

You may be one of the many people that have tight hamstrings that you stretch, foam roll, stretch and roll and it never changes. You stretch them today and tomorrow they'll be tight again. Stretching has little effect on relieving this tightness. We tend to think we have tight hamstrings if we cannot bend over and touch the floor or if lying on our back we are unable to raise our leg straight up.

Often this sensation of tightness, is not due to truly "short" hamstrings but to posture and impaired movement patterns that result in increased tone or tension in the hamstrings. This is considered "neurologic" tightness. In contrast, it is possible that our connective tissue just does not have the flexibility it needs, this is considered "mechanical" tightness.

Let's first look at the concept of neurologic tightness. When we are in efficient postures, our muscles are at a length that is considered their optimal length-tension relationship. This is when the muscle can perform most efficiently when needed, and can be in its relaxed resting state when not needed.

The picture shown on the right shows the relative "length" of the abdominals, hip flexors and hamstrings when in efficient posture. A common postural change is one where the pelvis tilts forward and chest, or sternum, is elevated. In this posture the hamstrings and abdominals are actually lengthened, and hip flexors shortened. This places the hamstrings and abdominals at a disadvantage and makes it more difficult for them to do their job in an efficient manner. When the muscles are lengthened they also receive input from our brain in a protective response to prevent the muscle from being stretched too far, and causes them to stay contracted or tense. Our hamstrings then have to work harder to compensate for what the glutes are not doing. All of this sets up the perfect storm for the hamstrings to stay in a constant low-grade state of contraction in an effort to provide stability to our hips and spine that is not being provided by our glutes and abdominals, and to prevent overstretching of the muscle. This results in a feeling of tightness, and our hamstrings being unable to relax when we bend forward to touch our toes or lift our leg.



Even without these postural changes – weakness in your core or abdominals and in your gluteals can lead to increased tension in your hamstrings as they work to compensate for lack of strength elsewhere. In the case of neurologic tightness, it is important to keep in mind that the hamstrings are tight for a reason, and that simply stretching them may not fix the underlying cause.

Next, let's consider mechanical tightness. In this scenario our connective tissues truly do not have enough length to allow the tissues to fully elongate. This can happen when the hamstrings are consistently held in a shortened position. For instance, sitting in a slumped position with knees bent day after day and year after year. It is also possible that, genetically, your connective tissues are not very flexible and you have a tendency toward stiffness throughout your body.



More often than not, there is neurologic tightness involved in perceived hamstring tightness. Our goal in exercise is to change this pattern of muscle imbalance, help your muscles to work efficiently, and let your hamstrings finally be able to relax when they should.

Below are some exercises that might improve hamstring flexibility.

**STRETCHING THE HIP FLEXORS WHILE CONTRACTING THE GLUTES** - In the ½ kneeling position – first tighten your core, then tuck your "tail" under you and contract your glutes. You should feel a stretch in the front of your hip or thigh. Hold this position for 10 seconds. Relax and repeat 5x each leg.



**ASSISTED HAMSTRING STRETCH/CORE ACTIVATION** - Start with both legs straight up and your back flat on the floor with a yoga strap supporting one leg. Engage your core and as you exhale think of "pushing" the opposite leg down. Keep your spine still (no arching or tilting in your back or pelvis). You do not need to hold this position. Repeat 10x each leg.



**SINGLE LEG DEAD LIFT**- eccentric or "lengthening" hamstring work - Standing on one leg, keeping your back flat, slowly bend forward from the hips onto one leg. Keep your hips level and go down as far as you can while keeping your back straight and hips level. Return to standing. Repeat 10 x each leg. You can hold a weight at your belly to actually "assist" this exercise.



If you struggle with tight hamstrings that never get better, consult with your trainer, and consider trying some of these exercises to see if you can make some changes. While the exercises may help for a short while, it is imperative that you change the underlying cause of the "tightness" for permanent change to occur. So take a look at your posture and postural habits during the day and while exercising. You may be happily surprised by the results.

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