

Hip Mobility

How to check pelvic alignment, the effect of the pelvis on hip mobility, and how to increase hip mobility.

Today's Agenda



Anatomy of the pelvis and hip



Affect of pelvic position on hip mobility



Pelvic self-assessment



Soft tissue releases for the hip/pelvis

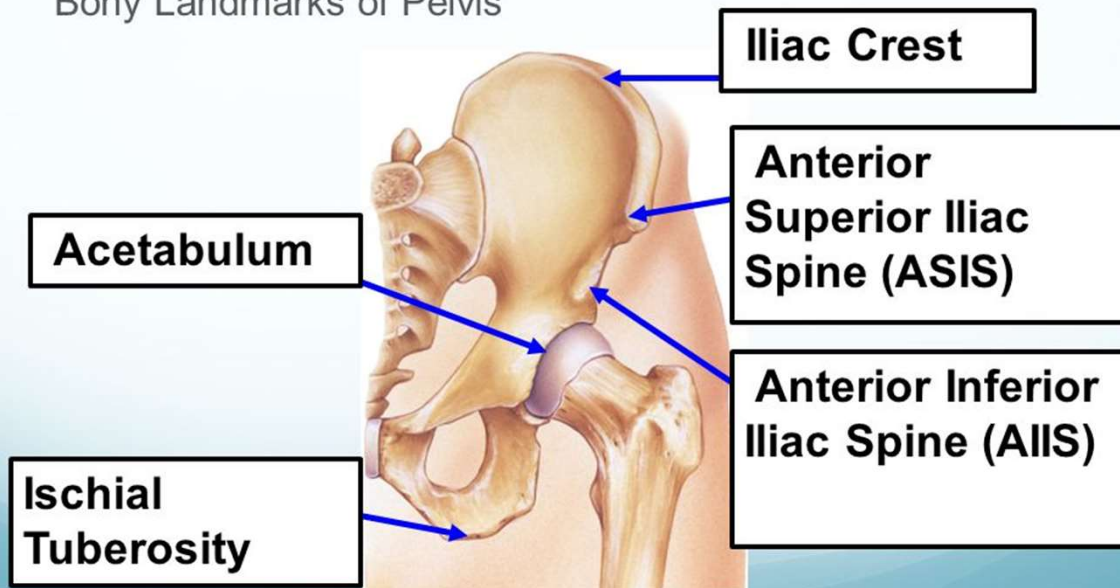


Mobilizations for the hip/pelvis

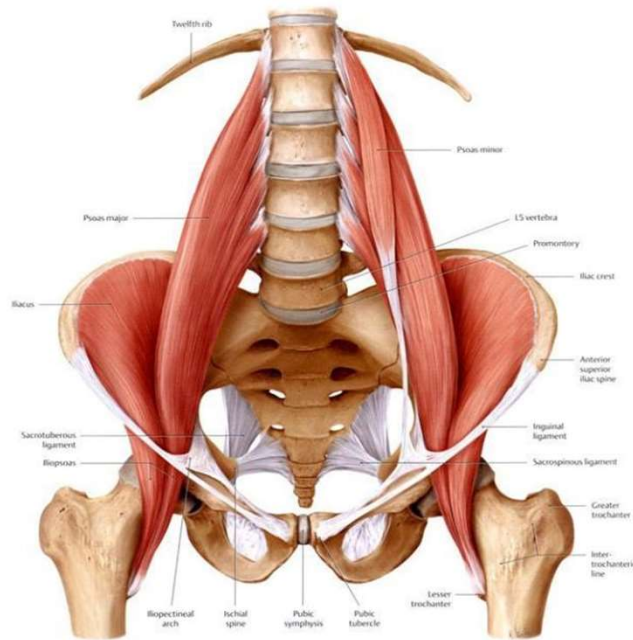
Anatomy Basics

Bony Anatomy

Bony Landmarks of Pelvis



Why do my hips always feel tight? I work out...



Our soft tissues (muscles/tendons, ligaments, and fascia) hold our bones in place.

Prolonged sitting → hips are in a flexed position
→ hip flexors are shortened

Upon first standing → pelvis is anteriorly tilted because of those shortened HF's and where they attach affects:

- Lumbar spine
- Hamstring "flexibility"
- Hip flexion/extension mobility

Effects of Sitting

Lumbar spine:

Prolonged hip flexion → shortened/tight hip flexors → HF's attach at lumbar spine + pelvis/femur → reflexive tightening of low back muscles to stabilize against oppositional pull from HF's → low back pain!

Hamstring "flexibility":

Pulls the HS into a taut position across the knee and hip → hip flexion ROM can appear limited.

The actual length of the hamstring is relatively unchanged, but the "perceived" or positional length has changed.

Hip extension mobility:

Hip flexor mm shortening/tightness → limits hip extension mobility based on where the muscles attach

So what, should I stretch more?

Stretching is not the same as releasing!

The position of the pelvis affects the length-tension relationship of all surrounding muscles and their ability to work.

Good pelvic alignment creates good muscular control.

Need balance between strength and mobility to stabilize the pelvis as a foundation for optimal performance and injury prevention.

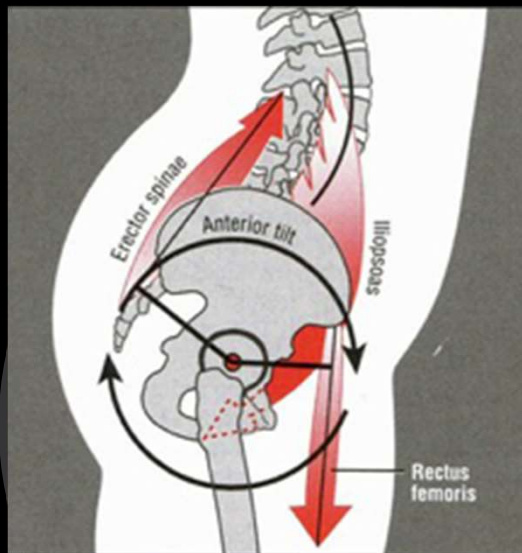
But I'm here to learn about my hip...

All muscles that stabilize and move the hip attach to either the pelvis or the femur.

In order to address the mobility and function of the “hip”, we must consider the soft tissues above and below the actual hip joint.

In a structurally normal hip, if you release the surrounding soft tissue restrictions then the joint can move more freely.

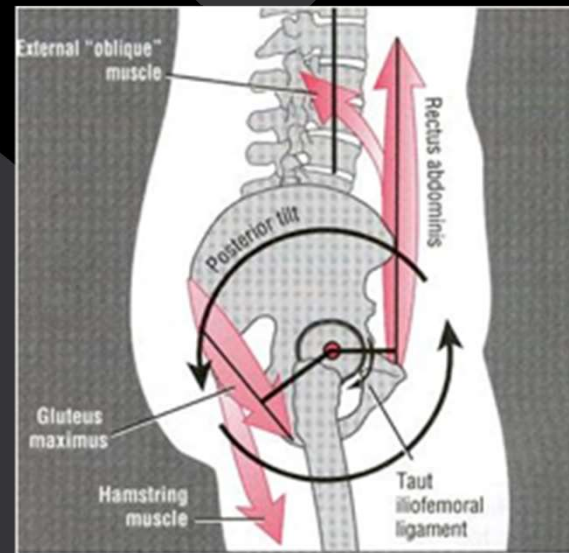
Anterior vs. Posterior Tilt



HF tightness → Increased curve in low back →
tightness/pain in low back

Weakness in overstretched gluts/abs

Decreased power generation through gluts and
stability through abs



Slouching can cause increased compression of the discs

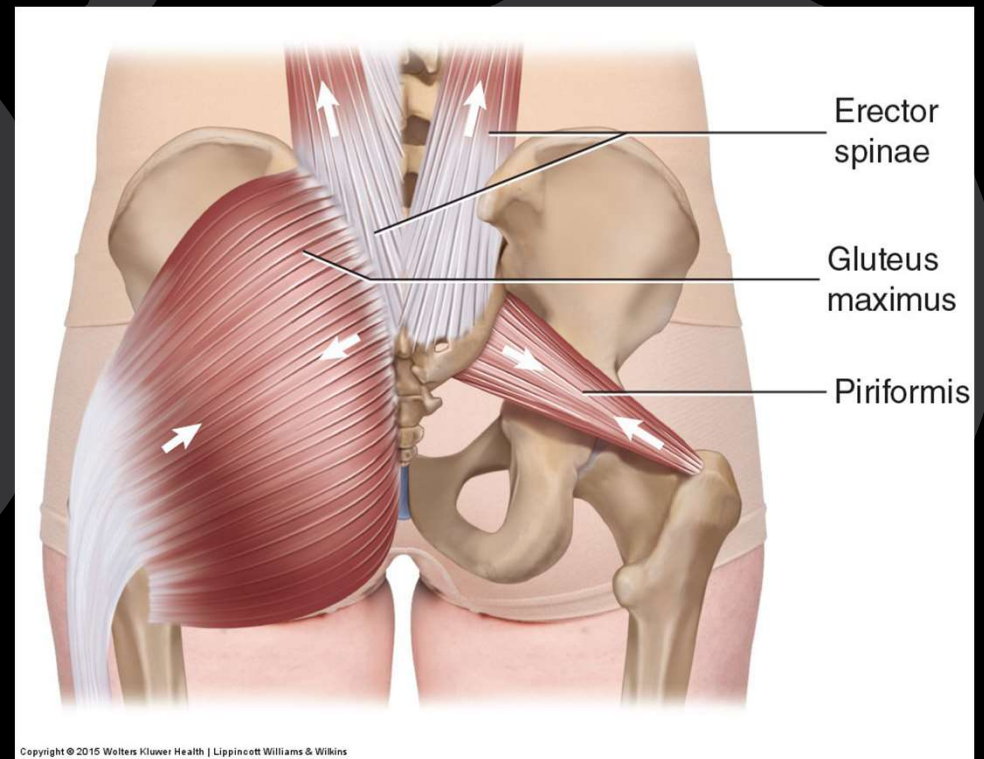
Shortened gluts/hamstrings

Poor force absorption leads to increased risk of hamstring
strains

Hip Extension

Hip extension is what your body needs to propel you forward, generating force off your back leg to move your body weight forward quickly and efficiently. This comes primarily from contraction of your big glute max muscle, and also requires enough range of motion in the hip to allow the leg to extend behind the body.

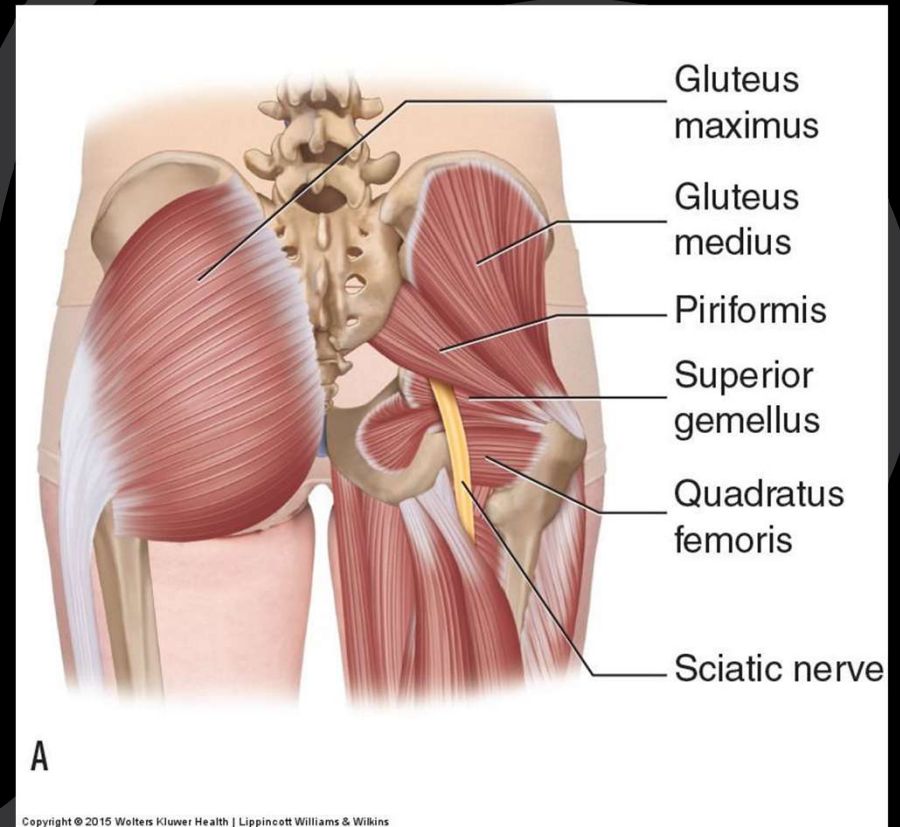
To keep your hip joint healthy you need a strong butt and good flexibility in your hip flexors.



Hip Abduction

The glute med and min are important abductors of the hip — this means they pull the leg out to the side, away from the body.

They stabilize your pelvis when you're standing on one leg (running, jogging, walking, balancing to pick something up, etc).

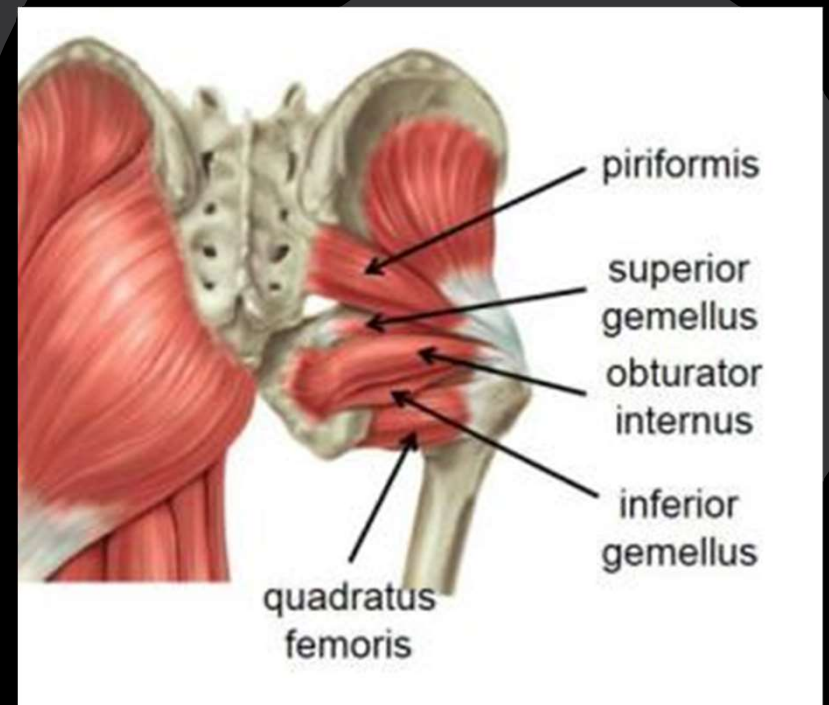


Hip Rotators

Good news! You already learned about some of the muscles that help.

External Rotators:

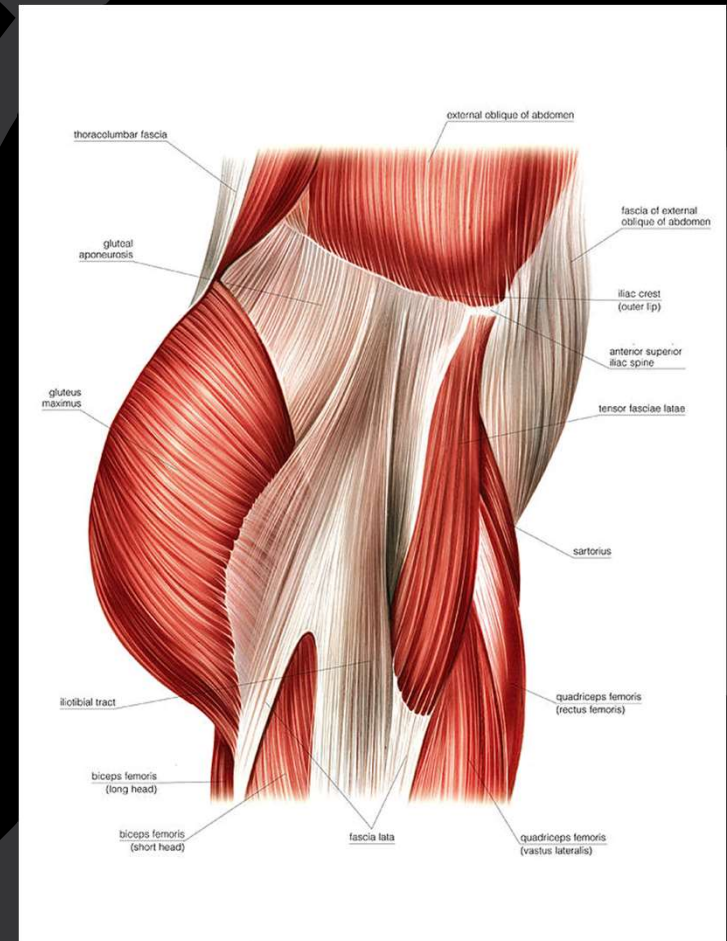
- Piriformis
- Superior/inferior gemellus
- Obturator externus/internus
- Quadratus femoris
- Glut Med/Min (parts)



Hip Rotators

Internal rotators:

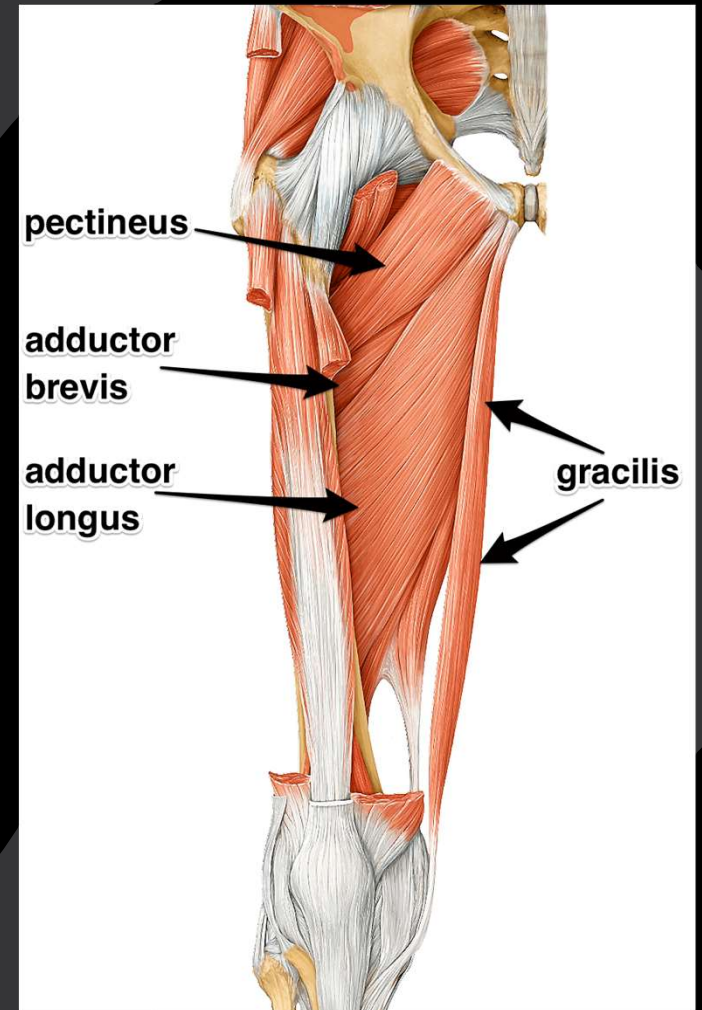
- TFL
- Adductors (inner thigh muscles)
- Glut med/min (parts)



Adductors

= Inner thigh muscles

Just remember where they are located!



How to assess your pelvic tilt

Stand in front of a mirror and palpate your ASIS on each side simultaneously

- Are they level or is one lower than the other?

Stand sideways in front of a mirror and palpate your PSIS and ASIS on the same side

- Note the slope or slant between your front and back hands on each side

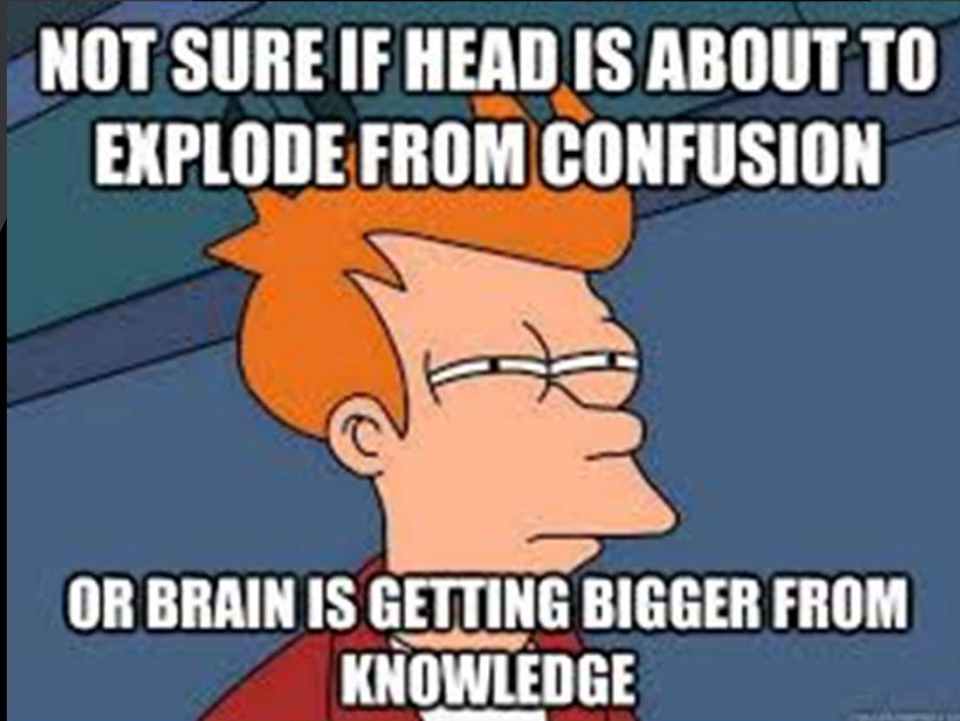
Now what? Mobilize, stabilize, then strengthen.

The goal is to regain your mobility through releases and manual joint mobilization.

***NOTE: not flexibility, but normal motion. No cranking on anything here please, unless your professional healthcare provider tells you to do so 😊.

Normalized mobility → more neutral bony alignment → improved length-tension relationship of muscles → ALL of the muscles that previously couldn't work are now invited to the party!

Who doesn't love a good party...



On to the fun part...

Main tenets of soft tissue releases

Proximal → Distal

- Top → bottom
- Closer to midline → further from midline

Front → back

- Complete all structures on the front of your body (proximal → distal)
- Flip over, and complete all structures on the back of your body (proximal → distal)

For how long?

- Until the "good" hurt in that area starts to decrease

Mobilize: Active Releases

1. Hip Flexor
2. TFL
3. Quad: RF
4. Quad: VL
5. Adductor
6. Glut
7. QL

Must do the releases in this order!!!

***All of these videos are on React's YouTube channel for your personal use!

Pelvic Mobilization for APT

Re-assess your pelvic alignment, note if anything changed.

If it looks level now, and the sloping is less severe...you're finished and ready to get your move on!

If one ASIS still appears lower than the other:

Stand in front of a chair/table. If R ASIS lower – put R foot onto the table in a lunge position.

Cup your R ASIS with the palm-side of the webbing between thumb and index finger → push webbing into the hip crease and maintain moderate pressure

Perform 5-10 small amplitude lunges while squeezing abs/gluts

Re-assess.



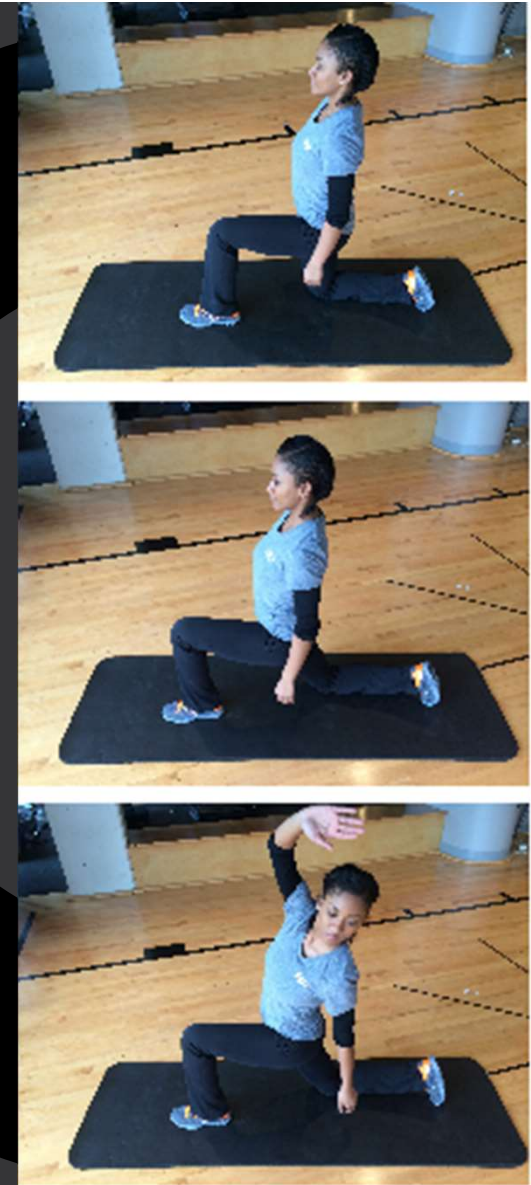
½ Kneeling HF Stretch

Keep the front knee directly over the ankle.

Place hands on both iliac crests to ensure level, and squeeze your butt to slightly push your pelvis forward.

Keep your tailbone tuck under (towards the ground) to avoid over-arching in your low back.

- Progression: side-bend toward the front leg to add QL
- Progression: keep side-bend, add elevation of the back foot to add quad stretch



Hip Mobs

Posterior mob:

Loop band into groin so that there is a slight force pulling your femur backwards

Squeeze your back glut to pulse forward 10-15 times.

Lateral distraction mob:

Loop band into groin so that there is a slight force pulling your femur sideways

Keep your core engaged and lunge diagonally into your front foot



Piriformis Stretch

Oscillating

Small motions side to side, keep your pelvis level, top foot flexed, push top knee/shin away from you

Feet on wall

Lengthen your tailbone towards the wall while keeping your low back flat on the ground

Add lumbar rotation

Keep figure 4, drop legs (as one unit) to one side (if R leg on top, drop to the L)

Grab your R foot with your L hand

Use your R hand in your R hip crease to push your femur away from you



CAR's: Controlled Articular Rotations

Quadruped position, keep weight evenly distributed between all 4 points

Palms flat on the ground, rotated out slight; elbows straight

While keeping your hips/pelvis and shoulders level:

Lift your L leg with knee and ankle bent to 90 degrees

Keeping your L foot elevated, slowly rotate the L knee out to the side (fire hydrant)

Return to starting position, **repeat in the opposite direction**

Perform 10-15 repetitions in each direction; switch sides.



WANT MORE?

- Lots of releases and exercises are available on our YouTube page, just search for REACT PHYSICAL THERAPY and our home page contains all our videos.
- More questions? We have answers. Come in for a free injury screen/consultation!
- Locations in West Loop, Lincoln Park, Lakeshore East, River North, Deerfield, and Wilmette.



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