

ASRC First Aid Integration Proposal

Appalachian Search and Rescue Conference Medical Committee

draft 0.5 12/23/15

comments to

ASRC Medical Advisory Committee Chair, Keith Conover, kconover@pitt.edu

ASRC Medical Committee Chair, Carl Solomon, thesummit1@verizon.net

Background: Red Cross First Aid Courses¹

The old Red Cross Standard and Advanced First Aid courses came out in 1973. Keith used to teach them. Standard took 16 hours, and the last (1992) edition of the text was 384 pages.² Advanced took 40 - 60 hours. Then, the Red Cross added a "Basic First Aid" which was a dumbed-down version of Standard First Aid. Then they killed the Standard and Advanced First Aid courses. Now, as there is no Standard or Advanced First Aid, there's also no Basic First Aid, just First Aid.

The current American Red Cross First Aid offerings are:

- ARC First Aid for Students - 2 hours
- ARC CPR for Students - 30 minutes
- ARC First Aid and CPR for Students - 2.5 hours
- ARC Adult First Aid/CPR/AED - 5.5 hours
- ARC Adult + Pediatric First Aid/CPR/AED - 6.5 hours

Note that it's also possible to challenge and get certified by an instructor without going through the training. It is also worth noting that, for backcountry use, CPR and AED training are essentially useless.

When Keith Conover bought a new house, he had house painters repaint the inside of the house. They used white latex paint on the wallboard, and brown wood stain. He asked about the difference between paint and stain. "Stain is just thin, watery paint." Taking a Red Cross first aid courses used to be getting painted with latex, but now you'll just get stained.

National Safety Council also offers "OSHA-Compliant" first aid courses:

- NSC First Aid: 4.5 hours
- NSC First Aid, CPR and AED: 5.75 - 6.25
- NSC Advanced First Aid, CPR and AED: 16 - 40
- NSC Emergency Medical Response: 48 - 60

Background: OSHA Requirements

Red Cross does not make public the detailed content of its first aid courses, noting only that they "meet OSHA standards." By this, they mean 29 CFR 1910.151, which states "1910.151(b) In the absence of an infirmary, clinic, or hospital in near proximity to the workplace which is used for the treatment of all injured employees, a person or persons shall be adequately trained to render first aid. Adequate first aid supplies shall be readily available."

¹ This is put together mostly from old texts on members' bookshelves and my memories; we apologize for any mistakes, and welcome corrections.

² The Committee is not in favor of hours-based education, and strongly supports competency-based credentialing. Nonetheless, hours are one way to compare courses when we don't have access to details of the curriculum.

See also a directive at

https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=DIRECTIVES&p_id=1593

that confusingly states

"Persons who have a current training certificate in the American Red Cross Basic, Standard or Advanced First Aid Course shall be considered as adequately trained to render first aid in fulfilling the requirements of the Occupational Safety and Health Standards, Subpart K., Medical and First Aid (29 CFR1910.151(b)), The American Red Cross Standard Course is the recommended MINIMUM level of first-aid training."

This OSHA webpage has guidance that is even less formal than a letter of interpretation:

<https://www.osha.gov/SLTC/medicalfirstaid/programs.html>

"First aid training is primarily received through the American Heart Association,³ American Red Cross, National Safety Council (NSC), and private institutions. The American Heart Association, American Red Cross and NSC offer standard and advanced first aid courses via their local chapter/training centers. After completing the course and successfully passing the written and practical tests, trainees receive two certificates; (adult CPR and first aid). An emphasis on quick response to first aid situations is incorporated throughout the program. Other program elements include: *basic first aid intervention, basic adult cardiopulmonary resuscitation (CPR), and universal precautions for self-protection. Specific program elements include training specific to the type of injury: shock, bleeding, poisoning, burns, temperature extremes, musculoskeletal injuries, bites and stings, medical emergencies, and confined spaces.* Instruction in the principles and first aid intervention of injuries will cover the following sites: *head and neck, eye, nose, mouth and teeth, chest, abdomen, and hand, finger, and foot injuries.* Employers are responsible for the type, amount, and maintenance of first aid supplies needed for their particular program. The training program should be periodically reviewed with current first aid techniques and knowledge. Basic adult CPR retesting should occur every year and first aid skills and knowledge should be reviewed every three years. OSHA recommends that CPR training include having trainees develop 'hands-on' skills through the use of mannequins and partner practice. The references below provide further fundamentals to help develop and maintain first aid program and skills." [emphasis added]

Background: Wilderness First Aid

In 1996, the American Red Cross developed a wilderness first aid module to add to their entry-level first aid classes. The text was called "When Help is Delayed" and it was pretty good. Disclosure: Keith Conover and others of the Appalachian Search and Rescue Conference were major contributors to it, the two people on the cover were members of the ASRC. Now it's almost impossible to find these courses and the national American Red Cross doesn't even admit that they offer it, though a few local chapters here and there still offer the course.

Also, in 2014, the Red Cross started a new course, *Wilderness and Remote First Aid*, which lasts for 16 hours. The curriculum was basically donated to the Red Cross by the Boy Scouts of America. The text materials are available online at:

³ As far as I can tell, the American Heart Association has never offered first aid classes outside of CPR and AED classes, certainly nothing that meets OSHA requirements.

It has been roundly criticized by other providers of wilderness first aid courses, as this BSA/Red Cross course doesn't adhere to the recommendations of the Wilderness Medical Society, published in 2013: *Minimum Guidelines and Scope of Practice for Wilderness First Aid*.¹

If you're looking for a definitive statement of what a wilderness first aid course should entail, who do you trust more? The Boy Scouts, or an international physician-led medical society that publishes a peer-reviewed medical journal?

A point-by-point comparison of the WMS wilderness first aid curriculum with the requirements of OSHA, shows it meets them all. Except for that one phrase "confined spaces." And note it's not crush injury or entrapment, it's "confined spaces." And it's not having a safety plan, or rescue plan, for confined spaces, that's in separate OSHA requirements. It's first aid for the medical condition of "confined spaces."

We have no idea what first aid for "confined spaces" is, or why it would be different than regular first aid. Some people like confined spaces, as they make them feel secure; most cavers are like this. Some people hate confined spaces with a passion – we call this *claustrophobia*, maybe that's what OSHA means – and the solution for this is to get out of the confined space. Sometimes it's hard to get someone out of a confined space, which is why there are courses in trench rescue, collapsed building rescue, mine rescue, and cave rescue. But there is no first aid treatment for being in a confined space other than learning one of these rescue disciplines, which are clearly beyond the scope of a first aid course. Even the awareness-level course for cave rescue (Orientation to Cave Rescue) is longer than the old Red Cross 16-hour Standard First Aid course. We can reasonably ignore this demand for teaching a non-existent first aid discipline.

Proposal for Appalachian Search and Rescue Conference Field Team Member (FTM) First Aid Requirement: Discussion

The Current Standard

The current ASRC Training Standards, version 7.1, gives the following first aid requirement for FTM:

II. ASRC Field Team Member (FTM)

...

A. Qualifications

To become a Field Team Member (FTM), the applicant must:

...

9. Hold a current American National Red Cross Standard First Aid card or equivalent, or higher certification.

10. Hold a current AHA CPR for Health Care Provider certification, or equivalent.

There is no first aid requirement for FTL or Search Manger levels above this one requirement.

CPR and AED

There has been much discussion in years past about whether we should or should not continue the requirements for CPR and AED. Here are the main issues and the more-or-less consensus answers to each, in bullet-point format.

First, we should deal with the CPR requirement. For backcountry situations, except lightning strikes and cold-water submersion, CPR is essentially useless. Therefore, you can make a reasonable argument that we should dump the CPR requirement. Some Groups may require CPR of members since their EMS agency license or CERT team standards requires it, but that isn't a strong argument to require it of everyone.

However, there is a stronger argument that a SAR Base Camp is a place where the general public (think victim's family, press, spontaneous volunteers) reasonably expects a certain level of "street" first aid to be available, and CPR certainly fits into this category. You can also extend this argument to argue that Groups might want to keep an AED in their vehicles, trailers or other Base Camp supplies.

You can also argue that the airway management portion of CPR may of some use, but it doesn't cover airway management outside of CPR. For example, it doesn't generally discuss the coma position for managing the airway, which, along with other airway management techniques, is usually taught in most wilderness first aid classes.

The ASRC Medical Committee as a whole does not take a strong stance on the CPR requirement, but is generally supportive of the idea of continuing the CPR requirement based solely on the Base Camp argument.

There's not much point in arguing about this, though. If you are certified/credentialed to the Wilderness Medical Society wilderness first aid standard, a required part of this is artificial respiration, external cardiac compression and Automated External Defibrillator use.

Right-Sizing FTM and FTL: More or Less First Aid?

There has been much discussion within the ASRC of "right-sizing" the FTM and FTL standards to meet our real operational requirements. The Medical Committee agrees with this sentiment, and particularly in regards to first aid training. However, opinions differ widely on what "right-sizing" means in the context of medical and first aid training.

Some believe strongly that all of our members should be certified at the Wilderness First Responder level or higher, as we advertise ourselves as offering search and rescue, and part of rescue is first aid or medical care. The public can reasonable expect to get first aid or medical help from search and rescue personnel.

Some believe strongly that we need no first aid training for FTM at all. We have plenty of people who are interested in the medical aspects of search and rescue, and one of these people is usually available. And we seldom need for members to use their first aid training.

These appear to be minority opinions, and the majority think that we should all have *some* first aid training.

We should use a good analogy to dispense right away with one argument in favor of no first aid training for FTM: that first aid situations rarely occur. However, we can analyze bad things that happen in SAR by different measures. How often does it happen? How bad of a risk is it to the person involved? Will mitigation by training or equipment or procedures help improve outcomes? How much cost is there to the

mitigation, not only in terms of money, but in terms of interfering with our operations, by impairing efficiency, or driving members away so we have fewer members.

For instance, head injury from falls or falling rocks is quite rare in SAR, less common than auto accidents en route to or from a SAR operation. However, nobody suggests that we quit wearing helmets for vertical rescue. Helmets aren't that heavy, aren't that much of a hindrance (at least most of the time), and when (or rather if, given the rarity) a head impact occurs, can make a big difference in outcome.

The majority seems to agree that the current standards need to be changed. We suggest some major considerations to guide this discussion:

Standard First Aid is Extinct

First is to get rid of a requirement for a course that is no longer available. None of our members have *really* met the ASRC FTM standards since the last official American Red Cross "Standard First Aid" course was offered circa 1995, unless they had a "higher" first aid or medical certification. Given the above background, there is no way a reasonable person could consider the current Red Cross ~2-hour first aid course "higher" than the original 16-hour Standard First Aid course.

If we modify this by specifying "Red Cross First Aid" we have dropped the first aid requirements from 16 hours to 2 hours, which is a *major* change, a major dumbing-down of our requirements. There is no other widely-available alternative that would provide an equivalent level of "street" first aid training. Here is the Table of Contents from the 1979 Red Cross Standard First Aid textbook (the final edition of this text).

Chapter I - Introduction to First Aid

- I. Definition
- II. Reasons for First Aid
- III. Value of First Aid Training
- IV. General Directions for Giving First Aid

- IV. Wounds of the Chest
- V. Abdominal Injuries
- VI. Back Injuries
- VII. Injuries to the Genital Organs
- VIII. Injuries to Legs and Feet
- IX. Hand Injuries-First Aid
- X. Blisters-First Aid

Chapter 2-Wounds

- I. Definition
- II. Common Causes
- III. Symptoms
- IV. First Aid for Open Wounds
- V. First Aid for Severe Bleeding
- VI. Prevention of Contamination and Infection
- VII. Bites
- VIII. Closed Wounds
- IX. Prevention of Wound-Causing Accidents

Chapter 3-Specific Injuries

- I. Eye Injuries
- II. Head Injuries
- III. Neck Injuries

Chapter 4-Shock

- I. Definition
- II. Causes
- III. Signs and Symptoms
- IV. Treatment Objectives
- V. First Aid

Chapter 5-Respiratory Emergencies and Artificial Respiration

- I. Definitions
- II. Causes of Respiratory Failure
- III. The Breathing Process
- IV. Artificial Respiration
- V. Cardiopulmonary Resuscitation
- VI. Prevention of Respiratory Accidents
- VII. Swimming Safety Tip.,
- VIII. Boating Safety Tips

Chapter 6-Swallowed Objects and Choking

- I. Causes of Choking
- II. Signs and Symptoms
- III. First Aid
- IV. Prevention

Chapter 7-Poisoning

- I. Definition
- II. Causes
- III. Signs and Symptoms
- IV. Objectives in Treatment of Poisoning by Mouth
- V. First Aid
- VI. Contact Poisons
- VII. Prevention
- VIII. Poisoning by Marine Life
- IX. Poisonous Insect Bites
- X. Poisonous Snakebites
- XI. Prevention of Accidental Poisoning

Chapter 8-Drugs and Their Abuse

- I. Definitions
- II. Identification of Drug Abuse
- III. Classification of Drugs

Chapter 9-Burns

- I. Definition
- II. Causes and Effects
- III. Classification
- IV. Extent and Location
- V. First Aid
- VI. Prevention of Heat Emergencies

Chapter 10-Frostbite and Cold Exposure

- I. Frostbite
- II. Cold Exposure
- III. Prevention of Injuries From Extreme Cold

Chapter 11-Heat Stroke, Heat Cramps, and Heat Exhaustion

- I. Definitions
- II. Causes
- III. Heat Stroke
- IV. Heat Cramps
- V. Heat Exhaustion

Chapter 12- Sudden Illness

- I. Heart Attack
- II. Stroke
- III. Fainting
- IV. Convulsion
- V. Epilepsy
- VI. Prevention of Heart Attack and Apoplexy

Chapter 13- Dressings and Bandages

- I. Dressings
- II. Bandages
- III. Combination Dressings and Bandages
- IV. Special Pads
- V. Application of Bandages
- VI. First Aid Kits and Supplies

Chapter 14-Bone and Joint Injuries

- I. Definitions
- II. Fractures
- III. Specific Fractures
- IV. Dislocation
- V. Sprains
- VI. Strains
- VII. Prevention of Accidents Resulting in Skeletal and Muscular Injuries

Chapter 15-Emergency Rescue and Short-Distance Transfer

- I. Definition of Emergency Rescue
- II. Indications for Immediate Rescue
- III. Procedure
- IV. Methods of Transfer

Right-Sizing First Aid: Wilderness or “Street” First Aid?

In addition to the discussion above about right, a topic of discussion has been the idea that we should replace the extinct 16-hour American Red Cross Standard First Aid with a wilderness first aid requirements.

The argument that wilderness first aid is more appropriate for our context is hard to beat, but there are some objections, including:

- *American Red Cross Standard First Aid is widely available, wilderness first aid is not.* See the arguments above that debunk Standard First Aid being available; all that is available is the pale, watery 2-hour American Red Cross “First Aid.”
- *Wilderness First Aid can be expensive.* Agreed.
- *All wilderness first aid courses are not created equal.* Agreed.
- *There is no national standard.* Not true: the publication of a national standard in a peer-reviewed medical journal by the Wilderness Medical Society takes care of this.

See below for our suggested solution to this dilemma.

Making it Easier to Become FTM

A reasonable goal for any modification of the FTM standards would be to make it easier, not harder, for members to get their FTMs, and at the same time, making it cheaper. Decreasing the number of outside certifications, especially ones you have to pay for, would certainly move us in this direction.

Picking a WFA Standard

While the new Red Cross/Boy Scout wilderness first aid class may not serve well as a recognized standard, it nonetheless offers a solid education for those who wish to pay to take such a class. However, there are many other wilderness first aid classes that are just as good if not better, and so we recommend against requiring the Red Cross/Boy Scout wilderness first aid, even if there is an “or equivalent” after it.

The ASRC Medical Advisory Committee voted on 12/9/15 to establish the WMS WFA Guidelines¹ as the recommended training for ASRC members who are required to obtain first aid training for certification.

The ASRC Medical Advisory Committee, with the advice of the Medical Committee, is currently working on determining:

- which of the “Elective Topics” included in the WMS WFA curriculum should be recommended training for ASRC members who are required to obtain first aid training for certification,
- making specific recommendations to update the WMS WFA guidelines where the preponderance of medical evidence suggests such updates, and
- making recommendations for additional wilderness first aid skills that should be expected of ASRC FTMs, given their roles in search and rescue operations.

The appendix strike out shows the consensus from tonight’s Medical Committee meeting. We will need to finalize this soon so that this draft document can be distributed prior to the Retreat.

Competency-Based Certification

A big move these days is towards certifying competency, not the number of hours you sit in a classroom. We applaud this idea, and indeed, the ASRC Standards have always adopted this approach. We suggest extending this to the first aid requirements for FTM as well.

For example, under the proposal below, and related to the CPR discussion above, one of the checkoffs in the PTB for FTM would need to be for dealing with a cardiac arrest, including artificial respiration, external cardiac compression, and AED. This will increase the burden on Group Training Officers as far as testing. If

a Group wishes to run CPR training that is taught by an AHA or Red Cross instructor so people can get external certifications, that's fine. On the other hand, if another Group wants to do it all internally without any external certification, that's OK too.

Specific Proposal

The ASRC Medical Committee proposes the following:

- That the ASRC eliminate the requirement for any external first aid or CPR certification from the FTM standards.
- That the ASRC Medical Committee develop a set of specific and testable educational objectives to be added to the ASRC FTM Standards based on the WMS WFA Guidelines (which include CPR). Thus, training to the WMS WFA Guidelines would occur as part of standard Group training, would be checked off by Qualified Evaluators chosen by the Group Training Officer through the standard FTM Position Task Book (PTB), and would be evaluated by the new ASRC credentialing system the same way as all other portions of the FTM standards. Groups could use external WFA or CPR courses or do their own internal training. Under the current credentialing proposal, a GTO can appoint "any AHA or Red Cross CPR instructor" as a person qualified to sign off a member's PTB CPR checkoffs, so the Group can still rely on external certs for this by this mechanism if they wish.
- Because of unique aspects of wilderness first aid, all personnel will be required to demonstrate competency in the core WMS WFA standards regardless of external first aid or medical certification or licensure.
- That the ASRC Medical Committee identify free online and other resources available to members working on the wilderness first aid components of their FTM checkoffs or who wish to pursue higher-level wilderness medical training.
- That ASRC FTM certificates should note that the member has been competency-tested to the core WMS WFA standards. This will serve the member for wilderness first aid certification when the member needs this for other purposes, such as being a trip leader for an outdoor organization. However, we do not want the ASRC to be in the business of offering separate WFA certifications for those who are not credentialed as a FTM. Renewing FTM or FTL would renew WFA certification.

Reference

1. Johnson DE, Schimelpfenig T, Hubbell F, et al. Minimum Guidelines and Scope of Practice for Wilderness First Aid. *Wilderness & Environmental Medicine* 2013;24:456-62.

Appendix: WMS WFA Guidelines recommended for inclusion

Core WMS WFA competencies

Patient Assessment And Basic Life Support

- ***Evaluate the scene—assess for safety and causes, emphasizing personal and team protection⁴***
- Perform a primary assessment (identify and treat life threats)
 - Respiratory system
 - Manually open, maintain, and protect an airway with standard basic life support (BLS) technique and the recovery position
 - Provide adequate ventilations by mouth to mask
 - Circulatory system
 - Assess for pulse and signs of life, administer chest compressions, and use AED if available
 - Control serious bleeding with well-aimed direct pressure, pressure or clot-enhancing bandage, or tourniquet
 - Nervous system
 - Assess level of consciousness/level of responsiveness (LOC/LOR), identify a potential mechanism for spine injury, protect the spine, and minimize movement
 - Monitor and maintain airway control and breathing for people with an impaired LOC/LOR
- Perform a secondary assessment
 - Perform a basic physical examination to identify obvious injuries or abnormalities
 - Measure and monitor vital signs (LOC/LOR, pulse, respiration, skin signs)
 - Take a basic patient history
 - Monitor a patient for changes over time
 - Document findings and ongoing assessments and treatments
- ***Plan and conduct evacuation or contact with outside resources***

Does not include:

- Assessing blood pressure
- Assessing lung sounds
- Assessing pupils
- Assessing or evaluating complex illnesses
- Invasive or mechanical airway adjuncts
- Needle decompression

Circulatory System

- Identify common causes of volume shock (vomiting/diarrhea, bleeding)
- Recognize signs and symptoms of volume shock (vital sign patterns) and differentiate from an acute stress reaction
- Initiate appropriate treatment to include
 - Administer oral fluids for a patient with normal mental status
 - Stabilize injuries
 - Control external bleeding with well-aimed direct pressure, pressure or clot-enhancing bandage, or tourniquet
 - Protect from adverse environmental conditions
- Make an evacuation decision when faced with high-risk problems associated with volume shock
 - Cannot stop fluid loss or losses exceed ability to restore volume
 - Persistently abnormal or worsening vital signs
 - Inability to maintain core body temperature

Acute Coronary Syndrome

- Recognize signs and symptoms
- Initiate appropriate treatment to include
 - Stop activity
 - Support a reliable patient with their personal medications (e.g., prescribed nitroglycerin or aspirin)
- Initiate evacuation and access EMS or search and rescue (SAR)

Respiratory System

- Recognize the most common causes and signs and

⁴ Items in ***bold italics*** are already mostly covered in existing FTM training.

symptoms of respiratory distress and respiratory failure (asthma, airway obstruction, trauma)

- Initiate appropriate treatment to include:
 - Maintain appropriate and comfortable position
 - Maintain patent airway and ventilation as needed
 - Support the patient using their personal medications (e.g., prescribed inhaler) and treatment plan
- Initiate evacuation when faced with high-risk problems associated with respiratory compromise
 - Cannot improve respiratory status
 - Worsening symptoms despite treatment
 - Persistent abnormal mental status

Does not include:

- Use of epinephrine to treat asthma

Nervous System

- Identify the most common causes of abnormal mental status (trauma, extremes of temperature, inadequate oxygen, low blood sugar, seizure)
- Recognize signs and symptoms of head injury or altered mental status
 - Alteration of mental status
 - Loss of consciousness
 - Confusion, disorientation
- Initiate appropriate treatment: head injury
 - Protect the airway
 - Protect the spine
 - Protect the patient from environmental extremes
- Initiate appropriate treatment: nontraumatic causes of abnormal mental status
 - Administer oral sugar as needed
 - Cooling in the presence of heat stroke
 - External warming in the presence of mild hypothermia
 - Protect the patient (airway, spine, environmental extremes)
- Initiate evacuation when faced with a high-risk nervous system problem from any cause
 - Any altered mental status or disorientation
 - Decreased level of consciousness
 - No improvement despite treatment

Spine Injury

- Identify high-risk mechanism of injury for spine
 - Fall associated with loss of consciousness
 - Trauma resulting from high-velocity impact (eg, motor vehicle accident, climbing falls, high-speed skier/biker)
 - Falls from greater than 1 m (3 feet)
 - Landing on head or buttocks (axial loading)
- Recognize signs and symptoms of possible spine injury
 - Spine tenderness
 - Loss or impaired motor or sensory function
 - Unconsciousness or abnormal mental state
- Initiate appropriate treatment
 - Initiate patient protection including spine stabilization
 - Perform simple rolls, lifts, and extrication to facilitate patient examination and protection
- Initiate evacuation: access assistance for transport or evacuation for all high-risk mechanisms or signs and symptoms of spine injury

Wounds

- Recognize life-threatening bleeding
- Identify simple versus high-risk (grossly contaminated, marine, crushing, open joint spaces, animal bites) wounds
- Initiate appropriate treatment
 - Control bleeding with well-aimed direct pressure, pressure or clot-enhancing bandage, or tourniquet
 - Treat open chest wounds with an occlusive dressing
 - Clean wounds by removing debris and irrigating (potable water under pressure, dilute povidone-iodine solution)
 - Bandage wounds
 - Manage blisters (prevention and treatment)
 - Manage impaled objects (more than a fishhook or splinter).
 - Remove objects impaled from limbs only if unable to stabilize, will easily fall out, prevents transport, or unable to control bleeding because of the object
- Recognize signs and symptoms of an infection, both local and systemic

- Treatment: local—warm compresses, promote drainage, monitor
- Treatment: systemic—same, and evacuate
- Prevention: methicillin-resistant *Staphylococcus aureus* (MRSA) awareness, camp hygiene

Does not include:

- Closing wounds with sutures
- Releasing tourniquets placed to control life-threatening bleeding
- Administering prescription antibiotics

Burns

- Recognize superficial vs deep (partial or full-thickness) burns
 - Depth: superficial or deep (partial or full thickness)
 - Approximate extent
 - Identify high-risk areas (palms and soles, face and airway, genitals)
- Initiate appropriate treatment
 - Cool, protect with clean, slightly moist or non-adherent bandage
 - Make evacuation decision
- Prevention: for sunburn and spilled hot water burns
- Initiate evacuation for high-risk problems associated with wounds or burns. Most burns are evacuated because of patient comfort, inability to travel or participate, or lack of dressing

Musculoskeletal Injuries

- Recognize signs and symptoms of musculoskeletal injury and differentiate between stable and unstable injuries
- Identify high-risk problems associated with musculoskeletal injuries:
 - Fractures of the femur or pelvis
 - Open fractures
 - Persistently impaired circulation, sensation, movement (CSM)
 - Involvement with a critical system (circulatory, respiratory, nervous)
- Initiate appropriate treatment
 - Treat stable injuries using rest, ice, compression, elevation (RICE) as available and a brace or tape as

needed

- Treat unstable injuries with:
 - Gentle traction into position for angulated long bones
 - Traction into position for joints only if there is impaired CSM or splinting in position is impossible
 - Splints that provide adequate stabilization, are comfortable for extended-care situations, and allow for ongoing monitoring of perfusion
- Initiate evacuation for unusable or unstable musculoskeletal injury

Does not include:

- Traction splints for the femur

Allergic Reactions

- Recognize signs and symptoms of local and mild allergic reactions
- Initiate appropriate treatment
 - Local—cool compresses, topical corticosteroid
 - Mild allergic reactions—anticipate further symptoms suggestive of anaphylaxis (see below)
- Decide on need and urgency of evacuation

Anaphylaxis

- Recognize signs and symptoms of anaphylaxis
- Initiate appropriate treatment
 - Treat anaphylaxis with epinephrine via autoinjector, oral antihistamine, and evacuation

Does not include:

- Epinephrine from ampules or vials
- Corticosteroids, other than topical

Heat Illness

- **Recognize signs and symptoms of heat exhaustion, dehydration, and heat stroke**
- **Initiate appropriate treatment**
 - **Heat exhaustion or dehydration**
 - **Stop activity and remove from environment**
 - **Oral fluids and electrolytes as needed**
 - **Evacuate if not improving**
 - **Heat stroke**
 - **Aggressive, immediate cooling**
 - **Evacuate**

- **Prevention: identify predisposing environmental conditions and preventive strategies**

- *Hydration; avoidance of overhydration*

Hypothermia

- **Recognize signs and symptoms of mild and severe hypothermia**

- **Initiate appropriate treatment**

- **Mild hypothermia**

- **Oral fluid, calories, protect from the environment**

- **Evacuate if not improving**

- **Severe hypothermia**

- **Prevent heat loss (hypothermia wrap with added heat)**

- **Handle gently; evacuate**

- **Prevention: identify predisposing environmental conditions and preventive strategies**

Lightning

- Prevention: recognize high-risk conditions and preventive strategies

- Know local weather patterns, leave the scene, or seek adequate shelter

- Initiate appropriate treatment:

- Treat what you find, with emphasis on:

- Cardiopulmonary arrest with BLS

- Injuries found

- Burns

- Neurologic deficits

- Initiate evacuation

Submersion

- Initiate appropriate treatment

- Treat what you find, with an emphasis on:

- Respiratory arrest

- Spine injury potential

- Hypothermia

- Evacuate everyone with a loss of consciousness or persistent respiratory distress

- Prevention: identify high-risk conditions and preventive strategies with an emphasis on personal safety when planning rescue

Common Medical Problems

- Recognize red flag signs and symptoms necessitating evacuation
 - Abdominal pain (local tenderness, fever, persistent vomiting, getting worse over 12 hours, known pregnancy)
 - Vomiting and diarrhea (blood, fever, tenderness, output exceeds intake)
 - Any noticeable blood in stool, urine, or vomit
 - Cough, upper respiratory infection (URI: respiratory distress, fever, coughing up colored phlegm)
 - Urinary tract infection (UTI: fever, back pain or tenderness, vomiting)
 - Ear, nose, and throat (ENT: visual problems more than blurring, fever, airway compromise)
 - Fever (abnormal mental state, headache, other signs or symptoms as above)
- Prevention: camp hygiene (handwashing, kitchen sanitation), water disinfection.

Does not include:

- Detailed discussion of pathophysiology, signs, symptoms, and treatment of common medical conditions

Elective WMS WFA topics required for ASRC members

Strike-out indicates topics not recommended for ASRC member minimum training

Dislocations

- ~~● Elective skill with program specific parameters~~
- ~~● Passive reduction of shoulder dislocations (simple hanging arm/Stimson)~~
- ~~● Passive reduction of patella dislocations~~
- ~~● Reduction of obvious digit dislocations~~

Does not include:

- ~~● Reduction of the hip, elbow, ankle, wrist, or knee~~

Spine Injury Management

It may be difficult for students to learn how to accurately and correctly perform a spine evaluation (e.g., National Emergency X-Radiography Utilization Study (NEXUS) or modified Canadian or NEXUS) within the context of a standard 16-hour WFA course. WFA training providers may, on a case-by-case basis, supplement the core WFA topics with specific training modules covering spine evaluation and patient packaging.

Local Cold Injury (Frostbite and Nonfreezing Cold Injury)

- **Recognize signs and symptoms of frostbite and nonfreezing cold injury**
- **Initiate appropriate treatment**
 - *If not frozen, warm the injury*
 - *If frozen, warm water bath (37.2°–38.9°C [99°–102°F])*

- *Protect from refreeze, do not use radiant heat or massage*

- **Evacuate if blisters form, patient is unable to use the injury, or you cannot protect from refreeze**
- **Prevention: identify predisposing environmental conditions and preventive strategies**

Altitude

- ~~● Recognize signs and symptoms of acute mountain sickness (AMS) and key indicators of serious altitude illness, high altitude cerebral edema (HACE) and high altitude pulmonary edema (HAPE)~~
- ~~● Initiate appropriate treatment:~~
 - ~~Stop ascent if symptomatic~~
 - ~~Descend if no improvement~~
 - ~~Descend immediately in presence of shortness of breath (HAPE) and ataxia or mental status changes (HACE)~~
- ~~● Evacuate altitude illness with shortness of breath (HAPE) and ataxia or mental status changes (HACE)~~
- **Prevention: identify predisposing environmental conditions and preventive strategies**

Does not include:

- ~~● Dispensing prescription altitude medications.~~

Poisoning

- ~~● Know common sources of poisons in the wilderness~~
- ~~● Initiate appropriate treatment~~
 - ~~Ingested poisons~~

~~— Supportive care and evacuation~~

~~— Consult with poison control~~

~~○ Inhaled poisons (commonly carbon monoxide)~~

~~— Scene safety~~

~~— Remove from exposure~~

● ~~Prevention: identify common environmental toxins and predisposing conditions~~

Toxins: Snakebite

- Initiate appropriate treatment
 - Immobilize the limb (avoid compression/constriction)
 - Avoid unproven or discredited treatments that may harm (ice, incision and suction, electricity, tourniquets, compression, meat tenderizer, etc.)
 - Transport to a physician or hospital
 - Monitor for signs and symptoms of envenomation
- Prevention: identify common human behaviors that are factors in snakebite incidents

Does not include:

- Unproven or potentially harmful interventions (eg, suction, constriction, ice, etc.)

Toxins: Arthropods (insects and arachnids, e.g., scorpions, spiders)

- Prevention strategies (clothing, netting, repellents, insecticides)
- Symptomatic treatment
- Evacuate if rash, fever, headache appear secondary to a bite

● ~~Evacuate symptomatic scorpion stings to medical care and possible antivenin administration~~

Toxins: Marine

● ~~Initiate appropriate treatment~~

● ~~Treat nematocysts (jellyfish, corals, anemones)~~

~~○ Saltwater rinse to remove loose nematocysts; soak in hot water, alcohol, or vinegar (first test a small area of the sting for adverse effects); scrape off remaining nematocysts~~

● ~~Treat marine spine injury~~

~~○ Soak in hot water until pain relieved or 30–90 minutes, standard wound care~~

● ~~Evacuate to supportive care if pain persists, rash worsens, a red streak develops between swollen lymph nodes and the sting, or if either area becomes red, warm, and tender~~