

Hamstring Dominance

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Recently I've had sort of a training epiphany. Call me stupid for not realizing this earlier, but I know I'm not the only coach who has experienced the phenomenon that I will explain below.

Tight Hamstrings?

I'm sure that I'm not the only coach out there who has had athletes complain of tight hamstrings (at least I hope). This is especially noticeable after training days that consist of heavy posterior chain work, such as RDL's, SLDL's, Bucks, Ball Leg Curls, Glute Hams, etc. I always thought being sore in the hamstrings and having a "tight" feeling was normal after these training sessions and told my athletes this as well. The other point, I never understood was that after these workouts my and my athletes' hamstrings would continue to feel tight, even though our flexibility was great.



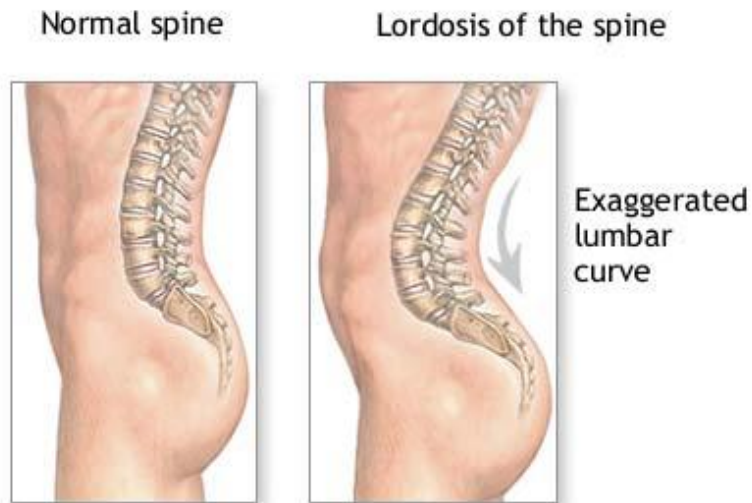
Now that's good Range of Motion

Even though our hamstring range of motion was clearly normal, it just didn't seem right to have this feeling of "tight hamstrings." So I did some investigating and noticed that the athletes who complained of tight hamstrings also had poor glute function; meaning that they lacked the ability to fire their glutes. I also soon realized that this was very common in the ordinary population; it wasn't just restricted to athletes.

Importance of Glute Firing

The phenomenon of "gluteal amnesia" is most commonly due to overactive hip flexors. When the hip flexors (psoas, iliacus, rectus femoris, tensor fascia latae) become tight from poor training and/or prolonged sitting/driving, their antagonists (gluteus maximus, primarily) tend to become weak. This mechanism is known as reciprocal inhibition. Basically, when the muscles on one side of a joint

become tight, this alters the joint kinematics and shuts down the muscle(s) on the other side of the joint.



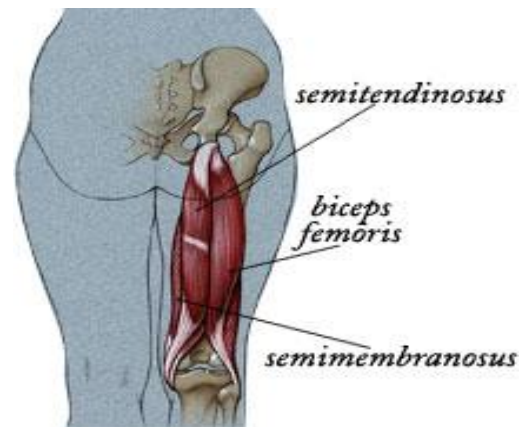
ADAM.

**Having tight hip flexors cause a greater lumbar curve, which also causes the glutes to become weak.
Courtesy of Medline Plus**

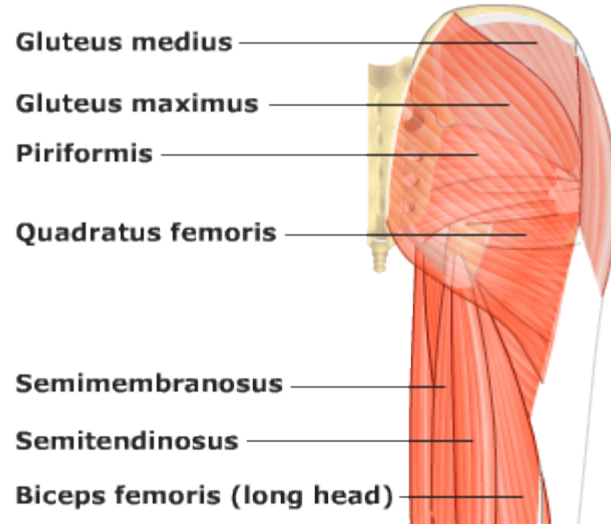
Now you must be asking yourselves, what in the world does this have to do with tight hamstrings? It has everything to do with it, of course! The human body is an amazing piece of machinery and will find ways to accomplish movements regardless if some muscles aren't functioning to their capacity. It learns to compensate and calls upon other muscles to perform the movement to accomplish the

particular task. And, if our glutes aren't working properly the body will lean on its synergists (helpers) to work overtime in tasks that involve hip extension, hip external rotation, as well as deceleration of hip flexion and hip internal rotation.

The glutes' "assistants" in movement are the hamstrings as well as the adductor magnus. And if you're following along by now, you should be realizing that the hamstrings will be forced into during more work if the glutes are not functioning properly.



The role of the hamstrings are flex the knee (leg curl) and to extend the hip (RDL). But by nature of where the muscles attach, they don't make the best hip extensors. If the glute maximus is doing its job, then the hamstrings can be a really good friend to it and help out. But if the glute max isn't working, the hamstrings will be forced to do all the work. Think about any group project you had to do in school, and how bad it was when one partner didn't hold up their end of the bargain and do their required work. Each other partner in the group would have to work harder to pick up the slack of the person not doing their job. This is the same thing that happens with your body. The other muscles that assist the prime mover will be forced to do more work to make up for the inactive prime mover.



Muscles that surround the hip

Injuries tend to occur to synergists when the prime mover has become weak, and the synergist has to do more work and never gets time off. The muscle that becomes injured is rarely the problem, but usually the victim. Some injuries that may result of inactive glutes are pulled hamstrings, Patello-femoral syndrome, Piriformis syndrome, ACL tears, low back injuries, and even shoulder injuries! In our case, I'm trying to show you how firing your glutes will help reduce the tension in your hamstrings and get rid of that "tight" feeling.

Plan of Action

The approach that we must take in attacking this problem is multi-faceted and must be done in a specific order to achieve the greatest results. Remember that getting the glutes to fire is rarely a strength issue, but more neural. The glutes are not receiving the neural drive from the CNS and as a

result have become inactive. The plan is as follows and should be done before each training session:

1. INHIBIT
2. LENGTHEN
3. ACTIVATE
4. INTEGRATE
5. REINFORCE

Inhibit

The goal of this it to inhibit the overactive areas, namely the hip flexors, hamstrings and adductors. This is primarily done through the use of [foam rollers](#).

Lengthen

The goal of this is to lengthen the areas that we have just inhibited in the previous step. This will be done with static stretches of the antagonists; which in this case are the hip flexors and adductors.



Hip Flexor Stretch



Rectus Femoris Stretch



Lateral Squat Stretch

Activate

The goal of this is to activate the muscle that is shut down – in our case, the glute maximus, glute medius, and hip external rotators. We'll pick one to three exercises to “turn-on” these muscles. They are primarily done in non-functional (lying down), low load positions to ensure that we can focus on the muscle we are trying to fire while trying to minimize compensation patterns.

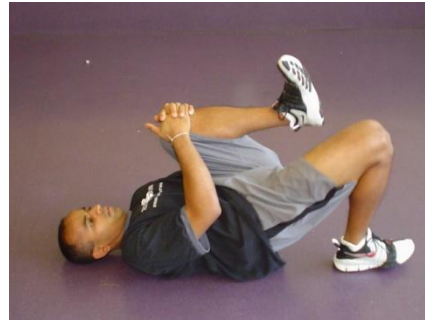
Glute Bridge

This a fantastic exercise to get the glute max activated. Lie Back on the floor with the heels pulled into your butt and toes off the ground. I like to put a [mini-band](#) above the knees to add an external rotation component to the exercise. Cue the athlete to pinch a coin between their butt cheeks and extend up.



Cook Hip Lift

This exercise comes from physical therapist, [Gray Cook](#), who has developed some very good screens and corrective exercises. The exercise is fundamentally a single-leg bridge, but the opposite knee is held into the chest to limit lumbar extension, which is a common error when trying to gain hip extension.



Clamshells

This is exercise to get your external rotators firing. Lie on your side with your knees bent, legs stacked on top of each other and a [mini-band](#) above your knees. Keep your heels on top of each other and open your top leg attempting to stretch the band. There should be no low back movement at all.



Jane Fondas

This exercise is geared toward turning on the glute medius. Position yourself on your side with top leg behind and toe down slightly. Raise the top leg away from the bottom leg. The range of motion is not extremely large in the exercise.



Fire Hydrants

This is exercise this targets the glute medius, hip external rotators as well as the glute max. Begin on all fours with a neutral spine. Lift one leg out to the side, then press your heel back extending your leg, and then return to the starting position by bringing your knee to your chest. Perform all repetitions on one side before switching.



Superdog

This is another exercise targeting the glute max. Begin on fours with a neutral spine. Brace your midsection and extend your opposite arm and leg. Concentrate on contracting your glutes without extending your low back.



Integrate

The goal of this is to now use the muscle(s) that we just turned on and integrate it into a functional (standing) exercise and use the muscle as it would be used in sport and daily function.

Mini-Band Walks

Put a [mini-band](#) around your ankles and walk laterally. Your knees should be slightly bent, with butt back and chest up. We've also found that you'll get better recruitment if you walk on your heels and to externally rotate your femurs by forcing your knees out.



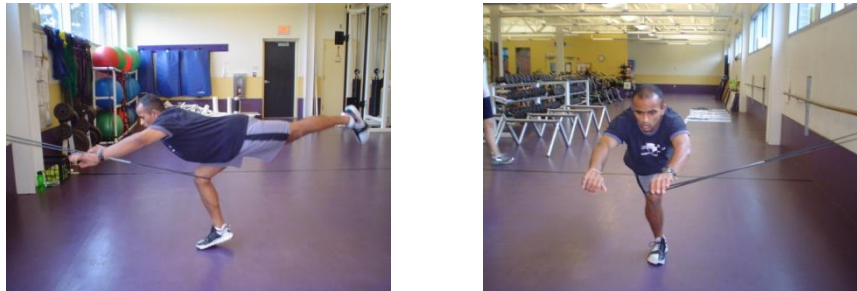
1-Leg 3-Way MB Reach

This series is fantastic for getting the glutes to work as decelerators. Begin by standing on one leg with a [medicine ball](#) in your hands. Slightly bend your knee and reach as far forward and then stand up. The next way to reach is inside as far as you can and then return to a standing position. The last way is to reach away from outside your stance leg and then return to a standing position. Make sure to contract your glutes when you stand all the way back up.



1-Leg Anterior Reach with Band

This exercise is similar to a regular anterior reach, but now we have placed a [band](#) around the stance leg knee. This will force the glute max to assist in deceleration of hip flexion or you'll lose your balance. You will also be forced to extend your knee when you stand up which will relax the hamstrings. The other variation of this is to have the band to your inside, which will adduct the hip. This will force the glute med to assist more as well.



Partner Squat and Split Squat Series

These two exercises require the assistance of a partner. In the squat version, begin with your feet the length of your foot apart, and descend into a squat. Your partner will first push on the outside of your knee, while you resist the movement. The second part will have your partner push down on your hips, while you resist the movement. This can be done from a split squat position as well. Make sure that your posture and position doesn't change because of the resistance.



Reinforce

The goal of this is continue to reinforce the proper motor pattern throughout the rest of the training session. This is primarily done through proper verbal, visual, and tactile cueing. Cue your athletes to always contract their glutes at the top of squats, deadlifts, RDLs, SLDLs, step-ups, lunges, etc.

Below is a table that lists the different exercises that fall under each category and how much to do each training session. Pick 1-2 exercise of each category. They can be included into a warm-up or

done alone prior to training.

Exercise	Category	Sets	Reps/Time
Self-myofascial release	Inhibit	1 set per muscle	20-30 rolls
Kneeling Hip Flexor Stretch	Lengthen	1	20-30 sec ea
Kneeling Rectus Femoris Stretch	Lengthen	1	20-30 sec ea
Lateral Squat Stretch	Lengthen	1	20-30 sec ea
Glute Bridge	Activate	1-2	8-12x3 sec hold
Cook Hip Lift	Activate	1-2	5-8x3 sec hold ea
Clam Shells	Activate	1-2	8-12x3 sec hold ea
Jane Fonda's	Activate	1-2	8-12x3 sec hold ea
Superdog	Activate	1-2	8-12x3 sec hold ea
Fire Hydrant	Activate	1-2	10-15 ea
Mini Band Walk	Integrate	1-2	10-20 yds ea
1 Leg 3 Way MB Reach	Integrate	1-2	9 ea leg (3 ea direction)
1 Leg Band Anterior Reach	Integrate	1-2	8-10 ea leg
Partner Squat Series	Integrate	1	5x3 sec ea
Partner Split Squat Series	Integrate	1	3x3 sec ea
Any Lower body Exercise	Reinforce	Per coach	Per coach

Wrap-Up

I hope you can see the importance of getting your glutes to fire and how it can take stress off the often-overused hamstrings. This is a commonly overlooked area of performance enhancement training, but it should not be neglected. Now you've got an arsenal of exercises to attack this very common issue with your athletes and clients.
