

Exercises for Trans Tibial Amputees (Below knee amputations)

Introduction

Always make sure that you are **comfortable** when doing your exercises. Stop if you experience any pain and get advice from your physiotherapist or doctor.

These exercises should be done **at least three times a day** or as instructed by your physiotherapist.

You should **continue the exercises** even when you have been wearing your artificial limb for some time.

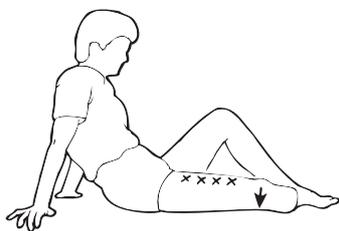
After an amputation it is important to maintain the strength of your sound limb. It will have to do more work now and in the future. Do your *sound leg* exercises 2-3 times a day.

Throughout the booklet the leg that has been operated on will be referred to as the residual limb.

Exercises

Quadriceps exercises - 'knee bracing'

- Sit on the bed with your hands or pillows behind you for support (or sitting in a wheelchair).



- Keep your residual limb straight.
- Straighten the knee on your residual limb as much as possible, tightening the muscles on top of the thigh.

- Hold for five seconds, and then relax.

Repeat times

'Inner range' quadriceps

- Sit on the bed with your hands or pillows behind you for support (or sitting in a wheelchair).

- Put a rolled towel under your knee on the residual limb side (if on the bed).



- Raise the residual limb until your knee is straight, keeping the back of your leg in contact with the towel.

- Hold for 5 seconds then relax.

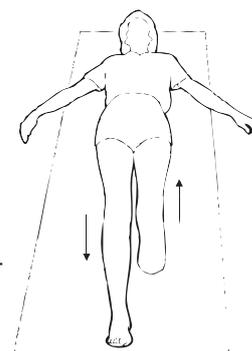
Repeat times

'Hip hitching'

- Lie on your back with your head on a pillow.

- Push your sound leg down towards the end of the bed.

- At the same time, pull your residual limb upwards so that it seems to shorten. Keep both legs flat on the bed. (You should feel a pull at your waist.)

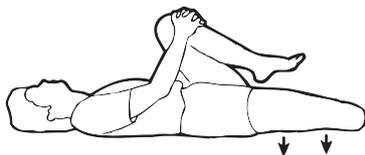


- Return to the starting position and relax.

Repeat times

'Hip flexor stretch'

- Lie on your back with as few pillows as possible under your head.
- Grasp the knee of your sound leg and pull it as close to your chest as possible.
- Push the back of your residual limb down towards the bed.
- Hold for 10 seconds then relax.

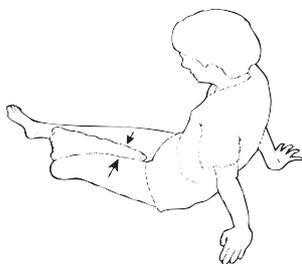


Repeat times

Note: Do not do this exercise if you have an artificial hip joint on your sound limb side.

'Hip adduction'

- Sit on the bed with your hands or pillows behind you for support.
- Keep both legs straight.
- Put a rolled towel or pillow between your legs.

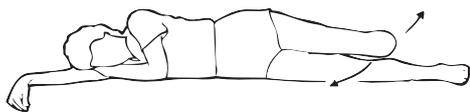


Squeeze the towel or pillow between your legs for five seconds, then relax.

Repeat times

'Hip flexion-extension' – lying on your side

- Lie flat on your side with your sound leg underneath you.
- Bend your sound leg backwards for support.
- Slowly take the residual limb forward towards your stomach.
- Slowly stretch the residual limb backwards behind you.
- Return to the starting position and relax.

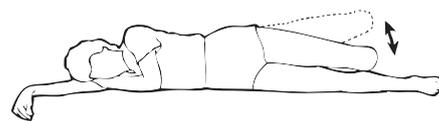


Repeat times

Note: If you can, try the same exercise lying on your other side.

'Hip abduction'

- Lie flat on your side with your sound leg underneath you.
- Bend your sound leg backwards for support.
- Slowly lift your residual limb upwards, taking care not to roll your body forward.
- Slowly return to the starting position and relax.

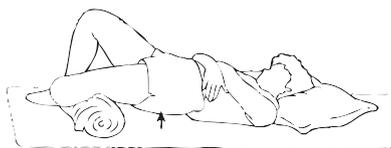
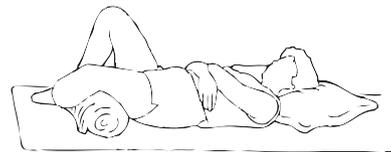


Repeat times

Note: If you can, try the same exercise lying on your other side.

'Bridging'

- Lie on your back with your head on a pillow and your arms folded across your chest.
- Put a rolled towel under your residual limb.
- Keep your residual limb straight and bend your other leg.
- Push your residual limb down into the towel as you squeeze your buttocks together and lift them up off the bed.
- Hold for five seconds then relax



Repeat times

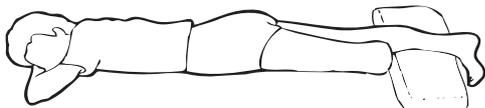
'Lying flat'

Lying regularly on your stomach can help to stretch the muscles in front of the hip joint. These muscles can quickly become tight and inflexible if you do not stretch them, particularly if you are spending long periods sitting up in your wheelchair.

Note: *If you cannot lie on your stomach, then try lying flat on your back.*

Points to remember

- Roll over towards your sound leg.
- Lie with both hips flat on the bed.
- Turn your head towards your good side (if you can).
- Try not to use pillows under your head, or use one pillow if necessary.
- Position your arm where they are comfortable.
- Put a pillow under your sound leg to prevent your toes digging into the bed.

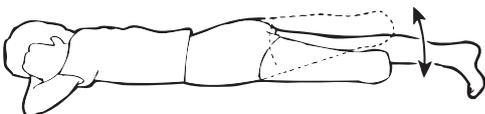


Spend 10-15 minutes in this position at first.

Aim to build up to 20-30 minutes twice a day.

'Extending your hips' (lying flat)

- Lie flat on your stomach with your arms folded under your head.
- Keep both legs straight and close together.
- Lift your residual limb off the bed as far as you can whilst keeping your stomach flat on the bed.
- Return to starting position and relax.



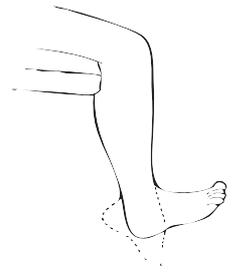
Repeat times

Note: *Put a pillow under your sound leg to prevent your toes from digging into the bed.*

Exercises for your sound leg

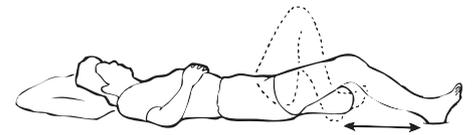
- Moving from the ankle, pull your foot up towards you and then point your toes away.

Repeat times



- Keeping your foot on the bed, slide your foot up towards you bending at the knee and hip, then straighten your leg out again.

Repeat times



- Pull your toes up, tighten your thigh muscle and straighten your knee. Hold for approximately 5 seconds then slowly relax your leg.

Repeat times



General advice

If you exercise too strenuously there is the risk of:

- Discomfort
- Bleeding
- Muscle soreness

The benefits of doing these exercises are:

- Increased muscle strength
- Increased range of movement
- Reduced sensitivity of the residual limb (over time)
- Preparation of the residual limb for prosthetic use

To make exercising as comfortable and effective as possible, please take your pain relief regularly. Inform the nursing staff if you are in pain or if you feel that you need extra painkillers.

*Please ask your ward physiotherapist if you have any queries or contact the Physiotherapy Department on **01392 402436**.*

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