

Improving Tight Hamstrings

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For many of us, Hamstrings, the muscles on the back of the thigh, can be quite tight, making it difficult to do forward bends in yoga.

Additionally, tight hamstrings can be a factor, which can lead to low back pain or lower limb pain.

Being tight at the back of the thighs can also make it more difficult to move with ease during every day activities, and can seriously affect performance, and increase of injury in some sports where running, flexibility and agility is required.

So what are the Hamstring muscles?

They are a group of muscles, which are made up of the Biceps Femoris muscle on the outside, and Semitendinosus and Semimembranosus muscles on the inside, of the back of the thigh. They attach to your sit bone area (called the Ischial Tuberosity), which is part of your pelvis, and to the leg bone (called the Tibia), just below the knee.

The Hamstring muscles can flex (bend) your knee, extend (move it backward) your hip and produce some minor rotation of your knee and hip joints.

Generally we use the Hamstrings to help with walking, running and related activities.

A little known fact about the connective tissue

There is a connective tissue (called fascia) and muscle relationship (and possibly neural) along specific lines in the body, termed anatomy trains by Thomas Myer (sometimes called Myofascial Lines, meridians or sutras.) It is beyond the capacity of the article to go into details, but I would like to talk about one of these lines, which goes along the back body, as it has a special relationship to the Hamstrings.

There is a line of connective tissue and muscle, which can affect forward bending and tension in muscles, along its pathway. This line begins in the sole of the foot (Plantar Fascia), extends over the heel, up the achilles tendon, through the calf, along the HAMSTRINGS, across ligaments from sit bones to sacrum, along the sacrum, up the spine and across the scalp to the forehead. It's interesting how the yoga "Western stretch" addresses this back line specifically.

TRY this!

Stand up and bend forward toward the floor – how far from the floor do you reach? If you can touch the floor, can you place fingers, fists or palms to the floor?

Now sit down and give your soles of the feet a massage, especially by rolling your fist or a ball along the arch. Do this for a couple of minutes, then stand up again, and test your forward bend – has it improved? Releasing a part of this back line, can actually help release all of the line, due to relationship between the myofascial structures.

If your forward bend stretches are not improving, consider your muscles along the back line – tension in the sole of the foot, tight calves, tight pelvis or lower back, tight middle back, tight back of neck or tight scalp, besides just your Hamstrings. Also remember that the deep muscle of the Gluts may affect hip movement besides the Hamstrings, in forward bends.

Why do the Hamstrings get tight?

There are many factors and they can include:

- One of the commonest reasons why the hamstrings become tight is due to our **daily habits** such as sitting in chairs all day, locking our knees back while standing, or unconsciously holding the Hamstrings tight with posture in general.

CHECK this – stand up in your normal way and check if you have your knees locked, and also have someone feel your hamstrings to see if they are tight as you stand still and relaxed. They normally should only have a very little tension, and knees should not be locked backward.

- **Past Injury** to the Hamstrings muscles can cause them to become tight.
- **Spinal or Nerve** problem – sometimes problems in the spine or along the nerve pathway to the Hamstrings, can lead to muscle becoming active (increased muscle tone) and this can lead to tightness and increased risk of injury. *If you suspect this is a problem for you, seek medical advice.*
- **Weakness** – there is a strange reaction in the body, whereby a weak muscle can actually become tighter, though you would think the opposite would happen.
- **Emotions** – we can hold emotional stress and tension in any muscle in our bodies. The Yogi's suggest that emotional tension held around the Hamstrings may relate to feelings of safety and insecurity.
- **Genetics** – If you can't be with the hamstring you want, love the one you have. Some of us are just born to have tighter Hamstrings, so if this is you don't struggle; adapt your stretching or yoga to accommodate this fact.

How to stretch your Hamstrings?

When you stretch a muscle, you need to **lengthen it out in the movement opposite to the action of the muscle**. This means to stretch the Hamstrings, you need to straighten the knee and flex (move thigh forward) the hip. Because the Hamstrings are attached to the pelvis you will find bringing the tops of the

pelvis towards the thigh bone, so the sit bones go backwards, also brings a stretch to the hamstrings.

In lying, you can stretch the hamstrings in 2 main ways:

- Keep your knee straight and raise your lower limb upward (ie flexing the hip), until you pelvis begins to move. Remember, the Hamstrings are attached to your sit bones, so as they get tight in the stretch, they begin to move your pelvis backwards. This way of stretching, or testing your flexibility, may also stretch other structures, such as the nerves or their coverings, and tends to stretch the hamstring more towards the knee.
- Bring your knee bent up over the belly, with the knee slightly positioned outwards, and then try to straighten out the knee. You may find the knee doesn't straighten fully this way (if you are tight), and you tend to feel the stretch more towards the upper end of the hamstrings. This is often a preferred way to test and to stretch the hamstrings, as it more isolates the Hamstrings, and is easier, and possibly safer to do.

However in Yoga, and for sports, often stretches are in a seated or standing position. This is where it can help to understand how to position your body to get the optimal stretch and benefit without causing injury.

Seated Hamstrings Stretching – we commonly do this with the yoga postures – Head Knee and Western Stretch.

Standing Hamstrings Stretching – we commonly do this in the yoga postures – standing Forward Bend, Sideways Extension and Standing Single Leg Toe Hold.

Try this when doing hamstrings stretches in these positions – Keep the knees off lock, and have a sense of moving the front of the pelvic bones towards the thighbones, while the sit bones go backward. Keeping your chin slightly inward, and gently drawing your lower belly backward toward your spine, can help protect your spine in these forward bend positions.

I also find, like with the lying hamstrings stretches, it may be safer and better, to start with the knees well bent, as you bend forward. Then once you are in the stretch position, to gradually straighten out the knees, by gently drawing the sit bones backward in sitting, or upwards if in standing.

CARE - It is possible that doing excessive amounts of standing STRAIGHT knee forward bends may lead to micro trauma to the Hamstrings, which could lead to wear and tear injury.

Some tricks which may help?

- If you tighten the Quads (the muscles on the front of the thighs) as you stretch, it may help the hamstrings to release more in the stretch.

- Tightening the Hamstrings slightly, as you stretch, then letting them go, a few times, sometimes helps to go deeper into the stretch, possibly by reducing the discomfort you feel as you stretch.

Other factors?

Awareness – by placing your mind in the area you are stretching, this allows the brain to convey a message to your hamstrings to relax and not resist the stretch, by dampening the stretch reflex. Awareness helps you to stay tuned to the feelings associated with your stretching, allowing to nudge your boundaries, avoid hurting yourself, and help you to stay more in tune with your inner self. Staying aware also allows you to feel a state of general relaxation as you stretch.

Breathing – taking long slow breaths, and exhaling into your stretch, can help reduce muscle tension, help you relax more with your stretching, and keep you focused and aware of what you are doing.

Understanding – when you are stretching, reflect upon what is going on in your muscle system – what may be the causes to your tightness – posture, habit, emotions, etc, and what can you do to change these.

Energy – the yogis suggest that when we release tension from our body, we allow the energy to flow. Energy flow occurs when everything works in the body as it should, and allows for good health and wellbeing.

Don't forget to strengthen?

This is the beauty of a yoga asana (posture) – it can both aid flexibility, and also strengthen. For example if you do a standing forward bend, the Hamstring muscles are working to lower you forward into the stretch – we call this action eccentric contraction and it can help strengthen the hamstrings, as do many of the standing postures.