

Find Relief For Your Chronically Tight Hamstrings

by

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Ask runners about their hamstrings and you might hear sad stories about chronically tight and painful muscles. No matter how much stretching they do or how many hot yoga classes they attend, some never seem to get relief from the unrelenting tension that plagues their hamstrings and makes their running less than enjoyable. Does this sound familiar?

What's important to understand is that many factors affect the tension of the hamstrings, and of these running may be the *least* influential. There are two likely culprits when it comes to the creation of tight and painful "hams": the position of the pelvis and dormant or weak Gluteus Maximus (GM) muscles.

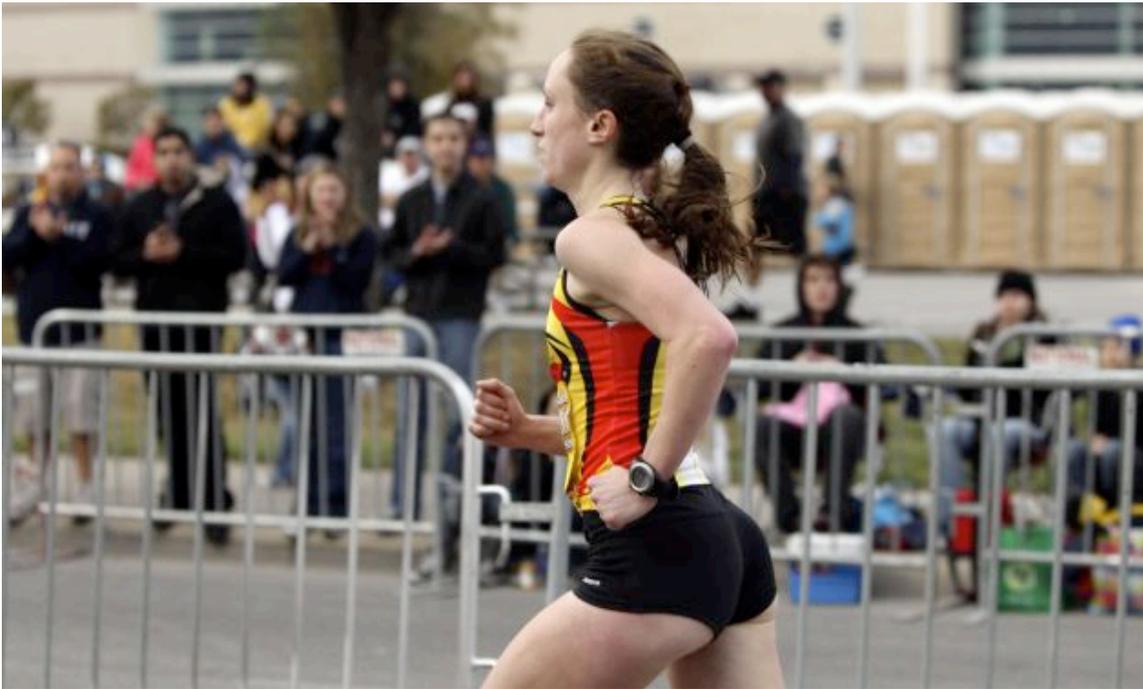
The Pelvis

First, a bit of anatomy: the hamstrings are three large, strong, bi-lateral muscles that begin or "originate" on each side and at the very bottom of the pelvis. From there they run down the back of the thighs, then via tendons cross over the back of the knee and attach high up to the bones of the lower leg. They play a crucial role in stabilizing our knees and, of course, in running, where one of their jobs is to assist with hip extension. (This just means they help bring the hip and leg behind us as we run.)

Because the hamstrings originate primarily on the pelvis (one half of one of the hamstrings, the biceps femoris, originates on the back of the femur), the position of the pelvis plays a key role in determining the amount of "pull" that is exerted on the hamstrings. From its ideal "neutral" orientation, the pelvis can be moved into many different positions, acted on by dozens of soft tissue attachments. If the pelvis is in "anterior rotation" (tipped forward) then the leverage will cause the hamstrings (attached to the bottom of the pelvis) to be pulled more taut. Presto, you've got tight hamstrings.

Is it really that simple? Well, yes and no. Now we have to figure out why the pelvis is tipped forward. The usual (but not only) reason is that the hip flexor muscles, especially those that originate on the anterior (front) of the pelvis, exert considerable influence on pelvic position. And because the hip flexors are usually very tight, they can create a strong forward pull. Voila, there's your anterior tilt. So by stretching the hip flexors you'll reduce the grip they have on the front of the pelvis, and this, everything else being equal, will help return the pelvis to a neutral position. Got it? Well . . . maybe.

Let's figure out why the hip flexors are tight to begin with, and from there we can determine if we really need to stretch, or if some other remedy is called for. Your hip flexors may be tight simply because of the activities of daily living, in particular too much sitting. If this is the case then they will respond well to stretching. But what if your hip flexors are like your hamstrings, chronically tight and seemingly immune to the effects of a regular stretching program? Then there's a possibility that your core or low back is unstable, and in their search for stability the back and core recruit, and overload, the hip flexors. As a result they become overworked and, predictably, very tight.



This nationally ranked U.S. marathoner displays a nasty anterior pelvic tilt

If you've been stretching the hip flexors doggedly without the slightest improvement, stop, and do side and forearm planks instead. Stretching will do you no good until the core/spine is stabilized. If you find that hip flexor stretches actually offer relief, then continue with them.

The Gluteus Maximus

A second possible cause of your hamstring woes is the Gluteus Maximus, or buttock, muscles. A wide assortment of muscles play important roles in running, but the GM is preeminent among them. Quite simply, the "glute max" is the mother of running muscles, and if it's not working properly it is far more likely that some malfunction will occur.

More anatomy: the bilateral GM muscles sit prominently on the posterior (back) of the pelvis. The GM muscles are the main muscles or “prime movers” when it comes to hip extension in running. When I said earlier that one of the jobs of the hamstrings is to assist hip extension, what I meant specifically is that they’re assisting the GM.

The problems begin when the GM is either “dormant” or weak, and for many runners it is definitely in poor shape. If the GM is not functioning optimally, then the hamstrings (and the adductors as well: chronic groin strains anyone?) must take over the role vacated by the GM. This is a role the hamstrings were not designed for or intended to fulfill, and because of this added burden they become overworked and yes, you guessed it, very tight. This is precisely the same scenario we saw with the hip flexors, but now it’s the hamstrings that are being asked to pick up the slack for a deficit in strength or stability.

But why does the GM get weak or dormant to begin with? That’s a bit beyond the scope of this article, but briefly: the GM is a *phasic* muscle. This means, in part, that it can react to problems elsewhere by becoming weak and/or inhibited. Those problems can include reciprocal inhibition or injury to muscles or joints in the leg (the ankle in particular).

Poor GM development is something I see commonly in runners; more accurately I see flat bums and prominent hamstrings. If you’ll excuse my rude humor, this is ass backwards, a classic sign that the “hams” are doing too much of the work and the “glutes” too little or none at all. Effective remedies for lazy or weak glutes can include deep squats, supine bridges, lunges, and one-legged postures.

If you can restore the pelvis to its proper, “neutral” position and activate and strengthen your Gluteus Maximus muscles, then you’ll have taken huge steps toward restoring your body’s functional motor pattern and proper biomechanical alignment. You’ll feel relief in the hamstrings (and likely other areas as well), and your running will feel fun again.