

Suitable First Aid

Introduction

Let's face it, whitewater paddling has its fair share of risk of injury – many of which are stated on the Liability Waiver everyone signs for taking part in events. Soft tissue injuries are very common (AKA: The Booboo kit). Shoulder injuries are not uncommon. Hypothermia and hyperthermia are weather related risks. The most commonly requested item from the First Aid Kit is Vitamin I (Ibuprofen). Having a well-stocked First Aid Kit is only half the battle – knowing how to diagnose and treat injuries requires periodic training. First Aid Training is a key Risk Management requirement as documented in this excellent article by Will Leverette in American Whitewater:

<https://www.americanwhitewater.org/archive/article/140/>

The American Canoe Association requires their Certified Instructors to maintain “appropriate” First Aid Certification: https://cdn.ymaws.com/www.americancanoe.org/resource/resmgr/sei-documents/firstaid_cpr_requirement_6-2.pdf. The Boy Scouts mandate at least one person per group have a minimum of Wilderness First Aid Certification to attend any of their High Adventure Camps.

To answer the question of what is a suitable level of training, determine how long it will take to get someone to definitive care:

- Less than one hour: Hands on Basic (Urban) First Aid
- Up to 24 hours: Wilderness First Aid (WFA)
- Extended Wilderness Trips: Wilderness First Responder (WFR)

First Aid History

The history of First Aid is rather fascinating. It all started back in 1099 with the religious order of knights of Saint John. This is where the current Saint John Ambulance organization traces its roots back to. They were trained to provide medical treatment for the battles during the Crusades. In 1792, the first official medical corps was organized by the French. In the 1860's, the International Red Cross was established. The term “First Aid” was established in 1878 – a combination of “First Treatment” and “National Aid”. This was also the year for the first official public First Aid training course. London had the first Ambulance Service in 1897.

This great history came from: <http://www.magnifiedts.com/history-of-first-aid-in-brief/>

The Red Cross was born in 1863 when five Geneva men, including Dunant, set up the International Committee for Relief to the Wounded, later to become the International Committee of the Red Cross. Its emblem was a red cross on a white background: the inverse of the Swiss flag. The following year, 12 governments adopted the first Geneva Convention; a milestone in the history of humanity, offering care for the wounded, and defining medical services as "neutral" on the battlefield.

The American Red Cross was founded by Clara Barton on May 21, 1881 and received its first Congressional charter in 1900.

Wilderness First Aid has a much shorter history. Its hard to believe but there are no National Standards for Wilderness Medicine. Most reputable organizations follow the Wilderness Medical Society. The Wilderness Medical Society was conceived by three California physicians, Drs. Paul Auerbach, Ed Geehr, and Ken Kizer. Their efforts to integrate sound principles of medical practice with the wilderness setting

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led to the formal incorporation of WMS on February 15, 1983, as a nonprofit mutual benefit corporation in California. Its specific purpose was "to encourage, foster, support, and conduct activities or programs concerned with life sciences which may improve the scientific knowledge of the membership and the general public in matters related to wilderness environments and human activities in these environments."

Wilderness versus Urban First Aid

A commonly accepted definition of wilderness medicine is from Auerbach's Wilderness Medicine book:

"Wilderness medicine is medical care delivered in those areas where fixed or transient geographic challenges reduce availability of, or alter requirements for, medical or patient movement resources."

This definition covers three factors:

- Time
- Resources
- Location

When you think about it, many of the venues we run events meet one or more of these factors. These three factors work together and can cause significant challenges, even in areas most people wouldn't consider to be wilderness areas. Take a common paddling area like Little Falls on the Potomac near Washington, DC. Although that area has excellent cell phone service, do you commonly bring your cell phone on paddling trips? Getting EMS to your location on the river is going to take time. Access points are limited and there's rough terrain to deal with. You only have what you bring with you – how many paddlers pack a first aid kit for local trips like this? What is the training level of your fellow paddlers?

Although access is considered a major factor, the most important factor is you are out there all alone. Think of the TV show: Who wants to be a millionaire. When the contestant gets a very difficult question they can ask for a lifeline. In urban environments, 911 really is your lifeline. A regular EMT has communications with real doctors. You are forced to make decisions like:

- Does the patient need to be evacuated ASAP?
- Can I stabilize and summon for help that may be a significant time away?
- Do I have the necessary training and equipment to deal with this injury? If not, what are my options?

Events like these can be very stressful, more so since these are most likely friends you really care for. Suitable training and practice can help significantly reduce stress and fear in these situations.

The three major standards bodies in the wilderness medicine field are:

- WMS (Wilderness Medicine Society) – The WMS is a non-profit organization that promotes research and education in wilderness medicine.
- SOLO (Stonehearth Open Learning Opportunities) – SOLO is the oldest Wilderness Medicine School starting in 1977 and focuses primarily in on the US East Coast. Private school based in New Hampshire.
- NOLS (National Outdoor Leadership School) – NOLS Wilderness Medicine teaches classes throughout the country and internationally has an excellent reputation. NOLS is the largest Wilderness Medicine training provider in the United States teaching over 22,000 students

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annually. Non-profit based in Wyoming. In 2007, Landmark Learning, based in North Carolina became the national partner of NOLS providing wilderness medicine training in the South East.

All three of these organizations collaborate on national wilderness medicine curriculum. The similarities in their programs are far more important than any minor differences, all are excellent programs. A much more important factor is the actual experience of the instructor and ideally their experiences in your specific wilderness sport: paddling, climbing, hiking, etc. This history of WFA & WFR SOP development provides a more in depth explanation: <https://wms.org/magazine/1176/WFR-Scope-Of-Practive>.

Certification Organizations

- Red Cross: The Red Cross Wilderness First Aid program is based on the Boy Scouts of America (BSA) Wilderness First Aid Curriculum and Doctrine Guidelines.
- American Heart Association (AHA): Excellent provider of CPR/AED training and First Aid courses but no Wilderness First Aid offerings.
- American Safety & Health Institute (ASHI): Excellent provider of CPR/AED training and First Aid courses but no Wilderness First Aid offerings.
- National Outdoor Leadership School (NOLS): NOLS concentrates on Wilderness First Aid and has the most comprehensive selection of courses. NOLS purchased the Wilderness Medicine Institute (WMI) in 1999. WMI was founded in 1990.
- Wilderness Management Associates International (WMAI): Also concentrates on Wilderness First Aid. They were more common years ago, not so much now.
- Stonehearth Open Learning Opportunities (SOLO): SOLO concentrates on Wilderness First Aid and is the provider for these classes at NOC (Nantahala Outdoor Center). SOLO happens to be the oldest Wilderness Medicine School in the world. SOLO was founded in the 1970's in New Hampshire. They created the WFR and WEMT courses in the 1980's.
- Center for Wilderness Safety (CWS): Originally founded in 2004 as Outdoor Ascent (OA) near Penn State University which then became CWS headquartered in Northern Virginia. The Center for Wilderness Safety has been a non-profit partner of the Wilderness Medical Society since 2010, is a national provider of the American Red Cross.

Options

There are many options in First Aid training. Paddlers either taking part on trips or mentoring others should strongly consider both CPR/AED certification as well as a suitable level of First Aid training. Let's face it, we often paddle in places that are very challenging to reach EMS via 911. Even when EMS is reached, it can take the better part of a day for either them to reach us or for us to transport a seriously compromised individual to an access point. Wilderness First Aid (WFA) is the best choice for most paddlers and only takes a weekend class every two years to stay current.

CPR/AED

Most First Aid courses require prior CPR certification. I highly recommend getting both CPR and AED certification as many popular rivers have AED devices close by. Standard CPR survival rates are roughly 7%, when combined with an AED the survival rate climbs to 40%. Granted, this includes the entire population. When we look at simply drowning victims (otherwise healthy), the CPR success rate is around 90%.

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Basic (Urban) First Aid

Basic First Aid training is great for Park & Play, Pool Sessions, and other paddling venues where EMS can reach you in less than one hour. Here are the topics covered in this level of training:

- Asthma emergencies
- Anaphylaxis
- Burns
- Choking
- Diabetic emergencies
- External bleeding
- Environmental emergencies
- Heart Attack
- Poisoning
- Neck, head and spinal injuries
- Stroke
- Seizure

Wilderness First Aid (WFA)

Wilderness First Aid is the entry level of training needed to deal with emergencies that take place while doing day trips and more extended trips. WFA covers all the topics in the Basic First Aid curriculum and introduces some exceptions necessary in wilderness environments. Although there is no nationally accepted standard for the WFA curriculum, the Wilderness Medicine Education Collaborative (WEMC) in 2005 gained agreement on a common Scope of Practice (SOP). This group has all the major certification organizations. The course must be at least 16 hours and include the following topics:

- Patient Assessment & Basic Life Support (BLS)
- Circulatory, Respiratory, and Nervous Systems
- Spine Injury
- Wounds, Burns, Musculoskeletal Injuries
- Allergic Reactions, Anaphylaxis
- Heat Illness & Hypothermia
- Lightning, Submersion
- Additional elective topics are Dislocations, Spine Injury Management, Altitude, ...

The WFA course covers head to toe evaluation and introduces students to the SOAP form which provides valuable information in the EMS handoff. The Basic First Aid class doesn't have the time for scenarios. Also, WFA classes provide more thorough coverage on prevention.

Wilderness Advanced First Aid (WAFA)

The WAFA course (SOLO calls it AWFA) – Advanced Wilderness First Aid) is a nice compromise. WAFA courses have the time over one week to engage the students in much more hands-on practice not possible in a weekend WFA class. Leadership principles are a key topic in the WAFA course. Unfortunately, very few vendors schedule WAFA courses. A major problem with the WAFA certification is no commonly accepted curriculum.

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Wilderness First Responder (WFR)

If you are planning to work for an Outfitter or participate on multi-day trips, I strongly recommend taking the WFR certification. Yes, it's somewhat costly and takes two weeks. On the plus side, maintaining this certification only requires a weekend WFA class. WFR's learn how to deal with extended care (overnight). They learn how to deal with psychological challenges common in extended care. A WFR can diagnose and rule out a C Spine injury, whereas a WFA cannot.

Whereas as the WFA course is entry level and concentrates on first aid, WFR is considered by some a professional certification. Most wilderness first aid training organizations provide a WFR course. WEMC established training requirements for a 70-hour WFR course in 2016. Although the topics are similar to the WFA course requirements, WFR courses have the time for extensive hands on practice not possible in a weekend course. The depth of coverage is also far more extensive.

Wilderness Emergency Medical Technician (WEMT)

The WEMT certification is for professional responders. This certification combines Wilderness Medicine with EMS. Most pursue EMT status first which includes ambulance experience and then upgrade to the WEMT level although some organizations combine both disciplines in a month-long course. WEMT training provides in depth coverage of prevention, treatment, and evacuation concerns as well as injuries/illnesses common in wilderness venues. Most include clinical experience via ambulance duty or emergency department observations. Many require a National Registry Exam which enables reciprocity between the states.

	CWS	Red Cross	AHA	ASHI	NOLS	SOLO	Price	Hours
CPR/AED	Yes	Yes	Yes	Yes	N/A	N/A	\$35 - \$100	3
Basic	Yes	Yes	Yes	Yes	N/A	N/A	\$30 - \$115	3 - 5
WFA	Yes	Yes	N/A	N/A	Yes	Yes	\$180 - \$250	16 - 18
WAFA/AWFA	Yes	N/A	N/A	N/A	Yes	Yes	\$300 - \$400	32 - 40
WFR	Yes	N/A	N/A	N/A	Yes	Yes	\$600 - \$900	72 - 80
WEMT	EMT Upgrade	N/A	N/A	N/A	Yes	Yes	\$2700 - \$4000	200

Note: Costs are as of July 2018

Conclusions

All paddlers should take CPR/AED and hands-on First Aid training. Do a self-assessment, what types of venues do you commonly paddle? Most are day trippers and the weekend WFA class is an excellent entry level choice. If you desire to paddle extended wilderness trips like the Main Fork of the Salmon River, you should strongly consider a WFR certification to ensure lots of hands-on practice and a far deeper understanding of First Aid and extended care. Many employers these days offer free CPR/AED classes to their staff – it saves lives. Besides training, the proper tools/supplies are quite valuable. Use your training and experience to build your own First Aid Kit. This ensures you know exactly what you have and how to find what you need in an emergency.