International Commission for Mountain Emergency Medicine (ICAR Medcom)

7 – 11th Oct 2025
Jackson Hole, U.S.A
Host - Teton County Search and Rescue

Minutes

Participants:
See Appendix 1

Apologies:
Mat Pasquier, Hermann Brugger, Mike Greene, Viktor Lugnet, Mario Milani, Les Gordon, Peter Paal, Kyle Mac Laughlin (in Bhutan), Alex Kottmann, Bruce Brink, Julia Fieler,

Register of MedCom Sponsors:
None

Register of Conflicts of Interest:
None declared

Internet:
ICAR
Password: icar2025

Social Media:

House keeping:

Provisional Programme

Thursday 9th October	MedCom
06:30 - 08:00	Breakfast (at your hotel)
08:00 - 08:30 (MED)	President's Report (John Ellerton, ICAR MedCom President)
08:30 - 09:00	
09:00 - 09:30	Occupational Medical Examinations of mountain rescue team members? (Volker Lischke, DRK, Germany)
09:30 - 10:00	Coffee Break
10:00 - 10:30	DiMM updates (Jason Williams, UNM-IMMC , USA)
10:30 - 11:00	Development Session: Splinting and dislocations in Mountain Rescue (Seth Hawkins /Jason Williams, UNM-IMMC, USA)
11:00 - 11:30	Case report - respiratory infection potentially increasing the risk of HAPE and HACE. (Jon Femling / Aaron Reilly, UNM-IMMC, USA)
11:30 - 12:00	Pulmonary function in a harness and review of ICAR Suspension (2021) guideline (Roger Mortimer, NCRC, USA)
12:00 - 13:30	Lunch Location: Hayden's Post / Teton Room / Timberline I / III
13:30 - 14:00	Can helicopters be used to rewarm patients? Sigurd Mydske, (The Norwegian Air Ambulance Foundation, Norway)
14:00 - 14:30	Revised Swiss System for assessment of hypothermia (Ken Zafren, ICAR Honorary Member)
14:30 - 15:00	Drone-delivery of an Automated External Defibrillator in Mountainous Areas (Giacomo Strapazzon CNSAS / Eurac Research, Italy)
15:00 - 15:30	Coffee Break
15:30 - 16:00	Development Session: VHA Rescue: Medical management of casualty (Steve Roy, ISMM)
16:00 - 16:30	Development Session: Rescuer first aid competence (Kaz Oshiro, JMGA, Japan)
16:30 - 17:00	Update on POCUS project (Natalie Hölzl, BExMed, Germany)
17:00 - 18:30	Social Hour for all ICAR Registrants at "Phil Baux Park" (200 meters west of Snow King Resort) All Air Rescue Commission Helicopters and Crew will be on Static Display
18:30 - 19:00	ICAR Executive Board Session - Together with Partners Location: ??????
19:30 - 22:30	Dinner Location: Hayden's Post / Teton Room / Timberline I / III

Friday 10th October	MedCom
06:30 - 08:00	Breakfast - Location: Hayden's Post / Teton Room / Timberline I / III
08:00 - 08:30 (MED)	A review of airway management in hoist and short-haul operations (Scott McIntosh, University of Utah, USA)
08:30 - 09:00 (TER)	Preventing Stress Injury and Developing Resilience for SAR Teams Scott Hammond / Deb Yokshas,Utah County SAR, MRA, USA
09:00 - 09:30	Coffee Break
09:30 - 10:00	Drones in Aviation SAR Will Smith; ICAR Interdisciplinary Drone Workgroup Chair, Teton County SAR (USA) Renaud Guillermet; AirCom Vice President
10:00 - 10:30	
10:30 - 11:00	Development Session: 1) Pain Management and Procedural sedation in Mountain Rescue (Marc Blancher, ENSA, France) and 2) MCI and Disaster Medicine in Mountain Rescue (François Albasini, ENSA, France)
11:00 - 11:30	
11:30 - 12:00	Applying the International Recommendations for Stress Resilience to Alpine Rescue Laura McGladrey; University of Colorado, Stress Trauma Adversity, Research and Treatment Center
12:00 - 13:30	Lunch Location: Hayden's Post / Teton Room / Timberline I / III
13:30 - 14:00	ICAR VHA recommendation on rescuer prophylaxis; Nepal training; airway update
14:00 - 14:30 (AVA)	Cause of Death in Colorado Avalanche Fatalities- an update (Alison Sheets, MRA, USA)
14:30 - 15:00	Efficacy and Pathophysiological Implications of a New Asphyxiation Delaying Device - SAFEBACK (Giacomo Strapazzon, CNSAS, Italy)
15:00 - 15:30	Coffee Break
15:30 - 16:00	Review of Operational Stress Injury Recommendations for Alpine Rescue (2023) (Jon White, MRE&W, UK / Alison Sheets, MRA, USA / Naomi Dodds (UIMLA, Switzerland)
16:00 - 16:30	
16:30 - 17:00	Review of Projects, Future Events, Elections and Closing (John Ellerton, ICAR)
17:30 - 23:00	"Heritage Night" Local Event (including dinner) Location: Teton County Fairgrounds (walking distance)

Saturday 11th October	All Commissions
06:30 - 08:00	Breakfast (at your hotel)
08:00 - 08:30	Ultra Trail du Haut-Fiffre turns into nightmare Dr. Sonia Popoff/ENSM and Col. Bertrand Host/PGHM
08:30 - 09:00	Risk Management and Taking Responsibility to Halt the Rescue Operations Gregor Dolinar / GRZS
09:00 - 09:30	The Good, Bad & Ugly of Rescue Team Cultures Dave Weber; Mountain Rescue Collective (USA)
09:30 - 10:00	Coffee Break
10:00 - 10:30	Competition vs. Collaboration: Shaping Safer Cultures in Alpine Rescue. Janna Allen, Dana Kent. Solitude Ski Patrol (USA)
10:30 - 11:00	Efficiency Saves Lives: Unifying Norwegian SAR with a Common Digital Platform Indisziplinary Presentation from Norwegian Red Cross, Norwegian People's Aid, Norwegian Search and Rescue Dog Association, RNoAF-330SQN - Royal Norwegian Air Force
11:00 - 11:30	How Many Funerals Does It Take? Terry Miyauchi; Arizona Dept. of Public Safety (ret.), Bell Helicopters (USA)
11:30 - 12:00	Near Miss: How Unifying Operational Language Accelerates Cultural Cohesion and Reduces Risk Laura McGladrey; University of Colorado, Stress Trauma Adversity, Research and Treatment Center (USA) Clayton Horney; Colorado National Guard (USA)
12:00 - 12:30	Rescue Mindsets: A new Framework for Response. Michael Ackerman and Jonathan Wilson, Silverton Avalanche School (USA)
12:30 - 13:30	Lunch Location: Hayden's Post / Teton Room / Timberline I / III
13:30 - 17:00	76th ICAR Assembly of Delegates
16:00 - 19:15	**Ride to summit**
19:30 - 24:00	Gala Dinner Location - Summit of Snow King Mountain Resort (walking distance)
Sunday 12th October	
06:30 - 08:00	Breakfast
06:30 - 11:00	Check-out, Departure

President's Report

Introduction:

This year is an election year; the election for President will take place on Friday afternoon:

- For President of the MedCom. Natalie, as President Elect, has prepared over the last two years and is willing to step up. Natalie was elected unanimously with a show of support from MedCom. Our choice was accepted by the Assembly of Delegates.
- It has been the custom in MedCom for the President to appoint 2 Vice-Presidents and for them to be ratified at the next year's October meeting. This gives the President time to think and discuss what is important to them and MedCom. (Our Spring meeting favoured continuing this practise but that has to agreed at the October meeting)
- MedCom Scientific lead (currently Peter Paal)
  Peter to continue in the role and manage the collaboration with WMS particularly in the splinting project.
- MedCom Educational lead (currently Jason Williams)
- A second person to help on non-DiMM education (practical day, educational collaboration ie Hypothermia, Remote etc) was thought to be worth pursuing. Volunteer?

- DiMM Administration Group (President and 2 others, with an extra person for the rescue specialty courses - currently Jason, (John as president), Bruce and Inigo, Oli for rescue specialty)
- ISMM/UIAA/WMS lead? (Currently the President has been the UIAA lead.)

Giacomo has offered to do this - has good contact with Urs. He was asked and accepted this role.

Any suggestions and opinions would be gratefully received before the Friday afternoon. As is MedCom's practice, we will not distinguish ICAR member organisation's single official delegate from others unless a contested vote is going to be taken on Friday.

Other ICAR elections:
President - Gebhard (Austria)
VP - Marie
Treasurer - Markus (South Tyrol)
Air - Renard (France)
Ava - Stephanie Thomas (USA) or Manuel Genswein (Sweden-CH)
Dog - Marcel (CH)
Med - Natalie (D)
Ter - Stefan Blochum (Baverian Mountain Rescue, Germany)
Assessors (4 or 5 to be decided) from Alison Sheets (MRA, USA), Gregor Dolinar (Slovenia), Andrea Dotta SAR (CH), Asgeir Orn Kristinsson (ICAE-SAR, Iceland), Volker Lischke (German Red Cross), Peter Zimmer (LandSAR, NZ), Moira Weatherstone (Scottish Mountain Rescue), Océane Vibert (Groupe France)

Successful candidates at the AOD in XXX, congratulations to Marie, Natalie and Volker. Commiserations to Alison.

Please make sure that your organisation's delegate has completed the required forms so I or Alexis can give them their voting cards at the AOD.

Programme:

Changes/Problems
Mike Inniss has had to delay his presentation until Spring 2026. Catch up presentations were done.

ICAR Congress Jackson Hole 2026 Practical Day:

Thanks to all the instructors. The morning VHA scenario led by the Denali team was unusual for ICAR, worked extremely well and was received very positively. The afternoon A B C D benefited from first class instruction and materials. Appreciative feedback was received.

Minutes and Notes:

The minutes from the ICAR congress have been uploaded here:
https://icarmedcom.boards.net/thread/175/information-on-thessaloniki-october-2024
The notes from our virtual meeting in Feb 2025 are here:
https://icarmedcom.boards.net/thread/196/icar-medcom-virtual-monday-february
The notes from our Spring meeting in Bad Tolz have been uploaded here:
https://icarmedcom.boards.net/thread/193/plans-spring-meet-2025-bad?page=2
There are no notes from the August 2025 virtual meeting. Planning the Jackson Hole meeting was the only subject discussed.

Annual ICAR Medcom Report:

This has been uploaded here:
https://icarmedcom.boards.net/thread/192/general-info-icar-jackson-hole?page=2

Training updates:

EURAC/ICAR Nepal review and finances(Natalie)
Course was described. Successful.

Pik Lenin. A team from the British Mountain Medicine Society has been there for the 2025 season and is preparing for 2026 season. Contact John or Natalie if you are interested. Short report given by Natalie. 2 mountain medical clinics (BC and ABC) by volunteers. 142 consultations. SAR prevention - radio, stretchers and fixed line maintenance. BexMed support.

ISMM World Congress 18 - 20 May 2026:

Venue: at Hathersage, Peak District, U.K
The World Congress consists of 2 days of ISMM subjects and then on the 20th May the ISMM incorporates the International Hypothermia Day into the programme.
The ICAR Spring meeting 21-22 May 2026 follows at the same venue. The 21st will be focussed entirely on our projects giving us more time to discuss these in detail. On the 22nd there will be informal groupings and outdoor based activities. A presentation was shown. See future events.

Financial Report

Here is the actual expenditure for 2024, the budget and current expenditure for 2025

Annual ICAR MedCom €3000	2025 €4000	2025	2026 €4000
	Budget	**Actual**	**Budget**
Open Access fee	€2000 (not allocated - ? POCUS)	€0	€2000
Website	€1250		240
JE expenses non-reimbursed (NH in 2026)	600	£401.93	600
Others?		€0	
	0		
Total (€)	3850		
'Time is Life' education fund expenditure	**7.333,16**	**7.333,16**	0
Remaining 'Time is Life'	**0**	**0**	**0**

New procedures are being implemented by the ICAR board as the commission budgets are going to looked at in greater depth with a budget agreed for the year and then allocated to the commission. Details have not been finalised. Financial report from ICAR Medcom Spring 2025 (Bad Tölz) was given by Natalie

MedCom Website (Natalie, Naomi & Niels)

Continue with duality of ICAR website at the moment. We agreed that the website would be renewed with English in the administration back to increase the pool of persons available. The solution has been found and is within budget. Will have €240 annual fee going forward (up from €120)

WMS guidelines collaboration/coordination (Jason, Martin, etc)

Discussed - Informal to formal will require some work as there are many copyright, author qualification and control issues that should be explicitly agreed ideally before starting a project. The informal approach is sufficient for the splinting paper.

Members Papers:

Appendix 2

IHT registry / 9th International Symposium on Accidental Hypothermia

As above

DiMM Update (Jason)

Current ICAR members on the Admin. Group – Jason*, (John* as president), Bruce* and Inigo*, Oli* for rescue specialty. We did not make any changes but will do a review at the MedCom spring meeting.
2026 DiMM regulation update. See Appendix 3.
DiMM course organisers meeting at ISMM 2026?
The next project for the DiMM will most likely be creating a list of student competencies. More on that in the coming months – update.
There was no disagreement on the regulation update nor the competencies project.

Initiatives

Current ICAR MedCom recommendations

- Multiple Trauma Management in Mountain Environments (2020)
- Determination of Death in Mountain Rescue (2020) - No need to review - next review in 2030
- Clinical Staging of Accidental Hypothermia: The Revised Swiss System (2021) Article published - see Appendix 2. Ken presented a revision to the clinical staging. The changes were controversial. We definitely need further MedCom discussion as concern about increasing misunderstanding by complicating the scale (with the addition of shivering) particularly for non-health care professionals was raised before MedCom could adopt the change. Likewise, adding in 35-37 degrees was questioned. Can we expand the discussion on the MedCom forum? To be discussed again at the Spring meeting.
- Guidelines for Mountain Rescue During the COVID-19 Pandemic (2021) This will be archived in 2026
- Medical Aspects of Avalanche Rescue (2023) The revised checklist has been translated into Czech, French, German, Italian, Polish, Spanish, Catalen, Norwegian and Japanese languages. Great work, thank you. Haris was doing a Greek version - seems to have been lost.
- Suspension Syndrome (2023) - published in SJTREM. No need to update. Review 2029.
- TOR (2023) -published in HAMB
- **Prophylaxis for rescuers at VHA** - published in HAMB (open access) August 2025: https://www.liebertpub.com/doi/pdf/10.1177/15578682251365931
- **Helicopter Rescue at Very High Altitude**: Recommendations of the International Commission for Mountain Emergency Medicine (ICAR MedCom) published in HAMB (open access) Sept 2025: https://www.liebertpub.com/doi/full/10.1177/15578682251375408

Proposed ICAR MedCom recommendations – In progress

- Splinting and dislocations in Mountain Rescue (Seth)
  Targeted to all rescuers. Collaboration with WMS is ongoing. WEMJ output. Paper abstract review (18,000) complete. Draft next year.

- POCUS (Niels, Didier, Andrea, Manu, Natalie and Peter)
  Natalie presented the results. Peer review for publication underway. Scoping review next headed by Manu
- Airway-Management in Mountain Rescue – Clinical Practice Guideline (Matthias, Natalie, Les, Peter, Heiko, Naomi)
  Natalie gave a report. Paper going to peer-review publication
- What Occupational Medical Examinations of mountain rescue team members are performed by ICAR member organisations? A questionnaire study. Volker, Iztok, Gregor Dolinar, Peter, Mario,
  A paper is being completed and it is anticipated that it will be sent out to ICAR members

Papers on Rescue at Very High Altitude – Kyle:

- History (Gege) not proceeding
- Medical management of casualty (Will Smith/Steve Roy and others) - *Steve R outlined some of the problems. Hoping for a draft in May or October 2026.*
- Position Paper on the ethics of Rescue at Altitude - U*nder revision - John*

- Management of Multi Casualty Incidents in Mountain Rescue (2018) - *François Albasini presented what might be added such as human factors and specificity Volunteers email François*
- MCI tools - Avalanche Triage - *Not on agenda - Mike Innis will present in Spring 2026*
- Management of Moderate and Severe Pain in Mountain Rescue (2019) -*Marc Blancher outlined the review, Yes to procedural and regional - maybe separate paper. Volunteers please*
- Rescuer first aid competence document (Kaz, Mike and Mario) - *Kaz outlined the project foundation competencies for mountain rescue responders.Please share syllabus from your organisation. Reaching out to TerCom etc.. Volunteers please. Presentation onto forum and in appendix. Note timeline. Draft mid 2026.*

Aspirational!

- Blood Products (Sven, John) Aaron Reilly and Drew Harrell UNM and Oli are interested.
- Health Care Professional training?
- New ones:
  - Drowning? WMS next year
  - Heat Illness
  - Ultramarathon

Current ICAR recommendations (passed at an AOD)

- Medical Aspects of Avalanche Rescue (2022)
- Revised Hypothermia Swiss staging (2021)
- Suspension syndrome recommendation (2021)
- Guidelines for Mountain Rescue during the COVID-19 Pandemic (2021) Archive in 2026
- Operational Stress Injury Recommendations for Mountain Rescue(2023) A review was carried out and suggestions made for updating. These would be completed and presented in
- TOR (2023)
- Rescue at Very High Altitude - a Position paper - Ethical considerations: (2025) paper under peer review. AOD will be updated on progress on publication

Proposed ICAR recommendations (for AOD 2025)

- Rescue at Very High Altitude: Pharmacological Prophylaxis and Supplemental Oxygen for Unacclimatised Rescuers A draft has been prepared - Appendix 4 – and presented to MedCom. It went to the AOD And was approved. PDF sent to Gebhard for the ICAR website and minutes.
- Helicopter Rescue at VHA This will need doing in collaboration with AirCom in 2026.

Other Projects

- **ICAR Registry of Rescuer deaths**.

One historic form received from NZ. Iztok suggested that along with Gregor this could be reinvigorated. John will pass on the files.

Future events

	Year	Date	Place
ICAR MedCom 'Spring' meeting	2026	21 – 22 May	Peak District UK - linked to ISMM World Congress. Lead - JE, MG and KG, ND, SW
	2027	22 - 25 April	Host - Luigi – *Sardinia (Olbia) together with the CAI and following 2nd 'Rescue in Difficult Environment' 20-21/04/2027 Luigi hopes to cover MedCom in-country expenses for the MedCom meeting*
	2028	?	*Let's think about outside Europe in view of projected ICAR congresses*
CNSAS	2025	13 - 14 Nov	Simulation and team training in MR (Mario) at EURAC
ISMM World Congress	2026	18 - 20 May	Peak District in conjunction with British Mountain Medicine Society.Incorporates IHT day
ICAR Congress	2026	6 -11 October	Innsbruck, Austria *Informal evening at Peter's*
	2027	?	Romania?
	2028	?	Croatia?
UIAA MedCom	2025	Oct 23 (Hybrid)	Kosovo with UIAA General Assembly (24th) and a course after(25-26th)
	2026		At ISMM?

ICAR Med Com Spring Meeting 2026: Peak District, England

The 2026 Spring meeting will be held in Hathersage a village in the Peak District National Park in England https://www.peakdistrict.gov.uk/home.
The location is easily accessible from Manchester. The surrounding countryside has hills, wild moorland and some of the best single pitch traditional rock-climbing in the UK.

The ISMM Conference is being held in Hathersage May 18,19,20 incorporating the International Hypothermia Meeting on Wednesday 20 May. The website for this conference will be open late October and tickets available from November 2025.

The ICAR Med Com Meeting will be held on Thursday 21 and 22 of May.

Programme:

Wednesday 20th evening: Transfer to Bike and Boot accommodation and meal together in local venue https://www.bikeandboot.com/peak-district

Thursday 21th: ICAR Meeting. Business meeting, review of projects and papers.
Accompanying persons activity options.
Thursday evening: visit to local mountain rescue team and social activity in British Pub.

Friday 22nd: ICAR Med Com Social Day and networking. There will be options for local walks or climbing. Refreshments at local venues.
Friday evening: meal together.

Accommodation and Meeting:

There is an ICAR Med Com Package for members.

- Three nights bed and breakfast accommodation (20, 21,22 May leave am 23 May)
- One evening meal in local venue.
- ICAR Med Com Conference facilities and Lunch.

Cost £330 GBP (Approx. 377Euros)

Day attenders to ICAR Med Com Thursday £40

You will be responsible for the cost of travel, two evening meals, lunch on Friday snacks etc.
Please use this package rather than making direct booking with the hotel. We have already paid deposits to reserve the rooms.

Book using the link:

Travel.

The nearest airport is Manchester. The train from the airport goes into Manchester Piccadilly Station (15min) and a local train connects to Hope Station (50min). The Bike and Boot Hotel is 1.3km from the station. Free car parking on site.

More details will be available nearer the date. **We need to confirm our booking before December 20 2025.**

Questions or concerns: Natalie:mountain.medicine@alpine-rescue.org or docnat@gmx.net, John: johnellerton01@btinternet.com or Mike: docmgreene@hotmail.com

9th INTERNATIONAL HYPOTHERMIA DAY - IHD

Co-organized with ISMM / UIAA / BMMS / ICAR-MEDCOM

Wednesday, 20th May 2026, at Hathersage

PLENARY SESSION 1: HYPOTHERMIA (08h30 – 10h30) - Main Hall

6 talks of 15'

Chairmen: B. Walpoth, J. Ellerton

Possible speakers / Topics:

- **Beat H. WALPOTH**: Introduction & Update of IHR, & Defibrillation of arrested hypothermic patients - an International Hypothermia Registry study **ok**
- **Evelien COOLS:** New Hypothermia ELSO Guidelines **ok**
- **Peter PAAL**: Which Scoring System for which Hypothermic Patient ? **ok**
- **Les GORDON**: Non-ECLS rewarming of hypothermic patients - a scoping review (Les GORDON, Raimund LECHNER, et al)
- **Ken ZAFREN**: Myths in Hypothermia **ok**
- **Mathieu PASQUIER**: Hypothermia mimics and chameleons **ok**

PLENARY SESSION 2 Frostbite (16h00 – 18h00) with Closing of Congress

(16.00 – 18.00) - Main Hall 6 talks of 15'

Chairmen: Chris Imray and Alex Poole

- **Chris Imray**: Introduction & Update of Modern Frostbite Management
- **Rachel Nygard**: International Frostbite Registry and future research questions
- **Alex Poole:** The Canadian experience
- **Ken Zafren**: Pharmacokinetics of iloprost.

  Sarah Hollis: International Frostbite Collaborative
- **Herman BRUGGER** : optimal treatment of patients suffering from severe hypothermia and frostbite: Management of the combined hypothermic frostbitten patient

PARALLEL SESSIONS Possible speakers / Topics:

In the morning between 11h00 and 13h00:
In the afternoon between 13h30 and 15h30

- **Ane Marthe HELLAND:** Innovative studies on active external rewarming in pre-hospital settings **ok**
- **Pawel PODSIADŁO:** HELP score **ok**
- **Giacomo STRAPAZZON**: Advancements in avalanche survival prolongation **ok**

And many others:
Offers?

Appendix 1: Members present (Jackson Hole)

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Appendix 2: Papers from members:

A regional modification to the Revised Swiss System for clinical staging of hypothermia including confusion. Gray D, Pasquier M, Brugger H, Musi M, Paal P.Scand J Trauma Resusc Emerg Med. 2024 Nov 11;32(1):110. doi: 10.1186/s13049-024-01273-3.
And a correction:
Correction: A regional modification to the Revised Swiss System for clinical staging of hypothermia including confusion. Gray D, Pasquier M, Brugger H, Musi M, Paal P.Scand J Trauma Resusc Emerg Med. 2025 Jan 3;33(1):2. doi: 10.1186/s13049-024-01303-0.

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Appendix 3: Proposed Revision for DiMM regulations concerning CPD.

Text below to replace existing language in DiMM regulations concerning CPD (formerly known as "maintenance of diploma")

Continuing Professional Development (CPD) for DiMM holders:

The Diploma in Mountain Medicine does **not** provide a license to practice mountain medicine. The DiMM is an academic qualification and DiMM holders must ensure they have the suitable expertise and only practice within their range of competency. Principles of continuing professional development for Diploma in Mountain Medicine holders are:

- CPD is education and training recognized as contributing to the continued professional development of a DiMM holder.
- DiMM holders are ultimately responsible for identifying CPD needs, planning how those needs should be addressed, and undertaking CPD that will support professional development and practice.
- It is the DiMM holders' responsibility to maintain a record of CPD and present this, as required, at appraisal for revalidation according to professional regulations in a given country or region.
- CPD must include mountain-based skills to enable DiMM holders to function safely and efficiently in the environment in which they are operating.
- DiMM holders are obliged to participate regularly in education and training opportunities and CPD which are organized by DiMM programs, by member associations (UIAA, ICAR, ISMM), and by external organizations offering CPD applicable to mountain medicine.
- Each country (subject to any national or federal laws) can set its own recommendations as to how often CPD should take place. The DiMM member organizations (UIAA, ICAR, and ISMM) recommendation is that a DiMM holder carries out a minimum of 60 hours of CPD over 5 years (12 hours / year).

Sample DiMM CPD Framework:

Topic	Minimum Hours in 5 year period	Minimum Average Hours each year	Objectives
Mountain Medicine	40 hours	8	Subjects determined by personal development plan and hours balanced across a range
Mountain based skills	20 hours	4	To maintain the skills required to operate safely and effectively in the environment in which the DiMM holder

Topic and Type of CPD (Examples adapted from British Mountain Medicine Society)
Mountain Medicine (Examples) - **Clinical Topics** (mountain Emergency medicine, environmental medicine, altitude medicine, expedition medicine, etc.) **Different methods can be used such as conferences, workshops, webinars, podcasts, reading or peer reviewed guidelines, etc.* - **Audit and reflection on clinical practice** (peer review of cases, audit of personal mountain medical practice) - **Academic Topics** (Critical appraisal of current literature, participating in research leading to publication in peer reviewed journal or reviewing for a journal, other publication e.g., book chapter related to mountain medicine, undertaking formal study resulting in an academic qualification e.g., certificate, Diploma Masters or PhD) - **Teaching delivering education** (Teaching related to mountain medicine in which the CPD activity has personal development value)
Mountain Based (Examples) - Formal training in mountain-based activity (e.g. avalanche, weather, navigation, ropework, improvised rescue, mountain rescue training, technical skills training, etc.) - UIAA grade 3 or above climbing, alpine or general mountaineering, off piste skiing of ski

Appendix: 4

International Commission for Alpine Rescue

2025 Rescue at Very High Altitude: Pharmacological Prophylaxis and Supplemental Oxygen for Unacclimatised Rescuers

Prepared for the AOD by John Ellerton (MedCom President) and Kyle McLaughlin (Lead Author)

Passed by the AOD on the 11th October 2025. Review 2030.

These ICAR recommendations are designed for all rescuers and mountain rescue organisations.

Mountain rescuers are exposed to significant risk in the work they perform. These risks can be increased when the rescue is at very high altitude (VHA, defined as > 3500 m above sea level) as rapidly ascending to these altitudes expose the rescuer to the detrimental effects of low levels of oxygen in the air. Cognitive function, for example decision making and problem solving can be impaired. Physical impairment, particularly when exercising, occurs and high-altitude illness (HAI) can develop. These recommendations are targeted at the unacclimatised rescuer ascending rapidly and cover oxygen supplementation as well as pharmacologic measures to reduce rescue missions. More detailed guidance has been published by ICAR Medcom and is available here: https://www.liebertpub.com/doi/pdf/10.1177/15578682251365931

The ethical considerations of performing VHA rescues, the use of helicopters in VHA rescues and the medical management of the casualty are dealt with other papers that are currently nearing completion.

Comments are welcome; please send them to: mountain.medicine@alpine-rescue.org or Kyle McLoughlin kyle.mclaughlin@me.com

Recommendations:

All rescuers and pilots engaging in rapid ascent rescue to VHA should have an egress plan and survival kit in case of aircraft grounding or unexpected stay at altitude. See table 1.

Oxygen Supplementation

(1) **During flight:** Pilots and aircraft crews should use supplemental oxygen (O_2) in accordance with the regional aviation regulations. If no regulation exists, supplemental oxygen should be used based on the following guidelines:

- **Optional use of O_2:** Rescue duration <30 minutes for flights below 4,000m.
- **Recommend use O_2:** Rescue duration >30 minutes for flights between 3,500 and 4,000 m.
- **Mandatory use of O_2:** Any of time for a flight above 4,000 m [2]

(2) Rescuers on the ground after a rapid helicopter ascent:

- Unacclimatised rescuers flown to VHA should use supplemental oxygen on the ground and during long- line HEC missions lasting more than 30 minutes at altitudes between 3,500 and 4,000 m and for rescues of any duration above 4,000 m. [2]

(3) Terrestrial rescuers approaching patients by ground:
Terrestrial rescue teams rapidly ascending above 3,500 m should use supplemental oxygen, if it is available and practical. [2]

(4) Rescuers using supplemental oxygen need not use pharmacological prophylaxis unless the duration of exposure to VHA exceeds the oxygen supply. [3]

Pharmacological Prophylaxis

Acetazolamide (AZ):

- Should be used for prophylaxis against AMS in rapid ascent rescues to altitudes between 3,500 and 5,000 m if the rescue is expected to last more than 3 hours and immediate deployment is not required. [1]
- Start AZ the day before ascent if possible. Day-of- ascent initiation is acceptable and confers a benefit over placebo. [2]
- AZ should be administered at a dose of 250 mg every 12 hours. [2]
- After rapid ascent, the time spent at VHA is limited to the minimum required to perform the rescue. [3]
- AZ should be discontinued upon descent to the previously acclimatised elevation. If prolonged duration is unavoidable at VHA, AZ should be continued during the rescue for 2–4 days or until descent. [3]
- AZ should not be used in rescuers with prior anaphylaxis or Stevens–Johnson syndrome caused by sulfonamides. [3]

Dexamethasone (DEX):

- DEX 4 mg every 6 hours should be used for AMS prophylaxis in rapid ascent rescues when the duration above 3,500 m is expected to exceed 3 hours, and immediate deployment is required. [2]
- For rescues above 5,000 m with a duration exceeding 3 hours, or missions with prolonged physical ground work, DEX should be used in conjunction with AZ. [3]
- DEX should be used rather than AZ for AMS prophylaxis in individuals with prior anaphylaxis or Stevens–Johnson syndrome from sulfonamides. [3]
- DEX should be tapered slowly rather than abruptly stopped if used for more than 7 days. [1]
- For prolonged exposure to VHA, DEX should be used for 2–4 days or until descent to the previously acclimatised elevation.[3]

Rescuers with a history of HAPE:

- Should avoid rapid ascent rescues above 3,500 m unless absolutely necessary. [3]
- If Rescuers with a history of HAPE must be rapidly deploy to altitudes above 3,500 m supplemental oxygen, or if unavailable, nifedipine 30 mg SR every 12 hours or 20 mg SR every 8 hours should be initiated. If they are unable to take nifedipine, tadalafil 10 mg every 12 hours should be used. [2]
- Nifedipine and tadalafil should not be used concurrently. [1]

Footnote:
[3] strong recommendation, low-quality evidence
[2] strong recommendation, moderate quality evidence
[1] strong recommendation, high-quality evidence

Table 1: High-Altitude Survival Kit for Rescuers and Pilots unable to descend following Rapid Ascent to >3,500 m

Food, hydration, stove and fuel
Oxygen supplementation
High altitude illness prevention and treatment medications for high-risk ascent: AMS: Acetazolamide 250 mg oral every 12 hours HACE: Dexamethasone 4 mg every 6 hours (start with 8 mg for treatment) HAPE: Nifedipine 30 mg SR oral every 12 hours
Personal safety equipment including but not limited to appropriate footwear, adequate clothing, personal shelter, sleeping bag, and climbing equipment (if required) to safely descend if egress plan required or spend the night.
Standard first aid kit
Consider portable hyperbaric chamber at site or base camp if overnight stay is anticipated