underwent the entirety of the educational experience. One-hour-long didactic sessions were held before the event to review core topics in race and prehospital medicine, including heat illness, dehydration, foot care, and exercise-induced hyponatremia, for a total of 4 hours.

Using this information, fellows assisted in the development of the race supply list and medical operations plan, which included coordination with local EMS, law enforcement, and search and rescue teams. The residents assisted the fellows in all duties and in the implementation of the medical action plan as determined during the prerace informational meetings. After the race, postevent debriefing meetings occurred, during which an assessment of the course's overall efficacy and satisfaction was undertaken.

A total of 4 learners underwent the educational experience in 2013. The total duration of the curriculum including the race was 8 days. The participating physicians universally stated that their educational experience was a positive one, and all surveyed stated that they would repeat the event if given the opportunity. Patient encounter numbers were not tallied because traditional visits were replaced by continuous contact time with participants. Physician learners were expected to provide medical checks at every checkpoint and then again in the evening rest hours. A centrally located medical tent became a hub of social gathering, regular foot and skin care, and education. The hands-on medical care was positively received by the participating medical providers as well as by the individuals participating in the race. A few medical emergencies arose on the race-course, which were met by the physician team and managed successfully without evacuation. Each physician carried a small bag termed an ALS (advanced life support) bag, which contained minimal emergency equipment and supplies for a small subset of race-related medical threats.

Prehospital medicine is an integral part of an emergency medical education at both the resident and fellow level. Our utilization of a remote ultramarathon event to fulfill the requirements of the ACGME core competencies is unique in both its implementation and innovation. We were able to deliver a multifaceted curriculum that allowed not only for the acquisition of technical knowledge through the didactic curriculum and planning meetings but also the translational knowledge derived from the hands-on care administered on-site.

Although there were 2 subdivisions of learner (resident and fellow), the curriculum and experience was broad enough to adequately meet the educational needs of each participant. Fellows assumed a greater leadership

role during the event as reflected by their autonomous provision of care to race participants at various checkpoints, whereas residents operated under the auspices of the medical director. Each group rated their educational experience positively, allowing us to set this curriculum to be further used in the coming years for future events.

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Wilderness Medicine Curricular Content in Emergency Medicine Residency Programs

To the Editor:

Interest in wilderness medicine has increased in recent years, and physicians from many specialties have shown growing interest in the field. Multiple educational opportunities are now available at the student, resident, and practicing physician levels. It is not surprising that many emergency physicians are drawn to the practice of wilderness medicine. The fields share similar qualities in that they involve a broad range of medical knowledge, the urgent and emergent application of stabilization and

treatment, improvisational skills, and teamwork with persons of varying skill levels.¹ As of March 2015, there were 12 established wilderness medicine fellowships² and a large number of elective opportunities for residents and students.³ While interest in this field grows, it is not clear to what degree emergency medicine residency programs have incorporated wilderness medicine content into their curricula. Accordingly, the objective of this study was to determine the prevalence and scope of wilderness medicine training in emergency medicine residency programs.

A survey was e-mailed to all emergency medicine residency program directors or program coordinators accredited by the Accreditation Council for Graduate Medical Education (ACGME) and the American Osteopathic Association. A list of 187 programs was obtained from the Society for Academic Emergency Medicine online residency directory.² The survey consisted of 5 multiple-choice questions regarding both required and optional curricular content, along with sections for free text entry. Two follow-up e-mails were sent to non-responding programs. Study results were analyzed using descriptive statistics. The study was reviewed by the applicable Institutional Review Board and determined to be exempt.

The overall response rate was 56% (104 of 187 programs). Of the 104 responding programs, 44% reported wilderness medicine content within their required curricula, and 75% reported optional wilderness medicine opportunities. Seventeen percent of programs (18 of 104) did not include either required or optional wilderness medicine curricular content. Of responding programs with required wilderness medicine education, 35% reported having had the wilderness medicine curriculum for more than 10 years, 23% for 5 to 10 years, and 42% for less than 5 years.

Of 45 programs with required wilderness medicine content, the most common educational format was lecture (96% of programs), followed by field training (51%), conference days (36%), simulation (36%), and readings (31%). Of the 78 programs with optional wilderness medicine opportunities, 36% offered an elective sponsored by their home institutions, 58% offered elective opportunities sponsored by other institutions, and 35% offered a wilderness medicine "specialty track" or "interest focus." Programs reported a wide range of additional optional wilderness curricular opportunities, including wilderness medicine retreats, wilderness medicine interest groups, extramural conference attendance, participation in the home institution's wilderness medicine fellowship, unrestricted away electives, unrestricted choice of resident lecture topics,

participation in a medical student wilderness medicine rotation, wilderness medicine activities included in intern orientation, participation in National Park Service events, participation in a military wilderness medicine curriculum, Medical Wilderness Adventure Race, and attainment of Fellow of the Academy of Wilderness Medicine designation.

Explicit wilderness medicine curricular content is not currently required by emergency medicine residency regulatory oversight bodies, such as the Residency Review Committee for Emergency Medicine or the American Board of Emergency Medicine. Specifically, it is included neither in the ACGME program requirements for emergency medicine⁴ nor in the Model of the Clinical Practice of Emergency Medicine.⁵ Despite this, however, we found wilderness medicine curricular content to be rather widely available to emergency medicine residents, with 75% of residency programs offering at least optional educational content and 44% requiring it.

Programs reported offering a broad range of optional wilderness medicine-related activities, such as home and away electives, wilderness medicine retreats, Medical Wilderness Adventure Races, dedicated wilderness medicine conference days, etc. In many residencies, residents have a degree of latitude in choosing some of their curricular content, such as the electives they take or the topics of lectures they prepare and present. Many of these elective activities are available to residents in all specialties and are not exclusive to emergency medicine.

Of programs reporting required wilderness medicine curricular content, 65% have included this content for 10 years or less. This finding supports the impression that interest in the field of wilderness medicine education is becoming increasingly common among emergency medicine residents and faculty.

Of note, our study may have underestimated the optional wilderness medicine activities available to emergency medicine residents. As noted, a large number of institutions offer wilderness medicine electives to visiting residents.³ As long as program and institutional policies allow residents to take away electives, such programs would automatically be able to offer optional wilderness medicine activities. Inasmuch as responding programs may not have been aware of available visiting elective opportunities, it is likely that an even higher percentage of programs offer optional wilderness medicine content.

Another limitation of our study is that the data were self-reported and not validated by an external source. Additionally, although our survey did indicate that "Wilderness medicine is defined as the practice of resource-limited medicine in an austere environment,"

we did not specifically define the individual curricular topics that might fall under the heading of wilderness medicine. Wilderness medicine is a broad field, and it is possible that some misclassification of included or excluded content by respondents may have occurred. Finally, there may have been an element of selection bias, in that directors of programs that include wilderness medicine curricular content may have been more likely to complete the survey.

In conclusion, wilderness medicine curricular content is now available within most emergency medicine residency program curricula, with 44% of programs reporting required wilderness medicine content and 75% of programs offering optional wilderness medicine activities. The range of reported optional wilderness medicine activities is extensive. Because many of these opportunities remain optional, however, residents may have to take the initiative to incorporate wilderness medicine in their residency education.

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A Rare Case of Vaginal Bleeding in a Child Due to a Leech Bite and Review of the Literature

To the Editor:

Leeches are ubiquitous creatures of the phylum Annelida and class Hirudinea found in land, freshwater, and marine environments. They usually feed on blood of mammals or small invertebrates. Aquatic leeches have a worldwide distribution, whereas land leeches are common in certain parts of the world.¹ Sri Lanka is a tropical country where both land and aquatic leeches are abundant; however, they are predominantly found in the wet zone, where leech bites on human extremities are commonly encountered.

Vaginal bleeding owing to leech bite is rare, but several incidents in premenarchal girls and postmenopausal women have been reported from different parts of the world, particularly from tropical countries. Travelers should be aware of possible consequences when visiting tropical countries with a high leech population.

We present a case of vaginal bleeding after a leech bite in a 10-year-old premenarchal girl in Anuradhapura, Sri Lanka. The child presented to the Anuradhapura teaching hospital with sudden bleeding from the vagina of 4 hours duration. The child noticed the bleeding soon after a swim in a local irrigation canal (Figure, A; Yoda Ela, location situated on latitude 8.32°N and longitude 80.37°E). A female relative observed part of a “bloated worm” exiting the vagina on examination, and she detached it manually. The live leech was brought in a water bottle with the patient.

On examination, the patient was mildly pale and her vital signs were normal. A gynecological examination did not reveal any signs of external injury suggestive of child abuse or trauma. The site of bleeding was on the anterior edge of the intact hymen. A dressing pad soaked with 0.9% saline was kept on the bleeding site, after which the active bleeding slowed. All vital signs were monitored throughout, and slight bleeding was evident for nearly 10 hours. The patient’s hemoglobin was 10 g/dL and her clotting profile was normal. On the second day she was clinically stable and was discharged.

The live leech was examined under natural light and tentatively identified as *Hirudinaria manillensis* by the external features of the fresh water habitant (Figure, B, C).