



Exercises for Hip Impingement

What Is Hip Impingement and How Is It Assessed?

Hip impingement is a common cause of hip pain. It occurs when the ball and socket of the hip joint bump into each other. This can be due to bony anatomy or faulty repetitive mechanics in the hip which causes wear and tear on the joint surfaces, potentially contributing to osteoarthritis and increased stress on soft tissue structures of the hip, such as the labrum. All of these can contribute to pain, mobility limitations, muscle inhibition, and further wear and tear on the joint.

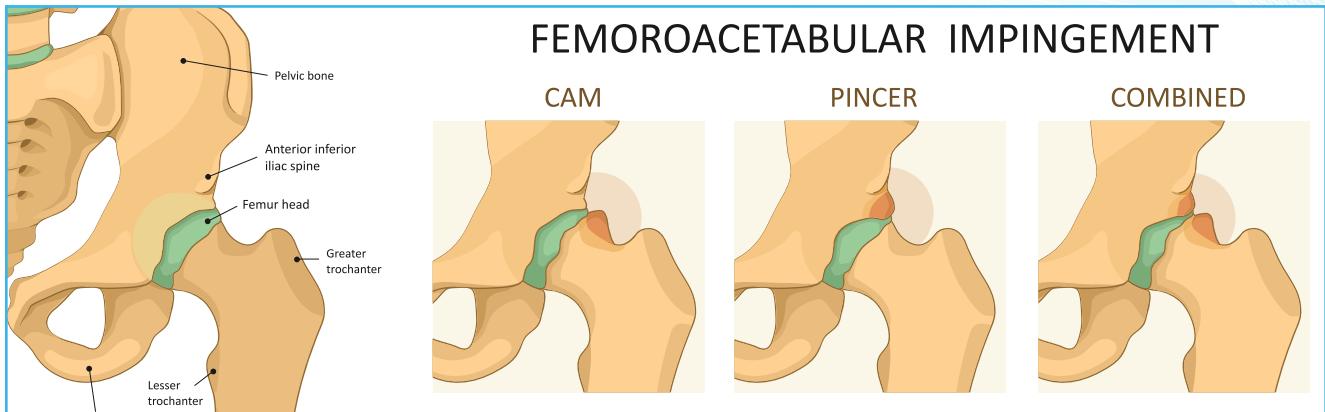


The majority of labral tears are associated with some form of hip impingement, but not all hip impingements have labral tears. Either way, the onset of pain can be gradual or during a specific movement. When the onset has occurred with a specific episode, it is often due to a buildup of repetitive movements and this was “the straw that broke the camel’s back.”

In a clinical setting, a clinician will perform a test for hip impingement known as FADIR (flexion, adduction, internal rotation). The patient will lie on their back, and the clinician will passively lift the leg up to 90 degrees with the knee bent, taking the knee across their body as they also take their foot out to the side. If the patient reports pain or discomfort in the front of the hip, groin, or the front side of the hip with this movement, then the test is positive, and the patient is deemed to have impingement. This test does not delineate between impingement or a labral tear.

X-ray imaging is used to assess for bony deformities (such as a cam or pincer lesion), and further studies such as a CT scan, MRI, or preferably MR arthrogram (where dye is injected into the joint) can be used to assess other soft tissue damage (such as in the labrum). A cam lesion is where the ball of the femur is not smooth but has bumps, is larger, or has a non-cylindrical shape, preventing it from

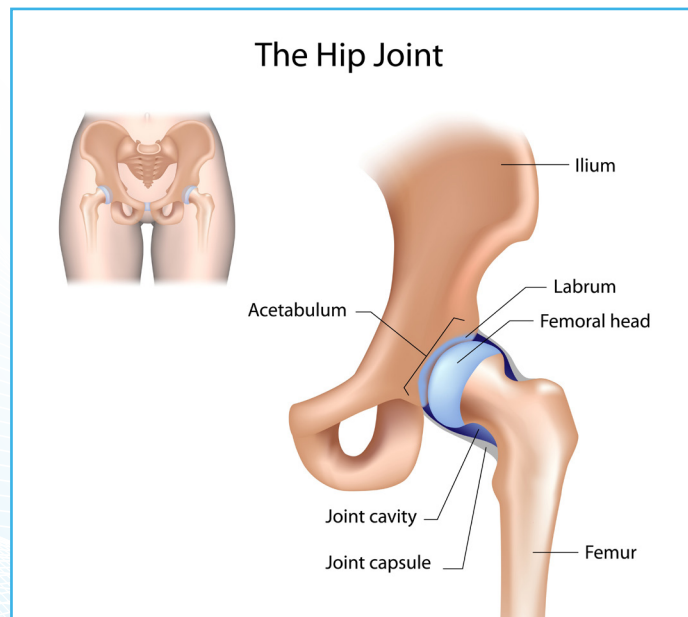
moving well in the socket. A pincer lesion is where the roof of the acetabulum extends beyond its normal position, causing the femur to bump into it. People can sometimes have both at the same time.



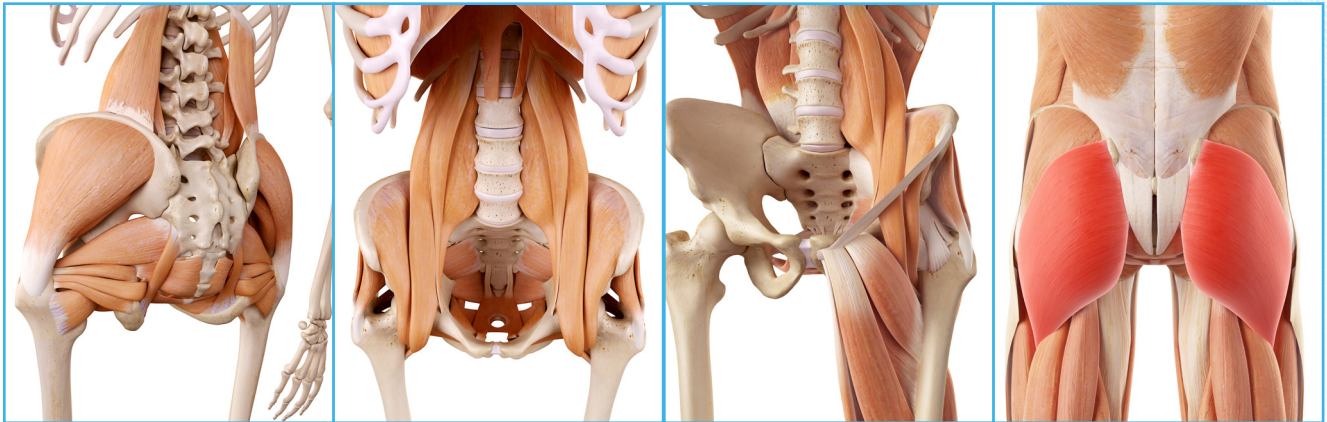
Anatomy Overview

The hip joint is a ball and socket joint. It consists of the end of your femur (upper leg bone) which has a round end (shaped like a ball) that sits in a cup-shaped socket of your pelvis known as the acetabulum. The acetabulum and femur both have articular cartilage on the surface to improve joint interaction.

At the edge of the acetabulum is another type of cartilage that forms the labrum. The labrum creates a deeper socket and a vacuum-like seal to help keep the ball centered in the socket.



On top of that, we have a joint capsule containing the joint, various ligaments that connect the femur and pelvis, and muscles that dynamically provide support and function to the hip and pelvis.



Hip impingement most often occurs anteriorly, and is associated with complaints of “pinching” or pain in the front of the hip at its crease and/or groin. This occurs particularly when the hip is taken into flexion, whether that’s bringing your knee up toward your chest or going into the deeper position of a lunge or squat, as well as when taking your leg across your body or pivoting and turning over your foot, moving the hip into adduction or internal rotation.



Posterior hip impingement is more likely to cause deep butt pain with hip extension. With either type, there will occasionally be accompanying deep butt discomfort or aching, and this can also be associated with other muscular complaints of greater trochanteric bursitis (pain on the side of the hip) due to compensatory patterns. Pain is often reproduced by taking a very large step.

Labral tears can occur due to constant pinching of the labrum and can be associated with a femur that is positioned further forward in the socket, particularly due to repetitive end ranges of extension. If the labrum is torn, the hip joint loses some of its stability, which creates further wear and tear on the joint surface and requires even more focus on hip mechanics and stability. When symptoms are further along and possibly associated with a labral tear, you may experience a catching or locking sensation in your hip, particularly after prolonged sitting or walking, or a feeling of instability. If there is further wear and tear progressing to hip osteoarthritis, there will be restrictions in range of motion as well as a firmer end feel.



RESEARCH ALERT

- 54.8% of athletes but only 23% of the general public have an asymptomatic cam lesion. Keep in mind that is asymptomatic, meaning the hip feels fine. The incidence of an asymptomatic pincer deformity was 67%. (Frank et al., 2015)
- A systematic review showed that between 33% to 85% of asymptomatic athletes had a labral tear, with contact sports being the highest percentage. (Heerey et al., 2019)
- Another study looked at 64 patients registered to have surgery for their labral tears and cam deformities. They assessed for any correlations between severity of the morphology and pre-op symptoms and pain scores. “Symptom severity was significantly more related to mental health status than either the size of the labral tear or FAI deformity.” (Jacobs et al., 2017)

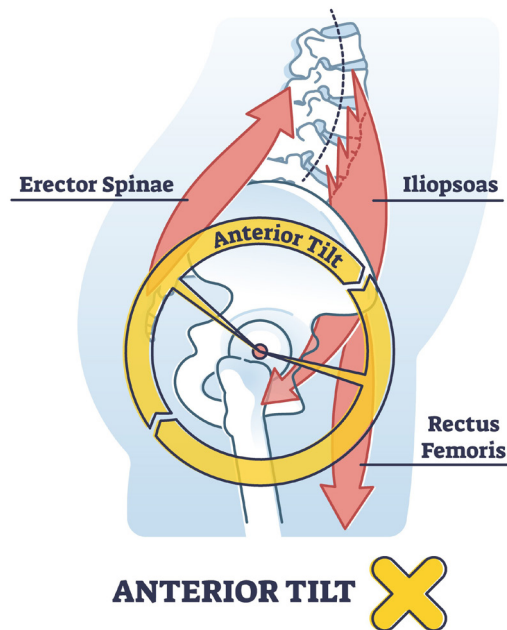
This does not mean to discredit what your client is feeling, but it highlights that what the image shows might not be the sole cause of their pain. It’s just one component part of the overall picture. Sometimes we need to help our clients focus on their recovery and not become a victim of their diagnosis.

Whether you have bony changes, labral tears, or neither, one of the biggest components for success with a conservative approach is being willing to step back and assess what you are doing and how your body is doing it. When attempting to heal hip impingement without surgery, you won’t necessarily be changing the bony deformations or the integrity of the labrum. Muscles dictate how bones move and joints interact, so it’s important to look at hip and pelvis alignment and function. Focus on improving joint mechanics through muscle re-education, addressing muscle imbalances, and strengthening them to reduce or even eliminate your symptoms.

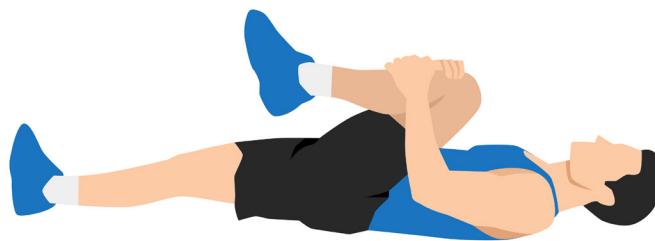
Note: This is by no means a complete assessment, but it highlights some important areas to consider.

Assessment #1: Pelvic Positioning

Impingement will often occur due to a pelvis that is in more of a tipped forward, anterior pelvic tilt position (APT) due to the increased coverage of the femoral head that occurs. (Uemura et al., 2021)



In proper hip mechanics, as the leg comes up into flexion, the ball of the femur will glide back into the socket. On the pelvic side, if a pelvis is in more of a tipped forward posture at rest, then the femur is already in some relative hip flexion with the roof of the acetabulum already covering the femur, so the hip will “run out of room” to go into deeper flexion. The tipped forward posture of the pelvis also orients the femurs in an externally rotated and abducted position (think turned out) which will then limit internal rotation and adduction due to the bony block at the pelvis, causing pain or discomfort with that movement. Instead of focusing on femur range of motion, it’s often best to address pelvic positioning first and then approach femur position.



CHALLENGE

1. Lie on your back with both legs straight.
2. Bring one knee toward your chest as far as you can without using your hands.
3. Did you notice any pinching, discomfort, or thickness in the front of your hip? Did your hip hike or deviate out to the side? Did your other leg lift off the ground?
4. Now lie on your back with your feet elevated on some books.
5. Place your hands on your pubic bone and hip bone.
6. Slowly lift up into a [bridge](#), making sure that your pubic bone stays higher than your hip bones. Also make sure you don't slide away from your feet and your ribs don't flare. This helps ensure that the movement is coming from your hamstrings and glutes instead of your back and quads.
7. Hold for 30 seconds, making sure that both sides are engaging equally. Oftentimes the side of impingement will have a lengthened and weaker hamstring.
8. Re-test your knee to chest. Did it improve? If so, then addressing pelvic positioning and working to find more proximal hamstrings will be an important component in your exercise routine.





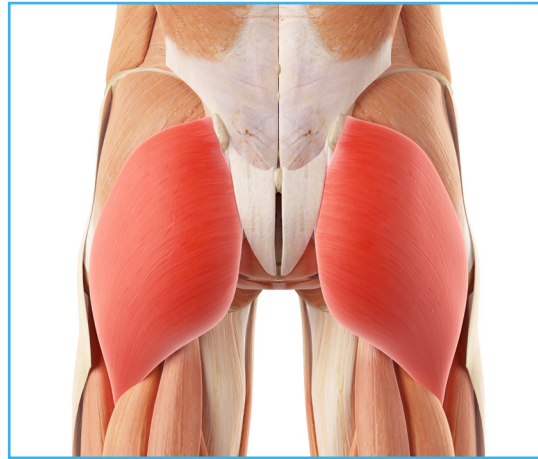
CLIENT APPLICATION

- If the range of motion didn't improve at all or there are still some limitations, they might need to find their [hamstrings in isolation](#) without glutes, or they may need to work on addressing the position of the femur in the socket. Keep reading to find out more about improving femur positioning!
- If someone is already in a posterior pelvic tilt (PPT), they might need to work on eccentric lengthening of the proximal hamstrings and glutes before coming back to finding hamstrings in isolation to improve stability and pelvic positioning.
- You can also add squeezing a block between their knees to help them get more adductors and down-regulate the deep hip rotators, which can also help with hip impingement.
- If someone flares their ribs, they might need to work on improved rib cage positioning and core stability to help the hips.

Finding the proximal hamstrings in isolation can pull the pelvis back into a posterior pelvic tilt and allow for the sacrum to move independently from the ilium. This brings the roof of the socket back and gives the femur a better position to go back into it, improving tolerance to hip flexion and setting the glutes up for success.

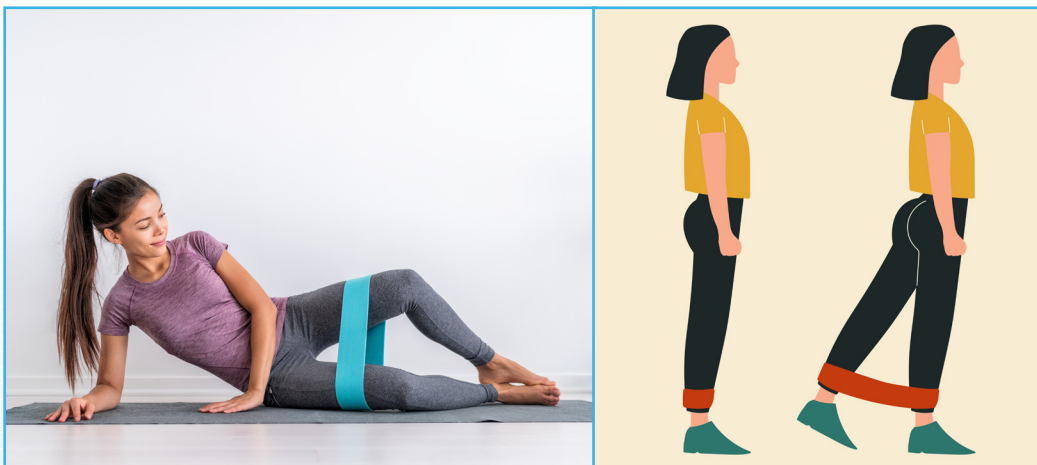
It can also help to use more gluteus medius over piriformis for pelvic stability. Overusing the piriformis can further contribute to posterior hip tightness.

Assessment #2: Glutes



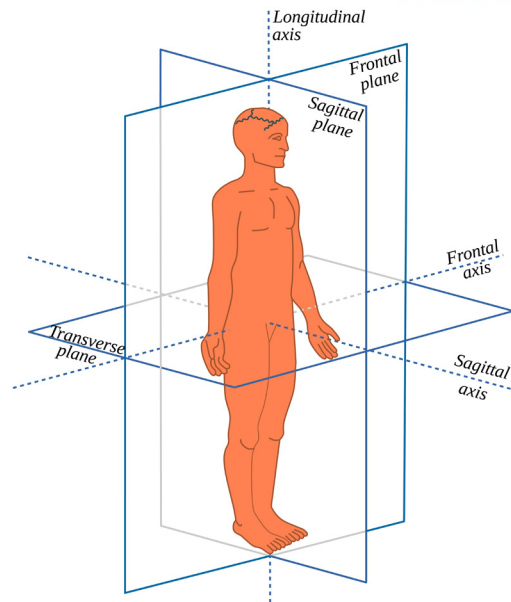
Glutes are a huge player for happy hips. As one example, a study showed that participants with symptomatic labral tears recruited less glute max to come out of a lunge than asymptomatic participants. (Dwyer et al., 2016)

That being said, people are too often told that they just need to strengthen their glutes, so they are given exercises like clamshells and end range hip extension.



However, this is only looking at half of the picture! Yes, sometimes a client might need concentric shortening first, whether it's to improve the position of the pelvis or to get active engagement before eccentric lengthening. But other times, people might need to work on lengthening first to give them a place to shorten from. It's hard to engage something that's already shortened.

The hips function in three planes of motion, so it is important to work in all three planes and consider which glute muscles in particular need balanced strength and dynamic control for the pelvis.



Eccentrically Lengthening Glutes Into Hip Flexion

Dynamically, being able to eccentrically lengthen the glutes and stabilize the pelvis will allow for the ball to move back in the socket, decreasing impingement. What you lengthen is also what you load, helping to set you up for success when coming back out of the movement.

If you're looking to target glutes, you want to think about lowering your body through the movement with eccentric control instead of pulling yourself down into the movement with your hip flexors.

CHALLENGE

1. When performing a [squat](#) or a [hip hinge](#), place your hands on your glute muscles.
2. As you go into the exercise, do you get the movement from your glutes lengthening, feeling the area under your hands spread? If so, you are getting the movement from your glutes as desired.
3. Now place your hands between your ribs and your hips on the front and back. As you go into your squat or hinge, does that area move? If so, then you are most likely driving the movement from your spine rather than from your glutes. Going into a PPT will lengthen the paraspinals, while going into an APT will lengthen the proximal hamstrings.

If the back side is compressed, then you might:

- Go into an APT, tipping your pelvis forward, either from overly lengthening from the hamstrings or pulling yourself down with your hip flexors instead of lengthening from the posterior muscles equally. Either of these can contribute to impingement by bringing the roof of the socket down on the femur.
- Overly tuck your pelvis, lengthening the paraspinals.

Both can contribute to a femur that is forward in the socket and can also contribute to limited hip internal rotation and adduction, resulting in an unhappy hip.



CLIENT APPLICATION for squats

- Watch for your client's knees to collapse in and feet to turn out. Spinning in can indicate driving internal rotation from the femurs rather than from the pelvis, which can contribute to pinching in the hip and knee discomfort. They might also need to address tibial positioning and foot mechanics to improve how they move over their feet to help their hips.
- If both their knees and feet collapse in, they are most likely driving more movement from the femurs and feet together. They might need to improve glute med strength and arch strength while working on lengthening in the back of the glutes.
- If both their feet and knees turn out, they are avoiding any kind of internal rotation and glute lengthening. (This is why doing a squat with wider legs and turned out feet can be easier for people). They might need to work on increased adductor strength and engagement and foot pronation to help with lengthening in the glutes.

Make sure to progress the load, demand, and speed so that training matches the demands of the desired activities. Checking how your glutes load in a split squat or a split stance hip hinge and then a single leg squat or single leg deadlift would be the next steps.



This will not only take eccentric glute lengthening under consideration one side at a time, but also assess stability in the pelvis and throughout the entire lower body.

Concentrically Contracting Glutes and Hip Extension

We explored hip extension mechanics a bit in a bridge, but now let's look at it when coming out of a squat or hip hinge.

CHALLENGE

1. When performing a squat, [split squat](#) or [hip hinge](#), what happens when you come back out?
2. Are you able to drive the movement from your pelvis, or do you arch your back and flare your ribs?
3. Do your knees extend before your hips?
4. Do you shove your hips forward and lean back in your upper body?
5. All of these can affect the pelvis and femur positioning and put more stress on the front of the hips. It will also affect the setup for the next rep of lengthening. Instead, we want the glutes and hamstrings to pull the pelvis through and down, ending with a stack of the rib cage over the pelvis over the feet.

Ensuring that the glutes are being used to come back out of the movement (instead of the back or deep hip rotators) can help make sure you're getting glutes through their full range, maintaining good core connection, and not undoing all the initial work of getting out of an APT and shoving the femur forward in the socket again.



CLIENT APPLICATION for squats

- ▶ Placing hands on either the side of the ribs and hips or on their back can help them notice if that space stays the same (which we want) or if it changes as they do the movement.
- ▶ To help control knee extension before hip extension in a hip hinge, it can be helpful to have them position their knee so that it's over their midfoot and touching a chair. As they go in and out of the movement, their knee should not push against or move away from the chair.
- ▶ Helping to control knee extension before hip extension in a squat can be easier to address in a split squat. Cue them to push the ground away as they raise their body back up. Their knee should actively straighten with quad engagement and because their hips are rising up, rather than just throwing their knee back or locking it out. Sometimes elevating their front foot onto a yoga block can help as it keeps them in more flexion, but make sure their hips stay level throughout the movement.
- ▶ Improving proximal hamstring strength can also help with improving hip extension mechanics.

You can look further into hip extension from a neuromuscular rewriting perspective by performing a [prone leg raise](#). Once again, it's not just about what you're doing, but how you're doing it.

CHALLENGE

1. Lying prone on the floor, place a hand on your glutes and a hand on your hamstrings of the same leg. Squeeze your glutes, thinking of squeezing from the top down.
2. Were you able to do a top-down squeeze, or did your glutes want to squeeze toward the midline? Did just the bottom part squeeze?
3. Did you feel your pelvis go into a posterior tilt?
4. Did your glutes fire first, or did your hamstrings?

CHALLENGE (cont.)

5. Did you get a big divot in your butt with the squeeze?
6. Now place your hands on the front of your hips and on your glutes. Squeeze your glutes, and then lift your leg off of the floor while keeping it straight.
7. Did your hip flexors kick in, or did they stay relaxed?
8. Did your pelvis tip forward and go into an APT, or did your back arch as you lifted your leg?
9. Were you able to maintain glute engagement as you lifted your leg?

These things can clue you in to several things about the hips and core, including whether or not there is a hamstring dominance, how the glutes respond to hip extension, and if there's a tendency to shove the femur forward in the socket.



CLIENT APPLICATION

- ▶ Sometimes more hamstrings are needed first to help set the glutes up for success. This can be the case for those who are in more of an anterior pelvic tilt or have a hard time accessing their posterior chain. It can help to better find glutes and abs, get the paraspinals to let go, and improve piriformis and obturator pain. Check out [this video](#) for more about why you might need a foot-elevated bridge versus a hip thrust.
- ▶ Glutes will help center the femur in the socket for hip extension and to stabilize and move the pelvis. If your client tends to be dominant with deep hip rotators, they might end up shoving their femur forward with a glute squeeze, which can affect hip and pelvic floor function. In this case, they might need more adductor and eccentric glute work first before coming back to the prone lift. Check out [this video](#) that talks about it more.
- ▶ Other limiting factors for this move could be needing more abs, and addressing hip extension range of motion. More on that to come!



RESEARCH ALERT: Pelvis Repositioning Exercises for Pelvic Floor Muscle Asymmetry

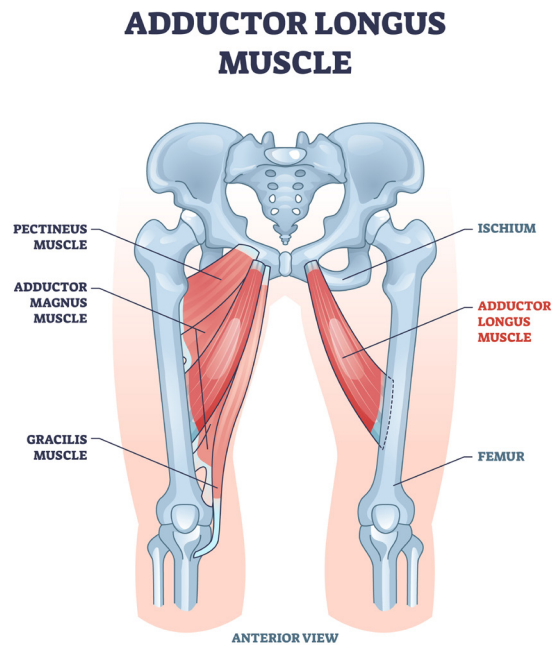
If you're working with a client who has pelvic floor dysfunction, it is important to address what's happening in the hips.

- Ultrasound was used to get a picture of the pelvic floor at rest and then with a max contraction, looking at bladder displacement.
- Both groups showed right-left length of asymmetry regarding the bottom border of the bladder, meaning they were not getting an equal gathering of the pelvic floor.
- Participants performed 15 minutes of repositioning and breathing exercises.
- Pelvic floor muscle symmetry and contractility (bottom border bladder displacement) improved after exercise compared to baseline. (Oleksy Ł, et al., 2019)

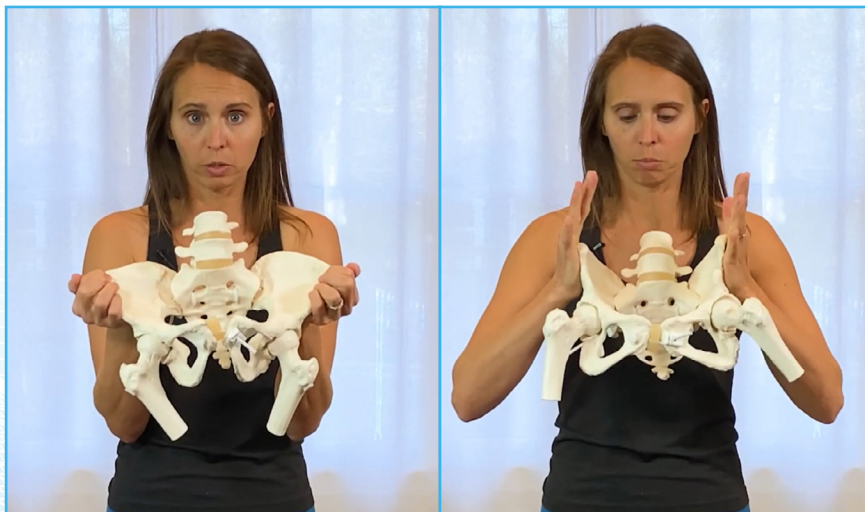
Sometimes it's not the pelvic floor, but the alignment of the pelvis due to muscular influences outside the pelvic floor! On the flip side, sometimes pelvic floor tightness needs to be addressed for helping the hips. The two go hand in hand.

Assessment #3: Adductors

Other muscles to consider when looking at hip function and pelvic stability are the adductors. The adductors are a huge muscle group that can do adduction, internal rotation, external rotation, hip flexion, and hip extension, depending on the specific adductor.



Adduction is traditionally only thought of as the engagement to bring the leg in toward the midline. However, if the femur is set and the adductor engages, this instead pulls the sit bones away from the midline.



This action will help:

- ▶ Support eccentric glute lengthening
- ▶ Improve the femur's position in the socket
- ▶ Downregulate deep hip external rotators
- ▶ Improve pelvic positioning for better hip internal rotation and adduction range of motion
- ▶ Improve core control for pelvic stability

Comparing how one adductor engages versus the other can be an important component for making sure each side is showing up equally.

CHALLENGE

1. Lie on your back with your knees bent and feet on the floor.
2. Grab a yoga block, rolled up towel, or foam roller to squeeze between your knees.
3. Do you feel both adductors engaging equally?
4. As you squeeze, can you keep your hip flexors relaxed?
5. Can you keep your glutes relaxed?
6. If this feels easy and equal here, flip onto your side with your hips and knees at a 90 degree angle and shins parallel to each other (you might need to place your feet on a wall).
7. Make sure your top hip and ribs are stacked over the bottom (bra line and pants line should be vertical and parallel).
8. Squeeze your top knee down to engage the top leg adductors without letting your pelvis or rib cage positioning change.
9. As you squeeze, can you keep your hip flexors relaxed?
10. Can you keep your glutes relaxed?
11. Repeat on the other side.
12. Compare the ability to engage the adductor in isolation and the strength of the squeeze.



CLIENT APPLICATION

- ▶ If they are having a hard time keeping their hip flexors soft, they might need to start with something wider to squeeze, address pelvic positioning first by finding more proximal hamstrings, or work on the movement with their hips at 90 degrees of flexion with their feet on a wall.
- ▶ It's important to make sure they aren't overutilizing their hip flexors with the adduction work. If they tend to overuse the hip flexors, this can pull their pelvis into more of an APT and contribute to impingement.
- ▶ It's also important to address the position of the pelvis before adding adduction or internal rotation to make sure impingement doesn't occur.
- ▶ If they are having a hard time not feeling their deep hip rotators, they might need to work on eccentric glute lengthening first.
- ▶ If one side is weaker than the other, they can work on improving engagement in supine first and then progress into side-lying. They might need to work on eccentric glute lengthening on that side not only in the sagittal plane, but also the transverse and frontal planes to improve positioning for the adductor to engage.
- ▶ You can start some isometric adductor work early, and then add a pullback motion to strengthen the iliacus. The adductor squeeze will help reposition the pelvis from being wide and turned out to a more forwardly-positioned pelvis to clear the path for internal rotation to occur. The iliacus will help pull the femur back into the socket and open up the back of the hips.

On the flip side, the adductors can be overactive. This can pull a femur into more internal rotation, limiting its range to go further into internal rotation, and possibly pull a pelvis into more of an anterior pelvic tilt, both of which can contribute to hip impingement.

CHALLENGE

1. Lie on your back with your knees bent and feet together.
2. Press your low back into the ground to take your pelvis into a posterior pelvic tilt.
3. Keeping your feet together, let your knees drop out to the sides.
4. Now allow your pelvis to go into an APT.
5. If your knees drop further to the ground, this can indicate that tight adductors might be contributing to your APT.

If this is the case, working on releasing the adductors and finding more glute medius to improve femur positioning is needed instead of more adductor work.

Assessment #4: Core

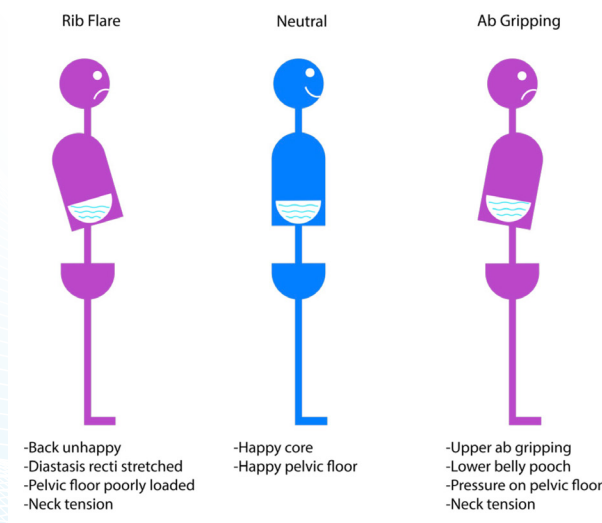
Your core helps to stabilize your pelvis and spine so the attaching muscles can function optimally. Purposeful core engagement showed increased glute max activity in all of the therapeutic hip exercises tested. (Chan et al., 2017)

Just like with glute work, you want to make sure your core strength is balanced and coming from the right places. When you only go through the motions of your exercises and don't understand the purpose or how they are supposed to carry over, it can change the emphasis the exercise has and which muscles you're actually working while doing it.

CHALLENGE

1. Perform a basic side plank. What do you feel working?
2. Do you feel side planks more in your lateral abdominals, or in your low back? Think about the goal of this exercise. It's to work your abs, right? If you don't feel it in your abs, you're simply reinforcing using your back to do the work.

Overutilization of any muscle can contribute to it experiencing tightness. Back tightness will compress the back while reciprocally lengthening the front, contributing to an APT and affecting core and hip function. A layer of gripping may be added to counterbalance that, which can further affect dynamic movement and function.





CLIENT APPLICATION for side planks

- ▶ Make sure the center of their chest and belly button are lined up with each other. If they are not, then there's a twist in their system that can affect breathing and bracing. Stacking one foot in front of the other can help to make sure the belly button is slightly pointed toward the ground. Check out [this video](#) for more tips.
- ▶ If someone is prone to an APT, they might need some hamstring activation to put their back in a more lengthened position and their abs in a more shortened position. Check out [this video](#) for further details.
- ▶ Try focusing on their breath in the side plank. Have them place their top hand on their ribs and back. As they inhale, keep some tension in the lower abs and make sure their front lower ribs stay pulled back a pinch. Have them feel their top side abs and back expand. Then on the exhale, have them feel their hip bones, abs, and ribs knit in toward each other and back toward their spine while keeping their back muscles soft.
 - » This helps not only release their back from the inside out on the inhale, but also on the exhale by connecting further with the abs
 - » Allowing the inhale to expand into their sides while maintaining a brace eccentrically lengthens the lateral abs and gives them a better place to engage from
 - » If they fall into a shallow breathing pattern, this can mean that the exercise is too challenging
- ▶ You can even [add a balloon](#) to increase the challenge to the abs and diaphragm.



WARNING

- ▶ **If you add a balloon, make sure they are not bearing down on their pelvic floor. You also want to make sure that you're monitoring what's happening through the midline in their diastasis. Sometimes the increased load and challenge can help muscles show up, but sometimes it is too much load to the system.**

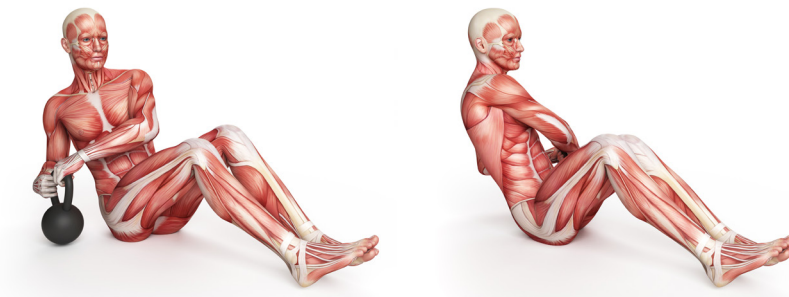
Thoracic Rotation

It's important to look at core engagement not only in a static position, but also assess what happens during movement.

Thoracic rotation is particularly important when it comes to supporting the pelvis during walking and running mechanics. Once again, the question is not only whether you have it, but also how you are driving the movement.

Challenge: Loaded Thoracic Rotation

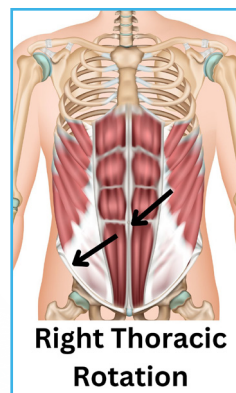
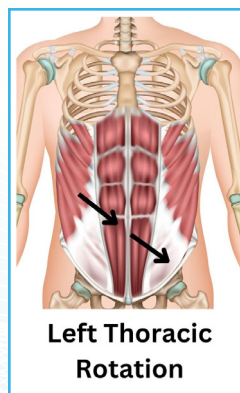
- ▶ Do you feel your abs working, or do you mostly feel your back and hip flexors?



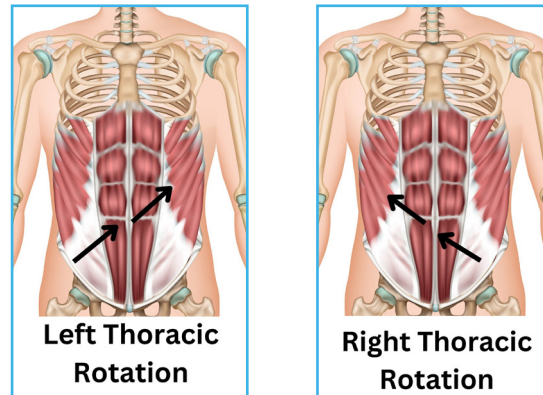
- ▶ Can you isolate the movement to your thoracic spine, or are you shifting in your hips, flaring your ribs, or extending your back?
- ▶ What is happening at the midline? Is there any doming or sinking?

If you twist by either extending your back using your paraspinals or side-bending using your QL, then you're just going to strain the midline fascia and keep your back tight. You might even overuse your hip flexors over your obliques, which can contribute to back-body tightness, affect psoas function, and change the position of your pelvis.

However, if you twist by using your abs, connecting the external oblique on one side with the opposite side internal oblique, you'll be using your core to facilitate the rotation.



Reciprocally, you'll be creating eccentric lengthening through the opposite external oblique and internal oblique, which can give them a better place to engage from and improve your 360 degree breathing pattern. As you connect in the front, you'll also be opening up your back and releasing your psoas as it does contralateral rotation.



It's important to make sure to load in both directions. This means not only concentrically, but also watch for the eccentric control going in the other direction without flaring a rib or side bending.



CLIENT APPLICATION

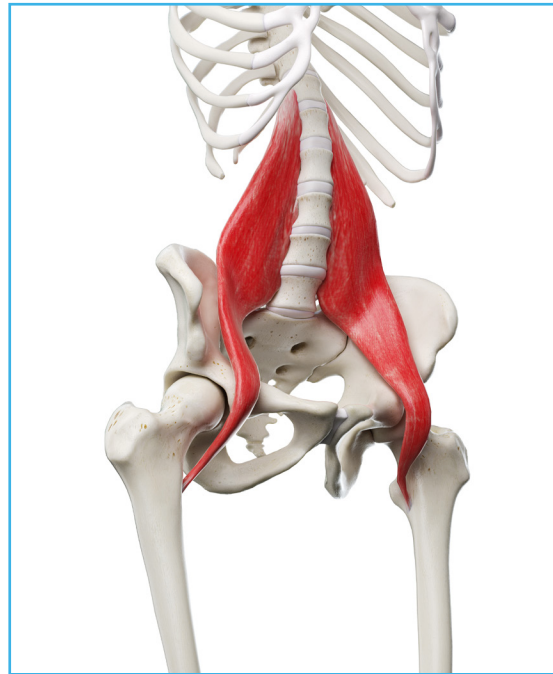
- ▶ Back tightness can affect the ability to rotate through the midline, so you can see again how we need to work it from both angles.
- ▶ Holding the position of rotation while inhaling into their sides and back and then exhaling as they rotate further can be a great way to work on back tightness and improve core engagement.
- ▶ Working on rotation can help address rib cage and ab asymmetries that can then improve sagittal plane movements and isometric holds, like a plank or side plank.

If you're having a hard time feeling your abs during exercises, the position of the rib cage or pelvic positioning often needs to be addressed. You can think of the rib cage as a wheel that can be flared forward or tipped back at the lower ribs, just like your pelvis.

With hip impingement, core function is not only affected by a pelvis that is tipped forward but also ribs that are flared forward. Just like you had to reposition your hamstrings, you can reposition your rib cage. Core work will help, but you can also do some positional breathing drills to help set the stage for your core work and find better balance in your core.

Assessment #5: The Psoas

The psoas starts by attaching up into the diaphragm, and then it attaches to every lumbar vertebrae and disc, stopping before L5-S1. There, it inserts into the fascia of the pelvis and blends into the pelvic floor fascia as well as the internal obliques and transverse abdominals. (Gibbons, 2007) It then continues down to its attachment point on the medial anterior (front inside) aspect of the femur at the lesser trochanter.



The psoas flexes and externally rotates the femur (particularly above 90 degrees of hip flexion), helps keep the femur back in the socket, and assists as a spinal stabilizer.

Oftentimes it is identified as being weak, particularly in those with labral tears, but we need to work on decreasing stiffness before going into strengthening. (Mendis et al., 2014)

There's quite a bit of "chicken and egg" that goes on with the psoas.

- The psoas, along with the posterior diaphragm, can overly work as a spinal stabilizer if the core muscles are insufficient. This can pull the back into extension and the abs into a lengthened position, further affecting ab function, which then requires the psoas and diaphragm to help even more as stabilizers.
- A femur that is shoved forward in the socket from tight glutes can put pressure on the psoas, affecting its ability to keep the femur back in the socket. A femur that is forward in the socket further moves the posterior hip muscles into a shortened position.

- Those with hip impingement will often complain of pain and limited movement at end range hip flexion due to a pelvis that's in an APT and/or a femur that is forward in the socket. This affects the ability of the psoas to act as a primary hip flexor, resulting in the use of other hip flexors, leaving them short and stiff. This can pull the pelvis into more of an APT.

Addressing the rib cage, pelvis, and femur position, improving core and glute strength, and facilitating optimal thoracic rotation through the core are all ways to help release the psoas. Then it is time to strengthen it so it can do the job it was meant to do, complementing all of the pelvis and femur repositioning that you've been working on to make for a happier hip. (Catelli et al., 2021)

As you can see, there are quite a few things that can go into making for happier hips, no matter what diagnostic imaging shows. You could even expand upon this to look at the function of the feet and shoulders to help support the actions at the hip.



CLIENT APPLICATION

- If *hip flexors* are driving the role for stability and pelvic movement, then deep hip rotators will be “on” all the time to counter the pull. This will prevent the glutes from lengthening to allow for eccentric hip hinging control. Improving access to the proximal hamstrings without deep hip rotators for improved pelvic stability can help. Check it out [here](#).
- Overactive hip flexors can also contribute to *limited hip* extension. This with a lack of hip extension can be a factor in lumbopelvic pain, contributing to pelvic rotation, hyperlordosis, compression and shear forces on the spine, and facet overload, and research shows that increasing hip extension can successfully improve back pain. (Moreside et al., 2018) Psoas tightness can limit hip extension, which can decrease glute max activation. (Mills et al., 2015) It might be that they need to improve the femur and pelvis positioning to improve hip extension, and other times they might need to include hip flexor stretching. Doing a [Thomas test](#) can help you determine what approach is needed.

If you are a professional looking to learn more for helping yourself and others, then **Pelvis Pro** is the course for you!

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