



## **DIPLOMA IN MOUNTAIN MEDICINE**

Many countries offer regular courses in mountain medicine. The medical commissions (Medcom) of UIAA and ICAR, together with the International Society for Mountain Medicine (ISMM) established minimal requirements for a formal Diploma course in August 1997 (Interlaken, Switzerland). Many course organisers adopted these standards and the resulting Diploma in Mountain Medicine (DiMM) has become a widely respected qualification. The regulations have been updated to reflect developments in mountain medicine, ideas presented at meeting of course organisers in May 2014 and to ensure that the high standard of the DiMM is maintained. The member organisations approved the administrative group to change the regulations at their individual meetings in Bolzano, Italy (May 2014). The new regulations become effective for new and re-approval applications from January 2015.

### **Principle**

To be applicable the diploma has to be acceptable internationally and to form a realistic goal for all countries regardless of their educational facilities. It has to be sensitive to the international and cultural diversity of the members of the UIAA, ICAR and the ISMM. Different countries have different administration systems for both medical and mountaineering regulation (or lack of regulation). Different cultures have different learning styles and education assessment systems. The regulations have to be sensitive to these differences yet will strive to protect its international credibility and ensure a high uniform basic standard. The names of approved courses and their geographic location, main language and contact email address will be posted on the member organisations' websites.

### **Process:**

Organisers of mountain medicine courses can apply to endorse their courses with the label of UIAA, ICAR and ISMM Diploma of Mountain Medicine by sending a standard application form and the course programme to Dr David Hillebrandt ([dh@hillebrandt.org.uk](mailto:dh@hillebrandt.org.uk)) or John Ellerton ([johnellerton01@btinternet.com](mailto:johnellerton01@btinternet.com)). Applications are to be English and a separate form is required for specialty modules. The administrative group will discuss the application and the course organiser will be notified of its decision. We will acknowledge receipt of the application within three weeks. We may ask for further details within one month. A definitive answer regarding registration of the course will be given within three months. The course may be approved, rejected with reason(s) or referred to the UIAA and ICAR medical commissions and the ISMM.

Essential elements of a course are:

All courses must be open to all suitably experienced candidates regardless of age, sex, nationality, race, creed or religion. A course organiser can set pre-entry qualifications (e.g. medically-qualified doctors only) if it is felt necessary.

All basic courses should cover the core syllabus (see below) in both theory and practical skills in both medicine and mountaineering for 120 hours. Course organisers have 31 hours for topics specific to the needs of their country or their course. This will be in addition to the basic international syllabus. Organisers may apply to run specialty courses in Expedition and/or Rescue Medicine. The syllabi are set out below.

Courses should endeavour to affiliate to a university or professional body for academic accreditation. The medical faculty overseeing the course should be appropriately qualified and able to demonstrate suitable continuing professional development.

Fully qualified UIAGM guides must oversee the practical aspects of the mountaineering element of the diploma. All practical mountain skills instructors on the course should have any required national qualifications.

Courses must have a support system in place for their students. For example, each student should have a mentor for the duration of the full course.

Some countries will chose to run their approved course over several modules to cover the whole syllabus during different seasons. In this case any candidate starting the course should complete it within four years unless there are very exceptional extenuating circumstances and they can produce evidence to support the fact that they have continues to be active in the skills required.

Courses must have some form of valid theory assessment and demonstration of practical skill. The level of medical knowledge and depth of study should be at least equal to a postgraduate medical qualification. The minimum level of mountaineering skills is set out in Appendix 1. The formal assessment system must have a pass, fail or deferral potential for both the medical and mountaineering sections of the course. Basic course assessments should use two questions supplied by the administrative group for that year. These are available from John Ellerton ([johnellerton01@btinternet.com](mailto:johnellerton01@btinternet.com)) Organisers should assess the answers to an appropriate standard. (How the question is presented and answered by the candidate is open to the course organiser to decide. For example, 1200 word essay; short answer question; structured viva, etc.)

The qualification can only be awarded to Health Care Professionals registered with a national professional regulatory body. Students in the final part of their course can start the course but must be registered prior to award of the full qualification. The UIAA/ICAR/ISMM basic course must be completed before any candidate can be awarded a Diploma for an additional expedition course or rescue course. The title 'mountain emergency doctor/paramedic etc.' is reserved for those students who have completed a basic course and a specialty rescue module.

Courses should publish a full list of Diploma holders on a website accessible to the public with names, date of issue and diploma number. The website should have links to and from the websites of the UIAA, ICAR and the ISMM.

Courses must have some system for recording continued personal professional development (mountaineering and medical skills and activity, relevant courses attended, any research and/or teaching undertaken) for holders. The minimum requirement is a logbook system. A reaccreditation system appropriate to national regulations (but with a maximum cycle of 5 years) must be set up and reflected in the list of Diploma holders.

### New courses

New courses are approved for 2 years. They should have formal links to an established Diploma for support during the initial two years. New course organisers are encouraged to invite members of the UIAA Medcom, ICAR Medcom and ISMM to observe their courses.

### Re-approval

An application for re-approval must be made after 2 years and then, if successful, every 4 years. Each time a course makes a re-approval request, a formal report from an external assessor acceptable to the administrative group who has been present at a course during the preceding 2 years. The report must accompany the re-application form. (Examples of an acceptable external person could include another course organiser, a member of the Administrative group or another member the UIAA or ICAR Medcoms or ISMM.) Courses must be able to pay reasonable travel and in country expenses for the presence of an external assessor. To minimise expense the assessor could be used as an outside teacher on the course and should never expect more than reasonable expenses that have been agreed beforehand.

### Administrative team

The administrative team is made up of representatives elected by the member organisations and their respective presidents. The minimum number of persons is three. It will conduct its work by email and be accountable to the member organisations. A representative with a *conflict of interest* must inform other members of the team of the conflict. Decisions are made by consensus. The administrative team does not have the authority to alter the regulations. Its role is to approve courses by assessing the curriculum and assessment methods, and to keep a record of courses (so that enquiries can be directed to course organisers). The current team consists of: David Hillebrandt, Urs Hefti ([urshefti@bluewin.ch](mailto:urshefti@bluewin.ch)) and George Rodway ([gwrodway@hotmail.com](mailto:gwrodway@hotmail.com)) for the UIAA Medcom; Fidel Elsensohn ([fidel.elsensohn@aon.at](mailto:fidel.elsensohn@aon.at)), John Ellerton and Bruce Brink ([bruceabrink@gmail.com](mailto:bruceabrink@gmail.com))/David Watson ([dewa369@gmail.com](mailto:dewa369@gmail.com)) for ICAR Medcom; and Remco Berendsen ([R.R.Berendsen@lumc.nl](mailto:R.R.Berendsen@lumc.nl)) and Buddha Basnyat ([buddhabasnyat@gmail.com](mailto:buddhabasnyat@gmail.com)) for ISMM. Oliver Reisten ([oliver.reisten@air-zermatt.ch](mailto:oliver.reisten@air-zermatt.ch)) has been added to the administrative group specifically to help with the specialty rescue module.

## Syllabus

### BASIC COURSE IN MOUNTAIN MEDICINE

| Basics of:   | Minimal time requirements (hrs) | Instructors   | Suggested Training:          |
|--|---------------------------------|---|------------------------------|
| Altitude and its illnesses   | 8                               | high altitude experienced doctor  | theory                       |
| Exercise physiology  | 1                               | physiologist or experienced doctor  | theory                       |
| Nutrition, fluid balance and exhaustion  | 1                               | experienced doctor or nutritionist  | theory                       |
| Hypothermia  | 4                               | experienced doctor  | theory + practical           |
| Frostbite  | 2                               | experienced doctor  | theory                       |
| Submersion and immersion in water  | 1                               | experienced doctor  | theory                       |
| Heat and solar radiation   | 1                               | experienced doctor  | theory                       |
| Practical traumatology   | 8                               | experienced doctor  | workshop                     |
| Analgesia in the field   | 2                               | experienced doctor  | theory                       |
| Effects of pre-existing clinical conditions                                    | 4                               | experienced doctor  | theory                       |
| Children and mountains   | 1                               | experienced doctor (paediatrician)  | theory                       |
| Travel Medicine  | 2                               | experienced doctor  | theory                       |
| Infection control and water safety   | 1                               | experienced doctor  | theory + practical           |
| Weather  | 1                               | mountain guide or meteorologist   | theory                       |
| Performing medical research  | 1                               | experienced doctor  | theory                       |
| Stress management  | 1                               | experienced doctor  | theory                       |
| Information technology in the mountains  | 1                               |   | workshop                     |
| Ethics including sports and drug use   | 1                               |   | discussion                   |
| Legal aspects  | 0.5                             | experienced lawyer or doctor with medico legal experience                         | theory                       |
| International mountaineering organisations                                     | 0.5                             |   | theory                       |
| Personal first aid kit and mountaineering equipment                            | 1                               | experienced doctor  | theory                       |
| Mountaineering techniques in summer and winter (see Appendix 1)                | 24                              | qualified mountain guides   | practical                    |
| Navigation and survival techniques in hostile weather in the mountains         | 8                               | mountain guide  | workshop + practical         |
| Avalanche risk assessment, companion search, and medical management of victims | 4                               | experienced doctor + mountain guide or experienced avalanche worker/ski patroller | theory + practical           |
| Introduction to improvised rescue techniques                                   | 2                               | experienced mountain rescue doctor, team member and/or mountain guide             | theory                       |
| Practical demonstration of improvised rescue techniques                        | 4                               | experienced mountain rescue doctor, team member and/or mountain guide             | practical                    |
| Organised rescue   | 4                               | experienced mountain rescuer  | Theory + workshop            |
| Additional subjects selected by the course organiser                           | 31                              |   | theory, workshop + practical |
| <b>Total number of hours</b>   | <b>120</b>                      |   |                              |

### SPECIALTY COURSE: EXPEDITION AND WILDERNESS MEDICINE

This course is designed for Health Care Professionals going on treks and expeditions with the anticipation that they will be providing medical support.

|  |                     |  |                        |
|--|---------------------|--|------------------------|
| Altitude   | 4                   | experienced expedition doctor  | theory and workshop    |
| Cold   | 3                   | experienced expedition doctor  | theory + workshop      |
| Travel Medicine  | 4                   | doctor specialized in tropical or travel medicine, or experienced doctor | theory                 |
| Traumatology   | 4                   | experienced expedition doctor  | workshop               |
| Improvised rescue techniques   | 4                   | experienced expedition doctor or IFMGA guide                             | workshop               |
| Survival techniques in high altitude and personal equipment for high altitude mountaineering | 10                  | mountain guide experienced in high altitude climbing                     | workshop and practical |
| Expedition medical kit   | 1                   | experienced expedition doctor  | workshop               |
| Expedition Medical Research  | 2                   | experienced expedition doctor  | workshop               |
| Team building  | 2                   | experienced team leader  | workshop               |
| Common expedition problems   | 8                   | experienced expedition doctor or leader                                  | workshop               |
|  | <b>Total 42 hrs</b> |  |                        |

### SPECIALTY COURSE: RESCUE

This course is designed for Health Care Professionals who are (or becoming) members of an organised rescue system. They should have been trained in Advanced Life Support and be experienced in mountaineering to an appropriate standard. Curriculum A focuses on medical aspects of terrestrial mountain rescue and is the prerequisite for the attainment of the Diploma. The Add-on Module 'Air Rescue' (Curriculum B) is recommended for air rescue operations in mountainous terrain and should at least attain the minimum standards and regulations of the region or nation.

#### Curriculum A (Terrestrial Mountain Rescue)

|  |                     |  |                               |
|--|---------------------|--|-------------------------------|
| Rescue techniques in organised rescues | 20                  | qualified, experienced mountain guides and rescue doctors          | theory + workshop + practical |
| Helicopter rescue techniques           | 6                   | experienced helicopter persons                                     | theory                        |
| Mountain rescue in airborne sports     | 2                   | experienced mountain rescue doctor                                 | theory + workshop             |
| Canyoning rescue                       | 2                   | experienced doctor and canyon guide                                | theory + workshop + practical |
| Hypothermia, avalanches and frostbite  | 8                   | experienced doctor and mountain guide or experienced ski patroller | theory + workshop + practical |
| Cave rescues                           | 2                   | experienced caving doctor  | theory + workshop             |
| Crew Resource Management               | 2                   | experienced doctor   | theory                        |
| Mountain Rescue Research               | 2                   | experienced doctor   | journal club                  |
| Mountaineering skills (see Appendix 1) | 10                  | qualified and experienced mountain guides                          | practical                     |
|  | <b>Total 54 hrs</b> |  |                               |

## Curriculum B (Air Rescue)

|                   |                     |   |                    |
|-------------------|---------------------|---|--------------------|
| Helicopter rescue | 16                  | experienced helicopter persons and air rescue doctors | theory + practical |
|                   | <b>Total 16 hrs</b> |   |                    |

### **Appendix 1 - Minimum mountaineering skills**

Please note these are minimum standards; many courses will expect their candidates to achieve a higher mountaineering standard.

#### **A) Basic course**

- Summer: Knots and their uses: Fishermen's knot, figure of eight, Prusik, clove hitch, Munter (Italian) hitch; tying into a harness; creating an anchor system; belaying; abseiling with descender and prusik; ascent of fixed rope with prusiks; ability to follow on a UIAA grade 3 climb: preparing a landing site for helicopter evacuation; ground-to-air hand signals.
- Winter: Glacier travel and walking on ice with crampons; belaying by using a variety of techniques suited to snow and ice; climbing grade WI (Winter Ice) 2; improvised crevasse rescue including simple pulley systems; locating a buried avalanche victim using a transceiver and probes, extracting the victim and preparing for rescue.
- Navigation: Able to use a map and compass to navigate accurately. Ability to define position.

#### **B) Specialty Rescue module**

As above plus the following:

- Risk assessment of mounting an organised rescue
- Summer: additional knots and their uses; pulley and hoist systems; extracting a patient from steep terrain; rock climbing - leading UIAA grade II/III and following UIAA IV with doctor's rucksac.
- Canyoning: additional knots (figure of nine, releasable rope attachments); safety in canyoning; information about swimming techniques in swift water, abseiling techniques with fixed and releasable systems and tyrolienne techniques.
- Winter: safe off-piste skiing and appreciation of snowshoe use; successful search of a buried person by using a transceiver within 3 min; successful probing and efficient extrication of a buried person; glacier travel; crevasse rescue in improvised and organised rescue situations; belaying by using ice-screws and the construction of an Abalokov/V-thread; walking on ice with crampons; climbing grade WI (Winter Ice) 2/3
- Helicopter: Helicopter operations and rescue techniques appropriate to country; Helicopter ground to air communications; preparing a patient in a rescue bag for winch operation.

This document was originally produced by Urs Wiget and Bruno Durrer (January 1998); it subsequently revised by David Hillebrandt (April 2004), and DH and John Ellerton (September 2007, June 2010, January 2014 and finalised in April 2015)