Draft - Minimum Guidelines and Scope of Practice for Wilderness First Aid (WFA)

Introduction

People who live, work, travel and recreate in the outdoors have specialized medical training needs not adequately met by traditional first aid programs. They need to care for patients in remote locations, in challenging weather, with questionable communication and support, limited equipment and the need to make independent decisions on care and transport. As a result, medical and outdoor specialists developed wilderness medicine courses in an attempt to meet these needs. Initially they were written independently and were opinion-based. Subsequently, they have evolved based on shared evidence and experience. This process has led to a *de facto* consensus about content and scope amongst the leading training organization. In an attempt to clarify what this means, a number of the organizations have engaged in a more formal conversation that has resulted in what we hope will be the first of several Scope of Practice (SOP) documents for different training and practice levels.

Our intention is to assist the lay public, outdoor program administrators, individuals and any other major consumers of wilderness medicine courses in their choice of an appropriate course and credential level for their programs. Each SOP will describe the intended audience, what graduates at each level of credential should know, what decisions they should make and what skills they should, and should not be able to perform. Because student and/or organizational needs can vary by location, population and experience, some SOP documents may provide for a minimum or core requirement and acceptable electives topics and skills. Ultimately it is the responsibility of each organization choosing medical training to understand its own individual institutional needs.

While we have strong opinions that these programs are best taught by skilled educators and experienced outdoors people using hands-on practice, case studies, and realistic simulations as the prominent style, we are intentionally not commenting on specific teaching methodologies. These should remain the discretion of the individual program. Likewise, this document is not intended to speak to questions of organizational accreditation or instructor training or qualification. This document cannot be used to imply any type of endorsement of content or quality for a course provider.

Draft of February 16, 2010

Signatories

David E. Johnson MD, FACEP
President and Medical Director
Wilderness Medical Associates
Wilderness Medical Associates Canada

Tod Schimelpfenig EMT, FAWM
Curriculum Director
Wilderness Medicine Institute of the National Outdoor Leadership School

Paul Nicolazzo
Director
Wilderness Medicine Training Center

David McEvoy
Director
Aerie

Frank Hubbell, DO
Co-Founder/Medical Director SOLO
Board of Medical Directors, State of NH

Lee Frizzell, WEMT
Co-founder/Executive Director SOLO

Carl Weil
Director
Wilderness Medicine Outfitters
Fellow of the Academy of Wilderness Medicine

Pat Malone, Director
Initiative for Rural Emergency Medical Services
University of Vermont.

Justin S. Padgett, MS, NREMTP
Executive Director
Landmark Learning

Andrew D. Cull
Chief Executive Officer
Remote Medical International

Nadia Kimmel
Director
Desert Mountain Medicine

Mike Ditolla MS, WEMT-P FAWM
Program Director
University of Utah, Center for Emergency Programs

Mike Webster
Executive Director
Wilderness Medical Associates Canada.

David Yacubian
NatureBridge
Director of Risk Management

Andrew Walsh
General Manager
Equip Wilderness First Aid Institute Australia

Draft - Minimum Guidelines and Scope of Practice for Wilderness First Aid (WFA)

Wilderness First Aid Overview

A Wilderness First Aid (WFA) Course is intended for non-medical professionals

- For whom first aid delivery is a secondary responsibility
- People acting as a second rescuer for a higher trained person
- People with the outdoor skills needed to participate and/or lead the trip and who have an effective emergency action plan
- Individuals traveling alone, with family, and/or friends

In the context of:

- People in locations where evacuations are primarily walkouts or carryout with the assistance of local resources and where local EMS access is expected in a timely manner (< 8 hours)
- Short trips relatively close to help; day trips/camps, stationary wilderness camps, weekend family activities, front-country outdoor recreation

Additional certification recommended to have a valid WFA

- CPR for adults, children > age 8.
- AED

Focus and Content Overview

- Minimum 16 hour course (exclusive of CPR) with an emphasis on practical skills and drills.
- Minimum age of 16
- Focus is on:
  - Performing a basic physical exam to identify obvious injuries or abnormalities, assessing basic and obvious signs, symptoms, and vital sign patterns, along with obtaining a simple relevant history (e.g., SAMPLE)
  - Prevention of problems anticipated by the activity and environment
  - Treatment focused on stabilization of emergencies, initiation of specific and appropriate treatments (basic splints, wound care, spine immobilization, managing heat and cold) and assistance to patients utilizing their personal medications
  - Conservative decisions on the need for, urgency of and appropriate type of evacuation and for interventions appropriate for this level of training

Does not include:

- traction splints
- wound closing with sutures
- use of prescription medications other than epinephrine by auto-injector for anaphylaxis
- needle decompression
- invasive or mechanical airway adjuncts
- immobilization on backboard or litter
- building improvised litters
- releasing tourniquets in the field
- complex medical assessment or diagnosis
- passive reduction of shoulder and patella dislocation (elective skill)
- spine clearing (elective skill)

Draft - Minimum Guidelines and Scope of Practice for Wilderness First Aid (WFA)

Core Skills

Patient Assessment

- Evaluate the scene – assess for safety and causes, emphasizing personal and team protection
- Perform an Initial Assessment/Primary Survey (Identify and treat life threats)
  - Respiratory System
    - manually open, maintain and protect an airway
    - provide adequate ventilations by mouth to mask
  - Circulatory System
    - assess for pulse and signs of life**,** administer chest compressions, and use AED
    - control serious bleeding with well-aimed direct pressure, pressure bandage or tourniquet
  - Nervous System
    - assess 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 Survey/Focused History and Physical Exam
  - Perform a basic physical exam to identify obvious injuries or abnormalities
  - Measure and monitor vital signs (LOC/LOR, P, RR, Skin signs)
  - Take a basic patient history (SAMPLE)
  - 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 medical histories
- Invasive or mechanical airway adjuncts
- Needle decompression

Circulatory System

Volume shock

- Identify common causes/mechanisms (vomiting/diarrhea; traumatic bleeding) and s/s of volume shock (vital sign patterns) and differentiate from an acute stress reaction
- Initiate appropriate treatment to include:
  - Oral fluids
  - Stabilizing injuries
  - Controlling external bleeding with well-aimed direct pressure, pressure/clot enhancing bandage or tourniquet
  - Protecting from adverse environmental conditions
- Initiate evacuation when faced with high risk problems associated with volume shock
  - Cannot stop fluid loss
  - 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 taking their personal medications (e.g. prescribed nitro and aspirin)
- Initiate evacuation and access EMS/SAR

Draft - Minimum Guidelines and Scope of Practice for Wilderness First Aid (WFA)

Respiratory System

- Identify the most common causes and s/s 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)
- Initiate evacuation when faced with high risk problems associated with respiratory compromise
  - Cannot improve respiratory status
  - Cyanosis
  - Worsening symptoms despite treatment
  - Persistently 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)
- Identify traumatic brain injury
  - Alteration of mental status
  - Loss of consciousness
  - Amnesia
  - Confusion, disorientation
- Protect the patient (airway, spine, environmental extremes)
- Initiate evacuation

Non-traumatic causes of abnormal mental status

- Treat with
  - Administering oral sugar as needed
  - Radical cooling in the presence of heat stroke
  - External re-warming in the presence of mild hypothermia
  - Ventilate a hypoxic patient
- Protect the patient's (airway, spine, environmental extremes)
- Initiate evacuation when faced with a high risk nervous system problem from any cause
  - Persistently altered mental status/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 (e.g., MVA, climbing falls, high speed skier/biker)
  - Falls from greater than 3 ft (1 meter)
  - Landing on head (axial loading)
- Identify signs and symptoms in all other potential injuries:
  - Spine tenderness
  - Loss or impaired motor or sensory function
  - Unconsciousness or abnormal mental state
- Perform simple rolls, lifts and extrication to facilitate patient examination and protection
- Initiate patient protection including spine stabilization prior to accessing assistance for transport/evacuation for all high risk mechanisms or positive signs and symptoms

Does not include:
- Immobilization on a litter or backboard
- Improvised litters or stretchers
- Selective Spine Assessment (see electives)

Wounds
- Control bleeding with well-aimed direct pressure, pressure/clot enhancing bandage or tourniquet
- Identify simple versus high risk (grossly contaminated, marine, crushing, open joint spaces, animal bites) wounds
- 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 airway obstructions
  - Remove objects impaled from limbs only if:
    - unable to stabilize
    - will easily fall out
    - prevents transport
    - unable to control bleeding because of the object
- Identify signs/symptoms of an infection
  - Local vs systemic
  - Treatment Local – warm compresses, promote drainage, monitor
  - Treatment Systemic – same, and evacuate
- Prevention: MRSA awareness, camp hygiene

Burns
- Assess
  - Depth: Superficial, Partial, Full
  - Approximate extent
  - Identify high risk areas (palms and soles, face/airway, genitals)
- Treatment
  - Cool, protect with clean, non-adherent bandage
  - Make evacuation decision
  - Prevention of sunburn
- Initiate evacuation for high risk problems associated with wounds/burns
  - Signs/symptoms of systemic infection
  - Rapidly progressing local infection
  - Uncontrolled bleeding or fluid loss
  - Large surface area burns (10% or > BSA in non-high risk areas – e.g., = one arm)
  - High risk burns (palms and soles, face/airway, genitals)
  - Distal ischemia

Does not include:
- Closing wounds with sutures
- Releasing tourniquets placed to control life-threatening bleeding
- Administering prescription antibiotics

Musculoskeletal Injuries
- Differentiate between stable and unstable injuries
  - Inability to use
  - Angulated
  - Feels unstable
  - Persistent distal ischemia

- Identify high risk problems associated with musculoskeletal injuries:
  - Fractures of the femur or pelvis
  - Open fractures
  - Persistently impaired CSM
  - Involvement with a critical system
- Treat stable injuries using RICE and a brace/tape as needed
- Treat unstable injuries with:
  - Gentle traction into position for angulated long bones
  - Traction into position 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

Does not include:
  - Traction splints for the femur
  - Reducing dislocations (see elective topics)

Allergic Reactions
- Identify local and mild allergic reactions
- Identify anaphylaxis
- Treatment
  - Local – cool compresses, topical corticosteroid
  - Mild allergic reactions with oral antihistamine
  - Anaphylaxis
    - Epinephrine via autoinjector
    - Oral antihistamines
    - Evacuate

Does not include:
  - Epinephrine from ampoules or vials
  - Corticosteroids, other than topical

Heat related illness
- Identify and treat heat exhaustion/dehydration and heat stroke
- Treat
  - Heat exhaustion/dehydration
    - Oral Fluids and electrolytes
    - Evacuate if not improving
  - Heat stroke
    - Aggressive, immediate cooling
    - Evacuate
- Identify predisposing environmental conditions and preventive strategies
  - Hydration/avoidance of over-hydration

Cold related illness
- Identify mild and severe hypothermia
- Treat
  - Mild hypothermia
    - Oral fluid, calories, protect from the environment
    - Evacuate if not improving
  - Severe hypothermia
    - Prevent heat loss (hypo wrap with added heat)
    - Handle gently, Evacuate
- Identify predisposing environmental conditions and preventive strategies

Lightning
- Identify high risk conditions and preventive strategies
  - Know local weather patterns, leave the scene and/or seek adequate shelter
- Treat what you find and initiate evacuation

Submersion
- Identify high risk conditions and preventive strategies
- Emphasis on personal safety when planning rescue
- Treat what you find; emphasis on:
  - Respiratory arrest
  - Spine injury potential
  - Hypothermia
- Evacuate everyone with a loss of consciousness or persistent respiratory distress

Common Medical Problems
- Indentify red flag signs and symptoms necessitating evacuation
  - Abdominal pain (local tenderness, fever, persistent vomiting, getting worse over 12 hrs)
  - Vomiting and diarrhea (blood, fever, tenderness, what goes out exceeds intake)
  - Any noticeable blood in stool, urine, or vomit
  - Cough/URI (respiratory distress, fever, coughing up colored phlegm)
  - UTI (fever, back pain/tenderness, vomiting)
  - ENT (visual problems more than blurring, fever, airway compromise)
  - Fever (abnormal mental state, headache, other 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.

Medications

WFA graduates should not be making decisions on whether a patient should or should not take their personal Rx medications (unless it's an obvious situation of abuse or harm). WFA graduates may assist trip participants in the administration of Rx medications and may offer OTC medications according to the package label.

Elective Topics

A percentage of the 16 hours (approximately 2 hrs or 10%) can be dedicated to program, activity and environmentally relevant topics; local cold injury, altitude, snakebite, marine toxins, arthropod envenomation and dislocation reduction, or additional practice time on assessment and practical skills.

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 Assessment
- Elective skill with program specific parameters for spine assessment protocols (e.g. NEXUS, modified NEXUS or Canadian Rule)

Local Cold Injury (Frostbite and Non-Freezing Cold Injury)
- Identify s/s of Frostbite and Non- Freezing Cold Injury

- Treat
  - If not frozen, warm the injury.
  - If frozen, warm water bath
  - Protect from re-freeze, do not use radiant heat or massage.
- Evacuate if blisters form, patient is unable to use the injury or you cannot protect from re-freeze.
- Identify predisposing environmental conditions and preventive strategies

Altitude

- Identify s/s of Acute Mountain Sickness (AMS) and key indicators of serious altitude illness (HACE and HAPE)
- Evacuate altitude illness with shortness of breath (HAPE) and ataxia and/or mental status changes (HACE)
- Identify predisposing environmental conditions and preventive strategies

Does not include

  - Prescription altitude medications

Poisoning

- General principles of ingested poison management and CO poisoning
- Treatment
- Prevention

Toxins: Snake bite

- Treatment
  - Scene safety
  - 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/hospital
  - Monitor for s/s of envenomation
- Identify common human behaviors that are factors in snakebite incidents.

Does not include

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

Arthropods (insects, 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

- Scene safety
- Treat Nematocysts (jelly fish, corals, anemones)
  - Saltwater rinse to remove loose nematocysts, soak in 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
- Evac to supportive care
  - If pain persists, the rash worsens, a feeling of overall illness develops, a red streak develops between swollen lymph nodes and the sting, or if either area becomes red, warm and tender