

EARLY IDENTIFICATION AND PROTOCOL-DIRECTED
RAPID TREATMENT OF CRITICAL ILLNESS
PHYSICIAN EXAM
[62 POINTS]

Name: _____

Unit: _____

Date: _____

1. Currently, the only hospital-based approach to the recognition and treatment of acute severe illness which have demonstrated significant benefits are the Code Blue team and Trauma teams.
 True False [1]
2. Cardiac arrests and/or serious clinical deterioration are commonly preceded by warning signs usually less than 4 hours before event.
 True False [1]
3. Patients in the Emergency Department who are severely septic with a lactic acid level >4, chances of survival are greater if:
 - a. They are hypotensive
 - b. They are normotensive[1]
4. Explain your answer to #3. Why: _____

_____ [1]
5. **Hypoxic shock** includes which of the following physiologic abnormalities:
 - a. Hypovolemia
 - b. Sepsis
 - c. Cardiac dysfunction
 - d. Deteriorating neuro status
 - e. All of the above[1]
6. A systematic and standardized approach to at-risk patients will lead to:
 - a. Early recognition
 - b. Early initiation of best practice
 - c. Improved outcomes
 - d. All of the above[1]
7. Significant abnormality of one of the 5 vital signs should trigger an assessment of all 10 signs of vitality.
 True False [1]

8. Fill in the blanks for the mnemonic describing the best practice for the treatment of at-risk patients.
- A _____
O _____
V _____
I _____
P _____
P _____
S _____
- [7]
9. Which two of the following are early central nervous system manifestations of shock:
- Anxiety
 - Lethargy
 - Coma
 - Delirium
 - Apathy
- [2]
10. Which of the following is a cause of hemodynamic shock:
- Hypovolemia
 - Sepsis
 - Cardiac depression
 - All of the above
- [1]
11. The most common cause of neurologic deterioration, necessitating a call to a Rapid Response Team is:
- Stroke
 - Acute liver or renal failure with encephalopathy
 - Narcotic or benzodiazepine over-medication
 - Hypotension
- [1]
12. Hypoxia with tachypnea is present more often in hypoxic shock secondary to primary respiratory failure than in primary deteriorating neurologic status secondary to narcotic over-medication:
- True False
- [1]
13. A patient with a SaO₂ of 85% that is not corrected with high concentration of oxygen and the other nine signs of vitality are normal still indicates a patient at high risk of decompensation.
- True False
- [1]
14. Hypoxic shock frequently refers to patients decompensated with:
- COPD/CHF
 - Severe sepsis
 - Hypovolemia
 - Glasgow coma scale <8 (normal 3-15)
 - B and C
 - D and A
- [1]

15. Early respiratory support including BiPAP or intubation with mechanical ventilation for patients in shock improves outcomes by diverting blood from the respiratory muscles to the heart, brain, and gut.
 True False [1]
16. Classify the following physiologic signs in an ill patient suspected of being at risk for **tissue hypoperfusion** as 1 or 2:
 1 = sensitive but not specific 2 = sensitive and specific
- | | | |
|---|--|-----|
| <input type="checkbox"/> Tachypnea | <input type="checkbox"/> Decrease urine output | |
| <input type="checkbox"/> Cool or mottled extremities with hypotension | <input type="checkbox"/> Lactic acidosis | [4] |
17. In a **normotensive** patient how many of the following signs are needed to identify a pattern for a RRS Alert _____:
- | | | |
|-----------------------------|-----------------------|-----|
| Decreased LOC | Decrease urine output | |
| Tachypnea | Metabolic acidosis | |
| Cool or mottled extremities | | [1] |
18. In a **hypotensive** patient with MAP < 60, how many of the following signs are needed to identify a patient for a RRS Alert _____:
- | | | |
|-----------------------------|-----------------------|-----|
| Decrease LOC | Decrease urine output | |
| Tachypnea | Metabolic acidosis | |
| Cool or mottled extremities | | [1] |
19. Elevation of temperature combined with new or increasing pain qualifies for a RRS Alert.
 True False [1]
20. Before a septic shock patient is fluid resuscitated, they are frequently in a low cardiac output state.
 True False [1]
21. Goals of resuscitation for patients in shock should include the following (more than 1 correct answer):
- | | | |
|------------------|------------------------------------|-----|
| a. MAP \geq 50 | d. Urine output \geq .5 cc/kg/hr | |
| b. MAP \geq 60 | e. Capillary refill of < 8 seconds | |
| c. Hb \geq 13 | f. Decreased work of breathing | [3] |
22. In healthy young adults who develop septic shock it is common to have significant decrease in myocardial function.
 True False [1]
23. Oliguria in the presence of shock frequently reflects decreased perfusion to other abdominal organ including bowel, liver and gallbladder.
 True False [1]

Match the diseases from the table below. There is more than one correct answer for some questions, but you can use A thru H only once to questions 24-27:

24. $\downarrow \overline{BP}$ caused by $\downarrow CO$ with $\uparrow SVR$ and $\downarrow CVP$ _____ [1]
25. $\downarrow \overline{BP}$ caused by $\downarrow CO$ with $\uparrow SVR$ and $\uparrow CVP$ _____ [2]
26. $\downarrow \overline{BP}$ caused by $\uparrow CO$ with $\downarrow SVR$ (with $\downarrow SVR$ as the primary problem) _____ [3]
27. NL or $\downarrow \overline{BP}$ caused by $\downarrow \downarrow CO$ with $\uparrow \uparrow SVR$ _____ [2]

- | | | | |
|-----------------|----------------|---|----------------|
| a. Pancreatitis | c. L.V. A.M.I. | e. P.E. | g. Anaphylaxis |
| b. Endotoxin | d. GI Bleed | f. Severe Mitral & Aortic Valve Failure | h. Tamponade |

28. The most common electrocardiographic change in patients in shock with hypotension is ST segment depression and T wave flattening or inversion.
 True False [1]

29. Patients in shock who developed oliguria or an increased creatinine are at increased risk for subsequently developing ischemic bowel and/or gall bladder.
 True False [1]

30. Aggressive infusion of volume should be initiated in all patients in shock except hypoxic shock.
 True False [1]

31. The vasoactive drug (below) that should not be used for the resuscitation of septic shock if the MAP ≤ 60 is:

a. Dopamine	c. Levophed
b. Dobutamine	d. Epinephrine

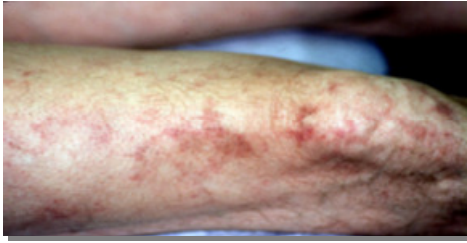
[1]

32. A 70 year old patient in shock has an SaO₂ = 98% with a ScvO₂ ≤ 60 and MAP ≥ 70 . In what **order** (1st, 2nd, 3rd, 4th priority) would you add or do the following (1 thru 4, with 1 being first):

a. _____	Add Dobutamine
b. _____	Optimize volume with crystalloids
c. _____	Aggressive ventilatory support i.e., BIPAP
d. _____	Transfusion to Hb > 9

[4]

33. The most common cause of this finding is:



- a. Acute Renal Failure
 - b. Allergic reaction
 - c. Shock
 - d. Antiphospholipid antibody syndrome
- [1]

34. The most (being #1) to least (being #4) accurate methods of measuring systolic blood pressure in an at-risk patient are (#1 thru #4):

- a. Automated BP cuff
 - b. Doppler w/pneumatic cuff
 - c. Stethoscope w/pneumatic cuff
 - d. Arterial line
- [4]

35. If MAP recorded in a properly calibrated arterial line is $\bar{50}$ mmHg and the automated BP cuff recorded as $\bar{70}$ mm/Hg in a patient who is awake and does not have vascular disease, the automated BP cuff is more likely to be correct.

- True False
- [1]

36. A RRS alert should be called on the following patients:

- a. Yes No Patients coming out of the operating room on pressors, intubated, and with a pulmonary catheter, BP 70/50 and oliguric.
 - b. Yes No Patient with a MAP 50, tachypnea, and decreased level of consciousness with an advanced directive indicating no chest compressions, but otherwise aggressive care.
 - c. Yes No 60 year old normotensive with tachypnea, anxiety, complaining of shortness of breath.
 - d. Yes No 75 year old on the surgical floor with BP 110/60, decreasing urine output, capillary refill >5 sec. and is not to receive aggressive care (comfort care).
 - e. Yes No 50 year old with decreased LOC, RR 8, BP 110/60, P=80, decreased SaO₂ = 86% on oxygen
- [5]