Northwest Community EMS System  
Continuing Education Class Credit Questions  
Special patient populations: ELDELY – September 2014

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Answers are found in the September 2014 class handouts and/or the SOPs.

**Objectives:** Upon completion of the class and independent reading, each participant will independently do the following within their scope of practice with a least an 80% degree of accuracy and no critical errors:

1. **Define aging.**
   1. What are the determinants and behaviors that influence biological aging?
   2. What is the hallmark of aging?

2. **Identify the physiologic changes that occur as a result of aging.**
   3. What are the normal changes to the HR and rhythm as one ages?
   4. Why might older adults be predisposed to dysrhythmias such as atrial fibrillation?
   5. What is the physiological impact of ventricular stiffening & impaired diastole?
   6. Why can significant blood volume loss in the elderly be masked in the early stages?
   7. Why can an elderly patient have postural vertigo?
   8. What changes occur in the work of breathing as one ages?
9. Why are elderly patients at more risk for the development of pulmonary infections/complications?

10. Why are the elderly at higher risk for developing ventilatory failure?

3. Explain the ways to adapt to an older patient's physical and cognitive deficits when performing a physical exam.

11. How should communication with the elderly be optimized?

12. How should EMS adapt their approach to an elderly patient with a hearing deficit?

4. Predict the normal assessment findings in older patients taking into account the physiologic changes of aging and adaptive responses to illness and injury.

13. When assessing elderly patients for loss of reserve function and the biological changes associated with aging; what five points should be evaluated? (H/O p. 1-2)

14. Which of these is a normal cognition change in the elderly?
   A. Progressive dementia as they age
   B. Increased vigilance and attention span
   C. Delayed processing speed; may answer questions more slowly
   D. Loss of remote memories but able to learn new skills easily with practice

15. What are the general changes to vision, pupil size and reactivity to light in the elderly?
5. Evaluate the potential for fall risk and polypharmacy in the older adult patient.

16. What factors in the home environment place an elderly patient at risk for falls?

17. List risk factors for developing polypharmacy in the older adult patient.

6. Identify side effects and drug interactions caused by some of the more commonly used drugs in the older patient population.

18. Which drugs can cause mentation changes in the older adult?

7. Discuss common illnesses and injuries experience by elderly patients in the NWC EMSS.

19. What are the most common infections in the elderly that predispose them to septic shock?

20. What symptoms and clinical findings suggest sepsis/septic shock in older adults?

21. What symptoms and clinical findings suggest pneumonia in older adults?

22. What is the presentation of the older adult with a UTI?

23. Why is an older adult at increased risk for toxicity from drugs and alcohol?

24. An 85 y/o woman was involved in a MCV. She was unrestrained and thrown into the windshield. The patient denied loss of consciousness; she had mild bruising to her head at the time and was not hospitalized. One month later; her family notices changed behavior; fluctuating confusion, and she tends to drag her L foot. She is alert, oriented to person; cannot recall the date, has normal language, mild drooping of the L lower face and mild weakness of the L leg. What should be suspected in this patient?
Why is she at increased risk for the above condition following trauma?

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25. What are the classic clinical findings of Parkinson’s disease?

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26. Why are the elderly at increased risk of fractures?

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8. Describe the initial evaluation and treatment of an elderly patient including airway management, ventilatory assessment and support; optimizing oxygenation; cardiovascular (CV) support with IV fluids and potentially vasopressors, neurologic assessment and management; pain assessment and management; safe packaging (if transported), and appropriate patient disposition.

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27. What may be the only clues that an elderly patient is hypothermic without the use of a thermometer?

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28. If an elderly patient is confused or has altered mental status that is new in onset; what possible causes should be suspected and/or explored?

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29. When considering the interdependence of organ system function; for what conditions should elderly patients with CV disease be assessed? (H/O p. 8)

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30. Why is a central sensor a better assessment tool for measuring pulse oximetry in many elderly patients?

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31. How should an elderly COPD patient be treated when in uncompensated respiratory acidosis?

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32. How should IV fluids be given to an elderly patient with hypoperfusion? What is the danger of giving too much fluid or/or too fast?
33. What elements about pain should be assessed in an elderly patient?

What pain scale should be used in an elderly patient with dementia who cannot verbalize their complaint? Where is it found?

34. How should fentanyl be dosed in elderly or debilitated patients per SOP?

35. For what side effects are the elderly more susceptible following fentanyl administration?

36. Why is depression common in the elderly?

9. Identify ways to prevent or reduce the risk of complications seen in elderly patients.

37. What steps should EMS take to prevent skin teas, pressure sores, or musculoskeletal injuries when transporting elderly patients?

38. How should EMS personnel to ensure maintenance of body warmth in an elderly patient?

39. How should these complications be prevented in the elderly?
   Hypoxia/hypercarbia:
   Under-resuscitated hypotension/shock
   Under-resuscitated pain
   Nosocomial infections (Pneumonia):
   Adverse drug reactions:
10. Evaluate a patient case study to determine the patient’s problem and sequence her plan of care.

An 81 y/o female found down on icy parking lot of local supermarket. PMs find elderly woman lying face down between two parked cars. A bystander put her head on a rolled-up sweater. He reports that he saw the woman “shaking and twitching”.

Her eyes open when EMS starts talking to her and she is looking around as if very confused and agitated. She initially withdraws her left arm when her hand is touched.

There is a language barrier, she does not remember what happened, her address, or phone number, but is able to communicate that she has had a stroke in the past, has a headache presently (8/10), feels dizzy, and is on Plavix. There is a bag of groceries, a purse, and car keys on the ground between the cars. The keys open the car door next to the patient.

**Exam**

Large, tender hematoma just above left ear. She won't let EMS touch it. Blood is present in her hair in that area. No blood or drainage from that ear.

There is a dent on the rear bumper of one of the cars with some hair on it. That hair matches the patient's.

Able to follow simple commands

Pupils round, equal, midpoint, and both react to light; Smile is symmetrical and both eyes close tightly

C/o of pain and tenderness to palpation in her midline back near the bottom of the rib cage

Moving extremities X4 but RA has pronator drift (unclear if new or residual from previous stroke.

No reported sensory deficits. Glucose 180.

**VS:** BP 150/92; P 72 and irregular; R 18; SpO2 98%; EtCO2 35, square waveform, ECG: Atrial fib

40. What’s the GCS?

What should be suspected as the primary impression of this patient’s condition/injury?

What are the treatment priorities in sequence?

Does she require selective spine motion restriction?

How should that be accomplished?

What role does her age and medical history play in her current condition?

Is this a time-sensitive patient? Why?

Where should she be transported and why?