

Caring for your stump

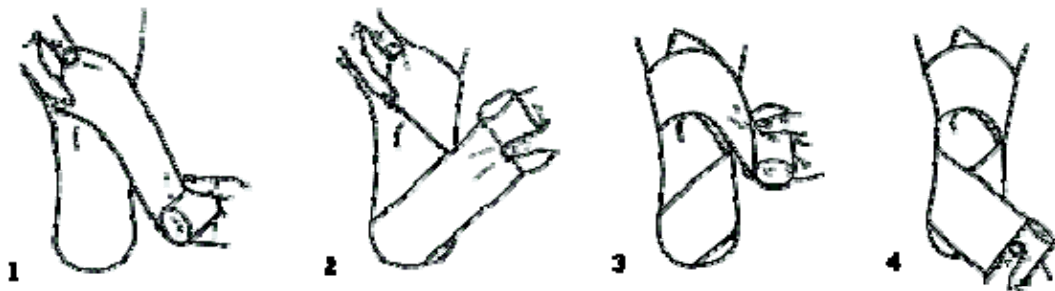
Introduction to Stump Care

Amputees will be taught to care for their stump by either a nurse or a physiotherapist. It is extremely important that you master the techniques of caring for your stump. If utmost attention is not given to this care then small easily reversible problems may develop into large ones which become difficult to treat.

Stump dressings

After surgery there will be some sort of dressing applied to the wound area. On top of this there will also be a second dressing the aim of which is to prevent excessive swelling (oedema) in the stump. It is important that oedema is kept to a minimum as this will speed healing of the wound while helping to maintain the stump at a size and shape suitable for the fitting of a prosthesis. The management of stump oedema is addressed in a variety of ways. These may vary between facilities so a number of these methods are described here.

Stump bandaging; this is the most common method of oedema control and is effective when correctly applied. As the bandage has to be reapplied regularly it is important that you learn the technique well as you will have to become proficient at the procedure.



1. All turns of the bandage are diagonal. Do not use circular turns of the bandage, because this will restrict blood flow to your stump and could cause pressure areas or other more serious problems.
2. Pressure should graduate from very firm at the end of your stump to moderate at the top of the bandaging. It is extremely important not to make the bandage too tight at the top.
3. No skin should show on your stump after it is bandaged except for the joints which should not usually be bandaged. This allows free movement of the joint.
4. If the bandage becomes loose or too tight, take it off, re-roll the bandage and re-apply it. Before an artificial

limb is fitted this should be done at least 4 times every day and before retiring at night. Your stump should be bandaged for 24 hours per day before you get your prosthesis.

5. If you have an above knee amputation your whole stump must be bandaged right up to your buttock crease. It is also necessary to pass some of the turns around your waist to act as an anchor.
6. Never bandage your stump so tightly as to be painful as this may cause pressure areas or restrict blood flow.
7. The bandage should be applied with the limb straight. If the limb is bent when bandaged, contractures may result

Bandages must be looked after properly. Always wash them by hand in warm soapy water with a mild soap. Rinse thoroughly in cold water, making sure no trace of soap remains in the bandage. Squeeze, rather than wring, out as much water as possible. To dry your bandages, spread them out on a towel placed on a flat surface away from direct heat. Never put your bandages on a heater to dry or hang them on the line. When the bandage is completely dry, wind it firmly, without pulling, into an even roll. You can then apply it to your stump smoothly and under a degree of tension.

Shrinkers

In some cases your physiotherapist or doctor may decide that instead of wearing bandages all the time you should wear an elastic 2-way stretch compression stump shrinker. These shrinkers are shaped like a sock and are pulled over your stump. They are not as effective as bandaging but are much easier to use. Your physiotherapist will show you how to put on a stump shrinker. The shrinker should be tight but should not be painful or restrict blood flow. You should be careful that the top of the shrinker does not roll, especially on the inside of your thigh, as this will stop it working properly and can reduce the blood supply to your stump.

Washing

After you leave hospital and your stump has healed, you should wash your stump at least once every day – more frequently in summer – with warm water and a mild soap. Dry your stump thoroughly and carefully. It is not necessary to use strong soaps, detergents or other preparations unless your doctor prescribes these for you.

You should usually wash your stump at night as this will help minimise swelling and allows the natural skin oils to be replaced overnight while you are sleeping. If you are in the habit of taking baths, it is best if you do not let your stump soak in the bath water as this will soften the skin on the stump and make it more prone to injury. A light dusting of an un-medicated talcum such as Curash baby powder will help absorb perspiration. Do not use astringents, such as methylated or surgical spirits, or other drying preparations on your stump as this can reduce the natural oils which protect your skin. More information on skin-care follows after this section.

Keep your stump clean and treat any minor irritations or problems as directed by your doctor.

Shrinkers

In some cases your physiotherapist or doctor may decide that instead of wearing bandages all the time you should wear an elastic 2-way stretch compression stump shrinker. These shrinkers are shaped like a sock and are pulled over your stump. They are not as effective as bandaging but are much easier to use. Your physiotherapist will show you how to put on a stump shrinker. The shrinker should be tight but should not be painful or restrict blood flow. You should be careful that the top of the shrinker does not roll, especially on the inside of your thigh, as this will stop it working properly and can reduce the blood supply to your stump.

Washing

After you leave hospital and your stump has healed, you should wash your stump at least once every day – more frequently in summer – with warm water and a mild soap. Dry your stump thoroughly and carefully. It is not necessary to use strong soaps, detergents or other preparations unless your doctor prescribes these for you.

You should usually wash your stump at night as this will help minimise swelling and allows the natural skin oils to be replaced overnight while you are sleeping. If you are in the habit of taking baths, it is best if you do not let your stump soak in the bath water as this will soften the skin on the stump and make it more prone to injury. A light dusting of an un-medicated talcum such as Curash baby powder will help absorb perspiration. Do not use astringents, such as methylated or surgical spirits, or other drying preparations on your stump as this can reduce the natural oils which protect your skin. More information on skin-care follows after this section.

Keep your stump clean and treat any minor irritations or problems as directed by your doctor.

Care of your remaining leg and foot

It is essential that you care for your remaining leg to ensure it remains sound, especially if you have peripheral vascular disease.

1. Do not interfere with corns or calluses or cut your own toenails if you have poor eyesight, poor hand co-ordination or poor circulation. It is preferable that you attend a podiatrist (chiropodist) to look after your remaining foot.
2. Wash carefully between toes and dry carefully.
3. Apply moisturiser to the skin if it gets dry.
4. Avoid injuries such as bumps and bruises.
5. Wear a good supporting shoe (not a slipper).
6. Wear a woollen or cotton sock, not nylon or synthetic, so that perspiration can be absorbed.
7. Contact your doctor if you notice any discolouration, change in temperature, sores, ulcers, or if you experience pain in your leg or foot.

Skin Care & Stump Hygiene

The skin on a residual limb sustains many stresses – making good skin care essential. The skin and tissue of the stump was not designed for weight-bearing nor the uneven pressures and friction against the skin, especially near the brim of the prosthetic socket. These stresses on the skin of the stump create issues in skin care that must be addressed.

Proper stump hygiene is essential. An amputee has a smaller surface area of skin, making the body's natural cooling mechanism less efficient. Prosthetic sockets trap sweat against the skin of the stump, and prevent air from circulating around it to dry it. Small disorders quickly get out of hand in the warm, moist environment of the socket and, if not properly treated, could lead to a more serious condition preventing the amputee from wearing the artificial limb until the condition heals.

Over time the skin and tissue on the residual limb starts to show the effects of years of trauma from wearing artificial limbs - so the longer you are an amputee the more important these issues become.

As the saying goes an ounce of prevention is worth a pound of cure!

How the Skin Works

The body's skin is a resilient, elastic covering, which is able to repair itself after injury, and shore up weaker areas that endure additional wear. It will thicken or form calluses in response to repeated stress - amputees notice this at areas where the socket of the artificial limb causes pressure.

The skin helps regulate body temperature by producing sweat, which evaporates and cools the body. Amputees deal with several issues when it comes to how the body regulates temperature. Amputees have a reduced skin surface due to the missing limb(s) making the body's natural cooling system less efficient. The residual limb may get wet with perspiration because it is enclosed within the socket and air does not reach it - this perspiration cannot naturally evaporate from the skin surface. As well, the amputee uses more energy to get around than those without amputations which naturally will increase the body's temperature, and thus, perspiration.

Main Causes of Skin Disorders

No matter how hard you try to prevent them, sores and abrasions can occur for numerous reasons: the pressure of the socket against the stump causes trauma to the skin and tissue; perspiration builds up in the socket causing friction which leads to abrasions; sockets may be made of materials that are irritants to the body (i.e. cause allergic reactions); and the warm, moist environment of the socket is the perfect breeding ground for bacteria that can cause skin problems.

You must deal with these issues or you will end up uncomfortable. Skin problems could even prevent you from being able to wear your artificial limbs at all, until the condition has healed.

Heat and Perspiration

Let's look at why the human body perspires. Perspiration is the means through which the body controls its temperature. When the weather is hot or as we carry out activities extra heat is generated by the body.

Perspiration contains solids which accumulate in the socket of an artificial limb and on the residual limb. These solids, combined with the warm, moist environment within the socket, make an ideal breeding ground for bacteria. A strict daily hygiene routine is necessary to prevent the numerous skin complaints that can arise as a result of the environment within the prosthetic socket. As perspiration builds up within a socket it can also lead to the stump "pistoning" or moving around within the socket, which in turn can chafe the skin and cause abrasions.

There is no way to totally eliminate the issues caused by perspiration, but some practical ideas might help control it so that it does not become a real problem. Your prosthetist will be able to discuss this with you and suggest possible ways of dealing with this.

Bacteria

Bacteria and tiny organisms are everywhere, including on the skin. Some of these are harmless, while others can cause infection in the proper circumstances. Normal skin expels bacteria through drying by evaporation, and also by releasing special fatty acids from glands on its surface. However, drying can't occur in the moist environment of an enclosed socket. Also normal skin has a negative charge which repels bacteria, but an amputee's skin, when bathed in salty solutions (such as perspiration) for long periods, can develop a positive charge which can attract more bacteria than would otherwise be present. Hygiene becomes doubly important in these circumstances where the number of potentially infection-causing micro-organisms can increase beyond the skin's normal capacity.

Skin Disorders Affecting Amputees

Skin, as the first point of contact with the socket of an artificial limb, needs to be healthy to enable amputees to be as active as possible without experiencing pain or discomfort - so prevention of skin disorders is a very important consideration.

The following are some problems that may result from these factors:

- Rashes and Abrasions - these are the most common skin disorder which may occur intermittently or even frequently throughout an amputee's life time.
- Oedema - characterized by skin swelling, drying and roughening at the end of the stump, and a red-brown pigmentation, this can usually be prevented by gradual compression using an elastic bandage. Although this may seem like a minor affliction at first, it can develop into a serious complication - a doctor should always be consulted.
- Contact Dermatitis - this is caused by an irritant, whether in the materials of the socket, or from an outside source, such as a cleaning agent, powder, lubricant or ointment used in amputee care. Once the cause is discovered and treated, the problem usually disappears.
- Cysts - this usually occurs after a limb has been worn for months or even years. They commonly plague above-knee amputees, occurring on the inside of the leg along the upper edge of the artificial limb, but below-knee amputees can experience them as well particularly behind the knee. They start as small bumps, or nodules which vanish when the artificial limb is temporarily removed, but the constant rubbing of the artificial limb can make the problem worse as cysts become larger and more numerous. Cysts should always be treated by a doctor, as they can become infected and cause further damage.
- Folliculitis – a bacterial infection of the hair follicle which produces small, itching, solid areas. If left untreated, these may later develop into boils in which deep-red, painful nodules rise to the surface of the skin. Anti-bacterial soaps may cut down on the bacteria which cause these conditions. Experienced amputees recommend not shaving the residual limb.
- Fungal Infections – another product of the moist, warm conditions in the socket of an artificial limb, these require special creams or powders, which can eventually clear up the condition. Your pharmacist or GP can assist with this.
- Eczema – this is found in dry, scaly skin which becomes moist for no discernable reason. A cause needs to be established or the condition will recur. Allergies or secondary conditions following oedema can contribute to the condition.

- Adherent scars – when there has been repeated infection or ulceration to the skin, scar formation may be so intense that scar tissue may become attached to the underlying tissues. Surgical revision to free the scar is often necessary.
- Ulcers – these sores come from bacterial infections, or from circulation problems. They may become chronic if not diagnosed and treated immediately.

Keeping the Residual Limb Clean & Healthy

The Stump

- Cleansing the residual limb should be done at night. Morning washes are not advised unless a stump sock is worn because the damp skin can swell and stick to the inside of the socket.
- Wet the skin thoroughly with warm water.
- Use mild fragrance-free soap or an antiseptic cleaner.
- Using something mildly abrasive like a loofah can be helpful.
- Work up a foamy lather. Use more water for more suds.
- Rinse with clean water, making sure all traces of soap are gone. A soapy film left on the skin may be an irritant.
- Dry the skin thoroughly.

The Socket

- The socket should be cleaned often – every day in warm weather, to cut down on the accumulation of dried perspiration on the inner surface.
- Wash with warm water (not hot!) and mild soap.
- Wipe out with a cloth dampened in clean water.
- Dry thoroughly before putting on.

The Sock

Wearing a sock can help draw perspiration away from the skin. Wearing a light sock may have a cooling effect, as well as providing additional padding for the stump. Also some amputees report that using strong anti-perspirants can help reduce the amount of perspiration produced within the socket.

- The stump sock needs to be changed every day (and more often in hot weather), and should be washed as soon as it has been taken off so perspiration doesn't dry in it. Use mild soap and warm (never hot!) water.
- Rinse thoroughly.

Products for Stump Care

Serious or persistent stump problems should be assessed by a doctor. For minor skin irritations, however, there are many products to help, and we highlight just a few of them here.

Many amputees find regular use of moisturizing lotions or creams condition the skin which helps it hold up better against abrasions. Vitamin-based creams and lotions are often used. For dry, itchy skin a lotion containing urea in an emollient cream base can help and is available through a pharmacy.

If you apply a layer of protection on the stump before the socket is donned, particularly in areas that are most stressed, it can lessen the likelihood of sores or abrasions developing. Some amputees use lotions like ALPS Skin lotion (silicone based) or Derma Prevent (Otto Bock; more information below), a film like OpSite (Smith & Nephew) or a silicone gel sheet like Cica Care (Smith & Nephew; for scar care).

Once an abrasion occurs, it is time to consider a medicated lotion. Some amputees use ointment that has zinc oxide as its healing agent. These ointments are often used to treat and prevent infections in minor cuts and abrasions.

Controlling perspiration is a large part of preventing abrasions and reducing odour. Many amputees also find anti-perspirant roll-ons help control perspiration build-up in sockets. Some amputees use anti-bacterial cleansers on their stumps to limit bacteria that cause skin problems. Fragrance-free products are best for an enclosed environment like a socket.

Companies like Otto Bock, Alps or Ossur have introduced products such as anti-bacterial cleaners for the stump and socket, protective coating lotion to cover and protect the skin, and anti-bacterial lotions that relieve and repair irritated skin while moisturizing it. The products often come as sets and are available through your prosthetist.

Stump problems

If your prosthesis is not fitting well it can cause skin breakdown leading to infection. It is important that you take time to inspect your skin for any red marks that might suggest something is wrong. Infection and inflammation are indicators that you should be booking a visit to your prosthetist. He will be able to adjust the prosthesis to eliminate the problem or will send you back to your GP or the amputee clinic to be assessed by the team there.

Bony spurs are small growths on the cut end of the bone in your stump. They are not normally a problem unless they occur near a nerve or get unusually large. In this instance they can cause significant pain and irritation and may need to be surgically removed. The amputee clinic can advise you on the best treatment.

Another relatively common cause of stump problems is neuromas. These are growths on the cut end of a nerve and present as a very tender and painful area. They can cause sensations like an electric shock or even trigger phantom limb pain or sensations. This can be difficult to differentiate from other causes of phantom sensations and, if you are unfortunate enough to experience this, you should contact your amputee clinic for advice.

For each of these problems your first port of call should be your prosthetist. Not only can he help you pinpoint the cause of the problem but in most cases he will be able to provide some relief while arranging further treatment.

