
CHILBLAINS (PERNIOSIS)

WHAT IS CHILBLAINS?

Chilblains (perniosis, winter hands, winter feet) are painful, burning, often itchy or burning blue-purple or red patches on the fingers, hands, toes, feet, heels, and lower legs, which develop after exposure to cold. Sometimes they also appear on the tips of the nose or the edges of the ears. It is caused by an abnormal reaction of the small blood vessels in the skin to cold.

HOW DOES CHILBLAINS DEVELOP?

The normal response to exposure to a cold environment is that the superficial small blood vessels contract, which reduces their size (vasoconstriction), so less blood flows to the skin. This maintains the body's core temperature, while the skin temperature drops. If the skin temperature drops too low, a protective mechanism kicks in: the blood vessels dilate (vasodilation), and the skin warms up quickly, becoming red and warm, and glowing. With chilblains, the blood vessels react differently. In the larger vessels (arterioles) in the deeper parts of the skin, prolonged, persistent vasoconstriction (a narrowing of the blood vessels) occurs after exposure to cold, which is not automatically followed by vasodilation (widening of the blood vessels). The small capillaries in the superficial layers of the skin do open up to their full potential, in an attempt to compensate for the deep blockage. This results in red, glowing, often itchy, or burning spots on the exposed areas, especially the fingers, hands, toes, and feet. Occasionally, blisters or sores may develop in the affected areas. These spots usually resolve on their own within a week, or a maximum of three weeks.



WHAT CAUSES CHILBLAINS?

The cause of this abnormal reaction pattern is unknown. Heredity plays a role, as it runs in families. It is also seen more often in people with poor nutrition, such as those with anorexia nervosa. COVID-19 infection can also cause abnormalities that strongly resemble chilblains. Smoking also has a negative effect; nicotine further constricts the blood vessels.

WHAT CAN YOU DO ABOUT CHILBLAINS?

Treatment is difficult; it's best to avoid exposure to the cold. Wear thick socks and warm, roomy, well-insulated shoes, gloves and inner gloves, and other protective clothing. Make sure socks and shoes stay dry. Don't wear shoes that are too tight or constricting. Also, ensure a warm environment at home. Avoid extreme cold, especially temperature fluctuations. Tip: visit a good winter sports store. Winter sports stores and outdoor shops sell good warm shoes, gloves, and socks. There are also electrically heated gloves and even heated walking boots available, as well as hand warmers and foot warmers.



Some patients benefit from attempts to improve local blood flow with alternating baths (briefly immersing the feet in cold water for a maximum of 2-3 minutes, followed by warm water) and/or massage, performed before the winter season begins. Whether this is truly effective has not been systematically investigated, and cold baths are not without risk for patients prone to chilblains.

Medicinal treatment: the affected areas can be treated with topical agents that improve skin circulation. This can be tried without risk. Examples include capsicum cream 0.075%, which is available by prescription, or creams for treating muscle pain such as Midalgan, available over-the-counter at drugstores or pharmacies. These medications are not reimbursed.

In addition, there are several medications that dilate superficial blood vessels, such as nifedipine and pentoxifilline. However, these medications are not without side effects and are therefore prescribed with caution.

