

**Northwest Community EMS System  
February 2019 CE: Thermal Burns**

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| Name:                   | Date submitted:         |
| EMS Agency/hospital:    | Credit awarded (date):  |
| EMSC/Educator reviewer: | Returned for revisions: |
|                         | Revisions received:     |

This packet should take 2 hours to complete – which earns you the equivalent of the 2 hour live CE class.  
Sources: Feb 2019 CE handout; PM Class handout; current SOP; IO procedure (rev.3-19); video links.

**After viewing the first videotape created by Dr. Jordan, <https://www.youtube.com/watch?v=3XMy2qPGUvw&feature=youtu.be> what is the System's position or the current situation with respect to each of the following?**

1. True or False (circle one): Dispatch determinants should be used to drive staffing at the fire departments and individual stations.
2. True or False (Circle one): Dispatch determinants are being used to guide how a department responds to a call and the amount of resources sent initially.
3. What part of the stroke screen can only be documented in the Image Trend PCR narrative section in February of 2019?
  - A. Facial droop
  - B. Arm drift
  - C. Speech
  - D. Balance, vision disturbances, cranial nerves
4. Why are stroke alerts not being called in to OLMC when EMS suspects a stroke may be occurring?

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**BURNS**

5. Why are children particularly at risk for, and challenging to manage following, a severe burn?
 

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6. What are three major considerations that puts elderly patients at high risk for morbidity following a severe burn?
 

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7. Which skin layer contains blood vessels, glands, nerve endings and anchors the hair follicles?
  - A. Epidermis
  - B. Dermis
  - C. Subcutaneous tissue
  - D. Sudoriferous tissue

8. List at least 3 functions of the skin.

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9. Which term describes the process of altering of the usual substance of something as in the breakdown of structural proteins due to heat?

A. Mutating  
B. Exacerbating  
C. Detonating  
D. Denaturing

10. What three factors determine the amount of damage (injury) sustained in a burn?

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11. In applying Jackson's Thermal Wound Theory, which zone experiences the most intense heat and suffers the most damage?

A. Hyperemia  
B. Stasis  
C. Coagulation  
D. Ischemia

12. Which of these is the FIRST priority in a patient with a severe burn?

A. Early intubation  
B. Pain management  
C. Rapid vascular access; infuse 2 L NS ASAP  
D. Extinguish, remove burning or contaminated clothing

13. What criteria must be met to safely cool a burn without causing more tissue damage or hypothermia and for how long should the burn be cooled?

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14. List at least 4 signs or symptoms that suggest an airway or inhalation burn.

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15. List at least 4 things that suggest the need for intubation in a severely burned patient:

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16. List at least 4 signs that suggest a patient with burns is or will experience breathing problems.

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17. At what minimum percentage of total body surface area burned is a patient likely to experience leaky capillaries, large fluid shifts (3<sup>rd</sup> spacing) and hypovolemia?

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18. Under what circumstances should EMS monitor a burned patient's ECG?

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19. What are the indications for EMS vascular access in a patient with burns?

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20. Based on the video and EMS System Procedure; how should EMS find the landmarks for the correct proximal humerus IO site? [https://p.widencdn.net/gnqzrx/VA\\_IOS\\_EZ-IO-Cadaver-Vid-1\\_VI\\_MC-001295](https://p.widencdn.net/gnqzrx/VA_IOS_EZ-IO-Cadaver-Vid-1_VI_MC-001295)

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21. According to the SOPs, how much IV fluid should be given to each of the following within the first hour following a moderate to severe burn if the patient is not in shock?

6-13 yrs:

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≥14 yrs:

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22. An adult weighing 70 kg has deep partial thickness burns totaling 50% TBSA. Using the Parkland formula, how much IV fluid in liters is needed during the first 8 hours? (Formula: 4 mL x TBSA x weight in kg; ½ in first 8 hours)

- A. 2
- B. 4.5
- C. 7
- D. 14

23. Why is a patient with a severe burn at risk for hypothermia?

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24. If a patient with a severe burn has altered mental status, what else should EMS consider or suspect?

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25. What steps should EMS personnel take to help prevent bacterial contamination of a burn patient from their BP cuff?

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26. **Review Case 1:** Why was this patient a good candidate for a direct transport to the Loyola Burn Center?

Why were moist dressings indicated for this patient?

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27. **Review Case 2:** What did EMS do that was very appropriate relative to burn wound management?

Why was this patient a good candidate for going to the nearest trauma center?

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28. What is the thickness of this burn? The burn is moist with blisters, red with good capillary refill and the patient is in severe pain. (See photo)

- A. Superficial
- B. Partial thickness
- C. Full thickness



29. What is the thickness of the majority of this burn? (See photo to Rt and below) Burn is dry, scalp hairs slough away and there is no capillary refill after blanching.

- A. Superficial
- B. Partial thickness
- C. Full thickness



**How should this child be sedated for intubation and medicated for pain?**

Pain: \_\_\_\_\_

DAI Sedation: \_\_\_\_\_

**How should EMS determine a child's size to calculate drug doses?**

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How should EMS achieve vascular access in this patient? \_\_\_\_\_

How much IV fluid should be infused if the child is not in shock?

≤5 yrs: \_\_\_\_\_

**Critical or noncritical?** (Circle one) Why? \_\_\_\_\_

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30. What adjustments are made when estimating the TBSA burned in an infant and child rather than an adult?
- A. An infant's abdomen is given an additional 2% that is deleted from the head %
  - B. Adult legs are proportionately smaller than an infant's so are assigned a lesser %
  - C. An infant's head is almost 2X as large proportionately so is assigned a greater %
  - D. An adult's trunk is proportionately larger than a child's so is assigned a greater %

31. An adult has burns of the chest, abdomen, perineum and the entire anterior surface of both legs. Using the Rule of 9s, what percentage of TBSA has been burned?

- A. 55%
- B. 37%
- C. 28%
- D. 19%



32. Which is the TBSA that has been burned in the illustration (right)?
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33. Why and how is the Rule of 9s adjusted for extremely obese individuals?

SOP:

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34. Should burn blistered be removed, aspirated or left intact by EMS personnel?
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35. A conscious and agitated adult presents with deep PT thermal burns over 8% of her legs. VS: BP 118/80; P 130; R 32; SpO<sub>2</sub> 96%. Airway is patent and there is no ventilatory distress. What treatment is indicated?

- A. IV NS WO, wet sterile dressings, opiate for pain
- B. IV of NS 20 ml/kg, and moist sterile dressings over all burns
- C. Cool burns 10 min; plastic wrap to burns, moist sterile dressings; opiates for pain
- D. Ice to the burns, cover with a dry sterile sheet and rapid transport to a burn center

36. Which is the most persistent killer of severely burned patients after the first 24 hours?

- A. Shock
- B. Infection
- C. Organ failure
- D. Related trauma injuries

37. How should EMS dress and bandage a burned hand (fingers) or foot (toes)?
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38. What can we learn from Deb's story?
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