



Tomazin, Brugger, Elsensohn, ICAR MEDCOM 2006



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On site
medical treatment
of victims
if possible
if reasonable



“Scoop and run”



“Stay and play”



“Scoop and run”

*The north face of
Rjavina in Julian Alps:
hanging climber
with fractured pelvis*

“Stay and play”



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HIGH ALTITUDE EMERGENCY MEDICINE



**Emergency
situation
just below
the summit
of Gasherbrum 2**

*Tomazin, Brugger, Elsensohn,
ICAR MEDCOM 2006*

HIGH ALTITUDE EMERGENCY MEDICINE

- New devices
- New drugs
- Helicopters fly higher
- Better organization?
- Prevention!

4. RESEARCH AND PUBLISHING

- Our main goal is to improve, share and spread our knowledge and experience worldwide
- Cooperation with other ICAR commissions
- Cooperation with UIAA MEDCOM
- Cooperation with other institutions



Medical knowledge
and experience
of other members
of rescue team
as well as support

Tomazin, Brugger, Elsensohn, ICAR MEDCOM 2006

ICAR MEDCOM GUIDELINES AND RECOMMENDATIONS ARE INTENDED FOR:

- **Mountain rescue doctors**
- **Mountain rescuers**
- **Emergency doctors**
- **Rescue first responders**
- **Rescue organisations**
- **Mountaineers (some)**
- **Local authorities (some)**



CONSENSUS GUIDELINES ON MOUNTAIN EMERGENCY MEDICINE AND RISK REDUCTION

Editor: Fidel Eisensohn, MD



International Commission for Mountain Emergency Medicine

ICAR MEDCOM

Medical Commission of the International Mountaineering and Climbing Federation

UIAA MEDCOM



MEDICAL TRAINING IN AVALANCHE RESCUE

TIME IS LIFE

MEDICAL TRAINING IN AVALANCHE RESCUE

TIME IS LIFE



LANGUAGES

English / French / German / Italian / Spanish / Russian / Japanese / Korean / Chinese / Hindi / Thai / Vietnamese / Indonesian / Malay / Tagalog / Filipino / Bengali / Urdu / Persian / Turkish / Polish / Czech / Slovak / Hungarian / Romanian / Bulgarian / Serbian / Croatian / Slovenian / Croatian / Slovenian / Croatian / Slovenian

USA 2006
DVD 10
DVD 9
DVD 8
DVD 7
DVD 6
DVD 5
DVD 4
DVD 3
DVD 2
DVD 1

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- **ON SITE TREATMENT OF AVALANCHE VICTIMS**
(Brugger, Durrer 2002)
- **ON SITE TREATMENT OF HYPOTHERMIA**
(Durrer, Brugger, Syme 2003)
- **ON SITE TREATMENT OF FROSTBITE FOR MOUNTAINEERS**
(Syme 2003)
- **MEDICAL CONSIDERATIONS IN THE USE OF HELICOPTERS IN MOUNTAIN RESCUE**
(Tomazin, Kovacs 2003)

- **LIGHTNING INJURIES**

Zafren, Durrer, Hery, Brugger 2005

- **A SURVEY OF EMERGENCY MEDICAL SERVICES
IN MOUNTAIN AREAS OF EUROPE AND NORTH
AMERICA**

Brugger, Elsensohn, Syme, Falk 2005

- **THE USE OF AUTOMATED EXTERNAL
DEFIBRILLATORS IN THE MOUNTAINS**

*Elsensohn, Agazzi, Syme, Swangard, Facchetti,
Brugger 2005*

- **SNAKEBITE INJURIES IN MOUNTAINEOUS TERRAIN: PREVENTION AND ON SITE TREATMENT**

Boyd, Agazzi, Svajda, Morgan, Ferrandis 2006

- **BASIC LIFE SUPPORT VENTILATION IN MOUNTAIN RESCUE**

Paal, Ellerton, Sumann, Demetz, Mair, Brugger 2006

- **THE USE OF EXTRICATION DEVICES IN CREVASSE ACCIDENTS**

Jacommet, Zen Ruffinen, Winterberger, Syme, Ledoux, Jelk 2006

Tomazin, Brugger, Elsensohn, ICAR MEDCOM 2006

The INTERNATIONAL DIPLOMA FOR MOUNTAIN EMERGENCY MEDICINE MEDCOM ICAR-UIAA, ISMM

**Hermann Brugger
IKAR-CISA General Assembly
Kranjska Gora October 14th, 2006**



1997 Interlaken (CH)

Agreement

MEDCOM UIAA-ICAR, ISMM

Minimum requirements for
International Diploma of Mountain Medicine



A) Common course

Basics of	Minimum time	Instructors	Training
Altitude	3	high altitude experienced doctor	theory
Hypothermia	4	experienced doctor	theory
Avalanche	4	experienced doctor + mountain guide	theory + practical
Frostbite	2	experienced doctor	theory
Heat and solar radiation	1	experienced doctor	theory
Survival in the mountains/ exhaustion	4	experienced doctor	theory + workshop
children and mountains	1	experienced doctor (pediatrician)	theory
Practical traumatology	4	experienced doctor	workshop
weather	1	mountain guide or meteorologist	theory
Rescue technics (introduction)	1	experienced mountain rescue doctor	theory
Rescue technics (pract.)	2	experienced mountain rescue doctor	practical
Mountaineering techniques	18	mountain guides	Practical
Nutrition	1	experienced doctor or nutritionist	Theory
Exercise physiology	1	physiologist or experienced doc	theory
Travel Medicine	1	experienced doctor	theory
"Navigation" in the mountains	4	mountain guide	workshop + practical
First aid kit	1	experienced doctor	theory
Legal aspects	0,5	experienced lawyer	theory
Stress management	1	experienced doctor	theory
Pre - existing clinical conditions	1	experienced doctor	theory
Analgesia in the field	1	experienced doctor	theory
Int. organisations	0.5		theory
	57 hours		

B) Specialty course Rescue

Basics of	Minimum time	Instructor	Training
Rescue techniques in organised rescues	18	qualified, experienced mountain guides and rescue doctors	theory + worksop + practical
Mountain rescue in airborne sports	2	experienced mountain rescue doctor	theory + workshop
Canyoning rescue	6	experienced doctor and mountain guides	theory + workshop + practical
Hypothermia, avalanches and frostbite	8	experienced doctor and mountain guides	theory + workshop + practical
Cave rescues	2	experienced caving doctor	theory + workshop
Risk management	1	experienced doctor	theory
	37 hours		



C) Specialty course expedition and wilderness medicine

Basics of	Minimum time	Instructors	Training
Altitude	4	experienced expedition doctor	theory and workshop
Cold	3	experienced expedition doctor	theory + workshop
Travel Medicine	3	doctor specialized in tropical medicine or experienced doctor	theory
Traumatology	4	experienced expedition doctor	workshop
Improvised rescue technics	4	experienced expedition doctor	workshop
Survival technics in High altitude	10	mountain guide experienced in high altitude climbing	workshop and practical
Expedition medical kit	1	experienced expedition doctor	workshop
Common expedition problems	2	experienced expedition doctor	workshop
	31 hours		

UIAA-ICAR approvals

Common course

Country	1st approval	2nd approval
Austria	1998 – 2002	2003 – 2007
Germany	1998 – 2002	2003 – 2007
Switzerland	1998 – 2002	2003 – 2007
France	2000 – 2004	
Italy	1999 – 2003	
Spain Catalunya	1998 – 2002	2003 – 2007
Spain Zaragoza	1998 – 2002	2003 – 2007
England		2003 – 2007

2006 Snowdonia (GB)

Review of the Diploma MEDCOM UIAA-ICAR, ISMM

**Revision of minimum requirements for
International Diploma of Mountain Medicine**



AGENDA A

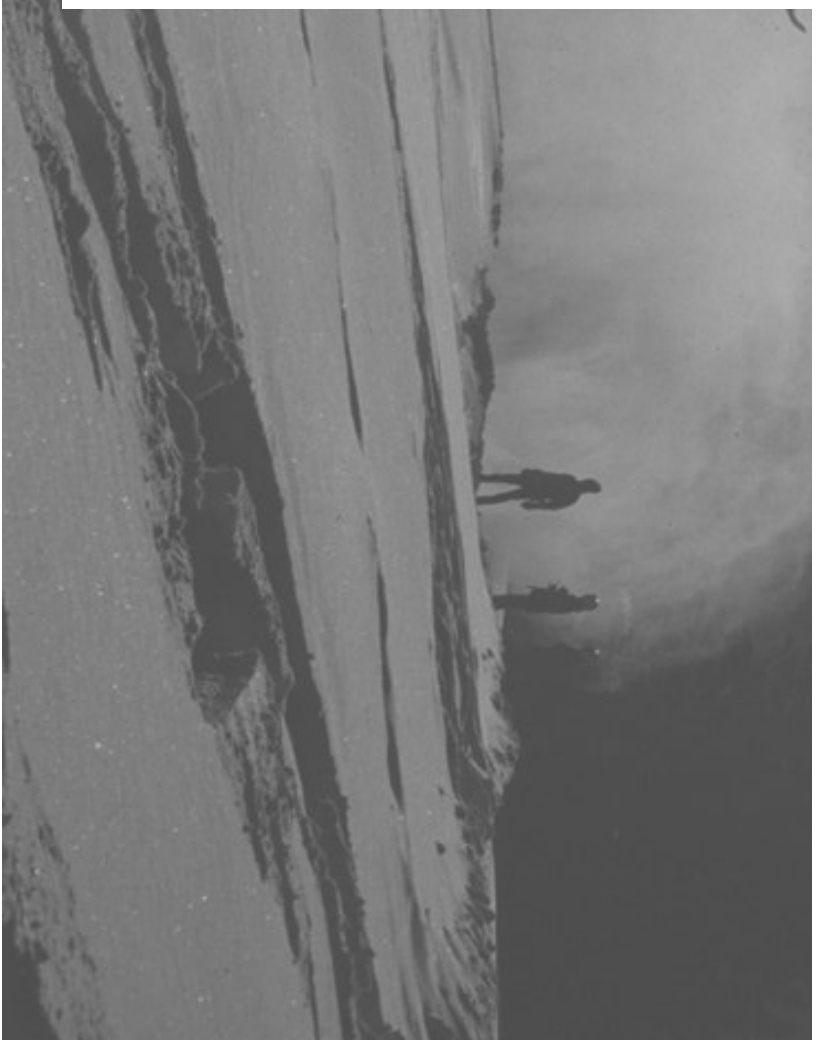
Main Course

Day	Hours	Lecture
Day 1		
a.m.	1	Opening, introduction and presentation of the programme
	1	Risks and limitations of on-site medical treatment in the mountains
	1	Introduction to air and ground mountain rescue: technical and medical aspects
	1	Minimum requirements for a mountain rescue doctor
p.m.	4	Practical lessons in the field (4 stations - 60 minutes each) 1. Initial assessment of the patient 2. Reduction and splinting (Sam [®] splint, vacuum splint, etc.) 3. Total body immobilisation, (stretcher, vacuum mattress) 4. Improvised transportation (rucksack stretcher, rucksack seat, rope seat, etc.)
Day 2		
a.m.	1	Medical equipment for the mountain rescue doctor
	1	Treatment of pain in mountain rescue
	1	Airway management, ventilation and intubation in the field
	1	Volume resuscitation in mountain rescue
p.m.	4	Practical lessons in the field (4 stations - 60 minutes each) 1. Initial assessment of the patient after a fall on rock 2. Splinting, immobilisation and transportation of the patient a fall on rock 3. On-site medical treatment and technical rescue after a fall on rock 4. Specific aspects of on-site treatment in canyoning accidents
Day 3		
a.m.	1	On-site trauma treatment in mountain rescue: dislocations, fractures, multiple trauma
	1	On-site thoracostomy
	1	Specific medical aspects of air rescue
	1	Lighting injuries, heat injuries and exhaustion
p.m.	1	Rescue at high altitude
	2	On-site treatment of hypothermia
	1	On-site treatment of frostbite
Day 4		
a.m.	2	Avalanche rescue and on-site management of avalanche victims
	2	Practical lesson on snow: transceiver search and probing
p.m.	4	Practical medical lessons on snow (4 stations 60 - minutes each) 1. Avalanche victim with air pocket and hypothermia III after 60 min burial 2. Avalanche victim with blocked airways after 45 min burial 3. Avalanche victim with closed airways after 20 min burial, CPR 4. Crevasse accident with one trapped person presenting with hypothermia II
Day 5		
a.m.	2	Hang glider and paraglider accident
	2	Canyoning rescue
p.m.	2	Cave accidents and rescue
	2	Written test and closing
Total	40	

AGENDA B

Add-on Module Air rescue

Day	Hours	Lecture
Day 1		
a.m.	2	Helicopter rescue operations, theory: general information, special aspects of helicopter rescue, security aspects; weather, limits for HEMS-missions in the mountains; special rescue procedures in mountains: fixed rope, winch, partial landing
	2	Helicopter rescue operations, practical: landing site, marshalling, correct handling and moving around helicopter, rules for passengers
p.m.	4	Practical exercise: Rope operation with rescue-bag and triangle, variable rope-length
	1	Video Analysis of practical exercise
Day 2		
a.m.	1	Flight physiology and it's relevance for patients and crew
	1	Emergency medicine in HEMS, special conditions
	1	Helicopter rescue in crevasse accident
p.m.	1	HEMS operation in case of avalanche accident
	1	Cooperation HEMS – ground rescue
Total	16	



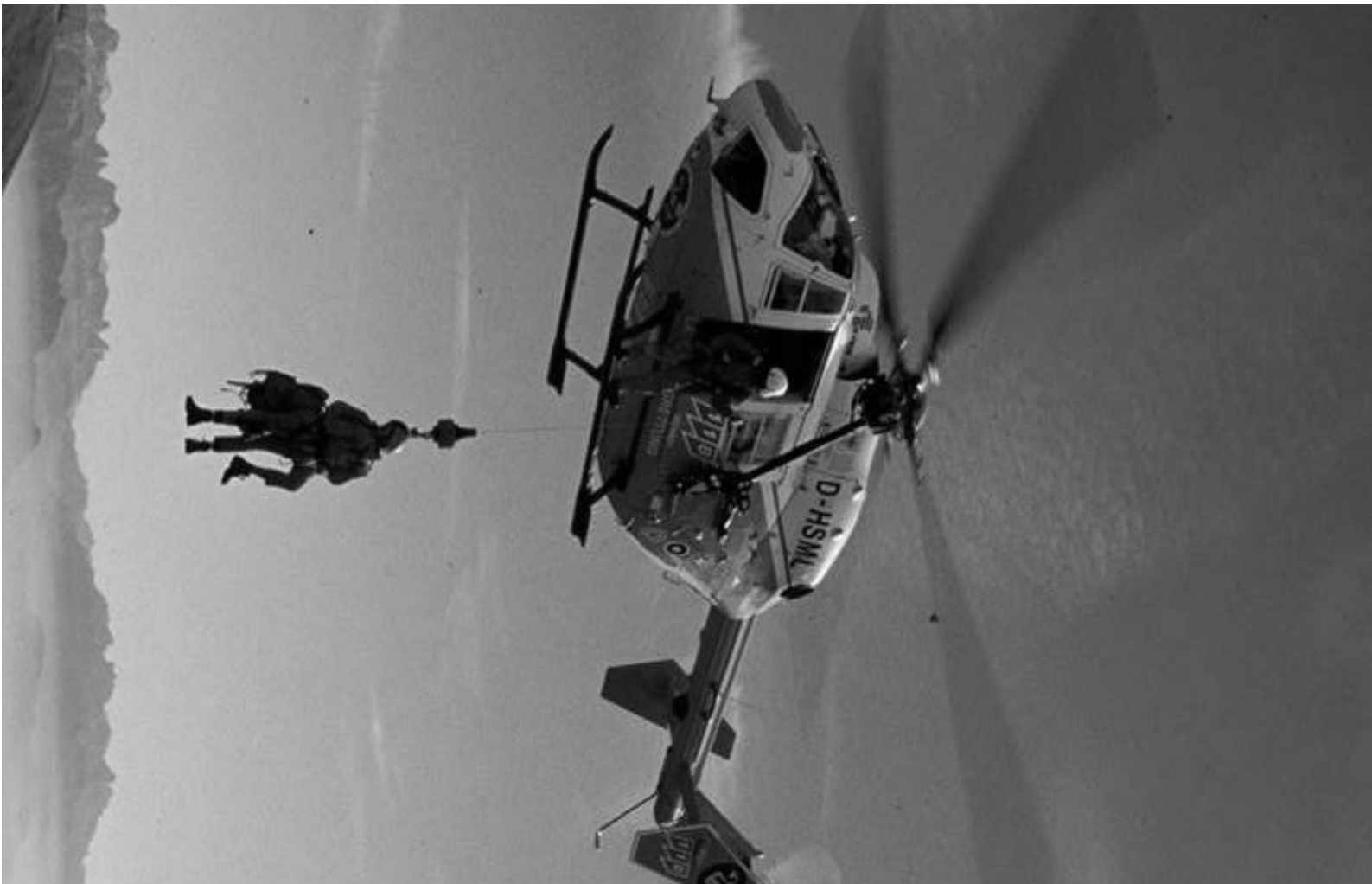


Common Course

Specialty Course Rescue

**National Degree
Emergency Medicine**

**Diploma
Mountain Emergency Doctor**



MEDCOM ICAR



ISMM



MEDCOM UIAA

International

Diploma of Mountain Emergency Doctor

In accordance with the requirements of the

Medical Commission International Mountaineering & Climbing Federation UIAA-MEDCOM
International Commission for Mountain Emergency Medicine ICAR-MEDCOM
International Society for Mountain Medicine ISMM
(approved in Interlaken, August 27, 1997)

This is to certify that

.....
has successfully passed the examination of mountain emergency medicine in theory and practice.

Location, date

The President
ICAR MEDCOM

The Course Director
ICAR MEDCOM

2005 Patagonia

