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** (partial thickness) burns affect both the outer and underlying layer of skin. They cause pain, redness, swelling, and blistering.
- **Third-degree** (full thickness) burns extend into deeper tissues. They cause white or blackened, charred skin that may be numb.

Considerations

Before giving first aid, evaluate how extensively burned the person is and try to determine the depth of the most serious part of the burn. Then treat the entire burn accordingly. If in doubt, treat it as a severe burn.

By giving immediate first aid before professional medical help arrives, you can help lessen the severity of the burn. Prompt medical attention to serious burns 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.

In case of a fire, you and the others there are at risk for carbon monoxide poisoning. Anyone with symptoms of headache, numbness, weakness, or chest pain should be tested.

Causes

Burns can be caused by dry heat (like fire), wet heat (such as steam or hot liquids), radiation, friction, heated objects, the sun, electricity, or chemicals.

Thermal burns are the most common type. Thermal burns occur when hot metals, scalding liquids, steam, or flames come in contact with your skin. These are frequently the result of fires, automobile accidents, playing with matches, improperly stored gasoline, space heaters, and electrical malfunctions. Other causes include unsafe handling of firecrackers and kitchen accidents (such as a child climbing on top of a stove or grabbing a hot iron).

Burns to your airways can be caused by inhaling smoke, steam, superheated air, or toxic fumes, often in a poorly ventilated space.

Burns in children are sometimes traced to parental abuse.

Symptoms

- Blisters
- Pain (the degree of pain is not related to the severity of the burn -- the most serious burns can be painless)
- Peeling skin
- Red skin
- Shock (watch for pale and clammy skin, weakness, bluish lips and fingernails, and a drop in alertness)
- Swelling
- White or charred skin

Symptoms of an airways burn:

- Charred mouth; burned lips
- Burns on the head, face, or neck
- Wheezing
- Change in voice
- Difficulty breathing; coughing
- Singed nose hairs or eyebrows
- Dark, carbon-stained mucus

**First Aid**

**FOR MINOR BURNS**

1. 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 submerged for at least 5 minutes. A clean, cold, wet towel will also help reduce pain.
2. Calm and reassure the person.
3. After flushing or soaking, cover the burn with a dry, sterile bandage or clean dressing.
4. Protect the burn from pressure and friction.
5. Over-the-counter ibuprofen or acetaminophen can help relieve pain and swelling. Do NOT give children under 12 aspirin.
6. Minor burns will usually heal without further treatment. However, if a second-degree burn covers an area more than 2 to 3 inches in diameter, or if it is located on the hands, feet, face, groin, buttocks, or a major joint, treat the burn as a major burn.
7. Make sure the person is up to date on tetanus immunization.

**FOR MAJOR BURNS**

1. If someone is on fire, tell the person to stop, drop, and roll. Wrap the person in thick material to smother the flames (a wool or cotton coat, rug, or blanket). Douse the person with water.
2. Call 911.
3. Make sure that the person is no longer in contact with smoldering materials. However, do NOT remove burned clothing that is stuck to the skin.
4. Make sure the person is breathing. If breathing has stopped, or if the person's airways are blocked, open the airways. If necessary, begin rescue breathing and CPR.

5. 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.

6. If fingers or toes have been burned, separate them with dry, sterile, dressings.

7. Elevate the body part that is burned above the level of the heart. Protect the burn area from pressure and friction.

8. Take steps to prevent shock. Lay the person flat, elevate the feet about 12 inches, and cover the person with a coat or blanket. However, do NOT place the person in this shock position if a head, neck, back, or leg injury is suspected or if it makes the person uncomfortable.

9. Continue to monitor the person's vital signs until medical help arrives. This means pulse, rate of breathing, and blood pressure.

**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 immerse 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 if:

- The burn is extensive (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 inhaled smoke.
- Physical abuse is the known or suspected cause of the burn.

Call a doctor if your pain is still present after 48 hours.
Call immediately if signs of infection develop. These signs include increased pain, redness, swelling, drainage or pus from the burn, swollen lymph nodes, red streaks spreading from the burn, or fever.
Also call immediately if there are signs of dehydration: thirst, dry skin, dizziness, lightheadedness, or decreased urination. 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.

References


Update Date: 2/19/2008

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