Wilderness EMS Institute

Wilderness Emergency Medical Technician Educational Objectives

Proposal to ASTM F-30 on Emergency Medical Services

1992

1) **Educational Objectives: Survival**[1] **and Search and Rescue**[2]
   a) Learn the basics of survival training in diverse environments, including:
      i) immediate actions necessary for basic survival
      ii) protection of a victim
      iii) planning for relocation, and
      iv) acquiring additional resources.
   b) Identify specific problems related to severe weather, environmental extremes, equipment not being readily available, limited access, or little/no additional assistance, including:
      i) improvisation of litters;
      ii) litter and patient carries;
      iii) use of pack animals; and
      iv) constructing and managing aircraft landing zones.
   c) Identify survival and bivouac considerations.
   d) Identify how to access organizations responsible for SAR.
   e) Identify important considerations for planning and coordinating searches and rescues.
   f) Identify important considerations for search and rescue operations in the following topic areas:
      i) personnel,
      ii) equipment and supplies, and
      iii) detection and search methods.
   g) Describe some of the problems associated with the following special SAR environments:
      i) cave
      ii) vertical rock
      iii) mountain
      iv) surf
      v) whitewater
      vi) lake
      vii) ice
      viii) desert
      ix) rain forest
      x) dive
      xi) dam
      xii) flood
      xiii) mineshaft
      xiv) ice

[1]The WEMSI Curriculum assumes prior survival training and thus contains no survival objectives. The objectives here are all from the WMS Wilderness Prehospital Emergency Care (WPHEC) Curriculum.

2Most of this is taken, with little modification, from section D of the WMS WPHEC Curriculum.

xv) ocean currents and tides
xvi) high wind

2) **Educational Objectives: Introductory**[3]
   a) Define certification and licensure, compare and contrast them, and apply them to the Wilderness Emergency Medical Technician.
   b) List the components of an EMS system, and describe how these should be implemented in a Wilderness EMS system.
   c) Describe the role of the WEMT:
      i) when not involved in an operation;
      ii) when on a wilderness search and rescue, operation, either at base, on a search team, or on a rescue; and
      iii) during a catastrophic disaster.
   d) Describe important EMS medico-legal issues that are relevant to WEMTs:
      i) lawsuits: negligence and tort claims;
      ii) standard of care;
      iii) duty to act;
      iv) abandonment;
      v) medical practice acts;
      vi) delegated practice;
      vii) on-line command;
      viii) off-line command;
      ix) protocols and standing orders;
      x) doctor-patient relationships versus EMS medical command; and
      xi) dealing with a dead patient, including
         (1) determining death,
         (2) declaring death, and
         (3) certifying death ("signing the death certificate")[4]
   e) Identify important guiding principles for the WEMT, including:
      i) keeping up certification and competence via continuing education in three areas:
         (1) search and rescue,
         (2) "street" EMT skills and knowledge, and
         (3) Wilderness EMT specific skills and knowledge;
      ii) recognizing the psychological stress of wilderness and taking appropriate countermeasures as needed; and
      iii) meticulously documenting all care given.

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[3]These items are taken verbatim from the WEMSI Wilderness EMT Curriculum, Part I: Introduction to WEMS, the WEMT, and the WEMSI Curriculum, Preliminary Version 1.61, October 17, 1991. Some of these items may be covered in EMT-Basic Training. But, the topics were chosen by the WEMSI Task Group as being inadequately covered in the EMT-Basic Curriculum for the Wilderness EMTs' needs.

[4]Note that the following items, though included in the WMS WPHEC Curriculum, are also found in the D.O.T. EMT-Basic Curriculum, and not included in this Standard Guide: jurisdiction; liability and negligence; "good samaritan" laws; consent; documentation.

3) Educational Objectives: The Wilderness Environment: Hazards, Safety, and Patient Care Implications

a) Define "wilderness," "wilderness EMT," and "wilderness EMS."
b) Discuss the importance of air and oxygen in respect to:
    i) its presence or absence in the wilderness environment;
    ii) its quality in the wilderness environment; and
    iii) the relationship between available oxygen, barometric pressure, and altitude.
c) List human compensations for altitude exposure and hypoxemia.
d) Discuss the role and importance of sun protection in the wilderness SAR environment.
e) List the types of sun protection and their advantages and disadvantages, citing specific examples of each.
f) Discuss the problems and dangers associated with wind in the wilderness environment.
g) Discuss the windchill effect and its importance to the wilderness EMT.
h) List the hazards associated with each type of precipitation.
i) Describe thunderstorm and lightning hazards to the wilderness EMT.
j) List six good safety rules for when lightning is imminent.
k) Define the term "ground current" as it relates to lightning strikes.
l) Discuss drinking water in the wilderness environment with respects to its:
    i) presence or absence;
    ii) role in homeostasis;
    iii) quality; and
    iv) use for wound irrigation.
m) List five contaminants of drinking water in the wilderness environment.
n) Describe three methods of purifying (disinfecting) water and the advantages and disadvantages of each.
o) Discuss the role and effects of water in regards to the following:
    i) drowning;
    ii) thermal conductivity; and
    iii) force while moving.
p) Summarize the hazards presented by terrain as they relate to the following areas:
    i) vegetation:
        (1) physical, and
        (2) chemical;
    ii) animal:
        (1) mammalian dangers,
        (2) reptilian dangers, and
        (3) dangers from insects and arachnids.
q) Discuss the prevention of insect bites and tick attachment.
r) Describe the recommended method of tick removal and explain why it is recommended.
s) List and explain five man-made hazards that might be found in the wilderness environment.
t) Discuss the role of subjective hazards as they relate to the wilderness SAR environment.
u) Describe the cave environment.
v) List five specific hazards of the cave environment.

w) List and differentiate the major components of "the wilderness ambulance."

4) Educational Objectives: Assessment
   a) Demonstrate the ability to apply knowledge of EMT primary survey principles in wilderness situations, including:
      i) discussing wilderness hazards to patient and rescuer;
      ii) proper positioning of the patient to maintain the airway, while protecting the cervical spine, even if the patient is in a litter;
      iii) use of improvised materials to splint a flail chest;
      iv) indications for a chest tube or chest decompression in the wilderness;
      v) appropriate methods of hemorrhage control, including the use of a tourniquet in the wilderness; and
      vi) other wilderness management priorities that must be dealt with concurrent with the primary survey.
   b) Explain the following principles as applied to taking a history and performing a physical exam:
      i) directed versus complete screening exams;
      ii) proper order and components of a history and physical; and
      iii) general techniques for approaching a wilderness patient, including:
      iv) developing rapport;
      v) guiding the history;
      vi) keeping the patient informed of your exam; and
      vii) completeness.
   c) Identify each of the following elements of a wilderness history, and give an example of each:
      i) Chief Complaint, including five important qualifications of a painful chief complaint;
      ii) History of Present Illness;
      iii) Past Medical History, including five major components;
      iv) Review of Systems; and
      v) directed questioning.
   d) Identify the four modes of physical examination and give major examples of each in physical diagnosis.
   e) Explain how to check for orthostasis and how to interpret the results.
   f) Demonstrate a general screening physical exam for a patient who just suffered minor trauma.
   g) Demonstrate the ability to perform detailed physical exams of the following, and properly report the results:
      i) General appearance;
      ii) Skin;
      iii) Rashes;
      iv) Head;
      v) Eyes;
      vi) Ears;
      vii) Nose;
      viii) Mouth and throat;
      ix) Neck;
      x) Lungs;

xi) Heart;
xii) Back;
xiii) Abdomen;
xiv) Genital/Rectal; and
xv) Neurological exam, including
    (a) Mental Status:
    (b) Alertness,
    (c) Orientation,
    (d) Cognition and Memory, and
    (e) Affect (mood);
    (f) Cranial Nerves,
    (g) Sensory,
    (h) Motor,
    (i) Deep Tendon Reflexes (DTRs) and Babinski response, and
    (j) Cerebellar (and possibly Gait.)

h) Demonstrate the ability to interpret simple neurological exam results in terms of common acute neurological problems.

i) Identify the temperature measurement needs of the WEMT, and identify important characteristics of the following places temperature may be measured:
    i) the skin;
    ii) the mouth;
    iii) the rectum;
    iv) the axilla (armpit);
    v) the tympanic membrane (eardrum); and
    vi) the esophagus.

j) Identify important characteristics of different types of thermometers, including:
    i) glass thermometers;
    ii) disposable paper thermometers for forehead and oral use;
    iii) infrared tympanic thermometers; and
    iv) continuous-reading electronic temperature monitors, including improvisation from inexpensive non-clinical thermometers.

k) Identify the importance and wilderness application of the following monitoring devices:
    i) EKG monitors;
    ii) BP cuffs;
    iii) pulse monitors;
    iv) pulse oximeters;
    v) end-tidal CO_2 monitors; and
    vi) Foley catheters or Texas catheters.

5) **Educational Objectives: Scene Management, Communications, Reporting, and Documentation**[5]

a) Describe important concepts in the initial management of a patient who has been lost, including

[5]These are taken verbatim from the WEMSI Wilderness EMT Curriculum, Part IV: Scene Management, Communications, Reporting, and Documentation, Draft Version 1.01, November 14, 1992.

possible dehydration, hyponatremia, hypothermia, starvation, and disorientation.

b) Describe important concepts in the initial management of patients who are being rescued, including:
   i) removing patients from water immersion, including:
      (1) hydrostatic "squeeze," and
      (2) possible ill effects of patient self-assisting in rescue efforts;
   ii) removing entrapped patients from entrapment, including "third-space" losses, hyperkalemia, and crush syndrome; and
   iii) moving and realigning patients into a standard anatomic position for further immobilization and packaging.

c) Describe the components and important concepts embodied in the "FAST" and "STOP" mnemonics for scene management.

d) Give the rationale for having three separate sequential reports (initial contact report, preliminary situation report, full situation report) for search "finds" and initial rescue contacts.

e) Describe how the following communications concepts apply to a WEMT in contact with a Wilderness Command Physician:
   i) roles of communication, including direct medical control and medical advice, reporting to Base, arranging support and additional resources, and arranging for the transition from evacuation to transportation;
   ii) direct communication and "direct medical control";
   iii) security;
   iv) acknowledgement;
   v) logging and recording messages;
   vi) using clear English without codes; and
   vii) standard search and rescue "Status Codes" and their meaning.

f) Outline and describe the major components a WEMT's report to a Wilderness Command Physician should include, including:
   i) medical information, including:
   ii) introduction,
   iii) history (patient ID and chief complaint, history of present illness, and past medical history),
   iv) physical exam,
   v) field diagnoses,
   vi) treatment thus far,
   vii) the current situation;
   viii) tentative plans for further medical care, evacuation, and transportation; and
   ix) plans for further contact.

g) Discuss the variation in estimates of wilderness evacuation time by those trained and untrained in wilderness rescue and indicate how to provide Base or a Wilderness Command Physician with the means to assess the accuracy of evacuation time estimates.

h) Identify important differences between "street" and wilderness documentation, including:
   i) need for durable waterproof records;
   ii) roles of documentation, including:
   iii) following trends in vital signs and patient condition;
   iv) information for other WEMTs who care for the patient during the evacuation;

v) legal documentation;
vi) research;
vii) quality control and improvement; and
viii) education.

i) Identify important non-patient-care points to include in wilderness patient documentation, including:
i) the environment;
ii) the terrain;
iii) equipment and personnel limitations;
iv) any extrication, packaging, or evacuation problems;
v) the mechanism of injury;
vi) your decision-making process, and any changes in your field diagnoses over time; and
vii) any wilderness-specific treatments you employed, and documentation of the reasons for employing them.

6) **Educational Objectives: Wilderness Surgical Problems**[6]

a) Outline the differences in prognosis and management between closed head injury and skull fracture.

b) Define "concussion," "increasing intracranial pressure," and "the lucid interval," and outline the diagnostic features of each.

c) Outline the pathophysiology and major characteristics of:
i) epidural bleeds;
ii) subdural bleeds;
iii) subarachnoid bleeds; and
iv) intracerebral bleeds.

d) Outline important points in the diagnosis and wilderness management of:
i) midface fractures;
ii) nasal fractures, including the significance of a septal hematoma;
iii) zygomatic arch (zygoma) fractures;
iv) blowout fractures;
v) jaw fractures;
vi) other facial fractures; and
vii) laryngeal trauma.

e) Differentiate these three kinds of neck injuries, in diagnosis, need for immobilization, and prognosis:
i) muscle strains;
ii) bony injuries; and
iii) neurological injury.

f) Explain how to estimate the approximate probability that a patient brought to an Emergency Department on a backboard, or a wilderness patient encountered by you, has a cervical fracture.

[6]These are taken verbatim from the WEMSI Wilderness EMT Curriculum, Part V: Wilderness Surgical Problems, Draft Version 1.61, May 1, 1993. These subsume all corresponding objectives from the WMS Curriculum.

g) Outline your management of a patient with a potential cervical spine injury on the street, and in the wilderness; in particular:
   i) outline the position of the Wilderness Medical Society; and
   ii) describe the role of "distracting" injuries in the physical examination of the cervical spine.
h) Describe the diagnosis and wilderness treatment for pulmonary contusion.
i) Describe the complications that may be caused by a myocardial contusion.
j) Describe the diagnosis and wilderness management of an isolated rib fracture.
k) Describe problems in the wilderness management of patients with blunt abdominal trauma, including:
   i) the two organs most likely to be injured;
   ii) the classic history for a patient with a subcapsular hemorrhage of the spleen; and
   iii) proper management for a team member with minor blunt abdominal trauma.
l) Outline the wilderness management of penetrating abdominal trauma, including protruding abdominal contents.
m) Outline the wilderness management of a patient with a pelvic fracture.
n) Outline the problems associated with straddle injuries and their wilderness management.
o) Give two examples of common wilderness medical kit medications that should be avoided during pregnancy.
p) Outline vaginal delivery procedures in the wilderness.
q) Define "threatened abortion" and describe the management of a woman with a threatened abortion.
r) Describe the clinical signs and symptoms of lower back strains, evaluation of people with possible strains, and appropriate wilderness treatment.
s) Describe the mechanism of a herniated intervertebral disk, the signs and symptoms, and the wilderness management for a patient with a herniated disk.
t) Outline the examination and management of a team member who has developed back pain after lifting.
u) Define contusion, hematoma, and subungual hematoma, and outline the wilderness management of each.
v) Demonstrate the ability to:
   i) trephine a subungual hematoma;
   ii) remove an impacted ring using a piece of string; and
   iii) clean a wound using proper irrigation.
   iv) Present arguments for and against closure of wounds in the wilderness, including:
   v) scarring and limitation of function; and
   vi) the risk of anaerobic and other infections.
w) Describe the effect, on wound infection rates, of the time from injury until closure, and define:
   i) primary intention;
   ii) primary closure;
   iii) secondary intention;
   iv) delayed closure; and
   v) delayed primary closure.
x) Define "high-risk" and "low-risk wounds" for the wilderness context, give examples of each, and

describe the wilderness management of each.

y) Describe the purpose and method of wound irrigation, and list fluids that are suitable for wound irrigation.

z) Describe proper procedures for caring for a wound in the wilderness, and outline factors that affect the likelihood of wound infection.

aa) Outline the proper wilderness management of friction blisters.

bb) Outline the proper wilderness management of impaled objects, including splinters.

cc) Define "open fracture" in detail, and outline the proper management of open fractures in the wilderness.

dd) Define: sprain, strain, contusion, fracture, dislocation, subluxation, and tendinitis.

ee) Outline the principles of musculoskeletal examination of the extremities after trauma.

ff) Outline standard musculoskeletal examinations of injured upper and lower extremities.

gg) Outline the principles of management for traumatic extremity injuries including sprains, strains, and contusions.

hh) Describe the causes, prevention, and treatment of tendinitis of the heel and of the wrist.

ii) Outline the advantages, disadvantages, and risks of reducing dislocations in the wilderness, and list dislocations you should try to reduce when in the wilderness.

jj) Outline the diagnosis and wilderness management of the following face and upper extremity injuries:

i) jaw dislocations;
ii) finger and toe sprains, dislocations, and fractures, and "mallet finger" injuries;
iii) hand fractures, including "boxer's fractures";
iv) wrist fractures, including scaphoid fractures;
v) elbow injuries; and
vi) clavicle fractures, AC joint sprains, rotator cuff tears, and shoulder dislocations.

kk) Outline the diagnosis and wilderness management of the following lower extremity injuries:

i) hip dislocations;
ii) knee injuries, including patellar dislocations and fractures, knee dislocations, and knee sprains and cartilage injuries;
iii) ankle sprains and fractures; and
iv) foot sprains, dislocations, and fractures.

7) **Educational Objectives: Thermal Regulation**[7]

a) Describe normal human temperature homeostasis (balance), including

i) the role of the hypothalamus,
ii) defining "fever,"
iii) defining basal metabolic rate, and
iv) describing the relationship of body core and periphery to heat balance and core temperature.

b) Describe how the human body senses temperature stresses, including

i) the roles and relative balance of peripheral and central receptors,

[7]These are taken verbatim from the WEMSI WEMT Curriculum, Part VI: Thermal Regulation, Draft Version 1.32, April 27, 1992. These subsume all corresponding objectives from the WMS Curriculum.

ii) the suggested role of central vs. peripheral clothing, and
iii) arguments for and against giving hot drinks to a mildly hypothermic person.

c) Give wilderness rescue-related examples of the following physical modes of heat loss, the approximate amount of heat loss possible through each mode, and methods to counter such heat loss in a wilderness patient:
i) conduction,
ii) convection,
iii) radiation,
iv) evaporation, and
v) respiration, including the relative effect of air humidification.

d) Explain the concept of the body as a heat reservoir, and relate daily food intake to the amount of heat that can be lost from the body before hypothermia sets in.

e) Describe how blood circulation is related to heat loss control; specifically,
i) local versus central control of blood vessel size,
ii) shifts between deep and superficial veins and the end results of artery-vein countercurrent heat exchange,
iii) areas where the deep vein circulation is close to the surface, and
iv) consequences of vasoconstriction and vasodilation, including cold diuresis.

f) Explain the role of sweating in temperature balance, including
i) the major constituents of sweat and seasonal variation, and
ii) the consequences of prolonged sweating.

g) Explain the role of shivering in temperature balance, including
i) consequences of prolonged shivering, including exhaustion and fatigue,
ii) the nature of body energy reserves, including glycogen, fat, and protein,
iii) the appropriateness of giving sugar to hypothermic patients, and
iv) the nature of fatigue.

h) Identify the effects of the following on normal temperature homeostasis:
i) tobacco,
ii) alcohol, and
iii) aspirin, acetaminophen, and ibuprofen.

8) **Educational Objectives: Heat-Related Disorders**[8]

a) *Identify the cause of, seriousness of, and treatment for, heat edema.*[9]

b) Describe the diagnosis and management of syncope (fainting) or near-syncope in a hot environment.[10] Specifically,
i) outline the common causes of syncope;
ii) describe the means of venous return from the legs when standing, and the consequences of being kept in an upright position after fainting;
iii) describe the role of low blood sugar in syncope and near-syncope;

[8]These are taken verbatim from the WEMSI WEMT Curriculum, Part VII: Heat-Related Disorders, Draft Version 1.31, April 27, 1992. These subsume all corresponding objectives from the WMS Curriculum.

[9]Items in italics are recommended but not part of the minimum expectation for all Wilderness EMTs.

[10]Syncope and near-syncope could appear in any of several sections. It is here because of the commonness of near-syncope in dehydration.

iv) describe the mechanism of psychogenic shock;
v) describe the mechanisms of and treatment of heat syncope; and
vi) outline a protocol for managing a team member with a syncopal or near-syncopal episode.

c) List the factors that supposedly distinguish heat cramps from "regular" cramps, describe the suspected cause of heat cramps, and describe proper treatment for heat cramps.

d) List the signs and symptoms of dehydration, identify a simple test for dehydration that may be used by field team members, describe the accuracy of thirst for indicating dehydration, and identify the effect of dehydration on core temperature.

e) Describe the causes, diagnosis, and wilderness treatment for heat illness. Specifically:
i) define and describe the clinical features of dehydration, heat illness, heat exhaustion, and heatstroke;
ii) list predisposing factors for heat illness;
iii) describe two distinct populations at risk for heat illness; and
iv) describe the signs, complications, immediate treatment, and extended prehospital treatment of severe heat illness (heatstroke).

f) Explain important factors in the choice of oral fluid and electrolyte replacement, including
i) the best concentration of salt for oral rehydration fluids for hot weather use; and
ii) the dangers of using salt tablets.

9) **Educational Objectives: Burns and Lightning**[11]

a) Describe the immediate care of burns and address the appropriateness of analgesia for burns in the wilderness.

b) Describe the extended care of sunburn.

c) Describe the extended care of small second and third degree burns in the wilderness, specifically:
i) cleaning and debriding;
ii) the advantages and disadvantages of applying ointments or creams;
iii) when to drain blisters; and
iv) the role of prophylactic antibiotics in burn care.

d) Describe the causes of "burn shock" and ways to determine the fluid replacement needs for a burn patient.

e) Describe the possible complications of inhalation burns and their management in the wilderness, including:
i) upper airway burns; and
ii) toxic inhalations.

f) Define "ileus," outline its diagnosis, and describe its impact on the burn patient in the wilderness, especially as regards oral fluid replacement.

g) Identify the need for tetanus immunization for burns.

h) Define the term "escharotomy" and describe two major indications for escharotomy in a burn patient.

i) List three different kinds of lightning strike injury pattern.

j) Identify the common neurological complications of a lightning strike.

[11]These are taken verbatim from the WEMSI WEMT Lesson Plans, Part VIII: Burns and Lightning, Version 3.01, June 7, 1992. These subsume all corresponding objectives from the WMS Curriculum.

k) Identify the pattern of cardiorespiratory arrest following a lightning strike.
l) Identify pertinent facets of burns associated with a lightning strike.
m) Define "vasospasm" and identify its importance in lightning strike victims.
n) Describe the damage that lightning may cause to muscles, and possible consequences.
o) Identify the mechanisms of fractures in lightning strike victims.
p) Explain the importance and effectiveness of cardio-pulmonary resuscitation in lightning strike victims.
q) List several clues that might indicate a lightning strike as the cause of unconsciousness of a patient found in the wilderness and outline the management of a conscious victim of a lightning strike.
r) Give an explanation of triage for a large group of people struck by lightning.
s) Identify two important points in public education about lightning strikes.

10) **Educational Objectives: Cold-Related Disorders**[12]

a) *Define chilblain (pernio), describe the suspected cause, describe prevention, and outline the usual treatment.*
b) Describe the differences between immersion foot (trench foot) and frostbite; outline the features of the three phases of immersion foot.
c) Describe the diagnosis, pathophysiology, causes and predisposing factors, prevention, immediate treatment, and extended management of frostnip and deep frostbite. Specifically, describe:
   i) the diagnostic and treatment differences between frostnip and deep frostbite;
   ii) the difference between the initial and secondary phases;
   iii) the effects of trauma on frostbitten tissue;
   iv) predisposing factors, including the effects of common drugs including tobacco;
   v) recommended rewarming methods and post-rewarming wilderness treatment; and
   vi) the basis for the adage "it's OK to walk on frostbitten feet," and its dangers.
d) List criteria for diagnosing hypothermia without a thermometer.
e) Define "incipient hypothermia" and its management.
f) List predisposing factors for accidental hypothermia.
g) Explain why it is important for hypothermic patients to avoid exertion, and why it is important not to transport hypothermic patients in the head-up position.
h) Define:
   i) mild and deep hypothermia;
   ii) primary and secondary hypothermia; and
   iii) acute, subacute, and chronic hypothermia.
i) Describe the role of Basic Cardiac Life Support (CPR) in the severely hypothermic patient, including:
   i) artificial respiration and oxygen;
   ii) the appropriate ways to check for cardiac function in a very cold patient;
   iii) when external cardiac compression is appropriate in a very cold patient and when it is not; and

[12]These are taken verbatim from the WEMSI WEMT Curriculum, Part IX: Cold-Related Disorders, Draft Version 1.8, February 12, 1992. These subsume all corresponding objectives from the WMS Curriculum.

iv) the appropriate rate for CPR (external cardiac compression and artificial respiration) in a severely hypothermic patient.

j) *Describe the appropriate use of Advanced Cardiac Life Support techniques in the severely hypothermic patient, including:*
   i) *orotracheal intubation;*
   ii) *cautions for avoiding ventricular fibrillation, and management of ventricular fibrillation in a hypothermic patient;*
   iii) *the role of cardiac drugs in the severely hypothermic patient; and*
   iv) *the role of bretylium in the hypothermic patient.*

k) Discuss the role of cardiopulmonary bypass rewarming in decisions about where to transport nearly-dead hypothermic patients.

l) Explain the importance of the concepts "adding heat" and "active insulation."

m) Explain how the dictum "don't rewarm hypothermic patients in the field" may lead to poor patient care; explain why rapid rewarming is impossible in the wilderness, and why rescuers should add as much heat as possible to wilderness hypothermia patients.

n) Assuming access to a bathtub and hot water, but no way to transport hypothermic patients to a hospital for rewarming (e.g., a disaster or being stranded in winter), discuss the reasons for selecting rapid or slow rewarming for different types of patient.

o) Discuss the pros and cons of delaying the evacuation of a hypothermic patient for rewarming, or of delaying the evacuation for fluid replacement.

p) Explain the importance of administering fluids, intravenous or oral, and the importance of food calories, for hypothermic patients.

q) Define:
   i) passive rewarming;
   ii) active rewarming;
   iii) surface rewarming;
   iv) core rewarming;
   v) afterdrop; and
   vi) rewarming shock.

r) Outline the advantages, disadvantages, proper technique, and appropriate uses of the following methods for adding heat to a hypothermic patient:
   i) warm sleeping bag;
   ii) warm inspired air or oxygen;
   iii) warm IV solutions;
   iv) heat packs;
   v) hydraulic sarong; and
   vi) charcoal vest.

s) Discuss the advantages, disadvantages, and technique of warm bath rewarming of hypothermic patients when unable to transport to a medical facility.

11) **Educational Objectives: Altitude Illness**[13]

[13]These are taken verbatim from the WEMSI WEMT Curriculum, Part X: Altitude Illness, Version 3.11, November 15, 1992. These subsume all corresponding objectives from the WMS Curriculum.

a) List common medical problems that may be exacerbated by altitude exposure.
b) List the symptoms of acute mountain sickness.
c) Describe major predisposing factors for altitude illness, and describe the effect, if any, of aerobic condition on the likelihood of acute mountain sickness.
d) List three measures to prevent altitude illness.
e) Describe the signs, symptoms, and natural history of:
f) mild and severe acute mountain sickness;
g) high altitude cerebral edema (HACE);
h) high altitude pulmonary edema (HAPE);
i) peripheral edema from altitude; and
j) high altitude retinal hemorrhage (HARH).
k) Outline the recommended treatment for mild acute mountain sickness, for mild and severe HACE, and for mild and severe HAPE.

12) **Educational Objectives: Bites and Stings**[14]

a) Rank, in order of their threat to human life, the following envenomations:
b) Hymenoptera (bees and wasps);
   i) pit vipers; and
   ii) coral snakes.
c) Outline standard wilderness treatment for bee, wasp, and ant stings, and indicate any clinically important differences between honeybee and wasp stings.
d) Describe the geographic distribution, mode of transmission, diagnostic features, and standard medical treatment for suspected Rocky Mountain Spotted Fever.
e) Outline the geographic distribution, mode of transmission, diagnostic features, and standard medical treatment for suspected Lyme Disease.
f) Describe the means of transmission of tularemia.
g) Describe the signs of, cause of, and treatment for tick paralysis.
h) Identify the common names of the two most dangerous types of venomous North American spiders; identify the signs and symptoms of their bites, and identify any specific wilderness treatment for their bites.
i) Describe the signs and symptoms of North American scorpion stings, and describe appropriate wilderness treatment.
j) For coral snakes, outline the geographic distribution, the hazard to humans, and the recommended wilderness treatment for their bites.
k) For North American pit vipers, describe:
   i) simple means to identify pit vipers;
   ii) the natural history of untreated pit viper bites in healthy people;
   iii) the risks and benefits of capturing or killing snakes to identify them;
   iv) signs and symptoms of an envenomated snake bite;
   v) appropriate wilderness treatment of envenomated bites, including arguments against unproven or disproven treatments, including cold, lymph constrictors, cut-and-suck, and

[14]These are taken verbatim from the WEMSI WEMT Curriculum, Part XI: Bites and Stings, Draft Version 1.52, November 15, 1992. These subsume all corresponding objectives from the WMS Curriculum.

electric shock;
vi) any snakebite circumstances that might make you consider an arterial tourniquet or the Australian pressure technique; and
vii) the role of antivenin in the hospital and in the field.

l) Outline the wilderness management of suspected compartment syndrome and generalized bleeding when occurring as complications from snakebite.

13) **Educational Objectives: Wilderness Medical Problems**[15]

a) Identify the causative organism, means of spread (including common vectors), clinical course, prevention, and treatment for the following:
i) rabies;[16]
ii) hepatitis;
iii) AIDS; and
iv) tetanus.

b) Outline an approach to headache in the wilderness setting; give examples of episodes of headache:
i) that can be managed in the wilderness without aborting a task;
ii) that are cause for ending a task and a nonurgent evacuation; and
iii) that are cause for immediate evacuation.

c) Outline the diagnosis and wilderness treatment for:
i) foreign bodies in the eye, corneal abrasions, and snowblindness;
ii) conjunctivitis;
iii) sudden one-sided blindness;
iv) subconjunctival hemorrhage;
v) retinal detachment;
vi) epistaxis;
vii) dental fractures and infections;
viii) pharyngitis and peritonsillar abscess;
ix) laryngitis; and
x) esophageal foreign body.

d) Outline the diagnosis, wilderness treatment, and effects on air travel or diving of:
i) otitis externa;
ii) otitis media;
iii) tympanic perforation;
iv) viral upper respiratory infections;
v) sinusitis; and
vi) allergic rhinitis.

e) Outline an approach to chest pain in the wilderness setting; give examples of episodes of chest pain:
i) that can be managed in the wilderness without aborting a task;

[15]These are taken verbatim from the WEMSI WEMT Curriculum, Part XII: Wilderness Medical Problems, Version 3.10, October 24, 1992. These subsume all corresponding objectives from the WMS Curriculum.
[16]Rocky Mountain Spotted Fever, Lyme Disease, Tularemia, and Tick Paralysis are covered in the section on *Bites and Stings*.

ii) that are cause for ending a task and starting a non-urgent evacuation; and
iii) that are cause for immediate evacuation.

f) Outline the diagnosis, causes, and wilderness treatment for:
i) bronchitis and pneumonia; and
ii) asthma, COPD, and other bronchospastic disorders.

g) Define deep venous thrombosis and pulmonary embolism, and describe their risk factors, diagnosis, and prevention in team members and wilderness patients.

h) Outline the principles for management of hypertension in the wilderness.

i) Outline guidelines for cardiopulmonary resuscitation in the wilderness, including:
i) indications for CPR in the wilderness;
ii) contraindications for CPR in the wilderness;
iii) modifications of standard CPR procedures for wilderness patients, especially those who are profoundly hypothermic or victims of near-drowning.

j) Describe how to identify an acute abdomen, and identify appropriate management in the wilderness.

k) Describe how to manage motion sickness, both with and without medications.

l) Describe the signs and symptoms and treatment for gastritis, esophageal reflux, peptic ulcer disease, and constipation.

m) Describe the causes and wilderness management of acute gastroenteritis, including the advantages and disadvantages of anti-motility drugs (e.g., Imodium).

n) Describe the difference between hemorrhoidal and other types of GI bleeding, and the wilderness management of each.

o) Outline the signs and symptoms, wilderness treatment, and disposition of team members with cystitis, pyelonephritis, and urinary retention.

p) Describe the wilderness management of a team member with nontraumatic testicular pain.

q) Define the following:
i) menses;
ii) dysmenorrhea;
iii) menorrhagia; and
iv) metrorrhagia.

r) Identify the signs, symptoms, and wilderness treatment for impacted renal stones.

s) Identify the differences in management of stroke and seizure between "the street" and the wilderness.

t) Outline the signs and symptoms, prevention, and treatment for plant contact dermatitis, fungal skin infections, and stinging nettle stings.

u) Describe the signs and symptoms and wilderness management of:
i) impetigo;
ii) cellulitis;
iii) ascending lymphangitis; and
iv) abscesses.

v) Outline the differences between "street" and wilderness treatment of those with diabetic illness.

w) Describe the range of generalized allergic reactions, and the wilderness management of each.

14) **Educational Objectives: Wilderness Trauma**[17]

a) Describe the differences between urban and wilderness trauma care philosophy due to the effects of time and distance.
b) Describe the concepts of "the Golden Hour" and "the Golden Day" as they apply to trauma care.
c) Outline epidemiologic differences between urban and wilderness trauma, and identify medical problems that are commonly found in search and rescue patients.
d) Describe how to evaluate a wilderness patient for shock and for state of hydration.
e) *Define "fluid challenge" and explain its importance in assessment and treatment of shock.*
f) *Define each of the following terms and explain its importance for choosing fluids for wilderness patients:*
    i) *crystalloid;*
    ii) *colloid; and*
    iii) *blood.*
g) *Outline the advantages and disadvantages of each of the following resuscitation fluids for wilderness patients:*
    i) *D5W;*
    ii) *NS or LR;*
    iii) *D5NS or D5LR;*
    iv) *hypertonic saline/dextran; and*
    v) *blood.*
h) *Define:*
    i) *blood type; and*
    ii) *transfusion reaction.*
i) *Outline management of a patient who is suffering a transfusion reaction.*
j) *Describe the proper use of pressors in wilderness rescue.*
k) *Outline a standard differential diagnosis of decreased urine output in a patient with a Foley urinary catheter.*
l) Define acute renal failure.
m) Define each of the following complications of crush injury or burns, and describe management in the wilderness:
    i) hyperkalemia; and
    ii) myoglobinuria.
n) Define glycogen depletion, outline the reasons for assuming that all wilderness patients are glycogen depleted, and outline wilderness management for patients with glycogen depletion.

[17]These are taken verbatim from the WEMSI WEMT Curriculum, Part XIII: Wilderness Trauma, Draft Version 1.5, June 11, 1992. Those at the Task Group meeting in November 1992 reviewed the WMS WPEHC Curriculum regarding trauma: "Learn the standard approach to the trauma victim based on the American College of Surgeons Advanced Trauma Life Support guidelines, with enhanced consideration of: principles of shock prevention and treatment, care of burn wounds, basic wound care and bandaging, splinting, prevention and treatment of infection, and use of prehospital analgesics." We noted that, although this is taken verbatim from the WMS WPHEC Curriculum, the ATLS (Advanced Trauma Life Support) course does not address wound care, bandaging, splinting, infection, or prehospital analgesia. And, we felt that the type of care covered in the ATLS course, small Emergency Department care of patients with massive trauma that is essentially unsurvivable in the wilderness, is not relevant in the wilderness. Therefore, we elected not to include any language that refers to the ATLS course.

o) Define compartment syndrome, identify where it most commonly occurs, outline its diagnosis and natural history, and identify the procedure needed for definitive treatment.
p) Define ARDS and describe its management in the wilderness.
q) *Identify three physical exam findings found in fluid overload.*
r) Outline appropriate decision-making for a patient with both multiple system trauma and severe hypothermia.
s) Demonstrate the ability to conduct an appropriate initial physical exam on a wilderness multiple-trauma patient.
t) Identify problems associated with long use of the MAST garment, and identify a specific use for it in vertical rescue.

15) Educational Objectives: Pharmacology[18]

a) Define pharmacology, and describe the dangers of self medication.
b) Explain the principles of drug administration, including:
c) eight routes of drug administration;
d) how two drugs may interact to alter the response of either drug; and
e) the effects of young and old age, pregnancy, and existing diseases and conditions.
f) Choose the correct definition for the following terms:
   i) indication;
   ii) contraindication;
   iii) side effect;
   iv) toxicity;
   v) allergic reaction; and
   vi) abuse.
g) Describe the effect of individual variation on drug dosage, and define "loading dose."
h) Outline the considerations that go into selecting drugs for a personal wilderness medical kit.
i) Given a list of the following medications, identify important contraindications and side effects:
j) common non-prescription and prescription medications carried by backpackers and other outdoors enthusiasts; and
k) medications commonly carried in wilderness search and rescue team advanced medical kits.
l) Given a list of clinical situations described in the section on *Wilderness Medical Problems*, and a list of standard oral medications commonly carried in a personal or team wilderness medical kit, choose an appropriate drug, drug dosage, and route of administration.

16) **Educational Objectives: Immobilization, Packaging, and Transportation of Wilderness Patients**[19]

a) Demonstrate the ability to apply different extremity immobilization materials in an appropriate manner, and to evaluate the adequacy of immobilization effected.
b) Demonstrate the ability to effectively and efficiently apply the following immobilization devices:

[18]These are taken verbatim from the WEMSI WEMT Curriculum, Part XIV: Pharmacology, Draft Version 1.8, February 24, 1992. They subsume the pharmacology sections of the WMS WPEHC Curriculum.
[19]These are taken verbatim from the WEMSI WEMT Curriculum, Part XV: Immobilization, Packaging, and Transportation of Wilderness Patients, Draft Version 1.0, August 16, 1992. These subsume all corresponding objectives from the WMS Curriculum.

i) "fiberglass" and similar splinting (casting) material for extremities;
ii) flexible aluminum/foam splints (e.g., SamSplints_) for extremities; and
iii) finger and toe taping.

c) Describe good ways to implement the following immobilization techniques:
i) improvised splinting using foam pads;
ii) improvised splinting using sticks and clothing; and
iii) improvised splinting using duct tape and other body parts.

d) Describe the advantages and disadvantages of the following methods for splinting femur fractures for wilderness evacuation, including:
i) Jones' dressing (bulky dressing and splint);
ii) simple splinting;
iii) traction splint with a commercial or improvised ankle hitch, or with skin traction using moleskin (or duct tape) and benzoin;
iv) improvised traction splinting in a litter using the litter as a splint.

e) Outline the advantages and disadvantages of the following methods for spinal immobilization:
i) cervical collars, both commercial and improvised with SamSplints_, Ensolite_, pack hipbelts or similar foam pads;
ii) padding inside a litter and duct tape;
iii) helmet and duct tape;
iv) Ensolite, ThermaRest, or similar foam pads for lumbar immobilization;
v) full-body vacuum splints;
vi) unpadded backboards;
vii) wire basket or plastic basket litters without backboards;
viii) cervical immobilization devices (e.g., CID_); and
ix) short-board extrication devices (e.g., KED_, Sked-Ked_, XP-1_).

f) Demonstrate an acceptable method for packaging a minimally-injured patient for a lengthy wilderness evacuation.

g) Outline methods for packaging patients in a basket ("Stokes") litter given the following problems:
i) pelvis fracture;
ii) leg fractures;
iii) unilateral or bilateral chest trauma (e.g., rib fracture, pulmonary contusion);
iv) unilateral pneumonia;
v) decreased level of consciousness, with and without trauma;
vi) hypothermia/cold exposure;
vii) diarrhea/vomiting; and
viii) oozing wounds.

h) Discuss methods to deal with the following packaging problems:
i) patient becomes incontinent of urine/feces;
ii) patient complains of pain in pressure areas; and
iii) IV line comes out.

i) Outline the advantages, disadvantages, specific patient-care considerations, and general packaging considerations for the following litters:
i) improvised litters and backboards (outhouse doors, packframes, skis and ski poles, pole-and-parkas, pole-and-blankets, rope stretcher);

ii) wire-basket and plastic-basket ("Stokes") litters;
iii) "Army" stretchers;
iv) toboggans; and
v) flexible plastic litters (e.g., Sked_).

j) Outline the advantages, disadvantages, and specific patient-care considerations for the following evacuation methods:
i) vertical and near-vertical lowering, raising, and high-line traverses;
ii) hand-carried litter evacuations;
iii) wheeled litters;
iv) drags and carries; and
v) improvised carries (pack-and-pole, strap and rope-coil "piggyback" carries, "tragsitz" vertical carries).

k) Given a choice of several evacuation routes with different times, and different special problems (e.g., necessity for a vertical head-up lower or raise), give medical recommendations for choice of evacuation route for the following patients:
i) multiple trauma with ongoing fluid resuscitation;
ii) uncomplicated mild (90.5°F) subacute hypothermia;
iii) isolated head injury with decreasing level of consciousness;
iv) uncomplicated cervical spine injury; and
v) acute myocardial infarction.

l) Outline the advantages, disadvantages, and specific patient-care considerations for the following transportation methods:
i) helicopter:
(1) ground-loading,
(2) long-line "pick-off" or "pull-out",
(3) hoist ("horse collar," jungle/forest penetrator, and litter;
ii) watercraft:
(1) rafts,
(2) canoes and kayaks, and
(3) larger rescue boats;
iii) motor vehicles:
(1) All-Terrain Vehicles (ATVs),
(2) motorcycles and trail bikes, and
(3) snowmobiles; and
iv) pack animals.

17) **Educational Objectives: Disasters**[20]

a) Define: multi-casualty incident; single-casualty/multiple resource incident; and catastrophic disaster.
b) Cite the major difference between a multi-casualty incident and a catastrophic disaster.
c) List three similarities between emergency medical services for wilderness rescues and for

[20]These are taken verbatim from the WEMSI WEMT Curriculum, Part XVI: Disasters, Draft Version 1.1, March 17, 1991. These subsume all corresponding objectives from the WMS Curriculum.

catastrophic disasters.

d) Outline principles of triage for a large multi-casualty incident in the wilderness.
e) Estimate the likely number surviving victims found within the first 24 hours after a catastrophic disaster compared with the number found thereafter.
f) Describe the effect of the first 24 hours of a large catastrophic disaster on local government and outline an approach to organizing response teams in such a situation.
g) List logistical support services that are usually lacking in the first 24 hours of a catastrophic disaster.
h) Explain how simple medical and surgical problems can cause death or severe injury in the first 24 hours after a catastrophic disaster; indicate four important simple interventions that a WEMT can provide for such patients.
i) Identify appropriate strategies for dealing with large numbers of psychologically injured people.
j) Give four specific examples of how you can use "Murphy's Laws" to help analyze disaster plans.
i) Identify specific major hazards and medical conditions associated with:
ii) volcanic eruptions;
iii) avalanches, landslides, and mudslides;
iv) large storms;
v) wildfires; and
vi) floods.
k) Describe important public-health and sanitation during the first days of a catastrophe, including:
i) food preparation and food handlers;
ii) latrine siting; and
iii) dealing with corpses.
l) Identify specific major hazards of travel to areas outside North America, and appropriate countermeasures, including:
i) sociocultural and political hazards:
ii) language differences,
iii) major cultural taboos and other important differences,
iv) political instability, and
v) coordination with other foreign (non-local) personnel;
vi) animal hazards:
vii) major poisonous reptiles,
viii) major poisonous insects, and
ix) hazardous large animals;
x) plant hazards; and
xi) infectious diseases:
xii) malaria,
xiii) cholera, and
xiv) tuberculosis.
m) Identify appropriate roles for a WEMT in the early stages of a catastrophic disaster.

18) **Educational Objectives: Advanced Skills**[21]

[21]These are taken verbatim from the WEMSI WEMT Curriculum, Part XVII: Introduction to/Review of Advanced Skills in the

a) *Identify ways to help verify endotracheal tube placement, including:*
   i) *lung and abdominal auscultation;*
   ii) *checking tube length at the teeth or gums;*
   iii) end-tidal CO_2 monitors; and
   iv) *syringe aspiration.*
b) *Demonstrate proper technique to pull back an endotracheal tube that may have become lodged in a mainstem bronchus, including:*
   i) *deflating the balloon;*
   ii) *repositioning the tube;*
   iii) *re-inflating the tube; and*
   iv) *securing the endotracheal tube again.*
c) *Identify the roles and usefulness of intravenous therapy, including:*
   i) *hydration;*
   ii) *electrolyte supplementation;*
   iii) *drug administration;*
   iv) *blood administration; and*
   v) *obtaining blood samples.*
d) *Identify dangers of IV therapy for patient and EMT, including:*
   i) *catheter shear;*
   ii) *air embolism;*
   iii) *infection;*
   iv) *local irritation (phlebitis);*
   v) *clotting (thrombophlebitis); and*
   vi) *needlesticks and other blood exposure.*
e) *Identify equipment used for IV therapy and its function, including:*
   i) *peripheral over-the-needle catheters;*
   ii) *central through-the-needle catheters;*
   iii) *central over-the-wire ("Seldinger") catheter kits;*
   iv) *macrodrip and microdrip tubing;*
   v) *blood warming tubing extension sets;*
   vi) *three-way stopcocks; and*
   vii) *solution bags.*
f) *Identify common sites for peripheral IVs, including:*
   i) *dorsal hand veins;*
   ii) *veins of the forearm;*
   iii) *veins of the antecubital fossa;*
   iv) *saphenous vein of medial ankle; and*
   v) *external jugular vein.*
g) *Identify common sites for central IVs, including:*
   i) *internal jugular vein;*
   ii) *subclavian vein; and*
   iii) *femoral vein.*

h) *Identify proper technique for starting a peripheral IV, including:*
   i) *site choice and preparation;*
   ii) *venipuncture and threading the catheter;*
   iii) *securing intravenous catheters for the wilderness context;*
   iv) *aseptic technique, site rotation, and site care.*
i) *Outline the Seldinger Wire Technique for central lines, and describe how to assist in such a procedure.*
j) *Demonstrate how to assess the patency of an intravenous catheter, including:*
   i) *inspection for swelling;*
   ii) *checking for backflow of blood; and*
   iii) *observing continued flow of intravenous solution.*
k) *Demonstrate proper technique for discontinuing an intravenous infusion when the catheter has become dislodged or is infiltrating, including:*
   i) *proper care to prevent contamination with blood;*
   ii) *proper disposal of contaminated materials in the backcountry setting; and*
   iii) *shutting off the intravenous infusion and pulling the catheter.*
   iv) *Demonstrate how to adapt intravenous infusions for the wilderness environment, including:*
   v) *how to attach heat packs and insulation to provide a warm infusion;*
   vi) *how to secure intravenous lines against inadvertent dislodging;*
   vii) *how to use a blood pressure cuff as an infusion pump;*
   viii) *how to place an intravenous bag under the patient and use the patient's own weight for pressure infusion, including clearing the line of air;*
   ix) *how to carry an intravenous bag on a single-length runner in the armpit, and run the intravenous line down one's parka sleeve to protect from cold.*
l) *For nasogastric intubation:*
   i) *discuss indications, contraindications, limitations, and the role of orogastric intubation as an alternative, as applied to the wilderness context;*
   ii) *describe equipment used for gastric intubation in the wilderness context, and modifications needed for wilderness use;*
   iii) *describe patient positioning and the general technique of gastric intubation;*
   iv) *discuss securing gastric tubes and site care;*
   v) *discuss considerations of clogging when administering food via a gastric tube; and*
   vi) *the method to check for residual volumes and their significance.*
m) *For urinary catheterization:*
   i) *discuss indications and contraindications;*
   ii) *describe the standard equipment used;*
   iii) *describe how to choose an appropriate size catheter;*
   iv) *explain the need for aseptic technique;*
   v) *describe standard site preparation;*
   vi) *describe the technique for catheter insertion;*
   vii) *describe securing the catheter;*
   viii) *discuss site maintenance and urine output monitoring for litter patients;*
   ix) *discuss the role of urinary catheterization in patients with suspected pelvis fracture or genital trauma; and*

x) *discuss the use of a "Texas" (condom) catheter as an alternative to standard urinary catheterization, and its advantages and disadvantages.*

n) *Describe the purpose, indications, general technique, complications, and equipment needed for:*
   i) *escharotomy;*
   ii) *fasciotomy;*
   iii) *surgical cricothyroid membrane airways; and*
   iv) needle thoracentesis chest tubes, including the use of flutter ("Heimlich") valves in the wilderness context.

19) **Educational Objectives: Principles of General Medicine**[22]

a) *Briefly define the following terms, and give an example of a disease caused by each:*
   i) *parasites;*
   ii) *bacteria;*
   iii) *aerobic bacteria;*
   iv) *anaerobic bacteria;*
   v) *gram negative bacteria;*
   vi) *gram positive bacteria;*
   vii) *viruses;*
   viii) *Rickettsiae; and*
   ix) *fungi.*

b) Define the following:
   i) "*normal flora";*
   ii) *white blood cells;*
   iii) vector;
   iv) "the Four Fs": Flies, Fecal contamination, Food, and Fomites;
   v) antibiotics;
   vi) immunizations.

c) Identify four factors that make a wound likely to become infected.

d) Identify major potential sources of bacterial contamination of wounds that a WEMT will care for.

e) Briefly explain the appropriate use of antiseptics in wound care.

f) Define atelectasis, and describe means to prevent it in an immobilized patient.

g) Identify three major criteria for giving oral fluids to a wilderness patient.

h) Identify four factors that increase daily fluid needs over baseline.

i) *Identify the usefulness and limitations of providing food calories by adding ampules of dextrose solution to the IV bags of wilderness patients.*

j) Define decubiti and describe means to prevent their development in litter patients.

k) Describe how pain influences and is influenced by the psychological state of an individual.

l) Identify methods for dealing with a wilderness patient's pain without medications.

m) Identify three signs of psychotic reasoning, and identify three important principles in dealing with a patient with psychotic reasoning.

n) Explain the use of intellectualization as a psychological defense by experienced outdoors

[22]These are taken verbatim from the WEMSI WEMT Curriculum, Part XVIII: Principles of General Medicine, Draft Version 1.7 July 27, 1992.

enthusiasts who are injured, and how a Wilderness EMT can use this to improve interactions with such a patient.

o) Describe the role of physical conditioning in preventing illness and injury.

20) **Educational Objectives: Stress Management and Critical Incident Stress Debriefing**[23]

a) Describe the critical incident stress concept and its long-term consequences and define Critical Incident Stress Debriefing.

b) Define three major types of stress reactions.

c) Give examples of the physical, emotional, cognitive, and behavioral effects of immediate stress reactions.

d) Describe the signs and symptoms of delayed stress reactions.

e) Describe six major psychological characteristics of emergency services workers.

f) Describe appropriate stress management for WEMTs and others involved in critical incidents. Specifically, discuss the effects of

i) shift length,
ii) briefing about expected sights or smells,
iii) body part recovery,
iv) food,
v) soap and water for hand-washing,
vi) caffeine and tobacco use,
vii) relief of those with behavioral clues suggesting the beginning of a stress reaction,
viii) post-operation CISD briefings, and
ix) criteria for instituting mandatory CISD sessions.

g) Describe stress factors that are common in wilderness search and rescue operations, including

i) the experience and "hardening" of wilderness search and rescue personnel,
ii) the role of cumulative stress in wilderness search and rescue,
iii) the constant nature of environmental stress for wilderness search and rescue personnel, and
iv) the need for CISD workers, especially mental health professionals, to use restraint in "pulling" personnel, lest this cause additional stress.

h) Outline the principles of on-scene psychotherapeutic "first aid" during a wilderness search and rescue operation. Specifically, discuss:

i) rest breaks,
ii) behavioral clues to an immediate stress reaction,
iii) sensory isolation,
iv) the role of group vs. one-on-one debriefing for on-scene use,
v) techniques for starting a debriefing session, and
vi) methods for dealing with a person who "breaks down" during debriefing.

i) Identify four major kinds of CISD.

j) Name and describe seven major phases of a CISD session.

23These are taken verbatim from the WEMSI WEMT Lesson Plans, Part XIX: Stress Management and Critical Incident Stress Debriefing (CISD), Version 3.31, July 4, 1992. These subsume all corresponding objectives from the WMS Curriculum .

k) Describe stress management techniques that can be used for wilderness and disaster patients. Specifically,
   i) describe the applicability of these stress management methods (ones designed for emergency services workers) to a victim of a wilderness or other disaster;
   ii) describe the three most prevalent psychological states seen in the survivors of a disaster;
   iii) outline a screening mental status exam to be used for classifying disaster survivors;
   iv) outline the criteria for classifying a survivor as having psychosis; and
   v) outline a management plan for shocked and hysterical disaster survivors.

21) **Educational Objectives: Veterinary Emergencies**[24]

a) *Outline major principles of veterinary medicine relevant to treating dogs and horses, including:*
   i) *differences in species anatomy compared to human anatomy;*
   ii) *general care of ill or injured dogs or horses;*
   iii) *approaching, handling, and restraining dogs and horses; and*
   iv) *euthanasia.*

b) *Outline differences between human emergency medicine and dog or horse emergency medicine, specifically including differences from human medicine in:*
   i) *assessment, Basic Life Support, and Advanced Life Support procedures;*
   ii) *recognizing and managing surgical problems:*
   iii) *trauma to head, neck, chest, and abdomen;*
   iv) *wound management;*
   v) *soft tissue injuries; and*
   vi) *fractures and dislocations.*
   vii) *dealing with heat, cold, and altitude, specifically:*
   viii) *thermal regulation;*
   ix) *dehydration and fluid repletion;*
   x) *heat exposure and heat illness;*
   xi) *cold exposure and frostbite;*
   xii) *hypothermia; and*
   xiii) *altitude exposure.*
   xiv) *managing burns and lightning injury;*
   xv) *managing bites and stings;*
   xvi) *recognizing and managing medical problems, including:*
   xvii) *eye problems;*
   xviii) *ENT problems;*
   xix) *infectious diseases; and*
   xx) *skin problems;*
   xxi) *managing dogs or horses with major trauma;*
   xxii) *immobilization, packaging, and transportation of injured or ill dogs or horses;*
   xxiii) *applying the following advanced skills to dogs or horses:*
   xxiv) *intravenous therapy; and*

24These are taken verbatim from the WEMSI WEMT Curriculum, Part XX: Veterinary Emergencies, Version 1.0, September 17, 1992 .

xxv) *endotracheal intubation;*

xxvi) *administering human drugs to dogs or horses;*

xxvii) *recognizing and managing grief reactions and stress reactions of dogs, horses, or their human companions to injury or death of the other.*

c) *Identify specific problems common to dogs, including:*

i) *exposure to hazardous animals (e.g., skunks, porcupines);*

ii) *exposure to hazardous materials (e.g., ethylene glycol poisoning, nettle stings, plant contact dermatitis)*

d) *Identify specific problems common to horses, including:*

i) *colic and grain overload;*

ii) *lameness, including laminitis;*

iii) *exercise-related problems, including:*

iv) *exhausted horse syndrome;*

v) *synchronous diaphraghmatic flutter ("thumps") and*

vi) *muscle problems, including tying-up.*