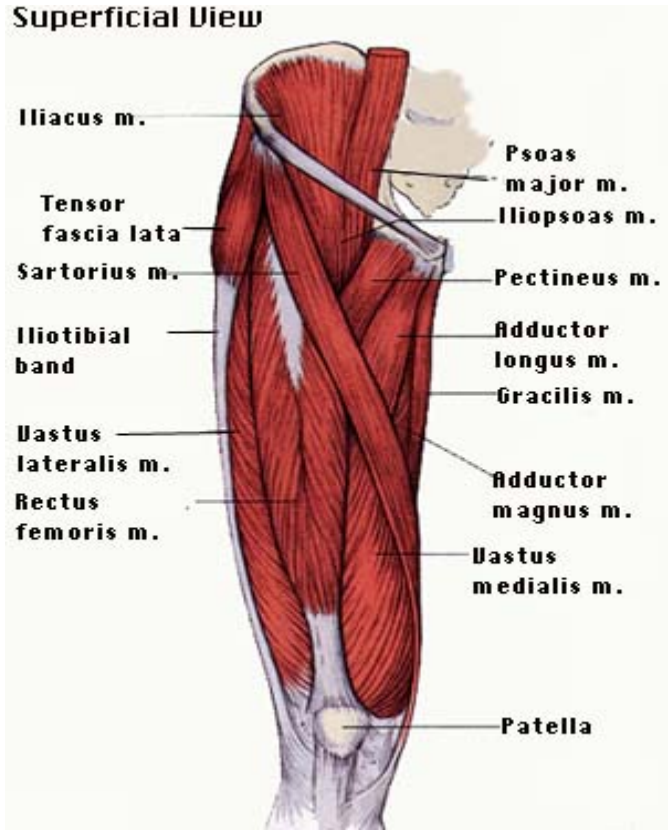
Muscles that Flex the Thigh

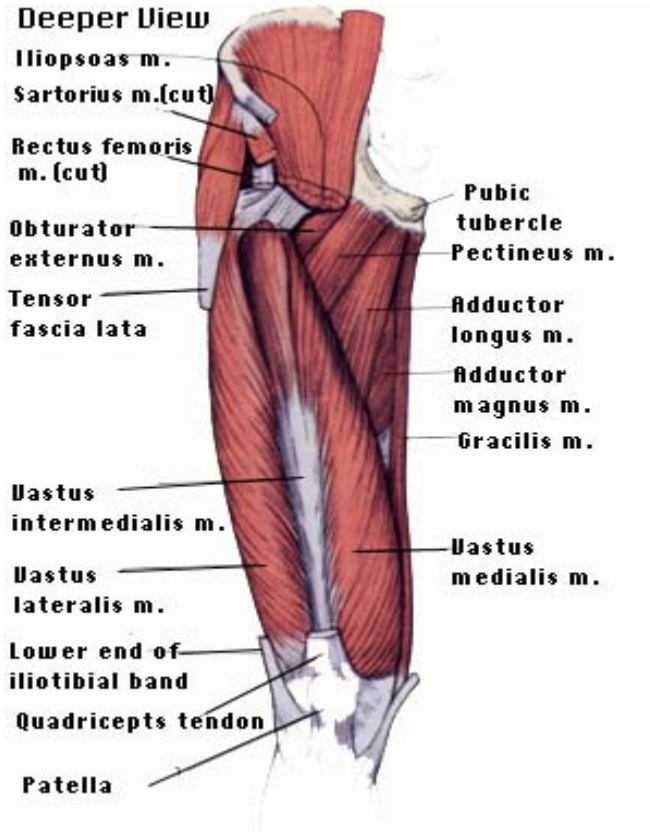
- **9 Hip flexors:**
  - **these muscles also either adduct or abduct the thigh**
  - **iliopsoas** – made up two muscles: iliacus & psoas major
    - **major hip flexors**
    - origin – lumbar vertebrae and iliac fossa
    - insertion – lesser trochanter of femur
  - **sartorius** - longest muscle
    - origin – anterior superior iliac spine
    - insertion - tibia
  - **tensor fascia latae** – also abducts the thigh by pulling on its tendon; medially rotates
    - origin – iliac crest
    - insertion – tibia by way of the iliotibial tract or IT band
  - **rectus femoris** – part of the quadriceps
  - **3 adductors** + pectineus



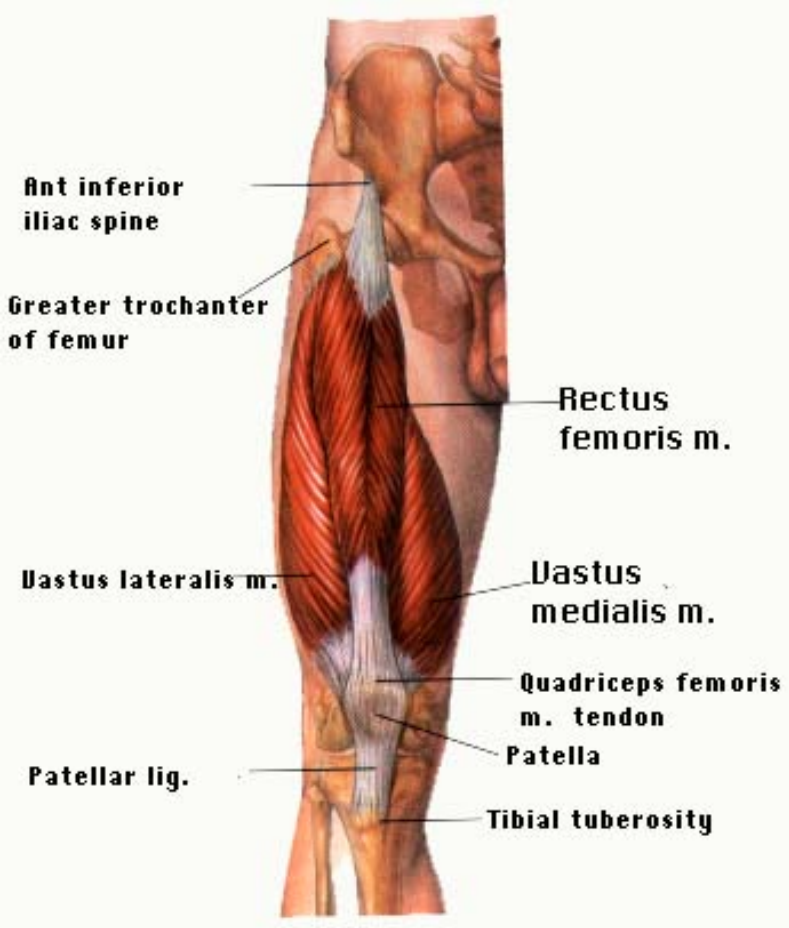
Hip Flexors

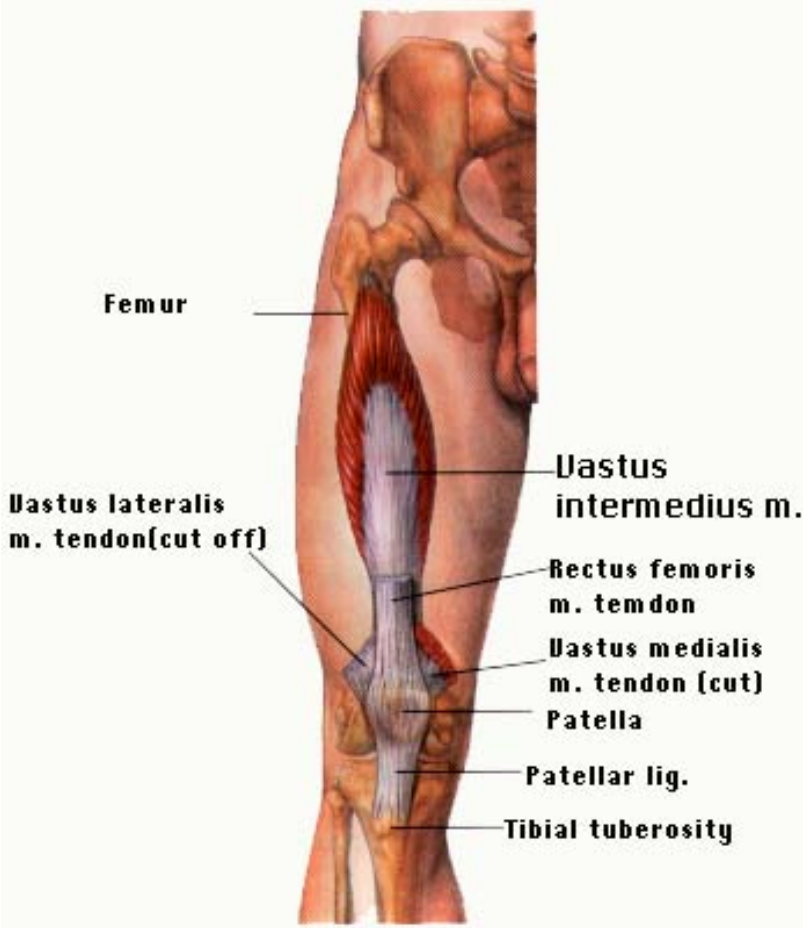
Anterior Muscles



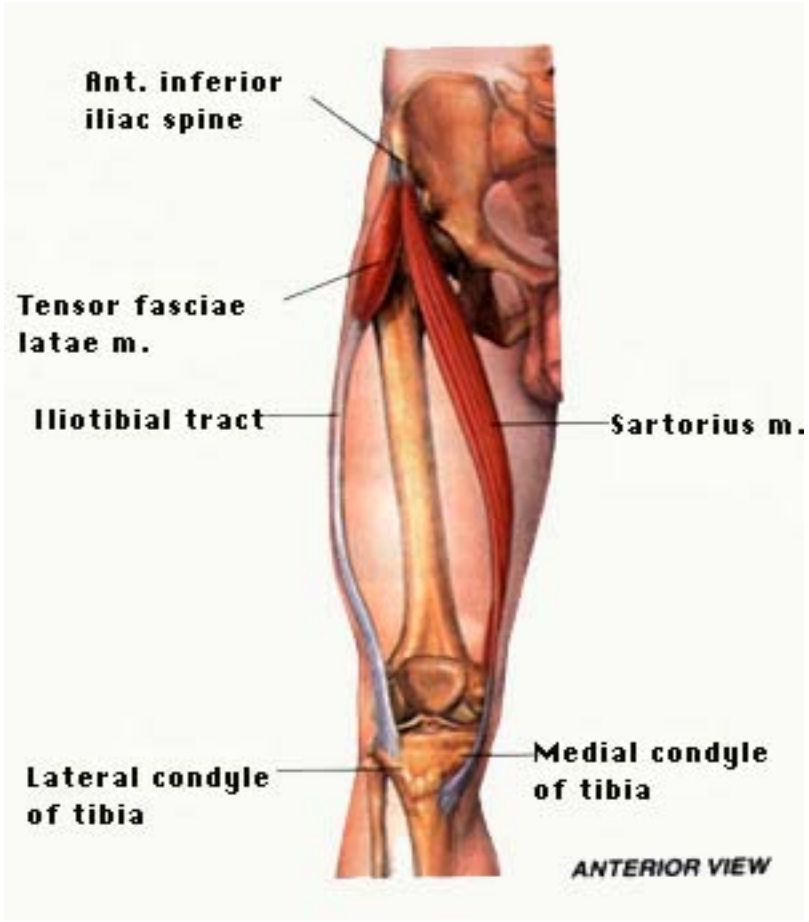


Anterior Deeper

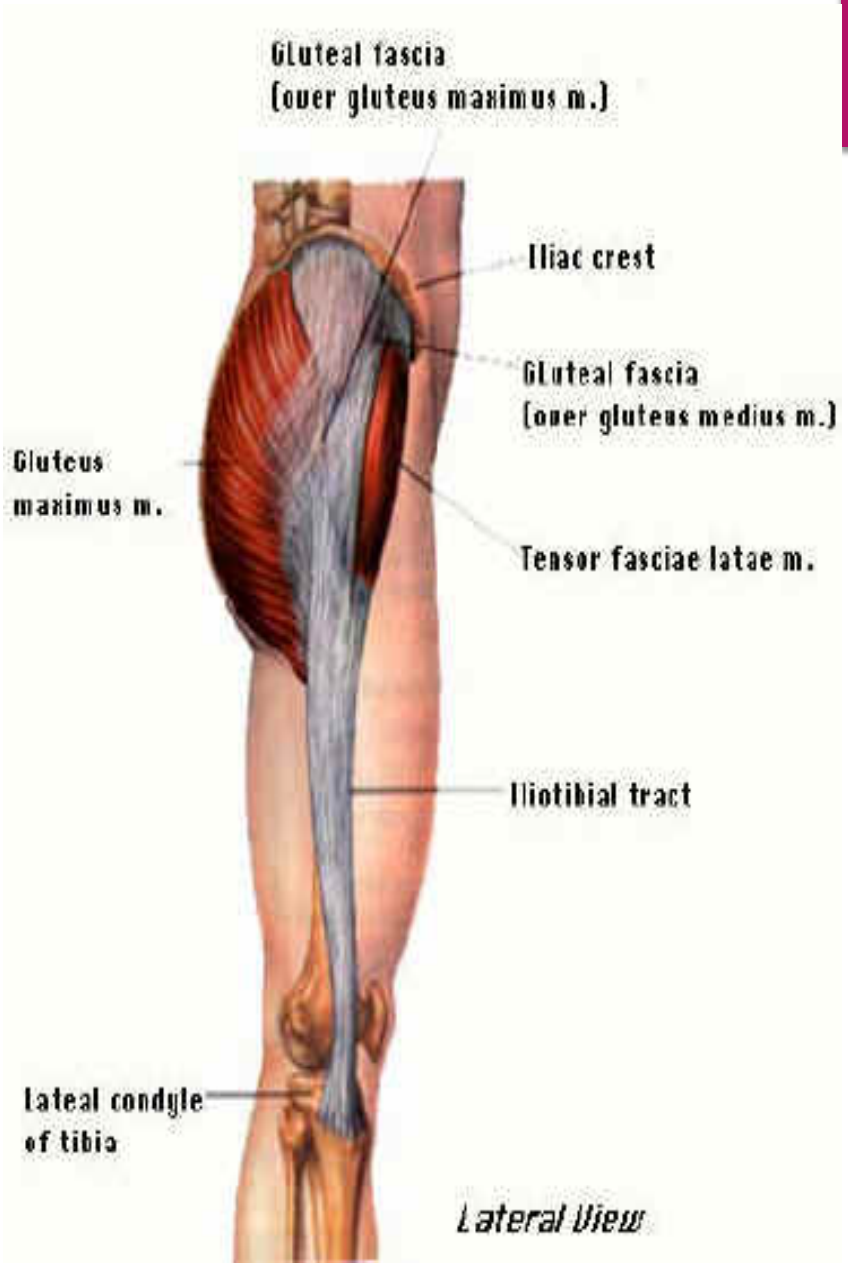


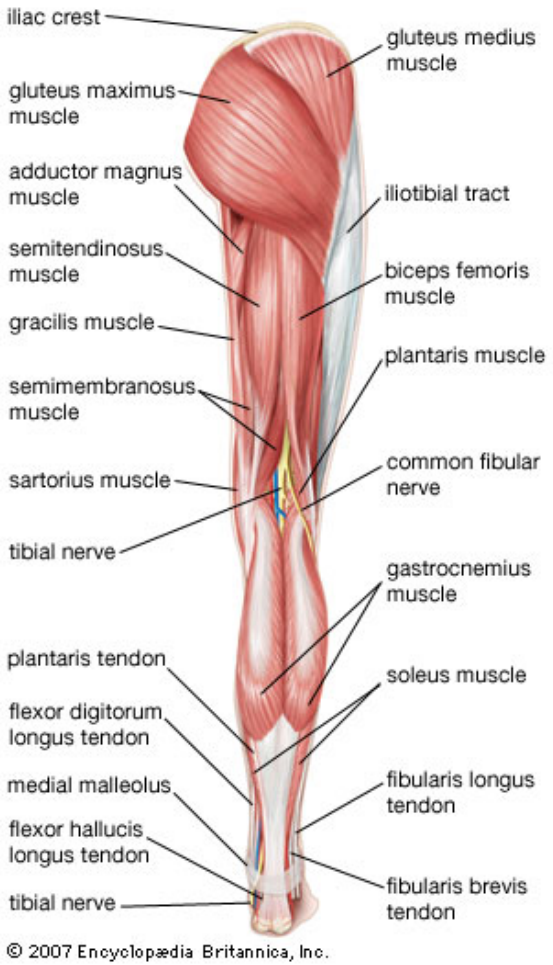


Anterior Deepest



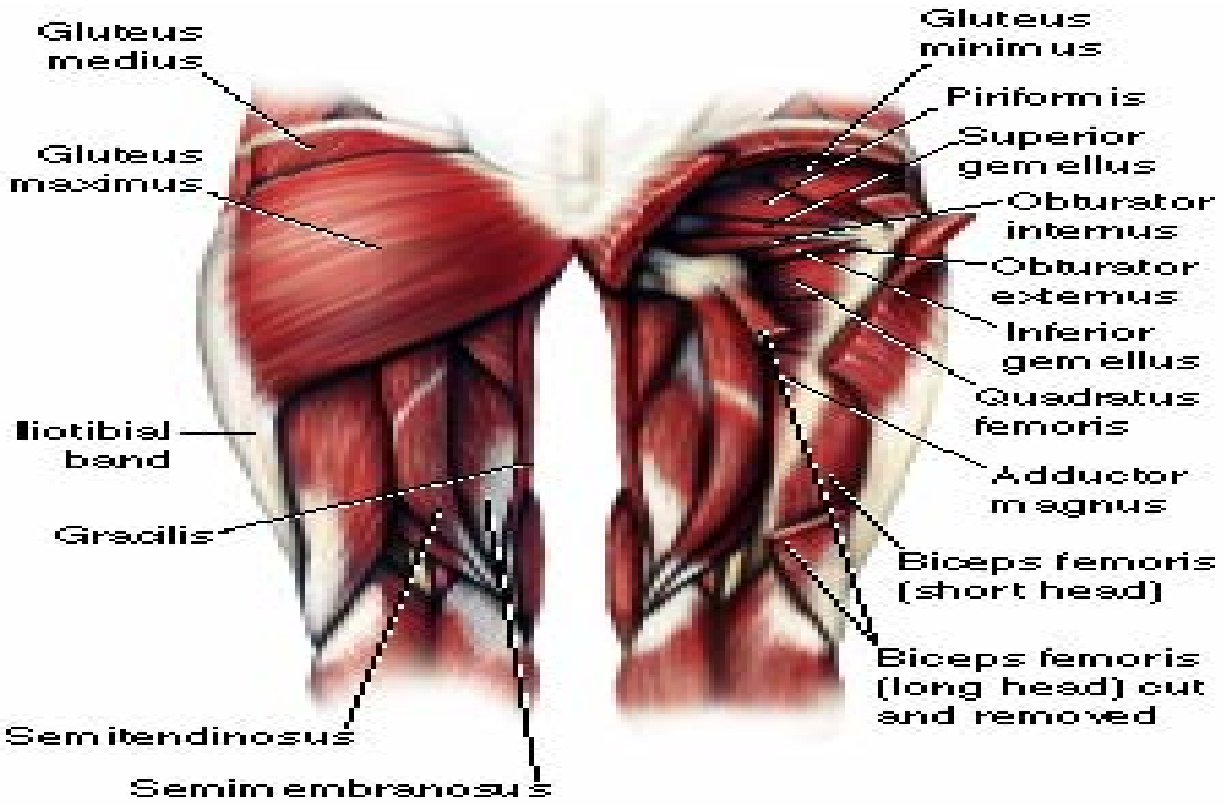
Lateral Muscles





Posterior Muscles

Posterior muscles



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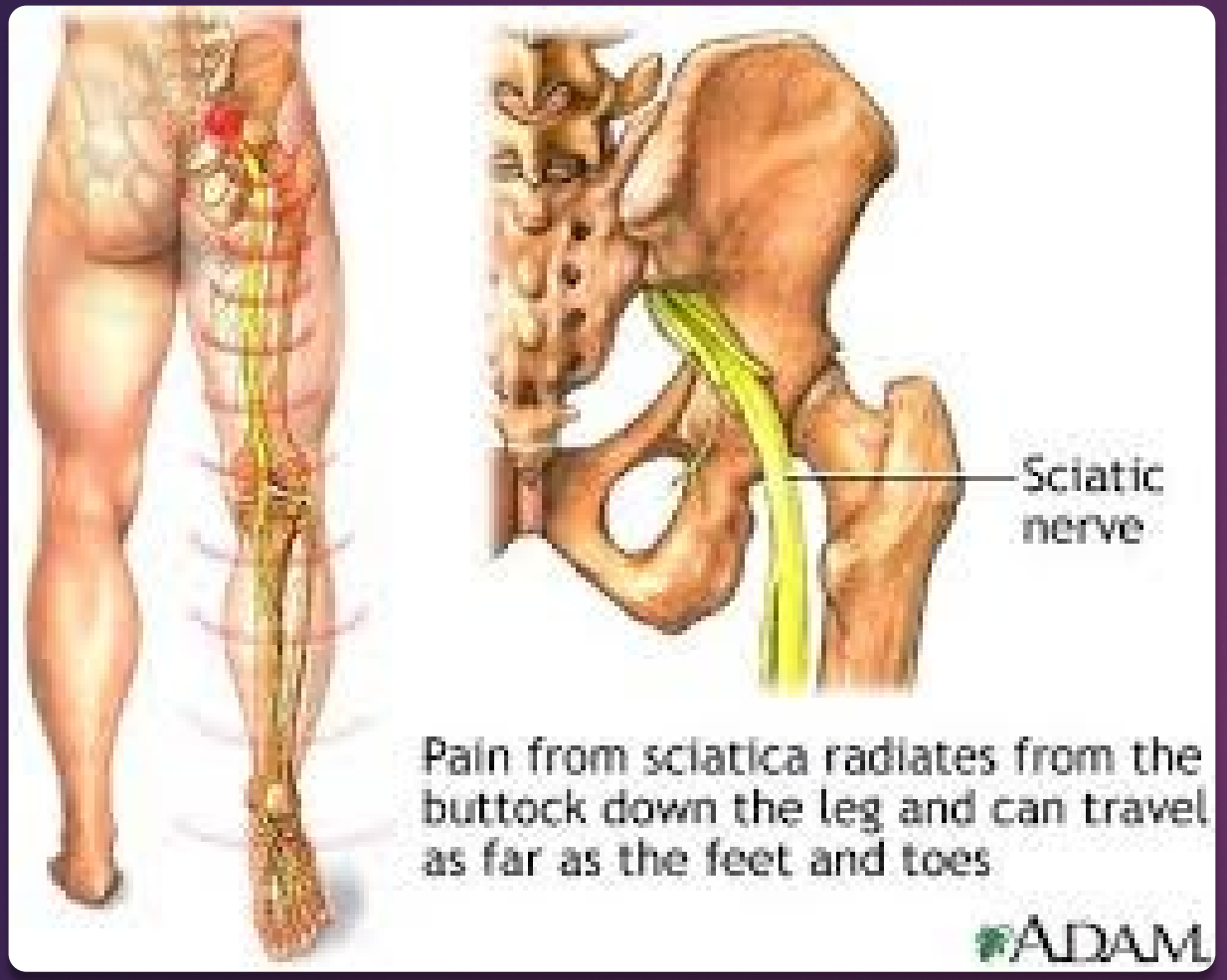
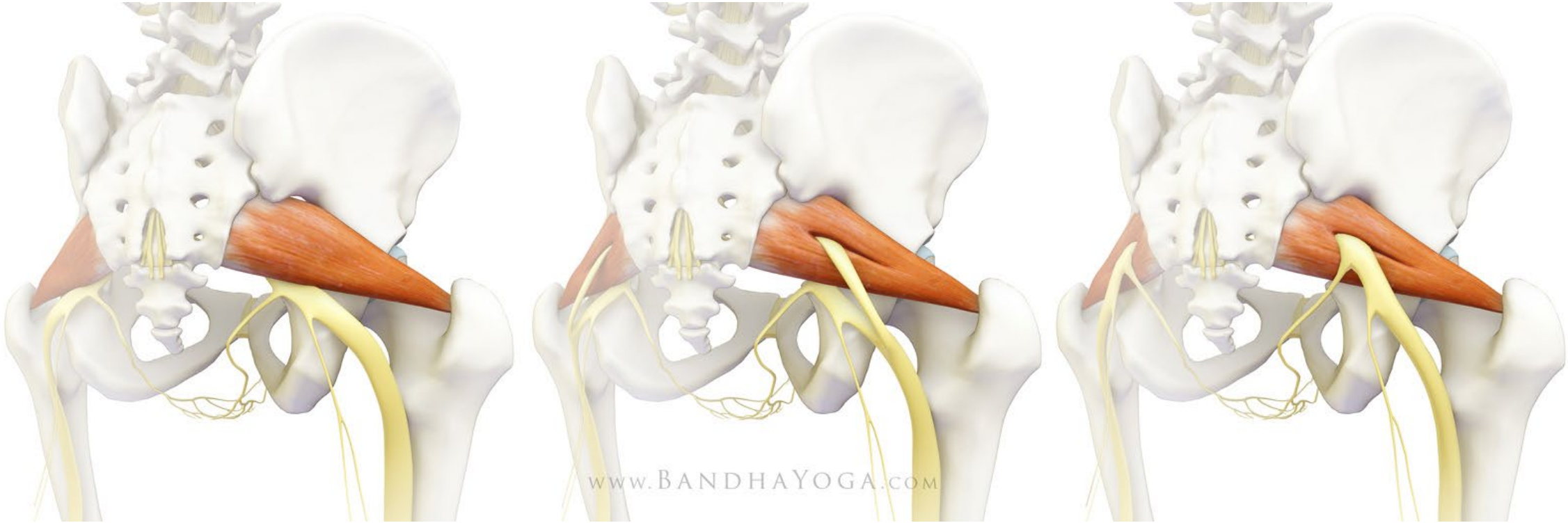
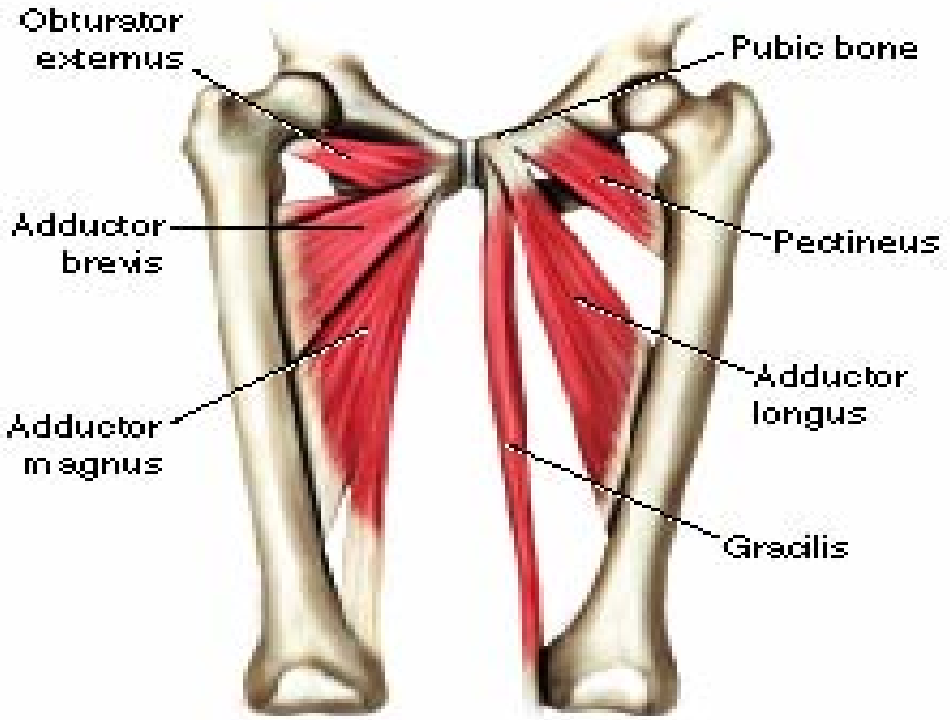
Sciatic Nerve



Pififormis Syndrome



Adductors



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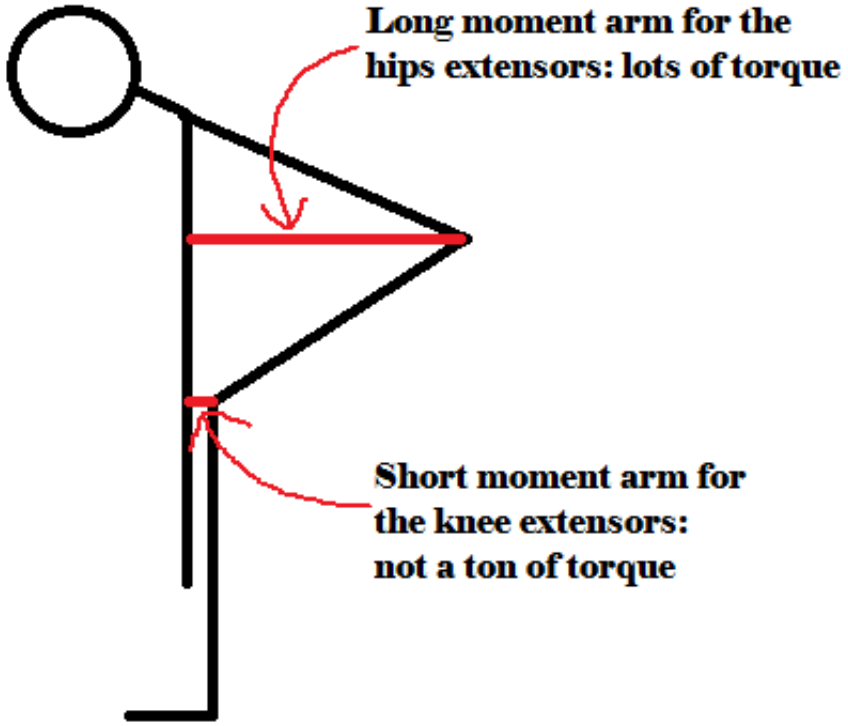
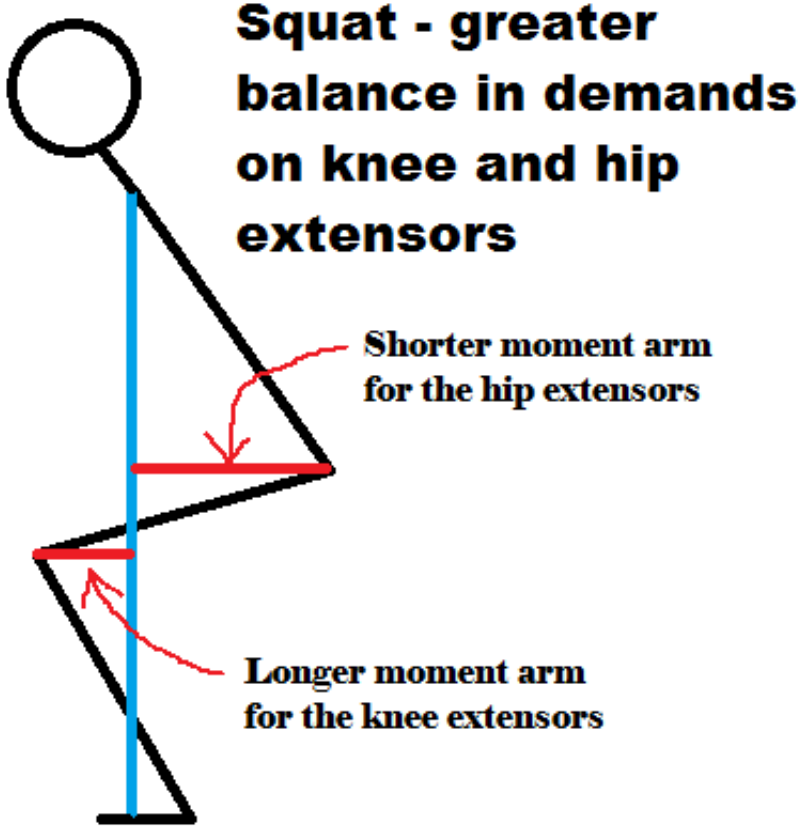
Deadlift - truly hip-dominant



Squat - greater balance in demands on knee and hip extensors



How to remedy tight hip flexors after prolonged sitting

After sitting → Contract the hip flexors → Gently stretch → Contract the glutes → Stretch the back

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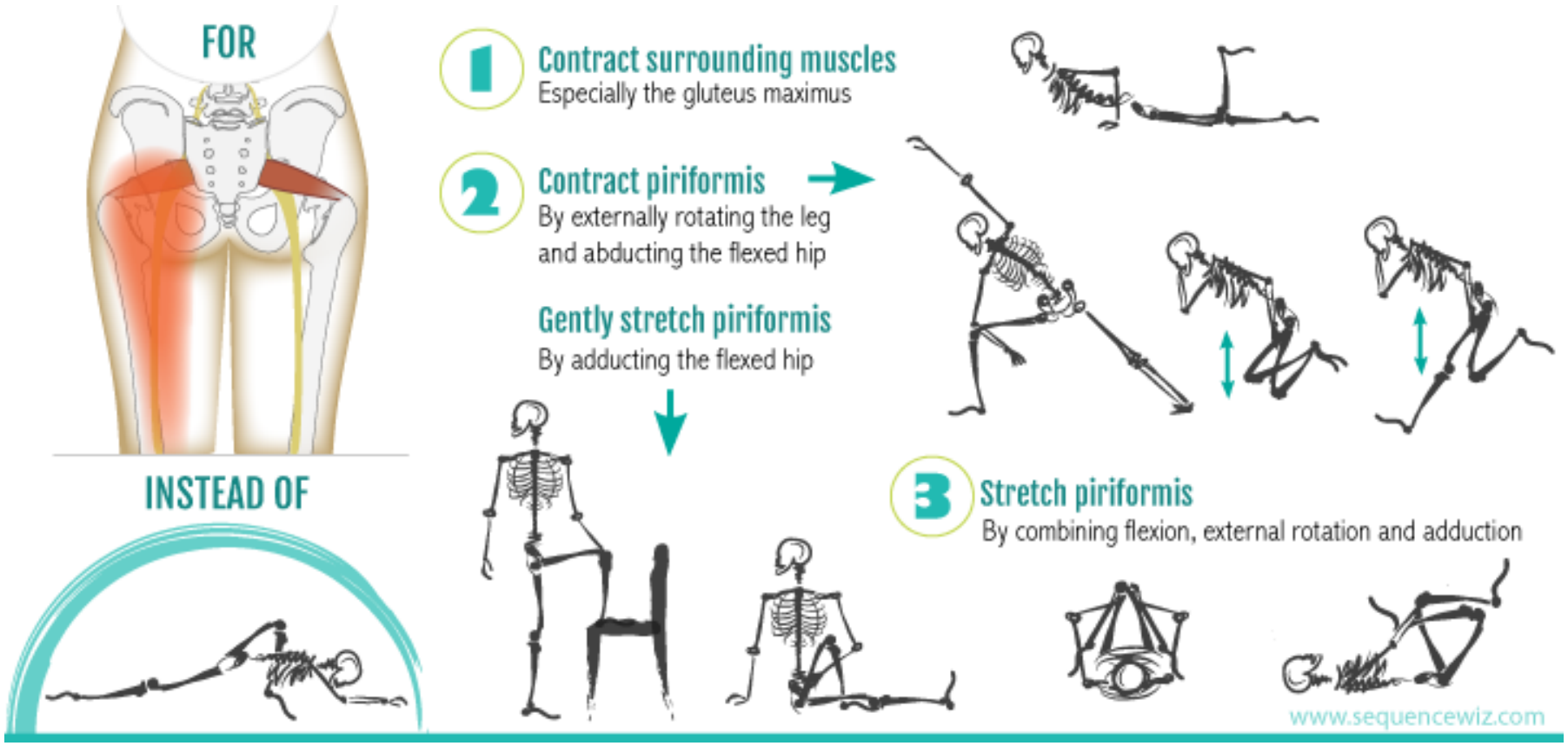
FOR
INSTEAD OF
1
Contract surrounding muscles
Especially the gluteus maximus
2
Contract piriformis
By externally rotating the leg
and abducting the flexed hip
Gently stretch piriformis
By adducting the flexed hip
3
Stretch piriformis
By combining flexion, external rotation and adduction
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