

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 met by traditional first aid programs. They care for patients in remote locations, in challenging weather, with questionable communication and support, limited equipment and the need to make independent decisions on patient care and transport. As a result, medical and outdoor specialists developed wilderness medicine courses in an attempt to meet these needs. Initially the content for these courses was written independently and was opinion-based. Subsequently it has evolved based on evidence and experience. This process has led to a consensus about content and scope of practice for Wilderness First Aid providers amongst the leading training organizations.

Our intention is to assist the lay public, outdoor program administrators, and other consumers of wilderness medicine courses in their choice of an appropriate course and credential for their programs. This Scope of Practice (SOP) describes the intended audience and the expected knowledge and skill set for a Wilderness First Aid provider. Because student and/or organizational needs can vary by location, population and experience, the SOP document provides for a minimum or core requirement and acceptable elective topics and skills. Ultimately it is the responsibility of each organization or individual choosing medical training to understand their 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 educational styles, we are intentionally not commenting on specific teaching methodologies nor are we crafting a curriculum. These should remain at the discretion of the individual program training institution, course provider and sponsoring agency. Likewise, this document is not intended to speak to questions of organizational accreditation or instructor training or qualifications. This document cannot be used to imply any type of endorsement of content or quality by a course provider.

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Signatures of the Writing Group

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

David McEvoy
Director
Aerie

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

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

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

Andrew D. Cull
Chief Executive Officer
Remote Medical International

Lee Frizzell, WEMT
Co-founder/Executive Director SOLO

Nadia Kimmel RN WEMT
Director
Desert Mountain Medicine

Paul Nicolazzo
Director
Wilderness Medicine Training Center

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Signatures of Supporting Organizations

Organizations that teach wilderness medicine, provide wilderness or remote medical care or use staff with WFA training.

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

Nantahala Outdoor Center
Jonathan Bryant

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

Justin S. Padgett, MS, NREMT-P
Executive Director
Landmark Learning

Tim Mertz
Association of Outdoor Recreation and Education

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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 more highly 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:

- locations where evacuations are primarily walkout or litter carry 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

- CPR for adults, children > age 8.
- AED (automatic external defibrillator)

Definitions:

- Core: Expected skills and topics which define the scope of practice of a WFA.
- Elective: Supplementary skills and topics that may meet the needs of specific audiences.

Focus and Content Overview

- The WFA is commonly taught as a 16 hour course with an emphasis on practical skills and drills. The working/writing group considers this the minimum amount of time needed to cover the core topics.
- 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 medical history,
 - prevention of medical problems anticipated by the activity and environment,
 - treatment focused on stabilization of emergencies, initiation of specific and appropriate medical 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.

Medications

A WFA graduate may care for a patient who is taking personal medications (e.g. nitro, aspirin or prescribed inhaler) under the direction of their physician. WFA graduates should not be making decisions on whether a patient should or should not take their personal prescription medications (unless it's an obvious situation of abuse or harm).

The WFA Scope of Practice 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
- releasing tourniquets in the field
- complex medical assessment or diagnosis

Elective skills after additional training

- passive reduction of shoulder and patella dislocation
- spine evaluation and patient packaging

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Core Skills

Patient Assessment and BLS

- Evaluate the scene – assess for safety and causes, emphasizing personal and team protection.
- Perform a Primary Survey (Identify and treat life threats)
 - Respiratory System
 - Manually open, maintain and protect an airway with standard 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/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 Survey
 - Perform a basic physical exam 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:
 - Oral fluids for a patient with normal mental status.
 - Stabilize injuries.
 - Control external bleeding with well-aimed direct pressure, pressure/clot enhancing bandage or tourniquet.
 - Protect from adverse environmental conditions.
- Initiate evacuation 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 nitro or aspirin).
- Initiate evacuation and access EMS/SAR.

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Respiratory System

- Recognize the most common causes and signs and 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/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: non-traumatic 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.
 - Ventilate a hypoxic patient.
 - 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/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 feet (1 meter).
 - 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/evacuation for all high risk mechanisms or signs and symptoms of spine injury .

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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/clot enhancing bandage or tourniquet.
 - 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.
- Recognize signs and symptoms of an infection, both local and systemic.
 - Treatment Local – warm compresses, promote drainage, monitor.
 - Treatment Systemic – same, and evacuate.
- Prevention: MRSA awareness, camp hygiene.

Burns

- Recognize superficial versus deep (partial/full-thickness) burns.
 - Depth: superficial or deep (partial/full thickness).
 - Approximate extent.
 - Identify high risk areas (palms and soles, face/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/burns. Most burns are evacuated due to patient comfort, inability to travel or participate or lack of dressing.

Does not include:

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

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 CSM.
 - Involvement with a critical system (circulatory, respiratory, nervous).
- Initiate appropriate treatment
 - Treat stable injuries using RICE as available and a brace/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/unstable musculoskeletal injury.

Does not include:

- Traction splints for the femur.

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Allergic Reactions

- Recognize signs and symptoms of local and mild allergic reactions.
- Initiate appropriate treatment
 - Local – cool compresses, topical corticosteroid.
 - Mild allergic reactions with oral antihistamine.
- Decide on need and urgency of evacuation.

Anaphylaxis

- Recognize s/s of anaphylaxis.
- Initiate appropriate treatment
 - Treat anaphylaxis with epinephrine via auto-injector, oral antihistamine and evacuation.

Does not include:

- Epinephrine from ampoules or vials.
- Corticosteroids, other than topical.

Heat Illness

- Recognize signs and symptoms of heat exhaustion/dehydration and heat stroke.
- Initiate appropriate treatment
 - Heat exhaustion/dehydration.
 - Oral Fluids and electrolytes.
 - Evacuate if not improving.
 - Heat stroke
 - Aggressive, immediate cooling.
 - Evacuate.
- Prevention: identify predisposing environmental conditions and preventive strategies.
 - Hydration/avoidance of over-hydration.

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 (hypo 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 and/or seek adequate shelter.
- Initiate appropriate treatment:
 - Treat what you find and 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.

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Common Medical Problems

- Recognize 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.

Elective Topics

Electives are supplemental program, activity and environmentally relevant topics; local cold injury, altitude, snakebite, marine toxins, arthropod envenomation, dislocation reduction and spine injury management, or additional practice time on assessment and practical skills that may meet the needs of specific audiences.

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., NEXUS or modified Canadian or NEXUS) within the context of a standard 16 hr 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 Non-Freezing Cold Injury)

- Recognize signs and symptoms of Frostbite and Non-Freezing Cold Injury.
- Initiate appropriate treatment
 - If not frozen, warm the injury.
 - If frozen, warm water bath (99-102°F).
 - 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.
- 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 (HACE and HAPE)
- Initiate appropriate treatment:
 - Stop ascent if symptomatic.
 - Descend if no improvement.
 - Descend immediately in presence of shortness of breath (HAPE) and ataxia and/or mental status changes (HACE).
- Evacuate altitude illness with shortness of breath (HAPE) and ataxia and/or mental status changes (HACE).
- Prevention: Identify predisposing environmental conditions and preventive strategies.

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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 CO) Scene safety. Remove from exposure. Administer O2, if available.
- Prevention.

Toxins: Snake bite

- 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/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 (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

- Initiate appropriate treatment
- Treat Nematocysts (jelly fish, 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.
- Evac 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.