Chapter 46 Homework Answers

Matching

1. A, C, B
2. A, C, B, A, A

Short Answers

1. Epidermis, dermis, subcutaneous tissue.
2. Dermis.
3. Loss of body fluid, leading to hypovolemia and shot. Increased loss of body heat, leading to hypothermia. Bas of protective barrier against bacteria, leaving to infection.
4. 9 Head, 18 anterior truck, 18 posterior truck, 9 each upper extremity, 18 each lower extremity, 1 perineum.
5. 18 Head, 18 anterior trunk, 18 posterior truck, 9 each upper extremity, 13.5 each lower extremity 1, perineum.
6. 1%
7. 9% right arm +9% left arm equals 18%
8. 18% anterior truck
9. In a three-year-old child, it's lower extremity is approximately 16% of the total body surface area. 18% posterior trunk +7.25% posterior half of right lower extremity +7.25% posterior half of left lower extremity equals 32.5%. To use the rule of nines and children, for each year older than one year, subtract from the head and add .5% to each lower extremity.
10. Ringers lactate. 80 kg times 70% burn times 4 mL per kilogram percentage burn equals 22,400 mL or 22.4 L.
11. 50 kg times 50% burn times 4 mL per kilogram percent burn equals 10,000 mL or 10 L times half equals 5000 mL or five leaders. One half of the required fluid Valium should be given in the first eight hours after the patient is burned. The other half should be accused over the next 16 hours.
12. Ringers lactate is closer and it's composition to normal extracellular fluid than normal sailing. In particular LR contains potassium, while NS does not. Infusion of massive amounts of NS and to a burn patient can produce severe hypokalemia, leading to just really.
13. Because fluid loss in burns is a result of a slow leak of fluid from the body, birds do not produce a rapid onset of hypovolemia. Therefore when a burn patient shows a rapid onset of signs of hypovolemic shock, other injuries causing hemorrhage must be present.
14. Vascular access should be obtained in the upper extremities, even if it necessitates starting an IV through the burn. ID should never be started in

the lower extremities of burn patients. Because patients with large burns frequently are not ambulatory for extended periods of time, IV sites in the lower extremities increased risk of pulmonary emboli.

15. With the exception of tetanus prophylaxis the IV route should be used to administer all medications to burn patients. Burn injuries produce massive peripheral vasoconstriction in response to volume loss and pain. Medications administered by the intramuscular or subcutaneous routes will be absorbed slowly and produce effects unreliably.
16. Be sure the current is turned off before making contact with the patient.
17. Taking care to avoid contaminating yourself, you should undress the patient and brush away as bunch of the powder as possible from the exposed skin surface. The small amounts of dry chemical remaining should be washed away with large amounts of water. When the patient is contaminated with large amounts of dry chemical, water should not be used initially because of the risk of causing a chemical reaction that could liberate large amounts of heat.
18. This patient is at risk of losing her upper airway because of tissue edema caused by the burn.
19. Place the patient on high concentration oxygen using a non-rebreather mask. Attach an ECG monitor to detect any dysrhythmias that may result from contact with electrical current. Establish an IV with lactated ringers. Give an initial 20 mL per kiloliter fluid bolus followed by additional fluid to maintain adequate perfusion and urine output. Consider administration of sodium bicarbonate to alkalinize the urine and prevent renal failure secondary to myoglobin precipitation in the kidneys. Consider mannitol to promote urine output. Identify and manage any orthopedic injuries that could have resulted from muscle spasm caused by contact with electrical current. Consider the possibility of spinal injury secondary to muscles thousand cause I contact with electrical current.
20. Low-voltage current tends to follow structures such as muscles, nerves, and blood vessels, which provides low resistance past ways along which electricity can flow. High voltage current follows this shortest pathway to ground.
21. A patient who has lost consciousness and a smoke filled environment will no longer hold his or her breath to avoid inhaling products of combustion. Therefore loss of consciousness increases the risk of lower airway injury.
22. What was burning or what was the toxic substance? Was it smoke or other gas trapped in an enclosed space, increasing its concentration? Was there a loss of consciousness, leading to inability to perfect the lower airway by breath holding? How long was a patient exposed?
23. Carbon monoxide binds to hemoglobin more efficiently than oxygen, occupying sites that should be used to carry oxygen to the tissues. Therefore cover monoxide produces tissue hypoxia by reducing the bloods oxygen-carrying capacity.
24. Carbon monoxide is colorless and odorless

25. Children have larger body surface two-volume ratios than adults. Therefore for the same percentage of burn body surface area, a child will lose fluid and heat more rapidly than the adult.
26. Stocking and glove burn patterns and children result from dipping of the hands or feet in the hot water their signs of intentional injuries resulting from child abuse.
27. Burn shock occurs as result of the loss of plasma from the vascular tree. However unlike true hypovolemic shock, in which the plasma, water, or blood has been lost for the circulation and often the body, and burns the loss is result of capillary leak. This phenomenon is the result of several factors. First and foremost, capillary integrity is lost because of physical thermal injury to capillaries and larger vessels. Thermal imaging injury causes the distraction of red blood cells, which is Marge Burns contributes to anemia as much as 18% of the red cell mass maybe lost in the first 24 hours of a burn
28. Alpha, beta, and gamma.

Multiple choice

1. D
2. A
3. D
4. B
5. B
6. A
7. B
8. A
9. C
10. B
11. B
12. A
13. C
14. A
15. B
16. C
17. B
18. B
19. A
20. A
21. C
22. C
23. C
24. C

Case Study

1. This patient's airway should be secured within endotracheal tube as quickly as possible. Strider, face and neck burns, and singeing of the eyebrows all indicate the presence of upper airway burns. If an endotracheal tube is not placed immediately, edema from those burns could cause loss of the airway.
2. The cervical spine maybe present. The patient is unresponsive, and the mechanism of injury suggest the explosion may have thrown him.
3. No; a diuretic is not indicated in this situation. The wheezes and crackles probably are due to a lower airway burn cause my smoke inhalation. The pulmonary edema that is present in is non-cardiogenic and does not result from volume overload. Administering a diuretic could worsen the patient's condition by decreasing circulating blood volume. Non-cardiogenic pulmonary edema is treated with oxygen, positive pressure ventilation, and positive and expiratory pressure.
4. The patient probably has carbon monoxide poisoning. Carbon monoxide binds to sites of hemoglobin that normally carry oxygen. And oximeter will detect the fact that the patient's hemoglobin is saturated with some other substance but Will not provided information about the nature of the substance at this that is present.
5. The patient is showing signs of rapidly worsening hypovolemic shock. Since fluid loss from Burns does not cause a rapid onset of hypovolemia, the patient probably has other injuries that are causing initial hemorrhage