

Blister Prevention and Treatment for Hikers

Introduction

No one is immune to blisters. However, blisters are preventable if you understand the conditions that cause them and they will heal faster if you know how to treat them properly.

Consider your average ripe peach. Press your thumb against the juicy fruit and gently move it back and forth. What happens? The skin moves under your thumb. Now press harder and rub. The skin rips and wrinkles, and peach juice dribbles down your hand. The same pressure-and-friction principle comes into play when you hike. The outer layers of your foot's skin can move more than the sensitive inner layers can. Boots and socks apply pressure and friction as you walk, causing these skin layers to separate and fluid to fill the void a blister.

Now, let's get back to that peach. Say you dunk it in hot water. When you rub it, it peels more easily, right? Again, it's the same with your feet: Warm, moist skin blisters quicker than cool, dry skin. The obvious lesson here is to keep your peaches out of hot water. You might also want to keep your feet dry, cool, and friction-free so you avoid blisters.

What Causes Blisters?

The most common cause of blisters resulting from hiking is friction. When your feet get hot and sweaty, your socks stick to your feet and begin to rub against the inside of your shoes or boots. The skin at the point of friction becomes red and irritated. Lymphatic fluid flows to the friction site gathering between the layers of skin to protect the area like a small balloon, eventually forming a bubble of fluid known as a blister. Blisters can also occur when your socks, boots or shoes get wet from the rain, snow, or a stream crossing.

Blister Prevention

The key to preventing blisters is to eliminate friction. Shoes and boots should be well broken in and you should make an effort to keep your socks as dry as possible by changing them when your feet get hot and sweaty or by taking your shoes or boots off periodically to let your feet and socks dry out when you take a snack break. If this means bringing along one or two extra pairs of socks, it may be well worth a few more ounces of pack weight.

If you expect to do a lot of stream crossings you should consider bringing along a pair of sandals or clogs to wear instead of your boots to keep them dry. Bringing along a pair of camp shoes also gives your boots and socks an opportunity to dry for a longer period of time before you need to put them back on again.

Other effective ways to reduce friction include applying petroleum jelly to a hot spot or sprinkling foot powder or corn starch on your feet to prevent moisture buildup. Many hikers prefer wearing two sock layers; a liner sock which absorbs moisture and wicks it away and can be changed frequently, and a heavier outer sock. This moves the site of friction between the socks, away from your skin and a sock. Be careful to avoid any wrinkles in your socks.

Early Treatment of Hot Spots

If you feel a hot spot forming on your feet, you should stop immediately. Don't tough it out and keep going. Blisters develop over a period of time and often you can feel one coming on. Early detection and treatment is the key to preventing full grown blisters. If you feel a sore spot or irritation on your foot, do the following:

- Take off your boots and hiking socks immediately and find out what is causing the rubbing. Remove any sand, pebbles, seeds, and dirt from your feet.
- Let your feet dry and cool down.
- Cover the sore area with duct tape, band-aid, or even better special blister moleskin. Moleskins are artificial skin that you can cut to shape and stick to your own skin. Moleskin can be purchased in most drugstores in a variety of brands and features.
- Remove the moleskin once you stop hiking and let the skin recover during the night. The next morning, you can judge for yourself to apply a new cover or not. In general, take precautions and apply duct tape and/or moleskin even if the area is only moderately irritated.

If you have a vulnerable trouble spot, put a piece of moleskin on it and cover it with duct tape before you head out. You can also use crazy glue to add an extra layer of skin over a hot spot. This can sometimes be more comfortable than moleskin.

Blister Treatment

Blisters come in different shapes and sizes. The first stage in determining how to treat a blister is to assess it. Small blisters that are not painful should be left alone because the best protection against infection is the blister's own skin. These will heal by themselves and will be reabsorbed in a few days as long as you protect the area with a cover.

Unbroken blisters that are painful should be drained. This is caused by the build-up of fluid in the blister, so removing it will help relieve the pain. A blister in a high-stress area is going to pop if you keep walking on it. It's better to drain it in a controlled setting than have it burst inside a sweaty, dirty boot and sock.



To properly drain a blister:

1. Clean the area with soap and water, alcohol, or an antiseptic towelette. Dry thoroughly.
2. Sterilize a needle or sharp blade, either by holding it over a flame until it is red-hot or submerging it in boiling water for 2 minutes.
3. Puncture the bottom end of the blister so gravity can help drain it. The opening should be no bigger than is necessary to get the fluid out. Starting at the top of the blister, massage the fluid toward the opening.
4. Apply antibiotic ointment to prevent infection, then wrap with the dressing or blister product of your choice.

If the bandages get wet, reapply the antibiotic ointment and redress the blisters. After a few days, the skin under the blister should have healed and you can cut away the remaining dead skin.



If a blister has broken, it first should be cleaned, disinfected and then bandaged. You can clean and disinfect the wound by irrigating it with chlorinated water, wiping it with an alcohol swab, or rubbing it with a dab of hand sanitizer. If the skin over the blister is ragged and dirty it should be carefully cut off. Otherwise it should be left intact to prevent infection. Before bandaging the wound, an antibiotic ointment should be applied. Research has shown that the application of Neosporin or triple antibiotic gel will kill of infecting bacteria after two applications and accelerate the healing process.

Creating a donut of moleskin will relieve pressure from the blister.

Other Folk Remedies

If you hang around long distance hikers and backpackers long enough, someone will suggest using Superglue to help heal a blister or make it possible to keep walking with one. This suggestion is actually a lot less far-fetched than it sounds. Superglue is widely used by surgeons to bond together organs or parts of the body that respond poorly to stitches. It is also effective in closing skin shears like cracked calluses where the sides of a wound must be bonded to accelerate healing.

Superglue can be used to treat blisters by squirting it between top of a popped blister and the skin beneath it. This bonds the roof of the blister to the underlying skin reducing the risk of infection and creating a hardened shell over the blister site. The downside of this technique is that the solvents in the Superglue will hurt like hell when they are applied to the wound. To be on the safe side, make sure that you have sterilized the blister with alcohol before applying Superglue to it.

Tincture of Benzoin is another bonding agent that also can be used to seal the roof of the blister to the exposed skin underneath. It already contains alcohol, so a separate application is unnecessary.

Once a blister forms, it can take weeks to completely heal. On backpacking trips, blisters are especially subject to infection and to being exacerbated by continued pressure. By utilizing a few simple preventative steps, hikers, whether on long-distance trails or short day-hikes, can avoid this common, painful – but usually preventable – problem.