Emergency Medical Training of Avalanche Professionals Raising the Standards for Remote Care in Canada

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In Canada, emergency medical training of avalanche professionals who work remotely (guides, park wardens, search and rescue technicians) is typically limited to an episodic, short, intensive, and generalized first aid course that provides basic to intermediate knowledge and practice of well-established and accepted diagnostic and treatment protocols. Due to widespread remote geography and limited rescue availability in Canada, avalanche professionals are most often unaided by on-site advanced medical care while responsible for any possible rescue situation that may arise in their vicinity. A designated advanced-skills medical training course to teach principles and sophisticated applications of care to avalanche professionals may improve overall morbidity and mortality rates in patients who are far afield. By training avalanche professionals to provide immediate, comprehensive, limited advanced techniques under the discretion and approval of an emergency medical regulatory staff, relatively safe and simple life-or-limb saving maneuvers may be instituted within the "golden hour" of initial patient need, thereby increasing optimal outcomes for avalanche victims before they can obtain definitive medical care at a tertiary trauma centre.

Keywords: emergency medical training, avalanche rescue, remote medicine, pre-hospital training, avalanche professional training, first aid.

Canada is known for its vast, remote, and rugged geography. Inherent in our winter wilderness areas are avalanche-able terrain. When the combination of people, terrain, and snow conditions equates to avalanche events involving victims, rescue frequently involves or is lead by an avalanche professional (for example, mountain or ski guides, national park rescue service teams, avalanche technicians, or search and rescue members). A victim of an avalanche who survives the initial slide event is likely to have suffered one or more medical sequelae as a result of the avalanche: trauma, (near or complete) asphyxiation, and/or hypothermia. Due to difficult distance and time limitations of providing rescue services in Canada, and the lack of a pre-existing devoted rescue 'team' (an especially a rescuer with ALS training), would it be possible to provide advanced medical skills training to designated avalanche professionals working remotely, to initiate medical care on-site in a more timely manner (i.e. within the "golden hour" of patient resuscitation)? Limited airway assistance control, manouevers to prevent advancing shock states, and specific medication may be within the realm of provision for those aiding in backcountry emergencies, given proper medical supervision, training, and direction. However, significant concerns regarding the medico-legal responsibilities are among the largest barriers to initiating and overseeing such training and use at this time.

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