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# Burns

There are three levels of burns:

- **First-degree burns** affect only the outer layer of the skin. They cause pain, redness, and swelling.
- **Second-degree** burns affect both the outer and underlying layer of skin. They cause pain, redness, swelling, and blistering. They are also called partial thickness burns.
- **Third-degree** burns affect the deep layers of skin. They are also called full thickness burns. They cause white or blackened, burned skin. The skin may be numb.

Burns fall into two groups.

**Minor burns** are:

- First degree burns anywhere on the body
- Second degree burns less than 2-3 inches wide

**Major burns** include:

- Third-degree burns
- Second-degree burns more than 2-3 inches wide
- Second-degree burns on the hands, feet, face, groin, buttocks, or a major joint

You can have more than one type of burn at a time.

## Considerations

Severe burns need immediate medical care. This can help prevent scarring, disability, and deformity.

Burns on the face, hands, feet, and genitals can be particularly serious.

Children under age 4 and adults over age 60 have a higher chance of complications and death from severe burns because their skin tends to be thinner than other age groups.

## Causes

Common causes of burns from most to least common are:

- Fire/flame
- Scalding from steam or hot liquids
- Touching hot objects
- Electrical burns
- Chemical burns

Burns can be the result of:

- House fires
- Car accidents
- Playing with matches
- Faulty space heaters
- Unsafe use of firecrackers
- Kitchen accidents, such as a child grabbing a hot iron or touching the stove

This list is not all-inclusive.

You can also burn your airways if you breathe in smoke, steam, superheated air, or chemical fumes in poorly ventilated areas.

## Symptoms

Burn symptoms can include:

- **Blisters**
- Pain (How much pain you have is unrelated to the level of burn. The most serious burns can be painless.)
- Peeling skin
- **Shock** (watch for pale and clammy skin, weakness, blue lips and fingernails, and a drop in alertness)
- Swelling

- Red, white or charred skin

If you have burned your airways, you may have:

- Burns on the head, face, neck, eyebrows, or nose hairs
- Burned lips and mouth
- Coughing
- Difficulty breathing
- Dark, black-stained mucus
- Voice changes
- Wheezing

## **First Aid**

Before giving first aid, it is important to determine what type of burn the person has. If you aren't sure, treat it as a major burn. Serious burns need immediate medical care. Call your local emergency number or 911.

### MINOR BURNS

If the skin is unbroken:

- Run cool water over the area of the burn or soak it in a cool water bath (not ice water). Keep the area under water for at least 5 minutes. A clean, cold, wet towel will also help reduce pain.
- Calm and reassure the person.
- After flushing or soaking the burn, cover it with a dry, sterile bandage or clean dressing.
- Protect the burn from pressure and friction.
- Over-the-counter ibuprofen or acetaminophen can help relieve pain and swelling. Do NOT give aspirin to children under 12.
- Once the skin has cooled, moisturizing lotion also can help.

Minor burns will usually heal without further treatment. Make sure the person is up to date on tetanus immunization.

## MAJOR BURNS

If someone is on fire, tell the person to stop, drop, and roll. Then, follow these steps:

- Wrap the person in thick material such as a wool or cotton coat, rug, or blanket. This helps put the flames out.
- Pour water on the person.
- Call 911 or your local emergency number.
- Make sure that the person is no longer touching any burning or smoking materials.
- Do NOT remove burned clothing that is stuck to the skin.
- Make sure the person is breathing. If necessary, begin rescue breathing and [CPR](#).
- Cover the burn area with a dry sterile bandage (if available) or clean cloth. A sheet will do if the burned area is large. Do NOT apply any ointments. Avoid breaking burn blisters.
- If fingers or toes have been burned, separate them with dry, sterile, non-sticky bandage.
- Raise the body part that is burned above the level of the heart.
- Protect the burn area from pressure and friction.

You will also need to prevent [shock](#). If the person does not have a head, neck, back or leg injury, follow these steps:

- Lay the person flat
- Raise the feet about 12 inches
- Cover the person with a coat or blanket

Continue to monitor the person's [pulse](#), rate of breathing, and blood pressure until medical help arrives.

## DO NOT

- Do NOT apply ointment, butter, ice, medications, cream, oil spray, or any household remedy to a severe burn.
- Do NOT breathe, blow, or cough on the burn.

- Do NOT disturb blistered or dead skin.
- Do NOT remove clothing that is stuck to the skin.
- Do NOT give the person anything by mouth, if there is a severe burn.
- Do NOT place a severe burn in cold water. This can cause shock.
- Do NOT place a pillow under the person's head if there is an airways burn. This can close the airways.

## When to Contact a Medical Professional

Call 911 or your local emergency number if:

- The burn is very large - about the size of your palm or larger
- The burn is severe (third degree).
- You aren't sure how serious it is.
- The burn is caused by chemicals or electricity.
- The person shows signs of [shock](#).
- The person breathed in smoke.
- Physical abuse is the known or suspected cause of the burn.
- There are other symptoms associated with the burns

For minor burns, call your doctor if you still have pain after 48 hours.

Call immediately if signs of infection develop. These signs include:

- Drainage or pus from the burned skin
- Fever
- Increased pain
- Red streaks spreading from the burn
- [Swollen lymph nodes](#)

Also call immediately if symptoms of dehydration occur with a burn:

- Decreased urination
- Dizziness
- Dry skin
- Lightheadedness
- Thirst

Children, elderly, and anyone with a weakened immune system (for example, HIV) should be seen right away.

## Prevention

To help prevent burns:

- Install smoke alarms in your home. Check and change batteries regularly.
- Teach children about fire safety and the hazards of matches and fireworks.
- Keep children from climbing on top of a stove or grabbing hot items like irons and oven doors.
- Turn pot handles toward the back of the stove so that children can't grab them and they can't be accidentally knocked over.
- Place fire extinguishers in key locations at home, work, and school.
- Remove electrical cords from floors and keep them out of reach.
- Know about and practice fire escape routes at home, work, and school.
- Set temperature of water heater at 120 degrees or less.

## Alternative Names

Second degree burn; First degree burn; Third degree burn

## References

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