

## Development of a Training Module for the Management of Cold Water Induced Hypothermia Delivered via a Mobile Tele-simulation Unit.

Cody L. Dunne , Michael Parsons

**Corresponding author:** Cody L. Dunne

1. Faculty of Medicine, Memorial University of Newfoundland 2. Emergency Medicine, Memorial University of Newfoundland

**Categories:** Medical Simulation, Emergency Medicine, Healthcare Technology

**Keywords:** simulation, sbme, cold water induced hypothermia, tele-medicine, tele-simulation, medical education, newfoundland, cold water rescue, lifesaving, public education

### How to cite this poster

Dunne C L, Parsons M (2017) Development of a Training Module for the Management of Cold Water Induced Hypothermia Delivered via a Mobile Tele-simulation Unit.. Cureus 9(8): e.

## Abstract

**BACKGROUND** Newfoundland and Labrador (NL) has one of the highest provincial rates of drowning, largely due to the proximity of rural communities to bodies of water. Factor in the province's cold climate (average NL's freshwater temperature is below 5.4oC) and the prevalence of winter recreational activities among the population, there exists an inherent risk to the population of ice-related injuries and subsequent hypothermia. Due to the relatively short period of time that humans maintain consciousness once submersion in frigid water occurs, quick recognition and management by bystanders is critical to the injured person's survival. However, barriers such as geography, distance from health centers, cost and access to qualified instructors often limit training available to those areas. Combining simulation-based education with distance education technology may present a solution to this problem. Currently, there is development of a mobile tele-simulation unit (MTU) ongoing in NL. This portable device is a simulation lab that can be transported anywhere in the province and used to connect learners to facilitators in larger centers through tele-communications (video/audio conferencing) software. The MTU's goal is to provide sophisticated training in rural areas without the logistical challenges normal to this type of opportunity. Originally designed for deployment to rural communities for medical procedures training, partnership with the MTU and the medical community could see an innovative mode of providing public education about aquatic and first aid emergency management in the areas where these emergencies occur.

### OBJECTIVES

- o Develop an objective-structured evaluation tool for rescue/assessment/management of cold water induced hypothermia.
- o Present an innovative method of providing practical public education opportunities to rural communities.

**METHOD/IMPLEMENTATION** The module consists of pre-learning reading, a practical simulation experience and a debrief/post-scenario didactic teaching session. Learning objectives and the rescue/assessment/management techniques presented in the module were included following a literature review of relevant material. The development of an objective-

### Open Access

Published 08/31/2017

### Copyright

© Copyright 2017

Dunne et al. This is an open access article distributed under the terms of the Creative Commons Attribution License CC-BY 3.0., which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Distributed under

Creative Commons CC-BY 3.0

structured checklist allows facilitators to evaluate the learner's performance against standard expected action. The simulation is designed to encourage learners to build on the background knowledge presented in the pre-learning reading, while also enabling them to be creative in how they achieve the objectives of the scenario. The practical component concludes with a debriefing session and a brief didactic teaching session to reinforce the learning objectives. The debriefing session should be structured to review the simulation and discuss areas where the learner(s) faced obstacles or differed from the expected actions. Besides offering in-situ training in the aquatic environment, the MTU partnership assists with overcoming many barriers to accessible training. If no on-site mentor is available, a mentor located in a larger centre is able to connect with learners and evaluate the module's practical component while providing real-time feedback. Coordinating offerings of this training module with other medical training deployments of the MTU maximizes value added to rural communities.

