

HAMSTRING STRETCHING

The data tells us that one of the best ways to reduce the risk of hamstring injury is to maintain flexibility in the muscles around the lower back, gluteals and upper leg (hamstrings and quadriceps). These exercises are designed to help you achieve this goal.

SUPINE LUMBAR TWIST STRETCH

Lying flat on your back, cross one leg over the other by twisting your hips and spine. Keep your opposite arm outstretched. You can hold on to your knee to make the stretch stronger if you feel comfortable.

Repeat 3 times

Hold for 20 seconds



Video:

<http://youtu.be/BzYBkAvdCJY>



DOUBLE LEG BACK STRETCH

Lie flat on your back, and bend your knees towards your chest. Hold this position and feel a gentle stretch in your back. If you get any groin pain while doing this exercise, stop and inform your therapist. Relax, and repeat as necessary.

Repeat 3 times

Hold for 20 seconds



Video:

<http://youtu.be/ZEz80zvUv4>



LUMBAR AND THORACIC SIDE FLEXION SITTING

Sitting with good upright posture, run your arm down the side of the chair leg by side-bending your spine. Repeat to the other side. This is a good mobility exercise for the upper and lower back while sat down, if you feel your back is starting to get stiff.

Repeat 3 times

Hold for 20 seconds

Perform both sides



Video:

<http://youtu.be/Rze6cxfJpOQ>



GLUTE STRETCH SUPINE 3

Lie on your back, and bend your knee to 90 degrees (i.e. pointing straight up). Place your ankle across your opposite knee and pull your knee towards your chest to feel a stretch in your bottom. You can also use a towel to assist you.

Repeat 3 times

Perform both sides



Video:

<http://youtu.be/zpaExOK4S8M>



EXTERNAL ROTATION TABLE GLUTE STRETCH

This is an alternate to lying on the floor. Place your foot on a table, with your leg turned inwards. Lean forwards slightly to feel a stretch in your buttock. Hold the stretch.

Repeat 3 times

Hold for 20 seconds

Perform both sides



Video:

http://youtu.be/Nh3gioc_x4I



FOAM ROLLER HAMSTRING STRETCH

Sit down placing a foam roller under your Hamstrings (back of the legs). Your feet should be off the ground, and you can balance using your arms. Roll the roller up and down your Hamstrings to create a stretch. You can cross your legs to emphasise the stretch on one side.



SETS

REPS

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HAMSTRING CONDITIONING

After ensuring that the muscles and tissues around the low back, gluteals and upper leg are flexible, the most important aspect of preventing hamstring injury is to build hamstring strength and ensure there is no neural tension in the nerves running from your spine, down your leg. These exercises will help achieve this.

SCIATIC NERVE GLIDE FLOSS 3

Sit with good posture, and straighten your affected leg and bend your ankle towards you, as you extend your neck. Then bring your neck towards your chest as you relax the ankle. This will glide the sciatic nerve.



SETS

REPS



Video:

<http://youtu.be/HkXkUjffCYw>

LEG SWING

Hold on to a table, and swing your leg in front of you and then behind you in a controlled way. It's a great way to dynamically warm up your leg and hip, but also used to gain more mobility to your hip joint. As you swing your leg forward in front of you, pull your foot upwards and slouch your back and tuck chin to chest. (Slump) Then as you swing leg back behind you straighten your back up. This is a dynamic nerve stretch.



Repeat 5 times | Perform both sides



Video:

<http://youtu.be/Rze6cxfJpOQ>

ROMANIAN DEAD LIFT

Keep your knees just slightly bent, shoulder width apart, and place a dowel rod or barbell on the blocks. Keep your back straight/flat as you bend your knees more towards the bar. Hold the bar shoulder width apart or slightly narrower, with one palm facing up, one palm down (or both palms facing down). Lift the bar up by straightening the legs and extending the back at the same time. Keep the bar close to your shins during the movement. If you lack flexibility you may need to bend your knees a little. Squeeze the shoulder blades at the top of the movement. Return to the start position.



Repeat 5 times | Perform both sides



Video:

http://youtu.be/Nh3gioc_x4I

SHOULDER BRIDGE 3

Start position is shoulder bridge level one, with a neutral pelvis and the spine rolled away from the mat. Inhale to prepare, exhale to lengthen and straighten your leg. Avoid tilting the pelvis. Inhale and fold your leg back to the mat, ready to repeat on the opposite leg. Exhale, as you roll the spine down vertebra by vertebra to finish.

Repeat 5 times | Perform both sides



Video:

<http://youtu.be/R7yrLIC0uJs>

FULL SQUAT SINGLE LEG CUP REACH

Place 5 cups in front of you, and stand in the middle of them. Squat down (on one leg), and reach for one cup then come up, then repeat with the second cup, etc. Be careful to maintain control to the leg, and do not perform the exercise too quickly. Always keep your foot flat on the ground, do not let your heel raise from the floor.

Repeat 5 times | Perform both sides



Video:

<http://youtu.be/FslkTrYqdcS>

NORDIC HAMSTRING CURL

This exercise is best done with a training partner who anchors your feet. But it can be done at home if you can find something heavy to secure your feet under. Kneel on the ground—it's best if it's padded, anchor your feet and lower your body to the ground as slowly as possible keeping your back straight ie. rigid. When your hamstrings can no longer support your weight, let yourself fall to the ground, and catch yourself in a push-up position. Your goal is to control the descent for as long as possible. Start with very low repetitions ie. 2-4 repetitions a day and only build on this if and when you're not too sore.



SETS 1

REPS 2-4



Video:

<http://spxj.nl/2iDFKaQ>

Video courtesy of Physiotutors



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HAMSTRING STRAINS

Hamstring strains are caused by a rapid contraction, usually when the leg is extending or a violent stretch of the hamstring muscle group which causes a high mechanical stress. This results in varying degrees of rupture within the fibres of the muscle-tendon unit. Hamstring strains are most common among sports that require a high degree of speed, power and agility such as soccer, basketball, tennis, sprinting and rugby.

THE ANATOMY

Located on the back of the thigh, the hamstring is a group of three

separate muscles: biceps femoris, semimembranosus and semitendinosus. The top of these muscles is attached to the pelvis and hip, and the bottom of the hamstring muscle are attached to the tibia just below the knee joint. The action of the hamstring muscles is to flex (bend) the knee and extend (straighten) the hip.

THE INJURY

Hamstring strains are classified from Grade 1-3 depending on their severity. A hamstring strain may occur in one or more of the 3 hamstring muscles.

GRADE OF INJURY	DESCRIPTION
Grade 1: Mild	<ul style="list-style-type: none"> Overstretching without tearing of muscle or tendon fibres Usually no loss of muscle strength A feeling of pain may be reported with sitting or whilst walking up hill or up stair Symptoms may not present until the activity is over Increased tightness/spasm/stiffness in the muscle during stretch or through full range of motion Walking properly may be possible, with minimal bruising
Grade 2: Moderate	<ul style="list-style-type: none"> Partial tear in the muscle Pain is more immediate at time of injury and more severe Pain on touching the injured site Bending the knee against resistance will be painful and you may have difficulty fully straightening the knee Muscle strength and flexibility is reduced Pain on stretching the muscle and on contraction Limping – being unable to bear weight correctly with occur and sudden twinges of pain during activity may occur
Grade 3: Severe	<ul style="list-style-type: none"> Severe or complete rupture of muscle fibres. Significant bruising visible and bruising down the leg into the calf Sudden sharp pain at back of leg, often an audible popping noise. Walking is not possible without pain Unable to contract muscle, severe pain on contraction and loss of mobility May be large lump (ball of muscle tissue) above the depression where the tear is Localized swelling Unable to bear weight and walk Some cases may require surgical repair

THE MANAGEMENT

The immediate treatment of any soft tissue injury consists of the RICER protocol – rest, ice, compression, elevation and referral. The RICE protocol should be followed for 48–72 hours. The aim is to reduce the bleeding and damage in the muscle. The muscle should be rested in an elevated position with an ice pack applied for 20 minutes every two hours (never apply ice directly to the skin). A correctly sized compression bandage should be applied to limit bleeding and swelling in the injured area.

During this time, the No HARM protocol should also be applied – no heat, no alcohol, no running or activity, and no massage. This will ensure decreased bleeding and swelling in the injured area.

Following this acute phase, a physical therapist will start to work on soft tissue and manual mobilisation, with the goal being to slowly improve tissue flexibility and mobility and promote good tissue healing and scar formation. Strength exercises and neural mobilisation exercises will gradually be introduced. Correcting muscle imbalances, proprioception,

muscle endurance and sports specific techniques may also be addressed.

Timeframes for rehabilitation and return to sport vary depending on the nature and severity of the strain. Generally, Grade 1 hamstring strains should be rested from sporting activity for about three weeks and Grade 2 injuries for a minimum of four to eight weeks. In the case of a complete rupture (Grade 3), the muscle may have to be repaired surgically and the rehabilitation to follow will take about three months, even up to 6 months to return to full sporting ability.

Premature return to sport and inadequate rehabilitation will increase the risk of re-injury, which is already high anyway. Full stretch and strength should be achieved in addition to the ability to perform full speed training. Remember this is applicable to everyone with a hamstring strain; whether you are a social 'athlete' or a professional one. The end stage demands you place on your hamstring may vary from person to person but the principles of recovery and rehabilitation are the same for everyone!

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