

Jefferson Faculty

Elisabeth Edelstein, MD '03: Teaching off the Grid

Dozens of tourists are trekking through Tennessee's Great Smoky Mountains, a hiker's paradise with its 900 miles of well-kept trails, when a storm blows in. Lightning strikes, and suddenly, chaos erupts. One person goes into cardiac arrest. Another has a ruptured ear drum. A third has experienced major head trauma. And the closest hospital is 50 miles away.

What do you do?

This is one of many scenarios introduced by Elisabeth Edelstein, MD '03, during the wilderness medicine elective she leads every February. In conjunction with the Wilderness Medical Society, Edelstein takes third- and fourth-year medical students, residents and other healthcare professionals — from Jefferson as well as other institutions — on a month-long trip during which they learn extensive wilderness survival skills.

Edelstein, assistant professor of emergency medicine at Jefferson, launched the elective in 2010. When she's not guiding students through austere backcountry, she serves as assistant director of undergraduate emergency medical education and covers clinical shifts in the emergency departments at both Jefferson and Methodist hospitals. She also is a guest lecturer for Weill Cornell Medical College's wilderness medicine course, traveling around the country to speak about environmental medicine.

Edelstein drew inspiration for her wilderness medicine elective from a similar program she participated in as an emergency medicine

resident at New York Presbyterian Hospital. A lifelong lover of the outdoors, she realized she could marry her passion with her profession, and when she returned to Jefferson as a faculty member, she set out to show her colleagues the value of a wilderness medicine curriculum.

She succeeded — and recently shared her views on her work.

Q: Why is teaching wilderness medicine important?

A: Living in a city doesn't mean you're always in the city. Physicians may be vacationing in remote areas when someone gets ill or injured, and many volunteer abroad or respond to disasters throughout their careers. Wilderness medicine has a significant overlap with global health — think of Hurricane Katrina or 9/11.

We are teaching survival skills. It's important that physicians know how to treat medical conditions even when they don't have the technology they're used to at their fingertips. We force students to focus on the physical exam, a skill that translates into any disaster zone.

Q: What does the elective entail?

A: We have three weeks of lectures, discussions, field training and scenario-based learning followed by a five-day Smoky Mountain hike. We've put together a scenario-based library with scripts for victims and patients, so there's a lot of role-playing.

Students take turns playing both physicians and patients, because understanding the patient experience is essential. For example, we act out a water rescue. When you're in 50-degree water and pulled out into 40-degree air, you actually experience a bit of hypothermia. A student will never forget that feeling. The scenario-based learning makes for very memorable lessons.

Q: How do students react to this experience?

A: The evaluation forms usually say something like, 'This was the single best month of medical school.' Our students appreciate the opportunity to learn what other schools' curricula just touch on. We are giving them the tools they really need to manage these kinds of emergencies, whereas many schools quickly pass over these lessons. And we're doing it while enabling them to take part in activities they enjoy, like backpacking and canoeing.

Q: What are your favorite memories from past excursions?

A: The best part about the elective is the wonderful group dynamic that develops. On our last trip, we walked through a cold creek, and all of our shoes and socks were wet. One woman was particularly struggling, and everyone else chipped in something from their own gear. One person made her tea, and someone else gave her food so she could get some calories in her to warm her up. People sacrificed their own warmth for hers. This sense of caring and responsibility is so meaningful.

Q: What is your proudest professional achievement?

A: I really have two. First, I am proud to have convinced Jefferson's curriculum committee to accept this elective. Wilderness medicine is a relatively new field, and those of us who are enthusiastic about it are still working to legitimize it. I developed the syllabus and got a lot of tough questions when I presented it, but ultimately, the leadership here embraced my interests and supported my goals.

And second, I am proud to have facilitated the Mid-Atlantic Student Wilderness Medicine Conference at Jefferson. In 2010, I supervised the students who led this conference, which drew 200 participants from schools as far south as Georgia and as far north as Canada. The success of that initial conference inspired a second group of students to coordinate another one, which we hosted at the end of March 2012 with equal success.

Q: What do you like to do outside of work?

A: I'm an avid runner and have completed six marathons. I'm also a huge fan of musical theatre and opera, going to the Philadelphia Orchestra or up to New York City to see shows as often as possible (as a student at Jefferson, I sang with the Arrhythmias, a women's a capella group).

And not all of my wilderness travel is work related; I still take trips for my own pleasure. My favorite vacation so far has been to the Swiss Alps. The beauty of the peaks and wildflowers — I can't begin to describe it. — *Karen L. Brooks*



Top 10 Meds for Your Wilderness Medicine Kit

Among Edelstein's frequent lecture topics is a discussion on the most essential items for any physician's wilderness medicine kit. Planning a backcountry trip? Here's what she advises you to pack:

- Ibuprofen such as Motrin® for headaches, menstrual cramps and hikers' knee pain
- Acetaminophen such as Tylenol® for fevers
- H1 and H2 blockers such as Benadryl® and ranitidine for allergies and sleep aid
- A corticosteroid such as prednisone for allergic reactions and asthma
- An epinephrine injection such as an EpiPen® for allergic reactions and asthma
- Antibiotics such as doxycycline and fluoroquinolone for cellulitis and diarrhea
- A local anesthetic such as lidocaine for pain management
- Antacids or other GI medicines such as TUMS® or Pepto-Bismol® for upset stomach
- Anti-diarrheals such as Imodium®
- Decongestants for nasal congestion

In addition to these medications, Edelstein also recommends that every traveler carry duct tape, "because you can improvise a lot of things, but tape isn't one of them!"