

Rehabilitation following an upper limb amputation

Dorset Prosthetic Centre - Patient information

Who is this leaflet for?

This leaflet has been written to give you and your relatives and carers some basic information regarding the Dorset Prosthetics Centre (DPC) and early rehabilitation following an upper limb amputation.

Who is referred to the Dorset Prosthetic Centre?

Any person of any age who has lost a limb or limbs can be referred to the centre. Some may attend the clinic pre amputation for advice and to gain insight into life as an amputee and some patients attend after they have had surgery.

We regularly see and treat patients from Dorset, Hampshire and Wiltshire, however we can see anyone no matter where they live.

Patients usually attend for assessment for and provision of an artificial limb (prosthesis). However, if you have an amputation and are unable or do not wish to have a prosthesis, you can still attend the centre for advice and some treatments.

The multidisciplinary team (MDT) at the Dorset Prosthetic Centre are here to support and provide information to you through your rehabilitation.

What are the causes of upper limb loss/amputation?

- Serious trauma, for example from a road traffic accident or blast injury.
- As a result of a life-threatening danger such as a tumour or serious infection e.g. sepsis.
- If the limb has been affected by gangrene, which is when the body's tissues begin to die as a result of loss of blood supply.
- If the limb is damaged and has limited movement and function.

It may take some time to come to terms with the loss of a limb - the impact of the loss of an arm or hand cannot be underestimated. The loss of fine, coordinated movements of the hand, tactile sensation (touch), proprioceptive feedback (body awareness), and body image can only be compensated for, to a limited extent, by any form of prosthesis.

If the surgery is pre-planned, you will have the opportunity to attend the centre before the surgery to meet with the rehabilitation consultant to discuss your medical reasons for considering an amputation and to become fully informed before making a decision to proceed with amputation.

You will also have the opportunity to meet with other members of the multidisciplinary team (MDT) to help you gain insight into what it is like to be a prosthetic user, as well as having an opportunity to look at examples of prosthesis relevant to your level of amputation and to find out how you will be able to manage daily activities.

What should I do to take care of my arm after surgery?

It is important to keep the skin on your residual arm from becoming dry and scaly. Wash the arm in warm water and a mild soap and pat dry.

Scar treatment - in most cases the surgical wound closes within 3-4 weeks and a scar is formed. Although the outside may look healed, the tissues underneath will continue to heal for some time. Initially the residual arm may appear swollen and the shape of the arm can change over the next year to 18 months.

You should moisturise the scar and residual arm regularly with unscented creams. Check the arm daily for any signs of infection such as warm, red or tender skin, any discharge from the wound, or increased swelling.

The skin may be very sensitive after surgery and in order to wear a prosthesis, which is going to be close fitting, it is important to desensitise the arm. Start by touching and gently rubbing the arm, maybe rubbing in unscented moisturiser. You can also use a variety of sensory surfaces to touch or rub over these areas such as a soft brush, porcupine massage ball, or rough towel/exfoliating glove.

It is important to maintain good strength and stability in all your joints, back and also your remaining arm. Your remaining arm will now be doing increased work and it is important to avoid adapting how you do things (which may seem easier) using compensatory movements. These compensatory movements are abnormal and increase the strain on your back and other muscles or joints, which may cause problems for you long term. You will also need to increase the dexterity, fine motor skills and function of the remaining arm and hand.

Who are the members of the multidisciplinary team?

Consultant in amputee and prosthetic rehabilitation

The consultant sees all new amputees, as well as people who are considering amputation when they have a choice, or at least time to discuss the implications of amputation even when they have no choice.

The consultant is responsible for assessing medical fitness to proceed or continue with prosthetic limb wearing.

All users of the prosthetic centre can ask to see the consultant whenever they need, e.g. for residual limb or phantom limb pain, skin problems or wound problems and in upper limb amputees in particular, problems affecting their spine, upper limb and shoulder joints.

Clinical specialist occupational therapist:

A specialist occupational therapist (OT) is available to complete thorough functional assessments for individuals who attend the centre. The OT can offer advice on completing everyday activities/tasks around the home, advice on washing and dressing, toileting, and equipment and modifications to the home environment that promotes independence. The OT can also provide advice on accessing work, leisure activities and on driving. This applies whether you are a prosthetic user or not.

The occupational therapist is able to offer support, advice and practical strategies for coping for all users of upper limb prosthesis, provide advice on the completion of activities/ tasks with and without the use of prosthesis and to give advice on avoiding overuse of the remaining arm and joints and reducing the impact of compensatory movements.

They will work closely with you after the fitting of the prosthesis to undergo training sessions in how to don and doff the prosthesis and also how to use it and incorporate it into daily activities.

Ask for the Dorset Prosthetic Centre leaflet - **One handed techniques for people with upper limb amputations or limb loss.**

Prosthetist:

The prosthetist is the clinician who you are likely to have the most contact with. They are trained to design and fit your custom artificial limb. They will assess your residual limb and overall fitness and prosthetic needs to design you a limb that will suit your everyday needs. It is important to have a good working relationship and communication with your prosthetist as you are likely to be involved with them for a long time. The more you work with your prosthetist, the better the outcome of your prosthesis.

Prosthetists are supported by technicians who make, repair and maintain your prosthetic limb(s).

Clinical support technician (CST):

The CST is a highly trained technician who is able to see you for any mechanical repairs and general maintenance of your prosthesis. The CST does not deal with issues of socket fit and will not change your prescription. However the CST may be able to make your socket more comfortable by adding some padding.

Clinical specialist physiotherapist:

A specialist physiotherapist is available to offer detailed assessments. The physiotherapist can provide walking training to maximise your walking ability, assessment of musculoskeletal problems, particularly involving spine and shoulder girdle, and offer advice on exercising and accessing leisure facilities. The physiotherapist can offer certain phantom pain treatments.

Counsellor:

The counsellor is able to help you with the emotional and psychological adjustments that may be required before or after limb amputation. They provide an opportunity for you to discuss your concerns, fears and feelings and will help you to deal with your emotions using a variety of talking therapies and strategies for thinking in a more supportive and positive way about your experiences. The counsellor is also happy to see family members if they are having trouble coming to terms with your limb loss.

Clinical specialist nurse:

A specialist nurse is available to offer advice and practical help to users of the centre. The nurse assesses and re-dresses wounds, completes diabetic reviews and offers advice on managing a healthy lifestyle.

What will happen at my first appointment following amputation?

You will meet several members of the team.

The rehabilitation consultant will assess your medical suitability for prosthetic limb wearing. They will assess your physical strength, range of movement, general physical condition and any other medical problems that need to be considered. You will also meet the occupational therapist and prosthetist and any other members of the team as required.

After this assessment the pathway of care will be discussed with you, which will include both use of a prosthesis, if appropriate, as well as daily living when not wearing a prosthesis.

You will have the opportunity to discuss your feelings and plans, how you have been managing, and to discuss issues you may be having in managing since your amputation and managing one handed.

Ask for the Dorset Prosthetics Centre information leaflet - **One handed techniques for people with upper limb amputations.**

What types of prosthesis are there?

The prosthesis or artificial arm will never replace the arm you have lost in terms of exact function, such as fine, co-ordinated movements of the hand, sensation and proprioceptive feedback (body awareness) and aesthetic appearance (look).

It can be seen as a tool or an aid, as well as providing a level of cosmetic acceptance and body image. Using the prosthesis effectively will rely on you training with the occupational therapist and learning how to use the arm to help you with your everyday activities.

Prescription of a prosthesis will be made following in-depth discussion with you about what your goals are and taking into consideration the level of your limb loss.

Passive or cosmetic prosthesis

This arm is lightweight and cosmetic in appearance. It allows you to use it to support two handed activities or for supporting/holding objects, which is called passive function. The fingers are wired which can be positioned to help in supporting.

Whichever prosthetic arm someone hopes to use, they nearly always start with this type of arm. This is to get used to the weight and lack of sensation from covering up the residual arm, as well as deciding whether arm wearing will be acceptable to them.



Body powered prosthesis or conventional arm

This uses a harness attached around the shoulder and cabling to control the opening and closing of a hand or terminal device such as a split hook (which is the most functional terminal device but is less cosmetic). The harness system is controlled by movements of the shoulder and chest. There are a wide range of interchangeable terminal devices that can help with work or hobbies for example hammers, pliers, fishing rod appliances, cutlery or cycling, sports or musical instrument attachments. These can be substituted for the hand on the prosthetic arm.



Myoelectric prosthesis

This prosthesis is the heaviest and most complex to learn to use. Electrodes are fitted in the socket close to the skin and relies on small voluntary controlled muscle contractions to open and close the hands. The myoelectric prosthesis is powered by batteries. The myoelectric prosthesis will be considered once you have become an established user of a cosmetic or body powered arm and use your prosthesis in everyday life.



Do I need to wear a prosthesis?

Some choose to wear a prosthesis for certain activities or for social activities and find other tasks more manageable without a prosthesis. Some choose to wear a prosthesis at all times, and some may choose to not wear a prosthesis at any time.

The decision to use a prosthesis or to be independent without one, is yours.

The team will provide you with as much information as possible for you to make an informed decision and are here to provide lifelong support.

What is phantom limb sensation and phantom limb pain

Phantom limb sensation - after you have had your amputation you may feel that the amputated part of your arm is still there. It may feel like an itch or that the hand is held in a particular position. This is quite normal and is called phantom sensation. It occurs because we each have a sensory map of our body in our brain from birth and this does not alter when amputation occurs.

Phantom pain - this is pain experienced within the phantom arm. It may be described as shooting, stabbing, cramping, pins and needles, crushing, throbbing, or burning. It may occur for seconds at a time or may last longer. It occurs particularly in people who suffered from pain in that arm before it was amputated, because the nerves sending pain signals to the brain can continue to do so even when the original cause of the pain has been removed. It can also occur in people who had no pain prior to amputation.

It may be useful to keep a diary to see if you can see a pattern to the pain, including what makes it worse or better and how your sleep is affected.

It is important that you discuss these with your medical team and our consultant as there are a number of treatments that may be used to help relieve the pain. These include:

- medications
- self-management such as relaxation, massaging the residual limb (stump),
- applying heat or cold to your limb

- compression garments
- mirror box therapy (reflecting the image of your other limb if normal and pain free).
- TENS and acupuncture
- hypnotherapy

Am I at increased risk of falls?

The loss of a limb also causes loss of weight on the amputated side and altered weight distribution. This can lead to altered balance and posture and increased risk of falls especially if you attempt to put your arm out to support yourself. Talk to the therapy team who can discuss methods of supporting you and teach you methods of how to get up from the floor should you fall.

Ask for the Dorset Prosthetic Centre leaflet - **falls guidance for amputees**.

Am I able to return to driving?

Firstly, you must inform the DVLA of your change of circumstances before you return to driving. They may request further information from your doctor and request you have a driving assessment at a Driving Assessment Centre where you will have the opportunity to trial cars with driving adaptations. The most local centre is Wessex Driveability at Southampton www.wessexdriveability.org.uk

You can be fined up to a £1000 if you don't report a change in circumstances to the DVLA that may affect your driving.

You will also need to inform your insurance of your change of circumstances and also if you have any modifications to your car. Under the Disability Discriminations Act it is illegal for insurance companies to increase your premium based on your disability.

Discuss with the occupational therapist what modifications you may need. The majority of people with upper limb amputations will be able to return to driving with minimal adaptations.

Ask your medical professional for a referral to the driving assessment centre as you may be entitled to assessment at a reduced cost.

Ask for the Dorset Prosthetic Centre leaflet - **advice for amputees returning to driving**.

Returning to work?

Returning to work after a life changing event can be a daunting prospect. It may be many months past the initial accident/trauma before you would be feel able to consider returning to work. You may need a period of rehabilitation or are building up your tolerance and energy levels to wearing your prosthesis.

For many, returning to work, is a big step forwards in their recovery. Work has a positive impact on your rehabilitation, giving structure to your day, a sense of normality, financial stability and social contact as well as a great sense of achievement.

It is often advisable not to wait until all your pain or other symptoms have gone, or all your medical interventions are completed, because these things may never go away completely, and you need to find ways to modify your work and life to adapt.

Recovery takes time and so it is important not to expect too much of yourself. Try not to put too much pressure on yourself. Don't worry if you have one or two setbacks - this is to be expected. But a planned and well thought out return to work phase will help in ensuring it goes smoothly.

Ask for the Dorset Prosthetic Centre leaflet - **Returning to work after amputation** and also **Benefits advice following amputation**.

Sources of further information and advice

Limbless Association - registered charity supporting amputees to navigate the associated complexities with advice, information and signposting.

www.limbless-association.org Tel **01246 216671**

Limbpower - aimed at engaging individuals in physical activity, sports and arts to improve quality of life <https://limbpower.com> Tel **07502 276858**

Blesma - supporting veterans with limb loss whilst serving or as a result of service in any branch of Her Majesty's Forces or Auxiliary Forces <https://blesma.org> Tel **020 8590 1124**

Driving Assessment Centre - Wessex Driveability - Southampton
www.wessexdriveability.org.uk Tel **02380 554 100**

Driving Mobility - Bristol www.drivingmobility.org.uk/information-centres/view/bristol
Tel **0117 9659353**

Equipment provision for small aids and devices.

There are many different suppliers available through Google search engine. There are also disability shops within the region which stock some small aids. Below are some examples. High street stores may also stock equipment that will make managing daily living tasks easier.

YouTube is also a good source of information about how other amputees may have overcome some of the practical problems.

www.nrshealthcare.co.uk Tel **0245 121 8111**

www.otstores.co.uk Tel **0845 260 7061**

www.lakeland.co.uk Tel **0345 389 6255**

The Royal Bournemouth Hospital, Castle Lane East, Bournemouth, Dorset, BH7 7DW

Author: **Joanne Teanby** Date: **August 2022** Version: **One** Review date: **August 2025** Ref: **569/21**

t: 01202 303626 w: www.uhd.nhs.uk : @UHD_NHS : @UHDTrust : @uhd_nhs