Current status of mountain emergency medicine

ICAR MEDCOM
H. Brugger, Fidel Elsensohn, Dave Syme, Günther Sumann, Markus Falk
ICAR Congress Zakopane 2004


14 ICAR countries
Austria (A)
Canada (CA)
Croatia (CR)
Czech Republic (CZ)
England and Wales (E+W)
Germany (D)
Italy (I)
Poland (PL)
Scotland (SCO)
Slovakia (SK)
Slovenia (SLO)
Spain (E)
Switzerland (CH)
USA
Inquiry 2004

Ground mountain rescue

Rescuers

	Europe	NA	Total
Total rescuers	32150 *100%*	5385 *100%*	37535 *100%*
Governmental	522 *2.2%*	440 *8.2%*	962 *2.6%*
Non-governmental	31628 *98.8%*	4945 *91.8%*	36573 *97.4%*
Paid	3800 *11.8%*	1050 *19.5%*	4850 *12.9%*
Not paid	28350 *88.2%*	4335 *80.5%*	32685 *87.1%*

Physicians in mountain rescue

	Europe	NA	Total
Total physicians	1206 *100%*	110 *100%*	1316 *100%*
Anaesthesists	225 *18.7%*	0 *0.0%*	225 *17.1%*
Other specialists	380 *31.5%*	77 *70.0%*	457 *34.7%*
General practitioners	601 *49.8%*	33 *30,0%*	634 *48.2%*

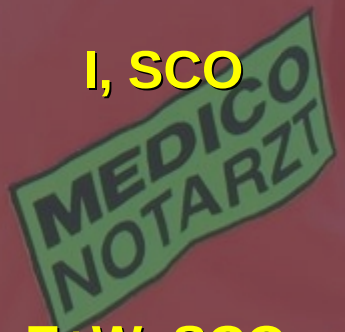
Helicopter rescue Staff

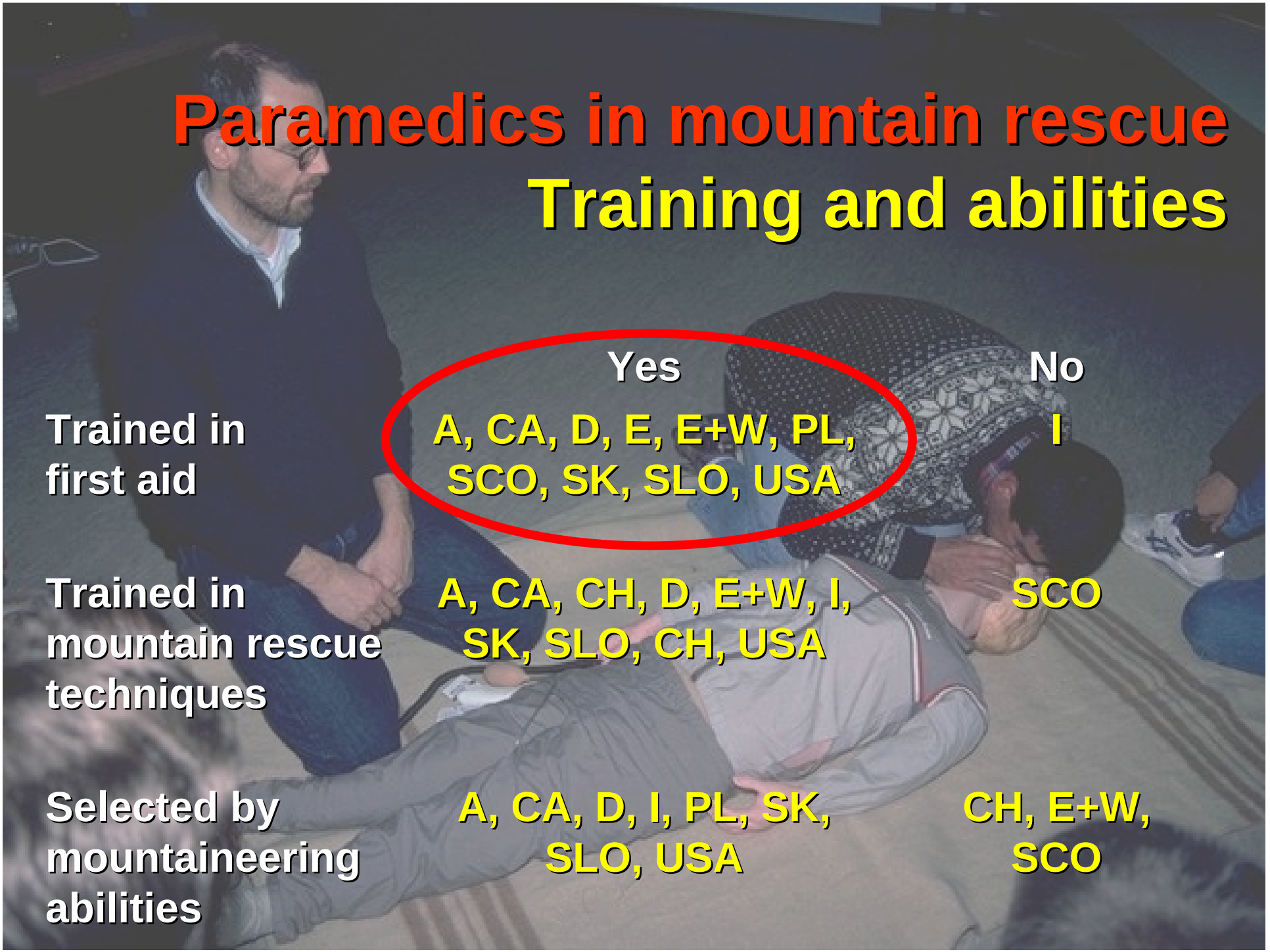
	Continental Europe	E+W, NA, SCO	Total
Total helicopters	155 *100%*	592 *100%*	747 *100%*
Staffed with Physician	108* *69.7%*	183* *30.9%*	291 *38.9%*
Staffed with Paramedic	14** *9.0%*	357** *60.3%*	371 *49.7%*
Without medical personnel	33 *21.3%*	52 *8.8%*	85 *11.4%*

*,** P < 0.001

Physicians in mountain rescue
Specific training and abilities

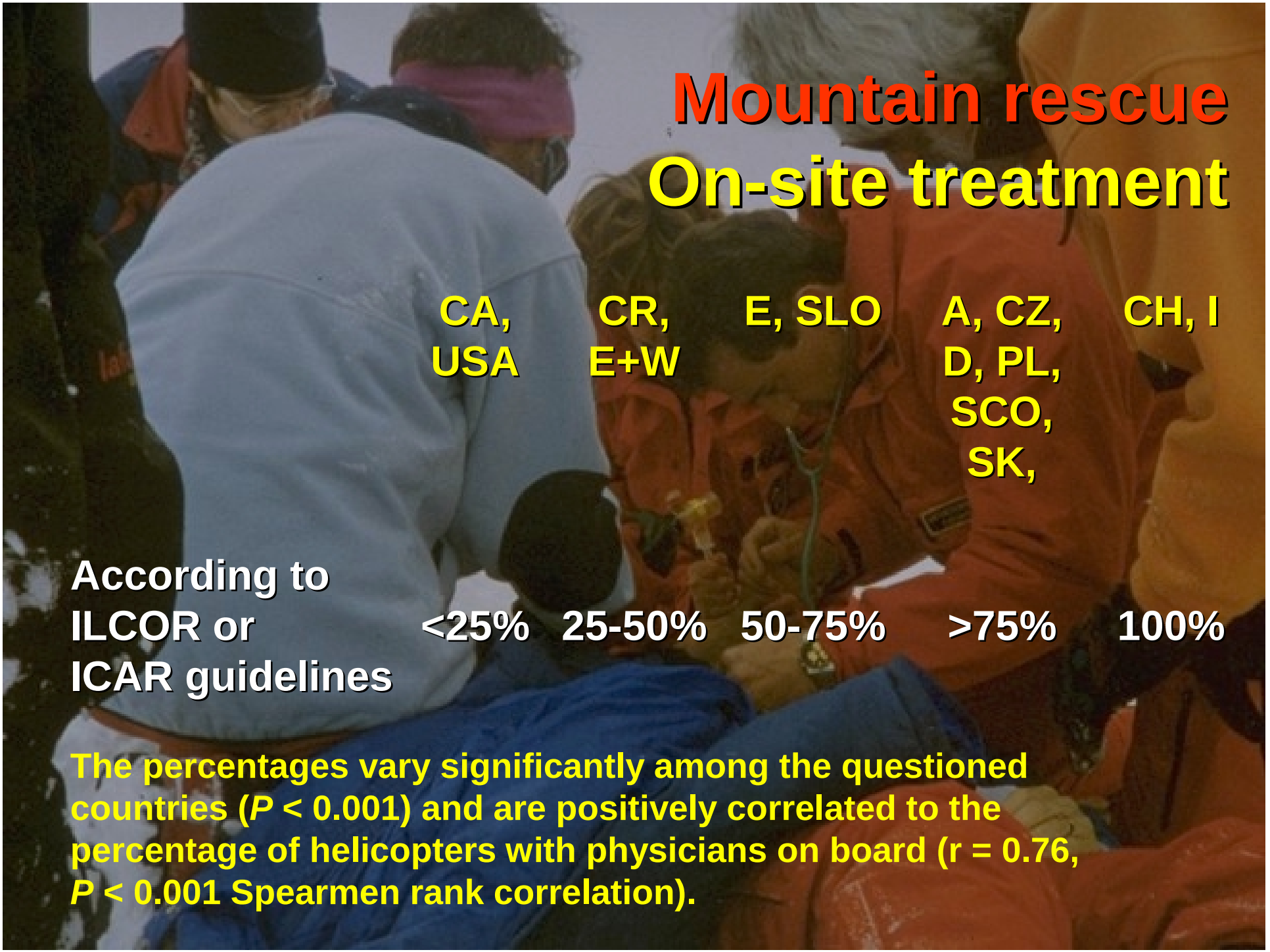
	Yes	No
Trained in mountain emergency medicine	A, CH, CR, D, E, PL	CA, CZ, E+W, I, SK, SCO, SLO, USA
Trained in mountain rescue techniques	A, CA, CH, CR, CZ, D, E, E+W, PL, SK, SLO, USA	I, SCO
Selected by mountaineering abilities	A, CA, CH, CR, CZ, D, E, I, PL, SLO, USA	E+W, SCO, SK





Paramedics in mountain rescue
Training and abilities

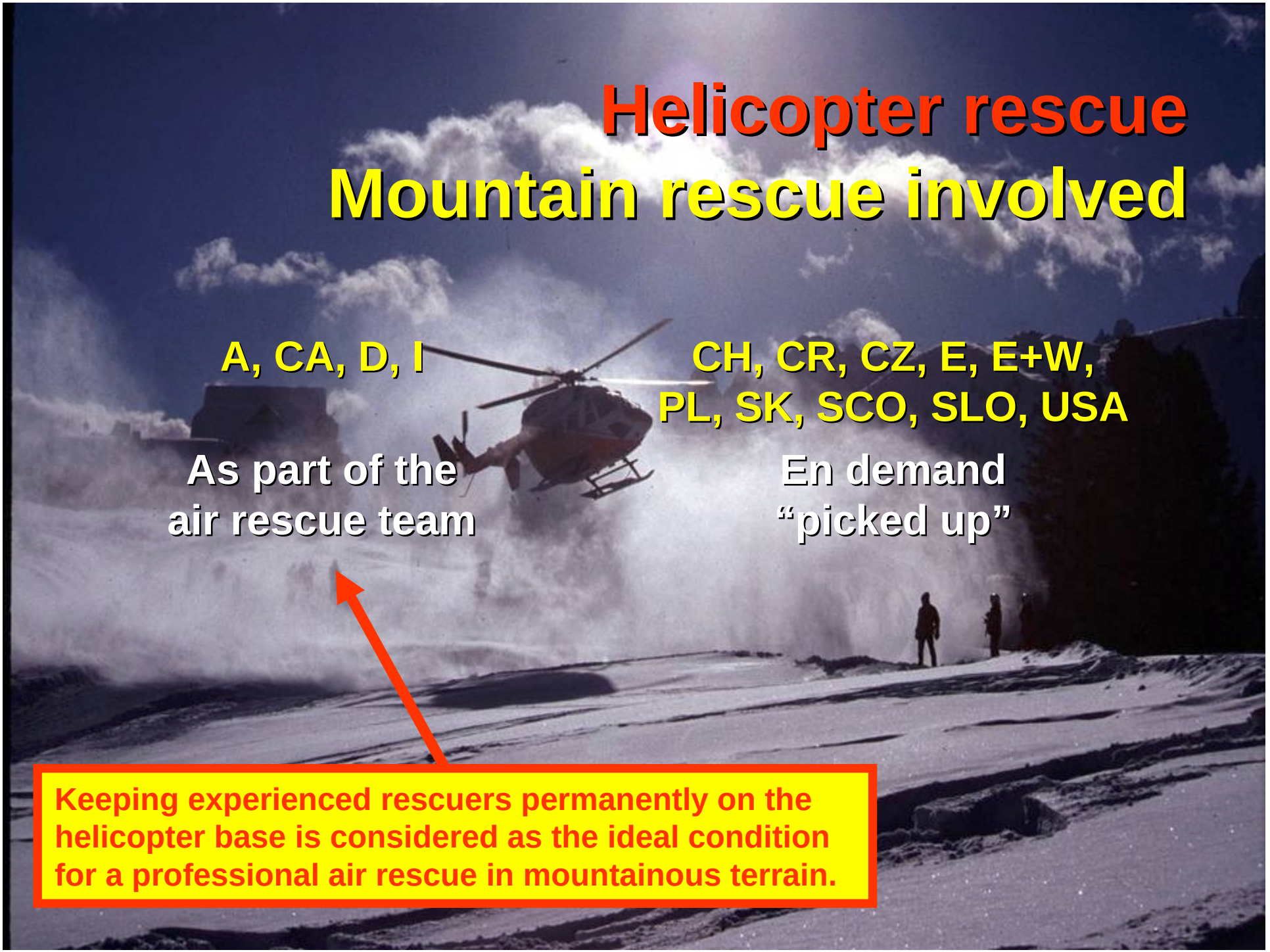
	Yes	No
Trained in first aid	A, CA, D, E, E+W, PL, SCO, SK, SLO, USA	I
Trained in mountain rescue techniques	A, CA, CH, D, E+W, I, SK, SLO, CH, USA	SCO
Selected by mountaineering abilities	A, CA, D, I, PL, SK, SLO, USA	CH, E+W, SCO



Mountain rescue
On-site treatment

	CA, USA	CR, E+W	E, SLO	A, CZ, D, PL, SCO, SK,	CH, I
According to ILCOR or ICAR guidelines	<25%	25-50%	50-75%	>75%	100%

The percentages vary significantly among the questioned countries ($P < 0.001$) and are positively correlated to the percentage of helicopters with physicians on board ($r = 0.76$, $P < 0.001$ Spearmen rank correlation).

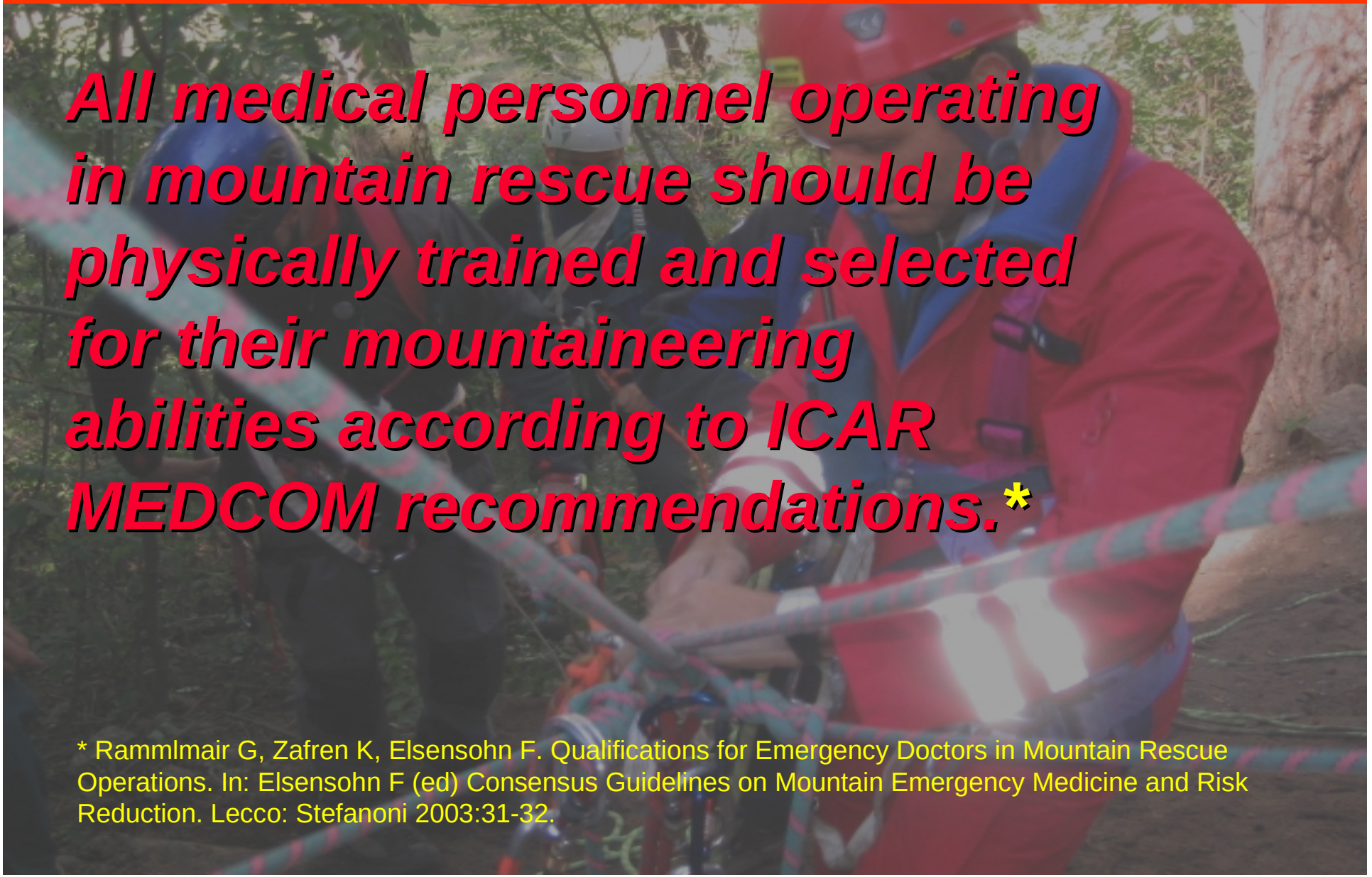

Helicopter rescue
Mountain rescue involved
A, CA, D, I
As part of the
air rescue team
CH, CR, CZ, E, E+W,
PL, SK, SCO, SLO, USA
En demand
“picked up”
Keeping experienced rescuers permanently on the helicopter base is considered as the ideal condition for a professional air rescue in mountainous terrain.

1. ICAR MEDCOM recommendation

Physicians and paramedics should receive a standardised education and training in specific, mountain rescue related problems of emergency medicine according to protocols defined by ICAR-, UIAA- MEDCOM* and ISMM

* Peters P. Recent Developments in Mountain Medicine Education. In: Elsensohn F (ed) Consensus Guidelines on Mountain Emergency Medicine and Risk Reduction. Lecco: Stefanoni 2003:89-94.

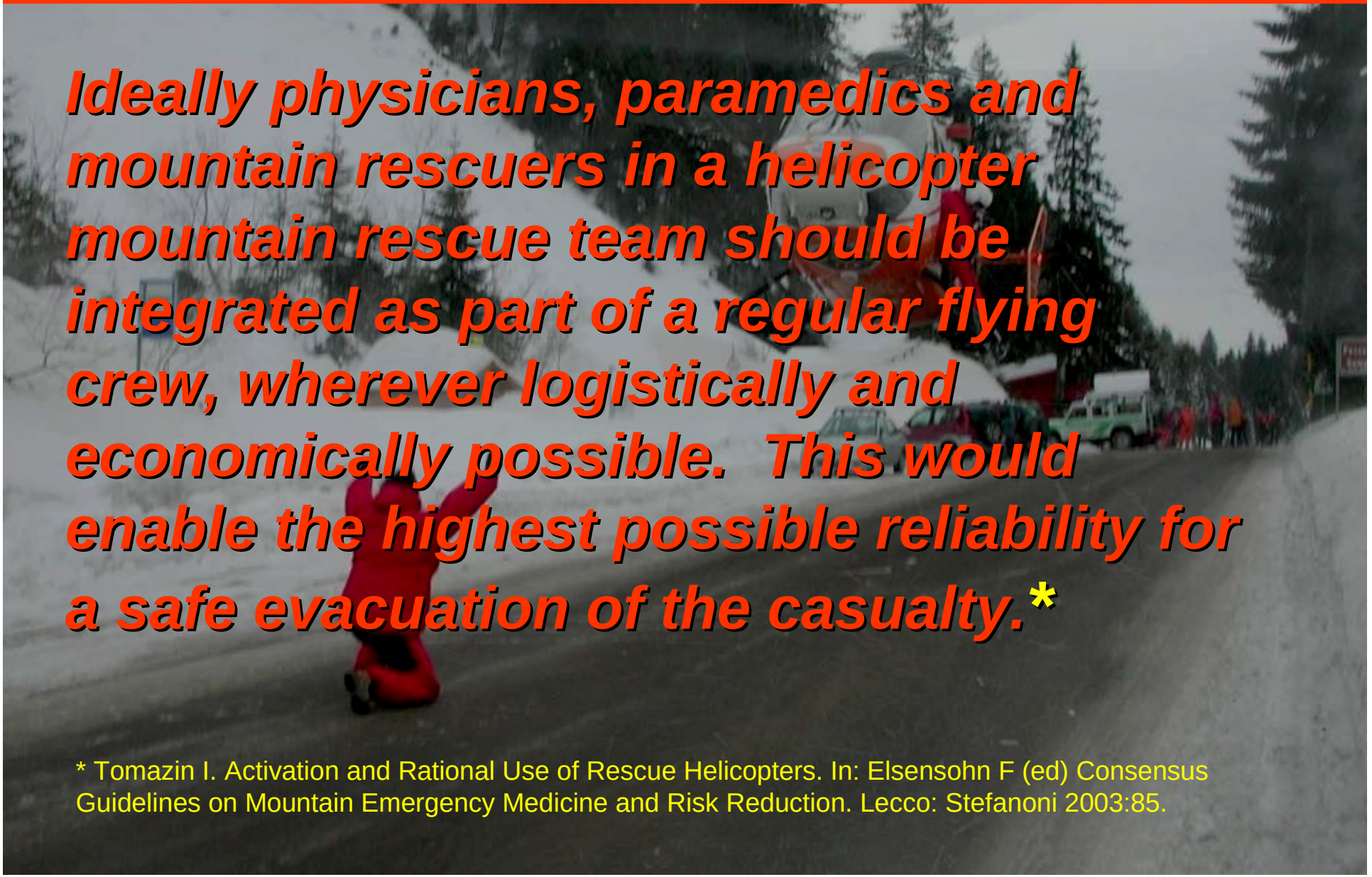
2. ICAR MEDCOM recommendation



All medical personnel operating in mountain rescue should be physically trained and selected for their mountaineering abilities according to ICAR MEDCOM recommendations.*

* Rammlmair G, Zafren K, Elsensohn F. Qualifications for Emergency Doctors in Mountain Rescue Operations. In: Elsensohn F (ed) Consensus Guidelines on Mountain Emergency Medicine and Risk Reduction. Lecco: Stefanoni 2003:31-32.

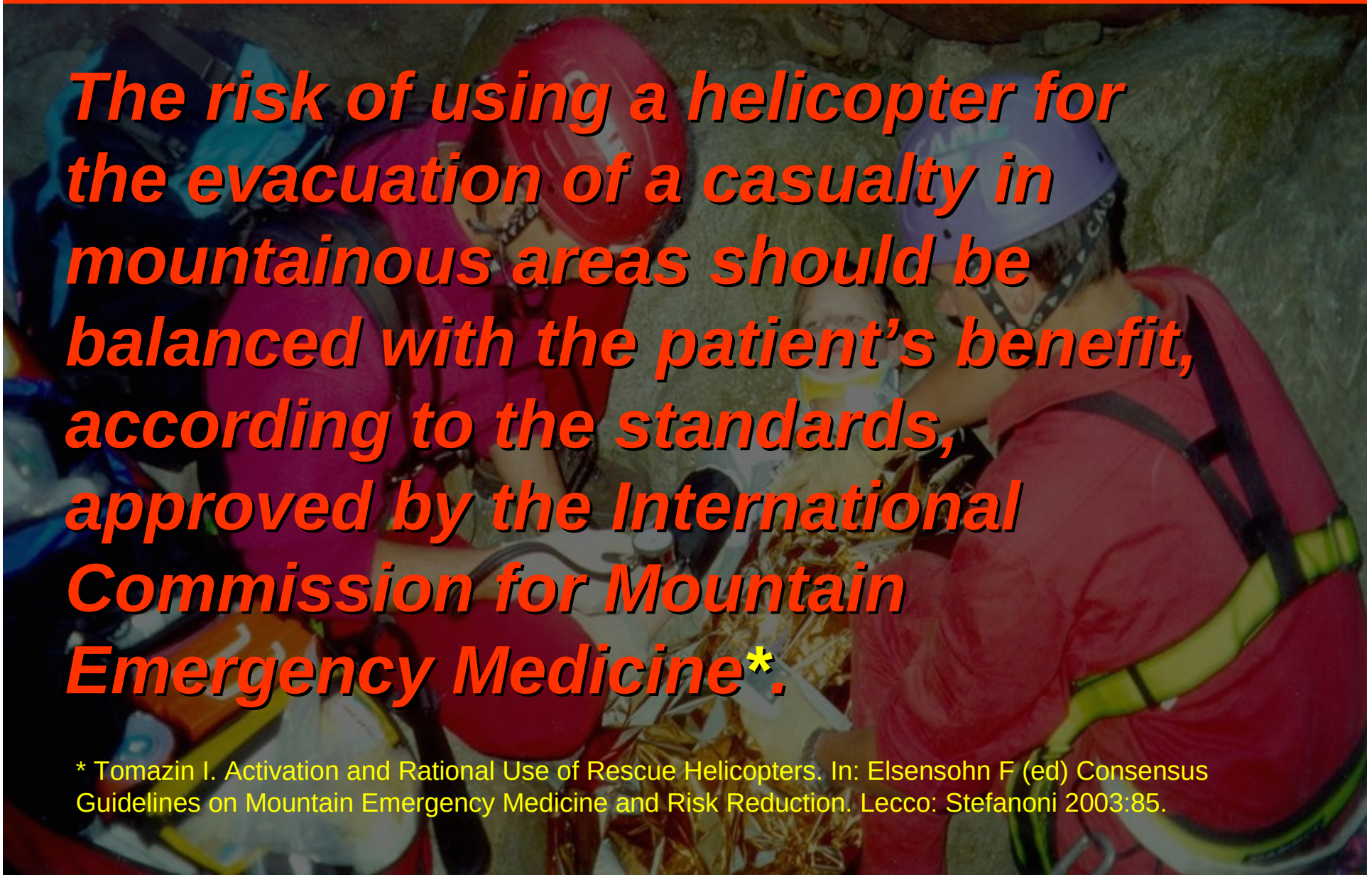
3. ICAR MEDCOM recommendation



Ideally physicians, paramedics and mountain rescuers in a helicopter mountain rescue team should be integrated as part of a regular flying crew, wherever logistically and economically possible. This would enable the highest possible reliability for a safe evacuation of the casualty.*

* Tomazin I. Activation and Rational Use of Rescue Helicopters. In: Elsensohn F (ed) Consensus Guidelines on Mountain Emergency Medicine and Risk Reduction. Lecco: Stefanoni 2003:85.

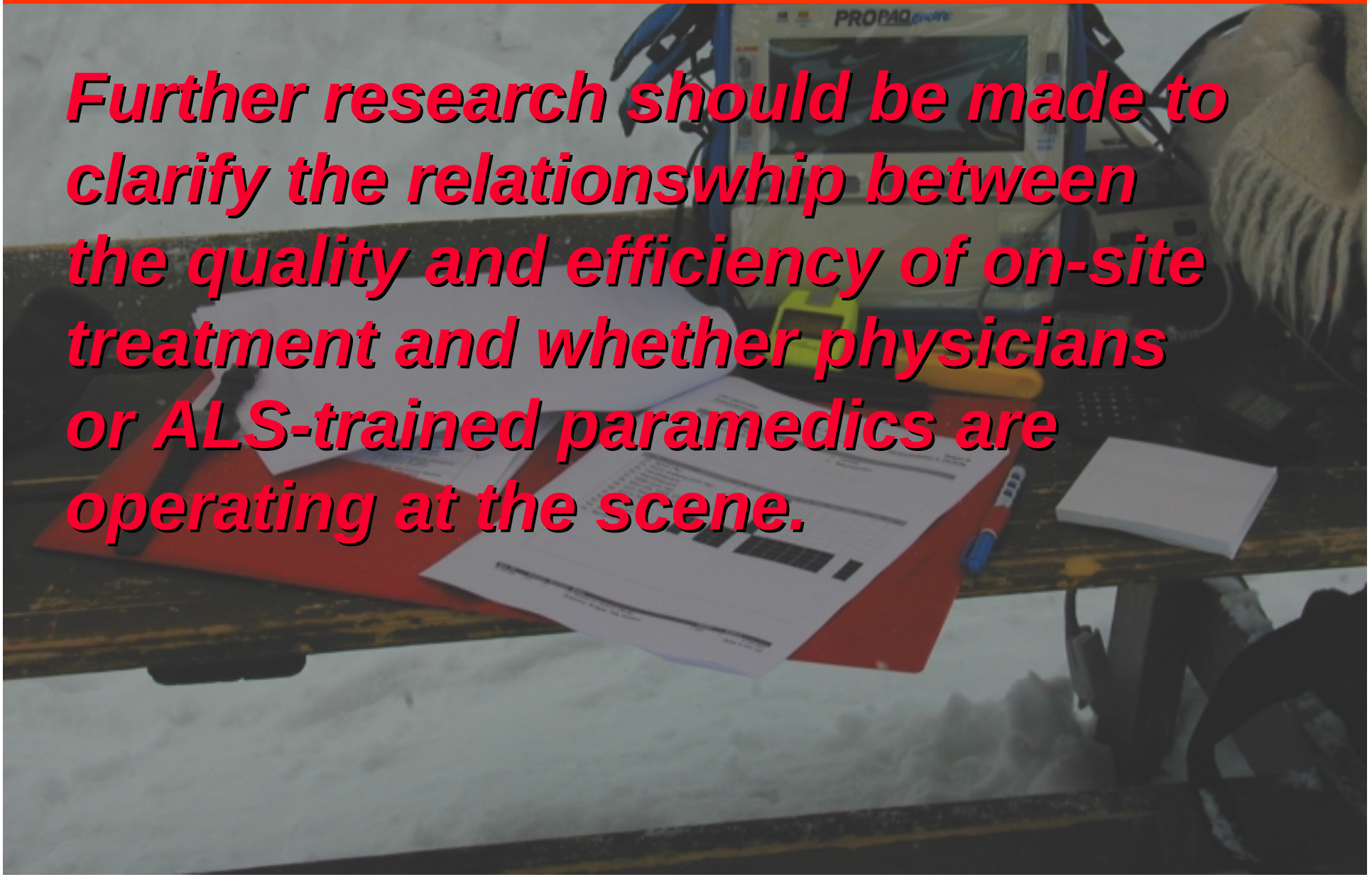
4. ICAR MEDCOM recommendation



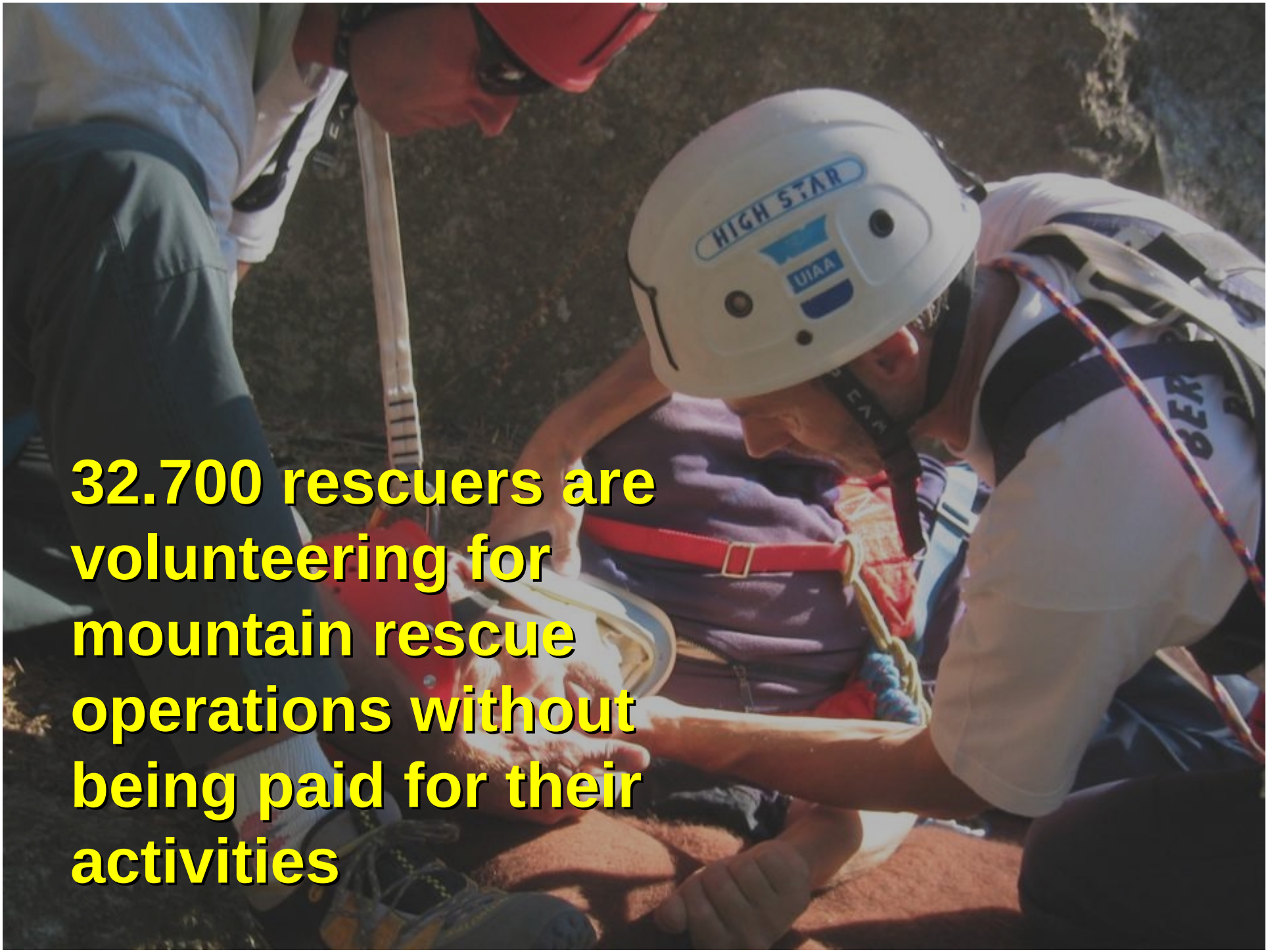
The risk of using a helicopter for the evacuation of a casualty in mountainous areas should be balanced with the patient's benefit, according to the standards, approved by the International Commission for Mountain Emergency Medicine*.

* Tomazin I. Activation and Rational Use of Rescue Helicopters. In: Elsensohn F (ed) Consensus Guidelines on Mountain Emergency Medicine and Risk Reduction. Lecco: Stefanoni 2003:85.

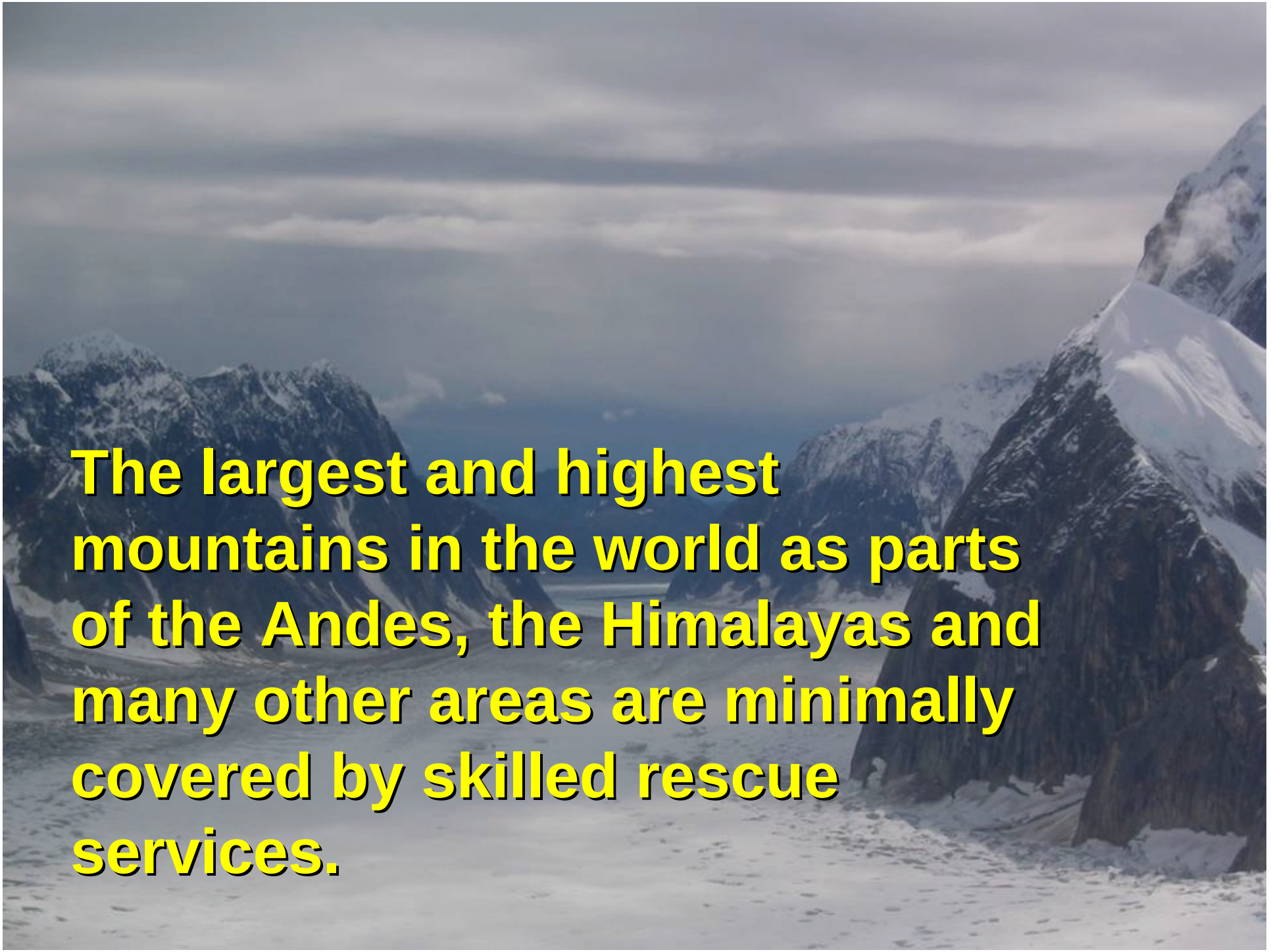
4. ICAR MEDCOM recommendation



Further research should be made to clarify the relationswhip between the quality and efficiency of on-site treatment and whether physicians or ALS-trained paramedics are operating at the scene.



32.700 rescuers are volunteering for mountain rescue operations without being paid for their activities


The largest and highest mountains in the world as parts of the Andes, the Himalayas and many other areas are minimally covered by skilled rescue services.