

Frostbite and Frostnip in Children

What are frostbite and frostnip in children?

Frostbite is damage to parts of the body from freezing. It occurs when ice crystals form in the skin or in deeper tissue. The most common sites for frostbite are the fingers, toes, ears, nose, chin, and cheeks. Frostbite can cause serious injury and needs attention right away. It can cause long-lasting (permanent) tissue damage. Frostnip is a mild form of frostbite. It does not cause permanent tissue damage. And in many cases it can be treated at home.

What causes frostbite and frostnip in a child?

Frostbite and frostnip are caused by exposure to cold temperature, usually below 32°F (0°C). How severe the symptoms are depends on several things. These include air temperature, length of time in the cold, wind chill, dampness, and type of clothing worn. Putting ice on the skin for too long can also cause frostbit or frostnip.

Which children are at risk for frostbite and frostnip?

Children are more likely to get frostbite than adults. This is because they lose heat from their skin faster. A child is more at risk for frostbite and frostnip because of any of the below:

- Playing outdoors for long periods of time
- Having reduced blood flow from conditions such as diabetes or Raynaud phenomenon
- Having reduced blood flow to from gloves, boots, socks, or other items that are too tight
- Not wearing clothing that's warm enough for the weather
- Being in windy weather, which causes rapid cooling of the skin and body

What are the symptoms of frostbite and frostnip in a child?

The symptoms of frostnip include:

- Skin that looks red
- Skin that tingles or feels numb

The symptoms of frostbite include:

- Skin that is red and then becomes white or grayish-yellow
- Skin that burns, tingles, or is numb
- Skin that feels hard and swollen
- Blisters or sores on the skin (severe frostbite)
- Tissue death (necrosis)
- Blackened skin, pain, and infection (gangrene)
- Damage to deeper tissues, such as fat and muscle

The symptoms of frostbite and frostnip can be like other health conditions. Make sure your child sees his or her healthcare provider for a diagnosis.

How is frostbite and frostnip diagnosed in a child?

The healthcare provider will ask about your child's symptoms and health history. He or she will give your child a physical exam.

How is frostbite and frostnip treated in a child?

Frostnip can usually be treated at home. To do this:

- Bring your child indoors.
- Put him or her in dry clothes.
- Warm his or her skin with warm towels or blankets. Or put the area in warm water (100° to 105°F or 38° to 41°C) until feeling returns. Make sure the water is not too hot.
- Don't soak the area for more than 30 minutes. Don't rub or massage the skin.
- Don't use direct heat, such as a heating pad or fire. This can burn skin.
- If warming the skin doesn't help, or if symptoms of frostbite occur, call your child's healthcare provider right away.

If your child has signs of frostbite:

- Calm and comfort your child.
- If your child's feet are affected, carry him or her. Don't let your child walk.
- Move your child indoors to a warm area as soon as possible.
- Put him or her in dry clothes.
- Call your child's healthcare provider or take your child to the emergency room. Frostbite can cause serious injury. It needs medical attention right away.

While waiting for medical attention:

- Warm your child's skin with warm towels or blankets.
- Put the area in warm water (100° to 105°F or 38° to 41°C) until feeling returns. Make sure the water is not too hot.
- Don't soak the area for more than 30 minutes. Don't rub or massage the skin.
- Don't use direct heat, such as a heating pad or fire. This can burn skin.
- Don't put snow on the skin. This does not help.
- Put clean cotton or gauze between affected fingers and toes.
- Don't touch any blisters.
- Wrap warmed areas of the skin to prevent more injury. Don't let the warmed areas freeze again.

Treatment will depend on your child's symptoms, age, and general health. It will also depend on how severe the condition is. Your child may need treatment to remove dead tissue. This may be done with a procedure called debridement. Or it may be done with surgery. Talk with your child's healthcare provider about the risks, benefits, and possible side effects of all treatments.

What are the possible complications of frostbite and frostnip in a child?

In severe cases of frostbite, fingers or toes may need to be removed (amputated) with surgery. Frostbite can also cause long-term symptoms in the area of damage. These symptoms can last for weeks, months, or years, and may include:

- Throbbing pain
- Tingling
- Feeling of electric shocks
- Numbness
- Cold sensitivity

How can I help prevent frostbite and frostnip in my child?

To help prevent frostbite and frostnip:

- Dress your child warmly in layers. Make sure ears, fingers, and toes are well covered.
- Change your child's clothing if it becomes wet, especially socks, hats, and mittens.
- Bring your child indoors often to warm up. Give your child a warm snack, soup, or warm drink. Check his or her toes, fingers, nose, and ears.
- Be alert for early signs of frostnip and frostbite. Teach your child what signs to watch for.
- If you use an ice pack on your child's skin, wrap it in a clean, thin towel. Never put ice or an ice pack directly on the skin. To make an ice pack, put ice cubes in a plastic bag that seals at the top. Only use it for up to 15 minutes every 1 to 2 hours.

When should I call my child's healthcare provider?

Call the healthcare provider if your child has:

- Symptoms that don't get better, or get worse
- New symptoms

Frostbite needs medical help right away. Seek medical care as soon as possible if your child has symptoms of frostbite.

Key points about frostbite and frostnip in children

- Frostbite is damage to parts of the body from freezing. It occurs when ice crystals form in the skin or in deeper tissue. The most common sites for frostbite are the fingers, toes, ears, nose, chin, and cheeks. Frostbite can cause serious injury and needs attention right away. It can cause long-lasting (permanent) tissue damage.
- Frostnip is a mild form of frostbite. It does not cause permanent tissue damage. And in many cases it can be treated at home.
- The symptoms of frostnip include skin that looks red and tingles or feels numb. The symptoms of frostbite also include skin that turns white, burns or is numb, and feels hard or swollen.
- Frostnip can usually be treated at home. But frostbite needs medical help right away.
- In severe cases of frostbite, fingers or toes may need to be removed (amputated) with surgery.
- To help prevent frostbite and frostnip, dress your child warmly in layers. Make sure ears, fingers, and toes are well covered.

Next steps

Tips to help you get the most from a visit to your child's healthcare provider:

- Know the reason for the visit and what you want to happen.
- Before your visit, write down questions you want answered.
- At the visit, write down the name of a new diagnosis, and any new medicines, treatments, or tests. Also write down any new instructions your provider gives you for your child.
- Know why a new medicine or treatment is prescribed and how it will help your child. Also know what the side effects are.
- Ask if your child's condition can be treated in other ways.

- Know why a test or procedure is recommended and what the results could mean.
- Know what to expect if your child does not take the medicine or have the test or procedure.
- If your child has a follow-up appointment, write down the date, time, and purpose for that visit.
- Know how you can contact your child's provider after office hours. This is important if your child becomes ill and you have questions or need advice.