



A 20 month-old child pulled a cup of hot coffee off a counter and received burns to the right lower arm and a 50-cent size patch on the right thigh.

A 34 year-old man was emptying the grease trap in his restaurant and received partial and full thickness burns to his abdomen, lower chest, and both thighs circumferentially.

5. List the four components of the primary survey for any trauma patient, including the burn traumatized patient.
  
6. Pertinent history of any burn includes mechanism of injury and medical history. State three specific questions related to each area.
  
7. State the consensus formula for calculating the fluid needs of the burn patient for the first 24-hours post injury.
  
8. Describe the initial management including the calculation of fluid needs for each of the following patients:  
  
Thermal. A 24 year-old male was involved in a gasoline tank explosion with burns to his entire body except for the boot area. Patient weighs 200 lbs.  
  
Chemical. A 21 year-old male was changing the coupling on an anhydrous ammonia tank, spraying face and upper body. Patient weighs 165 lbs.  
  
Electric. A 42 year-old male was laying sheet metal and came in contact with an 8,000 volt high power line. Patient weighs 180 lbs.
  
9. Describe the principles of pain management.

## **AIRWAY MANAGEMENT AND SMOKE INHALATION INJURY**

1. List the three types of smoke inhalation injury.
2. Describe why carbon monoxide intoxication is the initial threat to smoke inhalation patients.
3. In general, inhalation injury above the glottis is\_\_\_\_\_ and below the glottis is \_\_\_\_\_
4. State the rationale for requiring that all patients with the possibility of smoke inhalation be observed for at least 24 hours.
5. Identify the appropriate oxygen flow for patients suspected of having carbon monoxide and/or inhalation injury.
- 6.. List two specific laboratory tests that should be obtained on patients with possible smoke inhalation injury.
7. State three facts that are important to obtain regarding the history of the event that resulted in smoke inhalation.

8. List five physical findings that suggest respiratory tract injury.
  
9. List three criteria for intubation of patients with supraglottic injury and three criteria for intubation of patients with bronchial injury.
  
10. Discuss the anatomical differences in pediatric patients that result in increased respiratory distress associated circumferential chest burns.

## **SHOCK AND FLUID RESUSCITATION**

1. List the three factors that must be considered when calculating resuscitation fluid needs for the burn patient in the first 24 hours.
2. State the formula for calculation of fluids for the first 24 hours for adult and child burn patients.
3. Discuss the hourly urinary output guidelines for measuring the adequacy of resuscitation for adult and child burn patients.
4. Discuss the difference in hourly urinary output for patients with high voltage electric injury as compared to those with thermal injuries.
5. Identify when the use of Mannitol should be considered during the resuscitation of patients with high voltage electric injury.
6. Discuss how a patient's general condition, blood pressure, heart rate, hematocrit and hemoglobin should be used to assess the adequacy of fluid resuscitation.

7. List four other laboratory and diagnostic studies that should be considered when monitoring a burn patient during the first 24 hours.
8. State four possible complications of fluid therapy.
9. Identify three groups of individuals who may require more fluid than predicted by the formula and two groups that may be volume-sensitive.
10. Discuss four factors that must be considered when planning fluid resuscitation of the pediatric burn patient.

## **WOUND MANAGEMENT**

1. List two factors that determine the degree of tissue damage.
2. Describe the difference between first-degree and second-degree, partial-thickness burns.
3. Describe the characteristic findings of a full-thickness, third-degree burn.
4. Describe the anatomical markings for performing an escharotomy for a circumferential chest wall burn.
5. List four signs and symptoms of vascular compromise in an extremity that would indicate the need for an extremity escharotomy.
6. Describe the anatomical marking for an extremity escharotomy.
7. Identify where a second escharotomy should be performed, if needed.

8. Discuss the criteria for performing a finger escharotomy.

9. Discuss the initial management for the following burns –

Facial –

Eye –

Ears –

Hands –

Feet –

Genitalia –

10. Discuss the treatment for a patient with tar burns.

## **ELECTRIC BURNS**

1. Describe the pathophysiology of electric injuries that make these injuries difficult to evaluate clinically.
2. Discuss why the patient suffering from electric injury will have red to port wine urine, or dark red urine.
3. Discuss why many patients with electric injuries require additional fluid resuscitation.
4. Identify the treatment of hemochromogenuria.
5. Identify when electrocardiographic monitoring is indicated with a patient receiving an electric injury.
6. List four areas to be observed hourly to assess the circulatory status of an extremity.
7. State the indication for a fasciotomy.

8. Describe the fasciotomy procedure for an upper limb.
  
9. Describe the procedure for fasciotomy of the lower leg.
  
10. Discuss the reasons for delayed blood loss with a fasciotomy incision. State the most effective means of minimizing this blood loss.

## **CHEMICAL BURNS**

1. List four factors that determine the severity of a chemical injury.
2. Describe the treatment for chemical injuries once any saturated clothing has been removed.
3. Describe why it is not recommended to neutralize any chemical.
4. Discuss the effects of prolonged contact with gasoline or diesel fuel.
5. Discuss the immediate treatment for hydrofluoric acid burns.

## **PEDIATRIC BURN**

1. Discuss three physiological differences between the pediatric and the adult patient.
2. Compare the differences in temperature sensitivity between the adult and the pediatric patient.
3. A 9 month-old child (weight 8 Kg) pulled a steamer with hot water on top of himself, resulting in scald burns of the head, neck, anterior chest and right arm. Calculate the percentage of body surface area burned.
4. List two anatomical differences that make intubation of a pediatric patient more difficult.
5. A 10 year-old (weight 30 Kg) was pouring lighter fluid on the charcoal in an open grill when his clothes caught on fire resulting in burns of the head, neck, anterior chest, and both arms. Calculate the fluid requirements for the first 24 hours post burn.
6. Discuss the use of urinary output as evaluation of the effectiveness of fluid resuscitation.
7. List types of patients that meet the ABA criteria for transfer.

