



Information for Amputees Pending, New & Existing

Preface

The information is intended to help amputees. It is of a general nature and should not be taken as to apply to each amputation. It is a summary of what to expect before and after amputation. It includes changes that may have to be arranged to your home, work, and leisure.

Introduction

This has been written with the aim of providing some general information, the emphasis is on issues of living with an amputation, whether using a prosthesis or not. It is acknowledged that you might experience things differently to the way they are presented here and you are encouraged to keep talking to the health professionals who are looking after you about your own unique situation.

You may experience

Having an amputation can mean a big change in your life and it is not an isolated event. There are often things that happen before you have surgery, and many things that happen following the operation. Some of the things you may experience are:

- A period of preparation for amputation
- Amputation surgery
- A period immediately following surgery, including a stay in an acute or surgical hospital
- Transfer to a rehabilitation center
- Ongoing wound healing
- Beginning an exercise program and moving around without a prosthesis
- Practicing daily activities without a prosthesis
- Making a decision about whether you will have a prosthesis or not
- Manufacturing of an 'interim' prosthesis
- Discharge from rehabilitation center
- Continuing with outpatient therapy
- Manufacturing of a 'definitive' prosthesis
- Continued visits to the prosthetist, doctor, and therapists

Often people ask questions like “How long will I be in hospital?” and “When will I get a prosthesis?”

Both the cause of the amputation and each individual’s abilities will impact upon the time taken for rehabilitation and the eventual outcome. The time may vary enormously between individuals. You are encouraged to talk to your rehabilitation team about your particular situation and ask them how long it might take to move through the various stages. It is quite normal that you will go through some important stages without a prosthesis before you can consider getting a prosthesis and begin to learn to walk again.

Causes of lower limb amputation: Why do people need an amputation?

There are a variety of reasons why people require an amputation. The decision to amputate is a difficult one for all the people involved. For you, your family, and the medical staff looking after you.

Lower limb amputations make up about 90% of all amputations. They are most commonly caused by peripheral vascular disease (i.e. diseased blood vessels) and/or diabetes. These diseases decrease the blood supply to the leg and quite often people experience wounds or ulcers that don’t heal, infection, and associated pain. All of these factors affect the function of the leg and make it difficult for people to walk and move around freely. The incidence of amputation related to peripheral vascular disease and diabetes is more common in older people. It is also known that smoking cigarettes over a prolonged period of time damages the small vessels in the leg thus increasing the risk of amputation.

The remaining amputations of the lower limb are generally caused by accidents, for example at work or through motor vehicle accidents, through cancer or because of life threatening infectious diseases such as meningococcal septicemia. Sometimes the surgeons may attempt to salvage the leg or as much as possible of the leg when removing a cancerous tumor or following trauma. It may take some time before an amputation is finally decided upon.

In addition to the above so-called ‘acquired’ amputations, there is also a group of people born with ‘congenital’ amputations or ‘limb deficiency’. The needs of this group are quite different and management starts at a very early age.

About the amputation: How can I prepare for my amputations?

You are encouraged to take the opportunity to talk to your surgeon, other doctors, and to nurses and therapists involved before your amputation, and to ask them questions. This will help you gain a better understanding of what is involved with your operation, your immediate recovery, rehabilitation, and some of the other issues associated with being an amputee.

Ideally a member of an amputee rehabilitation team may visit you in the hospital before your surgery. You may also have the opportunity to attend an amputee clinic, to talk to the amputee rehabilitation team or someone else who has had an amputation.

Some of the things you may need to discuss with your doctor and other staff prior to your amputation include:

1. Medical issues- It is helpful to have an idea about your medical history. Sometimes your local doctor might provide this information to the surgeon. This information is helpful in providing an understanding about the events leading up to your amputation, but also about other issues that might impact upon your recovery following the amputation.
2. “What you were able to do before you started to get unwell, and how much you can do now”. Your current and previous level of function (K-levels) is important as it gives staff some idea about what to aim for following your amputation. You may be asked questions like “How far can you walk?” or “What were your activity levels before you became unwell?” Often people have been unable to use the affected leg for some time prior to amputation that is being unable to walk, and have lost general fitness which needs to be regained as part of rehabilitation.
3. Sometimes people have also needed help to be able to complete their day to day activities. It is helpful for the medical and therapy staff to have some idea about your past life, and about what you are having difficulty with now, so that they can plan for your rehabilitation following the amputation surgery. Other activities such as driving may also need to be discussed.
4. “How you feel”- It is important that you talk about the events surrounding your amputation and how you are feeling about the decision. This will enable the staff working with you to help you adjust to having an amputation. It is acknowledged that your past and recent experiences may affect how you deal with the amputation and it is sometimes useful to talk about some of those experiences.

What happens on the day of my amputation?

Prior to your operation, the surgeon will explain at what level he/she expects to amputate and you (or your family) will be asked to sign a “Consent Form” giving them permission to operate. Your amputation may be performed when you are completely unconscious (under a general anesthetic). Alternatively, you may have a spinal anesthetic that completely removes all movement and sensation from your leg. Generally, the decision about what sort of anesthetic you will have is made by the surgeon and the anesthetist looking after you.

When your operation is over you will return to your room and will need to stay in bed that day. The nurses will be checking on you regularly throughout the day. Remember that an amputation is major surgery and it will take you some time to recover fully.

How much pain will I experience after my amputation?

After an amputation there will be pain associated with the surgery, which usually requires strong medications. Staff will be working to ensure that your pain is controlled as well as possible. You need to report to your nurse any pain you have in the residual limb, and take the prescribed medications regularly.

How long will my wound take to heal?

Ideally the wound heals in about three weeks post-amputation and during this time the aim is to reduce the swelling and protect the residual limb prior to the fitting of prosthesis, if appropriate. For some people the healing process takes longer than this but this time is not lost as it enables people to regain general fitness and strength and increase the range of motion of joints which may have become tight after a period of limited use.

What is phantom sensation? Why does it occur?

Phantom sensation is a feeling or movement that involves the limb which is now absent. Phantom sensation is almost inevitable following amputation of a limb. One theory to explain this is that the brain has developed an image of the limb which is recorded and when normal messages from the limb are lost due to amputation the brain attempts to reconstruct an image of the limb, hence phantom sensation. The positive side of this is that the brain has an amazing capacity to relearn and this is greatly helped by increasing normal input, for example, moving, touching, or best of all using the residual limb to enable a new image of the limb to be created. Phantom sensation is different to phantom pain.

What is phantom pain? Why does it occur?

Phantom pain sometimes occurs in the weeks following amputation and generally resolves over time in most people. It may return on occasions, for example, when you are generally unwell or there are particular problems with your residual limb but with a concerted attempt to move and use the limb the phantom pain should settle. Some people describe the pain as an “electric shock” feeling and it can last for seconds or for a much longer time, some people never experience phantom pain. One theory behind phantom pain is that there is a loss of normal signals to the spinal cord and nervous system which causes confusion along the nerves and is perceived by the brain as pain. Phantom pain generally resolves over time and certainly becomes tolerable in most cases. One of the best strategies to manage phantom pain is to move and touch the residual limb and, as appropriate, use medication. It is important to talk to your doctor about this as they can find the right medication for you. Medication may include drugs that stabilize the nervous system and which are also used in treating epilepsy, or anti-depressants which similarly dampen down nerve activity and have the added benefit of promoting sleep. Occasionally muscle relaxants are recommended particularly if there is a feeling of spasm associated with the phantom phenomenon. Other treatments such as transcutaneous nerve stimulation (TENS) helps to block the pain transmission and is an important local management treatment for your residual limb.

Post-operative swelling: What is it?

Following surgery it is normal for your residual limb to be swollen because there is edema (or fluid) present in the tissues. The strategy is to reduce the swelling as quickly as possible to reduce pain and help the residual limb heal by reducing pressure on the tissues. The reduction of this swelling is known as edema management. The commencement of edema management may

vary depending on the surgeon's orders and the viability of health of the tissues of your residual limb. The various forms of edema management will be discussed in detail later in this booklet.

How you feel

As mentioned earlier, the decision to have an amputation is a major event in any person's life. Ideally, if time allows, you will have the opportunity to discuss the pros and cons of having an amputation with medical and counseling staff. It is important for you to try to discuss your feelings, concerns and fears, and to gain some understanding of the process that is likely to occur after your amputation. It may also be helpful to talk to an individual who has already had an amputation such as an amputee support person, or make contact with a local amputee support group.

How might I feel initially following amputation?

Reactions to amputation differ considerably. Some factors that influence the grief adjustment process are:

- The nature/cause of your amputation.
- How prepared you are for the amputation – prior knowledge of what will be happening to your body and recovery process after your amputation.
- Your previous coping skills – including previous lifestyle and fitness.

It is common to experience an initial period of grief or adjustment. This can be due to your obvious physical loss and the resulting change in body/self-image and lifestyle. You will also experience changes in what you can do –sometimes things take longer or need to be done a different way. Sometimes there may be things that you cannot do any more. Your feelings during this period are individual to you and it is natural. Losing a limb has been likened to losing a close relative, and the associated feelings may be similar. Feelings that people report commonly experiencing include numbness, anger, depression, guilt, isolation, anxiety and sadness. The duration of the grieving process will vary from person to person. You are encouraged to meet with a counselor to discuss any concerns you have about your adjustment response. Most often counselors are members of the rehabilitation team who have had specialized training, usually a social worker or a psychologist. Counselors are skilled at listening actively and attentively and providing feedback and helping people deal with their varied emotions. They have strategies that may assist you greatly in adjusting to your loss of limb. It is important to access the counselor so that your recovery is maximized and your ability to return (as much as possible) to your optimum level of independence can be achieved. You might have a support person, and you may like the counselor to liaise with them. Alternatively it may be useful to be linked in with an outside specialist who you may feel is able to assist you further. Sometimes it is also useful to discuss your feelings with an amputee support person who has a personal understanding of some of the issues you are facing.

Will my amputation impact upon my feelings longer term?

It is not expected that you will have adjusted to having an amputation after a short time in a hospital or rehabilitation center. As noted earlier, having an amputation is a major life changing event and it will have some impact upon your ability to continue life as it was before, and the time taken to adjust varies between people. You may feel that you have coped really well in the initial stages following your operation, or you may decide that it would be good to have some ongoing contact with someone to talk to about your feelings.

You may also find that you seek out support when different issues arise during your life at different times. As a teenager there might be concerns about changing schools or starting to date. As a young adult there may be concerns about finding a life partner or choosing a career. You might experience different issues when you consider beginning a family or when your children start school. As you age, you might have other concerns. At any stage you might find it useful to make contact with someone to discuss your feelings and help your continued adjustment as varied issues arise.

How might others respond to me?

An amputation does not just affect one person. It is normal for immediate family and close friends to also experience grief for your loss and how it may affect you. People close to you might also experience feelings of sadness or anger. Sometimes those close to you may find it easy to talk to you about their sadness; at other times they may try to maintain a certain “braveness” so as not to upset you. Children are often curious about amputation and may respond in unexpected ways. Your family and friends may benefit from having someone to talk to about how they are feeling and they could also either access the counselor at the hospital, or ask the counselor for a contact closer to home.

Sexuality

Sexual response is tied up with our self-image and self-esteem. These may be challenged when someone has a chronic illness or loses a limb. Your self-image is partly dependent on being accepted and affirmed within your significant relationships. In many established relationships each person will have been involved in preparation for amputation and the support will have been significant, however following amputation you may find that your relationship with your partner changes. Your partner may want to do more to help you or sometimes your partner may be reluctant to have physical contact in case they hurt you. Sometimes they are grieving and are feeling sad that the person they love had to have an amputation. It is important to have as open communication as possible so that you can discuss your concerns and your fears together. There may be times when you experience pain or are physically unable to assume the same sexual position that you used prior to your amputation. You may wish to seek some advice on this by asking the occupational therapist or another member of the therapy staff who you trust.

The impact of culture

America is a multi-cultural community and people from all ethnic groups suffer limb loss. We recognize that people from different cultures may respond differently to amputation. Your own

cultural background may influence how you grieve and cope with your amputation, and how those close to you cope. Please try to explain to treating staff what your amputation means to you (culturally) so that we can better assist you. Please also inform the staff looking after you if you would like to use an interpreter and they will endeavor to arrange an appropriate interpreter. Sometimes the staff may use an interpreter when they need to give you specific information or they are trying to understand more about how your amputation is affecting your life.

Rehabilitation

Amputee rehabilitation involves not just dealing with residual limb management and fitting of an appropriate prosthesis to maximize function but also care of you as a person. The amputation needs to be considered in conjunction with any other physical, medical, social and psychological factors affecting you. The rehabilitation team will be aiming to help you manage these factors so you adapt to your amputation within the context of your life at home, at work, and in the community.

Rehabilitation can be carried out in a variety of different facilities. In some regions you may have rehabilitation in the same hospital where you have your amputation; sometimes you may be transferred to a specialized rehabilitation facility, and in other regions you may be discharged home quite soon and have most of your rehabilitation as an outpatient. It is best to discuss the options with the people looking after you and they will advise you.

The rehabilitation team: Who will be the people involved in my care?

The team has members from many different professions including doctors, nurses, physiotherapist, occupational therapists, social workers, prosthetists/orthotists, nutritionists, podiatrists, diabetic educators, clinical psychologists, and psychiatrists. Sometimes an amputee support person may also be a valuable part of the rehabilitation team.

Doctors

The most senior doctor in the team is usually a rehabilitation consultant or another specialist. They will have undertaken specialist training in rehabilitation, including amputees, and will be responsible for all medical decisions regarding your care. Other doctors involved in your care may include a registrar or resident doctor. These doctors are qualified and are undertaking training in rehabilitation.

Sometimes it is necessary to obtain some other expert medical opinion regarding your medical management. This may be from someone such as a vascular surgeon or plastic surgeon. In this case, the doctors looking after you may refer you to a visiting consultant who might see you on site or you may need to return to the acute hospital where your amputation was performed.

Nurses

Nurses work with you to help regain your independence in a safe manner while on the ward in the hospital. They assist people with self-care and with getting around. They monitor your health status and ensure your medications are provided. They also assist with wound healing, and in monitoring your diabetes, if applicable.

Physiotherapists

Physiotherapists help you to establish a safe way to get around upon your admission to the rehabilitation unit. They teach you how to safely transfer between the bed and a wheelchair, and may be involved in teaching you how to use a wheelchair. In some cases, they will teach people how to hop on crutches or a walker. The physiotherapist completes a full physical assessment then determines a program of exercises to improve or maintain the strength of your arms, legs and trunk and, the flexibility of your joints, and to improve your balance and fitness. They are involved in deciding the best form of edema management for your residual limb and will teach you scar massage to improve the movement of the tissues on the residual limb. The massage and edema management are important preparation for getting a prosthesis. Later, the physiotherapist will be intensively involved in teaching you how to use a prosthesis and regain your independence with walking. This process will be covered in detail in later sections.

Occupational Therapists

The occupational therapists work with you to help you regain independence with personal care, e.g. bathing, dressing, grooming. They ensure that you can safely transfer in the bathroom, for example, from the toilet or shower chair. They are involved in teaching you how to use a wheelchair and assist you in other tasks such as driving, returning to work and returning to leisure pursuits.

Occupational therapists conduct an assessment of your home and advise you of any modifications or specialized equipment you may need to be safe and independent at home. Later, if you are walking on a prosthesis, they help you to practice many day-to-day tasks using the prosthesis to ensure you are independent and that you can return to the things you did before your amputation.

Prosthetist

As part of the rehabilitation team the prosthetist is involved in the assessment and decision-making process that determines whether a prosthesis will be safe and useful to you. If so, the prosthetist will be involved in advising you on the type of prosthesis that is most appropriate for you. The prosthesis will be designed to meet your functional and cosmetic requirements and provide maximum stability and safety while walking.

Once your prosthesis has manufactured your prosthetist he/she will show you how to use and look after it. Following your discharge from your hospital your prosthetist will also be responsible for the ongoing maintenance and repair of your prosthesis, so you will need to return to your prosthetic center regularly.

Social Worker

The social worker is a team member available to offer you, your family, and your friends confidential assistance in planning towards and coping with your amputation, both on an emotional (psychological) and practical level.

The social worker will discuss with you typical grief and adjustment issues to assist you to cope with possible lifestyle/body image changes. They will be available to help you throughout your hospital stay and during your adjustment period after discharge. The social worker is a trained counselor so please try to voice our concerns so that you can maximize your recovery following amputation. The counseling process is not aimed at telling you what to do but rather is dedicated to enabling you to clarify lifestyle options so that you can then make informed decisions. The

social worker is also available as an advocate if you have any concerns about your treatment program. An interpreter can be employed if you find it easier to communicate in your own language.

Diabetic Educator

In some centers there are people who have specialized training in teaching you how to monitor your blood sugar levels and how to administer any medications you may need to treat your diabetes.

When a diabetic educator is not available, the nursing staff and medical staff will teach you these skills.

Neuropsychologist

Medical illness such as stroke, diabetes and heart disease can cause alterations in memory, concentrations, and other aspects of thinking. Stress can also affect thinking abilities. A neuropsychological assessment maybe suggested if you, your family other treating staff feels concerned about any of these aspects. Feedback from the neuropsychologist would then be used to help maximize your ability to benefit from rehabilitation.

After the amputation: the structure of the residual limb

Your lower limb is changed by the amputation and these changes are best understood by knowing about the structure of the residual limb. This will help you to understand and communicate effectively with the people looking after you about your amputation and issues of healing, pain, and the fitting of a prosthesis.

It is helpful to look at the limb tissues in layers – starting from the skin and moving inward.

Skin Layer

The skin layer must heal following amputation. The aim of surgery, if possible, is for the skin to heal by “primary intention”, that is where the tissues grow straight back together. Sometimes this is not possible. In some cases, healing may need to occur by what is referred to as “secondary intention” if the tissues of the wound come apart or become infected. It may even be appropriate for a break from the hospital and rehabilitation to allow the skin to heal fully and be able to take load before an interim prosthesis is fitted.

The skin has many small nerves supplying it, which are cut during the amputation and there may be a period of lack of feeling and then some tingling as the nerves recover. Increased sensitivity may also be experienced for a period. All this should settle, as the prosthesis is worn more.

Subcutaneous Layer

The next layer is the subcutaneous layer, which is essentially fatty tissue and muscle. The muscle flap is vital as it provides a pressure-tolerant cushion to cover bone ends. Surgical techniques, such as the ‘posterior flap’, where the calf muscles are brought around to the front of the below-knee amputation residual limb, have helped to make the fitting of prostheses more comfortable and effective. Over time muscle tends to atrophy (or waste) because it is not being used in the

same way as previously. This is one of the reasons that the volume of your residual limb decreases over the first year or two following amputation.

Bone

The bone obviously needs to be cut during amputation and for this reason it is quite sensitive initially. This settles down if it is well protected by the subcutaneous tissues mentioned.

Occasionally, particularly in younger people, there may be excessive bone growth where the bone has been cut. This is generally not a problem and can usually be accommodated by appropriate changes to the prosthesis.

The prosthesis must replace length. Using biomechanical principles the prosthesis also allows replication of normal motion, which ordinarily the muscles would have controlled. The lost joints are replaced in the prosthesis. Sometimes the prosthesis will have joints which allow movement, for example a knee joint. In other cases the loss of the joints (e.g. ankle and foot) is compensated for in the design of the prosthetic foot.

Nerves

Nerves are cut at the time of amputation and these nerves will attempt to re-grow. For this reason every nerve will develop a 'neuroma', A neuroma is a bulbous swelling on the nerve ending.

This is usually not a problem unless it is pressed on by outside pressure. Pressure on a neuroma can cause local pain or phantom pain. This is usually overcome through the design of the socket and by adjusting the socket. As well as the larger deep nerves there are smaller nerves supplying the skin, as mentioned. These tend to recover as the skin heals.

Blood supply

The blood supply to the residual limb is critical, particularly as a lot of amputations are done because of inadequate blood supply to a limb. This is why surgeons very carefully select the level of amputation so that there is good blood supply to ensure healing. In some cases when the situation is not clear it may be appropriate to attempt an amputation at below-knee level in the hope of a better functional outcome.

The edema forming within the residual limb is very common, as one would expect, after an operation of any type, and it is vital to control this swelling as it will improve the healing of the residual limb and allow fitting of an interim prosthesis.

Edema management: What are the different forms?

When the wound is adequately healed the therapy staff will introduce edema management to help reduce the amount of swelling in the residual limb. Reduction of the swelling helps reduce pressure on the tissues which can aid healing and reduce pain.

The staff may commence bandaging your stump or initiate the use of a specialized compression sock, known as a shrinker. "Stump bandaging" is a specific skill that you will be taught by the therapy staff so that you can apply your own bandages. It should be maintained 24 hours a day if tolerated.

Alternatively, a shrinker sock may be provided following careful measurement of the residual limb. You would be expected to pull the shrinker on and off by yourself. You should not apply the bandage and a shrinker together.

In some cases a rigid dressing may be made for below-knee amputees, this will probably be manufactured by a prosthetist/orthotist. A rigid dressing must be worn with a sock underneath and as the size of your residual limb reduces you will need to add more socks. You might be expected to apply your own socks and rigid dressings following explanation and demonstration by staff.

You will also be encouraged to elevate your residual limb and a stump board will be provided for use with the wheelchair whenever possible. Edema tends to “pool” with gravity and therefore is most likely to cause the end of your residual limb to swell. Elevation assists in preventing excess swelling.

It is also important to actively exercise your residual limb to work the muscles. The action of the muscles helps to stimulate blood flow in and out of the tissues thereby assisting reduction of edema and aiding healing.

Should I touch my residual limb?

After the surgery your residual limb can become quite sensitive to touch. Obviously whilst your wound is still healing and there are stitches you should not touch the wound. The nurses will monitor and dress the wound regularly using sterile techniques. You should not interfere with these dressings.

It is important that you begin to touch the intact skin early on and the therapy staff will teach you appropriate touching and massage for your residual limb once it is sufficiently healed. Initially you may start by touching the intact skin with your hands, perhaps rubbing cream into the skin. You may then be encouraged to rub the skin with smooth fabrics and slowly work up to rougher textures, such as a towel, to help desensitize your stump. Even drying your residual limb after showering or bathing will help to decrease the sensitivity.

Can I touch the scar?

After your residual limb wound has healed, the therapy staff will assess the available movement of the suture line (or scar) in relation to surrounding skin and other tissues. Sometimes scar tissue forms between the skin and the underlying deep tissues, e.g. bone. This is known as an “adherent area of scar”. It is important to have movement of the scar, if possible, so you may need to massage the adherent areas to improve mobility of the skin.

The therapy staff will teach you how to do appropriate scar massage. It is important that you touch your residual limb and massage the skin as taught, several times a day. All of these things will aid in preparing the residual limb for wearing a prosthesis.

What is a joint contracture and how could it affect my rehabilitation?

With amputation, a balance between muscles crossing the nearby joint is lost. A joint contracture may develop because some structures around the joint shorten and tighten so that the joint is no longer able to move through its full range of motion. Once a contracture has developed it is

extremely difficult to stretch the joint tissues and regain full range of motion. Preventing this through regular stretching and positioning is vital. Even when you have a prosthesis it is still necessary for you to continue your stretches. This is particularly important if you spend a lot of time sitting down. You want to keep the joints supple and allow them to move through their full range.

Transtibial contractures

If you have a transtibial amputation it is extremely important that you maintain the movement of your knee and the length of the hamstring muscles. The hamstring muscles are the large muscle group on the back of your thigh that crosses the back of your knee. There is a risk of these muscles and all the tissues at the back of the knee shortening and tightening after this level of amputation, this is known as a “knee flexion contracture”. If you do not maintain the range of movement at your knee following an amputation your chances of walking with a prosthesis can be jeopardized.

Your physiotherapist or occupational therapist may provide you with a board to use on your wheelchair, to encourage you to maintain the knee in a straightened position.

Your physiotherapist will demonstrate stretches and correct positioning of your knee and advise you on these matters.

What about the rest of my body?

You may be asked questions about a number of areas of the body, particularly as the ability to compensate for the loss of a limb in amputation depends on other systems taking up the challenge and working differently. For example, the remaining lower limb may need to take more loads. This has implications for the joints of that limb but also for the joints of the lower back.

General health and physical condition is important and is required for good progress in rehabilitation. The brain needs to relearn ways of doing things to make up the loss through amputation. The ability to feel what is doing on through your sensory system is important. At the level of your residual limb, skin sensation gives feedback about what is happening within the residual limb whilst wearing a prosthesis. The joints provide proprioceptive feedback or a sense of where the limb is positioned. The special senses such as vision, hearing and balance are also important in allowing a person to move and feel the prosthesis appropriately.

The function of the heart and lungs directly affect the exercise capacity of a person. With amputation there is an increased demand for energy. An important part of the rehabilitation program is to build up general fitness. This is particularly important if you have been off your feet for some time and not walked.

The upper limbs are important for pushing the body upwards to assist with transfers and with the use of gait aids, such as crutches, or propelling a wheelchair. Care must be taken to strengthen the use of the upper limbs appropriately and avoid undue strain.

The lower back (lumbar spine) needs to work differently to help push the prosthesis forward and maintain balance. This is particularly an issue with higher level amputation, eg. above the knee.

Body weight is reduced by the amputation. The replacement prosthesis is lighter than the lost limb. The weight of a prosthesis is felt to be even lighter if it fits and functions well.

General body weight may increase after amputation because people are less active. Increased body weight can be an issue. It makes it difficult to maintain the fit of the prosthetic socket because the residual limb is changing in size. There may be increased load on other body structures that are already trying to compensate losses associated with the amputation.

If one limb is amputated the rest of the body, particularly other limbs, need to compensate. The loads on the remaining limb may cause it to become tired and/or develop what is sometimes called 'overuse'. Balancing the body by wearing a prosthesis helps the posture and spreads the load between the limbs and reduces overuse. Management of overuse is to carry out appropriate activities that are non-aggravating. The rehabilitation team can help monitor this and provide education about these activities.

The body will behave differently following an amputation, and issues such as other medical conditions you may have need to be taken into account. For example, some amputees with heart problems may feel quite fatigued by the rehabilitation process and it should be recognized that increased energy is used for walking when wearing a prosthesis. It is worth remembering that your stamina improves markedly because general fitness gradually returns with rehabilitation. Other problems, such as arthritis, also need to be considered when selecting the type and level of rehabilitation program, and the type of prosthesis to ensure that it minimizes stress on the joints and the rest of the body.



If you have any questions regarding your amputation or prosthetics, please feel free to call our office for a free conference/evaluation. We can also introduce you to one of our patient advocates so that you learn more about what to expect from someone who has experienced the same issues you are now dealing with. We hope you find this information helpful.

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