INTRODUCTION
A burn injury most commonly results from the transfer of heat energy from a burning source to the skin. Human tissue cells are intolerant to temperature rises, and cellular damage in the form of protein coagulation commences when warming to 45°C occurs. Other agents such as chemicals, exposure to cold and external force producing friction may cause skin damage producing the clinical picture of a burn injury. The severity of the injury is dependant on the amount of energy absorbed by the skin. The energy absorbed will be determined by the intensity of the burning or injurious agent, the length of exposure to the energy source and the degree of insulation or protection provided by clothing. The more energy absorbed by the skin the greater the degree of cellular disruption that will occur and the greater the depth to which the injury will extend. The pattern and severity of the injury can often be predicted by contemplating the circumstances of the injury. Exposure to a flash such as gas or petrol vapour explosion will produce rapid but transient heating, resulting in damage and probable death of surface cells only. A long exposure such as immersion in hot water will result in slower but greater heat absorption, producing more extensive and deeper tissue injury. The effects of the burning incident are not necessarily confined to the skin. Heat and smoke containing noxious chemicals may be inhaled, especially when a burn injury occurs in a confined space such as a house fire. The absorbed heat and smoke may affect the respiratory passages, leading to marked swelling and oedema that can cause respiratory obstruction. Inhaled smoke may irritate and damage the lung parenchyma, producing a chemical pneumonitis with impairment of gas exchange, leading to respiratory failure.

DEFINITION
Damage to the skin or other body parts caused by extreme heat, flame, contact with heated objects, or chemicals. Burn depth is generally categorized as first, second, or third degree. The treatment of burns depends on the depth, area, and location of the burn, as well as additional factors, such as material that may be burned onto or into the skin. Treatment options range from simply applying a cold pack to emergency treatment to skin grafts.

CAUSES
Fire, Hot liquid or steam, Hot metal, glass or other objects, Electrical currents, Radiation from X-rays or
radiation therapy to treat cancer, Sunlight or ultraviolet light from a sunlamp or tanning bed, Chemicals such as strong acids, lye, paint thinner or gasoline, Abuse.

**PATHOPHYSIOLOGY**

At temperatures greater than 44 °C (111 °F), proteins begin losing their three-dimensional shape and start breaking down. This results in cell and tissue damage. Many of the direct health effects of a burn are secondary to disruption in the normal functioning of the skin. They include disruption of the skin's sensation, ability to prevent water loss through evaporation, and ability to control body temperature. Disruption of cell membranes causes cells to lose potassium to the spaces outside the cell and to take up water and sodium. In large burns (over 30% of the total body surface area), there is a significant inflammatory response. This results in increased leakage of fluid from the capillaries, and subsequent tissue edema. This causes overall blood volume loss, with the remaining blood suffering significant plasma loss, making the blood more concentrated. Poor blood flow to organs such as the kidneys and gastrointestinal tract may result in renal failure and stomach ulcers. Increased levels of catecholamine’s and cortical can cause a hyper metabolic state that can last for years. This is associated with increased cardiac output, metabolism, a fast heart rate, and poor immune function.

**SINGNS AND SYMPTOMS**

<table>
<thead>
<tr>
<th>Type</th>
<th>Layers involved</th>
<th>Appearance</th>
<th>Texture</th>
<th>Sensation</th>
<th>Healing Time</th>
<th>Prognosis</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superficial (1st-degree)</td>
<td>Epidermis</td>
<td>Red without blisters</td>
<td>Dry</td>
<td>Painful</td>
<td>5–10 days</td>
<td>Heals well, Repeated sunburns increase the risk of skin cancer later in life</td>
<td><img src="image1.png" alt="Image 1" /></td>
</tr>
<tr>
<td>Superficial partial thickness (2nd-degree)</td>
<td>Extends into superficial (papillary) dermis</td>
<td>Redness with clear blister. Blanches with pressure.</td>
<td>Moist</td>
<td>Very painful</td>
<td>2–3 weeks</td>
<td>Local infection (cellulites) but no scarring typically</td>
<td><img src="image2.png" alt="Image 2" /></td>
</tr>
<tr>
<td>Deep partial thickness (2nd-degree)</td>
<td>Extends into deep (reticular) dermis</td>
<td>Yellow or white. Less blanching. May be blistering</td>
<td>Fairly dry</td>
<td>Pressure and discomfort</td>
<td>3–8 weeks</td>
<td>Scarring, contractures (may require excision and skin grafting)</td>
<td><img src="image3.png" alt="Image 3" /></td>
</tr>
<tr>
<td>Full thickness (3rd-degree)</td>
<td>Extends through entire dermis</td>
<td>Stiff and white/brown. No blanching.</td>
<td>Leathery</td>
<td>Painless</td>
<td>Prolonged (months) and incompletnot1</td>
<td>Scarring, contractures, amputation (early excision recommended)</td>
<td><img src="image4.png" alt="Image 4" /></td>
</tr>
<tr>
<td>4th-degree</td>
<td>Extends through entire skin, and into underlying fat, muscle and bone</td>
<td>Black; charred with eschar</td>
<td>Dry</td>
<td>Painless</td>
<td>Requires excision</td>
<td>Amputation, significant functional impairment and in some cases, death.</td>
<td><img src="image5.png" alt="Image 5" /></td>
</tr>
</tbody>
</table>

**INVESTIGATION**

During the physical exam, your doctor will examine your burned skin and determine what percentage of your total body surface area is involved. In general, an area of skin roughly equal to the size of your palm equals 1 percent of your total body surface area. For people ages 10 to 40, the American Burn Association defines a severe burn as one that involves 25 percent total body surface area or any burn involving the eyes, ears, face, hands, feet or groin. You’ll also be examined for other injuries and to determine whether the burn has affected the rest of your body. You may need lab tests, X-rays or other diagnostic procedures.

**TREATMENT**

**Medical management**

Emergency examination and treatment. Stop the burning process by smothering flames and removing clothing to cool the burn wound.

- **Primary survey**
  - (A) Airways maintenance with cervical spine control,
  - (B) Breathing and ventilation,
  - (C) Circulation with haemorrhage control,
  - (D) Disability and neurological status,
  - (E) Exposure and environmental control.
• Secondary Survay
  History collection, physical examination, Assessment of the depth of the b.

**Surgical Management**
Breathing assistance. to keep oxygen supplied to your lungs. Tube feeding. Easing blood flow around the wound. Skin grafts. A skin graft is a surgical procedure in which sections of your own healthy skin are used to replace the scar tissue caused by deep burns. Donor skin from cadavers or pigs can be used as a temporary solution. Plastic surgery (reconstruction).

**COMPLICATION**
Infection, Low blood volume, Dangerously low body temperature, Breathing problems, Scarring, Bone and joint problems.

**BIBLIOGRAPHY**
1. Abdullah, G(1970)” Better clients care through nursing research” new York, the macmillan publication, 360-365.