It Might Not Be Your Hamstrings.

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This muscle group certainly gets a bunch of attention; they get tugged, foam rolled, lacrosse balled and scraped. Many feel like they are in a constant battle to keep their hamstrings "loose". Well, there's a real good reason why most feel like they are fighting a losing battle with these muscles at the back of the thigh.... it's because they may not be the problem at all!

Feel free to stretch your hamstrings while you read on

Anatomy Review

The hamstrings are made up of three muscles(ish), that cross the knee and the hip - biceps femoris, semitendinosus and semimembranosus. The biceps femoris is located more laterally and has a short head that doesn't actually cross the hip but contributes to knee flexion (you could actually consider this a separate muscle since it doesn't fit the criteria of being a hamstring). The semi's are located more medial on the posterior aspect of the thigh. They all attach superiorly at the ischial tuberosity of the pelvis, thereby having an impact on position of the pelvis. The semi's then continue to attach at the inside of the tibia (large shin bone), and the biceps femoris at the fibula (small outer bone of the leg). Note: the biceps femoris short head has different attachment and innervation, but for the purpose of this article we will discuss the two heads of biceps femoris as one muscle, but they're not.

The action of the hamstrings group is extension of the hip and flexion of the knee. They also influence rotation of the lower leg internally and externally. Their attachment at the pelvis allows them to control anterior tilt, or encourage posterior tilt.

They are part of the Superficial Back Line (Meyers Anatomy Train), and the Deep Longitudinal Subsystem (a la Vleeming). As part of these fascial/movement slings, they are linked to many other structures, including the erector spinae, multifidi, peroneal muscles, suboccipitals and gastrocnemius. They are also dependent on the function of their antagonists outside these slings including rectus abdominus, quadriceps and transversus abdominus. With so many relationships there exists lots of potential for dysfunctional ones. We will talk about just ONE of those dysfunctional relationships here.

When Your Core F***s Up Your Hamstrings

So lets talk about how this might happen. While there are a few different combinations of muscle that could contribute, we will talk a little more generally about this common movement dysfunction. We will talk about how a lack of control in tilt of the pelvis can contribute to "tight" hamstrings.

Scenario #1: You are standing with your feet about hip distance apart, waiting in line for a burrito. You have a surgical scar across your abdomen that has affected your ability to generate good motor control of the deep core muscles so your pelvis tips forward and your butt sticks out a bit. #bootypop but #nobueno This puts your hamstrings in a lengthened position.(maybe, all just a thought experiment here cuz there are no one-size fits all rules for movement dysfunction). This chronic lengthening causes the hamstrings to eccentrically load (read: contract) and potentially become very very tired. Then you get your burrito, wash it down with a Dos Equis and head home to stretch your "tight" hamstrings. Sad day. Next day is groundhog day cuz the hamstrings go back to feeling rock solid and you still can't touch your toes.

Scenario #2: You head out for a nice little jog cuz it's sunny and you feel like gettin' your fitness on. You had a little low back pain a few years ago, and were told you had a disc herniation but no biggie, it got better in a couple months. Your work position is seated at a computer all day, and you admittedly could do better with your posture. Your back is often stiff and sore, but that will be a thing of the past once you can retire and move to Arizona to bask in the desert warmth all day, every day. After your run, you feel pain in your SI joints (you learned that word from your chiro) and you get a cramp in one of your hamstrings.

What do these two very familiar scenarios have in common? In both situations, the hamstrings may have taken on the role of some of the core muscles and got "tight" because they were super tired and overworked. In scenario #1, it could be transversus abodominus and/or rectus abdominus that were inhibited by scar tissue. Since both of these muscles influence position of the pelvis, when they don't work, the hamstrings may have been unfairly loaded. In scenario #2, the hamstrings, unsupported by some of the deep spinal muscles (and maybe glutes) had to take on the role of primary mover-forward of the body. This isn't fair. There should be a more equal division of labor. How can we get frustrated by the hamstrings when we give them too much to do? And stuff to do that's not even their job?

Okay, so lets stop blaming the hamstrings for a CORE PROBLEM. Instead, lets fix the core problem. If the muscles of the core are not functioning well then the hamstrings, no matter how often you stretch them or beat them with rollers, will always "get tight".

STOP THE INSANITY!!! How? Well, if the problem is inhibited core then you gotta change the core. Improve core function and those hamstrings will be permitted to relax. That tight feeling and restricted movement will change when you give the body what it needs.... STABILITY not mobility. Stop releasing the hamstrings if you don't know why they feel tight. You may be taking away the only stability you, or your clients, have in the pelvis. Not only will this not achieve your goal of "looser" hamstrings, but it can potentially lead to further dysfunction. #reallynobueno