



## **Wilderness Refresher Course (WRC) Study Guide**

**Please read the questions carefully and be as specific as possible on the short answer and essay questions.**

### **Section I – Short Answers**

1. List the 7 vitals (with their respective normal ranges) a WFR should take as part of the secondary assessment?
2. What are 5 signs and symptoms of internal bleeding? What type of shock does internal bleeding lead to?
3. When should CPR be discontinued in a remote wilderness setting?
4. List in order, the methods of controlling external bleeding. When can you release a tourniquet in the field?
5. Please describe the physiological difference between heat stroke and heat exhaustion. What is the treatment for heat stroke?
6. What is the treatment for snakebites in the North America?
7. What is the difference between compensatory and decompensatory shock? How would you know that your patient is in decompensatory shock?

8. Explain the difference between Hypovolemic, cardiogenic and vasogenic shock and physiologically explain their differences. Give an example of a condition that could lead to each type?

9. What is Methicillin-Resistant Staphylococcus Aureus (MRSA)? What is the anticipated worst case scenario (A') and the plan (P) as part of SOAA'P notes for this condition?

10. Please explain what the "E" in ABCDE stands for and what the rescuer should do when they get to this point in the primary assessment.

11. What is the wilderness protocol for evacuating 2<sup>nd</sup> and 3<sup>rd</sup> degree burns? What are the 3 anticipated worst-case scenarios (A' in SOAA'P notes) for large area 2<sup>nd</sup> and 3<sup>rd</sup> degree burns?

12. What does OPQRST stand for and when should a WFR use this tool when a patient is complaining of pain?

13. Please explain how trip participants can get urinary tract infections? How can they be prevented? In the event of a UTI on an expedition what field treatment should a WFR consider?

## **Section II – Multiple Choice**

14. Oxygen carried in the blood is exchanged for carbon dioxide and other waste materials through the walls of the:

- A. Veins
- B. Arteries
- C. Capillaries
- D. Arterioles
- E. Venules

15. Venous bleeding should be suspected when the blood is:

- A. Bright red and flowing steadily from the wound
- B. Dark maroon and spurting from the wound
- C. Dark maroon and flowing steadily from the wound
- D. Bright red spurting from the wound
- E. Blue blood and spurting from the wound

16. Pain in the flank of the back (kidneys) accompanied by fever could suggest which of the following:
- A. Epididymitis
  - B. Pneumothorax
  - C. Urinary tract infection
  - D. Hemothorax
  - E. B & C
17. What is true about splinting fractures?
- A. Splint joints above and below fracture site
  - B. Check for circulation before and after splinting
  - C. Always re-align the fracture before splinting
  - D. Always splint with hard rigid materials
  - E. A & B
18. Shoulder dislocations can be very painful and cause:
- A. Permanent nerve damage
  - B. CVA (stroke)
  - C. Low blood pressure
  - D. Ataxia (loss of muscle coordination and balance)
  - E. Anaphylactic shock
19. A heart attack can be best defined as:
- A. Cardiac arrest
  - B. Death of heart muscle tissue
  - C. Angina pectoris
  - D. Arteriosclerosis
  - E. Hemothorax
20. Scorpions and Black widows inject:
- A. Neurotoxins
  - B. Hemolytic toxins
  - C. Hypovolemic toxins
  - D. Spontaneous toxins
  - E. Non of the above
21. The most important thing to remember when dealing with conscious cervical spine injury is:
- A. To maximize the patients comfort
  - B. To induce vomiting while supine
  - C. To minimize any twisting of the spine during patient manipulation
  - D. To drain cerebral spinal fluid from hematomas
  - E. To prevent priapisms

22. Before attempting to “clear the spine” you should make sure the trip participant meets the following criteria?

- A. CSM x 4, A&O x 3, warm, no distracting injuries
- B. A&O x 3, warm, no distracting injuries & not inebriated
- C. CSM x4, A&O x 3, warm & no distracting injuries
- D. A&O x 3, warm, no distracting injuries & no pain over 3/10
- E. CSM x 4, A&O x 4, no distracting injuries & not inebriated

23. Acute Mountain Sickness (AMS) can mimic:

- A. A hangover
- B. Mild hyponatremia
- C. Mild dehydration
- D. Heat exhaustion
- E. All of the above

24. Nitroglycerine is a medication prescribed to people suffering from:

- A. Heart attack
- B. Angina pectoris
- C. Congestive Heart Failure
- D. A & B
- E. All of the above

25. Peripheral edema is a condition that seems to occur more commonly in women. It is best described as:

- A. Swelling of the face and extremities due to altitude
- B. Swelling of the lower respiratory tract due to altitude
- C. Swelling around the brain stem due to altitude
- D. Retinal hemorrhaging due to altitude
- E. Non of the above

26. Diamox® (acetazolamide) can be used as a prophylaxis for:

- A. AMS
- B. Asthma
- C. Diabetes
- D. Heart disease
- E. Acidosis

27. Severe hypoglycemia is:

- A. A condition resulting from lack of sugar causing ketoacidosis
- B. A condition resulting from lack of insulin and overtime leading to ketoacidosis
- C. A condition more common to type 2 diabetes
- D. A condition resulting from lack of sugar
- E. A & C

28. A fellow hiker took a significant fall while scrambling up a boulder field. Upon assessment, you note that the person lost consciousness for about 20 seconds (“U” on AVPU scale) before returning to full alertness. No significant injuries are discovered, the person has no past medical history and is not taking any medications. You are 8 miles to the trailhead, and it is getting dark. You are concerned, and should decide to:

- A. Let the patient go to sleep, and re-evaluate in the morning
- B. Monitor the patient for 24 hrs while waking the patient every 2 hrs for assessment of his mental status
- C. Set up camp and watch for signs of nausea and vomiting, altered mental status and loss of visual acuity.
- D. Monitor the patient while treating for shock by elevating the legs 12 inches
- E. B & C

29. Commercial evacuation protocols for a traumatic head injury in the back country is:

- A. Any loss of consciousness after an MOI
- B. Increasing signs and symptoms of ICP following an MOI
- C. A & O x 3 after an MOI
- D. Any change in personality after an MOI
- E. All of the above

30. Who gets an OPA?

- A. Anyone who is unconscious
- B. Anyone unconscious without a gag reflex
- C. Anyone unconscious with a gag reflex
- D. Anyone who has trouble breathing
- E. All of the above

31. The upper right abdominal quadrant contains?

- A. Colon, small intestine, ureter, appendix
- B. Liver, spleen, kidney, stomach, colon, pancreas
- C. Liver, colon, spleen, gall bladder
- D. Colon, small intestine, kidney, pancreas
- E. Liver, kidney, colon, pancreas, gall bladder

32. Reassessment includes?

- A. Monitoring vitals
- B. Monitoring ABC's
- C. Reassessing SOAP notes
- D. All of the above
- E. None of the above

33. What are the Signs and Symptoms of an infection?

- A. Red streaks from wound radiating to heart
- B. Blisters
- C. Pus in wound
- D. A and B
- E. A and C

34. Which of the following is **not** a high-risk wound?
- A. Animal bite
  - B. Puncture
  - C. Amputation
  - D. Open fracture
  - E. Abrasion
35. A paradoxical movement of chest usually indicates which one of the following?
- A. Tension pneumothorax
  - B. Flail chest
  - C. Pulmonary embolism
  - D. Thrombophlebitis
  - E. Severe asthma attack
36. In addition to hypovolemic shock, eviscerations are dangerous because the trauma can also precipitate?
- A. Anaphylactic shock
  - B. Hypothermia
  - C. Septic shock
  - D. B and C
  - E. All of the above
37. Which is **not** a sign of Giardia?
- A. Greasy stools
  - B. Weight loss
  - C. Sulfur burps
  - D. Malabsorption of nutrients
  - E. Persistent vomiting
38. If a student approaches you complaining of pain and swelling in their scrotum accompanied by fever, what acute medical problem could it be?
- A. Testicular torsion
  - B. UTI
  - C. Appendicitis
  - D. Epididymitis
  - E. All of the above
39. A 20-year-old male is suffering from compound mid-shaft femur fracture. He is A on AVPU with a HR of 92, a RR of 32 and his skin is pale, clammy and cool. The scene is safe and you are 10 miles from the trailhead. What is the most important thing to do FIRST?
- A. Pull manual traction
  - B. Immobilize leg
  - C. Take radial pulse
  - D. Stop the bleeding
  - E. Clean the wound

### **Section III – Essay Questions**

40. You and a friend are on a 3-day backcountry ice-climbing trip in Rocky Mountain National Park. On the 2<sup>nd</sup> day your friend complains of not being able to feel his toes. Upon further inspection you deduct that 3 toes on the left foot and 2 toes on the right foot have a full thickness frostbite injury. You are 8 miles from the nearest trailhead and the sun is setting in 4 hours. How would you treat your friend's injuries?

41. You are the leader of a 12- person winter expedition in Colorado (above 10,000ft). One of your students seems to be suffering of shortness of breath at rest. You also notice that they are coughing up pink frothy sputum. They complain of a slight headache and general malaise. What do you suppose this student is suffering from and what would you do to treat them. You are 7 miles from the trailhead and you have a cellular phone. It is 11AM and you are all travelling on skis with full packs.



42. You and 6 friends are on the 10th day of a 30-day backcountry expedition in Alaska. One of your expedition members complains of severe abdominal pain, severe diarrhea (over 10 loose stools today), vomiting (6 times), a fever and general malaise. You are approximately 20 miles from the trailhead. What do you do? Explain your assessment and treatment in detail, as well as your plan of action.

43. You and your friend are hiking the Hermit Trail in the Grand Canyon in mid-July. Your friend suddenly complains of a headache, nausea, general fatigue, a headache and inappropriate emotions (sobbing). Through SAMPLE you find out that she has an allergy to penicillin, has asthma, takes an MDI (Albuterol) daily, ate a bagel and yogurt at 6AM and drank 5 liters of water. You are 5 miles from the car and it is 4PM. What is your diagnosis and how would you help your friend?

44. You and your friend are on a 4-day backpacking trip through Death Hollow in Escalante, Utah in late summer. Suddenly you step of the trail into a vegetated area to rest and a snake strikes your lower leg. You did not get a good look at the snake but you vaguely remember a buzzing sound before the attack. Upon further inspection the bite site has two distinct puncture wounds and the site is painful and swelling is quickly setting in. Since you are the only certified WFR what do you tell your friend to do to help you?