



Module 7

### First Aid Response

### **Burns & Electrical Injury Care**



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# Learning Outcomes

Knowledge Objectives (by the end of this Unit, you will be able to...)

- 1. List the causes/types of burn
- 2. Describe the severity of burns including reference to face, hands, feet, flexion points and perineum (FHFFP) and circumferential burns
- 3. Describe the factors that indicate severity of a burned patient
- 4. Describe the burns potential of electrical injury
- 5. Describe physiological threats associated with burns
- 6. Describe the associated threats resulting from electrical injury
- 7. List the care management for burns including the importance of standard infection control precautions
- 8. Outline why inhalation injuries are common following certain burns injuries





## Learning Outcomes

Attitudinal Objectives (by the end of this Unit, you will be able to...)

1. Demonstrate an ability to respond to the needs of patients who have suffered from burns, electrical and related injury/illness showing appreciation for the effects of pain and fear

#### **Skills Objectives** (by the end of this Unit, you will be able to...)

- 1. Demonstrate how to assess the extent of burns injuries
- 2. Demonstrate how to treat burns injuries using equipment listed on CPGs
- 3. Demonstrate an awareness of safety considerations
- 4. Demonstrate the care management of burned patients





### Topics

### \*Warning\* – Some graphic pictures!

- 1. The skin
- 2. Causes/types of burns
- 3. Degrees & severity of burns
- 4. Impact of burns & common injuries
- 5. Electrical Injury and burns
- 6. Care management for burns & electrical injury



Executive



### Resources







### The Skin

• What is the function of our skin?









### The Skin



Functions...

- Protection
- Sensation
- Regulation
- Absorption







### Burns or Scalds?

- Burn dry heat
- Scald wet heat
- Both are injuries to Skin

# What are the dangers of being burned?

#### When Muscles, Bone and Blood Vessels are damaged

#### How can a person be burned?

- Thermal/Heat
- Electricity
- Chemicals
- Light
- Radiation
- Friction







### Types & Causes of Burns

Types	Causes
1. Dry Burn	Contact with a hot object
2. Scald	Contact with hot liquids, gas or steam
3. Chemical Burn	Contact with domestic or industrial chemicals
4. Electrical Burn	Contact with an electric current resulting in electric shock
5. Radiation Burn	Extended exposure to UV light (sun) or other radiation sources (e.g. sunburn)
6. Friction Burn	Friction with abrasive materials or surfaces





### Important Parts of the Body

• FHFFP

F – Face, H – Hands, F – Feet, FP – Flexion Points

- Flexion Points: Any parts of the body at which you flex, twist, bend
  Can we think of any?
  - Knees
  - Hips
  - Elbows
  - Neck





\*Warning – Graphic Content\*



### Assessing a Burn

#### 4 key points in determining the severity of a burn:

- 1. Depth
- 2. Area (%)
- 3. Age
- 4. Location
  - Q. Why is the age of the person important?
  - Q. Why is the location important?











### Assessing a Burn – Depth

 Superficial (involving epidermis)



**First Degree** 

#### Depth of Burn

Partial

thickness

(involving

epidermis

and dermis)

**Second Degree** 

 Full thickness (destruction of epidermis and dermis and any or all underlying structures [fat, muscle, bones and nerves])



**Third Degree** 

#### Key Point:

A superficial or partial thickness burn to a FHFFP location increases the severity of the injury and extent of medical assistance required.





### Assessing a Burn – Depth

#### **Circumferential Burns:**

burn that goes all
 the way around
 the body part



#### **Dangers**?

- Compression
- Circulation problems
- Restriction of blood supply

Call 112 (or 999) immediately for major burns







### Assessing a Burn – Area

#### The Rule of Nines:

Adults





Total Body Surface Area (TBSA) is an assessment of injury to the skin. Here we will use the Rule of Nines to determine the area burned

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\*Warning – Graphic Content\*



### Rule of Nines?





3.





#### Groups: Calculate each percentage burn





### **Treatment of Major Burns**

- Gloves on, Scene Safety
- Stop the burning process....
- Use clean water to rinse &
- cool injured area If available apply Burns Gel
- Keep patient warm
- Shock???

#### Q. How should we treat Major Burns?

- Call for help 112/999
- Remove clothing (if not stuck to wound)
- Remove jewellery







### PHECC CPGs









### **Chemical Burns**

- Q. What types of Chemicals might we come into contact with?
- Domestic cleaning products
- Acids
- Deodorant
- Bleach
- Disinfectant
- Fuel
- Paint thinner











### **Treatment of Chemical Burns**

- Scene Safety & PPE
- Have a colleague check the chemical & advice
- ABC
- Safe comfortable position
- Flush area with clean water 20 minutes
- If appropriate remove contact lenses
- Patient may need emergency shower





## Inhalation Injuries

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- Carbon Monoxide
- Smoke
- Slurry gas poisoning
- Fuel gases
- Gas leak

#### **Q.** What are the dangers/effects?

- Slow onset
- Compromise airway
- Major organs affected









\*Warning – Graphic Content\*



### **Electric Shock**

#### Watch out for:

Threats to these workers? Are there potential threats to others?



Link to video: <u>https://www.youtube.com/watch?v=tJ\_bQiTU04c</u>





## Management of Electric Shock

- Do not touch patient
- Scene Safety Turn off Power
- Use non-conducting object
  - Dry wood or plastic
- Reassure patient









## Treatment of Electric Shock

- Scene Safety Turn off Power
- Call 112 (or 999)
- Check AcBC



- Treat for injuries (<u>burns</u>, cardiac arrest, breathing difficulties)
- Shock
- Reassure and Monitor Vital Signs





### Assessment



- Why are standard infection controls important when dealing with burns?
- List the causes/types of burn
- Describe the burns potential of electrical injury
- Describe the associated threats resulting from electrical injury
- Why are inhalation injuries common following certain burns injuries?
- List the care management for burns





### Summary

- The skin
- Causes/types of burns
- Degrees & severity of burns
- Impact of burns & common injuries
- Electrical Injury and burns
- Care management for burns & electrical injury