

Lower Limb information for new patients

The emotional responses to amputation are as complex and unique as each individual. Your emotions are running riot and your mind is racing with all sorts of questions. This leaflet is intended to try and answer at least some of those questions by giving you an idea of the rehabilitation process that will take place over the next few weeks, and of the team of people who are part of the process.

Family & Friends

At such a stressful time it is doubly important to have loved ones feeling knowledgeable and confident. They need to be fully involved where that is possible and practical. It can be useful to have someone there with you when talking to a member of the rehabilitation team as they can prompt questions and remember what has been said. It is also of benefit to keep the lines of communication open by talking to work colleagues, employers and business partners as, although there are some obvious exceptions, you may be able to return to your previous occupation.

Amputation

Amputation should not always be viewed as a medical failure, instead it should be seen as "constructive" rather than "destructive" surgery. It may even be a new beginning in that your own limb was causing you pain and may even have been a medical threat to your life.

It is unlikely that you are aware of knowing a person with an artificial limb as they tend to go about their business in a perfectly ordinary, everyday fashion. Within Scotland however, there are around 7000 established amputees with approximately 850 new amputations every year. Over 80% of these amputations are as a result of Peripheral Arterial Disease (hardening of the arteries) with the rest being due to a variety of causes such as trauma, congenital deformities and tumours.

Immediately after amputation

You will find that your stump is quite swollen due to the healing process which is taking place at the operation site. This puffiness will diminish over time due to natural processes and also the use of either stump bandaging or an elasticated "shrinker" sock. You will also start an exercise programme with the physiotherapist to establish a good level of general fitness and to ensure that your limbs and joints retain a full range of movement. At this time you may be provided with a wheelchair or crutches in order to allow you to get about.

The most common level of amputation is B/K below-knee (or trans tibial) amputation, closely followed by A/K - above the knee (or trans-femoral) amputation. Other amputations include partial foot, symes (or through the ankle), T/K - through-knee and hip disarticulation.

During amputation some nerves have been disconnected which may result in you feeling that the amputated leg is still there. There may be strange sensations in the limb, it may feel as if it is in an awkward position or you may even experience pain in either the stump or amputated limb. This sensation or phantom pain should diminish over time.

Prosthetics (Limb fitting) Today

The goal of an artificial limb is to provide the user with the most natural movement and function possible. It is wise, however, to take into account the reality that no matter how wonderful your artificial limb is, it is not going to replicate the wonders of a limb designed by mother nature. All artificial limbs (prostheses) have the same basic element in that the stump fits into a socket onto which are attached the various components (such as a knee for A/K patients) a shin pole and a foot. The cosmesis, a soft, shaped foam, is then pulled over the limb.

The skill of the prosthetist (limb fitter) is paramount in obtaining a correctly fitted socket and also in ensuring that the components (the knee, the shin pole and the foot) closely match the action of your own limb and provide you with a stable base on which to walk.

Prosthetic Service: First Visit

You will generally be referred to the Limb Fitting Centre about 3-4 weeks after amputation, provided your stump is healing well. In some cases you may be in a ward which is an integral part of a Limb Fitting Centre, and may have already met with the rehabilitation team.

The team consists of the **Consultant**, a Doctor who specialises in vascular/ orthopaedics/ rehabilitation, the **Prosthetist**, who will be responsible for provision of your artificial limb and the **Physiotherapist**, who will be overseeing your walking training, and the **Occupational Therapist** who will advise on daily living activities.

They will decide if you are ready for limb fitting. *(Not all patients who undergo amputation go on to be fitted for an artificial limb - this could be because of limited mobility, other related medical conditions or personal circumstances.)*

The Prosthetist then takes both measurements and a plaster cast of your stump. The cast takes about 5 minutes and is done using a plaster of Paris bandage - not like a 'stookie' - only a few layers thick. It is cold when first applied to the skin, generates heat when hardening, and is then removed as soon as it has hardened. They will also take measurements and drawings of your other leg to try and ensure as close a match as possible. All of this may take about an hour, as the Prosthetist must gather as much information as possible.

They will also decide which type of limb would be most suitable for you at this time, by taking into consideration a number of factors such as age, weight, fitness, build, lifestyle, range of activities (especially if you intend to continue with or become involved in sporting activities) and, if applicable, your occupation.

When attending the clinic for the first time you should bring with you a pair of your usual shoes. A low heeled shoe with either lacing or a strap fastening is preferable but a slip-on shoe can be used as long as it fits closely over the instep and does not move during walking. If for some reason you are unable to wear a shoe at this point - still bring the shoe you expect to wear on your limb, which you can then leave with the Prosthetist.

N.B. Don't get fitted with trainers or flat shoes and then change to higher heels. The function of the limb can be affected by the heel height so always check with your Prosthetist.

If you are still in hospital at the time of your first visit, it is best to travel in your normal day clothes and underwear. If you have a Below Knee amputation - wear either a skirt (not obligatory!) or trousers which can be pushed easily above your knee. Above Knee amputees will have to remove trousers for examination and casting, so ladies may wish to wear either a loose fitting skirt or dress, or bring a waist underskirt to change into for treatment. Casting can be an extremely messy procedure, so we don't advise that you wear your Sunday best!

At your first visit you will be given a date for the fitting of your new limb. During this time you may be continuing with your physiotherapy to remain as mobile as possible and continuing to wear the elasticated shrinker.

The Next Stage

A socket (and in some cases a soft liner) has been made from the plaster cast taken, and the limb assembled to the measurements recorded. The foot and socket are usually connected by a tube and if you are an Above Knee patient, there will also be a knee joint in the limb. At this stage it more resembles a skeleton than a limb, but this is necessary to allow the Prosthetist to adjust the limb throughout the fitting process. If there has been a significant change in the size of your stump since the cast was taken, then it may be necessary to take a new cast in order to make a new socket.

Each limb can be adjusted by the Prosthetist to ensure that you have a good sense of balance and are walking as well as possible. This procedure can at times seem endless with people whispering at either ends of the parallel bars and spending a lot of time crawling about on the floor and generally getting in your way. The prosthetist will also want to check that the limb is the correct length by checking your hip bones. This ensures that your pelvis is level and prevents future back problems. This may involve them sliding pieces of wood or plastic under either your own or prosthetic foot or even strapping an extremely odd looking thonged sandal to one of your feet and expecting you to walk in it!

However, you will notice that you are not alone - in fact you are surrounded by people walking up and down between the bars or in corridors who are going through exactly the same process as yourself as each time a new leg is fitted, it must be correctly adjusted.

During this session, you may be aware of discomfort or pressure over certain areas of your stump. The Prosthetist will explain why you are feeling these areas of pressure - but if you are experiencing extreme discomfort or pain, you **must** tell the prosthetist during the fitting.

Once the fitting is complete you will be given a date to return and collect the finished limb. By that time the limb will have been covered with a soft cosmetic foam which will have been shaped to match your own leg as closely as possible.

Your first leg may look "chunky" compared to your own leg but this is only because the leg shape is dictated by the socket shape which is in turn dependent on the amount of swelling within the stump. As time progresses and the stump continues to shrink, this should not remain a problem. Once again you will try the leg on and have a short walk between the parallel bars to ensure that no further adjustments are required. Arrangements will then be made for you to continue with walking training either at the Limb Fitting Centre or at a Physiotherapy Department nearer to your home.

When you first receive your new limb you will be taught how to use it under careful supervision. How to put it on and off correctly, how to stand and balance and then how to walk. First between the parallel bars, then with a walking aid such as a frame or walking sticks.

This programme may take some weeks to achieve with the new limb feeling difficult and awkward, but you must learn to pace yourself.

The physiotherapy will continue for as long as required and after about 6 weeks you will be recalled to the Limb Fitting Centre to ensure that the stump is fitting correctly as it may have changed significantly since the limb was fitted. Muscle shrinkage will take place and so there may be a noticeable loss of tension and tone in the stump.

Follow Up

Over the next year you will continue to have appointments every few months to check on your progress and also the fit of the limb. New sockets may be required at this time - but it is highly dependant on the changes in stump size which you experience.

Care of Your Stump

You may be given a supply of stump socks when you receive your limb: terry - towelling; wool/woollen mix; cotton; nylon. These are worn next to the skin to provide some cushioning and also to absorb perspiration. The socks should be changed daily (or more frequently if required) and preferably hand washed to ensure that they are clean and soft at all times. Additional socks are available from the Limb Centre.

The condition of the skin on your stump can have a significant affect on your level of comfort when wearing the limb. The environment within the socket can become quite damp due to sweating, so to avoid problems you should change your socks frequently and also wipe out the liner and/or the inside of the socket and allow them to air overnight.

For more information on the care and maintenance of silicone and polyurethane liners, see Murray Foundation fact sheet "Liner Care"

Your stump should be kept clean like the rest of your body and also a daily check made for any abrasions or sore spots. Make sure that any lotions or creams you use on your stump have been approved by the medical staff.

Care of Your Artificial Limb

If any part of your limb needs attention or adjusted - please contact the Limb Centre - don't try to do it yourself. It may cause damage and make the limb unsafe to walk on.

The cosmetic stockings which cover the foam on your limb, may need replaced from time to time. You will be given a replacement when you receive the limb, and additional supplies can be obtained from the Limb Centre. Remember that they must also be washed at frequent intervals.

Once again, don't ever be scared to ask any questions about what is happening, especially if you are unsure or unhappy about what is going on. Everyone will try to give you as much information as they can. Please ask - they will be only too happy to help.

Losing a limb is a very personal matter. Your body has been permanently altered and almost all aspects of your life are affected. You probably feel that no-one else could possibly understand what it is that you are experiencing. Your emotions are running riot and your mind is racing with all sorts of questions such as:-

What is expected of me?

How can I ever return to normal living?

How do I cope with all of this?

There may also be a number of other more practical issues that concern you such as:-

What happens now - will I get an artificial limb?

What will my limb look like - how does it work?

Are there different types of limbs - is there a choice?

Who is involved in the process - when will I get the limb?

How do I care for my stump - what exercises should I be doing?

Please ask - they will be only too happy to try and help.

Scottish Limb Centres

Aberdeen

Mobility & Rehabilitation Services
Woodend Hospital
Eday Road
ABERDEEN AB15 6XS
01224 556 843

Dundee

TRES Prosthetic Services
Tayside Orthopedic & Rehabilitation
Technology Centre
Ninewells Hospital & Medical School
DUNDEE DD1 9SY
01382 496296

Glasgow

WESTMARC
Southern General Hospital NHS Trust
1345 Govan Road
GLASGOW G51 4TF
0141 201 2620

Edinburgh (as of November 2006)

SMaRT Services
Astley Ainslie Hospital
133 Grange Loan
Edinburgh EH9 2HL
031 537 9444

Satellite Limb Centres in Ayr and Inverness

Murray Foundation, 1st Floor, Broomloan House, Ibrox, Glasgow, G51 2XD

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