

Physiotherapy following high tibial osteotomy surgery

This leaflet is designed to provide you with information about your high tibial osteotomy (HTO). It includes advice and exercises to aid your recovery and provides guidance so that you know what to expect. Every surgery is different and your surgery may include a variation on the standard procedure. It may include repair of other structures within the knee including cartilage or ligaments. Your physiotherapist will explain to you your individual needs and exercises specific to your personal recovery. If you have any further questions, please speak to your doctor or your physiotherapist.

Why am I having a high tibial osteotomy?

The weight through your knee has been predominantly through the medial (inside) portion of the joint, which has caused this compartment of your knee to have become more worn away than the lateral (outer) side. You may have noticed your leg beginning to look bowed – this is a result of the uneven wearing on the knee joint.

What is the procedure?

A high tibial osteotomy is a surgical procedure to realign the leg and reduce the pain you have from your knee by transferring the body weight to preserve the outer side of the knee joint.

A cut is made in the tibia (shin bone). The alignment of the tibia is carefully adjusted by levering open this cut in the bone until the desired alignment is reached. The bone is then fixed with a plate that is held in place with screws. This is called an opening wedge osteotomy. The triangular gap in the bone will be filled in with new bone over the next few months post surgery. This procedure does not return the knee to 'normal'. Instead it prolongs the life of a damaged knee, helps relieve pain and delays the need for a total knee replacement.

Will I have swelling?

Yes, it is normal to have swelling following surgery. However, excessive swelling will slow your recovery. It is, therefore, important that you do the following actions to reduce the amount of swelling in your knee.

1. Rest regularly ie do not walk or stand for long periods. However complete rest is not advised either. Therefore aim for short periods of activity (10 to 15 minutes at a time).
2. Reduce swelling and aid pain relief by regularly icing your knee (wrapping a bag of frozen peas or ice pack in a damp cloth and applying it to your knee for 10 to 15 minutes at a time). This can be repeated every one to two hours.
3. Keep your leg elevated in the brace when resting.

What do I need to avoid doing?

Every surgery is different and tailored to your specific individual needs. After surgery you will have a brace on your knee for six weeks, although your initial brace might be changed after one to three weeks. Your knee will be held in extension (fully straightened position) for the first week. After this a bend will be gradually re-introduced to the knee through alterations in the brace settings. The speed of progressing your knee bend will depend upon your specific surgery and your consultant's guidelines. This will be fully explained to you by your physiotherapist.

You will be taught to partially weight-bear for the first six weeks following surgery using elbow crutches. This will allow the knee to heal correctly and it is important to adhere to this. Your physiotherapist will teach you how to walk, and provide you, with elbow crutches. Some patients may be required to be non-weight bearing for the first two weeks after surgery – your physiotherapist will teach you how to do this if it applies.

Avoid removing the brace unnecessarily. The brace can be removed to wash as long as the leg is kept in a straightened position.

Will I need to do any specific exercises?

Your physiotherapist will teach you the below exercises. They are important to complete to aid your recovery, minimise swelling and to improve the strength of the muscles surrounding the operation site.

These exercises need to be completed at least three times a day, starting on the day of your operation. For the first six weeks these exercises need to be completed with your **knee brace on**.

Any additional exercises your physiotherapist feels are necessary will be discussed with you and taught individually.

Lying on your back or sitting down. Pull your ankles up and down slowly then briskly. **Repeat this 20 times.** This exercise helps to prevent blood clots.



Lying on your back with your legs straight point your toes up to the ceiling and push the back of your knee down firmly against the bed, (this exercise is known as static quads). Hold for five seconds, then relax. **Repeat 10 times.**



Lying in your back or sitting in a chair. Squeeze your buttocks firmly together and hold for five seconds then relax. **Repeat 10 times.**

Lying on your back. Point your toes to the ceiling. Next slide your operated leg out to the side and then back to the starting position. You may need assistance initially for this exercise. **Repeat 10 times.**



Straight leg raise: Start by contracting your quadriceps just like the second exercise. Then lift your leg off the bed, as shown in the picture below. **Repeat 10 times.**



Sit with your legs out in front of you. Place a long towel under the ball of your foot. Gently pull the toes towards the ceiling whilst holding onto the towel. You will feel a stretch along the back of your calf muscle. Hold this stretch for 15 seconds. **Repeat three times.**



After approximately one to two weeks, a knee bend will be reintroduced. How much you are allowed to bend the knee will depend upon your specific surgery and consultant guidelines. You will be guided by your physiotherapist. The knee brace will be altered to allow a bend and it should be worn when completing the following exercise:

Sit on the floor or on a bed with your legs straight and your back supported. Slide the heel of your operated leg up towards you, keeping your heel in contact with the bed. Bend your knee as far as the brace will allow. Return to the starting position. **Repeat 10 times.**



Will I be in pain?

You should expect a moderate amount of pain following your operation. You will be prescribed pain relief and it is important that you take these regularly, as directed by the nurse looking after you, so you can complete your exercises. No matter how well your pain is controlled your knee may still hurt.

When can I leave hospital?

Patients typically stay in hospital for one to two days. You should continue the exercises you have been taught in hospital when at home.

Physiotherapy is **vital** following your surgery. You will be able to leave hospital once you are able to walk safely with an appropriate mobility aid, move on your own between sitting and standing, and complete the prescribed exercises on your own, as outlined by your physiotherapist. If you have stairs at home, please let your physiotherapist know so that they can teach you how to use them safely.

Will I receive ongoing physiotherapy?

When you are discharged, you will be referred for ongoing outpatient physiotherapy at Guy's and St Thomas' Hospitals or at your local hospital. It is **very** important that you attend your appointments.

When can I return to normal activities?

Work. The first two weeks after surgery should be dedicated to your recovery so you should not work at all during this time. It is realistic to start desk-based work at home after the third or fourth week, with the potential to return to the office for the odd half-day after six weeks and onwards provided your journey is manageable.

Returning to work full-time is usually possible after eight weeks, again depending on how physically active your job requires you to be. We advise you to discuss your return to work with your consultant on your follow up appointment.

Driving. Driving is not advised until you can walk unaided and put full weight through your operated leg. This may be up to 10 weeks after your operation. You will need to notify your insurance company of your surgery.

What should I do if I have a problem?

If you experience any of the following see your GP as soon as possible:

- Swelling has developed around the wound or the limb area
- The dressing has become loose or wet and requires changing
- The wound starts to smell and/or fluid is coming from the wound
- The wound is more tender and you are experiencing more pain
- The wound starts to bleed
- You have a high temperature or start to feel unwell.

Contact us

If you have any questions or concerns about your physiotherapy, please contact the orthopaedic physiotherapy team on 020 7188 5432 (Monday to Friday 8.30am to 5 pm).

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit www.guysandstthomas.nhs.uk/leaflets

Pharmacy Medicines Helpline

If you have any questions or concerns about your medicines, please speak to the staff caring for you or call our helpline.

t: 020 7188 8748 9am to 5pm, Monday to Friday

Your comments and concerns

For advice, support or to raise a concern, contact our Patient Advice and Liaison Service (PALS). To make a complaint, contact the complaints department.

t: 020 7188 8801 (PALS) **e:** pals@gstt.nhs.uk

t: 020 7188 3514 (complaints) **e:** complaints2@gstt.nhs.uk

Language and accessible support services

If you need an interpreter or information about your care in a different language or format, please get in touch:

t: 020 7188 8815 **e:** languagesupport@gstt.nhs.uk

NHS 111

Offers medical help and advice from fully trained advisers supported by experienced nurses and paramedics. Available over the phone 24 hours a day.

t: 111

NHS Choices

Provides online information and guidance on all aspects of health and healthcare, to help you make choices about your health.

w: www.nhs.uk

Get involved and have your say: become a member of the Trust

Members of Guy's and St Thomas' NHS Foundation Trust contribute to the organisation on a voluntary basis. We count on them for feedback, local knowledge and support. Membership is free and it is up to you how much you get involved. To find out more, and to become a member:

t: 0800 731 0319 **e:** members@gstt.nhs.uk

w: www.guysandstthomas.nhs.uk/membership

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