

Frostbite

What is frostbite?

Frostbite is an injury caused by freezing of the skin and underlying body tissues. The most common body parts to get frostbite are toes, feet, fingers, hands, nose, and ears.

What is the cause?

Frostbite occurs when part of your body is exposed to temperatures or wind chills below freezing, causing the temperature of the body part to drop below freezing. The skin and body tissues just below the skin become frozen and the blood flow decreases. The frostbite is much worse if the skin or clothing is also wet at the time of cold exposure.

What are the symptoms?

Frostbitten skin may:

- Be hard, pale (white or blue), and cold
- Tingle
- Feel numb
- Blister or turn black in severe cases

How is it diagnosed?

Your healthcare provider examines the injured part and looks for signs of frostbite.

What is the treatment?

If medical help is not available, ways to treat frostbite include finding warm shelter and rewarming the skin right away. Rewarming and thawing the frostbitten skin is often done by:

- Removing wet socks or gloves.
- Placing your hands under your armpits or your feet against a warm person's belly.
- Drying and covering the area with warm clothes and then layers of blankets.
- Putting the area in warm water (104°F to 108°F, or 40°C to 42°C).
- Using a warm, wet washcloth on frostbitten nose or earlobes.
- Continue rewarming until the skin is pink and no longer numb. Rewarming takes up to an hour and can be painful.
- Take acetaminophen, ibuprofen, or aspirin for the pain. Nonsteroidal anti-inflammatory medicines (NSAIDs) may cause stomach bleeding and other problems. These risks increase with age. Read the label and take as directed.

Unless recommended by your healthcare provider, do not take for more than 10 days.

- Cover the thawed area, which may become blistered, with a clean bandage or cloth.
- Drink hot fluids such as coffee or tea.

There are some treatments that are not recommended for someone with frostbite.

- Avoid using a heating pad or any intense heat because frostbitten skin is easily burned.
- Avoid drinking alcohol or smoking during the rewarming.
- Avoid rubbing or putting snow on the frostbitten areas.
- Avoid walking on your feet or toes if they are frozen.

If the frostbitten areas do not look normal after thawing, go to an emergency medical facility at once. Treatment may include:

- A shot of a strong pain reliever
- Hyperbaric oxygen (oxygen at greater than normal atmospheric pressure) given in a special chamber to deliver high levels of oxygen to frostbitten tissues
- A tetanus shot (if needed)

Sometimes body parts that have had severe frostbite may need to be amputated.

How long will the effects last?

Full recovery from frostbite is likely if just the skin and uppermost tissue layers were affected. However, it may take some time for frostbitten areas to get full sensation and strength back. Sometimes, numbness at the tips of fingers or toes does not improve. A body part that has been frostbitten will get colder faster than other parts in the future.

You may not know the full extent of damage to frostbitten areas for about 6 weeks. Permanent damage may result when blood vessels are injured. Tissues then die because of the lack of oxygen, and the dead tissue can become infected. If you have gangrene, which can be fatal, the dead area may have to be amputated. However, amputation does not have to be done in every case. Often the blackened areas of severe frostbite heal if they are cared for properly under medical supervision.

How can I help prevent frostbite?

You can best prevent frostbite if you are prepared and dress properly. Be sure your clothing provides protection for your head, ears, nose, hands, and feet. Wear several layers of clothing rather than a single, thick layer. The best materials for layers provide good insulation and keep moisture away from the skin. Materials that do this include polypropylene, polyesters, and wool. Wear an outer garment that is waterproof but will also "breathe," such as Gore-Tex.

Developed by RelayHealth.

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