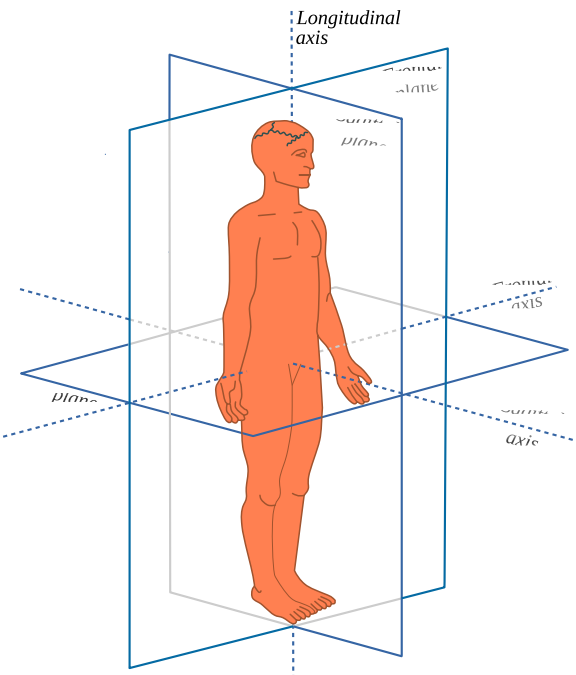
Unsticking the Sacrum

Pelvic Movement

Allows all the muscles that are attached to the hip to move through their full range of motion for optimal control and positioning of the pelvis.

Movements include:



- Sagittal plane
  - Anterior pelvic tilt (APT) and posterior pelvic tilt (PPT)
- Frontal plane
  - Hip hike and hip drop
- Transverse plane
  - Inlet internal rotation (IR) and inlet external rotation (ER)

One side needs to move independently from the other, and the tailbone and sacrum need to move independently from the pelvis (nutation and counternutation).

When the full range of motion or relative movement between the parts is lost→some parts of the pelvis can get stuck or glued together.

- This can happen on both sides, just one side, or in different directions. It impacts the rate of movement and resting position, which can cause stress in the SI joint and pubic symphysis.

If someone's sacrum is "stuck," what might that look like?

- Ideally, we want some length from the proximal hamstrings and posterior hip musculature in a deadlift or hip hinge. Without the relative movement in the pelvis, too much length might come from just the hamstrings. The hamstrings then become overly lengthened, the abs also get overly lengthened, and the pelvis is resting in more of an APT.
  - APT means we are always in a bit of hip flexion, which can contribute to pinching and impingement in the front side of the hip
  - This also affects how the other muscles attached to the pelvis can function, i.e., the piriformis acts as more of a stabilizer instead of the glute medius
  - Can add a layer of gripping or positional change elsewhere to counterbalance, further affecting movement
- It may feel harder to lengthen through the proximal hamstrings and lower glutes as a whole, whether in a squat or a hip hinge. This results in too much length through the paraspinals, i.e., "butt wink" in a squat.
  - Stress and strain is created through the lumbar spine rather than driving the movement from the pelvis
  - This contributes to posterior tightness in the hips, affecting the hips and pelvic floor

Test / Retest: Hip Hinge and Split Squat

Use these movements as a test-retest, performing them before and after the unsticking exercises to help determine if the accessory work was helpful. It's important to think not only about where the movement is coming from, but also about the ease of movement and what muscles you feel working. If assessing yourself, recording your exercises can be very helpful.

Hinge

- Set up with your knees against a chair and ribs over your hips. Knees stay softened slightly against the chair and are lined up over your midfoot. Maintain that position throughout the hinge.
- Sit back into your hips as your torso comes down toward the ground.

- The movement should be purely horizontal in the pelvis while your knees remain touching the chair.

- What can happen when someone can't get the movement from their glutes and proximal hamstrings?

  - Movement is driven more from the distal hamstrings instead of the proximal hamstrings and glutes. (This can be okay if you're looking to load more hamstrings as a whole, but it can be a compensation to avoid loading the glutes.)

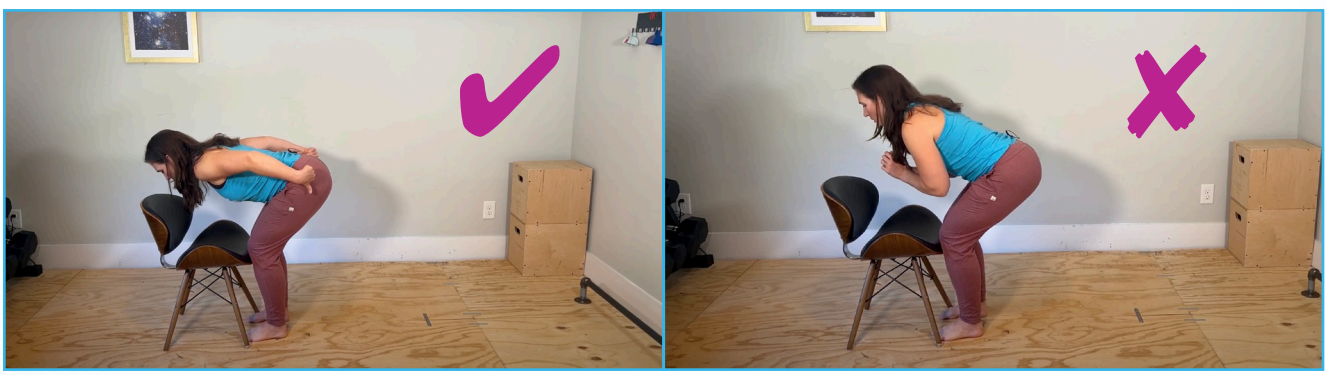
- Butt tucking

  - Indicates they are getting more length from the paraspinals and movement from the spine rather than their hips and pelvis.

- Not hinging back, but staying forward over their feet

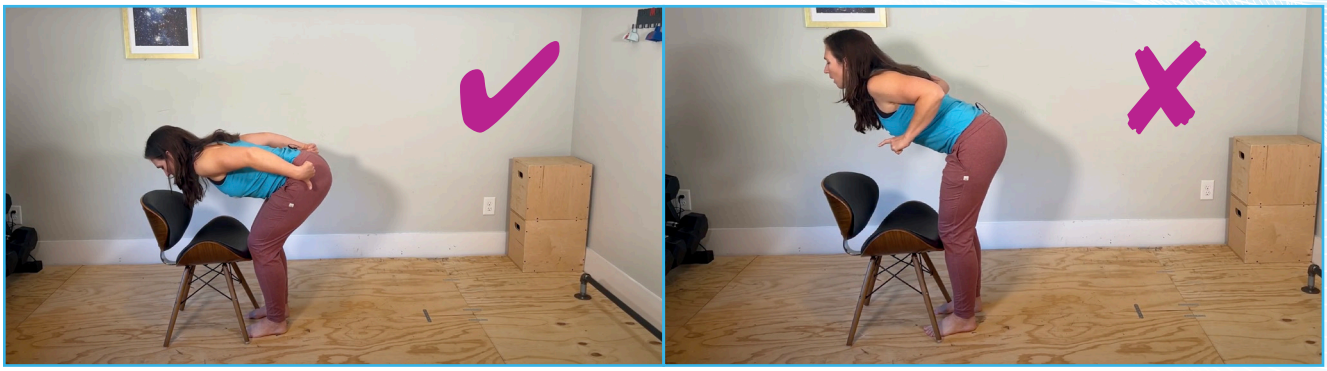
  - Going into an APT and getting all the movement from the hamstrings instead of also widening the sit bones through inlet IR to load their glutes.

- Vertical movement



  - Sitting back but also down, using more quads and less posterior chain. Notice the change in knee angle (greater knee flexion) in the right image due to sitting down more.
  - In clients, you might also see more of a visual change in the vertical height of the pelvis and knees coming forward (the chair is blocking my knees from coming forward, resulting in the more upright torso so I don't fall over).

- Flaring ribs



  - Driving movement from their spine and abs rather than the glutes and hamstrings.

Conclusion

- Think about sitting back into your hips, feeling the sit bones widen, and feeling your pelvis lift up and over the femur to get purely horizontal movement back in the pelvis without your knees leaving the chair. This will allow for getting length from the glutes and proximal hamstrings.
- How hard did that feel to implement? Where did you feel the movement coming from? Did you hit any resistance? If yes, where did you feel it?
- Retest after accessory exercises and reassess the above, noting if it felt any easier.

Split Squat

We're looking primarily at the hips and pelvis here, but if you hit a roadblock, you may also need to look at the ribs, knees, calves, and feet.

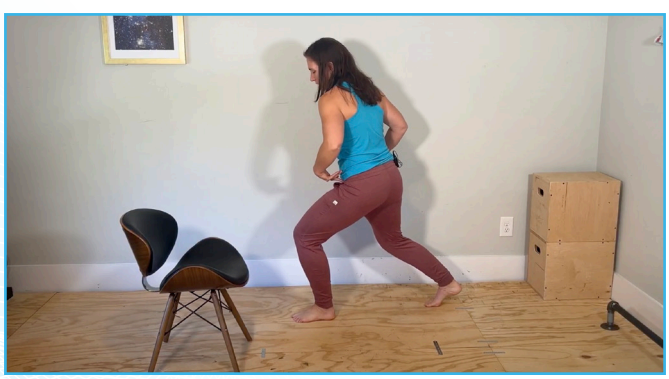
- Left foot is forward, right foot is back.
- Hips are level and squared to the front.

- Maintain this orientation of the pelvis while going straight down and back up.
- What can happen? If you can't sit down, then the hips go to the side and you load the glute medius instead of the posterior hips. This can affect how you load the rest of your lower kinetic chain.

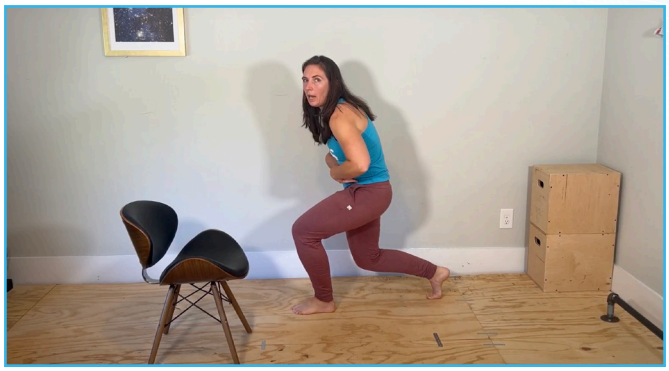
- Side view: Hips are square to the front. Sit straight down and come straight back up.

Watch out for:

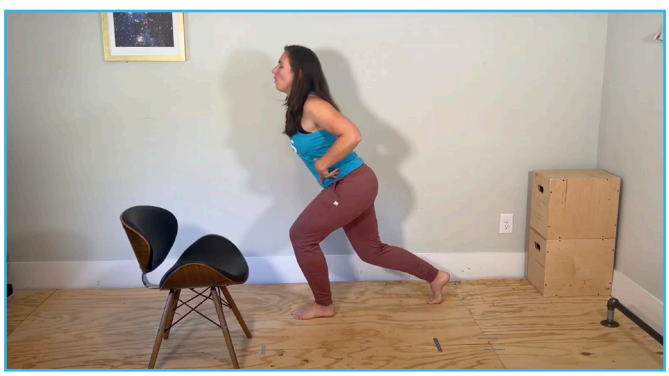
- Pelvis turning away from the front leg.



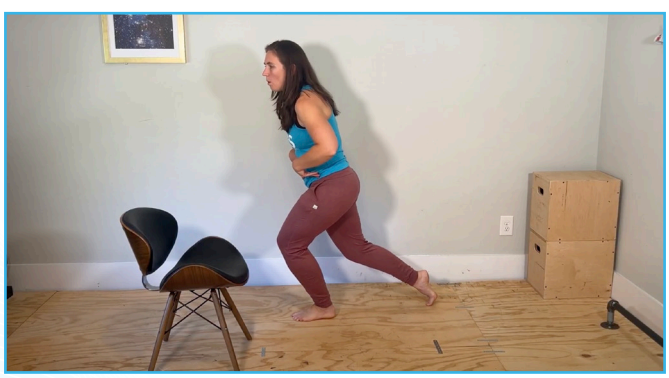
- Pelvis tucking.



- Ribs flaring forward.



- Weight shifting forward.



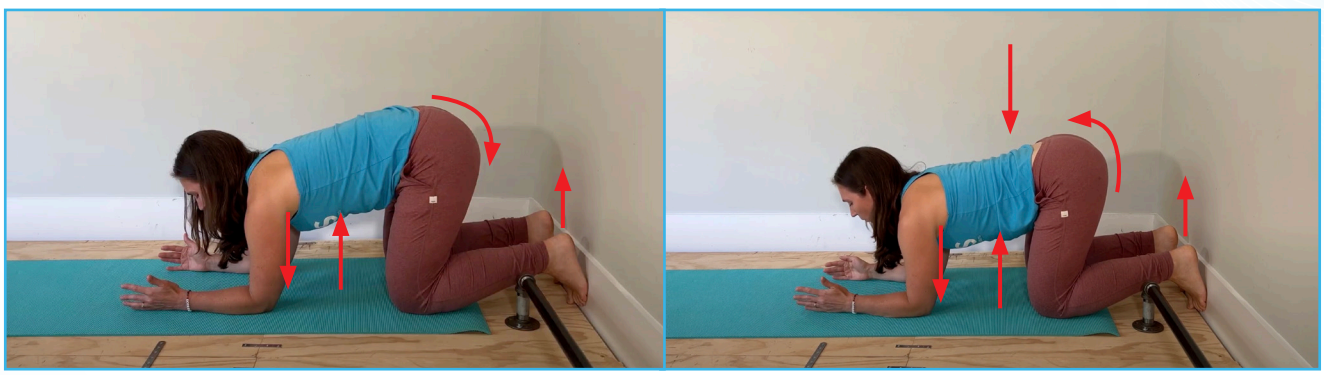
- Repeat with the right foot forward and left foot back.

Conclusion

- Did your pelvis stay level and pointed straight ahead as you lowered straight down and back up out of the movement?
- Can both sides do the desired movement? What does it look like? How does it feel? Does one side move differently than the other?

Accessory Exercises

Hands and Knees Feet on the Wall / Inverted Pelvis Movement With Hamstrings



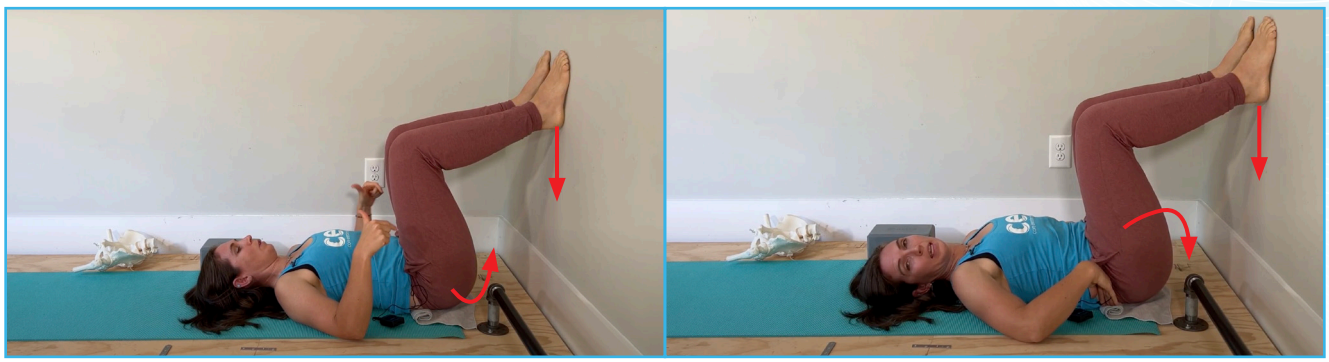
PPT *APT*

- Feet are on a wall (don't worry about your heels touching).
- Try coming down on your forearms (hands are fine if preferred or to avoid neck/shoulder pain).
- Shoulders are over elbows.
- Palms are parallel.
- Hips are over knees.
- If you're sinking down, push through your armpits to lift the ribs for a flat spine. Make sure the center of your chest stays pointed straight down.
- Drag your feet up the wall without them actually moving to feel the hamstrings engage.
- Use the concentric engagement of your hamstrings to tuck your pelvis under, rotating it around like a wheel into a PPT.
- Maintain hamstring tension as you let your pelvis tip forward into an APT.
- You should feel eccentric control of the hamstrings and the sit bones widening.

- Work back and forth in each direction for 5-10 slow reps.
- Your range of motion might start small, but will hopefully increase.

90-90 Pelvis Movement With Hamstrings

Props: towel roll, block



- Lie on your back with knees over hips at 90 degrees and feet on the wall.
- Place a towel roll at the lumbar spine and the top of your sacrum (you might need to play with the exact location and size of the towel).
- Drag your heels down the wall without actually moving them, and feel your hamstrings engage.
- Use your proximal hamstrings to pull your sit bones up toward the back of your knees.
- Feel your pelvis rotate under into a PPT and the top of your pelvis flatten into the towel roll.
- Maintaining hamstring tension, let your pelvis tip forward into an APT, and your back arch a tiny bit as your tailbone lowers toward the floor.
- Feel your hamstrings eccentrically lengthen and your sit bones widen.
- Make sure your ribs do not flare and your back and sacrum don't leave the towel.
- Tuck back under again. Go slowly back and forth 5-10 times per direction.

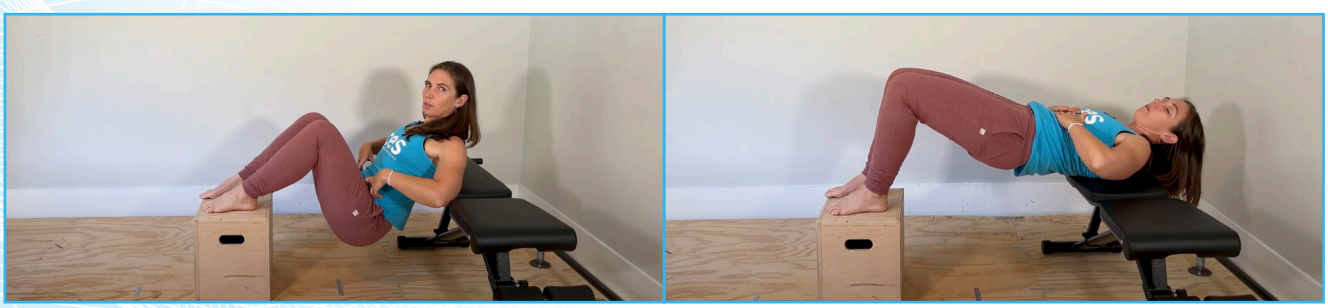
Troubleshooting Tips

- If you have a hard time relaxing your glutes, try adding something between your knees to squeeze. Engaging the adductors helps facilitate inlet IR to inhibit the glutes.
- If your hip flexors kick in, be sure your hamstrings are engaged. Squeezing something wider between your knees or propping your head and shoulders on a pillow might also help.

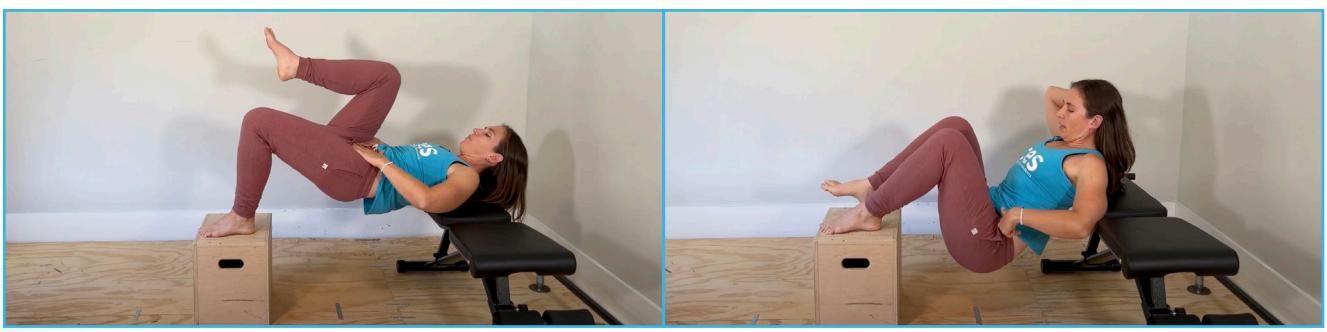
- If one side of your pelvis is moving at a faster rate than the other (in either direction), this can contribute to SI joint and pubic symphysis discomfort.
- Put your hands on your ASIS as you do the movement. Note the speed of your fingertips going back. Does one side move faster than the other? If yes, you need more hamstrings on the slower side to help you tuck under.
- Now feel for the rate that your pelvis tips forward. If your right hip has a harder time tipping forward, try sitting into that side more while holding back a little on the other side (or vice versa).
- The goal is to get a little more balanced with each rep.
- Try to feel your hamstrings working in each direction and the back side of your hips and pelvis feeling more open afterwards.

Foot-Elevated Hip Thrust

- Elevation of the feet helps find the hamstrings.
- Elevation of the shoulders helps to lengthen the glutes through a greater range of motion.



- Back is on a bench.
- Feet are on a box.
- Sit down into your hips to lower.
- Ribs and hips stay connected as you come down.
- To come up, drag your heels back, pulling your sit bones to the back side of your knees and taking knees over midfoot as you pull your pubic bone up toward your head.
- Work to get into full hip extension as best you can.
- Keep some hamstring tension as you lower, slowly sitting back into the glutes and proximal hamstrings. Might need to think of lifting your tailbone if your pelvis wants to stay tucked.
- Can place a hand behind your head for support.
- Keep equal distance between your ribs and hip bones on each side throughout the movement.
- Monitor each hip bone to check for balance.
- Does one side tuck more? Does one side drive the movement more?



- Challenge yourself further with a single leg version.
  - Make sure you don't drop to a side or hike a hip

The goal of these exercises is to work on finding the proximal hamstrings in isolation and to work on finding more relative movement in the pelvis.

The order of the exercises might need to be changed, depending on which position feels easier to find more proximal hamstrings or if more glute lengthening is needed first.

Next, revisit the hip hinge and the split squat! How do they feel? What do they look like? What is the path and ease of movement like? Can you feel more glutes and hamstrings working?