# Soft tissue injuries

# First Aid/ Burns

## Burns are special types of soft-tissue injuries that can damage one or more layers of the skin and underlying tissues.

# Recognition

## There are 3 degrees of burns:

## 1. Superficial Burn - First-degree Skin will be dry, red, may swell and will usually be painful.

## 2. Partial thickness - Second-degree Skin will be red and may swell, usually is painful, has blisters that may open and release a clear fluid. This will make the skin appear wet.

## 3. Full Thickness - Third-degree May destroy underlying tissues such as fat, bones, nerves, and muscles. Skin may be brown or black and will look charred. Tissue underneath may appear white. May be very painful or painless due to nerve endings being destroyed.

## Burns may be caused by heat (thermal burns), chemicals (wet or dry), by electricity, or by radiation.

# Treatment

# Thermal burns

## You must stop the burning by removing the person from the source of the burn. Check for any life-threatening conditions by checking the Airway, Breathing, and Circulation. Cool the burn with copious amounts of water until the pain is relieved.

## Cover the burn loosely with a sterile (preferably non-adhesive) dressing. Do not use butter, oils, creams, etc.; they can trap heat and increase risk of infection. They will also need to be cleaned out by the hospital later, which only increases the pain the patient must endure. Also do not use antiseptics that may aggravate sensitive skin. Treat for shock. Burns cripple the body's ability to regulate heat. Ensure the person does not become over-heated or chilled.

## Aloe vera extract, silverdene (Silver Sulfazdiazine), topical analgaesics, and NSAIDs (such as ibuprofen or aspirin) are commonly used medications. Consult a doctor before use.

# Chemical burns

## Don't do this!

## • Apply ice or iced water except on small first degree burns.

## • Touch a burn with anything other than a sterile covering.

## • Remove adhered clothing.

## • Try to clean a severe burn.

## • Break blisters.

## • Use any kind of ointment on a severe burn.

## If there is a dry chemical, brush it off the skin using paper, cloth, or with a gloved hand. Be sure not to get any on yourself or more on the patient. Once the bulk of the dry chemical is gone, flush with running water as above. Call EMS immediately. If the burn is caused by a wet chemical, flush with plenty of water for 15 minutes and while flushing, call EMS immediately.

# Electrical burns

## Electrical burns look like third-degree burns, but are not surrounded by first- and second-degree burns. They always come in pairs: an entry wound (smallest) and exit wound (larger). Call EMS immediately if a person has been shocked as electrocution can cause cardiac and respiratory problems. Be prepared to give CPR or defibrillation. Care is the same for thermal burns.

# Radiation burns

## Radiation burns, though typically caused from a nuclear source, could also include ultraviolet radiation in the form of sunburn which should be treated as a thermal burn. Burns caused by a nuclear source, though rare, are still possible. Radiation burns can not be treated by a lay rescuer. Individuals working in high-risk environments for possible radiation exposure are trained in the treatment of radiation burns. The rescuer may unknowingly put himself/herself at risk of radiation exposure by treating someone with a radiation burn. For all nuclear radiation burns, call your local emergency number immediately.

## Radiation burns also come in the form of snow blindness (or other intense light burns to the retina). Cover the eyes with sterile gauze, and contact EMS immediately. Do whatever you can to keep the victim comfortable, monitor ABCs, treat for shock, and keep the victim calm.

# Critical Burns

## The following burns require medical attention as soon as possible. They may be life-threatening, disabling, and disfiguring. Call the local emergency number if:

## • Burns to a child younger than five years old or burns to an elderly person.

## • The patient is having difficulty breathing.

## • The burns are on more than one body part.

## • There are burns to the head, neck, hands, feet, or genitals.

## • Burns to the mouth or nose may be signs of burns to the airway.

## • Any burns resulting from chemicals or electricity.