

Hamstring tears and repair surgery

This leaflet is for patients having an operation to repair damage to the hamstring muscles. It outlines what the surgery entails, including risks and benefits. If you have any questions, please discuss them with your consultant or one of the team.

Hamstring muscles and injuries

Hamstring muscles run down the back of your thigh from the bottom of the pelvis (ischial tuberosity), crossing the knee to the lower leg. There are three hamstring muscles: semi-membranosus, semi-tendinosus and biceps femoris (see Figure 1B). The muscles are actually attached to the bone on each end with tendons (see Figure 1A). The function of these muscles is to stabilise the pelvis, to straighten a flexed hip and to flex the knee.

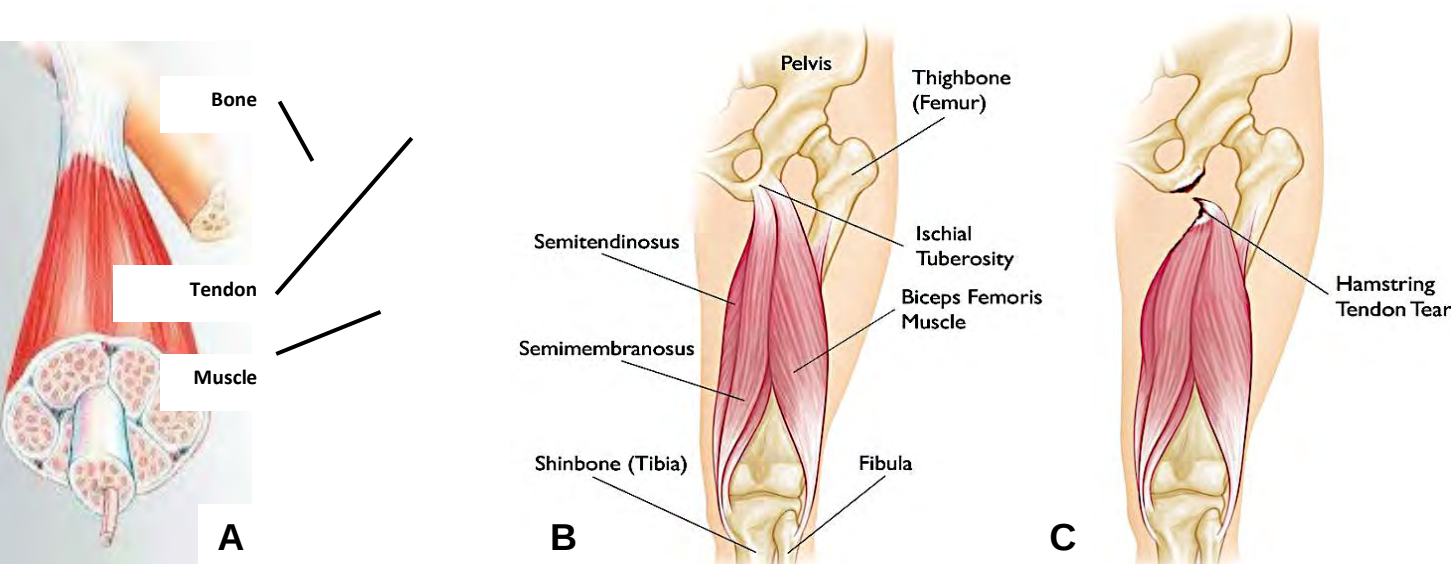


Figure 1. A. Diagram of the muscle becoming a tendon before attaching to the bone. This happens on both ends of the muscle. **B.** Diagram of the back of the thigh, showing the attachments of the hamstring muscles. **C.** Diagram of a hamstring tendon avulsion (tear at where the tendon attaches to the bone).

Why do I need surgery?

The injury happens most commonly at the top where the muscle becomes a tendon before attaching to the ischial tuberosity. However, sometimes the injury may involve the site where the tendon attaches to the bone (see Figure 1C) or within the muscle substance itself. The injury can range from a strain to a partial and a complete tear or rupture, and if the tear happens at where the tendon attaches to the bone, it is called avulsion. Usually the tear is a result of an acute injury, and can be associated with muscle imbalance, tightness or fatigue. The actual

trigger for acute injury is muscle overload, which usually happens when the muscle suddenly becomes stretched beyond its limit or encounters a load it cannot cope with. The former situation occurs specifically when the muscle is trying to perform a routine contraction while being physically stretched (eccentric contraction).

While a simple muscle strain can be treated with non-surgical methods, the avulsion of the tendons, especially if complete, often requires surgical treatment. Complete tear leads to swelling and bruising below the buttock, and weakness of hamstring muscles. The tendon or muscle (depending on where the tear took place) pulls away, and if left to heal on its own, attaches itself to the surrounding tissues in the wrong place. This often requires an operation, particularly if associated with sciatic nerve symptoms.

What does repair surgery entail?

If the function of your leg is severely compromised, or if symptoms fail to settle, surgical repair may be necessary. The surgery involves an incision below the buttock fold, with the length of the cut dictated by how far the tendons have retracted down the length of the thigh. The operation identifies the pulled-away end of the tendon or muscle, tries to pull it back to where it is supposed to attach naturally, and then fixes it in place with stitches and bone anchors. The difficulty of this procedure depends on how long ago the injury happened. The longer the time after the initial damage, the harder it is to release the tendons and pull them back into place. Therefore, we prefer to treat these injuries as soon as possible; preferably within 4 weeks after the injury, at most.

The surgery aims to treat the pain and restore the hamstring muscles strength. Although the re-attachment may have been successful, it still relies upon the ability of your body to heal. If the healing fails to take place effectively, the repair is likely to fail with time, leading to recurrence of the original symptoms.

To protect the repair, you will be fitted with a brace that holds your knee flexed (bent) for a period of up to 6 weeks. To aid with mobilisation, we often recommend the use of a scooter (see Figure 2) which you would need to hire.



Figure 2. An illustration of different knee scooters, available to hire.

What are the aims of this surgery?

- Restore muscle strength and function
- Improve pain
- Improve overall quality of life and mobility

What are the risks of this surgery?

- Wound or deep infection
- Sciatic nerve injury
- Failure to adequately repair if long-standing tear
- Failure to improve symptoms/dissatisfaction
- Recurrence of symptoms
- Failure of the tendons to heal
- Re-injury
- Need for further surgery
- Heart attack
- Chest infection
- Clots in the veins of your legs that may travel to your lungs (deep vein thrombosis (DVT) and pulmonary embolism)

Advice following surgery

Pain relief: Local anaesthetic is used at the end of surgery to numb the pain. It is normal to feel pain come back as the local anaesthetic wears off and you will need to take painkillers regularly to help with this. It is important to take the painkillers as prescribed to keep pain to a minimum and allow mobilisation.

Hospital stay: Your operation can take between 1 and 3 hours, depending on how much work needs to be performed. You may need to stay in hospital overnight following your procedure. The length of your hospital stay may vary depending on the extent of your surgery, your medical history and also on how you are managing to mobilise with help from the physiotherapists.

Mobilisation: A physiotherapist will see you on the ward. You will be non-weight bearing on crutches for a period of up to 6 weeks after your surgery. We would also advise on the use of the knee scooter (see above). After that, try to return to walking as close to a 'normal' walking pattern as possible, e.g. with an even step length on both sides and not leaning to one side. You will also be shown how to safely get up- and down-stairs using your crutches if required.

Range of movement and strengthening exercises: You will need a knee brace holding your knee flexed (bent) for up to 6 weeks. Following this initial period of immobilisation, you will be guided through your rehabilitation by your physiotherapist. It is important to re-establish the muscle strength and hip joint movements as soon as possible. To achieve that you will go through a phased rehabilitation programme. Ensure that you take pain relief medications about one hour before your exercises. The specifics will be explained to you by your physiotherapist,

but in broad terms your rehabilitation will include restoration of hip and knee joint range of movement, strengthening/conditioning muscle exercises, stamina, and exercises for return to specific sport. You will also be referred for outpatient physiotherapy to ensure on-going progress with walking and exercises. If you have any questions or need any advice about your exercises, please contact the Physiotherapy Department between 9am – 4pm Monday to Friday on 0118 322 7811 (Royal Berkshire Hospital) or 01635 273362 (West Berkshire Community Hospital).

Self-care: It is important to get back to your normal daily routine as soon as possible after the surgery. Initially, you will need help from the ward staff with mobilisation and self-care. By the time you go home you are likely to be independent with normal self-care activities.

Wound care: Keep your wounds clean and dry. It is normal for the wound sites to leak a little bit of blood or fluid for the first few days after your surgery. These will need to be redressed if the dressings become soaked. If you are changing the dressings, clean the wound with soap and clean water, pat it dry with a towel/paper towel and even use a hair dryer (on cool setting) to ensure maximal dryness of the skin before applying new dressing. The stitches are dissolvable and do not need to be removed. The nursing staff will also provide you with wound care information on leaving hospital.

Work: Your return to work will depend on the job you do and the speed of your recovery. It may take a couple of weeks before you are able to return to an office job, and longer if the job is physical. Your physiotherapist or consultant will be able to provide further advice. An initial sick certificate can be provided by the ward – please ask the nurse before you leave the ward. Subsequent certificates will need to be obtained from your GP, if required.

Driving: You should not drive while you are still using crutches and your knee is in a brace. Once you feel you have sufficiently recovered and can perform an emergency stop (usually 6-8 weeks after surgery), you can try to drive on a quiet road. You may need to inform your insurance company prior to returning to driving that you have had an operation and have now recovered.

Leisure and sport: Return to sports will be guided by what you have had done during your surgery and by your progress with rehab. It can take up to 3-6 months before you are able to return to competitive sports.

Glossary

Femur – thighbone

Ischial tuberosity – bony prominence of pelvis that you sit on or can feel in your buttock crease

Hamstring muscles – three hamstring muscles (semi-membranosus, semi-tendinosus and biceps femoris) at the back of the thigh. They start from the ischial tuberosity and insert below the knee. They are

responsible for stabilising the pelvis, extending the hip and flexing the knee joints.

Tendons – attach muscles to the bone

Sciatic nerve – large nerve that runs from your buttock into your foot at the back of the thigh/leg

Avulsion – detachment/pull-away of a tendon from its bony attachment

Eccentric contraction – occurs specifically when the muscle is trying to perform a routine contraction while being physically stretched

Arthroscopy – surgery performed through small skin incisions (keyholes)

Arthroscope – small camera used during surgery

Contacting us

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Outpatient Physiotherapy Department 0118 322 7811 (Royal Berkshire Hospital) or 01635 273362 (West Berkshire Community Hospital).

To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

Tony Andrade / Vitali Goriainov, RBFT Orthopaedics, July 2023

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