

Chilblains

Also known as pernio or perniosis

What are chilblains?

Chilblains are itchy, red swollen tender areas of skin that develop on the exposed skin of fingers, toes or rims of ears after exposure to cold at temperatures above 0° Celsius.

What causes perniosis?

The precise cause of perniosis is unknown. The loss of heat from the skin and changes in blood vessels in response to cold, damp, non-freezing windy conditions results in the formation of the lesions.

Chilblains are seen more frequently in Victoria, Tasmania and South Australia compared to warmer parts of Australia such as Queensland.

There may be a genetic influence with chilblains since several generations within a family can be affected.

Other rarer associations include:

- Haematological malignancy or bone marrow disorders.
- Peripheral vascular disease leading to reduced blood flow to the feet and hands secondary to diabetes, smoking or hyperlipidaemia.
- Low body weight or poor nutrition, for example in anorexia nervosa.
- Connective tissue disease, particularly lupus erythematosus, antiphospholipid antibody syndrome or Raynaud disease.

What do chilblains look like?

Chilblains present as single or multiple tender and itching red-blue-violet patches, lumps or nodules. In severe cases, blistering and ulceration occurs in the affected area.

The tips of fingers, backs of hands and toes are the sites most frequently involved. Lesions are less common on the heels, nose, ears and outer thighs.

Symptoms include itching, burning or pain and sometimes blistering. Lesions often resolve within 1 to 3 weeks. Women, children and elderly people are most commonly affected.

The condition tends to improve spontaneously in younger people. Sometimes it can take longer to resolve in older people.

How are chilblains diagnosed?

The history of exposure to cold, damp conditions associated with the onset of skin changes on exposed areas of skin suggest the diagnosis.

Rarely, a skin biopsy or blood tests may be needed to exclude associated disease such as:

- Full blood count and sedimentation rate
- Screening for connective tissue disease
- Cryoglobulins, cryofibrinogen, and cold agglutinin testing. These tests look for uncommon

conditions related to the presence of proteins that may become insoluble at reduced temperature.

- Serum protein electrophoresis (SPEP) with immunofixation.

How is perniosis treated?

General measures

- Prevention is the most important treatment.
- Wear warm clothing and keep the head, neck, hands and feet warm.
- Avoid cold, damp windy conditions and medicines which may constrict blood vessels.
- Keep the affected area dry whenever possible.
- Stop smoking as nicotine constricts blood vessels.

Treat any associated underlying condition

Specific topical and treatment options

There is no evidence for the effectiveness of any specific topical medication in dealing with the symptoms of chilblains.

After chilblains have developed, it is important to prevent further aggravation of affected areas by remaining in a warm environment and keeping affected skin protected.

Simple moisturisers may help relieve itch.

Topical corticosteroids have been used to reduce the inflammation but there are no controlled trials demonstrating their usefulness.

Nifedipine (a calcium channel blocker) may be helpful in individuals who experience repeated attacks. It causes dilatation of the blood vessels of hands and feet.