Notes

Pelvis Pro Miniseries

Part 2: Posterior Chain

How does the posterior chain influence how tight our hip flexors feel as well as how the deep glute area feels?

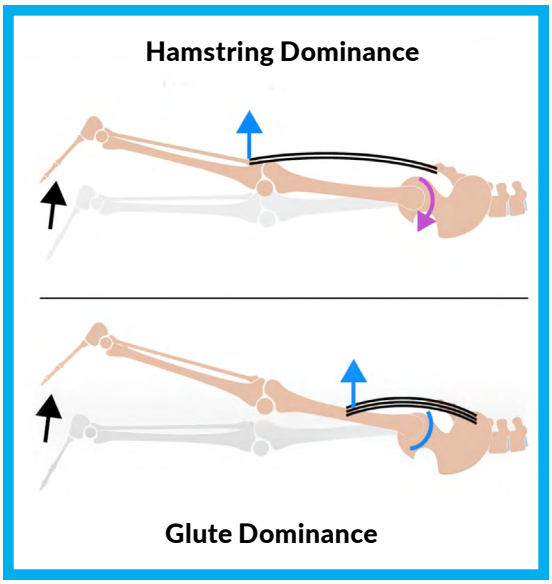
Quad-dominant pattern

- The glutes are our primary hip extensors, but in a quad-dominant pattern, the quads will help out a little too much when coming out of a squat.
- Quad-dominant → using quads instead of glutes.
  - Rectus femoris: hip flexor and knee extensor
  - How to spot a quad-dominant pattern
    - Notice a visual size difference between glute and quad hypertrophy
    - Quads and hip flexors always feel tight, cranky knees, overused quads and calves
    - Look at their knee drive versus hip drive when squatting
    - Do they have great eccentric loading? If they utilize their glutes well, they'll be able to squat down without folding in half.

Test: Grab your camera and take a video of yourself doing a squat. Do you drive up from your knees or your hips?

- How to spot hip dominance
  - You will see a noticeable drive up from their hips where knees follow, versus someone in a quad-dominant pattern.

Where to begin improving glute availability? Start by looking at the pelvis. How well are the hamstrings anchoring the pelvis?



The role of the hamstrings

- We don't want a hamstring-dominant pattern over glutes for hip extension, but we do want the hamstrings to help us with pelvic orientation.
- The hamstrings insert into the ischial tuberosity and pull the pelvis down into a posterior pelvic orientation.
  - Anterior tilt → pelvis spills forward and puts hamstrings in a lengthened state, meaning they will feel short/tight even when they are not.
  - Ideally, hamstrings help to hold the pelvis so the glutes can eccentrically lengthen well.
  - **Example:** Those who flip into an anterior pelvic tilt, butt wink, or tuck under during a squat cannot eccentrically lengthen their glutes. This often coincides with low back pain and tightness.

Before-and-after hip flexor and hamstring test

- Stand up and feel the quads and hip flexors, are they tight?
- Move into a split stance, is there any resistance?
- Bend forward and touch your toes, how do your hamstrings feel?

Hamstring activation exercise: foot-elevated bridges

- Use a foam roller or a stack of books about 4 inches high.
- Tuck your bottom under without any glute clenching.
- Rest your hands on your pubic bone and your ASIS. Your pubic bone should be higher than your ASIS the entire time.
- Lift into your bridge by pulling with your hamstrings, keeping your pubic bone higher.
- Hold here, reach up to the ceiling, and take 3-5 breaths. Complete exhales!
- Troubleshooting: If a foam roller is too difficult and your hamstrings cramp, then use books or a step. If you cannot do it elevated, try with your feet on the floor with some glute squeeze to assist the hamstrings.

Retest

- How loose do your hip flexors feel?
- Bend forward and touch your toes again, how does that feel?

Conclusion

- If activating your hamstrings helped to improve your flexibility and overall general tightness, that gives us clues about what your pelvis needs to help improve your alignment and leave you feeling amazing!
- We can use the hamstrings to reorient the pelvis to then make the hamstrings feel looser.

Shirley Sahrmann test for posterior hip extension

When to use it

- Identify when the hamstrings are kicking in before the glutes.
- Determine if we need more glutes or more eccentric hamstrings.
- Identify when the femur has too much forward translation.

- Lie face down on the floor.
- Palpate your hamstring and your glute and note their resting tone.
- With one hand on your glute and one on your hamstring, lift your leg. What fires first, glute or hamstring? Does your low back fire first?
- Compare → paraspinal versus glute versus hamstring.
- What is happening with the femur? Pinch the outside of your greater trochanter and lift your leg. How much does the femur slide forward in the socket? Check each side.

Notes

Notes

- **Troubleshooting:** If the glute doesn't want to fire, squeeze the glute without lifting the leg. Push into the floor while keeping your knee straight. Then, if there is some glute engagement, try lifting the leg. You can also bend at the knee, shortening the hamstring, (this is a big quad stretch) and lift. This will take more stability from the abs.
- This exercise can be done on its own; however, we often need to move the femur back in the socket first.
  - Is the femur driving forward, encouraging more hamstring activation and irritation?
  - Is the hamstring overworking for extension and driving the femur forward?
  - Is hamstring overactivity as a hip extensor a product of decreased glutes?
  - Are they able to eccentrically lengthen their glutes to allow the femur to move back in the socket?