

Burns, Scrapes, Cuts, and Infections of the Skin

Hilliard Pediatrics, Inc. - Dr. Tim Teller, MD

Burns

A burn is a heat, chemical, or electrical injury to the skin. Burns are divided into three groups by how severe the injury is:

- **First-degree** burns have red skin with no blister.
- **Second-degree** burns have reddened skin with blisters.
- **Third-degree** burns are deeper burns with white or charred skin.

First and second-degree burns can hurt a lot, but third-degree burns are so deep that the skin is not painful. Many burned areas are a mix of different degrees.

First Aid:

Immediately put the burned body part in cold tap water or pour cold water on the area for 10 minutes. If a chemical burned the skin, flush the chemical off the skin immediately. A shower may be needed to flush the chemical away. **Next:** Give your child a dose of Tylenol or Motrin for the pain. Do **NOT** open blisters! If they open on their own, that is okay. **Then:** For first degree and smaller second-degree burns, apply over-the-counter Neosporin® ointment and cover with a Band-Aid® or non-stick pad. Clean once a day with warm water. The pain usually lasts 2 days and the burn often heals at about 10 days. The skin may peel like sunburn. After the area looks healed at 7-10 days, it is important to use sunscreen on the area to keep the area from becoming sunburned in the coming weeks. It is fine to use Mederma® scar-reduction gel three times a day for 6-8 weeks to decrease the chances of the area scarring. If an infection happens at the burn, it would typically be in 2-3 days. Any of these symptoms would concern us for an infection: increased tenderness, drainage of pus, spreading redness, or an unusual odor. Note that some blistering burns => Your child should be seen at the Nationwide Children's Hospital with a burn if there is a large area involved; it is a third-degree burn; it is a second-degree burn with a blister 2 inches across or larger; the face, neck, both hands, both feet, or the private parts are involved; the burn was caused by an electrical or chemical injury; if your child cannot get comfortable 2 hours after the burn; or the burn was caused by a house fire. => We should see your child in the office for walk-ins at 8 a.m. or call for an appointment at 9 a.m. if the burn is not healed after 10 days or the burn looks infected

Sunburns

We strongly recommend regularly applying sunscreen of at least SPF 30 to all children 6 months and above before they are exposed to the sun to prevent sunburn. When sunburn happens, there are some things to do to help relieve the discomfort. Aloe vera creams or gels help relieve the pain of the burn. It is also fine to do Tylenol or Motrin for the pain. With some sunburns that are consistently painful despite aloe vera and the oral pain relievers. For these times, it can be helpful to have your child take Benadryl by mouth to help with the pain. It can also help to apply 1%

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hydrocortisone cream twice a day (only if there is no blistering). If the sunburn blisters (especially blisters at least 1 inch across), it is helpful to have your child seen in the office during regular office hours (walk-ins at 8 a.m. or an appointment at 9 a.m. or later) to further evaluate the blisters. If the sunburn blisters, we treat it like a heat burn: **leave the blister alone**. If the blister breaks open, apply Neosporin® ointment 2-3 times a day.

Scrapes and Scratches

Scrapes to the skin occur frequently for children. Scrapes and scratches are injuries to the skin that do break the skin but do not go all the way through the skin layers. If there is bleeding, hold a clean cloth or a gauze pad on the area until the bleeding stops. Gently clean it afterwards with hydrogen peroxide or mild soap and water. Apply an over-the-counter antibiotic ointment, such as Neosporin, 2 or 3 times a day for 3-5 days until the scrape heals. Scrapes can look quite sore in a few days as the skin grows back (this is called “granulation tissue” and can look white and moist). If the area is infected, it will ooze yellow-green material, be red outside the scrape, and become more sore and tender.

- If your child’s scrape shows signs of an infection, your child should be seen promptly in our office or urgent care. Call our office during routine office hours for an appointment or come in for walk-in hours for further evaluation.
- If there are red streaks running away from the scrape and your child has a fever, your child should be seen urgently. During after hours, we would recommend that your child be seen at the urgent care or emergency room in this case.

Cuts

Healthy children will get cuts. Some cuts will need some care at home, where some cuts will need stitches. Cuts (also called lacerations) go through the full skin layers. Often you can see the bumpy white or yellow fatty tissue where the skin is split open. Cuts or lacerations are closed to reduce further bleeding, reduce the chances of an infection, and to help it heal well (less likely to scar). Any cut that needs to be closed with stitches, staples, or the skin glue Dermabond needs to have it done in the first 12 hours after the injury. Waiting longer than 12 hours dramatically increases the chances of trapping some germs under the cut and causing an infection. Cuts that are longer than ¼ inch on the face, cuts longer than ½ inch on the rest of the body, or cuts that are gaping or split open will likely need stitches, staples, or skin glue. If your child has a cut that does not require stitches or staples to close, apply pressure with a clean gauze or towel until the bleeding stops. Then it is best to keep the area covered for a day or two with Neosporin ointment and a Band-Aid. We do not stitch, staple, or apply Dermabond in the office.

Children needing stitches or staples will be referred by our office to the Nationwide Children’s Hospital Emergency Department (downtown) or to one of the Urgent Care centers (the closest to our office is in Hilliard off Britton Pkwy).

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The following is our office's specific instructions for taking care of sutures ("stitches") if they have been needed to close a cut. Sutures ("stitches") can be dissolvable (do not to be removed later) or non-dissolvable (do need to be removed later). You will be told when they are placed whether the sutures ("stitches") will need to be removed. We recommend:

1. Clean the area with $\frac{1}{2}$ **strength hydrogen peroxide** (mix equal amounts of over-the-counter hydrogen peroxide and water together) twice each day for as long as the sutures ("stitches") are still there.
2. Apply over-the-counter **Neosporin** (antibacterial) ointment two or three times a day for the first day.
3. After the first day, keep the sutures ("stitches") **uncovered** unless the child is playing outside (and then cover the area with an elastic bandage (Band-Aid) just when playing outside).
4. Leave the sutured ("stitched") area **open to the air** as much as possible so that the edges of the cut can heal well. If the area remains covered, the area often does not heal as quickly.
5. If the stitches are not dissolvable and the **stitches need to be removed**, we recommend following-up based on where the cut happened.
 - o Stitches on the **face** - 5-7 days after the stitches were placed
 - o Stitches that are not on the face or on a joint - 7-10 days after the stitches were placed
 - o Stitches **across a joint** - 14-21 days after the stitches were placed (finger, knee, elbow, etc.)

Note that some cuts that needed stitches heal slower than others and although the above information is a good guideline, occasionally we will find that the area has not healed and will need to reschedule the suture removal for another date.

Once the sutures ("stitches") have been removed, we recommend that if you would like to reduce the chance of the area leaving a prominent scar in the future to apply the over-the-counter **Mederma or Mederma Kids** ointment according to the label instructions. This ointment is available at many grocery stores and pharmacies.

Bites

Bites from people and animals are common in children. Dog bites come to our attention more often, but cat and human bites are more likely to become infected. Most bites will not require any stitches as the puncture wounds often heal well without needing stitches. Also, some bite wounds are more likely to become infected if stitched.

- **Bites that will not stop bleeding** after half an hour should be evaluated at Nationwide Children's Hospital Urgent Care or Emergency Department.
- The typical time for something to become infected after a bite is usually 2-3 days and the area will become redder, more painful, and ooze some discolored (yellow or green) drainage.

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- **Bites that are likely to become infected** (cat bites, deep puncture wounds, moderate to severe bites, facial bites, hand or foot bites) should be evaluated promptly at our office for walk-ins at 8 a.m., an appointment during regular hours, or at Nationwide Children's Urgent Care or Emergency Department.
- If a bite shows **signs of infection**, we want your child to be seen right away either in our office for walk-ins at 8 a.m., for an appointment, or at Nationwide Children's Urgent Care or Emergency Department.

Clean the bite with warm, soapy water right away. Apply over-the-counter Neosporin ointment after cleaning the area, and then apply the ointment three times a day (morning, afternoon, and evening) for 3-7 days.

Frostbite

Frostbite is an injury to the skin from the cold. Common areas that are affected are toes, fingers, nose, ears, and cheeks. Long exposure to cold temperatures, especially if it is windy and the skin gets wet, are most likely to cause frostbite. Milder frostbite (called frostnip) cause cold, tingling, and painful skin. For mild frostbite, remove any wet clothing and move into a warm space. The best way to warm up fingers or toes is to place the area into very warm water (104 to 108 degrees). It often takes 30 minutes to warm up the area and to get a pink flush that shows that the blood supply is returning. For ears, nose, or cheeks use warm wet washcloths to the frostbitten area. With mild forms of frostbite, there will be redness and swelling after the areas have warmed up. With worsening frostbite, blisters with clear fluid will appear.

We would recommend that your child be seen at the Nationwide Children's Hospital Emergency Department or Urgent Care if:

1. The color and feeling (sensation) do not return to normal after 1 hour of rewarming,
2. Severe pain continues after the rewarming, or
3. If your child has signs of hypothermia from being cold persistently (difficult to awaken, slurred speech, confused thinking, or body temperature less than 95 degrees).

Bacterial Skin Infections

When bacterial skin infections happen, the skin becomes red, swollen, and tender. If there is an opening through the skin, there may be drainage of white pus or yellowish drainage from the area. Some infections cause a crusty drainage. An infection can happen quickly: the skin may look fine then become red and sore overnight or over a day. If there was an obvious cut or break to the skin (a scrape or a cut, for instance), an infection usually starts 2-3 days after the injury to the skin.

The three most common bacterial skin infections are impetigo, cellulitis, and boils (an abscess).

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- **Impetigo** is an infection, usually by a form of Strep that lives on our skin that causes red coin-sized areas of the skin to have a yellow or honey colored crust. It is quite contagious, both to yourself (once it starts, it can spread after touching the infected area and then another area of skin) and others. Mild cases can be treated with Neosporin. If not improving in a few days, we will often confirm that the rash is impetigo and use either a prescription-strength ointment or cream. Sometimes, we need to treat with an antibiotic by mouth.
- **Cellulitis** is an infection of the deeper skin layers and is a growing, red, painful, and swollen area of skin. Fever can occur with cellulitis. It is caused by Strep or Staph ("staff"). Cellulitis often follows 2-3 days after a cut, scratch, or puncture wound. We want to see a child with cellulitis in the office. Cellulitis needs an antibiotic by mouth; rarely, cellulitis worsens and needs IV (into a vein) antibiotics in the hospital.
- An **abscess** is an area of bacterial infection that causes a pus-pocket to form under the skin. Boils, furuncles, and carbuncles are different sized abscesses. They are very often caused by Staph. It is quite possible to have more than one abscess at a time. An abscess needs to have the pus drained and needs antibiotics. Sometimes we are able to drain an abscess in the office, send a culture of the pus off to the lab for a culture, and prescribe an antibiotic to be taken by mouth. For other infections, a trip to Nationwide Children's Emergency Department will be necessary.

Preventing Infections

Preventing infections, even preventing more serious bacteria like Staph, often does work. We recommend cleaning a cut or scrape with warm, soapy water or hydrogen peroxide twice a day for 3-5 days. Apply an over-the-counter antibacterial ointment (Neosporin or Polysporin) 2-3 times a day during those 3-5 days. Keep the area covered with a bandage (although it is fine to leave the area uncovered while your child sleeps).

- We would recommend that your child be seen in our office for walk-in hours or a scheduled appointment if there are signs of an infection with a red, swollen, painful area on the skin.
- We would recommend not waiting for routine office hours and going to Nationwide Children's Hospital Urgent Care or Emergency Department if there is a fever (temperature of 100.5 degrees or above), so much pain that your child cannot get comfortable, a red streak going up the skin away from the infection, or signs of pus (white or yellow infected material) under or draining from the skin.