



## References

If you require a full list of references for this leaflet please email [patient.information@ulh.nhs.uk](mailto:patient.information@ulh.nhs.uk)

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# Below Knee Amputation (Trans-tibial)

Physiotherapy Departments

[www.ulh.nhs.uk](http://www.ulh.nhs.uk)

## Aim of the leaflet

Following a below knee amputation it is important to prevent the hip and knee from staying in a flexed, or bent position. Prevention of swelling is also important.

It is very important that you are actively involved in your rehabilitation.

The following is advice and exercises that are to aid your recovery.

The exercises must be done daily to help prevent complications.

You can ensure this by:

- ◆ Changing the position in which you are sitting and therefore the position of your hip and knee.
- ◆ Try not to sit in a chair for long periods with your knee bent. Either use the stump board provided or a stool for support of your stump ideally without a pillow.
- ◆ Do not put a pillow underneath your amputated leg when lying down. Equally, do not put a pillow underneath your hips, knees or between your thighs. (Unless instructed to do so).
- ◆ Do not hang your amputated leg over the side of the bed.



## Other useful contacts

### Nottingham Disability Services Centre

Amputee Liaison Nurses  
Nottingham City Hospital  
Hucknall Road  
Nottingham  
NG5 1PB  
0115 9691169 ext 57539 (nurse station)  
0115 9691169 ext 55688/56544 (appointments)

### Wheelchair Services for Lincolnshire (including repairs)

Millbrook Healthcare  
Somers House  
Great Northern Terrace, Lincoln

Telephone: 03332400101 (calls charged at local rate)

## Amputee associations

### British Limbless Ex-Service Men's Association (BLESMA)

[www.blesma.org](http://www.blesma.org) - Frankland Moore House, 185-187 High Rd, Chadwell Heath, Romford, Essex RM6 6NA - Tel 020 8590 1124

### The Limbless Association

[www.limbless-association.org](http://www.limbless-association.org)  
The Limbless Association, Unit 16 Waterhouse Business Centre, 2 Cromar Way, Chelmsford, Essex, CM1 2QE. Help Line: 0800 644 0185 [enquiries@limbless-association.org](mailto:enquiries@limbless-association.org)

### The Disabled Living Foundation

[www.dlf.org.uk](http://www.dlf.org.uk)  
380-384 Harrow Road, London, W9 2HU - Tel 020 7286 6111.

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Ensure that the sock is pulled up well – no Nora Batty wrinkles!

Do not wear the sock with your artificial leg.

Wash the sock in mild detergent (do not use fabric softener) and rinse well. If the sock is washed in the evening it should be possible to dry it overnight **near** a radiator or hot pipe. The sock **CANNOT** be tumble dried.

If you experience any problems please contact your physiotherapist or ring the Nottingham Disability Centre and speak with the nurses there.

### **Who to contact if you have a problem**

If you have a problem with your wound, have any pain or infection please contact your GP or District Nurse.

If you have a problem with your prosthesis please contact the Nottingham Disability Service Centre (details on page 15).

### **Physiotherapy contact details**

If you have any questions relating to your physiotherapy please contact:

#### **Physiotherapy Departments**

Lincoln ..... 01522 573945  
Grantham..... 01476 464253  
Boston..... 01205 445359  
Louth.....01507 600100 ext 1234  
Skegness..... 01754 613516

### **Instructions for exercises:**

- It is recommended that you try and perform these exercises 2 to 3 times per day. For every exercise repeat 5 times to start with, progress to 10 times with the guidance of your therapist.
- The exercise sheet contains a small description of the exercise and a picture for you to follow. Do not bounce back and forth when performing stretches.
- If you have any questions relating to the exercises or if you are unsure about the correct way to perform, ask your therapist who will explain.
- It is possible to 'over do' your exercises, if you suffer any additional pain or feel short of breath, please let your therapist know who will then advise you on progression.

**PERFORM EACH EXERCISE THAT IS TICKED IN BLOCKS OF 5 REPETITIONS 3 TIMES PER DAY.**



Your physiotherapy contact will be .....

At.....

## Static Quadriceps

- Push your legs straight out in front of you
- Push the back of your knees into the bed and tighten the thigh muscles
- Hold for 5 seconds
- Repeat this \_\_\_ times.



## Straight Leg Raise

- Put your legs out in front of you
- Tighten your thigh
- Lift your leg off the bed
- Hold for \_\_\_ seconds
- Slowly lower
- Repeat \_\_\_ times
- Repeat the above with the other leg.



Check your limb daily, especially before and after putting on your compression sock or prosthesis. Look for sore, blistered or broken areas.

Do not treat any broken areas yourself. Contact your GP, Practice Nurse or District Nurse for an urgent review to ensure the correct treatment is given.

In hot weather you may need to change your socks and wash your limb during the day to prevent sores and rashes caused by sweating once you are wearing a prosthesis.

## Compressions socks

To enable the swelling to go down after the amputation and to improve the shape of the limb you will be issued with a compression sock if your amputation is below the knee.

Initially wearing your sock during the day build up the time you are wearing it, until you are wearing it 24 hours a day (unless it is in the wash). If we are unable to put the firm compression sock on we will try and use a lighter compression to get you used to the feel of something being around the operation site. As your limb begins to shrink you may need a smaller sock to continue the shaping and swelling reduction.

When wearing the compression sock please follow the instructions below.

Remove the sock if pins and needles occur, but replace after one hour and try again.

Remove the sock if pain occurs, but replace after one hour after the pain has gone.

If you are unable to tolerate the sock because of either of the above do not wear the sock until you are next seen by your physiotherapist or have contacted the amputee nurses in Nottingham.



## What happens next?

Not everyone wants or is suitable for a prosthesis and this should have been discussed with you whilst you have been in hospital.

Once you are discharged from hospital you should be referred to your local physiotherapy department if you are going to become a limb wearer and given their contact details and a name to ensure that your treatment is continued.

Once you have been assessed and started further rehabilitation then you will be reviewed by the Prosthetic service which is based in Nottingham and all your appointments for this will come from them. All patients from Lincolnshire will have their prosthetics dealt with in Nottingham but the majority will have their physiotherapy outpatient sessions near home.

It may be possible to talk with someone who has already been through losing a limb and if you would like to meet up and talk please ask your physiotherapist to see if it could be arranged. We are not always able to do this but it is worth asking!

## Taking care of your amputated limb

Begin to touch your amputated limb as soon as possible. Gentle massage encourages the blood supply to help the wound heal and can help reduce phantom sensations.

Wash your limb daily using warm water and a mild unperfumed soap - don't get your dressing wet in the early stages.

Dry your limb thoroughly using a soft clean towel. Dab dry, do not rub.

To keep the skin of the limb supple and healthy apply a moisturiser such as E45 or aqueous cream. Massage into the scar line once it is healed to stop the skin becoming attached to the underlying bone.

## Inner Range Quads

- Sit with both legs straight out in front of you
- Place a rolled up towel, blanket or pillow under your knee
- Straighten your knee
- Hold for 5 seconds
- Repeat \_\_\_ times
- Repeat the above with the other leg.



## Hip Adduction With Resistance

- Sit with both legs out in front of you
- Place a pillow or rolled up towel between your knees
- Squeeze your legs together
- Hold for 5 seconds
- Repeat \_\_\_ times



NB This exercise can also be performed when sitting in a wheelchair or at the edge of a bed.

## Outer Range Quadriceps

- Sit on a chair or edge of the bed. Place your hands on your lap
- Straighten one knee
- Hold for 5 seconds
- Now bend your knee
- Repeat \_\_\_ times
- Repeat the above with the other leg.



## Static Gluteal Contractions

(Bottom clenching)

- Lie on your back
- Keep both legs straight and close together
- Squeeze your buttocks as tightly as possible
- Hold for 5 seconds
- Repeat \_\_\_ times.



## Forward flexion in standing



Maintaining a safe standing position gently move the amputated leg in front of the body, flexing from the hip. Try to maintain an upright posture preventing bending backwards.



\* Do not attempt any of these exercises unless advised by your therapist. If you feel unsteady be sure to make your therapist aware so that further advice can be given.

## Standing Exercises\*

Before beginning these exercises ensure that you are positioned in a safe manner to prevent the risk of becoming unbalanced. For example, stand holding the back of a sturdy chair, a secure table or a high window sill.

### Abduction in standing



Once steady and safe in standing move amputated leg out to the side. Be sure to maintain straight hips and upper body, try not to bend forward. Control the return movement back to the centre.



### Extension in standing



Maintaining a safe standing position gently swing amputated leg behind the body, extending from the hip. Try to maintain an upright posture preventing bending forwards.

## Hip Flexor Stretch

- Lie on your back, preferably without a pillow
- Bend your knee towards your chest and hold with your hands
- Push your opposite leg down flat on to the bed
- Hold for 30 to 60 seconds, then relax
- Repeat \_\_\_ times
- Repeat the above with the other leg.



## Bridging

- Lie on your back with your arms at the side
- Place a couple of firm pillows or rolled up blankets under your thighs
- Pull in your stomach, tighten your buttocks and lift your bottom up off the bed
- Hold for 5 seconds



Repeat \_\_\_ times

To make this exercise more difficult, place your arms across your chest as shown in the picture.



## Hip Flexion and Extension in Side Lying

- Lie on your side
- Bend the bottom leg
- Lift your top leg slightly
- Bend your knee fully towards your chest
- Straighten your knee and push your leg backwards
- Repeat \_\_\_ times
- NB Try not to let your hips roll forwards or backwards.



Repeat the above with the other leg.

## Hip Abduction in Side Lying

- Lie on your side
- Bend the bottom leg
- Keep hips and top leg in line with your body
- Slowly lift your top leg up, keeping your knee straight
- Slowly lower
- Repeat \_\_\_ times



NB Try not to let your hips roll forwards or backwards.

Repeat the above with the other leg.

## Knee Flexion in Prone Lying

- Lie on your stomach
- Place your arms in a comfortable position
- Keeping your thigh on the bed, bend your knee as far as possible
- Hold for 5 seconds
- Straighten your knee
- Repeat \_\_\_ times.

