



Skin Care

An Ounce of Prevention is Worth a Pound of Cure

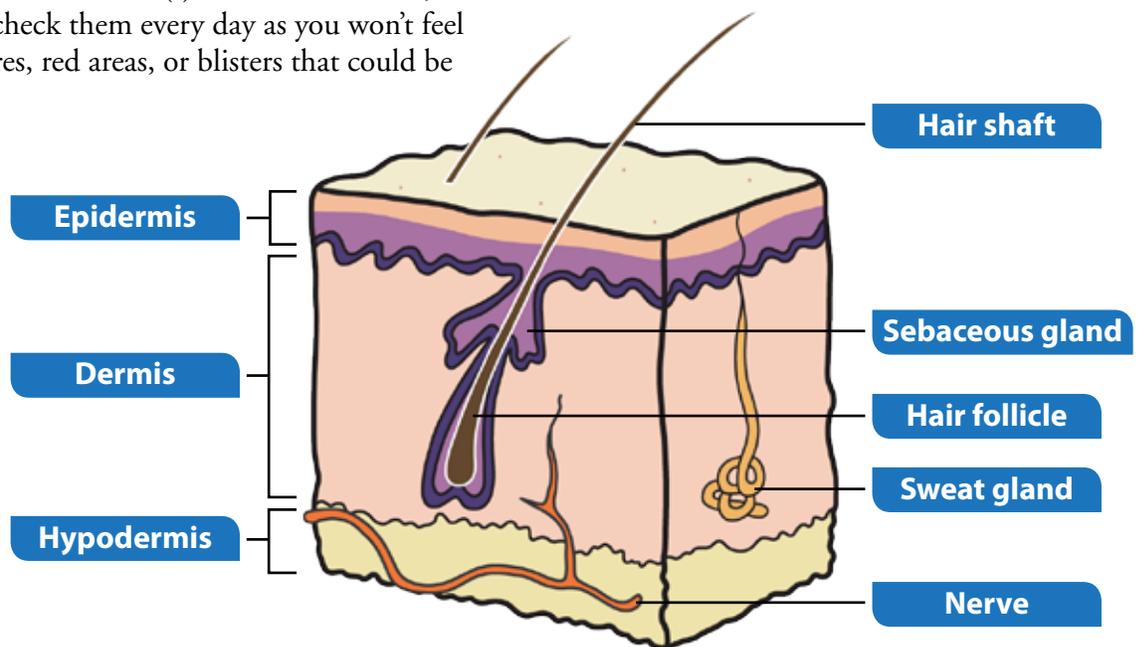
As an amputee you will likely experience at some point an irritation or some kind of skin disorder on the area of your residual limb enclosed within your socket. Sometimes these skin conditions can be so severe as to prevent you from wearing your artificial limb because of pain and discomfort. In this article we will help you identify skin problems, mention products that are available to treat them, and describe common types of skin disorders.

Your activity level, age, and the cause of your amputation may affect what type of skin problems you will be prone to. For instance, if your amputation was the result of an accident and there is scarring, you will probably be concerned with abrasions and sores. If you are an above knee amputee, you must consider that you will use more energy to walk and perspiration may be your biggest concern. For those with a vascular- or diabetes-related amputation, you may have lost sensation in your residual limb(s) and/or sound foot, and will need to check them every day as you won't feel pain from any sores, red areas, or blisters that could be developing.

Skin disorders should be dealt with immediately, otherwise they may lead to more serious conditions. If you have a persistent skin disorder you should see your doctor about treatment and your prosthetist about possible socket changes that may be needed.

However, if you have a vascular- or diabetes-related amputation, it is important to contact your medical team **right away** if you have a sore or infection, as it takes much longer to heal in your situation, and will need special attention to ensure an ulcer does not develop.

The skin is the body's largest organ and has many complex functions such as; regulating the body's temperature, protecting the body from injury, helping to eliminate/expel harmful substances and acting as an external sensory organ. Each square inch of skin contains up to 650 sweat glands and 65 hair follicles!



What Can Cause Skin Problems?

The cause of skin conditions, such as boils and cysts, may be simple to discover and treat, but sometimes you need perseverance to track down the cause(s). A combination of strategies may be needed to successfully address occasional and even more persistent conditions.

As mentioned in our previous article on stump care and hygiene, **heat** is a main cause of skin problems. Overheating can lead to various problems: perspiration, odour, and stump “pistoning” (moving around within the socket) - which in turn can chafe the skin and cause abrasions.

Bacteria can be a problem for amputees. Skin always has many unseen organisms on its surface, some of which are harmless and some of which, under certain conditions, can cause infection. While skin usually can expel bacteria when perspiration dries by evaporation, drying can't occur in the moist environment of an enclosed socket. On top of that, skin usually 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.

Be careful with products you use to reduce bacteria though – extensive use of **alcohol** may cause the skin to become too dry and aggravate skin problems. Another tip is not to shave your residual limb as this may lead to a bacterial infection of the hair follicle, folliculitis. A change in the type of socket and **suspension** you use can affect the condition of your residual limb. For example, a silicone pin lock system may create a traction pull on the end of the residual limb that you might not be used to at first. Different types of sockets can put different pressures on the residual limb and also provide very different environments and it may take time for your skin to adjust. In some cases, even after an adjustment period, the new type of socket may just not be suitable and you have to consider other options. What works for one amputee is not suitable for all.

There are other causes to skin problems as well. Your **socket** may not fit properly if you have gained weight (causing pressure areas), or if you have lost weight (causing your residual limb to move in your socket too much). You can also develop **allergies** to your socket,

liner, sock, or even a product you use on the skin, resulting in irritation. Even long-time users of certain products may suddenly develop allergies to them.

Over the years, amputees have contacted us about various products that have helped them with their skin problems. **We include products we are aware of but this is by no means an exhaustive list. There are other options available that your prosthetist, doctor or pharmacist might suggest.**

Prevention

Moisturizing Lotions and Skin Care Products

Many amputees find regular use of moisturizing lotions or creams conditions the skin which helps it hold up better against abrasions. Vitamin-based creams and lotions are often used, such as **EDAP** (containing vitamins A, E and D) which is available through your prosthetist. Prosthetists and/or pharmacists may recommend certain off-the-shelf lotions – **Uremol** for dry, itchy skin

(containing urea in an emollient cream base) and **Professional Care** used in hospitals to prevent itchiness and discomfort due to dry skin. Cleaners and moisturizers are available for those with especially sensitive skin – dermatologists often recommend **Cetaphil** (soaps, cleansers and moisturizers), **Spectro Gel** (skin cleanser) and **Spectro Derm** (moisturizing skin cleanser). Cetaphil and Spectro products are available at drug stores.

Some prosthetic companies have skin care products that are available through your prosthetist. **DERMA Skin Care** (Otto Bock) includes DERMA clean (anti-bacterial cleaner for the stump and socket), DERMA prevent (protective coating lotion to cover and protect the skin), and DERMA repair (anti-bacterial lotion that relieves and repairs irritated skin while moisturizing it). Similarly, **ICEROSS Clean and Simple** (Össur) soap, moisturizing lotion and lubricant spray are pH balanced and 100% fragrance- and dye-free. **ALPS Fitting Lotion with Skin Conditioner (ALPS)** helps to smooth dry, sensitive skin and is hypoallergenic.





Some amputees use anti-bacterial cleansers on their stumps to limit bacteria that cause skin problems – ones like **pHisoderm** are available at drugstores. Anti-bacterial wet cloths (that kill bacteria that cause odours) are also useful to have on hand to quickly clean your residual limb during the day if needed; some contain aloe and vitamin E.

Layer of Protection on the Stump

If you apply a layer of protection on the stump before putting on your socket it can lessen the likelihood of sores or abrasions developing. Some amputees use lotions (available through your prosthetist) like **ALPS Skin Lotion** (ALPS) or **DERMA prevent** (Otto Bock), or a self-adhesive, waterproof pad like **OpSite**, (Smith & Nephew) which cushions and protects. **SuperSkin** (MedLogic) is an easy-to-apply liquid to help with skin breakdowns by providing a layer of protection. For the prevention and treatment of scars, self-adhesive silicone gel sheets like **Cica Care** (Smith & Nephew), are a good option.

Liners and Sockets

Some gel liners incorporate medical-grade mineral oil or aloe vera in the layer that touches the residual limb, which help to sooth and protect the skin. **ProstheCare Hygiene Clean** spray (Cascade) coats the inside surface of the socket with a fine spray to keep the socket fresh and hygienically clean.

Treatment and Solutions

Perspiration build up can lead to odour problems. **Xzuber**, by JMG Products, can help neutralize odour. Some prosthetists provide **Liquid Body Powder** to their clients. Based on the age-old healing properties of potatoes, it is applied as a creamy lotion but dries to a

powder to control chafing and odours while soothing areas of friction. One amputee found it worked well in her myoelectric prosthesis as she was unable to shake other kinds of powder into the socket for fear it would damage electrode function.

Controlling perspiration is a large part of preventing abrasions and reducing odour. **Dehydral** is an anti-perspirant/anti-bacterial cream. Many amputees also find anti-perspirant roll-ons help control perspiration build-up in sockets, like **Secret Platinum**. Another product available is the **Pure & Natural Crystal Deodorant Stone**, which is consumer friendly as it contains no aluminum. (These products are available over-the-counter at drug stores).

Once an abrasion occurs, it is time to consider a medicated lotion. Prosthetic products like DERMA repair can be used as well as over-the-counter products available at drug stores which simply differ in their active healing ingredients. Many amputees use aloe vera (available in creams and gels) because of its healing properties. Antibiotic ointments are often used to treat and prevent infections in minor cuts and abrasions – some examples include **Bactroban** (mupirocin), **Polysporin** (polymyxin), and **Ozonol** (bacitracin, lidocaine hydrochloride). Some amputees use triple antibiotic ointment that has zinc oxide as its healing agent. As sockets create moist environments, zinc oxide, which is an ingredient in many baby care products for treating baby rashes, is helpful. A doctor may also prescribe **Betamethafone** (0.1%) for persistent or more serious skin conditions.

Second Skin (available at drug and sports stores) products promote healing and protect the skin through a combination of medicated gel and adhesive bandage.

If you are considering products at your drugstore, bear in mind that a lightly medicated powder or lotion (such as zinc oxide as mentioned previously) can help treat minor skin irritations; an antihistamine cream can help treat a pink rash over the stump (a rash that is not from weight bearing) and an antibiotic cream can help treat actual abrasions.



Skin Disorders Affecting Amputees

No matter how hard you try to prevent them, sores and abrasions can occur. The following are some common problems that you may face:

- **Rashes and Abrasions** – these are the most common skin disorders which may occur intermittently or even frequently.
- **Edema** – characterized by skin swelling, drying and roughening at the end of the stump, can be prevented by gradual compression using an elastic bandage. Although this may seem like a minor condition 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** – 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. 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.
- **Fungal Infections** – also caused by the moist, warm conditions in the socket of an artificial limb, these require special creams or powders, which can eventually clear up the condition.
- **Eczema** – 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 edema can contribute to the condition.
- **Adherent scars** – when there has been repeated infection or ulceration damage to the skin, scar formation may be so intense that scar tissue may become attached to the underlying layers of skin. 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.

While you will need to use certain products and see your doctor for treatment if a skin disorder becomes persistent, cleaning your stump and socket/liner daily is the best method to prevent problems from occurring in the first place.