

# NOLS WILDERNESS MEDICINE

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## WFR Practice Test 2018

Answers and rationale can be found at the end of the test.

1. Unusable athletic injuries are treated with:
  - a. immobilization and evacuation
  - b. high doses of NSAID (anti inflammatory) medications
  - c. supporting tape wraps
  - d. Ice and heat therapy
  
2. Certification as a wilderness medicine provider:
  - a. indicates you have completed training
  - b. allows you to administer medications to a patient
  - c. prevents claims of negligence for your patient care
  - d. gives you a license to practice medicine beyond urban training
  
3. Wilderness medicine is different from urban medicine because wilderness medicine has:
  - a. extended patient contact time, environmental challenges and improvised gear
  - b. the freedom to suture wounds and set fractures
  - c. more than 30 minutes transport time to definitive care
  - d. different hypothermia protocols
  
4. The most common injuries consistently reported on wilderness expeditions are
  - a. lower leg fractures
  - b. shoulder dislocations
  - c. soft tissue wounds
  - d. open chest wounds
  
5. A patient in compensatory shock:
  - a. should be treated with epinephrine by auto-injector
  - b. is compensating for the injury and does not need treatment
  - c. maintains adequate perfusion with vasoconstriction, increased HR and RR
  - d. will have a slow HR and RR and altered mental status
  
6. Compartment syndrome is
  - a. pressure in a muscle secondary to an injury
  - b. managed with cool compresses and massage
  - c. usually a geriatric problem
  - d. primarily a pediatric problem

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7. A hypothermic patient
  - a. loses most of their heat through their head
  - b. can be treated with a hypothermia wrap
  - c. is in a stable physiological state
  - d. needs to exercise to generate heat
  
8. Your tent mate has accidentally swallowed a small amount of white gas. You recommend that she:
  - a. drink lots of water
  - b. attempt to vomit
  - c. take an antihistamine
  - d. call poison control
  
9. We guard against an allergic response to a medication by
  - a. asking the patient if they have taken a medication previously
  - b. first testing the patient with a half-dose of medication
  - c. only administering medications if we have epinephrine available
  - d. only administering non-prescription medications
  
10. Treatment principles for snowblindness include
  - a. warm compresses over the eyes
  - b. non-caffeinated tea bags on the eyes
  - c. topical eye antibiotic ointments
  - d. cool compresses over the eyes
  
11. A pneumothorax is
  - a. air in the chest
  - b. air trapped in the aveoli
  - c. air in the lungs
  - d. air in the abdomen
  
12. Sunscreens
  - a. prevent skin cancer
  - b. should be applied several times a day
  - c. allow us to forego hats and clothing
  - d. allow for safe skin tanning

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13. Rapidly evacuate a patient with a headache if the headache
  - a. is accompanied by nausea, vomiting or diarrhea
  - b. is sudden, severe or is associated with altered mental status
  - c. is associated with a low grade fever, malaise and muscle aches
  - d. includes a sore throat and cough
  
14. Urinary tract infections
  - a. can be accompanied by fever and blood in the urine
  - b. are treated with aspirin
  - c. usually resolve in 24 hours
  - d. are more common in men
  
15. Your 54 year old co-instructor wakes up with chest pain and a sensation of tightness in his chest, shortness of breath, anxiety, nausea and pale cool, clammy skin. Your treatment plan includes
  - a. walking to the nearest evacuation point
  - b. withholding further medications
  - c. suggesting he take one adult aspirin
  - d. treating with your personal nitroglycerin
  
16. Which of the following statements about exercise in hot conditions is false?
  - a. alcohol, antihistamines, anti depressants and amphetamines can contribute to heat illness
  - b. heat illness can be the result of cumulative exposure over several days
  - c. acclimatization to heat is recommended
  - d. over hydration can prevent heat illness
  
17. The head-to-toe physical exam
  - a. is not done on medical patients
  - b. is a skill reserved for physicians and nurses
  - c. is focused on obvious injuries
  - d. is done on all patients
  
18. In the wilderness we can stop CPR if:
  - a. the patient's pulse returns
  - b. it doesn't work after 15 minutes
  - c. the patient has been struck by lightning
  - d. the patient has a history of heart disease

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19. Abandonment occurs when:
  - a. your patient care is less than the expected standard based on your training
  - b. you share patient information with another medical provider
  - c. you turn over patient care to a person with higher medical training
  - d. you turn over patient care to a person unable to manage the patient
  
20. To effectively make water safe to drink it needs to
  - a. be warm, but not boil
  - b. boil for 10 minutes
  - c. be hot enough to generate bubbles
  - d. be hot enough for a rolling boil
  
21. In a hydrated person urine is commonly
  - a. produced once a day
  - b. light yellow or clear
  - c. dark and smelly
  - d. light red
  
22. Recommended treatments for pit viper bites include:
  - a. suction devices to withdraw venom
  - b. using a tourniquet to isolate the venom in the extremity
  - c. applying cold to prevent venom absorption
  - d. transporting the victim to the hospital for antivenom
  
23. A patient with a fever that is greater than 102F (39C) or that persists for 48 hours should be
  - a. evacuated to definitive care
  - b. treated with cold water gargles
  - c. closely observed for white patches
  - d. treated with warm green tea gargles
  
24. When we check the pelvis in the head-to-toe exam we
  - a. press in, then down on the iliac crests
  - b. log roll the patient to assess stability
  - c. lift the hips to assess range of motion
  - d. press in on the iliac crests.

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25. Which of the following patients is the best candidate to be given a Focused Spine Assessment performed by a WFR?
- A 34 year old female struck by a car while riding her bike, in downtown Cleveland.
  - An incoherent 18 year old male who fell off a 20 foot bluff, at a back country rave.
  - A 56 year old male complaining of diffuse lower back pain following 8 hours of flatwater paddling, with no fall.
  - A 23 year old female who fell approximately 15 feet onto hard ground, landing on her back, with no midline pain or CSM deficit found during the head to toe exam.
26. High risk wounds
- open a joint space
  - should not be cleaned in the field
  - need immediate suturing
  - require antibiotic treatment
27. Gastroenteritis is
- an inflammation of the gastrointestinal tract
  - a rare problem for experienced wilderness travelers
  - an obstruction of the small intestine
  - an inherited genetic disorder
28. Open chest wounds should be covered with:
- a non-occlusive dressing taped on all four sides
  - an occlusive dressing taped on three sides
  - an occlusive dressing taped on all four sides
  - a non-occlusive dressing taped on three sides
29. Common early signs and symptoms of non-freezing cold injury are
- paradoxical warm extremities
  - numbness, itching or pain
  - cold, hard tissue
  - blisters
30. Oral fluids should not be given to a patient in a wilderness context if
- the patient has an altered mental status
  - the patient has clear and copious urine
  - you lack a protocol for oral fluids
  - the patient has an abdominal injury

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31. Itchy skin, watery eyes, runny nose, puffy eyelids, hives and/or welts on the skin are signs or symptoms of
  - a. upper respiratory infection
  - b. exposure to carbon monoxide
  - c. an allergic response
  - d. exposure to poison ivy
  
32. Hay fever is treated by
  - a. acetazolamide
  - b. antihistamines
  - c. ibuprofen
  - d. epinephrine
  
33. An avulsed (knocked-out) tooth
  - a. should be scrubbed before immersion in milk
  - b. cannot be re-implanted
  - c. may be saved if re-implanted promptly
  - d. should be immersed in an antiseptic solution
  
34. Proper wound cleaning includes
  - a. allowing for the wound to air out and dry
  - b. soaking with an antiseptic agent
  - c. vigorous scrubbing
  - d. irrigation with clean water
  
35. Which of the following descriptions of a transient ischemia attack (TIA) are correct?
  - a. A TIA commonly first presents with a seizure.
  - b. A TIA is a temporary interruption in the blood supply to a part of the brain.
  - c. A TIA is a stroke lasting less than 48 hours.
  - d. A TIA is a side effect of diabetes.
  
36. Which of the following would be an evacuation criteria for an abdominal complaint?
  - a. moderate pain with one episode of diarrhea
  - b. cramping pain and gas for three hours
  - c. blood in urine, feces or vomit
  - d. moderate pain for six hours without fever

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37. Signs and symptoms of severe hypothermia are
- shivering and stumbling
  - no shivering, inability to walk
  - a mumbling, fumbling person
  - lethargy and apathy
38. Acclimatization to altitude can be enhanced by
- ascending slowly
  - using stimulant medications
  - drinking caffeinated beverages
  - aggressive hydration
39. Which of the following statements on dislocations in a wilderness context is correct?
- It's inappropriate for a WFR to attempt to reduce a dislocation.
  - Dislocations which reduce in the field do not require evacuation.
  - Traction-in-line is a sudden firm motion.
  - A WFR is trained to reduce shoulder, jaw, fingers/toe and patella dislocations.
40. High Altitude Cerebral Edema (HACE)
- can present with ataxia
  - is treated with Nifedipine or Albuterol
  - presents with shortness of breath
  - develops from HAPE.
41. You are walking through a pine forest as pollen cascades from the trees and one of your companions develops tightness in his chest and has a history of asthma. Your treatment is:
- provide an antibiotic to the patient
  - leave the forest
  - coach the patient to use pursed-lip breathing
  - deliver epinephrine by auto-injector
42. One of your clients fell while hiking earlier in the day. You learn this when they ask for aspirin for a headache. You should:
- focus your assessment on allergies to medications
  - perform only a focused head assessment
  - do a verbal, not a physical assessment of the patient
  - do a complete patient assessment

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43. An important clue that your patient may have hyponatremia is
- a history of excessive fluid intake
  - the presence of a headache
  - the presence of muscle cramps
  - a history of hiking in hot dry conditions
44. An evacuation guideline for a patient with mental health concerns is
- the condition is beyond our ability to manage in the field
  - the condition has required professional help in the past
  - the condition is an anxiety episode
  - the condition includes a history of depression
45. Treatment of seizures involves
- pinning the tongue to the lip so it can't be swallowed
  - placing a hard object between the teeth to protect the airway
  - only observation until the seizure stops
  - protecting the patients airway, head and dignity
46. Which of the following is a treatment principle for frostbite?
- slow warming at room temperature
  - rapid warming in warm water
  - massaging frozen tissue
  - rapid warming near an open flame or a heater
47. A brain injury can cause:
- urination to promote fluid loss and reduce swelling
  - swelling and increased intracranial pressure
  - slowing of brain metabolism to reduce oxygen need
  - shunting of fluid to the chest and abdomen to reduce swelling
48. What are the most common vectors for diarrhea and flu-like illness on a wilderness expedition?
- our hands
  - diets high in sugar and low in fiber
  - mosquitoes and ticks
  - viruses and bacteria
49. Hot spots are
- not of concern until they blister
  - often treated by tightening your boots
  - already a sign of injury
  - drained early with a needle stick



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50. You find a patient with a history of insulin dependent diabetes in a remote wilderness camp. The patient is awake but not responding appropriately. He is able to swallow. Your treatment includes
- administering oral sugar
  - administering epinephrine to mobilize the patient's glycogen reserves
  - administering the patient's insulin in low doses
  - administering nothing to the patient

## Answers and Rationale

1. a. immobilization and evacuation

High doses of NSAID's may cause GI bleeding and improper healing. Ice and heat are decent choices. The unusable injury needs immobilization, not just support

2. a. indicates you have completed training

Generally, certification on documents training to a standard. It does not allow procedures beyond your WFR scope of practice (administering prescription medications except epinephrine), nor does it protect against negligence.

3. a. Extended patient contact time, environmental challenges and improvised gear.

Some folks think 1 hour to definitive care is an accepted definition of wilderness medicine, this is not the case. There is no time parameter on wilderness medicine other than longer than anticipated treatment and transport time. We don't suture wounds or set fractures and hypothermia treatment principles are the same regardless of location.

4. c. soft tissue wounds.

5. c. maintains adequate perfusion with vasoconstriction, increased HR and RR.

Injury treatment, leg elevation and fluids can help these people compensate. In the first aid context epinephrine is for anaphylaxis, not volume shock.

6. a. pressure in a muscle secondary to an injury.

7. b. can be treated with a hypothermia wrap.

The dry and windproof layers of a hypothermia wrap are a key hypothermia treatment.

8. d. Call poison control.

Vomiting is rarely recommended and dilution is no longer recommended for ingested poisons. A small amount of white gas might make the patient uncomfortable but it should not harm.

9. a. asking the patient if they have taken a medication previously.

10. d. cool compresses over the eyes.

Tea bags may help as cool compresses. Antibiotic ointments are not called for, this is not an infection

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11. a. air in the chest.

12. b. should be applied several times a day.

Sunscreens are only one part of a strategy to prevent skin cancer from sun exposure. They may need to be re-applied several times a day and should be used in conjunction with clothing, hats and judicious sun exposure.

13. b. is sudden, severe or is associated with altered mental status.

Headaches are a common symptom. By themselves they are concerning when sudden, severe or associated with altered mental status

14. a. can be accompanied by fever and blood in the urine.

15. c.s suggesting he take one adult aspirin.

Aspirin is recommended for cardiac chest pain and is OTC/non-prescription. Walking is not ideal. Using personal prescription medication on another patient is not be best choice because it is illegal.

16. d. over hydration can prevent heat illness.

Hydration can help us acclimatize to and manage heat stress, but by itself it does not prevent heat illness.

17. d. is done on all patients.

Medical patients can have physical findings such a swelling, rashes etc that we may find in a head-to-toe.

18. a. the patient's pulse returns.

Heart disease and lightning may be reasons people have a cardiac arrest but they are not reasons to stop CPR. The standard time frame in the wilderness is to try CPR for at least 30 minutes.

19. d. you turn over patient care to a person unable to manage the patient.

Care below your expected standard from training may be negligence and sharing patient information refers to confidentiality.

20. d. be hot enough for a rolling boil.

It is most reliable to boil the water. 10 minutes is unnecessary and warm water or bubbles without boil are unreliable.

21. b. light yellow or clear.

Urine color is a helpful sign (but only if it is very light or very dark).

22. d. Transporting the victim to the hospital for antivenom.

Cold and suction do not prevent venom absorption and tourniquets sequester venom in the extremity and are dangerous in North American snakebite (constriction wraps are recommended for Coral Snake bites).

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23. a. evacuated to definitive care.

This high persistent fever is an evacuation threshold for a flu-like illness.

24. d. press in on the iliac crests.

25. d. A 23 year old female who fell approximately 15 feet onto hard ground, landing on her back, with no midline pain or CSM deficit found during the head to toe exam .

26. a. open a joint space.

The concerns with pressing down on the iliac crests is “opening” an unstable pelvic injury. In all cases, be gentle.

27. a. an inflammation of the gastrointestinal tract.

28. c. an occlusive dressing taped on all four sides.

For years the concept was a three sided dressing which would act like a flutter valve. In reality this does not work and the wound needs to be sealed promptly.

29. b. numbness, itching or pain.

Blisters and cold hard tissue suggest frostbite. Numbness, itching or pain non-freezing cold injury.

30. a. the patient has an altered mental status.

The military supports oral fluids if the patient can tolerate them, even in the case of a penetrating abdominal wound. We don't need a protocol to give oral fluids. Clear and copious urine is a sign of good hydration but not reason to stop supporting ongoing hydration.

31. c. an allergic response.

32. b. antihistamines.

33. c. may be saved if re-implanted promptly.

Scrubbing can damage viable cells on the tooth. Antiseptic solutions may be too harsh.

34. d. irrigation with clean water

Vigorous scrubbing is unnecessary and painful. Soaking with antiseptic agents is improper technique. Airing and drying is improper as well, moist wound heal better. Cleaning even small wounds is important in preventing wound infections.

35. b. a TIA is a temporary interruption in the blood supply to a part of the brain.

36. c. Blood in urine, feces or vomit.

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37. b. no shivering, inability to walk.

Absence of shivering, unresponsiveness, rigid muscles and undetectable pulse are signs of severe hypothermia.

38. a. ascending slowly.

Hydration is helpful but not a stand alone to acclimatize. Caffeine and other stimulants have no known role in acclimatization.

39. d. A WFR is trained to reduce shoulder, jaw, fingers/toe and patella dislocations.

40. a. can present with ataxia.

HACE can develop simultaneously with HAPE but is probably a separate illness. Shortness of breath, Nifedipine and Albuterol are used to treat HAPE. Ataxia is a reliable sign of HACE.

41. b. leave the forest.

You might need to coach on pursed lip breathing and in extreme cases use epinephrine. Removing the patient from the trigger is a key intervention.

42. d. do a complete patient assessment.

This patient should have a complete assessment. Cutting corners because the injury happened earlier in the day, focusing only on the head or on the medication would be considered inadequate care, potentially negligent.

43. a. a history of excessive fluid intake.

This can be a difficult diagnosis to make without the ability to check blood sodium levels. Our best field tool is a thorough history of water intake. Hyponatremia in the wilderness is most often a water overdose.

44. a. the condition is beyond our ability to manage in the field.

History may help us understand a mental health issue, but by itself does not trigger evacuation.

45. d. protecting the patients airway, head and dignity.

46. b. rapid warming in warm water.

Rapid warming in warm water is the standard treatment along with protecting from a re-freezing injury. NSAID's can be helpful for pain management.

47. b. swelling and increased intracranial pressure.

Swelling and increased intracranial pressure is a dangerous consequence of a brain injury.

48. a. our hands.

Viruses and bacteria are not vectors, mosquitoes and ticks are but our educated guess is that most illness in the wilderness is fecal oral and the vector is our hands.

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49. c. already a sign of injury.

Hot spots are not trivial, they indicate skin damage and incipient blistering.

50. a. administering oral sugar.

Oral sugar is a cornerstone treatment for altered mental status in insulin dependent diabetes. It can help. It won't harm. We do not administer insulin or epinephrine for a diabetic emergency.

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