The Avalanche Victim Resuscitation Checklist

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Letter to the Editor

The Avalanche Victim Resuscitation Checklist, a new concept for the management of avalanche victims

Sir,

The International Commission for Mountain Emergency Medicine (ICAR MEDCOM) established official consensus guidelines on the onsite treatment of avalanche victims in 2002 and 2013. These aim to inform basic and advanced life support providers of the best evidence-based management, as selected severely hypothermic victims in cardiac arrest can survive with a good neurologic outcome even after several hours of burial. Key parameters for an avalanche victim in cardiac arrest are duration of burial, airway patency, core temperature and the initial ECG rhythm.

However a recent study in the European Alps showed poor adherence with the ICAR MEDCOM guidelines for avalanche victims with out-of-hospital cardiac arrest (OHCA) in the period 1987–2009. Data of key parameters were incomplete, overall survival was very low, and initiation of CPR was lower than expected for patients with long burials and patent airways. The reasons to initiate or withhold resuscitation remained unclear in the majority of cases. Deficiencies in awareness of the guidelines by bystanders, first responders and hospital personnel, and the transfer of essential information from the accident site to hospital may have been partially responsible for the poor outcome.

Although existing management guidelines are simple, utilizing the theoretical knowledge and making the right decisions can be very challenging in the stressful environment of an avalanche where major decisions, such as starting or withholding resuscitation, are being taken. Furthermore, it is to be expected that as the number of victims in the avalanche increases the more difficult it is to maintain adherence to guidelines both for BLS and ALS providers. Information collection and onward flow to the hospital

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are also likely to deteriorate as, in Crew Resource Terms, ‘chaos’ replaces ‘order’. This is especially true in a mass casualty incident.

The checklist concept has been promoted by the World Health Organization since 2008, and has received much attention due to its potential to improve quality of patient care.\(^1\)\(^2\) We used this concept to create an Avalanche Victim Resuscitation Checklist (Figs. 1, S1 and S2). It is based on the best available evidence and the standards required of medical checklists.\(^3\)\(^4\) Together with standardized teaching material, the checklist was approved by the ICAR MEDCOM in 2013. It is a practical tool, designed to improve adherence to guidelines and the transfer of information from accident site to and through the hospital phases. The correct use of the checklist is described in the supplementary file (S3), an AudioSlide presentation and a teaching presentation (LINK). The working group emphasizes that classroom training and simulations in the field by organized rescue teams are fundamental for the correct and efficient use.

As a new concept for the management of avalanche victims, we plan to do validation studies to assess its impact on survival and on appropriate resuscitation decisions including reducing futile resuscitation attempts. Data collected will be available for further studies on management of avalanche victims.

**Conflict of interest statement**

All authors declare no financial or personal conflict of interest.

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**Appendix A. Supplementary data**

Supplementary data associated with this article can be found, in the online version, at http://dx.doi.org/10.1016/j.resuscitation.2015.03.009.

**References**


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