

Treating Burns

The objectives of first aid treatment for burns are to:

- Cool the burned area.
- Cover with a sterile cloth to reduce the risk of infection (by keeping fluids in and germs out).

Burns may be caused by heat, chemicals, electrical current, and radiation. The severity of a burn depends on the:

- Temperature of the burning agent.
- Period of time that the victim was exposed.
- Area of the body that was affected.
- Size of the area burned.
- Depth of the burn.

Burn Classifications

The skin has three layers:

- The epidermis, or outer layer of skin, contains nerve endings and is penetrated by hairs.
- The dermis, or middle layer of skin, contains blood vessels, oil glands, hair follicles, and sweat glands.
- The subcutaneous layer, or innermost layer, contains blood vessels and overlies the muscle and skin cells.

Depending on the severity, burns may affect all three layers of skin.

Burns are classified as first, second, or third degree depending on their severity.

Burn Classifications

Classification	Skin Layers Affected	Signs
1 st Degree	<ul style="list-style-type: none">▪ Epidermis (superficial)	<ul style="list-style-type: none">▪ Reddened, dry skin▪ Pain▪ Swelling (possible)
2 nd Degree	<ul style="list-style-type: none">▪ Epidermis▪ Partial destruction of dermis	<ul style="list-style-type: none">▪ Reddened, blistered skin▪ Wet appearance▪ Pain▪ Swelling (possible)
3 rd Degree (Full Thickness Burns)	<ul style="list-style-type: none">▪ Complete destruction of epidermis and dermis▪ Possible subcutaneous damage (destroys all layers of skin and some or all underlying structures)	<ul style="list-style-type: none">▪ Whitened, leathery, or charred (brown or black)▪ Painful or relatively painless

Guidelines for treating burns include:

- Removing the victim from the burning source. Put out any flames and remove smoldering clothing unless it is stuck to the skin.
- Cooling skin or clothing, if they are still hot, by immersing them in cool water for not more than 1 minute or covering with clean compresses that have been wrung out in cool water. Cooling sources include water from the bathroom or kitchen; garden hose; and soaked towels, sheets, or other cloths. Treat all victims of third-degree burns for shock.
- Covering loosely with dry (or moist, based on local protocols), sterile dressings to keep air out and prevent infection.
- Elevating burned extremities higher than the heart.
- **Do not** use ice. Ice causes vessel constriction.
- **Do not** apply antiseptics, ointments, or other remedies.
- **Do not** remove shreds of tissue, break blisters, or remove adhered particles of clothing. (Cut burned-in clothing around the burn.)

Infants, young children, and older persons, and persons with severe burns, are more susceptible to hypothermia. Therefore, rescuers should use caution when applying cool dressings on such persons. A rule of thumb is do not cool more than 15 percent of the body surface area (the size of one arm) at once, to prevent hypothermia.