



As more of us enjoy the wide variety of outdoor recreation available across North Carolina, the training to deal with medical emergencies in the wilderness is becoming valuable to laymen and professionals alike.

If you're an outdoor enthusiast, you're well aware of how fast the fraternity is growing. As more people take up mountain biking, kayaking, hiking, camping, and boating, the woods and waters can seem, well, crowded. Outdoor recreation is booming, as is a closely associated profession — wilderness medicine.

Two North Carolina-based groups — the Appalachian Center for Wilderness Medicine (ACWM) and Landmark Learning — are helping to ensure this unique medical field keeps up with the increasing demands of a new generation of Lewises and Clarks.

BY SHANNON FARLOW
PHOTOGRAPHY BY MATT ROSE



Wilderness medicine is essentially medical care provided in any austere field setting, typically more than an hour away from a trauma center. A backcountry skier with a broken leg, someone injured in a whitewater rafting accident, a climber with high-altitude pulmonary edema, or a diver with the bends would qualify.

And the need isn't limited to extreme adventurers. In fact, whether you traipse the rugged terrain of western North Carolina or get your outdoor fix in the Piedmont or along the Tar Heel coast, the specialty is being practiced in a national forest or state park near you.

"There's not too much of a better definition of a wilderness medicine environment than somebody getting hurt or sick on a boat when you can't just go right back to shore," says Dr. Seth Hawkins, founder of ACWM. "If something happens, you're truly out there and completely dependent on your own skills and equipment and improvisation."



ACWM instructors like Blake Kyzer (above) of the University of South Carolina School of Medicine take care to create realistic scenarios during rescue simulations.

Good life skills

Until the early 1980s, most training for backcountry emergencies was limited to general first aid taught by a few outdoor educational groups, including North Carolina Outward Bound. That all started to change in 1983 with the creation of the Wilderness Medical Society.

"In the 1980s and '90s, wilderness medicine was sort of a novelty; now you can go almost anywhere in the country and find schools that have sprung up ... that will certify you in wilderness first aid or as a wilderness first responder," says Hawkins. "An

"I think there's a difference between having some good ideas of what to do and actually doing it. Our students actually do it."

explosive number of universities are starting to offer their own fellowship training and medical student training in this sort of thing. We're seeing two or three colleges a year that are building formal programs in this particular field."

Landmark Learning in Cullowhee is one of the oldest and most respected wilderness medicine training centers in the country. Founded more than a decade ago by Justin and Mairi Padgett, Landmark Learning began offering a wilderness medicine program for novice outdoor instructors in the late '90s called the Landmark Trip Leader School. Students who attended the five-day

backcountry school received training in wilderness first aid, swift-water rescue, and CPR.

Today, Landmark Learning has expanded its operations with an additional base in Ecuador and a variety of year-round certification

courses for outdoor educators and emergency medical personnel. "We're the only organization that we know of in North America that is specific like we are," says Executive Director Justin Padgett. "We're one of a kind."

Landmark teaches the most up-to-date methods, including courses provided by the National Outdoor Leadership School (NOLS). Its 80-hour trip leader courses include wilderness first responder training, night rescues, multiple simulations, and mock rescues filled with intensive training.

"What we're teaching and what we're practicing is practical for the students based on common reportings, and that's huge," says Padgett. "We want students to be competent at what they're doing, and we want them to also be intentional with their actions. I think there's a difference between having some good ideas of what to do and actually doing it. Our students actually do it."

Lightning strikes

Unfortunately for Aram Attarian, a professor at North Carolina State University who specializes in

BELOW: Kyzer works with the computerized SimMan as students go through a rescue scenario.

BOTTOM: Rescue simulations often include medical evacuations by Medcenter Air.



adventure recreation and outdoor leadership, this type of real-world data was unavailable during his first season as a North Carolina Outward Bound instructor in 1978.

On July 23 that year, a Sunday afternoon, Attarian and co-instructor Ginny Davis were following their teenage students back to base camp to complete a backpacking course. The instructors were monitoring the students' newly learned navigating and

when they were struck by ground-current lightning.

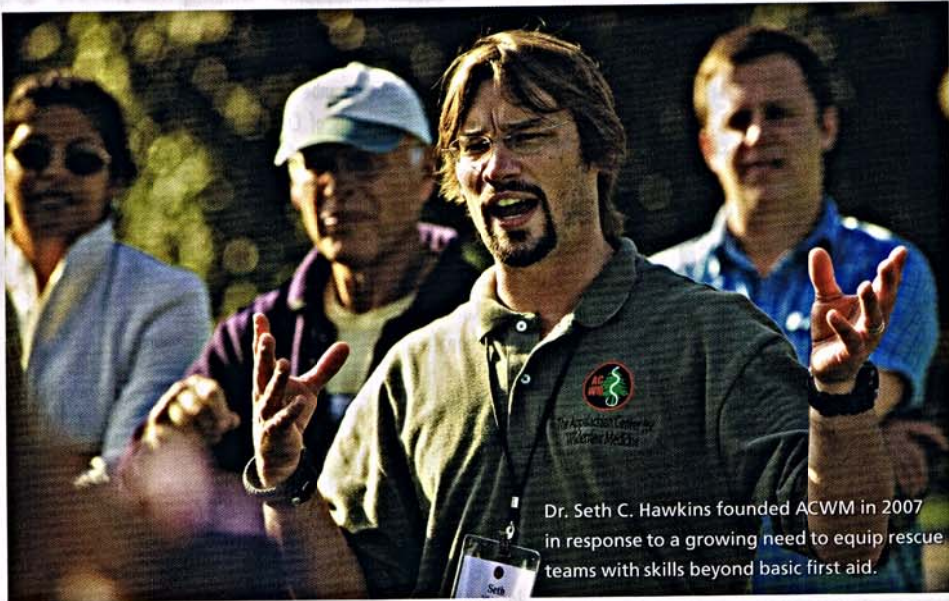
"All I remember then was an intense flash of white light. Darkness, like I felt myself in a dark tunnel. Then I heard a voice, and that's all I remember until I came to," recalls Attarian.

The force from the blast threw Davis several feet from where she'd been sitting. When the students saw what had happened, they rushed to aid their instructors, who still

Learning to improvise

In addition to vast amounts of data from groups like NOLS, the wilderness medicine community has also benefited from the knowledge gained from the wars in the Middle East and natural disasters like Hurricane Katrina.

"Somebody impaled on a ski pole becomes very similar to somebody with a penetrating trauma on the battlefield as far as hemorrhage management and shock management," says Hawkins.



Dr. Seth C. Hawkins founded ACWM in 2007 in response to a growing need to equip rescue teams with skills beyond basic first aid.

"Improvisation is the heart and soul of wilderness medicine. Ninety-five percent of what you're doing is making things happen with the equipment you have."

decision-making skills. The group had just bushwhacked down the west side of Bandy Cove Mountain near Linville Falls and stopped to eat lunch on a Forest Service road when they heard the rumble of thunder.

With the storm closing in, the students opted to stay on the service road and find their way out of the forest as quickly as possible. But when the storm overtook them, they hunkered down in the road, which research now tells us wasn't the best move. The two instructors were several yards behind their students, sitting shoulder-to-shoulder on their packs,

had pulses but were not breathing. Luckily, Attarian and Davis had taught the students rescue breathing techniques two days earlier.

"This was when wilderness medicine was just getting its foot in the door a little bit. So we were just working with basic first-aid knowledge. Now, most outdoor programs, including Outward Bound, have all kinds of policies and protocols for lightning," says Attarian, now on the board of directors for North Carolina Outward Bound. According to newer guidelines, the group should have moved off the road and dispersed into the forest.

"So there's a lot of interplay between all these various fields where people are taking care of patients outside of a hospital setting and without a lot of sophisticated tools."

One of the most important aspects of wilderness medicine — and possibly the most difficult to teach — is the ability to provide care with little or no equipment and to be able to make good decisions quickly in an adverse setting. Need crutches? Or poles for a gurney? How about those tree limbs over there?

"Improvisation is the heart and soul of wilderness medicine," says Hawkins. "What we recognize is that 95% of

what you're doing, both in teaching and in practice, is making things happen with the equipment you have and using things in an atypical sort of way. You're really getting people to think outside the box."

Two-way communication

Since wilderness medicine is so diverse and practiced by such a multifarious group, one of the biggest problems the field faces is lack of communication. ACWM, whose motto is "Disrupting Natural Selection in Southern Appalachia since 2007," was created as a communication nexus for people involved with wilderness medicine.

"People will often be doing work in their own community or with their own specialty, and they won't know what's going on just down the road, two counties away," Hawkins says. "There's not a lot of inter-agency communication, and there's not a lot of great communication between clinicians and providers."

To help bridge the gap, ACWM reaches out to medical professionals and anyone in southern Appalachia interested in wilderness medicine, connecting them primarily through a monthly email newsletter that offers information on the latest trends in wilderness medicine, as well as current and upcoming events at the center and across the region, including training schedules for several other wilderness medicine groups.

"It's really the only collaborative nonprofit regional group that there is right now in the country," says Hawkins. "The model previous to this has always either been academic —

like the University of North Carolina will have a wilderness medicine group, and they'll do things with the students there — or it's been commercial, where you go out and take classes from a company."

Respecting Mother Nature

Part of the draw for venturing outdoors is the thrill of the unknown, the surprise that's waiting over the hill or around the next bend. Unfortunately the surprise might be a sprained ankle or something worse.

As Attarian will attest, you can never be sure what Mother Nature will throw at you. Merriam-Webster's dictionary offers a secondary definition of lightning as "a sudden stroke of fortune." Attarian agrees: "I definitely consider myself very, very lucky." ➔

Shannon Farlow enjoys forays into the wilderness from his home in Asheboro.

TO KNOW MORE

For a link to the Landmark Learning and ACWM websites, go to www.ourstate.com, and click on "This Month's Issue."

— THE —
BRYAN
SERIES

 Guilford COLLEGE

ANTHONY BOURDAIN
NO RESERVATIONS

Thursday, Feb. 19, 7:30 p.m.
Durham Performing Arts Center
123 Vivian St., Downtown Durham, N.C.

Tickets: www.dpacnc.com or 919-680-ARTS (2787)

Information: www.guilford.edu/bryanseries

 DPAC DURHAM PERFORMING ARTS CENTER

 Our State NORTH CAROLINA