

HEALTH

Transporting hypothermia victims vital

Patients can survive for hours on way to hospital

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Even if a hypothermia victim has no heartbeat, getting them to a hospital equipped with a heart-lung machine could save lives, says a study by a University of British Columbia researcher published Thursday.

The victim would have to receive cardiopulmonary resuscitation (CPR), likely with a mechanical device, all the way to a major hospital, according to Dr. Doug Brown, main author of the article published in the *New England Journal of Medicine*. But patients have recovered with no brain damage after more than five hours of CPR.

UBC's Brown, along with researchers in Banff, Alta., Innsbruck, Austria and Bolzano, Italy, examined medical literature dating back decades to determine the European practice of rewarming and transporting patients to well-equipped medical facilities is the most effective treatment. Canada's backcountry is more remote than anything found in Europe, making distances to hospitals much greater.

Europe has an efficient system of helicopter rescue and transport to hospitals, said Brown in an email interview from Mexico where he is vacationing.

"Appropriately equipped hospitals are more dispersed here in North America than in Europe, so transport times are longer," Brown says. "But our review shows that hypothermic patients can tolerate many hours of cardiopulmonary resuscitation (CPR) and still have a good neurologic outcome."

In B.C., specialized equipment that takes over for the heart and lungs by keeping oxygenated blood flowing can be found in Kamloops, Victoria and Vancouver. Calgary is closer for patients in border areas, Brown said.

His report found hypothermia patients in cardiac arrest have a 50-50 chance of survival if they can get to the right hospital. Without this, the chance of living drops to 37 per cent.

According to records from the B.C. Coroners Service, there were 75 deaths in the province from exposure to cold between 2007 and 2011.

A special report on deaths from environmental causes by B.C.'s Vital Statistics Agency in 2000 said 111 people died of hypothermia in B.C. between 1985 and 1998, the same number of people killed by avalanches in that period. (Avalanche victims typically succumb to asphyxiation from snow or injuries from falling debris rather than the cold.)

The regions with the highest number of deaths from natural hazards were in the northern Interior, the Peace Country in the northeast, the West Kootenays, the Cariboo and coast Garibaldi.

Hypothermia results in a lower-than-normal body temperature caused by exposure to the cold. The B.C. Ambulance Service recommends taking hypothermic patients to a hospital for proper medical assessment.

Brown is an experienced mountaineer who is completing his residency at UBC in emergency medicine.

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