

Kia Kaha - Be Strong

COPING WITH AMPUTATION

A Guide for the New Amputee

Published by the New Zealand Artificial Limb Service for
the assistance of amputees and their support people

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Foreword

In their own words

Blair Marriott's story

My name is Blair Marriott and on the 3rd of December 2010 I was involved in a head-on motorcycle versus car collision, with a combined speed of 120km/h. This resulted in me losing my right leg above the knee, breaking my left leg in seven places and also breaking my right arm and shattering my left wrist.

Extensive physiotherapy started in the hospital. At the beginning I was unable to care for myself even in the most basic way. Not only was I unable to feed myself but the level of trauma made me incapable of even getting out of bed and so a hoist had to be used. Upon leaving hospital, physiotherapy continued including hydrotherapy and balance skills and going to the gym twice a week for strength building.

At the end of June I got my first socket which was a very basic leg, and proceeded to learn to walk again. Now, almost a year later I have a hydraulic knee and foot, both of which make walking a lot easier.

At the time of my accident, I had served 15 years in the New Zealand Fire Service as a professional firefighter; however that was no longer to be. Thankfully the New Zealand Fire Service has stood by me and I have been redeployed to a different department where I am currently working.

The Limb Centre has been not only professional and respectful but also compassionate and very mindful to the needs of new amputees. My day-to-day living has changed immensely, but I find that I can do most things that I did before, just in a slightly different way. With the advent of new prosthetics, nothing is impossible.

My recommendation to anyone going through a loss of limb is to do research on the internet and talk to as many people as possible about various prosthetics and what can be achieved. Learn as much about the mechanics of your own body as you can and join amputee websites for support and to find out about different experiences on living with an amputation. Always remember that you are still you and only the exterior look has changed. Stay true to yourself and your recovery will be all that much faster.



In 2012, in the London Summer Paralympics, Nikita competed as the youngest New Zealand Paralympic athlete ever.



Nikita Howarth's story

I was born with bilateral upper limb deficiency, meaning I have no hands. I'm now 13 years old. I started to wear an extension on my short arm at five and a half months old and then progressed up to a hand and have now just moved onto a hook as it has different holding capabilities.

I am adapting to my new hook arm well, although don't wear it to school yet. However, I am practising with it at home so my writing is tidy and quick enough for school – hopefully that will happen in the near future.

My main supporters have been my Mum and Dad and then all the fabulous people at the Limb Centre in Hamilton. As I was born with my condition, I don't know any different, so I have always coped fine with my artificial limb, though I do still find it a pain when it is hot and also have had a few problems with dermatitis when my stump got sweaty or too cold. This has improved a lot over time.

Nikita represented New Zealand in the 2011 Oceania Paralympic Championships in Darwin and the Pan Pacific Para Swimming Championships in Canada where she won silver and bronze medals. In 2012, in the London Summer Paralympics, Nikita competed as the youngest New Zealand Paralympic athlete ever.

She has just returned from the 2013 International Paralympic Committee (IPC) World Swimming championships in Canada where she won gold and bronze medals and now has her eye on the next IPC Swimming Championships in Glasgow in 2015 and Rio Paralympics in 2016.

One goal of retirement was to ride a bike again so we bought a tandem and enjoyed the Otago rail trail. Life is great!

Liz Rogers



Introduction

The prospect of amputation can be an immensely daunting one. This booklet has been written to give new amputees, and those facing the prospect of losing a limb, a guide to understanding this new reality and preparing physically and mentally to cope.

In New Zealand there are currently over four thousand amputees and the number of incoming amputees per year is approximately 400. Just as the ages of amputees differ, so do the reasons for their amputations. We encourage you to seek support in your community. Contact your local hospital, branch of the Amputee Federation or social worker who will be able to point you in the right direction. This will provide you with a chance of meeting others who are going through a similar experience or have been there before and are further along in their journey.

Becoming an amputee may mean you can do most of what you used to do, only differently, with more planning, organising and learning as you go. This booklet isn't intended to be an encyclopaedia on amputation, or substitute for the medical and personal advice and support of health professionals, family and friends. However, we hope it's a useful guide and that it answers some of your questions. We welcome any comments or feedback you may have to help us improve our service.

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New Zealand
surgeons
amputate only
when there
is no way to
save the limb.



Amputation - The Facts

We currently provide services to over four thousand amputees and the number of incoming amputees per year is approximately 400. That's approximately 4,300 amputees, or one person in a 1000 who use the services of NZALS. As at 30 June 2012, almost three quarters of amputees registered with the service were male. Likewise, around three quarters were New Zealand European, 14% were Maori and 7% of registered amputees were Pacific Islanders 7%.

Amputations usually result from two main causes: diseases such as diabetes or peripheral vascular disease (the cause of 28% of all amputations as at 30 June 2012); and accidents, particularly traffic accidents, but also industrial and farm accidents (trauma accounts for 49% of all amputations as at 30 June 2012). Amputations can also be the result of congenital disorders (as of 30 June 2012 this accounts for around 11% of all amputations), where one or more limbs are not fully developed. Where disease is the cause, amputation is often necessary to save the person's life.

There are four main types of amputation:

- removal of the arm above the elbow (trans-humeral amputation)
- removal of the arm below the elbow (trans-radial)
- removal of the leg above the knee (trans-femoral)
- removal of the leg below the knee (trans-tibial).

As at 30 June 2012, about 47% of amputations of all current amputees* with the New Zealand Artificial Limb Service were below the knee, and 37% were above the knee, which are the most prevalent categories of amputation.

New Zealand surgeons amputate only when there is no way to save the limb, or where removing a limb is necessary to save a life, as in the case of a serious disease like advanced diabetes. When they do amputate, our surgeons do so skillfully and safely and with the fitting of an artificial limb in mind.

*Not all amputees in New Zealand are registered with the New Zealand Artificial Limb Service.



As part of the New Zealand Health system, every amputee is entitled to an assessment for provision of a prosthesis or artificial limb.

The First Days

A range of medical and allied health professionals are involved in the recovery and rehabilitation of an amputee. This team will help with the fit and fabrication of artificial limbs; give guidance on building strength, balance and stamina and assist you to live and work with your new needs and capabilities.

Your professional team includes:

- your doctor, who will be there to assist with any general health matters associated with your amputation
- the team at the LIMB CENTRE, including an orthopaedic surgeon, clinical prosthetist (responsible for fitting the prosthesis) and physiotherapist (who looks after your exercise regime and training)
- Work and Income NZ (WINZ) can advise on what financial support is available
- your local District Health Board, whose Disability Support Services staff can advise on other services and benefits which may be available
- your ACC case manager can advise on entitlements covering prosthesis, rehabilitation and back to work issues
- the Amputee Society, which is an organisation of fellow amputees and carries out a number of activities on their behalf
- the Health and Disability Services advocacy service (see under Your Rights).
- an occupational therapist and/or a social worker who will assist you in living and working with your new needs and capabilities.

Details of your local contacts are available on the NZALS website www.nzals.govt.nz

Prosthesis is a term to describe an artificial limb.

As part of the New Zealand Health system, every amputee is entitled to an assessment for provision of a prosthesis or artificial limb. This is done by referral to a Limb Centre where a multi-disciplinary team assesses the amputee's requirements and arranges for the artificial limb to be manufactured and fitted, along with training in its use.

Looking after yourself

A stump presents an entirely new surface of the body to care for. Stump hygiene is particularly important to prevent problems, particularly as your stump will be in close contact with a prosthesis for long periods.

Some hygiene guidelines:

- wash the stump daily with a mild or anti-bacterial soap
- rinse the soap residue off the stump and dry it carefully
- do not use oils, creams or talcum powder unless advised by your clinical prosthetist
- change your stump socks daily or more frequently if needed
- inspect the stump at least daily, and more often if it is sore or if you're a diabetic. Use a hand mirror so you can see all of it
- if you are wearing a liner or sleeve, it is important to keep this firm to reduce "pistonning" (the tendency for the prosthesis to slide up and down your stump) which can lead to skin abrasion. Use mild soap and a damp cloth to wipe the sleeve or liner to keep clean. Wash off all soap and dry overnight
- if you notice any skin loss, soreness or signs of infection (such as inflammation) in the stump, contact your clinical prosthetist as soon as possible.

If you are a diabetic, it is important that you take special care of your other limb as well, but more about that later in the book.

Depression

"When a part of our body is lost, we experience a grieving process..."

(Omair Bani Sabri, U.S. Psychologist, Social Worker, Author, professional in grief counselling)

It is quite natural and common for amputees to experience a range of emotions after surgery. The cycle of grief differs depending on your own experience and other factors. Friends and family, of course, are important in helping you adjust to your new circumstances, and there are health professionals who can assist you.

Amputation is an enormous loss – adjusting to your life going forward takes time. Go easy on yourself, accept support from loved ones and use the professional help available.

Bandaging

Immediately following amputation a dressing is applied and the stump bandaged. Hospital staff may initially use a rigid dressing to reduce swelling of the stump prior to preparing for the fitting of an artificial limb.

The ways of bandaging a stump differ slightly according to the type of amputation and, at the outset of your rehabilitation, a physiotherapist will show you the right way to bandage your stump.

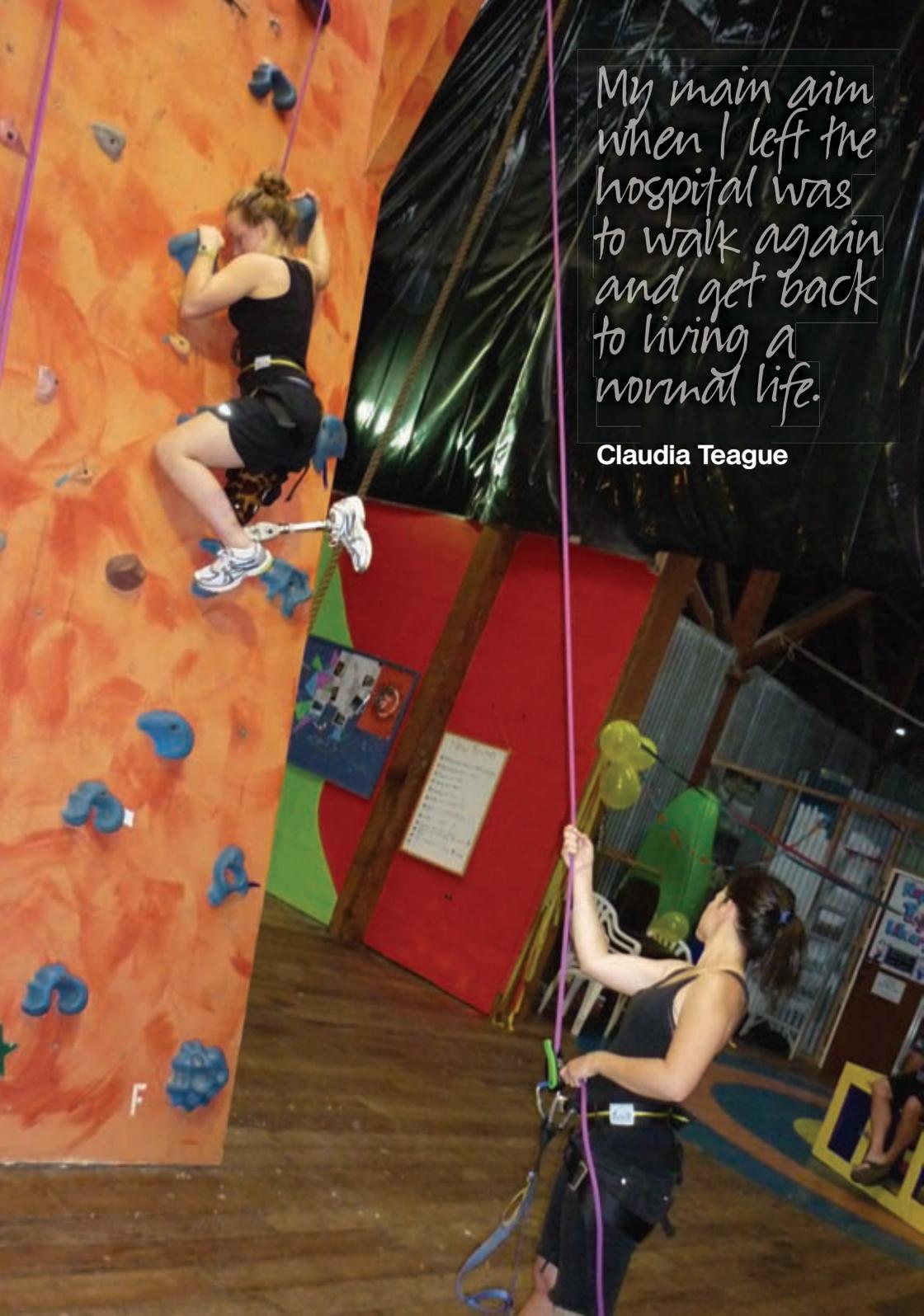
An elastic bandage (usually an Elset bandage) is applied or sometimes a “stump shrinker” (an elastic sock) is used to serve the same purpose. The elastic bandage controls the swelling in the stump, and shapes it so that it is well formed and suitable for a prosthesis.

Some basic points to remember about bandaging any stump are:

- every stump bandage is “anchored” by taking turns above the next highest joint
- apart from the anchoring turns and the turns around the tip of the stump (which are circular), all the bandaging should be diagonal and spiralling
- the only turns applied under tension (tightly) are those towards the end of the stump to taper the stump. The anchoring turns in particular must be loose - they are intended to anchor not constrict
- if a bandage is tending to slip off, the anchoring turns can become tight and constricting, causing pain in the stump. You don't have to put up with that pain. The bandage should be removed and reapplied
- it is very hard for an amputee to bandage an above-knee or above-elbow stump himself or herself. A carer (such as a family member) needs to be trained to do it
- bandaging a below-elbow stump yourself can be difficult, but most below-knee amputees learn to bandage well on their own.

To assist you, please find a guide to the bandaging techniques suitable for your particular amputation under “Resources” on the NZALS website, www.nzals.govt.nz





My main aim when I left the hospital was to walk again and get back to living a normal life.

Claudia Teague

Pain And Sensations

- Understanding and Coping

Like any operation, there will be some pain after an amputation until the wound heals.

Phantom pain

Many amputees experience phantom pain or pain in the limb that is no longer there. This is quite normal although not particularly pleasant, and it may be worse at night. The exact cause of phantom pain is still unclear but experts believe it is to do with mixed messages from the brain which may stem from damaged nerve endings, scar tissue or memories of the limb pain before amputation. It is felt as tingling, itching or the sensation of movement in the non-existing limb.

Stump pain

Stump pain is different again and is felt in the stump itself. It usually has a local cause, and your doctor or clinical prosthetist should be advised as soon as possible.

Coping with pain

There are a number of different ways to control your pain – aside from the normal array of painkillers, pain can be reduced and managed in a number of ways:

- massage
- acupuncture
- certain prescription medications
- mirror therapy
- heat treatment
- treatment using a Trans-cutaneous Electrical Nerve Stimulation (TENS)*

*reduces pain through the application of very mild electrical impulses to stimulate certain nerve endings. A TENS unit is available via your Limb Centre.

Your New Limb

After your operation, hospital staff will arrange for you to visit a Limb Centre. The timing of this referral will depend on a few things, such as your general health and the condition of your stump. But the visit will be arranged for some time between three and six weeks after the amputation.

Your first visit will be to a clinic where you meet with the multi-disciplinary team, which generally includes an orthopaedic surgeon/medical specialist, a clinical prosthetist and a physiotherapist. This team will develop and discuss a prosthetic rehabilitation plan with you. It's important that you work closely with this team in order to develop an artificial limb that suits you. This is designed to be as comfortable as possible, to provide appropriate mobility and involvement in a normal lifestyle. A number of things determine the choice of an artificial limb and this may change over time:

- the shape and condition of your stump
- your overall physical condition
- your lifestyle and level of activity.

This will mean discussing, in full, your daily activities, goals and needs, with your clinical prosthetist. You can make an appointment to see your clinical prosthetist if at any stage you wish to discuss any problems or issues concerning your new limb.

How much time will the fitting take?

If you are being fitted for an artificial limb for the first time, you will have an appointment to see a clinical prosthetist at the Limb Centre, before seeing an orthopaedic surgeon. A cast may be taken (this takes about an hour or more) by the clinical prosthetist. You will then be free to leave. An appointment will be made for you for a fitting of your prosthesis. It will then be finished off.

While you are learning to use your artificial limb over this period, you will find that further adjustments to the prosthesis may be required. If another appointment is necessary, this will be arranged by the clinical prosthetist, but if at any time, you find that something needs attention, get in touch with the limb centre and ask for an appointment. If you need to see the orthopaedic surgeon, you will be given an appointment for one of the clinics at the limb centre.

As far as possible, appointments are made at times to fit in with your travel arrangements and if you are an out-of-town amputee, to avoid unnecessary overnight accommodation costs.

Financial assistance for travel

You can apply for travel assistance through:

ACC (if your amputation was the result of an accident):

<http://www.acc.co.nz/making-a-claim/what-support-can-i-get>

WINZ – Civilian Amputee Assistance.

<http://www.workandincome.govt.nz/individuals/a-z-benefits/civilian-amputee-assistance.html>

You can also apply for a Total Mobility Card (TM Card) that gives a discount on taxi fares.

<http://www.nzta.govt.nz/resources/total-mobility-scheme/docs/total-mobility-around-new-zealand-auckland.pdf>

Alternatively, try the Ministry of Health or your District Health Board to see if you're eligible for travel assistance. In any of these cases, when you make your appointment at the limb centre, allow enough time for WINZ or ACC to issue travel chits and arrange accommodation. The limb centre has all the forms for you to claim back travel costs.





With more practice you'll find day to day activities become easier and take less time.

Rehabilitation

Often the rehabilitation stage after losing a limb is the more difficult phase of your recovery as you are away from the immediate support of a hospital environment and it is at this point that you become the main player in your recovery and immersion back into society.

Physiotherapy and exercise

After an amputation, daily activities take more energy and effort, which can be frustrating. Planning ahead will give you more time to spend doing the things you want and help conserve energy. With more practice you'll find day to day activities become easier and take less time. Allowing yourself plenty of time to undertake jobs around the house or out and about may mean a bit of planning and prioritising – don't forget to allow extra time for yourself.

Care of your remaining limb

After the loss of a limb, it is particularly important to look after your remaining limb. For example, if you are diabetic, the conditions that led to the amputation of one leg may also be present in the remaining leg. You should avoid poorly fitting footwear, and take care of your remaining limb, particularly looking after your nails and skin. Advise your doctor or specialist if you notice any swelling, redness or sores, or if you find it difficult to clean or examine. Avoid hopping, because you may end up injuring your remaining limb.

Making a prosthesis

A modern prosthesis or artificial limb is made from a combination of modular components. There is a broad variety of prosthetic feet, ankle joints, knee joints, elbows, split hooks and hands to choose from, each with special characteristics to suit individual needs and circumstances.

A prosthesis can either have a hard outer shell made of laminated material (an exoskeletal) or gain its strength from an internal metal frame (an endoskeletal).

Both types have a socket which fits over your stump. This is formed from a mould of your stump made from a plaster cast bandage or a digital image with Tracer CAD.

The clinical prosthetist then modifies the mould to allow for weight-bearing requirements, but also to ensure comfort and stability in the socket - particularly taking the bony areas of your stump into account.

The mould is then used to create a socket out of plastic material - this is the socket you try on at the first fitting. It is mounted on an adjustable alignment jig to enable the prosthetist to align it correctly for walking. Following this, the prosthesis is ready for the final touches.

The whole process may take about three weeks, involving two or three visits to the limb centre.

For first time amputees, it's important to make a follow-up appointment after receiving your prosthesis to ensure the fit is still comfortable and working as it should – quite often, minor adjustments are required in the first few weeks.

Liners/sleeves

Liners and sleeves help keep the artificial limb fitting snugly on your stump. It is important to keep these firm to reduce "pistoning" (the tendency for the prosthesis to slide up and down your stump) which can lead to skin abrasion. Use mild soap and a damp cloth to wipe the sleeve or liner to keep clean. Wash off all soap and dry overnight.

Shoes

Choosing a suitable shoe can be difficult for leg amputees. Select a shoe which fits your remaining foot - it should be comfortable as soon as you put it on. Don't rely on it to stretch after you've bought it. A prosthetic foot can be shaped to fit the shoe. A shoe which supports your foot, has a flexible sole and gives your toes plenty of room to stretch is the best option. Avoid heels being too high and be aware that a change of heel height will affect your walk.

Stump socks

Stump socks are a key accessory to an artificial limb and are important for maintaining comfort and allowing for stump shrinkage which can occur over time. In doing so, they contribute to a proper fit and remove sweat from the skin, ensuring dampness and rubbing does not damage the skin or cause abrasion.

Clean socks should be used every day. They have a limited life, however, and new ones can be obtained free from the Limb Centre. To clean your sock hand wash in luke warm water, rinse thoroughly and dry flat (not in the dryer).

Artificial limb care

Your artificial limb is like any piece of equipment - it's important to keep it clean and in good working condition or it will not work well for you.

If your artificial limb has a plastic socket it should be cleaned by wiping first with a damp, soapy cloth, rinsed by wiping with a clean damp cloth and then dried using a dry cloth. It should never be immersed in water.

Do not adjust any of the screws, joints or other parts of the prosthesis unless you have been shown how to do this by your clinical prosthetist.

It's a good idea to arrange an appointment with your clinical prosthetist every six months to have your artificial limb checked. If you're having any problems contact your clinical prothetist and arrange an appointment.

Insurance of limbs

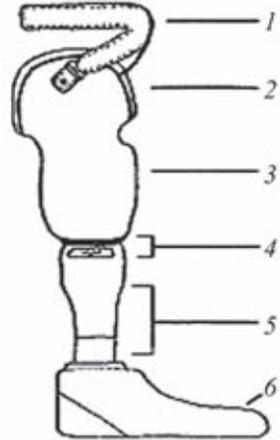
Amputees should speak with their insurance company to investigate the best form of insurance for replacement of a prosthetic limb or limbs in the event of accidental damage, theft or loss.



The Prosthesis

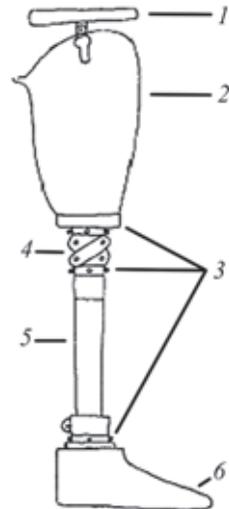
Trans-tibial Prosthesis (Below Knee)

1. The Strap (alternatively a sleeve)
To hold the prosthesis on.
2. The Liner
Soft insert for shock absorbing.
3. The Socket
Custom made to fit the amputee and distribute weight.
4. The Alignment Unit
Used to move the foot for optimal walking.
5. The Pylon
Distributes weight from socket to the foot.
6. The Foot
Made to imitate normal foot function.



Trans-femoral Prosthesis (Above Knee)

1. The Pelvic Band/Suspension Strap
(alternatively a suction socket). To hold the prosthesis on.
2. The socket
Custom made to fit the amputee and distribute weight.
3. The Alignment Units
Used by the prosthetist to alter the position of the knee and foot for optimal walking.
4. The Knee
Bends for sitting and swinging, but extends for standing and walking. There are 3 basic knee types - locked, safety and free.
5. The Pylon
Distributes weight from the socket to the foot.
6. The Foot
Made to imitate normal foot function.



Learning to use the prosthesis

During the initial fitting period, your clinical prosthetist will show you how to use your new limb, as well as fine-tuning it for your specific needs.

Your physiotherapist will then provide the extensive training needed so that you can get used to it. This includes assistance with daily actions such as walking on different surfaces, climbing stairs and ramps and getting in and out of vehicles.

Upper extremity (arm) amputees will receive training to perform daily activities such as dressing, eating and handling objects. You may undergo this training while you stay at the hospital or rehab facility or later on at day clinics.

Weight gain

Variations in weight (especially gaining weight) is one of the biggest problems amputees face in getting good performance and maximum comfort out of their new artificial limb.

Fluctuations in body weight are reflected in the stump, resulting in poor fit, discomfort and difficulty in using the prosthesis. A reduction in the stump size can be accommodated by adjusting the socket or adding another sock, but the clinical prosthetist can do little to expand the socket size. Almost any increase in stump size will mean a new socket has to be made. Significant weight gain can put additional stress on selected componentry and create a dangerous situation.

A sensible diet and reasonable exercise programme are therefore important in minimising this problem and allowing you to gain optimum performance from your artificial limb.





A prosthesis or artificial limb is an artificial replacement for a missing limb or part of a limb.

Questions And Answers

The Amputation

Q I have been told I need an amputation - who can I talk to?

A We can arrange for you to come to an Artificial Limb Centre to talk to our clinical prosthetists (who will make and fit your artificial limb) and physiotherapists. We can also arrange for you to meet with another amputee of similar circumstances if you want to talk to someone who has been through it before.

Q What happens after the amputation? When will I walk again?

A After the amputation there will be a time of recovery, adjustment and rehabilitation. Everyone is different so there's no set time span for recovery and walking again. Recovery time is often determined by amputation level, your health and fitness and also the desire to get back to normal life again.

Q Are bionic limbs available that can make me just like I was before?

A A prosthesis or artificial limb is an artificial replacement for a missing limb or part of a limb. Although an artificial limb will not be as natural as your own limb, it can help you to do many things successfully if you put your energy and willpower into learning how to use it. It's important to work closely with your doctor, clinical prosthetist and physiotherapist so they can design and fit your limb correctly and then train you how to use it.

The Artificial Limb/Prosthesis

Q What does an artificial limb look like? How will it stay on?

A Each artificial limb is tailor-made for you, depending on the level of your amputation, your physical ability and your needs. Most standard artificial limbs are made of component parts attached to a socket that fits over your residual limb. The artificial limb is generally held on by the socket and also a strap, but there are other ways too. Your prosthetist will decide which method suits you best based on both the type of amputation and the type of artificial limb you have.

Q How does an artificial limb work? Will I be able to do all the things I did before I lost my limb?

A Most people who lose a limb can get back to normal daily activities within a few months. How well you function depends mainly on your goals, along with a comfortable artificial limb, good follow-up care, and a can-do attitude from you as well as your team at the Artificial Limb Centre.

Q What if my artificial limb doesn't fit right?

A Follow-up is as important as the initial fitting. You may need to make several visits to the clinical prosthetist for adjustments, as well as training with a physiotherapist. Between them, they can help ease pressure areas, work out any problems, and enable you to regain the skills you need to adapt to life after limb loss. Tell your prosthetist if your new limb is uncomfortable, too loose or too tight. Ask questions about things you need or want to do. Communicate honestly about your needs. The more you tell your clinical prosthetist and physiotherapist, the better you will be able to succeed with your artificial limb.

Q How long will my artificial limb last?

A Depending on your age, activity level and growth, your artificial limb can last anywhere from several months to several years. In the early stages after limb loss, changes in the residual limb can lead to shrinking. This may lead to a need for socket changes, the addition of liners, or even a different device.

Later on, increased activity levels and the desire for additional function can mean a change in the artificial limb or some of its component parts. Once you are comfortably set-up and the limb is working as you want it, it will only need minor repairs or maintenance and can last for an average of three years.

Q Is it difficult learning to use an artificial limb?

A Learning to use an artificial limb is a tough job. It takes time, great effort, strength, patience and perseverance. You will work with a physiotherapist while learning how to handle your new artificial limb. You will need guidance on how to:

- take care of your artificial limb
- put on (don) and take off (doff) your artificial limb
- walk on different surfaces, including stairs and uneven terrain
- handle emergencies safely, including falling down and getting up again
- perform daily activities at home, at work and driving a car
- investigate new things you may like to try, like sports and recreational activities.

Q What can I do to prepare myself for an artificial limb?

A There's a lot you can and must do to be able to use an artificial limb and use it well. Top priorities are:

- working through your feelings about losing a limb and deciding how to rebuild your life after amputation
- exercising to build up the muscles needed for balance and walking
- preparing and taking care of your residual limb to attain a proper, sound shape for the artificial limb
- Learning proper body positioning and strengthening, to maintain tone and prevent contractures.
- You will be advised by the therapy staff in the hospital on all of the above before you go home.

Q Will I need to use a wheelchair or crutches?

A Some people choose not to use an artificial limb, relying on mobility devices.

However, even when you have an artificial limb, whether you also use crutches or a wheelchair depends on several factors including level of amputation, whether you have a single or bilateral amputation, and your level of balance and strength.

Most amputees have a pair of crutches for times when their limb is off, including night time trips to the bathroom, showering, participating in certain sports, and to help if the artificial limb needs to be left off for any length of time.

If you have lost both legs, you will use a wheelchair at least some of the time. Unilateral amputees may find it helpful to use a walking stick, walking frame or crutches for balance and support in the early stages of walking or just to have a break from the artificial limbs. The best advice will come from your physiotherapist and is based on factors such as age, balance, strength and sense of security.

Q Once I have been fitted and feel comfortable with my artificial limb, what will happen next?

A It's best to plan on making follow-up visits to your prosthetist as a normal part of your life. Proper fit of the socket and good alignment are the keys to making sure that your artificial limb is meeting your needs. Artificial limbs, like cars, need regular maintenance and repair to keep working well. Even small adjustments can make a big difference.

Q Can the limb break down?

A Yes, things can happen to your limb that will require repair or replacement, so it's a good idea to contact your prosthetist if you think something's not right and let him/her have a look at your artificial limb.

Get small problems with your artificial limb taken care of straight away. There's no benefit to waiting until something falls apart or causes you serious skin breakdown. If you wear an artificial limb too long when it needs repairs or replacement, you can do harm, not only to your residual limb, but also to other parts of your body. Strain on other muscles, especially in your back and shoulders, will affect both your posture and also the performance of the artificial limb and the energy needed to use it. Early prevention is more valuable than long-term treatment.

Q Can I choose what kind of artificial limb I want?

A We will discuss your needs with you, and then make the decision on your artificial limb in consultation with you. This is based on your lifestyle, activity level and general health.

Q Will I be able to return to work?

A Many amputees can return to their current jobs without any difficulty. Others may need to alter their duties within their occupation or change jobs completely. It is important to talk with your employer about any changes to your ability to do your job.

Q How much will the artificial limb cost?

A In general, artificial limbs are free to New Zealand citizens and permanent residents. Special prostheses required for vocational and recreation purposes may be available under certain circumstances and can always be supplied at the amputee's own expense.

Q Will I be able to drive a car?

A Driving presents minimal problems for most amputees. Depending on the type of amputation, you may require an adaptive device for your car. Leg amputees may choose to have a left foot accelerator pedal or hand controls installed. An automatic car with power steering will benefit both upper and lower extremity amputees.

If in doubt seek advice, an assessment can be arranged for you.

Q Can I swim or take a shower with my artificial limb? What if I get caught in the rain?

A Your artificial limb is not designed to cope with excessive water. The water may damage the various components, although getting caught in the rain for a few minutes will not damage the prosthesis. Salt water is extremely corrosive to the components of your prosthesis and must be avoided. If you are involved with water sports please talk to your clinical prosthetist regarding options available.

Q Why is the leg heavy?

A Your artificial limb needs to be strong enough to support your weight, so it's as light as we can make it. It is actually much lighter than the leg that has been amputated. However, it feels heavy because it is not part of the body and is being moved by a shorter section of your remaining leg or arm.

Q How long can I wear the leg for?

A Everyone is different and has different levels of tolerance. Initially you will have a structured programme designed to increase your tolerance to wearing the artificial limb. You will become more familiar with your own limits with practice.

Q My skin goes red when I wear the limb. Is this OK?

A Certain areas of your socket will produce more pressure than other areas and your skin will tend to redden with this pressure. The redness should go away within around 20 minutes of removal of the limb. If the redness persists or is also itchy, contact your prosthetist for advice, he/she may suggest you see your GP.

Q Why are the bones in my stump becoming more prominent?

A At first your limb will be swollen. As the swelling goes down, your bones will start to show more. Also the muscles that used to move your limb will begin to reduce in size through lack of use which makes the bones seem more prominent. This is very normal and isn't usually a problem.

Q Will the arm look natural?

A Unfortunately most artificial arms do not look completely natural and can have a mechanical look about them. Your arm will not hang completely straight due to the suspension required. There are various movements you can make for the arm to rest in a natural position when, for example, you sit down. Basically, the more you wear the arm, the more natural your movements will become. You can also use jewellery or a watch to give a good effect.

Q What will I be able to do with my artificial arm?

A Your arm will either be purely cosmetic or have a detachable hand which can be exchanged for a hook. The method of opening and closing a hand or hook will vary. You'll need to discuss your needs with your prosthetist.

Q Will the bone at the bottom of my stump take the weight?

A The level of your amputation will determine where the pressure is taken. Any cut bones will not directly support your weight although there may be contact. Every effort is made to ensure comfort and protection of your stump.

Q How often will I have to see my clinical prosthetist?

A During the initial fitting and training period you will probably see your clinical prosthetist several times. Follow-up appointments will be made by him or her. If you are having problems do not hesitate to contact them for an appointment.

Q Can I change the shoes I wear?

A Yes you can, but the height of the heel and sole need to be similar unless you have a foot which is able to be adjusted at home - check with your prosthetist first.

General/Practical

Q Are there any organisations for amputees?

A There are a number of District Amputee Societies and they are all members of the Amputee Federation of New Zealand. The Limb Centre that you visit initially will be able to provide the name of the contact person. The NZALS website has a number of organisations listed on it, including your closest amputee society.

<http://nzals.govt.nz/resources/useful-links/>

Q How should I deal with people who stare at me or ask me questions about my missing limb?

A First of all, remember that most people look a second or third time at any person who looks "different" for any reason. This usually stems from curiosity, not one of pity or "making fun". People may ask about your amputation or artificial limb, generally out of curiosity or interest.

If you have any further questions, please do not hesitate to ask your clinical prosthetist. They have had many years of experience and should be able to help you.

Q How do I get an appointment?

A In most circumstances the hospital where you had your amputation will send a referral for you to the Limb Centre. The Limb Centre will then make an appointment for you. Sometimes (rarely) a referral is not done and no contact is made - in this instance we accept referrals from a GP, health provider or from the amputee. Once you have made your initial appointment, further appointments can be made directly with the Artificial Limb Centre and you do not need to go through your GP. You should advise your local Limb Centre if you change your address or phone number.

Q How will I get there?

A If you are still in the hospital then they will arrange transport for you either by ambulance or taxi. Once you are discharged you will need to arrange your own transport. Please also see page 12 of this booklet which outlines travel expense assistance available for amputees. The Artificial Limb Centre has all the forms for you to claim back travel costs.

Q What happens when I get to the Artificial Limb Centre?

A You will be assessed by the multi-disciplinary team who are: surgeon, physiotherapist & prosthetist. They will discuss your rehabilitation plan with you and assess your healing, strength, ability and importantly what goals you have. We take a plaster cast or measurements of your stump so we can begin to make your artificial limb. All artificial limbs are custom-made for each individual. There will be several appointments for fitting before you receive your finished limb.

Q What do I need to bring to my appointments?

A If you have a discharge report from hospital please bring it with you so we can put a copy with your records. Please make sure you are wearing comfortable clothing, if you are an above knee amputee you may like to wear shorts (we appreciate you wearing underwear with substantial cover) as we may need to make a cast or fit your limb in more intimate area of your body, depending on the extent of your amputation.

Please bring a pair of shoes to your fitting appointments.

Q I can't get into my house or into the toilet/bathroom because of steps.

A Your house can be assessed by an occupational therapist. This is usually arranged by the hospital that did your amputation or by the rehabilitation facility. They will recommend any changes that need to be made. Housing modification services are funded by the Ministry of Health or ACC, depending on the cause of amputation.

Q Are there increased risks for other health problems?

A Limb loss is usually the result of, rather than the cause of other health problems. However, since the loss of a limb can result in decreased activity, the risk of health problems associated with a sedentary lifestyle may be increased. Residual limb and phantom pain, as well as skin problems associated with artificial limb use are also common. Maintaining a stable weight is extremely important so you can maintain the fit of your artificial limb. Regular exercise also helps decrease the risks of other health problems.

Q My baby was born with a limb difference but is not strictly an amputee - can you help?

A Yes, we can usually assist with a prosthetic device from an early age, which will be determined by the multi-disciplinary team at the Artificial Limb Centre.

Q What are limb loss and limb deficiencies?

A Limb loss generally refers to the absence of any part of an extremity (arm or leg) due to surgical or traumatic amputation. The term limb deficiencies means the congenital absence or malformation of limbs.

Q What causes limb loss and limb deficiencies?

A Limb loss can occur due to trauma, infection, diabetes, vascular disease, cancer and other diseases. The causes of congenital limb deficiencies are frequently unknown.

Q What is involved in caring for people with limb loss and limb deficiencies?

A This varies greatly depending on their overall health and strength. People who are candidates for artificial limb use will make several visits to their prosthetic facility to obtain a correctly fitting limb. Physical/occupational therapy or gait training may be needed to facilitate successful use of their artificial limb and other assistive devices to regain independence. Some new amputees may also need professional assistance with emotional adjustment to limb loss. Amputees whose health does not permit artificial limb use may require more assistance with mobility and transfers.



Your Rights When Receiving Health and Disability Services:

1. Respect. You should always be treated with respect. This includes respect for your culture, values and beliefs, as well as your right to personal privacy.
2. Fair treatment. No one should discriminate against you, pressure you into something you do not want or take advantage of you in any way.
3. Dignity and independence. Services should support you to live a dignified, independent life.
4. Proper standards. You have the right to be treated with care and skill, and to receive services that reflect your needs. All those involved in your care should work together for you.
5. Communication. You have the right to be listened to, understood and receive information in whatever way you need. When it is necessary and practicable an interpreter should be available.
6. Information. You have the right to have your condition explained and be told what your choices are. This includes how long you may have to wait, an estimate of any costs, and likely benefits and side effects. You can ask any questions to help you be fully informed.
7. It's Your Decision. It is up to you to decide. You can say no or change your mind at any time.
8. Support. You have the right to have someone with you to give you support in most circumstances.
9. Teaching and research. All these rights also apply when taking part in teaching and research.
10. Complaints. It is okay to complain – your complaint helps improve services. It must be easy for you to make a complaint, and it should not have an adverse effect on the way you are treated. All limb centres have a complaints process in place, details of which are available on request.

Rights when visiting a Limb Centre - You have the right to request a private consultation with any person providing a service to you, e.g. the prosthetist or surgeon. Everyone using a health or disability service has the protection, of the Code of Health and Disability Services Consumers Rights. If you are unhappy about the service you have received, you may take your concerns directly to the person or organisation that provided the service. If you want support to do this, a free advocacy service is available to help you. Phone 0800 11 22 33 for contact details of your local advocacy service.

Glossary Of Terms

Abduction	where part of the body or prosthesis is angled away from the midline of the body.
Adduction	where part of the body or prosthesis is angled towards the midline of the body.
Alignment	the adjustment of the relationship of the socket to the foot to provide optimum comfort and the best possible function.
Amputation site	the actual site or level where the amputation has been or will be performed.
Ankle disarticulation	usually called a Symes amputation, through the ankle joint.
Artificial Limb Centre	a clinic for treating amputees and where prostheses are prescribed and manufactured.
Atrophy	the reduction in the size of a muscle, often from disuse. <ul style="list-style-type: none">· A/E above Elbow or trans-humeral amputation· A/K above Knee or trans-femoral· B/E below Elbow or trans-radial· B/K below Knee or trans-tibia· Below elbow (BE) or transradial amputation.· Below knee (BK) or transtibial amputation.
Bilateral	affecting both sides. For amputees this often means a double amputee.
Check Fit Socket	a clear plastic socket from which the prosthetist will be able to determine the accuracy of the socket fit.
Clinical Prosthetist	a person trained in the fitting, fabrication, aligning and repair of a prosthesis
Congenital limb deficiency	the absence of a limb or part of a limb at the time of birth.
Contracture	a contracture of tissue, usually muscle, tendon or joint capsule, which limits the range of movement of a joint. Joint cannot be straightened.
Cosmetic Cover	a shaped foam which covers the internal structure of the prosthesis.

Cosmetic Hand	a terminal device which provides a cosmetic replacement. They are usually non-functional or passive.
Cuff	strap used to suspend a Below Knee prosthesis.
Digital amputation	amputation of a toe or finger.
Disarticulation	amputation through a joint.
Doffing	the act of taking the prosthesis off.
Dorsiflexion	the position of the foot when the toes are pulling up.
Donning	the act of putting the prosthesis on.
Dynamic foot	a type of prosthetic foot which stores and releases walking energy, hopefully making walking more efficient.
Edema or oedema	swelling of the limb, usually due to excessive accumulation of fluid.
Extension	the straightening of a joint.
Femur	the thighbone.
Fibula	the thinner bone that runs down the outside of the shinbone.
Flexion	the bending of a joint.
Forequarter amputation	amputation that removes part of the shoulder with the arm.
Gait	the process of walking.
Hemipelvectomy	amputation that removes part of the pelvis with the limb. Also called hindquarter.
Hip disarticulation	amputation through the hip joint.
Ischial tuberosity	a thick part of the pelvis in the buttocks, used to take the weight in an above knee prosthesis. Sometimes called the ischium or sitting bone.
Jig	a device used by a clinical prosthetist to assist in the process of alignment of a prosthesis during manufacture.
Jig (Walking)	an adjustable jig which allows the Clinical prosthetist to try variations of alignment during prosthetic fitting, used at the stage when walking alignment is being built into the prosthesis.

Knee disarticulation	through the knee joint.
Limb Centre (Artificial Limb Centre)	a clinic for treating amputees and where prostheses are prescribed and manufactured.
Liner	a soft flexible lining insert worn between the stump and the socket.
Modular (endoskeletal) prosthesis	A prosthesis with an internal rigid structure and an external foam cover.
Oedema or Edema	swelling of the limb, usually due to excessive accumulation of fluid.
Orthopaedic Surgeon	a surgeon trained in disorders of bone and joint, muscle and nerve, with a particular interest in correcting gait.
Parallel bars	two parallel bars at palm height between which an amputee can walk during gait training.
Patella	kneecap.
Patella tendon	a thick tendon that can be felt between the kneecap and the top of the shinbone. It takes weight well so is often used for support in below knee prostheses.
Phantom limb	awareness of the part of the limb which is missing.
Phantom pain	pain felt in the phantom limb.
Pistoning	when the residual limb moves slightly into and out of the socket.
Plantarflexion	position of the foot where the toes are pointing down.
Plaster cast	the application of a plaster bandage to produce a cast or replica of the stump.
Pressure area	an area of tender or broken skin caused by pressure.
Prosthesis	the medical term for an artificial body part.
Prosthetics	the science of making and fitting prostheses.
Prosthetist	a person who measures, designs, fabricates, fits, or services a prosthesis.

PTB	patella Tendon Bearing prosthesis - attached by a cuff.
KBM	modified Supra-condylar prosthesis - selfsuspending.
PTS	patella Tendon Supra-condylar prosthesis - selfsuspending.
Pylon	the pole of the prosthesis that gives it height.
Range of movement	the distance a joint can be moved in its various directions.
Rigid Removable Dressing	a removable cast applied to the below knee stump to protect and shape the stump.
SACH foot	solid Ankle Cushion Heel prosthetic foot.
Shoulder disarticulation	amputation at the shoulder joint.
Shrinker	a compression sock specifically for stumps, used to control swelling.
Silicon or gel liner	a type of liner made of a rubbery synthetic material that rolls onto the stump.
Sleeve suspension	for below knee amputees a sleeve rolls over the prosthesis and onto the thigh for suspension.
Socket	a hollow replica of the stump which provides an interface between the body and the prosthesis.
Split hook	a functional steel or aluminium terminal device for the upper extremity prosthesis.
Stump/residual limb	remaining part of arm or leg following amputation.
Stump sock	a protective sock to be used when wearing a prosthesis. They are made of various materials, the commonest being wool.
Stump pain	pain felt in the stump (residual limb).
Suction socket	a socket which requires no external suspension as it is held in place by total contact adhesion.
Surgeon	a doctor who specialises in operative treatment.
Suspension	harness or device which holds a prosthesis on.

Supercondylar	above the condyle (which is the widest part of the knee joint)
Symes amputation	amputation through the ankle joint.
Tracer CAD	digital image of the residual limb (stump). The image is modified electronically to create the shape by the clinical prosthetist from measurements taken. It is then sent to the carver to produce the socket design out of lightweight foam.
Transfemoral	above knee (AK).
Transhumeral	above elbow.
Transtibial	below knee (BK).
Transradial	below elbow.
Tibia	shinbone.
Ulcer	lesion or opening of the skin.
Unilateral	affecting only one side.
Vascular surgeon	a surgeon specialising in operative treatment of blood vessel disease.
Volume loss	when the stump shrinks, making the prosthesis not fit as well.
Volume changes	when the stump goes up and down in size, often related to body fluid levels. Makes a consistent fit of the prosthesis difficult.
Wrist disarticulation	through the wrist joint.



Further Information

The New Zealand Artificial Limb Services' official website has information on the Service, caring for your limb, resources for amputees, current news and many other useful links:

www.nzals.govt.nz

Featured links on this site include:

Carers New Zealand – A Guide for Carers

The New Zealand Artificial Limb Service website Resources page has extensive information on the Service itself and has links to a wide variety of related organisations, including:

<http://www.msd.govt.nz/documents/what-we-can-do/community/carers/carers-brochure-english.pdf>

Amputees Federation of New Zealand Incorporated

The Federation provides information and ongoing support for any person who is an amputee. It includes information on personal care, sport and recreation, benefit assistance, and information on other supporting organisations. Links to and information on all nine District Societies can be accessed from this website.

<http://www.amputee.co.nz/>

Diabetes New Zealand

Diabetes New Zealand is the only national charity in New Zealand representing and supporting people affected by diabetes.

<http://www.diabetes.org.nz/>

Paralympics New Zealand

Supports and encourages opportunities for disabled people to participate in sports, from regional, national and international levels. Sports are offered through a network of Regional Parafed Associations, National disabled & able-bodied Sports Organisations, clubs, coaches and individuals.

<http://www.paralympics.org.nz/>

Prosthetic (Artificial limb) Centres

Auckland

7 Horopito Street, Mt Eden

Telephone 09 630 0644

toll-free 0508 630 630

Fax 09 631 0041

Hamilton

222 Pembroke Street

Telephone 07 838 3269

toll-free 0508 838 838

Fax 07 838 3271

Wellington

42 Mein Street, Newtown

Telephone 04 389 2045

tol-free 0508 389 389

Fax 07 389 8552

Christchurch

330 Burwood Road, Burwood

Telephone 03 383 0501

toll-free 0508 383 383

Fax 03 383 3566

Dunedin

Dunedin Public Hospital, Cumberland St

Telephone 03 470 9428

toll-free 0508 474 474

Fax 03 479 2413

General enquiries: enquiries@nzals.govt.nz