

## Buttock Pain

### *Hamstring Tendinopathy*

The hamstring muscles travel along the back of your thigh and are responsible for helping to bend the knee and straighten the hip. There are three primary hamstring muscles and the tendons of these muscles all attach to the ischial tuberosity (aka. the “sit bone”). These muscles are seldom used in most individuals, and they often get tight if we spend a lot of time sitting with our knees bent. Because of this chronic deconditioning and tightness, the hamstring tendon is at risk of injury and delayed recovery and can sometimes lead to chronic pain in the buttock.

Exercises play an important role in improving pain related to tendinopathies. More specifically, exercises focusing on **eccentric** strengthening have demonstrated good efficacy for a variety of tendinopathies, including for the hamstring tendon<sup>1</sup>. Eccentric strengthening exercises are those that apply resistance as the muscle-tendon unit lengthens. They are commonly referred to as “negatives” as they often involve lowering a weight, rather than lifting.

The following active rehabilitation program is designed with this in mind - targeting progressively increasing eccentric loading of the hamstring tendon. This program is to be performed seven days per week. Perform each exercise for three sets of 10-15 repetitions.

The “Key Exercises” should progress to **heavier and heavier resistance**. Each week, use a slightly heavier weight than the previous week. Some soreness is to be expected while you are doing these exercises. But if this increased pain lasts more than a day or two, consider going back to your previous weight.

## Need help?

### *Physiotherapy*

Your physical therapist and athletic trainers also play a critical role in the rehabilitation process by coaching you through the exercises and ensuring that they are being performed correctly. They can also provide symptomatic relief in the form of soft tissue modalities (active release, deep heat, TENS, etc.).

*“The harder the battle, the sweeter the victory.”*

-- Unknown

1) Marc T. Galloway, Andrea L. Lalley, Jason T. Shearn, The Role of Mechanical Loading in Tendon Development, Maintenance, Injury, and Repair. J Bone Joint Surg Am. 2013 Sep 4; 95(17): 1620–1628.

2) Alfredson H., Pietila T., Jonsson P., Lorentzon R. Heavy-load eccentric calf muscle training for the treatment of chronic achilles tendinosis. Am J Sports Med 1998; 26: 360-6

## Warm Up



1. Sit down with one leg extended in front of you and the other bent on the side.
2. With the opposite hand (if possible), reach for the foot or the ankle - keeping your lower back arched. Bring the torso forward until you feel a comfortable stretch behind the thigh.
3. Hold for 20 seconds, then release. Repeat on other side.



1. Using a stable structure for support, stand on one leg and swing the opposite leg front and back. Keep the knee straight when the swinging leg is in front of you.
2. As you warm up, increase the speed and height of the kick. You should feel the stretch behind your thigh at the top of the kick.
3. Repeat 10-15 times before switching to the other leg.



1. Standing upright on one leg, with the knee straight or slightly bent.
2. Tip the body forward, hinging at the hips and try to touch the ground as far away from your toe as possible. Keep your back straight and your opposite leg pointing backwards using it as a counter-balance.
3. Return to the starting position. Repeat 10-15 times before switching legs.

## Key Exercises

### **Supine Hamstring Curls - Eccentric**



1. Lie facing up with your heels on a large exercise ball and your knees straight.
2. Use your heels to pull the ball toward you until your knees are bent (feet flat on the ball).
3. Push your feet into the ball to lift the hips off the floor. Lift one leg off the ball.
4. Slowly straighten the knee letting the ball roll away from you back to the starting position.
5. Put your other heel back on the ball and repeat.

### **Gliders**



1. Stand next to a support (railing, table) in a split-stance with your injured leg next to the support. Hold on to the support with your hand and place the opposite foot on a frisbee (any slippery object will work).
2. Keeping your weight on the injured leg, slowly glide the opposite leg backwards until you feel a good stretch in your injured leg. Hold this position for 2 seconds. (It is okay to let your knee bend slightly)
3. Return to the starting position with the help of both arms pulling on the supporting table/railing. (i.e. NOT using your injured leg).

**\*\*\* As you progress, try increasing the distance you glide backwards.**

### **Nordic Hamstring Curls**



1. Start in a kneeling position with a cushion under your knees and your arms folded in front of your chest. Have a partner grab your ankles (or hook your feet under a stable support (couch or low bench)).
2. Keeping your thighs and torso in a straight line, slowly hinge forward at the knees.
3. Contract your hamstrings to lower your body weight as slow as possible. Go as far as you can before cramping or pain.
4. Put your hands/arms in front of you to catch yourself when your hamstrings reach their limit. Push yourself back up with your arms and repeat.