

Unit 5 – Heat and Cold Related Illnesses

Four Objectives of First Aid care for burns:

1. Prevent infection and contamination
2. Prevent and treat for shock
3. Cool burned area
4. Cover burned area

General Kinds of Burns:

1. Thermal – liquid, vapor, gas, stove top, candle, etc.
2. Corrosive/Chemical – Chlorine, bleach, acids, etc.
3. Electrical – where electrical current enters and exits
4. Radiation – UV rays, sunburn, tanning beds, etc.

Acid burn to eye:

1. Call 911
2. Flush eye for at least 5 min. ASAP with affected eye on bottom.
3. If transporting, cover affected eye.

Alkaline burn to eye: (Particle form such as Crystal Drano)

1. Call 911
2. Flush affected eye for at least 15 min.
3. If you see particle, remove it (no loose cotton, such as Q-tips)
4. If transporting, cover affected eye.

Characteristics of Superficial, Partial Thickness And Full Thickness Burns

Superficial – (First degree) – outer layer of skin (epidermis)

Ex.-Sunburn

Signs and Symptoms:

1. redness
2. mild swelling
3. painful
4. rapid healing

Partial Thickness – (Second degree) – dermis layer

Ex. – Iron

Signs and Symptoms:

1. Skin is red with blisters
2. Considerable amount of swelling
3. Skin feels wet
4. Painful (nerve endings not destroyed)
5. New skin will grow back in not infected

Full Thickness – (Third degree) – skins layers destroyed – (subcutaneous layers)

Ex. Fire

Signs and Symptoms:

1. Whitish or charred skin
2. Coagulation or fusing together of skin and destruction of RBC's
3. Loss of skin layers down to subcutaneous layer
4. Combination of all degree burns that surround the area
5. Nerve endings destroyed, but still painful
6. Scar tissue forms (skin does not rejuvenate)

First Aid for Superficial, Partial Thickness And Full Thickness Burns

Superficial – (First degree) – outer layer of skin (epidermis)

Ex.-Sunburn

First Aid:

1. Immerse in cold water

Partial Thickness – (Second degree) – dermis layer

Ex. – Iron

First Aid:

1. Immerse in cold water
2. Apply dry, sterile gauze
3. See Dr. (If burn is over 20% of body or other serious reactions)

***Don't pop blisters, apply ointments, lotions or oils*

Full Thickness – (Third degree) – skins layers destroyed – (subcutaneous layers)

Ex. Fire

First Aid:

Call 911

Immerse in cold water

Cover with sterile gauze

If burn is on hands, feet, or legs, elevate

If burn is on face, place in sitting up position

If medical help is delayed 1 hr. or more, administer fluids (shock recipe)

Minor Burn – non life threatening. (Second degree burn with 20% of body or less.)

Severe or Critical Burn – 20% or more of body is burned with at least a second degree burn.

*A Third degree burn where 50% of body is burned=victim is not likely to survive.

Heat Exhaustion and Heat Stroke

Heat Exhaustion – When the body’s cooling mechanism is working overtime (sweating).

Heat Stroke – The body’s cooling mechanism does not function.

Signs and Symptoms

Heat Exhaustion

1. Profuse sweating
2. Body temp. normal
3. Pale face
4. Skin is clammy
5. Pupils are dilated

Heat Stroke

1. No sweat
2. Body temp. high and climbs rapidly
3. Face is red or flushed
4. Skin is hot and dry
5. Pupils are constricted

Heat Exhaustion

1. Move to shade
2. Lie down and elevate feet
3. Cool externally
4. Replace fluids (4 oz. water, ½ tsp. salt every 15 min.)

Heat Stroke

1. Move to shade
2. Lie down and elevate head & shoulders
3. Cool externally
4. See Dr. quickly
“Face red, elevate the head,
Face pale, elevate the tail”

Frostbite: Freezing of body cells – when body tissues are exposed to extreme cold, crystals form in fluids and freezes.

***Hands, feet, ears, nose, and cheeks are most susceptible – cover these areas!

Signs and Symptoms:

1. Red, skin tingles
2. Hard and numb fingers
3. Dead white/gray to yellow skin

4. Blisters may appear
5. Impaired judgment
6. Mental confusion
7. Unconscious
8. Death

First Aid:

1. Thaw affected body part by immersing in water – 102-106 degrees

DON'T:

1. Rub frostbite part with snow
2. Massage the area
3. Use tobacco or alcohol (vasodilators)
4. Let thawed body part refreeze

Hypothermia: Lowering of the body's internal core temperature due to **wet and cold temperatures.**

Signs and Symptoms:

1. 98.6 – Normal
2. 97 – Shivering
3. 95 – Muscle coordination deteriorates
4. 92 – Violent uncontrollable shivering
5. 87 – Unconscious
6. 75 – Death

First Aid:

1. Re-warm body
 - a) Skin to skin contact
 - b) Breathe warm air