

The **ICAR MEDCOM**

Commission for Mountain Medicine
of the International Commission for Alpine Rescue

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ICAR MEDCOM RECOMMENDATION

Nr.	ICAR MED REC 0038 2020
Version	1.0
Title	Determination of Death in Mountain Rescue
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Originally based on	N/A
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1. Background

Guidelines for the determination of death exist, but proper use can be difficult. In the mountains, objective dangers can prevent direct examination of an apparently lifeless person and thus prevents a determination of death assessment. We aim to give general information and to discuss the criteria for determination of death in the field for medical personnel and laypersons.

2. Recommendations

Nr.	Recommendation	Grade
1	Consider death as a two-stage process; it requires 1) the absence of vital signs AND 2) at least one definitive sign of death.	1C
2	In an apparently lifeless person who is not obviously dead, it is mandatory to check for vital signs.	1C
3	Establishing the absence of vital signs may be very difficult in the mountain environment; technological aids may help.	1C
4	In the absence of objective dangers, the patient should be reached for direct examination as soon as possible.	1C
5	Having established the absence of vital signs, an external examination of the patient for definitive signs of death is made.	1C
6	Definitive signs of death are: livor mortis, rigor mortis, decomposition / putrefaction, decapitation, massive cranial and cerebral destruction / loss of brain matter, hemicorporectomy / similar massive injury or a completely frozen body with lack of chest compressibility is found. Furthermore, avalanche victims in asystolic cardiac arrest with obstructed airways and a burial time of more than 60 minutes, victims with an observed submersion of more than 90 minutes and victims with an incineration with charring of greater than 95% of the body surface may be determined death.	1C
7	Do not determine death in a primary accidental hypothermic victim unless there is a lethal injury, prolonged asphyxia or if the chest is incompressible.	1C
8	Never use the nature of an event to pronounce death.	1C
9	Determination of death from a distance may only be done in victims with massive destruction of the body.	1C
10	If death was determined by a non-authorized person, an official determination of death should be made by an authorized person at the earliest opportunity.	1C

11	Mountain rescue organizations should carry out regular training on assessing for vital signs and in the determination of death.	1C
12	Mountain rescue organizations should establish clear criteria and protocols for determining death.	2C

Literature

Epub ahead of print. Published October 17 2020

[https://www.wemjournal.org/article/S1080-6032\(20\)30123-X/fulltext](https://www.wemjournal.org/article/S1080-6032(20)30123-X/fulltext)

3. Original Recommendations

Not applicable.

4. Original Key Literature

See reference list above.

5. New Literature 2020 – 2025

Not yet.

The Grading System of the American College of Chest Physicians

Grade	Description	Benefits vs risks and burdens	Methodological quality of supporting evidence
1A	Strong recommendation, high-quality evidence	Benefits clearly outweigh risks and burdens or vice versa	RCTs without important limitations or overwhelming evidence from observational studies
1B	Strong recommendation, moderate-quality evidence	Benefits clearly outweigh risks and burdens or vice versa	RCTs with important limitations or exceptionally strong evidence from observational studies
1C	Strong recommendation, low-quality or very low-quality evidence	Benefits clearly outweigh risks and burdens or vice versa	Observational studies or case series
2A	Weak recommendation, high-quality evidence	Benefits closely balanced with risks and burdens	RCTs without important limitations or overwhelming evidence from observational studies
2B	Weak recommendation, moderate-quality evidence	Benefits closely balanced with risks and burdens	RCTs with important limitations or exceptionally strong evidence from observational studies
2C	Weak recommendation, low-quality or very low-quality evidence	Uncertainty in the estimates of benefits, risks, and burden; benefits, risk, and burden may be closely balanced	Observational studies or case series

American College of Chest Physicians classification scheme for grading evidence and recommendations in clinical guidelines. RCT, randomized controlled trial.

Source: Guyatt et al. Chest 2006;129:174-81.