



Emergency Medicine for the Largest Wilderness

Brushing up on how to respond if things go wrong offshore

By Jill Dubler

As my husband Pete and I refit our Pearson 424, *Regina Oceani*, for eventual world cruising, we are also refitting our skills to hone the self-reliance demanded of all cruising sailors. As the mommy of the crew—even though our three daughters have long since left the nest—I remain concerned for the care and well-being of everyone on the boat. I want to feel confident enough to handle any injury that occurs to Pete (or to help Pete care for me).

I had EMT training some 33 years ago, back when IV needles were still carved from bamboo. Even though I had not used this training in decades, I volunteered to be the one to seek out and attend advanced emergency medical training designed specifically for cruisers.

FROM LAND TO SEA

Here in Colorado, wilderness medicine and ski patrol practitioners are common fare, and it is hard *not* to know someone who is involved in wilderness search and rescue or ski patrol. Although these skills don't directly translate to the ocean environ-

ment, the ocean is in fact the largest wilderness, and lessons can easily be adapted for the ocean sailor.

Enter Medical Officer Limited, Wilderness and Marine Medicine, which, in conjunction with The Ocean Navigator School of Seamanship and Wilderness Medical Associates, has developed an intensive three-day offshore emergency medical training class. I learned of this class through the Seven Seas Cruising Association and attended along with 11 others in a Denver hotel. I was close to our “yacht in a cornfield,” but some students came from as far away as Hawaii.

It’s always great to be taught by the person who “wrote the book.” In fact, Jeff Isaac, the co-author of *Wilderness and Rescue Medicine*, was one of the most impressive instructors I have ever had the pleasure to study under. Not only is his wealth of knowledge and experience both broad and deep (he is an EMT and certified physician assistant active in ski patrol and EMS, a licensed captain, an experienced ocean sailor, and a 20-year instructor with Outward Bound), but his style makes the material easily accessible while he instills a sense of calm and capability in his students. Any sailor, without prior medical training, can gain the full benefit of this course due to Jeff’s well-designed curriculum and “learn, discuss, do” approach.

SO WHAT DID I LEARN?

Ahead of the class, students receive Jeff’s textbook and are asked to read all but the avalanche rescue and altitude illness sections (unless you plan to stop over in Patagonia)—about 180 pages—before taking an online pre-test, the results of which are provided to you when you enter the class. By the end of three packed days, acing that pre-test would have been a cakewalk.

To scope out what could go wrong medically on the moving platform of a boat, we first covered the critical body systems—circulatory, respiratory and nervous—in the context of how they respond to injury or disease. This led us to a framework for patient assessment called S.O.A.P., or Subjective, Objective, Assessment, Plan. Without attempting to re-teach the course here, Subjective and Objective refer respectively to what the patient tells you and what you can observe. Assessment is the list

of problems found, and Plan is what you will do about each problem—medical treatment, monitoring or evacuation, if really necessary.

Learning when evacuation is truly needed, when a delayed evacuation is called for and when evacuation is not needed were some of the key lessons I took away. I knew that the Coast Guard has always been committed to do what it takes to conduct a rescue even at great personal risk, but Jeff impressed upon us that they do have a limited range, and



Opposite, cleaning a deep wound (ham hock) of dirt and debris. This page, a buffet of stethoscopes, blood pressure cuffs and ventilation devices



evacuation can, in many ways, put the patient at greater risk than truly required.

From here, we moved to basic life support and a sobering discussion on the controversial subject of the cost/benefits of AEDs in the offshore environment. The chance of a successful outcome for a victim of cardiac arrest at sea—even if defibrillated—without timely advanced medical care is extremely low and, in fact, undemonstrated. If quite near shore, an AED might be appropriate for

Day two was about everything that hurts—musculoskeletal injuries, sprains, strains, high-risk versus simple wounds, accidental amputations, even systemic and local infections. The highly interactive lectures before lunch were laced with tons of practical advice, such as how to use veterinary supplies. Jeff demonstrated products, such as specialized bandages, that are proven in the marine environment.

Over lunch, the classroom was transformed into a tour of stations offering hands-on time with instru-

some vessels, like tour boats or ferries. But for offshore use, the \$1500 or so could likely be better spent on items such as survival suits, a life raft, and medical and survival training (i.e. this course). I recertify in CPR every two years and have always assumed we would have an AED on our boat. One must change a great deal of his or her “land approach” to the latest and greatest devices when transferring those thoughts offshore. I’ve made the transition.

THE DAILY GRIND

Each day started with four or five scenarios to practice our S.O.A.P. skills.

ments, medical kits, bandaging, etc. We practiced splinting on each other, injected Lidocaine into fractured chicken legs, and performed closure on wounded ham hocks—most survived. Chicken wings were hydrated using hypodermoclysis, a darn near fool-proof alternative to IVs in many situations that can easily be set while on the unstable platform provided by a boat at sea.

A Colorado Springs firefighter and Wilderness Medicine Associates instructor, Ed Hurtado, joined Jeff during the afternoon to show us a variety of carries that could be used on a moving boat, including how to singlehandedly bring a victim down a companionway—surprisingly head-first. Ed compliantly served as the victim for a demonstration of reduction of dislocated joints. Positive pressure ventilation and oxygen administration were also practiced. Who knew you could stand at the helm while providing ventilation to a victim either seated or on the floor of the cockpit?

Different types of trauma and illness treatment protocols followed by case studies and practicum in which we assessed each other’s scripted symptoms rounded out each day. The scenarios even included painted-on cellulitis or bruises that had to be found by the care provider. Staying calm by using rationale, logic and knowledge with the aid of easily memorized mnemonics (similar to those used by doctors in an ER), led us to calmly handle a wide variety of injuries and illnesses throughout the three days. We also practiced using the radio to work remotely with emergency physicians.

The evening camaraderie should not be overlooked as a highlight of the class—making the overnight rest perhaps a bit briefer than wise.

CONFIDENT AND CAPABLE

The final day covered environmental emergencies and general offshore medicine. Jeff conducted a deep dive into infections, allergies, disease states, seasickness and the stocking of offshore medical kits. I now feel completely confident about what needs to be in our medical kit and how and when to use each and every component. Based on what I learned, I've even taken a lot of items out of our current kit.

Would my prior EMT training have been adequate or appropriate to handle crew emergencies on our boat? Absolutely not. I was trained to prepare a victim for immediate transport to a hospital. On a boat, we must operate independently. When a member of a shorthanded crew is injured or ill, perhaps during the roughest of seas, the boat must be managed by the healthy crewperson, while he or she is also treating the victim. It is empowering to know when to turn toward land and seek evacuation or to calmly, assuredly decide that evacuation is not necessary.

Through this course, I gained confidence and capability. Ideally, cru-

ing couples attend the workshop together. I wish Pete could have gone with me, but I wasn't the only person in the class representing her vessel, and there is plenty of time for me to share these skills and tools with him. Better than any sailing course I ever took and more practical than the months of evenings I spent in EMT training, I would not want to go to sea without this training. ~

Jill Dubler is the queen of the queen, S/V Regina Oceani, featured Blue Water Sailing project boat. As a 25+ year fitness instructor and Certified Rossiter Coach (www.BalanceRossiter.com), Jill has always been in touch with physiology and wellness—thus her interest in offshore emergency medicine. Having raised three girls to vibrant young women, she looks forward to world cruising with her husband Pete aboard their Pearson 424.

CONTACT INFORMATION:

Marine Medical Training
Offshore Emergency
Medicine
Medical Officer, Ltd
www.medofficer.net
wildmed@medofficer.net
970-275-4999



Opposite: hooking up the IV bag, top; broken chicken wings get lidocaine injections, bottom. This page, a lesson on marine-friendly dressings and bandages