

Avalanche victims buried in Canada die significantly quicker than those buried in Switzerland

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Significant differences were observed between the overall survival curves for the two countries; compared with the Swiss curve, the Canadian curve showed a quicker drop at the early stages of burial and poorer survival associated with prolonged burial," writes Dr. Pascal Haegeli, Simon Fraser University, with coauthors. "Poorer survival probabilities in the Canadian sample were offset by significantly quicker extrication (median duration of burial 18 minutes v. 35 minutes in the Swiss sample)."

The study, by researchers in Canada, Italy and [Switzerland](#), was undertaken to better understand factors that affect survival during an [avalanche](#) burial and to help improve rescue, resuscitation and safety protocols worldwide. The data included 301 Canadian and 946 Swiss records of completely buried avalanche victims between 1980 and 2005. The Canadian sample included more people involved in mechanized backcountry skiing and snowmobiling compared with the Swiss sample.

While [trauma](#) reduced survival primarily within the first 10 minutes of burial, the study also revealed that avalanches in areas with denser snow conditions — such as the maritime Coast Mountains — were associated with an earlier onset of asphyxia. Furthermore, the authors state that the reduced survival associated with prolonged avalanche burials beyond 35 minutes may have been due to limitations in clinical skills at the accident site and during transport as well as to long distances to advanced care

facilities.

The consistently lower survival chances among Canadian avalanche burials clearly highlight the importance of prevention through education and avoidance.

However, when an avalanche burial does occur, prompt extrication by companions is paramount for survival. While the window for a successful companion rescue has been previously described as the first 18 minutes, this study shows that in [Canada](#) the window is smaller and 10 minutes might be a more appropriate guideline.

"Rescue teams need to be educated in avalanche rescue techniques. In addition, protocols are needed for more efficient evacuation to appropriate treatment centres, including tertiary care centres for extracorporeal rewarming of people with severe hypothermia," state the authors.

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