



WILDERNESS MEDICAL ASSOCIATES®

WAFA Curriculum Guide

Background and Goals

The WAFA course is designed for people needing or wanting an overview of medicine that is more comprehensive than that provided by a standard first aid or WFA course. The program's goal is to equip participants with the skills and knowledge to assess, stabilize and treat sick or injured patients and determine if a higher level of care is necessary.

Upon completion, the learners should move past the recognition phase and develop solid recall and a good understanding of the important principles of assessment and treatment. Some may be able to demonstrate some basic critical thinking skills.

Successful graduates of this course may take the Bridge course which will upgrade them to Wilderness First Responder level.

Suitable Audiences

This course is intended for non-medical professionals for whom first aid delivery is a secondary responsibility and for those who are working in a remote context and require more advanced training than first aid. Also people assisting a more highly trained person.

This course is also an acceptable recertification option for currently certified WMA WFR graduates and others currently certified through a wilderness-based medical training program of at least 64 hours duration. All successful recertification graduates will receive a WMA WFR certification. See the Recertification Guide for details.

Protocols Taught

- Epi and Medications for Anaphylaxis
- Wound Cleaning and removal of impaled objects
- CPR
- Spine Assessment

Prerequisites and Eligibility

- Must be at least 16 years of age to participate in this course. Students who are 16 and 17 years old must have written proof of parental consent. Any exceptions must first be approved by the WMA Medical Director.

Certifications (Valid for 3 years)

- Wilderness Advanced First Aid (WAFA) wallet card including language about CPR and epinephrine for use in anaphylaxis treatment.



WILDERNESS MEDICAL ASSOCIATES®

Length of Course

This program is 36-40 hours in length and delivered over 4 days. Note that this is total instructional time, and does not include lunch or homework time.

Books

- WMA Field Guide
- SOAP Notes Booklet
- Wafa Lecture Note Book
- Outward Bound Text

All learners will get new editions of ALL of these books on the first day of the course.

Equipment Supplied by Office

- EpiPen only (1 EpiPen trainer in each fastpack if supplied by the office)
- Fast packs - 1 fastpack per 3 students (only if not supplied by instructor)
- Course paperwork
- AED trainer (or supplied by instructor)

Equipment Supplied by Instructor (tools of the trade)

- Fast packs (if owned)
- Wound Cleaning Kit (if owned)
- CPR manikins (if not supplied by sponsor).
- Moulage Kit
- Video Recording Device (optional on this course)
- Laptop Computer
- Digital Projector (if not supplied by sponsor)

Equipment from Sponsor (instructor should confirm all of this beforehand):

- Digital Projector and Projection Screen
- Classroom with Chairs and Tables
- CPR Manikins (instructor needs to confirm or bring your own)
- Hypo Wrap Material - sleeping bag(s), tarp, garbage bags, and ground insulation (instructor needs to confirm with sponsor or bring your own)
- Splinting Material - the sponsor will supply materials that are used on-site; supplemental equipment may be necessary



WILDERNESS MEDICAL ASSOCIATES®

Presentation Notes and Approach

- This guide is intended for instructor use only. It is not to be distributed to students or sponsors. Also refer to tricks-of-the-trade, skills videos, and any of the other resources available on the instructor page at www.wildmed.com.
- This curriculum guide is NOT intended as a course flow outline, but rather as a compilation of all topics that are expected to be within the WAFAs. Choose a flow that suits your style, your students' needs, and the sponsor's needs. (*see sample schedules*)
- This course curriculum guide and its principles are intended to meet the wide range of requirements of people who live, work and travel anywhere in the world.
- If there is a need for locally specific information (e.g., toxins/snake envenomations), contact the medical/curriculum director for supplemental resources or get approval for any supplemental material you have put together.
- If you have concerns about the curriculum because of regional variations (e.g., no need for lightning in Iceland) remember the often transient nature of our learners. It may be appropriate to their next area of travel.
- Although each topic has a suggested format for delivery, (i.e. Lecture, Demonstration, Practice, etc.), for purposes of time efficiency and educational effectiveness, the preferred methodology for instructing material is through the use of PAS Drills and interactive exercises such as the back country med rodeo. Prolonged lecture-style presentations are discouraged.
- As always, skill proficiency is dependent upon repetition. Consider using as many hands-on ways of instructing as possible, and include repetition in key skills (i.e. anaphylaxis assessment) to help reinforce the learner's proficiency.
- The class should be evaluated daily on material that has already been covered. These could include quizzes, review of homework, small group case study exercise/discussion or games.
- Use of any supplemental teaching materials not produced by WMAI should be approved by the medical/curriculum director.
- Any questions about the content or scope of the WAFAs should be directed to:

David Johnson, President and Medical Director – dejourma@gmail.com



Evaluation and Assessment

This course does have pass/fail criteria similar to all WMA courses:

- Lack of attendance (student misses a portion of the course that the instructor deems is too great for full comprehension of the course).
- Lack of participation (the student opts out of PAS drills, scenarios, and simulations, or fails to do any assigned homework).
- Inability to demonstrate CPR. Learners needs to demonstrate that they can perform compressions, ventilations and the other required skills for this level of CPR.
- Cannot demonstrate or explain the procedure for delivering epinephrine via an auto-injector.
- Failure to perform or demonstrate the appropriate use and understanding of protocols included in the curriculum.
- Failure to perform at least one formally presented full patient assessment. Learner should be permitted to use their SOAP notes and field guide to assist with these assessments.
- Written Exam: 80% is considered a passing grade but it is not an absolute requirement for passing the course. By prior arrangement, the exam can be administered orally, read to the learner, or done as case studies. Extra time can be given. On a case-by-case basis exam can be waived with the approval of the medical director. Passing the exam is not a criterion for passing the course.
- All instructors are expected to make reasonable accommodations for learners with special needs. Learners should be monitored for their progress. Instructors should communicate supportively and promptly with those who are not progressing effectively. You are encouraged to communicate with the medical director or course operations coordinator about any concerns.
- We are striving to have our learners identify problems, know when they are emergencies, and know how to treat appropriately including when to evacuate. By the end of the course they should be able to demonstrate solid recall skills and their understanding of the key concepts. Ultimately, these criteria shall be used as guidelines for the instructor and not as an all-encompassing model to pass/ fail a learner. It is the judgement of the lead instructor to decide and document why a learner has passed or failed the course.
- Instructors should closely monitor the progress of learners and make reasonable accommodations for learners with special needs. Instructors should communicate supportively and promptly with those who are not progressing effectively and are encouraged to communicate with the Medical Director or Course Operations Coordinator about any concerns.
- At the conclusion of the course, the learner should be able to demonstrate a level of competence comparable to any other Wilderness Medical Associates WFA might demonstrate. If you are not satisfied with the learner's ability after making reasonable efforts at accommodations and/or remediation, a downgrade or failure is appropriate. Please inform the office as soon as possible. Do not make arrangements for remedial work (e.g., retesting) without gaining approval from the office.



**Wafa Course
CORE CURRICULUM**

Registration & Introduction 1 hour

FORMAT: Lecture

- Course Logistics – go over functional position statement
- Paperwork – collect indemnities, releases, precourse study guide(for recerters), etc.
- Staff/Learner Introductions
- Scope/Goals of the Wafa Course
- Ground Rules: Course format and any facility information
- Pass/Fail Criteria

NOTES

- Remember a first impression is a lasting impression.

General Principles 0.5 hours

FORMAT: Lecture

- Oxygenation and Perfusion
- Critical Systems Overview
 - ✓ & major problems for each
- Patterns and Trends
- Mental Status
- Swelling & Pressure
- Ischemia/Infarction
- Progressions
- Serious or not serious
- Risk/Benefit Ratio
- Probability/Consequence
- Generic to Specific
- Ideal to Real
- Most Patients Live
- Problem list
- Medicine is Dynamic

NOTES

- Avoid going into too much detail in any of these topics, remember this is simply an introduction to concepts. More detail and their reiteration should follow in subsequent lectures.



Patient Assessment System

0.5 hours

FORMAT: Lecture, or integrate into PAS Drills

- Purpose/significance of PAS
- Scene Size Up
- Primary Assessment
- Secondary Assessment
- SOAP/Documentation

NOTES

- Emphasize “mottos” for each triangle (stabilize scene, stabilize patient, complete then treat).
- Avoid WFR level detail (not included in WAFA: BP, lung sounds, radio SOAP).
- Consider covering scene size up and primary assessment at this time and leaving secondary assessment for the following day.
- Return to SOAP Notes throughout the course and encourage learners to become clear, logical and concise.

BLS

1.5 hour

FORMAT: Demo. Skills Practice, Lecture

- Basic Life Support Skills Practice
- Respiratory System Review
 - ✓ Airway assessment
 - ✓ Rescue breathing
 - ✓ Vomit rolls/recovery position
- Circulatory System Review
 - ✓ Management of Severe Bleeding- (well-aimed pressure, compression wrap, tourniquet concepts)
- CPR
 - ✓ 1 and 2 rescuer Adult
 - ✓ Child and Infant (elective)
- Wilderness Protocol – CPR (Normothermic)
- Nervous System
 - ✓ Assessment/Definition of AVPU
 - ✓ Spine management
 - ✓ Spine stable rolls
- BLS Equipment
 - ✓ AED
 - ✓ Barrier Devices/Masks
 - ✓ Universal Precautions/BSI
 - ✓ Compression Wrap, Tourniquet-Concepts

NOTES

- After demonstrations, this topic should be covered almost entirely through hands-on skills practice including Basic Life Support drills (Red Flag/Green Flag drills). Correct and refine learner skills as they demonstrate them.
- Demonstrate/practice single person rolls here.
- Supplement CPR with a discussion about the potential limitations of CPR e.g., long evacuation, single rescuer, trauma, no AED, etc; heart vs respiratory failure as the cause of arrest.



Circulatory System

1 hour

FORMAT: PAS Drill, followed by Debrief

- Anatomy/Physiology of Circulatory System
- Primary Problem: Shock (define)
- Volume Shock
 - ✓ Traumatic (internal bleeding)
 - ✓ Non-traumatic (dehydration)
- ASR Sympathetic/Parasympathetic

NOTES

- Use PAS Drills as the primary means by which to instruct this material.
- Wafa does not address cardiogenic or vascular shock at length, chest pain assessment and treatment should be addressed but might fit best in back country medicine

Respiratory System

1 hour

FORMAT: PAS Drill, followed by Debrief

- Anatomy/Physiology of Respiratory System
- General Respiratory System Problems
 - ✓ Resp. Distress, Failure, Arrest
- Treatment
 - ✓ PROP
- Asthma (not Protocol)

NOTES

- Ensure that adequate time is spent reinforcing the assessment and treatment of asthma, as this is a problem students often encounter.

Nervous System

1 hour

FORMAT: PAS Drill, followed by Debrief

- Anatomy/Physiology of Nervous System
- Factors affecting AVPU – ‘STOPEATS’
- Head Wound/TBI
 - ✓ Assessment & Treatment
 - ✓ Post Concussive Syndrome
- Increased ICP
 - ✓ Causes
 - ✓ Assessment & Treatment
- Seizures
 - ✓ Assessment & Treatment



Musculoskeletal Injuries

0.5 hours

FORMAT: PAS Drill, followed by Debrief

- Anatomy/Physiology of Musculoskeletal System
- Stable vs. Unstable Assessment
- Treatment stable vs. unstable
- CSM – Assessment
- Impaired CSM
- Low Risk Criteria

NOTES

- No specific discussion about dislocations, femur/pelvic injury, compartment syndrome, joint infection, open fractures (cover in wounds).

Splints - Extremities

1 hour

FORMAT: Practice, followed by Demonstration (as needed)

- Principles of Splint Building:
 - ✓ Comfortable, Compact, Complete
- Sling and swath
- CSM Monitoring

NOTES

- Common techniques taught: go beyond principle, body/buddy splinting, SAM.
- Emphasize 3 C's (Compact, Complete, Comfortable).
- Teach this topic by first demonstrating how to build a good, simple splint. Then move on to the lab. A 'skills rodeo' works well.
- Not Included in WAFA: Traction splint discussion, and pelvic binding.



Spine Management

1 hour

FORMAT: Lecture, Demonstration, Practice

- Spinal Anatomy
 - ✓ column/cord
- MOI
- Spine Injury Protocol
- Risk Assessment Discussion (optional)

NOTES

- A complete demonstration of spine evaluation should be done for all learners.
- Ensure that this topic receives thorough attention, especially during PAS Drills and simulations. Present a variety of unclearable and high/low risk spine scenarios during PAS drills.
- Take some time to discuss the tradeoffs between stabilization and spine clearing.
- Consider the option of teaching stabilization skills first then covering the protocol.
- High/low risk discussion is optional in the Wafa. Make sure that there is sufficient time and you have a mature enough audience. See WFR Notes on Spine.

Lifts, Moves and Extrication

1 hour

FORMAT: Demonstration, Practice

- Basic Body Positions
- Principles of Movement
- Body Jams
 - ✓ upper/lower
- Rapid Extrication moves

NOTES

- Basic principles include; axial versus lateral movement, beaming, rolling, stabilizing weight centers.
- Emphasize that this skill is particularly useful for people who are <A or cannot move themselves.
- Talk about self-extrication as an alternative for people who are A and able.
- Encourage-learners to try vs. talk. Avoid analysis paralysis.
- A short length of chain (or webbing daisy chain) are good visual aids in describing spinal movement.



WILDERNESS MEDICAL ASSOCIATES®

Improvised Patient Carries

1 hour

FORMAT: Demonstration, Practice

- Split Coil Carry
- Webbing Carries (piggy back)
- Backpack Carries
- Firefighter Carries
- Improvised Stretcher-non spine stable

NOTES

- Discuss relevant patient carrying solutions based on group activities and available gear.
- Be mindful this activity doesn't turn into "chicken fights" and piggy back races.

Allergy/Anaphylaxis

1.5 hours

FORMAT: Lecture, PAS Drill, Debrief, Injection Lab

- Immune System Overview
- Differentiation of:
 - ✓ local reaction
 - ✓ mild allergic
 - ✓ anaphylaxis
- Anaphylaxis Protocol
 - ✓ Ephinephrine Administration
 - ✓ Injection considerations and technique
 - ✓ Care of Epinephrine
 - ✓ H₁ antihistamine (e.g., diphenhydramine/Benadryl)
- Medical/Legal Aspects of Epi
- Injections Lab: auto-injectors
 - ✓ Syringes/ampules/vials upon sponsor request & office approval only

NOTES

- Due to the widely varying exposure that learners will have to this topic, plan on instructing this topic with the assumption of no prior knowledge on the part of the student. This topic should be covered in the same manner as on a typical WFR course.
- As states pass auto-injector legislation, there may be some supplemental slides that cover specifics that may not be relevant for a wilderness setting. Check with Medical Director



Toxins, Bites, Stings & Vectors

0.5 hours

FORMAT: Lecture, PAS

- General Toxins (remove & dilute)
- Assessment, Treatment, Prevention:
 - ✓ Pit Vipers
 - ✓ Ticks/ Mosquitos
 - ✓ Spiders
 - ✓ Coral snakes (optional)
 - ✓ Marine (optional)
 - ✓ Scorpions (optional)

NOTES

- Depending on the knowledge or interests of your class, there is some potential flexibility within the presentation of these topics. Some classes will benefit from in-depth discussion of some of the subjects covered here; some will not.
- Contact Medical/Curriculum Director for supplemental materials relevant for non-NA locations.

Wounds and Burns

.75 hour

FORMAT: Lecture, Demonstration (Wound cleaning)

- Anatomy/Physiology
- Normal/Abnormal Healing Process
- Wound Classification
 - ✓ Simple/Cosmetic
 - ✓ Functional/High Risk
- Wound Cleaning & Impaled Object-Removal Protocols
- Infection
 - ✓ Assessment & Treatment
- Blisters
- Burns
 - ✓ Classification
 - ✓ Assessment & Treatment

NOTES

- Consider a mix of lecture/demo/practice for this topic. A slide presentation with pictures is a good way to illustrate the various types of wounds and the principles of recognition and management. (Eviscerations and amputations are options at WAFA level).
- General wound management should be a topic familiar to virtually all learners, regardless of their training background. Emphasis should be placed on wound cleansing and management of impaled objects.
- It is strongly recommended to include a wound cleaning demonstration as a part of this topic, using a pigs foot/chicken or moulaged wound. This can be done as one large demo for the whole group or in smaller groups skills station; 2 – 3 people/foot.
- Consider a blister dressing demo, depending on group interest/needs.



WILDERNESS MEDICAL ASSOCIATES®

Submersion

0.5 hour

FORMAT: PAS drill, Debrief

- MOI – BLS treatment
- Anticipated Problems:
 - ✓ Hypothermia
 - ✓ Respiratory distress
 - ✓ Increased ICP
 - ✓ Spine

Electrical & Lightning

0.5 hour

FORMAT: PAS drill, Debrief

- Lightning:
 - ✓ MOI
 - ✓ Associated Problems
 - ✓ Treatment/Prevention
- Optional Material
 - AC Electrical Injuries
 - Scene Hazards/Complications

Thermoregulation

0.5 hour

FORMAT: PAS drill, Debrief

- Thermoregulation
 - ✓ Assessment & Treatment:
 - Mild Hypothermia
 - Severe Hypothermia
 - Heat Exhaustion
 - Heat Stroke
 - Hyponatremia

NOTES

- Consider covering submersion/lightning/thermoregulation in a rodeo or PAS drills with short debriefs following to avoid powerpoint burnout.
- Include hypowrap



Backcountry Medicine

1.5 hours

FORMAT: Practice, Debrief

- Pain Management
- Abdominal Pain
- Vomiting/diarrhea
- UTI
- Chest Pain
- Cough/URI
- Prevention/Camp
- Hygiene/Water
- Hypoglycemia/Diabetes
- Fever

NOTES

- This topic should be covered by means of a 'Rodeo', followed by debrief.
- De-emphasize specific diagnoses; avoid details of anatomy, physiology and pathophysiology.
- Particular emphasis should be placed on the 'Red Flags' serious/not serious for the necessity and urgency of evacuation, rather than long lists of specific assessment and treatment criteria.
- Consider adding problems not listed within the overheads/lecture notes that give good examples of the use of 'Red Flag' assessments (i.e. abdominal pain due to pregnancy, or appendicitis).

Medical/Legal Issues

0.5 hour

FORMAT: Lecture

- Duty to Act
- Negligence
- Standard of care
- Scope of Practice
- Consent for Treatment
- Use of Wilderness Protocols
- Certification/Authorization

NOTES

- Special emphasis should be placed on the Wilderness Protocols, and the requirements to use them.



WILDERNESS MEDICAL ASSOCIATES®

Elective Topics

1.5 hours

FORMAT: Lecture

- Altitude
- Frostbite/Cold injuries
- Diving
- Avalanche
- Emergency Childbirth
- AC Electrical Injuries
- Vascular/Cardiogenic Shock
- High Risk MSK
- Child and Infant CPR

NOTES

- These topics can be added by prior arrangement, request of sponsor, or particular interest of the group as time allows.

SIMULATION/PAS Drills

NOTES

- At the WAFA level the emphasis should be on accurate patient assessment and immediate treatment steps. Prolonged care and evacuation, and complicated group-management, are more appropriate for a WFR-level course.
- PAS drills/ small group SIMS/ large group SIMS are all options based on class size and resources.
- Don't allow the scene to interfere with the medical lessons.

Final Testing

1.5 hours

- Written Examination (WAFA Exam)

Course Wrap-up

1 hour

- Final paperwork- Disclaimers, Evaluations if not already done.
- Other training options- Bridge, WFR, WEMT, etc.
- Maintenance of certifications- recertification options, reciprocity issues.



Sample Course Schedule
WILDERNESS ADVANCED FIRST AID

DAY 1: Intros/Registration
General Concepts
Patient Assessment System (Part 1&2)
Respiratory System
Circulatory System
CPR/BLS (Protocol)

DAY 2: PAS (Part 3)
Nervous System
Spine Management (Protocol)
LME/Pt. Carries
Musculoskeletal Injuries
Splinting

DAY 3: Allergy/Anaphylaxis (Protocol)
Bites/Stings
Thermoregulation
Lightning/Submersion
Wounds/Burns (Protocol)

DAY 4: Altitude/Cold Injuries
B-C Medicine
Med/Legal
Drills
Exam/Graduation