

# Wilderness medicine opportunities in Canada do exist

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Wilderness medicine (WM) is a relatively unfamiliar area of medicine to most health care professionals in this country. However, most medical practitioners in Canada have at some point delivered care in less than ideal circumstances. These situations might include remote locations distant from definitive care or under exposure to severe weather or natural hazards. Any medical practitioner could face circumstances where resources are overwhelmed by major disasters, pandemics, or civil unrest. Given that this kind of care is delivered almost daily elsewhere in the world, there is a growing movement in Canada to recognize and formalize principles and practices unique to such demanding situations. Although several names have been given to this type of medicine, it is most often referred to as wilderness medicine within North America.

WM can best be described as an encounter in which any or all of the following conspire to influence the practice of medicine: sparse resource availability, austere environmental conditions, and extended times to definitive medical care. It should be acknowledged that this definition of WM moves beyond what would traditionally be ascribed to the geography normally associated with this type of medicine, the “wilderness.” In fact, some examples of WM encounters would include patients found on a backcountry hiking trail, on a city street scarred by a disaster, on a fishing vessel many hours offshore, in a conflict or humanitarian zone, or in a remote community. As primary care physicians, emergency physicians are armed with the tools and expertise to tackle the spectrum of medical encounters that could be encountered in a WM

context. The typical interventions that are reflexive in a conventional setting may no longer be the best management, however. For example, the gold standard of treatment may not be available; improvisation becomes necessary or the triage of patients may be altered because of the three elements listed above.

Despite WM's relatively unassuming status in Canada, there is a growing interest in obtaining exposure to this style of medicine. In November 2011, the *Canadian Journal of Emergency Medicine* published an article entitled “The Evolution of Emergency Medicine: The Pressing Need for ‘Made in Canada’ Subspecialty Training.”<sup>1</sup> Of particular interest was the description of one emergency medicine resident and her journey to undertake wilderness medicine training, the majority of which required her to travel outside of Canada. Although it can be challenging to locate WM educational opportunities in Canada, over the last few years, I have discovered both didactic and clinical experiences that would be an asset to any health care professional seeking to develop his or her skills and training in WM. This overview provides a reference point for those interested as it includes the name of the opportunity and the name of the hosting organization. It should be noted that although each experience is not explicitly a WM opportunity in name, each contains learning objectives that are relevant to WM:

1. *Rural and Remote Medicine course (Society of Rural Physicians of Canada).*<sup>2</sup> This is a well-established course that presents an extensive breadth of medical topics all from the vantage point of rural or remote

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- environments. In addition, it is a gathering place for health care providers to discuss the psychosocial implications of being a professional in such settings (e.g., relationship development, work-life balance).
2. *Wilderness Medicine elective (Wilderness Medical Associates International).*<sup>3</sup> This elective is open to medical students and residents and provides a solid introduction into the field of WM. Emphasis is placed on developing critical analysis skills as learners improvise and adapt their medical knowledge to the WM encounters they face.
  3. *Diploma in Mountain Medicine (Canadian Society of Mountain Medicine).*<sup>4</sup> The focus of this program is to provide “the theoretical and practical aspects of mountain rescue and emergency treatment of casualties in mountainous environments” while also training participants in how to provide predeparture medical advice for individuals who will be venturing into mountainous environments. It should be underscored that mountain medicine is alive with active research. Applications for its use can be found in the intensive care unit, management of chronic diseases such as chronic obstructive pulmonary disease, and management of avalanche victims, to name a few.
  4. *Aerospace Medicine elective (Canadian Space Agency).*<sup>5</sup> This elective offers medical students and residents an introduction into aviation and aerospace medicine. The emphasis of this experience is on familiarizing learners with the medical aspects of space station operations, and it aims to develop research interest in the medical management of those partaking in current and future manned space exploration.
  5. *Hyperbaric Medicine (Environmental Medicine and Physiology Unit at Simon Fraser University).*<sup>6</sup> This course allows participants to understand the fundamentals of hyperbaric medicine operation of a hyperbaric chamber facility. In addition to recreational divers, industry (e.g., mining, shipping, civil engineering) and research sectors benefit greatly from continued support and develop of this area of medicine.
  6. *Research opportunities.* There are several notable organizations with mandates to develop our understanding of how the environment can modulate human physiology. These organizations are spread out across the country and can be found at the Simon Fraser University Environmental Medicine

and Physiology Unit,<sup>6</sup> the University of Calgary Mountain Medicine and High Altitude Physiology program,<sup>7</sup> and the University of Manitoba Laboratory for Exercise and Environmental Medicine.<sup>8</sup>

7. *Search and rescue (SAR) organizations.* There are a multitude of SAR groups throughout the country that can be found through the Search and Rescue Volunteer Association of Canada<sup>9</sup> or Heavy Urban Search and Rescue<sup>10</sup> units.
8. *STARS Critical Care and Transport Medicine Academy (Shock Trauma Air Rescue Society [STARS] from Alberta).*<sup>11,12</sup> This course is aimed at rural health care professionals, with the goal of increasing their capacity as members of a critical care team.

These experiences offer something for medical practitioners at any stage of their career, providing an introduction into this field of medicine or the ability to delve into a topic at a rigorous academic level. Ultimately, a great number of contributions have already been made by Canadians to the field of WM, and as such, there are fantastic opportunities for medical students, residents, and practicing physicians who wish to become active in this area and build on this knowledge base. The size, geography, and wealth of our country provide health care professionals with the ability to undertake training that would suit anyone’s educational objectives.

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