

Frostbite

Definition

- Frostbite is a cold injury to the skin
- The ears, nose, fingers, and toes are most often affected

Health Information

Symptoms

- Symptoms of mild frostbite (or frostnip) are cold, tingling and painful skin.
- True frostbite causes white, hard, numb skin. It can be serious. It always needs medical care after re-warming.
- Common sites are toes, fingers, tip of the nose, the outer ear or cheeks.

Frostbite Severity

- **Frostnip** (mild frostbite). Cold, tingling and painful skin. No skin changes after re-warming.
- **1st Degree**. White and waxy (hard) while frozen. Mild redness and swelling after re-warming. No blisters.
- **2nd Degree**. Same as 1st degree plus blisters after 24 hours.
- **3rd Degree**. Blood-filled blisters leading to skin damage and scarring.

Cause

- The nerves, blood vessels and skin cells are frozen for a short time.
- **Type of contact**. Frostbite is made worse if the skin and clothing are wet. Touching bare hands to cold metal during freezing weather can cause frostbite right away.
- **Time of contact**. The longer the exposure, the greater the heat loss and the chance of frostbite. The wind-chill index also plays a part in how quickly frostbite occurs.

Prevention of Frostbite

- Cold sensitivity and recurrent frostbite is common following severe frostbite.
- Dress in layers for cold weather. The first layer should be thermal underwear. The outer layer needs to be waterproof. The layers should be loose, not tight. Mittens are warmer than gloves. Do not use tight gloves or shoes. They might interfere with circulation.
- Wear a hat, because over 50% of heat loss occurs from the head.
- Change wet gloves or socks right away.
- Teach your child to know the first warning signs of frostbite. Tingling and numbness are signs to go indoors.

Care Advice

1. Overview:

- Frostbite means the nerves and skin were frozen for a short time.
- Most frostbite is mild. Most often, it gets better with warming up.
- Here is some care advice that should help.

2. **Rewarming - Rewarm the skin fast with wet heat:**
 - Move into a warm room.
 - **For Frostbite of Fingers or Toes.** Place the body part in warm water. A bathtub or sink is often the best method. The water should be very warm (104° to 108° F, or 40° to 42° C). It should not be hot enough to burn. Keep soaking in the warm water for about 30 minutes. A pink flush means circulation has returned to the body part. At this point, the numbness should be gone.
 - **For Frostbite of the Face (such as ears, nose).** Put a warm wet washcloth on the area. You should keep doing this for about 30 minutes. A pink flush means circulation has returned to the area.
 - With more severe frostbite, the last 10 minutes of rewarming can be painful.
 - If not using a tub, keep the rest of your child's body warm. Cover with blankets.
3. **Common Treatment Mistakes:**
 - A common mistake is to put snow on the frostbite or to rub it. Both can cause damage to thawing tissues.
 - Do not re-warm with dry heat. Do not use heat lamps, heating pads or electric heaters. Reason: Skin that has frostbite can't sense burning.
 - Do not re-warm if could freeze again in the next few hours. Freezing-warming-freezing causes more harm than freezing-warming.
4. **Drink Warm Liquids:**
 - Have your child drink lots of warm liquids such as hot chocolate.
5. **Ibuprofen:**
 - For true frostbite, give ibuprofen for pain relief.
6. **Aloe Vera Ointment:**
 - Put aloe vera ointment on the frostbite.
 - Use twice daily for 5 days.
7. **What to Expect:**
 - Frostnip does not cause any damage to the skin. After rewarming, skin feeling, color and softness come back in less than 1 hour.
 - Mild frostbite: After rewarming, the skin may be flushed and tingly. This lasts for a few hours.

Call Your Doctor If

- Pain becomes severe
- Color and feeling do not return to normal after 1 hour of re-warming
- Frostbite gets blisters
- You think your child needs to be seen
- Your child becomes worse

Pediatric Care Advice

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