

WILDERNESS MEDICAL SOCIETY

WILDERNESS FIRST RESPONDER RECOMMENDED MINIMUM COURSE TOPICS

WMS Curriculum Committee: Linda Lindsey - Chairperson, Bill Aughton, Nancy Doherty, Melissa Gray, Frank Hubbell, Dennis Kerrigan, Paul Marcolini.

INTRODUCTION: Wilderness first responder (WFR) courses should provide outdoor leaders, instructors, guides and/or enthusiasts with the knowledge and skills needed to deal with most outdoor emergencies. Outfitting companies and schools who lead expeditions in the backcountry, for the most part, ask their trip leaders to have at least wilderness first responder certification.

The WMS Curriculum Committee developed the following recommended WFR course topic list as a guide for consumers and providers of WFR courses. The contents of this document have been reviewed by providers and consumers and approved by the WMS Board of Directors.

This list of recommended course topics does not meet DOT standards for first responder certification. Depending upon regional circumstances and/or consumers' needs, other sections such as diving or marine injuries and illness may need to be added.

Providers advertising that their curricula meet or exceed the WMS list of recommended course topics **must** include the following disclaimer in its entirety in bold print:

The Wilderness Medical Society (WMS) developed a list of recommended course topics for a wilderness first responder (WFR) course as a guide for consumers and providers of WFR courses. This list of topics is not intended for use as a course curriculum or outline. It is merely a list of the recommended minimum topics that we feel should be covered in a WFR course. This list does not meet DOT standards for first responder certification. The WMS is neither a certifying nor a licensing agency. It does not approve or disapprove of wilderness medicine providers nor does it test students for knowledge or skill. WMS encourages consumers to review the recommended list of topics; check provider's credentials and ask potential employers if they accept a provider's certification prior to enrolling in a course.

Some of the significant ways that Wilderness Pre-Hospital Emergency Care (WPHEC) differs from urban are:

- It is provided outdoors, where the environment may be unfriendly and difficulties in obtaining food, water and shelter may be significant. Basic survival of both the patient and caregiver may be a major concern.

- Definitive medical care is usually hours or days delayed because of location, weather, lack of transportation or lack of communication.
- Illness and injuries occur that are not commonly seen in the urban environment. Examples included acute mountain sickness, frostbite and wild animal maulings.
- Common illness and injuries require different approaches. The caregivers must learn extended care so complications and unnecessary disability can be minimized. The basic necessities of food, water, stabilization of body temperature, disposal of body wastes and psychological support must be provided for each patient.
- Urban protocols that rely upon rapid transport to a medical facility and radio communication with a physician may be impossible to follow. Specially prepared wilderness protocols will be necessary.
- The amount of medical and first aid equipment that can be carried by a recreational wilderness party or even the best equipped wilderness SAR group with helicopter support will be limited. The caregiver must learn to improvise and choose equipment based to some extent on its weight, bulk, multiple uses and likelihood of use.
- Wilderness caregivers must be realistic about their abilities to manage serious illnesses and injuries, acknowledging that fatalities will occur in circumstances where they might not if the victim could be taken rapidly to a well-equipped hospital.
- Certain standard urban protocols, such as the requirement that CPR be started in all cases of cardiac arrest and continued until the patient arrives at the hospital, may be unrealistic or hazardous to caregivers.

The general educational objectives of a WFR course should be:

- To give students the fundamental principles of anatomy and physiology.
- To learn ways to prevent, recognize and manage emergencies in the wilderness, emphasizing their application to, and if necessary, modification for, unique problems within a wilderness environment.
- To give the student a review of common illnesses and injuries, emphasizing modifications of assessment and care in a wilderness environment.
- Instruction of the student in the causes, recognition and management of unique wilderness illnesses and injuries not typically seen in an urban environment.
- Instruction of the student in extended care in a wilderness environment.
- Introduction to the principles of wilderness survival, SAR, packaging and transportation.
- To offer suggestions for contents of wilderness emergency care kits and improvisation of emergency equipment and supplies.

WFR courses should allow ample time for practical “hands on” sessions, preferably in an outdoor setting.

HOURS: Recommended minimum course hours: 64 hours. These recommended minimum course hours do not include the time to teach CPR. WFR courses should include an additional CPR module.

RECOMMENDED COURSE TOPICS

Wilderness First Responder vs. Urban First Responder

Principles of Extended Patient Care

Goal: Upon completion of this topic, students will understand the roles and limitations of a Wilderness First Responder and the principles of providing extended patient care.

Medical-Legal Issues

Certification, Licensure, & Authorization

Scope of Practice & Protocols

Standards of Care

Duty to Act

Good Samaritan Law

Negligence

Reportable Incidents

Patient's Rights:

 Civil Rights

 Consent & Implied Consent

 Right to Refuse Care

 Minors

Maintenance of Records

Goal: Upon completion of this topic, students will be familiar with the legal environment associated with pre-hospital care, the importance of acting within the scope of training and protocols, and the critical need for documentation of patient care.

Blood-Borne Pathogens

Body Substance Isolation

Communicable Diseases & Modes of Transmission

OSHA Requirements

Goal: Upon completion of this topic, students will understand the modes of transmission of communicable diseases, the importance of body substance isolation and OSHA requirements for protecting emergency care providers from pathogens.

Patient Assessment System

Scene Size-Up:

 Patient & Rescuer Safety & Review Body Substance Isolation

Initial Assessment (*Primary Survey*):

 Airway, Breathing, Circulation, Disability (Spine, Mental Status) Exposure

Focused Exam (*Secondary Survey*):

 Vital Signs, History, Patient Exam, Documentation

Ongoing assessment

Goal: Upon completion of this topic, students should be able to assess and manage a scene for safety, identify and manage initial potentially life-threatening problems, obtain a set of vital signs, obtain a history, perform a patient exam, document patient care and perform ongoing assessments.

Airway Management

- Anatomy & Physiology of the Airway
- Recognition & Management of the Compromised Airway
- Extended Care & Evacuation Considerations

Goal: Upon completion of this topic, students will be able to maintain an open airway, provide extended-term care and make evacuation decisions.

Shock

- Anatomy & Physiology of the Circulatory System
- Recognition, Progression & Management of Shock:
 - Hypovolemic
 - Cardiogenic

- Neurogenic
- Extended Care & Evacuation Considerations

Goal: Upon completion of this topic, students should be able to recognize and manage shock in the wilderness environment, provide extended care and make evacuation decisions.

Wound Management

- Anatomy & Physiology of the Integumentary System
- Normal healing process
- Types of Wounds & Potential Complications
- Control of Bleeding & Awareness of Body Substance Isolation
- Wound Cleaning & Extended Wound Care
- Recognition, Prevention & Treatment of Infection
- Dressing & Bandaging Skills
- Evacuation Considerations

Goal: Upon completion of this topic, students will be able to manage a soft tissue injury, recognize and manage wound infections, provide extended care and make evacuation decisions.

Thermal Burns

- Anatomy & Physiology of the Integumentary System
- Depth, Extent, & Location of Burns
- Burn Care & Extended Burn Management
- Evacuation Considerations

Goal: Upon completion of this topic, students will be able to evaluate and manage a burn injury, provide extended care and make evacuation decisions.

Sprains & Strain

Anatomy & Physiology of Musculoskeletal System
Recognition & Management of Strains and Sprains:
Evaluation for Use
Extended Care & Evacuation Considerations

Goal: Upon completion of this topic, students will be able to recognize and manage strains and sprains, provide extended care and make evacuation decisions.

Fractures

Anatomy & Physiology of the Musculoskeletal System
Recognition & Management of Fractures
Splinting & Improvised Splinting
Traction Splinting & Improvised Traction Splinting
Extended Care & Evacuation Considerations

Goal: Upon completion of this topic, students will be able to recognize and manage fractures, apply appropriate improvised splints, provide extended care and make evacuation decisions.

Dislocations

Anatomy of Joints
Recognition & Management of Dislocations
Reduction Techniques of Shoulder, Patella & Digits:
Potential Negative Outcomes
Medical-Legal Concerns
Extended Care & Evacuation Considerations

Goal: Upon completion of this topic, students will be able to recognize and manage dislocations, understand techniques and potential negative outcomes for the reduction of the shoulder, patella, and digits, be able to provide extended care and make evacuation decisions.

Head & Facial Trauma

Anatomy & Physiology
Recognition & Management of Head & Facial Injuries: Soft Tissue Injuries/Head Wound
Concussion/Brain Injury
Recognition of Clinical Presentation
Progression of Intracranial Pressure
Extended Care & Evacuation Considerations

Goal: Upon completion of this topic, students will be able to differentiate between and manage head wound and brain injuries, and provide extended care and make evacuation decisions.

Spinal Column/Cord Injuries

Anatomy & Physiology
Mechanism of Injury
Spinal Assessment for Extended Care Situations:
Medical-Legal

Recognition & Management of Spinal Cord Injuries Extended Care & Evacuation Decisions

Goal: Upon completion of this topic, students will be able to recognize potential spinal injuries, assess and manage spinal column/cord injuries, provide extended care and make evacuation decisions.

Chest Trauma

- Anatomy & Physiology
- Recognition & Management of Chest Injuries
- Types of Chest Injury
 - Fractured Ribs & Flail Chest
 - Open & Closed Chest Trauma
 - Pneumothorax/Hemothorax
 - Tension Pneumothorax
- Extended Care & Evacuation Considerations

Goal: Upon completion of this topic, students will be able to recognize and manage chest trauma, provide extended care and make evacuation decisions.

Abdominal Trauma

- Anatomy & Physiology
- Recognition & Management of Abdominal Injuries
- Open vs. Closed Abdominal Injuries
- Extended Care & Evacuation Considerations

Goal: Upon completion of this topic, students will be able to recognize and manage abdominal trauma, provide extended care and make evacuation decisions.

Lightning

- Physics of Lightning
- Recognition & Management of Injuries Caused by Lightning
- Storm Forecasting
- Response to Storms & Lightning Protocols

Goal: Upon completion of this topic, students will recognize the potential danger of thunderstorms, respond appropriately to an approaching storm, recognize and manage injuries associated with a lightning strike, provide extended care and make evacuation decisions.

Heat Injuries & Dehydration

- Physiology of the Thermoregulatory System
- Recognition and Management of:
 - Dehydration
 - Heat Stroke
 - Heat Exhaustion
 - Sunburn
- Prevention of Heat-Related Injuries

Extended Care & Evacuation Considerations

Goal: Upon completion of this topic, students will be able to prevent, recognize, and manage dehydration, heat stroke, heat exhaustion, and sunburn. They will be able to provide extended care and make evacuation decisions.

Cold Injuries

Physiology of the Thermoregulatory System

Recognition & Management of:

Hypothermia

Frostbite

Non-Freezing Cold Injuries

Prevention of Cold-Related Injuries

Extended Care & Evacuation Considerations

Goal: Upon completion of this topic, students will be able to prevent, recognize, and manage hypothermia, frostbite, and non-freezing cold-related injuries. They will be able to provide extended care and make evacuation decisions.

North American Bites & Stings

Recognition & Management of Envenomations from:

Bees, Hornets, & Wasps

Spiders

Snakes

Scorpions

Recognition & Management of Animal Bites:

Soft Tissue Wound Management

Rabies

Recognition & Management of Tick Bites & Related Diseases

Prevention of Bites & Stings

Extended Care & Evacuation Decisions

Goal: Upon completion of this topic, students will be able to prevent, recognize, and manage envenomations, provide wound care for animal bites, provide extended care and make evacuation decisions.

Poisons & Toxins

Recognition & Management of Poisoning caused by:

Ingestion

Inhalation

Injection

Absorption

Prevention of Poisoning

Extended Care & Evacuation Decisions

Goal: Upon completion of this topic, students will be able to prevent, recognize, and manage poisoning from inhalation, ingestion, injection, or absorption, provide extended care and make evacuation decisions.

Allergies & Anaphylaxis

Recognition & Management of Allergic Reactions:

Localized vs. Systemic

Recognition & Management of an Acute Anaphylactic Reaction:

Use of Antihistamines & Epinephrine

Medical-Legal Concerns

Extended & Evacuation Considerations

Goal: Upon completion of this topic, students will be able to recognize and manage allergic reactions including acute anaphylactic reactions, provide extended care and make evacuation decisions.

Altitude Emergencies

Physiology of Altitude & Acclimatization

Prevention, Recognition, and Management of High

Altitude Problems:

Acute Mountain Sickness

High Altitude Pulmonary Edema

High Altitude Cerebral Edema

Extended Care & Evacuation Considerations

Goal: Upon completion of this topic, students will be able to prevent, recognize, and manage high altitude problems, provide extended care and make evacuation decisions.

Drowning

Prevention of Drowning & Rescuer Drowning

Rescue Techniques - “reach, throw, row, tow, go”

Pathophysiology of Drowning, Immersion vs. Submersion

Recognition and Management of the Drowning Victim

Goal: Upon completion of this topic, students will be able to recognize and manage the immersion and submersion victim, understand prevention and rescue techniques, provide extended management and make evacuation decisions.

Water-borne & Food-borne Illness

Recognition and Management of Diarrhea

Prevention of Water-borne & Food-borne Illnesses:

Water Disinfection Techniques

Proper Food Handling & Preparation

Camp Hygiene

Extended Care & Evacuation Considerations

Goal: Upon completion of this topic, students will recognize and manage the patient who has diarrhea, understand the techniques of water disinfection, know proper food handling, food preparation techniques, and camp hygiene to prevent illness. They will provide extended care and be able to make evacuation decisions.

MEDICAL EMERGENCIES

Neurology - Changes in Level of Consciousness

Anatomy & Physiology of the Nervous System

Recognition & Management of Changes in Level of Consciousness:

The Unconscious Patient

Seizure Disorders

Cerebrovascular Accident

Extended Care & Evacuation Considerations

Goal: Upon completion of this topic, students will be able to recognize and manage changes of level of consciousness, provide extended care and make evacuation decisions.

Respiratory Distress

Anatomy & Physiology of the Respiratory System

Recognition & Management of Respiratory Distress

Asthma

Hyperventilation Syndrome

Pulmonary Edema

Extended Care & Evacuation Considerations

Goal: Upon completion of this topic, students will be able to recognize and manage shortness of breath, provide extended care and make evacuation decisions.

Cardiology - Chest Pain

Anatomy & Physiology of the Cardiovascular System

Cardiac Risk Factors

Recognition & Management of Chest Pain

Acute Myocardial Infarction

Angina Pectoris

CPR Considerations in the Backcountry/Medical-Legal Considerations

Extended Care & Evacuation Considerations

Goal: Upon completion of this topic, students will be able to recognize and manage chest pain and understand the limitations of CPR in the backcountry, provide extended care make evacuation decisions.

Abdominal Pain

Anatomy and Physiology of the Digestive System

Anatomy of the Abdomen - "The Abdominal Quadrants"

Recognition & Management of Abdominal Pain

Extended Care & Evacuation Considerations

Goal: Upon completion of this topic, students will be able to recognize and manage abdominal pain, provide extended care and make evacuation decisions.

Gender-Related Injuries and Illness

Recognition & Management of Genitourinary Injuries:

Genital Trauma - Soft Tissue Injury

Recognition & Management of Common Urinary and Genital Problems:

Guidelines for Assessment

Prevention & Hygiene

Extended Care & Evacuation Considerations

Goal: Upon completion of this topic, students will be able to recognize and manage common urogenital injuries and illnesses, understand prevention and hygiene, provide extended care and make evacuation decisions.

Diabetes

Physiology of Glucose Metabolism & Diabetes

Recognition & Management of Diabetic Emergencies:

Hypoglycemia

Hyperglycemia

Prevention, Complications, & Dietary Considerations

Extended Care & Evacuation Considerations

Goal: Upon completion of this topic, students will understand recognition and management of the diabetic patient, provide extended care and make evacuations decisions.

Common Simple Expedition Problems

Prevention, Recognition & Management of Common Simple Problems:

Headaches

Coughs, Colds, Fevers, Sore Throat & Nosebleeds

Allergies

Diarrhea, Constipation, Nausea, & Vomiting

Splinters & Fishhook Injuries

Hemorrhoids

Sunburns, Sun Bumps, & Snow Blindness

Rashes, Fungal Infections, & Contact Dermatitis

Motion Sickness

Conjunctivitis & Corneal Abrasions

Blisters

Dental Problems

Goal: Upon completion of this topic, students will be able to prevent, recognize and manage common simple expedition problems.

Expedition Medical Kits

Goal: Upon completion on the WFR course, students will be able to produce an expedition medical kit that is appropriate for that particular expedition.

Bivouac Skills

- Considerations in the Unexpected Night Out
- Bivouac Equipment & Clothing
- Shelter

Goal: Upon completion of this topic, students will understand the importance of equipment, clothing, the contents of a bivouac kit, and can improvise adequate shelter for a patient and other members of an expedition party.

Search & Rescue

- Immediate Simple Search
- Participation in an Organized Search and Rescue
- General principles of Search and Rescue

Goal: Upon completion of this topic, students will understand the steps for facilitating an immediate simple search and the essentials of participating in an organized search and rescue.

Packaging & Transportation

- Packaging Techniques & Thermoregulation
- Lifting & Moving Techniques
- Litter Carrying Techniques
- Extended Patient Care in a Litter
- Improvising a Litter
- Helicopter Evacuations

Goal: Upon completion of this topic, students will be able to package a patient in a litter, ensure thermoregulation, provide extended patient care in a litter and manage transportation considerations and safety.

Critical Incident Stress Management

- Stress and the Rescuer
- Recognizing Stress Reaction
- Managing Stress in the Field

Goal: Upon completion of this topic, students will understand the potential impact of a critical incident on rescuers and the resources available for management of critical incident stress.