

SECTIONS

H.3

Burn Wounds

H.4

Heat Exhaustion

H.5

Heat Stroke

H.6

Frost Bite

H.8

Fever

H.9

Hypothermia

BURN WOUNDS



Introduction

- Burns result from various causes, including heat sources, fire, sun exposure, hot items, boiling liquids, chemicals, and even cold temperatures.
- Burn wounds can range in severity and require different levels of care and treatment

Classification of Burns

1

FIRST
DEGREE
BURNS

2

SECOND
DEGREE
BURNS

3

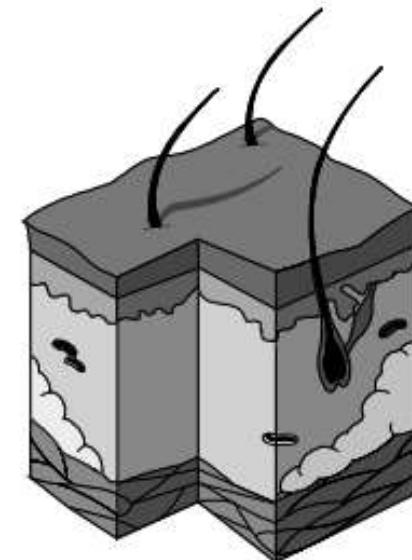
THIRD
DEGREE
BURNS

- Burns are classified based on the degree of skin and underlying tissue damage.
- The signs and symptoms vary depending on the severity of the burn.

First Degree Burns

Superficial first degree burns exhibit the following signs and symptoms

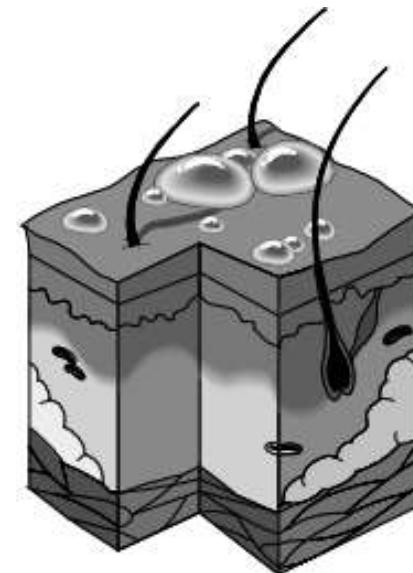
- Red or darker than usual skin
- Slightly swollen skin
- Painful, but usually bearable
- These burns typically affect only the epidermis (outermost layer of the skin).



Second Degree Burns

Intermediate second degree burns exhibit the following signs and symptoms

- Blistering
- Swelling
- Intense pain
- These burns involve both the epidermis and the dermis (deeper layer of the skin)



Third Degree Burns

Deep third degree burns exhibit the following signs and symptoms

- Black, parchment-like, or white-looking burn wound
- Mostly dry
- No pain within the third degree area, but intense pain in the surrounding second and first degree burned parts of the skin



TYPES OF BURNS BY ORIGIN



Introduction

Burns can be categorized based on their origin, which provides insights into the cause and appropriate treatment



Dry Burns

Dry burns result from the following sources

- Flames
- Contact with hot objects (e.g., hot cigarettes, hot domestic appliances)
- Friction (e.g., rope burns)

Scalds

Scalds occur due to exposure to the following

- Steam
- Hot liquids (e.g., tea, coffee, hot fat)

Electrical Burns

Electrical burns are caused by electrical current and can result from

- Low voltage current (e.g., home appliances)
- High voltage current (e.g., transformers)
- Lightning strikes

Chemical Burns

Chemical burns are caused by exposure to chemical substances, including

- Industrial chemicals
- Corrosive gases or inhaled chemical fumes
- Domestic chemicals and agents such as paint stripper, caustic soda, weed killers, bleach, oven cleaners, strong acids, or alkali

Radiation Burns

Radiation burns occur due to exposure to radioactive sources, such as

- X-rays
- Radiotherapy-rays

Frost Bites (Cold Burns)

Frost bites result from exposure to the following

- Cold wind
- Low temperatures
- Contact with freezing materials (e.g., cold metal)
- Contact with freezing vapors (e.g., liquid oxygen or liquid nitrogen)

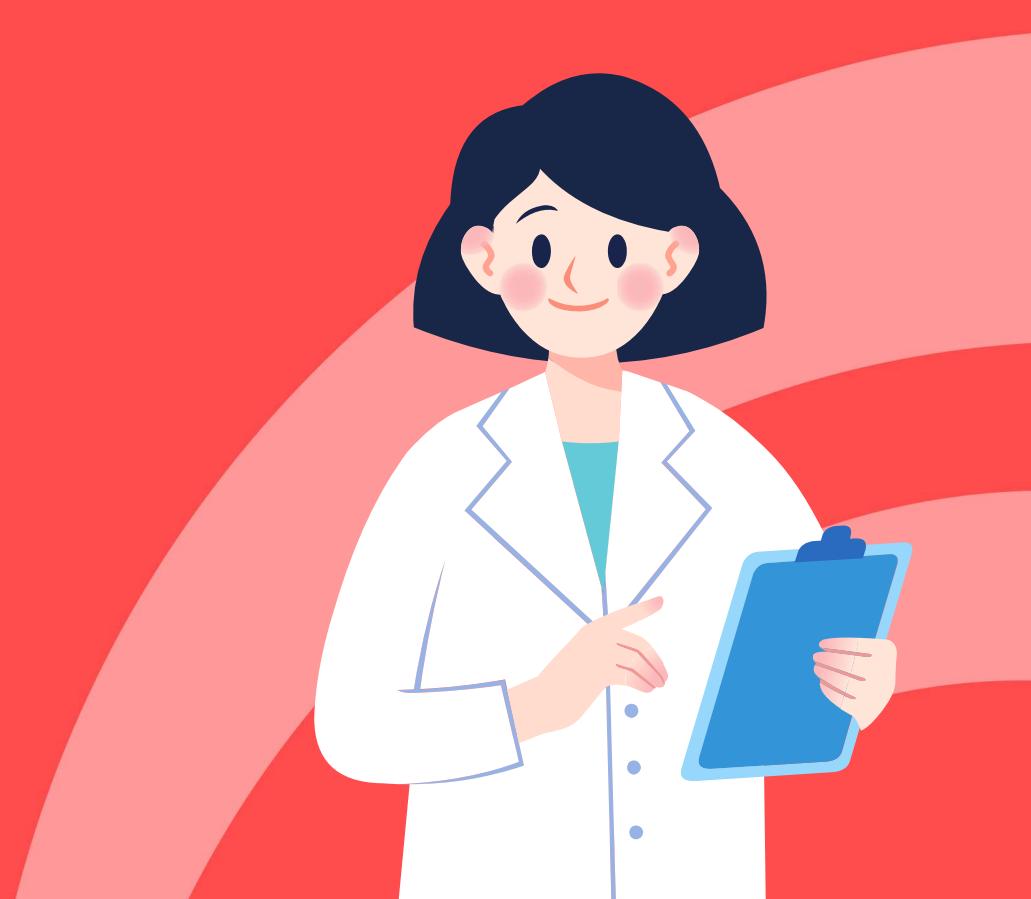
Sun Burns

Sun burns are caused by intensive exposure to sunlight or over-exposure to ultraviolet light (UV) from a sunlamp or the sun.

Heat Exhaustion and Heat Stroke

Prolonged exposure to heat or hot weather can lead to heat exhaustion and heat stroke

DANGER OF BURNS



Introduction

Burn injuries, regardless of their severity, can lead to complications and pose serious problems



Importance of Burn Area

The area of the burns plays a crucial role in determining the danger

- Superficial burns over a large area of the body are more dangerous than complete charring of a specific limb.
- Burns often consist of a mix of different degrees and can vary in severity across different parts of the body within the same person.

Infection

**Burn injuries leave the skin vulnerable to infection,
increasing the risk of**

Sepsis: A life-threatening infection that rapidly spreads through the bloodstream, potentially causing shock and organ failure

Low Blood Volume

Burn injuries damage the skin and blood vessels, leading to fluid loss and resulting in:

Hypovolemia: Low blood volume that can prevent the heart from adequately pumping blood through the body, potentially leading to shock

Low Body Temperature

Extensive skin injuries can disrupt the body's temperature regulation, increasing the risk of

Hypothermia: When the body loses heat faster than it can produce, leading to dangerously low body temperature.

Breathing Difficulties

Inhalation of smoke or hot air is a common danger accompanying burn injuries, which can:

- Burn the airways, making breathing difficult.
- Cause permanent lung damage and respiratory failure

DRY BURNS AND SCALDS (BURNS FROM FLAMES, HOT SURFACES, STEAM)



Safety First and Seek Help:

- Ensure your own safety and that of the victim.
- Call for help or ask a bystander to seek immediate assistance.
- Instruct the bystander to confirm if help has been secured.

Rescuing a Person from a Fire:

- Remember, rescuing from a fire is the duty of the fire brigade.
- If you must rescue someone, follow these guidelines:
- Call for help before entering the location.
- Protect your face with a wet handkerchief or cloth.
- Crawl along the floor to reach and pull out the casualty.
- Act swiftly, as there may be carbon monoxide present.
- Note that a wet handkerchief and crawling won't protect you from carbon monoxide.
- Avoid opening doors or windows as it can increase the fire.

Signs and Symptoms of Burns:

- First, second, and/or third-degree burn wounds.
- If burns involve the face or inhalation of hot air or smoke, you may also observe:
- Soot around the mouth or nose.
- Scorched eyebrows, eyelashes, mustache, beard, or hair.

Remember to provide immediate medical attention to burns and scalds. The information provided is a summary and should not substitute proper training or medical advice.

PROVIDE FIRST AID

If the person's cloths are on fire

- stop him from running around



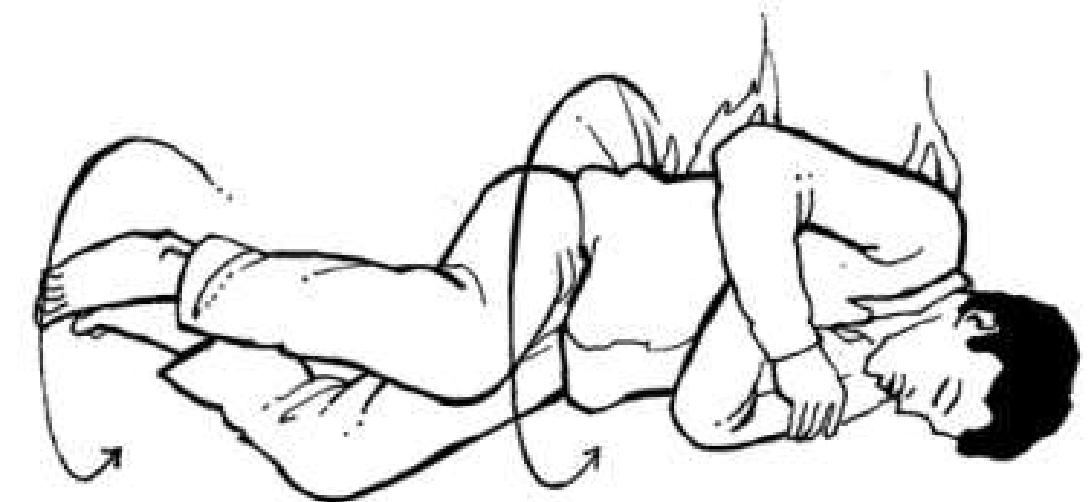
- douse the fire with water





- make the person roll on the ground to smother the flames.

- approach the person whilst holding a rug, heavy blanket, coat or cotton table cover in front of you and wrap him in it to smother the flames





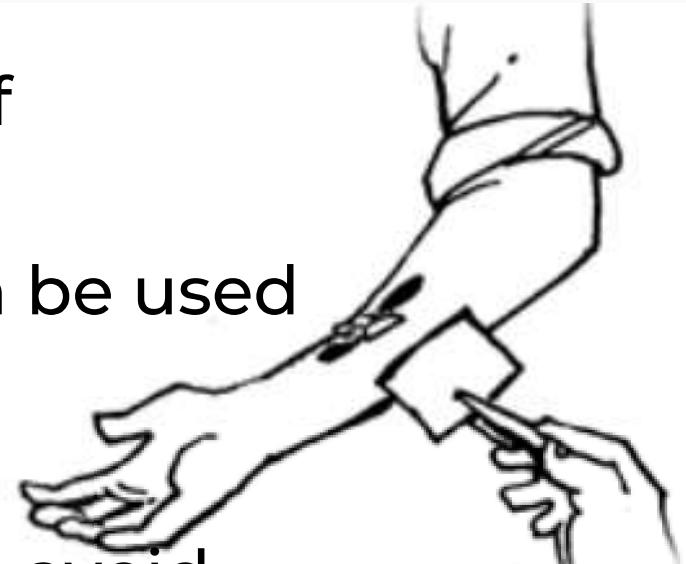
- Cooling with water will prevent the burn from going deeper and will reduce the pain. Pour water on the burn for 10-15 minutes or until the burn stops hurting. Do not use very cold water for cooling the burns. Burn victims can easily become hypothermic.
- Protect the burn victim by wrapping him in clean blankets.



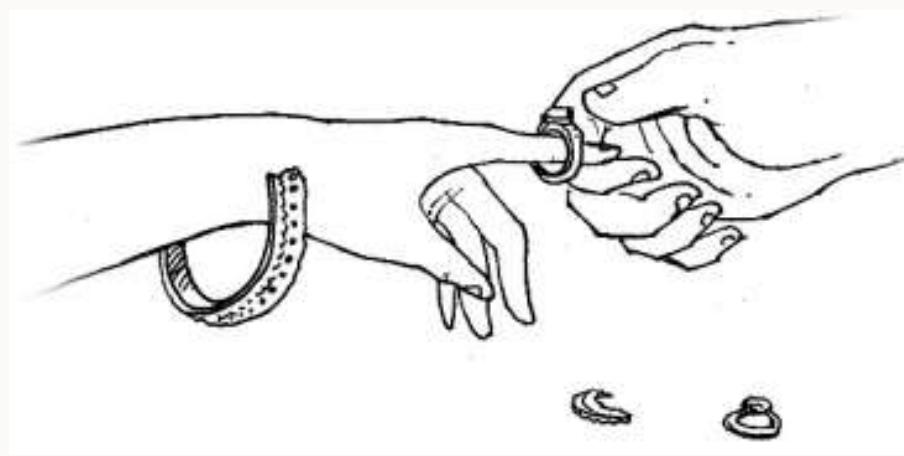
- Hand hygiene:

1. Wash hands with soap and water if available.
2. Ash or alcohol-based sanitizers can be used if soap is not available.

- Use gloves or a clean plastic bag to avoid touching the wounds.
- Cover burn wounds with a clean cotton cloth.
- Do not open blisters; leave them intact.



- Remove clothing or jewelry not stuck to the burned skin.
- Do not remove items attached to the burn wounds.
- If possible, remove belts, shoes, or boots to prevent swelling.
- Keep the casualty warm without overheating.
- Elevate burned hands, legs, or feet if possible.





- Do not leave the casualty alone; continue observing them.
- Monitor the casualty's breathing, especially if the face is burned or exposed to heat or smoke.
- For severe burns, transport the casualty promptly to the nearest healthcare facility or hospital.

Actions for Unconscious Person Still Breathing:

- Place the person in the recovery position if possible.
- Continuously observe the victim and monitor their breathing.

Actions When the Person Stops Breathing:

- Perform CPR (Cardiopulmonary Resuscitation).
- Do not interrupt resuscitation until one of the following occurs:
 - The person starts to wake up, moves, opens their eyes, and breathes normally.
 - Trained CPR help arrives and takes over.
 - You become too exhausted to continue.
 - The scene becomes unsafe to continue

- Wash your hands before and after taking care of patient
- Maintain hygiene by washing hands with soap and water or an alcohol based sanitizer

When to Refer a Burn Victim to a Healthcare Facility or Hospital:

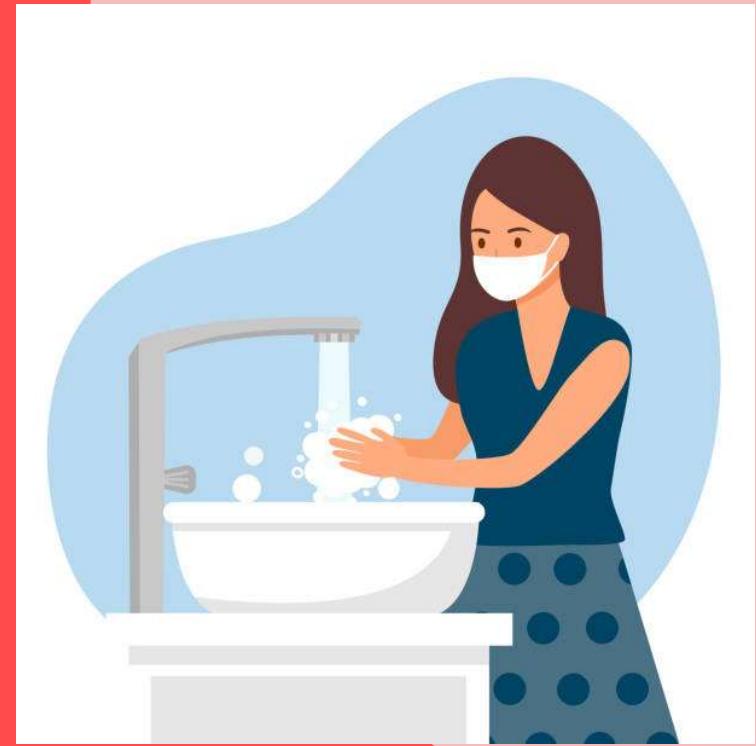
- Arrange urgent transport to a healthcare facility or hospital if:
 - The injured person is under five years old or over 65 years old.
 - The burn is on the face, eyes, ears, hands, feet, sexual organs, or joints.
 - The burn encircles the entire limb, body, or neck.
 - The burn is equal to or larger than the injured person's hand size.
 - The burn appears black, white, papery, hard, and dry.

- The injured person has decreased or no feeling in or around the wound.
- The burns were caused by electricity, chemicals, or high-pressure steam.
- The injured person has inhaled flames, hot air, or a significant amount of smoke.
- Clothing or jewelry is stuck to the skin.
- The victim has suffered other serious trauma due to the accident.
- The victim has a pre-existing medical condition, such as diabetes.
- The person's condition is deteriorating.

Care Of Minor Burns

- For smaller burns (small first and second-degree burns), use fresh aloe vera or honey to the burn wound
- This can help the wound recover faster.

HYGIENE



© BLUEASTRO

- Wash your hands before and after taking care of patient
- Maintain hygiene by washing hands with soap and water or an alcohol based sanitizer

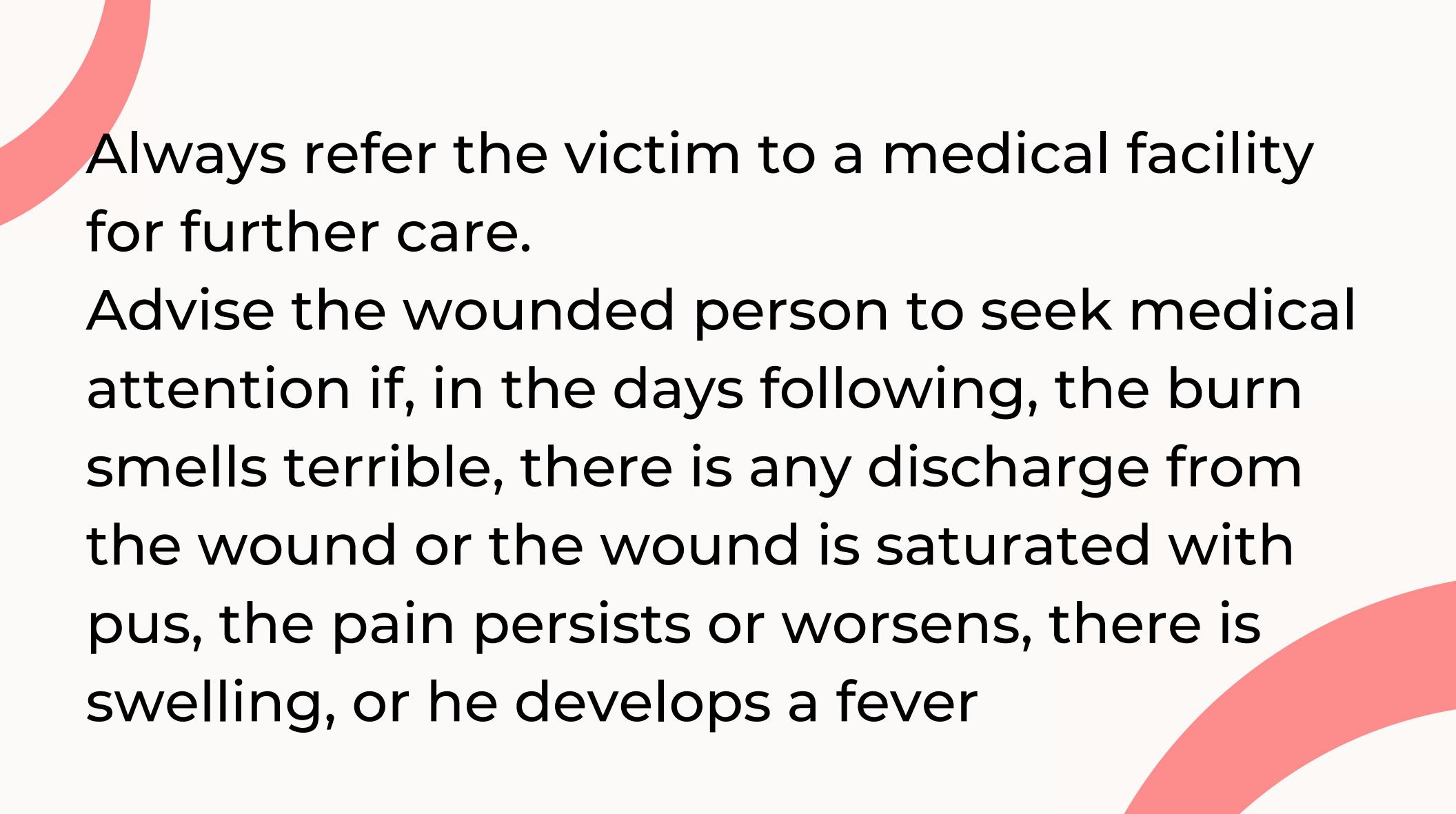
PROVIDING FIRST AID

- After the burn wound has been cooled (see above for how to approach the casualty):
 - Apply a clean cotton cloth to the wound.
 - Avoid applying any medicine to the burns.
 - a.Do not cover the burns with cotton wool.
 - b.Do not apply Vaseline to the burns.
 - c.No pastes or creams should be applied to the burns.
- Ensure that the burned casualty gets enough fluids to drink.
- Refer the victim to a medical facility for additional care.



REFERRING TO THE DOCTOR





Always refer the victim to a medical facility for further care.

Advise the wounded person to seek medical attention if, in the days following, the burn smells terrible, there is any discharge from the wound or the wound is saturated with pus, the pain persists or worsens, there is swelling, or he develops a fever

SPECIFIC BURN LOCATIONS



BURNS TO THE FACE

- The victim may have trouble breathing after being burned in the face or after breathing hot air or smoke:
- In order to treat burns and scalds, approach the victim as instructed.
- Allow the victim to lie down in a posture that is most comfortable and conducive to his optimal breathing.
- Remove any loose clothing that can restrict breathing.
- Keep a close eye on the casualty's breathing and begin CPR if necessary.
- Always get these burn sufferers to a clinic or hospital as soon as possible.

BURNS TO THE EYE

- Burns to the eye can cause burnt eyelashes, burned eyebrows, burn sores around the eye, and red eyes that are burning and itchy.
- Shout or shout for assistance and request that a passerby seek assistance or arrange for immediate transportation to the closest medical facility.
- Rinse the eye vigorously for 10 to 15 minutes with plenty of clean or boiled and cooled water, being careful to prevent water from getting in the other eye.



BURNS TO THE EYE

- Ask the person to take off their contact lenses and store them safely if they wear them.
- Make arrangements for transportation to the closest hospital or medical institution.
- Avoid putting medicine in your eyes.
- Eye injuries need to be managed carefully, and patients should be taken to a clinic or hospital.

ELECTRICAL BURNS AND ELECTROCUTION BY ELECTRICITY OR LIGHTNING



Introduction

Electrical burns occur when electricity passes through the body, caused by various sources like lightning, household current, or vehicle batteries. Do not touch the person until the power source is turned off. Entry and exit points may show burn wounds, but hidden internal damage can occur. Electrical exposure can also lead to cardiac arrest.

Signs and Symptoms of Electrocution Accident:

Possible indications of an electrocution accident:

- Presence of electrical appliance connected to power source nearby casualty.
- Proximity to high voltage wires.
- Occurrence during a thunderstorm or similar conditions.

Casualty may exhibit the following:

- Unconsciousness.
- Difficulty breathing or cessation of breathing.
- Cardiac arrest (no heartbeat) or irregular pulse.
- Burn wounds.
- Muscle spasms.

Signs and Symptoms of Burns:

- First, second, and/or third-degree burn wounds.
- If burns involve the face or inhalation of hot air or smoke, you may also observe:
- Soot around the mouth or nose.
- Scorched eyebrows, eyelashes, mustache, beard, or hair.

Remember to provide immediate medical attention to burns and scalds. The information provided is a summary and should not substitute proper training or medical advice.

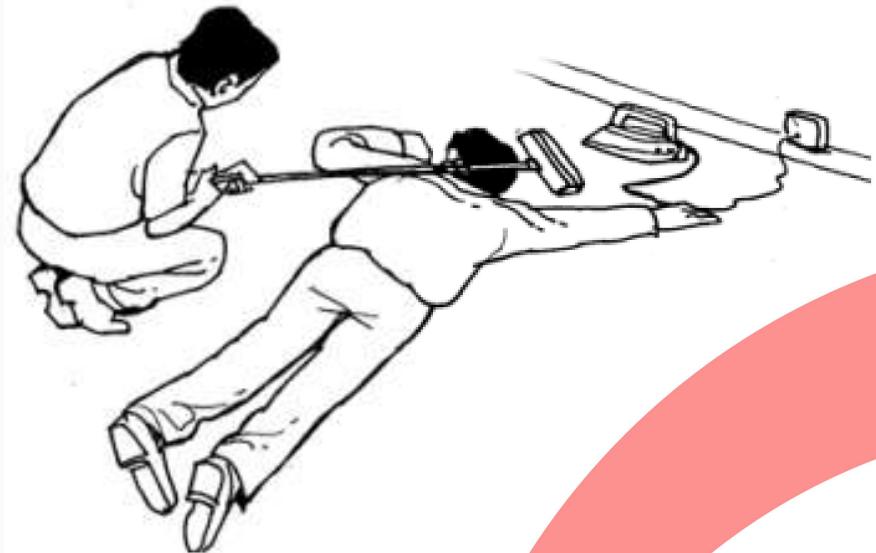
Safety First and Call for Help

1. Never touch a casualty connected to an electrical source.
2. Turn off the source of electricity.
 - For high voltage currents, wait until the source is turned off before approaching.
 - For home electricity (220V), if unable to switch off the source, use a dry, non-conducting object to move it away from you and the injured person.
 - During a lightning strike, ensure personal safety and seek shelter inside a house or car.



Shout or call for help if alone, but do not leave the person unattended.

- Ask a bystander to seek help or arrange urgent transport to the nearest healthcare facility or hospital.
- Instruct the bystander to return to confirm if help has been secured.



- Avoid moving the casualty, unless immediate danger is present.
- Cool down burn wounds using clean water (or any available water), ensuring the electricity is switched off:
 1. Pour water on the burn for 10-15 minutes or until pain subsides.
 2. Avoid very cold water to prevent hypothermia.



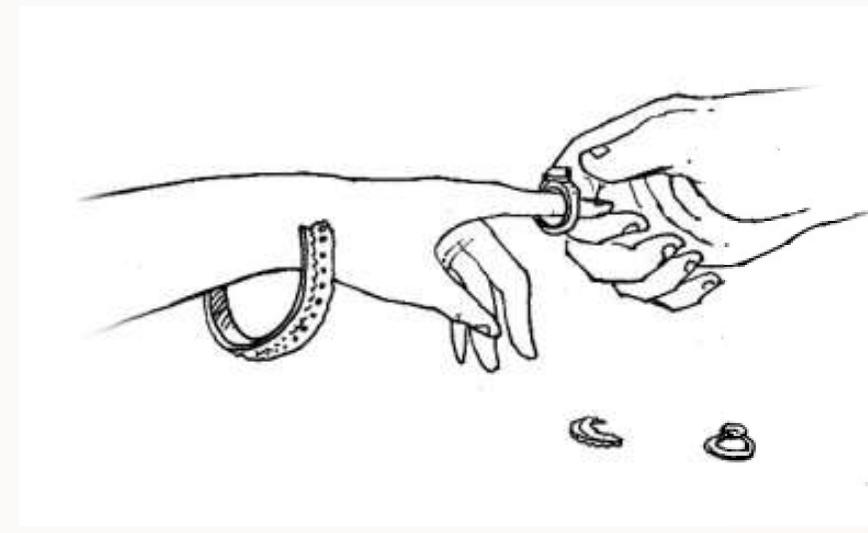


- Protect the burn victim by wrapping them in a clean sheet or blankets.
- Wash hands with soap and water. Ash or alcohol-based sanitizers can be used if soap is unavailable.
- Use gloves or a clean plastic bag to avoid touching the wounds.

- Cover burn wounds with a clean cotton cloth.
- Do not open blisters; leave them intact.
- Remove clothing or jewelry not stuck to the burned skin, but do not remove anything attached to the wounds.



- If possible, remove belts, shoes, or boots to prevent swelling.
- Keep the casualty warm without overheating.
- If feasible, elevate burned hands, legs, or feet.
- Do not leave the casualty unattended; continue observing.
- Transport the casualty promptly to the nearest healthcare facility or hospital.





If the person is unconscious but still breathing:

- Put the person in the recovery position.
- Continuously monitor the victim's breathing.

If the person stops breathing:

- Perform CPR (Cardiopulmonary Resuscitation).
- Do not interrupt the resuscitation until:
 - The person shows signs of waking up, such as movement, opening their eyes, and breathing normally.
 - Trained help arrives and takes over.
 - You become too exhausted to continue.
 - The scene becomes unsafe to continue.

- Wash your hands before and after taking care of patient
- Maintain hygiene by washing hands with soap and water or an alcohol based sanitizer

When to Refer a Burn Victim to a Healthcare Facility or Hospital:

- High voltage electrocution or lightning strike occurred.
- The injured person is under five years old or over 65 years old.
- Burns are located on the face, eyes, ears, hands, feet, sexual organs, or joints.
- Burns encircle an entire limb, body, or neck.
- The burn size is equal to or larger than the injured person's hand.
- Burns appear black, white, papery, hard, or dry.

- Decreased or no sense of feeling is observed in or around the wound.
- Clothing or jewelry is stuck to the skin.
- The victim has suffered from other serious trauma.
- The victim has a medical condition like diabetes.
- The person's condition is deteriorating.

CHEMICAL BURNS



Introduction

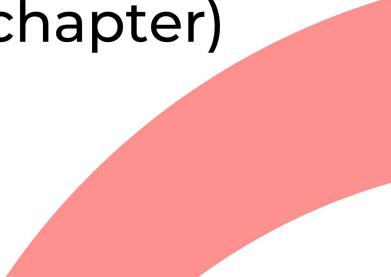
- Chemical burns can occur when certain chemicals irritate, burn, or penetrate the skin, potentially causing severe damage or even death.
- Unlike burns caused by heat or electrocution, chemical burns may develop slowly over time.
- It is essential to consider all chemical burns as serious and seek medical follow-up

SIGNS AND SYMPTOMS





When encountering a chemical burn, the following signs and symptoms may be observed:

- Evidence of chemicals in the vicinity of the victim.
 - Complaints of intense stinging pain.
 - Skin irritation, burns, discoloration, swelling, blisters, or peeling.
 - Possible signs of poisoning (refer to the Poisoning chapter)
- 

Actions for Chemical Burn Victims

**1 Ensuring Safety and
Calling for Help**

2 Providing First Aid



Ensuring Safety and Calling for Help

- Prioritize safety for yourself and the victim, avoiding direct contact with the chemical without proper protection.
- If alone, shout or call for help, instructing bystanders to seek assistance or arrange urgent transport to the nearest healthcare facility.
- Request confirmation from the bystander that help has been secured



Providing First Aid

- Wear gloves for personal protection; if unavailable, use a plastic bag as a barrier.
- Remove the source of the burn by gently brushing off any remaining dry chemical, followed by rinsing the affected skin with cool, running water for 10 to 15 minutes.



- Remove any clothing or jewelry contaminated by the chemical.
- Loosely wrap the burned area with a clean cloth.
- If the burning sensation persists, continue washing the burned area for several more minutes.
- Arrange for transportation to the nearest healthcare facility



SUNBURNS



Introduction

- Direct exposure to sunlight can have harmful effects on the skin and eyes.
- Sunburn occurs when the skin is exposed to ultraviolet (UV) rays from the sun, damaging the deeper skin layers.
- Symptoms of sunburn include redness, pain, peeling, and blistering

SIGNS AND SYMPTOMS





When a person suffers from sunburn, the following signs and symptoms may be observed

- Reddened and warm skin.
 - Varying degrees of pain.
 - In severe cases:
 - Swelling
 - Blisters
 - Weeping skin
- 

First Aid Steps

- Move the person to a shaded and cool area. If unavailable, cover the skin with light clothing or a towel.
- Cool down the skin by gently sponging or showering with lukewarm water for 10-15 minutes. Avoid using very cold water.



- Encourage the person to have frequent sips of cool water (exception to the standard guideline of not giving a casualty anything to drink).
- For severe sunburns, refer the person to the nearest healthcare facility.
- For minor burns, apply after-sun cream



When to Refer to a Healthcare Facility

- The burns cover a large body surface.
- Blisters are present.
- The person is a child or an elderly individual.
- Signs of heat stroke are noticed

SUNBURN OF THE EYE AND SNOW OR WELDERS BLINDNESS



Introduction

- Snow blindness or sunburn of the eye, also known as photokeratitis or ultraviolet keratitis, is a painful eye condition caused by exposure of inadequately protected eyes to ultraviolet rays.
- Common causes include:
- Looking into welding light without eye protection.
- Exposure to sunlight reflected from snow and ice without wearing sunglasses.
- Directly looking at sunlight, such as during a solar eclipse, without appropriate protection.

SIGNS AND SYMPTOMS





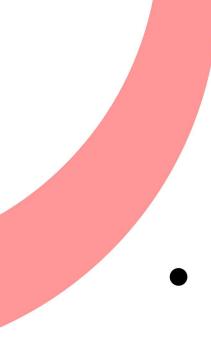
When a person suffers from sunburn of the eye(s) or snow or welders blindness, the following signs and symptoms may be observed

- Intense pain in the affected eye(s).
 - Redness of the eye(s).
 - Tearing of the eye(s).
 - Sensitivity to light.
 - The person may report staring directly into the sun or strong light, such as welding light or fireworks.
- 

First Aid Steps

- Reassure the person.
- If the person wears contact lenses, ask them to remove them and keep them in a safe place.
- Instruct the person to protect their eye(s) by holding a non-fluffy pad against each injured eye.





First Aid Steps

- Wetting the eye pads with clean water is optional. If eye pads are unavailable, advise the person to keep their eyes closed or use sunglasses.
 - Do not apply pressure to the eyes.
 - Arrange transportation to the nearest healthcare facility or hospital.
 - Do not administer any medication into the eye.
- 