

Accident Prevention in children



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Infant ,Child, and Adolescents nursing
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- **Objectives:**
- Upon completion of the unit, the student will be able to:
- analysis the causes of accident and their management.
- explain the burn, causes, types and degrees.
- explain poisoning causes, signs and symptoms, and nursing management.

- **Topical Outline**
- **Accidents risk factor,**
- **Accidents (Childhood injuries) prevention**
- **burn, poisoning,**

Accidents (Childhood injuries)



Accidents, especially those affecting children, are now often referred to as 'unintentional injuries'.

Accidents (Childhood injuries)



❑ Accidents are the most common cause of death among children aged between 1- 15years old.

❑ Accidents are common in childhood. Most of them aren't serious, but a significant number each year are fatal or cause disability.

A descriptive
study
conducted in
Sulaimani /
Kurdistan
Region / Iraq
the study
found that:

- 41% of injured children aged between 1-4 years,
- the most common injuries were:
 - 47% falls
 - 13% burn
 - 11.5% road traffic accidents and
 - 11% poisoning
- 70% of burn injuries caused by hot liquid, while kerosene was the most common source of poisoning.

Accidents (Childhood injuries) risk factor:-

- ✓ Age (developmental characteristics)
- ✓ Sex
- ✓ Stress and temperament
- ✓ Alcohol and drugs use
- ✓ History of previous injury
- ✓ Anatomic characteristics (large head, large spleen and liver with wide costal arch ,small light body.
- ✓ Left – handedness
- ✓ Poverty
- ✓ Family stress (young mother, sick mother, environmental changes).
- ✓ Season.

General Principles of Accident Prevention:-

A . Protection from danger.

B . Environment safety

C . Education

Poisoning

- Children will swallow almost anything even fatal substance.
- Most poisoning occurs at about age 2 years group.
- Within toddler gains more independence in mobility, explores his environment.
- The major cause of poisoning is improper storage.

poisoning Preventive measures:-



- Keep poison substance out of children reach.
- Put poison substance in container difficult to open
- Don't use food containers for medicines or poisonous substances.

❖ More than 500 toxic substance used in home

(cleaning agents, detergents, bleach polishing agent, paint solvent, **kerosene** , cosmetic agent, drugs).

- **Symptoms of poisoning:-**
- **Gastro intestinal disturbance:** abdominal pain, vomiting, anorexia, diarrhoea.
- **Central nervous system:** sudden loss of consciousness, convulsions, dizziness, lethargy, coma.
- **Respiratory & circulatory system:** cyanosis, shock, collapse, weak pulse, shallow respiration, pallor, cools moist skin.

Nursing management:-



- ✓ read the label of the substance
- ✓ unless contraindicated, induce vomiting
- ✓ Translate to emergency unite.
- ✓ Identify the poison and remove it.
- ✓ Provide supportive treatment.
- ✓ Wash up the stomach by inserting 200 ml of tap water through gastric tub then aspirate it and repeat this many times.
- ✓ Antidotes are given to neutralize the poison & prevent it is absorption.
- ✓ observe and check vital signs
- ✓ Keep air way open, relieve pain, and maintain fluid and nutrition.



Kerosene poisoning:-

This is commonly ingested substance and has a tendency to produce pneumonia.

Intervention:-

1. gastric lavage should not be performed
2. O₂ therapy
3. Prophylactic penicillin therapy
4. Continuous observation
5. X – ray examination to monitor the improvement

Burns



Burns are injuries result from exposure to extreme Heat.

- Each year 450.000 children are evaluated for burn injuries.
- Common types of burn injuries are thermal chemical (acid & alkalis), electrical & radiation (sunburn).
- Thermal burns are the most common under 5 and 13 years of age.

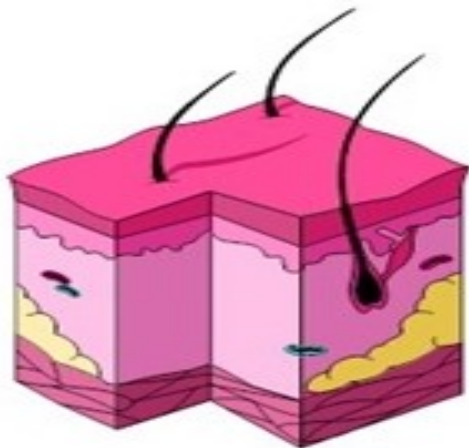
- **The Severity of the burns injury can be determined by:-**
- Type and temperature of the agent
- Duration of the exposure to the agent.
- Percentage of body surface area burned and the depth of the burn.
- Location of the burn
- Child age.

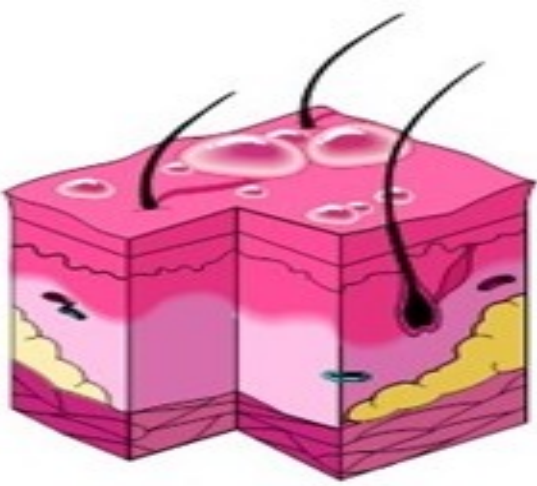
Types of Burns:

First-Degree Burns

First-degree burns, the mildest of the three, are limited to the top layer of skin(epidermis):

Signs and symptoms: These burns produce redness, pain, and minor swelling. The skin is dry without blisters.

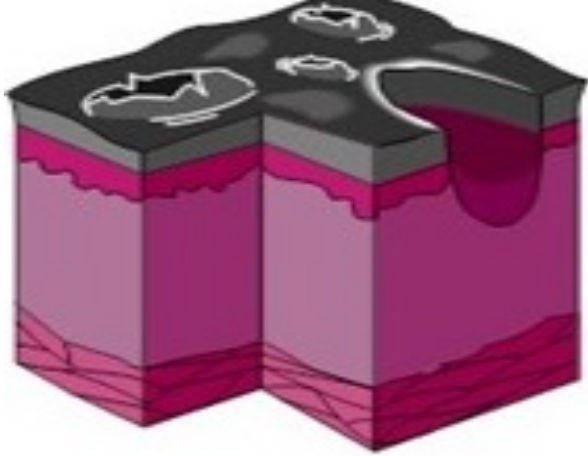




Second-Degree Burns

Second-degree burns are more serious and involve the skin layers beneath the top layer(Dermis):

Signs and symptoms: These burns produce blisters, severe pain, and redness.



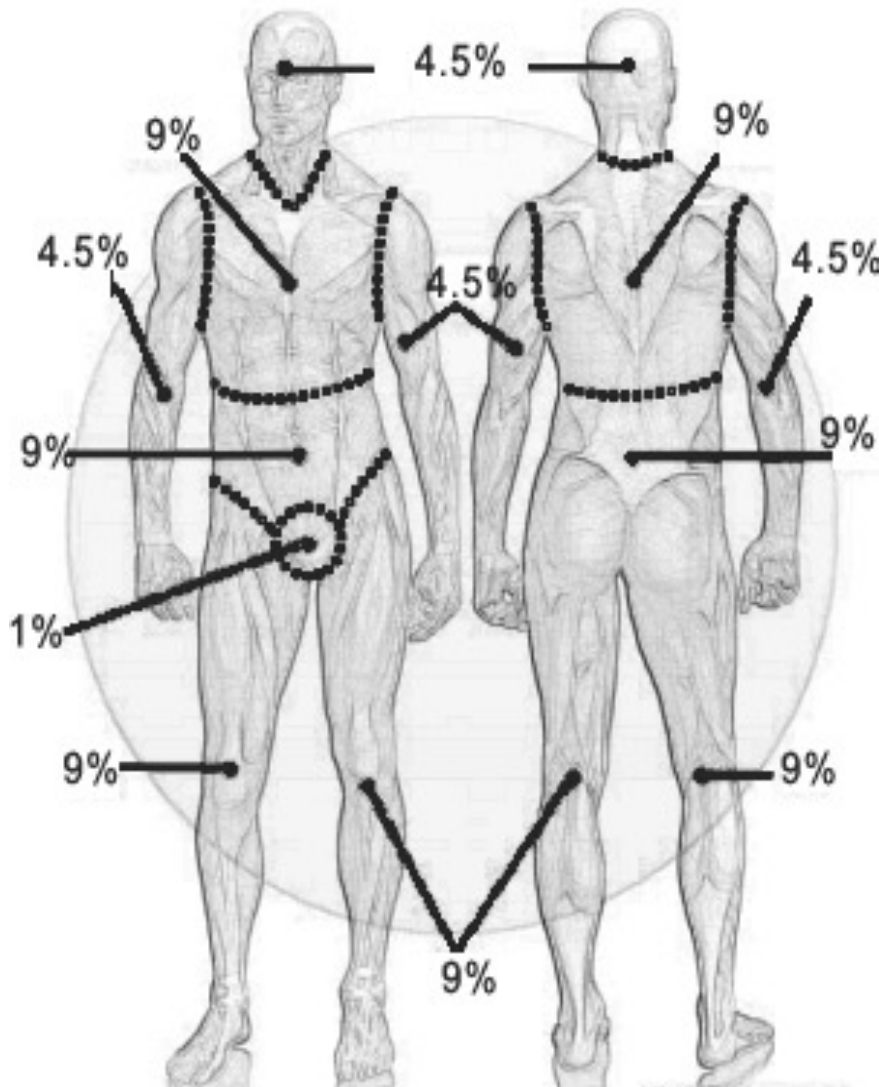
Third-Degree Burns

Third-degree burns are the most serious type of burn and involve all the layers of the skin and underlying tissue(Dermis ,Epidermis ,muscles and tendons) .

Signs and symptoms: The surface appears dry and can look waxy white, leathery, brown, or charred. There may be little or no pain or the area may feel numb at first because of nerve damage.

"Rule of Nines"

Burn percentage in Adult



Anatomic structure	Surface area
Anterior Head	4.5%
Posterior Head	4.5%
Anterior torso	18%
Posterior torso	18%
Each Anterior arm	4.5%
Each Posterior arm	4.5%
Each Anterior leg	9%
Each Posterior leg	9%
Genitalia/perineum	1%

Burn percentage in adult, children and Infants

Anatomic structure	Infant<10kg	children	Adult
Anterior Head	20% head & neck	8.5%	4.5%
Posterior Head		8.5%	4.5%
Anterior torso	16%	18%	18%
Posterior torso	16%	18%	18%
Each Anterior arm	8%	4.5%	4.5%
Each Posterior arm		4.5%	4.5%
Each Anterior leg	16% each leg	6.5%	9%
Each Posterior leg		6.5%	9%
Genitalia/perineum	1%	1%	1%

- **Parkland formula**

The Parkland Formula gives the calculation we need to know how much fluids to give to patient.

$V \text{ (fluids volume)} = \text{total body surface area of burn (\%)} \times \text{weight (kg)} \times 4$

Complications of burns

- Respiratory dysfunction related to inhalation injury, aspiration of gastric content, bacterial pneumonia, pulmonary oedema.
- Wound sepsis
- Impaired gastric and large bowel motility.
- Encephalopathy
- Loss of neurons, hallucination, personality change, delirium, seizures, & coma.

- **nursing care**
- comfort management
- care of burned wound
- maintain adequate nutrition
- prevent complication (fluid loss, septicaemia, hypothermia).
- Psychological support of the child & family.

Clinical Scenario

A 3 year-old child and weigh 15 kilogram is brought to the emergency department with (**Anterior and Posterior** left Arm , **Anterior and Posterior torso**) burns after having been trapped in a burning car. After initial resuscitation of patient you should assess the surface area of skin affected by the burn in order to determine the volume of fluid required for resuscitation.

- **Calculate the fluid volume need for resuscitation ?**

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Any Questions?



Thanks

