

18 Maggio 2015
Fertilia (SS)



VIII Corso Nazionale di Medicina d'Emergenza ad alto rischio in ambiente alpino ed ipogeo

Gli incidenti in ambiente montano ed ipogeo:
epidemiologia



Luigi Fenoglio
SC Medicina Interna
ASO S.Croce e Carle - Cuneo
XV Delegazione Alpi Marittime



- Mountainous regions occupy 40 million km² and account for approximately 27% of the Earth's surface.
- It is estimated that 38 million people live permanently above 2439 m, with an additional 100 million visitors travelling to mountain regions for work and recreation each year.

La letteratura: ieri

- In 1988 a report identified 23 fatalities that had occurred on 83 expeditions to mountains above 7000 m.
- Since these expeditions had 533 members, a mortality rate of 4.3 per 100 mountaineers was cited

Deaths during mountaineering at extreme altitude.
Lancet 1988; 1:1277.

La letteratura: oggi

Postgrad Med J 2009;**85**:316-321 doi:10.1136/pgmj.2009.078824



Review

Mountain mortality: a review of deaths that occur during recreational activities in the mountains

Table 2

The mortality rate for specific activities undertaken in the USA that were calculated by dividing the number of deaths by the total number of individuals exposed¹⁶⁻¹⁸

Activity	Mortality rate (/100 participants)
Mountaineering	0.5988
Hang gliding	0.1786
Parachuting	0.1754
Boxing	0.0455
Mountain hiking	0.0064
Scuba diving	0.0029
American football	0.0020
Skiing	0.0001

Causes of Injuries in the Mountains: A Review of Worldwide Reports into Accidents in Mountaineering

JW Knott

Regimental Medical Officer to 1st Battalion The MERCIAN Regiment, Garrison Medical Centre, Catterick.

J R Army Med Corps 157 (1):92-99.2011

Year	Number of accidents reported	Total persons involved	Injured	Fatalities
1951 – 2009	6,571	11,979	5,550	1,451
2009	126	240	112	23
2008				19
2007				15
2006				21
2005	111	176	85	34
1989	141	272	124	17
1988	156	288	155	24
1987	192	377	140	32
1986	203	406	182	37
1985	195	403	190	17

22% degli interventi caratterizzati da un codice 4

Table 2. Accidents reported to the American Alpine Club 1951 – 2009.

Causes of Injuries in the Mountains

Year	Incidents	People assisted	Injured	Fatalities
2008	870	1179	547	46
2007	782	1121	499	33
2006	748	1013	453	32
2005				39
2004				25
2003				33
2002	655	824	438	23
2001*	421	518	274	18
2000	679	916	435	19
1999	635	835	390	37
Total	6689	8752	4227	305

4.5 % degli interventi caratterizzati da un codice 4

Table 1. Mountain incidents responded to by Mountain Rescue England and Wales (MREW) 1999 – 2008.

	2008 N=876	2006 N=732	2005 N=695	2004* N=609	2002 N=656	2001 N=419	2000 N=678	1999 N=634	1998 N=626	1997 N=695
Avalanche	0	0	0	0	1	0	0	1	0	1
Belay/runner failure	5	4	3	3	6	3	7	14	16	12
Benighted	29	20	13	15	18	15	23	14	13	22
Cragfast	34	38	35	26	37	28	33	32	11	22
Fall or tumble	223	157	165	135	169	103	126	151	135	162
Lightning	0	1	0	0	0	0	0	0	1	0
Lost	123	118	87	98	86	43	96	73	62	74
Medical collapse or illness	52	63	59	46	44	25	52	53	68	62
Overdue or missing	68	72	58	44	62	41	77	86	87	82
Rockfall	1	0	0	1	0	0	4	0	1	7
Shouts, lights or flares reported	30	18	16	16	12	12	17	24	23	35
Slip, trip or stumble	213	208	196	193	193	135	193	178	189	199
Unable to continue	27	16	22	17	23	18	36	44	31	49

Table 5 Mountain Rescue - England and Wales Main Causes of Mountain Incidents 1997 – 2008 (Data unavailable at time of writing for 2003 and 2007. Foot and mouth closures). The MREW Statistician footnotes on the original table read : “This table summarises the main causes of Mountain Accidents. It is based on a search of key words used in incident reports. All causes have not been listed, so the column totals may not agree with the total number of incidents. A typical report will illustrate another problem with totals:- ‘...tripped on footpath whilst walking and fell two metres onto rocky ground.’ This will result in contributions to the ‘Slip, Trip or Stumble’ and the ‘Fall or Tumble’ categories.” Adapted from [1].



1955-2014

Dalla nascita del CNSAS

- 10 % degli interventi
- caratterizzati da un codice 4
- 150.887 salvataggi
 - 47.853 illesi
 - 89.200 feriti
 - 13.985 morti
 - 1.920 dispersi





	Feriti/person soccorse	Morti/person soccorse	Feriti/ intervento	Morti/ intervento
UK 1999-2008	48%	3,5%	63%	4,5%
USA 1951-2009	46%	12%	84%	22%
ITALIA 1955-2012	58%	9%	66%	10,6%



**E' NECESSARIO UN MODULO SUL
SOCCORSO IN MONTAGNA
E IN AMBIENTE OSTILE?**

**ESISTONO DIFFERENZE SOSTANZIALI
TRA IL SOCCORSO EXTRAOSPEDALIERO
"TRADIZIONALE" ED IL SOCCORSO IN
MONTAGNA ED IN GROTTA?**

- **DIVERSI GLI INCIDENTI E LE PATOLOGIE**
- **DIVERSI I PROBLEMI LEGATI ALLA SICUREZZA**
- **DIVERSA LA DISPONIBILITA' DI MEZZI**
- **DIVERSI I TEMPI DI INTERVENTO E DI TRASPORTO**



RISULTATO:

**IN MONTAGNA SI MUORE PER PROBLEMI
CHE ALTROVE POSSONO ESSERE
TRATTATI CON RELATIVA SEMPLICITA'.**



Epidemiologia

- L'epidemiologia (dal Greco επι= sul, δημοσ= popolo e λογος= discorso, studio) è la ***disciplina biomedica che si occupa dello studio della distribuzione e frequenza di malattie e di eventi di rilevanza sanitaria nella popolazione.***
- Collabora con la medicina preventiva e clinica.
- Si occupa di analizzare le cause, il decorso e le conseguenze delle malattie.

VARIAZIONI 2008 VERSO 2007

	2008		2007	Var % vs '2007
	nr	%		
INTERVENTI	5.898		6.256	-5,7%
SOCCORRITORI IMPIEGATI	28.540		28.820	-1,0%
PERSONE SOCCORSE	6.521		6.672	-2,3%
MORTI	417		446	-6,5%
FERITI	4.238		4.613	-8,1%
ILLESI	1.856		1.589	16,8%
DISPERSI	10		24	-58,3%
INTERVENTI SOCI CAI	328		224	46,4%
INTERVENTI NON SOCI CAI	6.193		6.448	-4,0%
INTERVENTI CON ELICOTTERO	3.272	55,5%	3.883	-15,7%
INTERVENTI CON U.C.R.S.	64	1,1%	78	-17,9%
INTERVENTI CON U.C.V.	25	0,4%	16	56,3%

Le difficoltà

Incidenti stradali 2004.pdf (19/11/12) Adobe Reader

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RISULTATI DELLE RILEVAZIONI PER TIPOLOGIA DI INFORTUNIO

TIPOLOGIA DI INFORTUNIO	N° di ACCESSI PER ANNO RILEVATI			% di ACCESSI PER TIPOLOGIA SUL TOTALE DEGLI ACCESSI			N° PS CHE RIPORTANO LA TIPOLOGIA DI INFORTUNIO INDICATA (N=52)		
	2002	2004	2005	2002	2004	2005	2002	2004	2005
Domestico	33.596	67.801	76.018	7,2	7,5	7,2	16	34	42
Stradale	54.241	75.479	83.569	8,0	6,9	6,8	22	41	48
Lavoro	41.305	51.948	59.471	6,0	5,0	4,9	25	39	47





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EPIDEMIOLOGIA DEGLI INCIDENTI STRADALI

Jacopo Pasquini¹

A. Berti¹, E. Buiatti¹, F. Cipriani², C. Orsini¹, C. Silvestri¹, F. Voller¹

¹Osservatorio di Epidemiologia – ARS Toscana

²UO di Epidemiologia – ASL 4 Prato

<http://www.arsanita.toscana.it>

INSIEME SULLA STRADA DELLA SICUREZZA – Scarperia, 27 Novembre 2006



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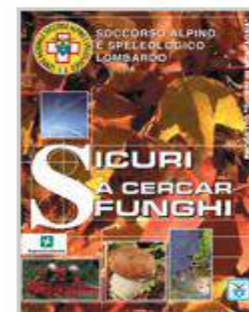
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Epidemiologia mountain rescue

The data show
a lack of medical education
in specific, mountain rescue-related problems.
Physicians involved should undergo
suitable training

High Alt Med Biol. 2005 Fall;6(3):226-37 :
*A survey of emergency medical services in
mountain areas of Europe and North America:
official recommendations of the International
Commission for Mountain Emergency Medicine
(ICAR Medcom).*

622 interventi

333 patologie maggiori

- 57 morti
 - 53 prima arrivo soccorsi
 - 3 per conseguenze trauma durante soccorso
 - 1 per ipotermia durante soccorso
- 261 (78,4%) traumi
 - 12 (3.6%) gravi
 - 12 (3.6%) colonna vertebrale
- 50% lesioni arti inferiori
- 13.6% ipotermia



Emerg Med J 2003;20:281-284

mountain rescue teams during

Scottish Trauma Audit Group

total of 333 casualties with inju-
rescued with traumatic injuries,
ies. Half had lower limb inju-
lems. Forty six (13.8%) were
the rescue team arrived. Four
a. All major trauma casualties

Royal Alexandra Hospital,
Coresbar Road, Paisley
PA2 9PN, UK;
stephen@frontlinemedics.com

Accepted for publication
29 July 2002

Perché l'epidemiologia ?

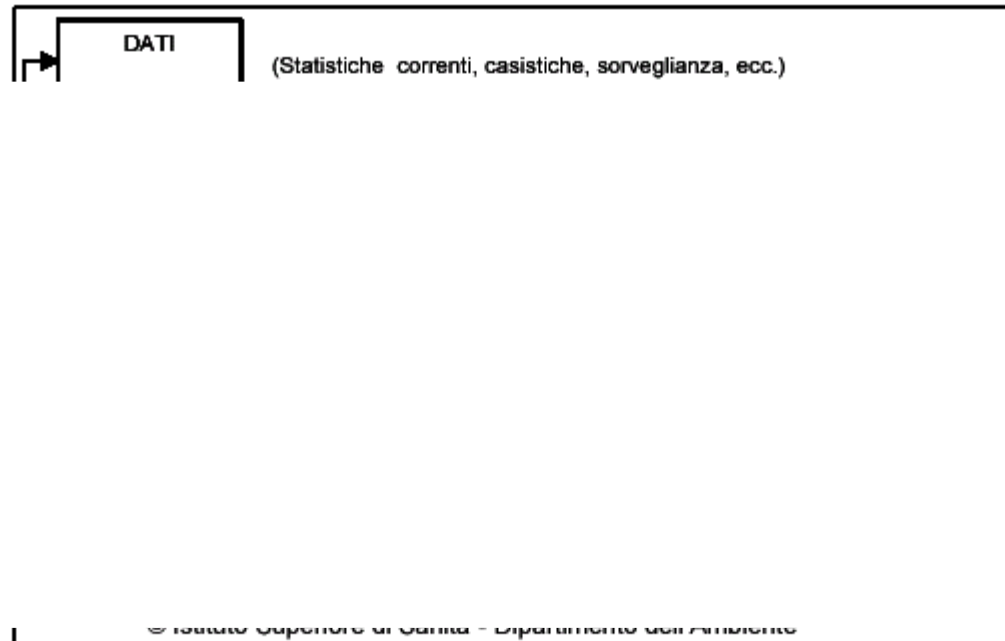


Figura 1. Modello DFPV (Dati, Fattori di Rischio, Prevenzione e Valutazione)

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Injury. 2015 Apr;46(4):585-9. doi: 10.1016/j.injury.2014.12.030. Epub 2015 Jan 16.
PMID: 25640589
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2. Pasquier M, Taffé P, Kottmann A, Mosimann U, Reisten O, Huggli O.
Injury. 2014 Nov;45(11):1700-3. doi: 10.1016/j.injury.2014.07.001. Epub 2014 Jul 16.
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3. McIntosh SE, Campbell A, Weber D, Dow J, Joy E, Grissom CK.
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4. Adjemian J, Weber IB, McQuiston J, Griffith KS, Mead PS, Nicholson W, Roche A, Schriefer M, Fischer M, Kosoy O, Laven JJ, Stoddard RA, Hoffmaster AR, Smith T, Bul D, Wilkins PP, Jones JL, Gupton PN, Quinn CP, Messonnier N, Higgins C, Wong D.
Vector Borne Zoonotic Dis. 2012 Nov;12(11):922-31. doi: 10.1089/vbz.2011.0917. Epub 2012 Jul 26.
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5. Lack DA, Sheets AL, Entin JM, Christenson DC.
Wilderness Environ Med. 2012 Sep;23(3):223-30. doi: 10.1016/j.wem.2012.04.002. Epub 2012 Jun 22.
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- [Injuries to individuals participating in mountain and wilderness sports: a review.](#)
6. Mort A, Godden D.
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2. Tropheryma whipplei genotypes 1 and 3, Central Europe. Wetzstein N, Fenollar F, Buffet S, Moos V, Schneider T, Raoult D. Emerg Infect Dis. 2013 Feb;19(2):341-2. doi: 10.3201/eid1902.120700. No abstract available. PMID: 23347594 [PubMed - indexed for MEDLINE] [Free PMC Article](#) [Related citations](#)

3. Tropheryma whipplei as a commensal bacterium. Keita AK, Raoult D, Fenollar F. Future Microbiol. 2013 Jan;8(1):57-71. doi: 10.2217/fmb.12.124. Review. PMID: 23252493 [PubMed - indexed for MEDLINE] [Related citations](#)

4. Looking for Tropheryma whipplei source and reservoir in rural Senegal. Keita AK, Mediannikov O, Ratmanov P, Diatta G, Bassene H, Roucher C, Tall A, Sokhna C, Trape JF, Raoult D, Fenollar F. Am J Trop Med Hyg. 2013 Feb;88(2):339-43. doi: 10.4269/ajtmh.2012.12-0614. Epub 2012 Dec 18. PMID: 23249690 [PubMed - indexed for MEDLINE] [Related citations](#)

5. The rise of Tropheryma whipplei: a 12-year retrospective study of PCR diagnoses in our reference center. Edouard S, Fenollar F, Raoult D. J Clin Microbiol. 2012 Dec;50(12):3917-20. doi: 10.1128/JCM.01517-12. Epub 2012 Sep 26. PMID: 23015670 [PubMed - indexed for MEDLINE] [Free PMC Article](#) [Related citations](#)

6. Tropheryma whipplei prevalence strongly suggests human transmission in homeless shelters. Keita AK, Brouqui P, Badiaga S, Benkoufien S, Ratmanov P, Raoult D, Fenollar F. Int J Infect Dis. 2013 Jan;17(1):e67-8. doi: 10.1016/j.ijid.2012.05.1033. Epub 2012 Jul 12. No abstract available. PMID: 22795221 [PubMed - indexed for MEDLINE] [Related citations](#)

7. Whipple disease a century after the initial description: increased recognition of unusual presentations, autoimmune comorbidities, and therapy effects. Arnold CA, Moreira RK, Lam-Hirlin D, De Petris G, Montgomery F.

Lischke V; Byhahn C et al. Mountaineering accidents in the European Alps: have the numbers increased in recent years?

Wilderness Environ Med. 2001 Summer;12(2):74-80

Even taking into account the varying definitions of "mountain accident" used in these countries, available data from the analyzed areas of the European Alps do not demonstrate a drastic increase in the number of fatalities.

In the future, data concerning mountain accidents in the European Alps should be monitored according to standard definitions and stored by the **International Commission for Alpine Rescue**



CISA-IKAR



- News
- Recommendations
- Publications
- Links
- Basics
- Organisations
- Search
- Bot/Croatia - 2013
- Glossary
- Internal area



Publications



15.01.2012
= Guidelines for Presentations at ICAR Conventions
Revision 1.0 - October 10, 2012



27.10.2011
= Erprobungs- / Datenschiebung Handarbeit
Verbesserte Fragebogen hier verfügbar



27.10.2011
= CONSENSUS GUIDELINES ON MOUNTAIN EMERGENCY MEDICINE AND RISK REDUCTION
All guidelines from ICAR MEDCOM and USA MEDCOM, Editor: Fidel Elensohn, MD



26.10.2010
= Statistik - People rescued from snow avalanches - 2000 / 2010
People rescued from snow avalanches - alive or dead



22.01.2010
= International Emergency, Telephone, Codes & Mountain Rescue Services
Worldwide overview - Edition 2010



08.12.2009
= Statistik - People rescued from snow avalanches - 2000 / 2009
People rescued from snow avalanches - alive or dead



07.12.2009
= Statistik - People rescued from snow avalanches - 2007 / 2009
People rescued from snow avalanches, alive or dead

ICAR-Recommendations



> Recommendations - Terrestrial Commission



> Recommendations - Air Rescue Commission



> Recommendations - Avalanche Commission



> Recommendations - Medical Commission



> Recommendations - Managing Committee





People rescued from snow avalanches, alive or dead

Personnes sauvées dans des avalanches, vivante ou morte

Personen aus Lawinen gerettet, lebend oder tot

People killed / Personnes mortes / Personen getötet

Reporting Country	Avalanche incidents where rescue teams are involved	Avalanche Call-outs	Number of Avalanche Rescue Operations	People caught	People rescued by rescue teams (alive)	People recovered by rescue teams (deceased)	Backcountry skiing or snowboarding	Freeride (off piste)	On skis	Alpinist (without ski/snowboard)	On road	Buildings	Snow-Mobile	Other	Total	
	Nombre d'accidents d'avalanche dans lesquelles des équipes de sauvetage* étaient engagées	Nombre d'intervention d'une équipe de sauvetage sans une action sur l'avalanche a été effectué	Nombre de sauvetage d'avalanches	Personnes pris par l'avalanche	Personnes sauvées par des équipes de sauvetage* (vivante)	Personnes retrouvées par des équipes de sauvetage* (morte)	Randonnée	Hors piste	Sur Piste	Alpiniste (sans ski/board)	Sur route	Bâtiments	Motor-luge	Divers	Totale	
	Lawinerunfälle bei welchen eine Rettungsmannschaft aufgeboten wurde	Auslöcken einer Rettungsmannschaft ohne geleisteten Einsatz	Anzahl Lawinerettungseinsätze	Erfasste Personen	Gerettete Personen durch Rettungsmannschaft* (lebend)	Geborgene Personen durch Rettungsmannschaft* (tot)	Tourenfahrer	Varianten-fahrer	Auf Piste	Bergsteiger	Auf der Strasse	In Gebäuden	Motor-schritten	Diverses	Total	
Andorra																
Bulgarien	1	-	1	2	-	1	0	1	0	0	0	0	0	0	0	1
Canada	-	-	-	-	-	-	2	4	0	1	0	0	19	0	0	26
Deutschland	-	-	-	12	4	8	2	6	0	0	0	0	0	0	0	8
Espana y Catalonia							1	3	0	0	0	0	0	0	0	4
France							17	10		2	0	0	0	6	35	
Great Britain																
Iceland							0	0	0	0	0	0	0	0	0	0
Ireland																
Italia							9	2	0	4	0	0	0	6	21	
Kroatien																
Liechtenstein	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0
Norway	25	15	10	18	9	4	1	1	0	1	0	0	1	0	4	
Österreich							23	5	0	4	0	0	0	0	32	
Polen GPR (TOPR fehlt)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rumänien							0	0	0	0	0	0	0	0	0	0
Schweiz	86	38	48	151	56	26	6	10	0	4	0	0	0	8	28	
Slowakei	6	-	6	8	4	4	2	0	0	2	0	0	0	0	4	
Slowenien																
Sweden	5	6	4	5	0	3	0	0	0	0	0	0	2	1	3	
Tschechien	2	0	2	3	1	2	1	1	0	0	0	0	0	0	2	
USA	-	-	-	-	-	-	4	1	3	1	0	1	16	1	27	
Total							68	44	3	19	0	1	38	22	163	
percents							41.7	27.0	1.8	11.7	0.0	0.6	23.3	13.5	119.6	

43 incidenti 78 travolti 16 morti sec CNSAS

* rescue team = terrestrial, by helicopter, police or others (not companion rescue)

* équipe de sauvetage = par terre, en hélicoptère, police ou autres (pas des camarades)

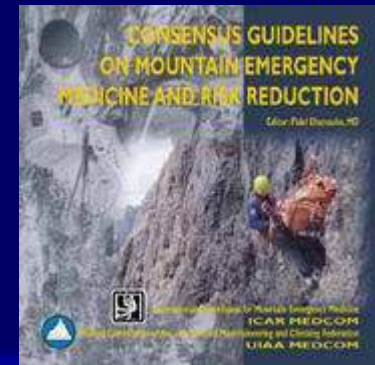
* Rettungsmannschaft = zu Fuss, mit Helikopter, Polizei oder andere (keine Kameraderrettung)




IKAR-CISA - Statistics

1998, 1999, 2000, 2001, 2002

Mountain Rescue Organization	1998	1999	2000	2001	2002
Bulgaria	YES	YES	YES	YES	
South Tyrol	YES	YES	YES	YES	
Slovakia Horska Sluzba	YES	YES	YES	YES	
Liechtenstein	YES		YES	YES	
Switzerland - SAC	YES				
Slovenia	YES	YES	YES	YES	YES
England and Wales	YES	YES	YES	YES	YES
Poland - GOPR	YES				YES
Poland - TOPR	YES				
Austria	YES	YES	YES	YES	
Norwegian Red Cross	YES				
USA		YES			
Canada (some National Parks)		YES			
Croatia		YES		YES	
Slovakia - Tatras MRS			YES		
Czech Republic			YES	YES	
Italy CAI CNSAS			YES		
Germany Bayr. Bergwacht			YES		
Canadian Avalanche Association			YES		
Romania				YES	
Northern Ireland				YES	
Switzerland - KWRO					YES



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1															
2	Statistic informations from:														
3															
4		2000	2001	2002	2003	2004	2005	2006	2007	2008					
5	Number of rescue operations														
6	Number of rescue team members on this operations														
7	Number of hours working on this rescue operations														
8	Number of secured people														
9	male														
10	female														
11	Number of accidents on skis/ski														
12	Number of accidents - off-piste skiing														
13	Number of accidents - backcountry skiing														
14	Number of avalanche accidents														
15	Number of hiking accidents														
16	Number of climbing accidents														
17	Number of accidents in steep ice														
18	Number of accidents on glaciers														
19	Number of accidents - mountain biking														
20	Number of accidents - canyoning														
21	Number of accidents - paraglider and hang gliders														
22	Number of disaster operations														
23															
24	Contact Person														
25	Phone														
26	Email														
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AIR RESCUE REPORT

International Commission for Alpine Rescue

Kommission für Luftrettung • Commission pour le Sauvetage Aérien • Commission for Air Rescue



IKAR-CISA

October 2 - 7, 2012 – Krynica, Poland

PREPARED BY

Marc Ledwidge
Manager, Mountain Safety Programs
Parks Canada
Box 900, Banff, AB
Canada T1L 1K2
Marc.Ledwidge@pc.gc.ca



- In Italia sono 11 milioni e mezzo le persone che praticano uno o più sport con continuità; altri 5 milioni e mezzo lo praticano saltuariamente.
- Nel 1959 l' ISTAT calcolava che solo il 2.6% degli italiani praticava un' attività sportiva

Soggetti che praticano sport con continuità in Italia

Tabella 1. Soggetti di 3 anni e più che praticano sport con continuità, per sesso e tipo di sport

Sport	Maschi	Femmine	Totale
Calcio	41,4	1,7	25,7
Atletica leggera	6,8	5,1	6,1
Footing, jogging, podismo	3,1	2,2	2,8
Ciclismo	9,6	2,8	6,9
Ginnastica, attrezzistica, danza	10,7	42,8	23,3
Pallacanestro	6,0	2,2	4,5
Pallavolo	3,8	11,1	6,7
Nuoto, pallanuoto, tuffi	17,2	28,0	21,5
Tennis	9,8	4,5	7,7
Sport invernali, alpinismo	11,7	9,6	10,9

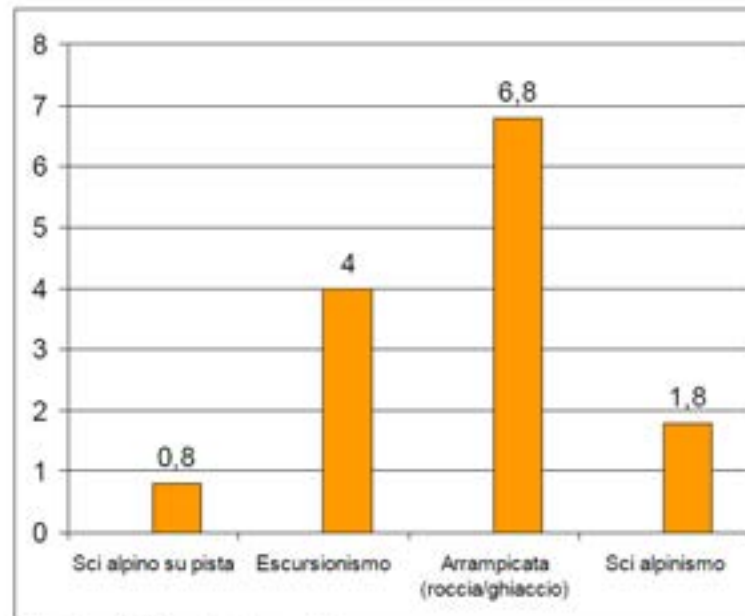
Distribuzione percentuale degli infortuni sportivi per classi di età e disciplina

Sport	Classi di età			
	<25	26-45	46-64	65 e oltre
Basket	63,4	29,2	7,2	0,2
Calcio	52,0	43,9	4,0	0,1
Pallamano	60,8	35,7	3,3	0,2
Tennis	9,5	42,6	47,6	0,2
Pallavolo	44,2	45,4	10,2	0,2
Trekking	17,8	25,3	30,4	26,6
Arti marziali	47,3	47,8	4,5	0,5
Attrezzistica	92,4	5,4	1,8	0,4
<i>Fitness</i>	43,4	35,8	14,3	6,5
<i>Jogging</i>	15,1	56,8	27,8	0,4
Atletica leggera	89,3	8,5	1,8	0,4
Nuoto	53,7	31,4	14,1	0,8
Sci	38,1	36,5	23,6	1,8
<i>Snowboard</i>	79,0	19,2	1,6	0,2
Ciclismo su strada	43,8	49,7	6,3	0,3
<i>Mountain Bike</i>	91,0	6,5	2,3	0,2

Fonte: elaborazione ISS su dati UPI

Pericolosità sport di montagna

Settore 2: Pericolosità. Comparazioni all'interno degli sport della montagna.
Grafico 1: Tassi di mortalità per tipologie di pratica



Morti per 100.000 praticanti sportivi

Fonte: DAV 1996



Raccolta dati



La ricerca sugli incidenti legati alla pratica degli sport alpini è cresciuta molto lentamente:

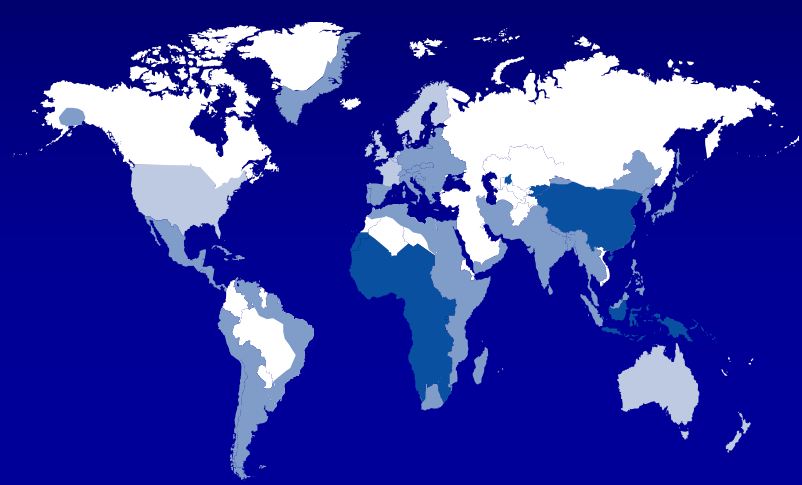
- acquisizione di dati sanitari problematica
- difficoltà di quantificare precisamente l'effettiva esposizione al rischio
- mancanza di informazioni sufficientemente dettagliate

Global Epidemiology of HCC

- HCC accounts for 6% of all human cancers
- Half million cases annually worldwide
- 2 – 4 times more common in men than in women
- 5th most common malignancy in men and 8th in women
- Rapidly fatal (incidence rate very close to mortality rate)
- 80% of cases arise in developing countries such as Southeast Asia and sub-Saharan Africa

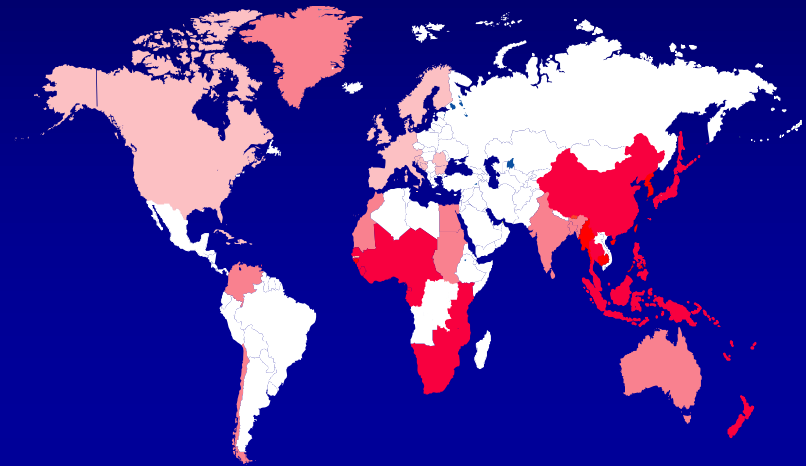
World Health Organization. Mortality Database. WHO Statistical Information System. Available at: <http://www.who.int/whosis>.

Geographic Distribution of HBV Carriers and Incidence of HCC



Prevalence of HBV carriers

- <1%
- 1-10%
- >10%
- unknown



Annual incidence of HCC

incidence/100,000
population

- 1-3
- 3-10
- 10-150
- unknown

13.4/100.000 praticanti
Sport alpini


Estimated Number* of New Cancer Cases and Deaths by Sex, US, 2015

Estimated New Cases

Estimated Deaths

Estimated New Cases			Estimated Deaths				
Both Sexes	Male	Female	Both sexes	Male	Female		
1,658,370	848,200	810,170	589,430	312,150	277,280		
Other oral cavity		3,020	2,230	790	1,680	1,300	380
Digestive system		291,150	163,050	128,100	149,300	86,540	62,760
Esophagus		16,980	13,570	3,410	15,590	12,600	2,990
Stomach		24,590	15,540	9,050	10,720	6,500	4,220
Small intestine		9,410	4,960	4,450	1,260	670	590
Colon†		93,090	45,890	47,200	49,700	26,100	23,600
Rectum		39,610	23,200	16,410			
Liver & intrahepatic bile duct		35,660	25,510	10,150	24,550	17,030	7,520
Gallbladder & other biliary		10,910	4,990	5,920	3,700	1,660	2,040
Pancreas		48,960	24,840	24,120	40,560	20,710	19,850
Other digestive organs		4,670	1,910	2,760	2,210	870	1,340
Respiratory system		240,390	130,260	110,130	162,460	89,750	72,710
Larynx		13,560	10,720	2,840	3,640	2,890	750
Lung & bronchus		221,200	115,610	105,590	158,040	86,380	71,660
Other respiratory organs		5,630	3,930	1,700	780	480	300
Bones & joints		2,970	1,640	1,330	1,490	850	640
Soft tissue (including heart)		11,930	6,610	5,320	4,870	2,600	2,270
Skin (excluding basal & squamous)		80,100	46,610	33,490	13,340	9,120	4,220
Melanoma of skin		73,870	42,670	31,200	9,940	6,640	3,300

Incidenti sciistici nel mondo - alcune cifre

 BEPRASA	Europa			Extra-Europa
	Italia	Francia	Svizzera	USA
Anno	n. Incidenti all'anno			
2004/2005	30.000	51.000	70.000	71.000

Fonti:

Istituto Superiore di Sanità - Italia

SNOSM - Systeme National d'Observation de la Securité en Montagne - France

BFUBpaUpi - Ufficio Svizzero per la prevenzione degli infortuni - Svizzera

CPSC - Consumer Product Safety Commission - USA

Cause di morte in sciatori e snowboarders

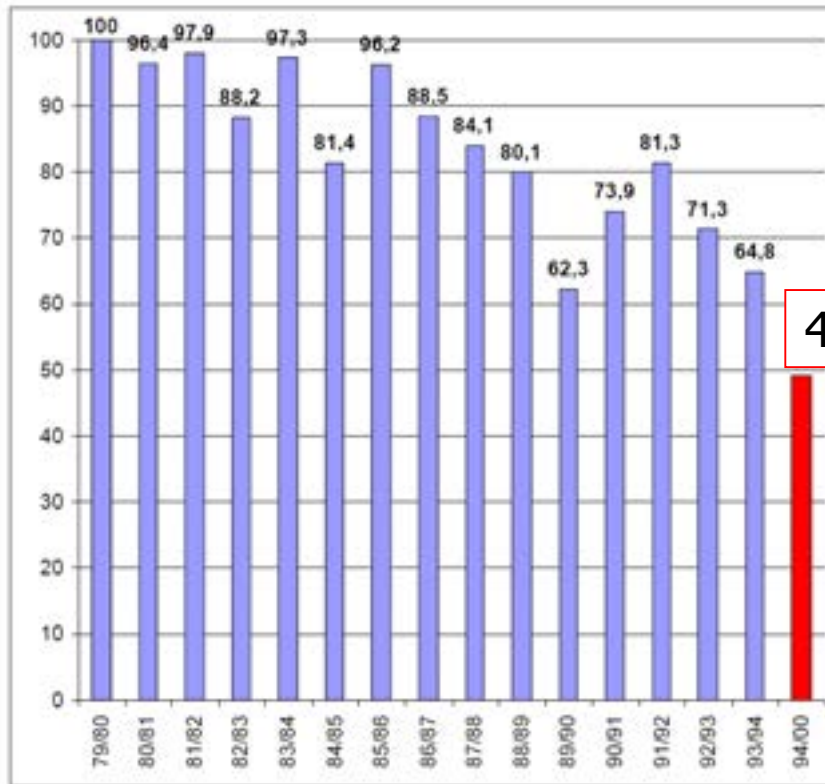
Table 4 Summary of the causes of death found in studies of skiers and snowboarders

Author	Location	Activity	Deaths	Collision	Fall	Avalanche	Hypothermia	Medical
Farahmand <i>et al</i> (2007) ^{††}	Vasaloppet, Sweden	Cross country skiing	13	0	0	0	0	13
Morrow (1988) ^{‡‡}	Vermont, USA	Skiing	16	6	10	0	0	0
Sherry and Clout (1988) ^{††}	Snowy Mountains, Australia	Skiing	29	4	3	1	6	15
Tough and Butt* (1993) ^{††}	Alberta, Canada	Cross country skiing	19	1	2	15	1	0
Tough and Butt* (1993) ^{††}	Alberta, Canada	Skiing	19	12	6	0	1	0
Weston <i>et al</i> (1977) ^{††}	Utah, USA	Skiing	10 [†]	2	3	1	0	3
Wright (1988) ^{††}	USA	Nordic ski jumping	6	2	4	0	0	0
Xiang <i>et al</i> (2003) ^{††}	Colorado, USA	Skiing and snow boarding	174 [‡]	113	11	8	NK	7
Xiang <i>et al</i> (2003) ^{††}	Colorado, USA	Cross country skiing	100 [‡]	5	2	4	NK	4
Total			386	145	41	109	8	42

*Only deaths associated with traumatic injuries or hypothermia were included. [†]One death was attributed to suicide following a single gunshot wound to the head. [‡]Xiang *et al*'s study was divided into deaths that occurred to either downhill skiing and snowboarding or cross country skiing. The remaining deaths in this study were attributed to either "general skiing accidents" or "other/unknown".

NK, not known.

Statistica infortuni sci alpino



49%

Da: ASU-Ski Auswertungsstelle für Ski Unfälle

Corretta regolazione attacchi



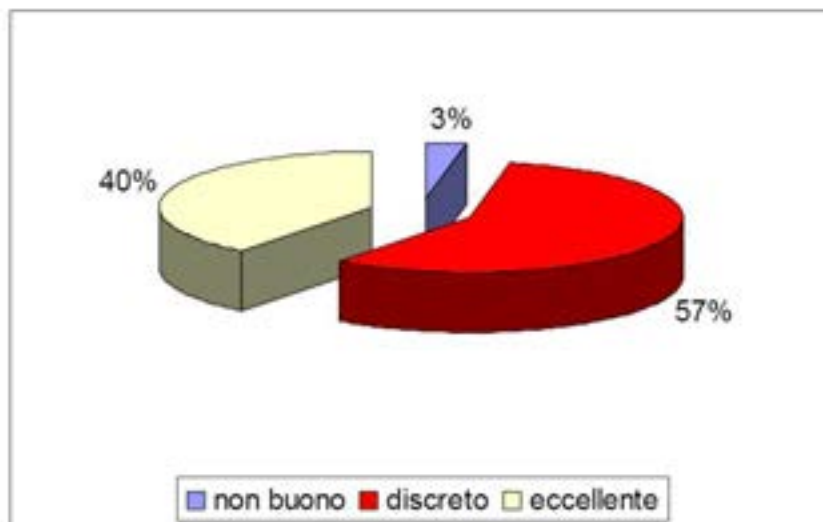
Livello tecnico dello sciatore: Principiante: 10% Buono: 73% Esperto: 17%
Anni dell'attrezzo esaminato: Meno di due: 45% Tra due e cinque: 47% Più di cinque: 8%
Numero di preparazioni dello sci in un anno: Più di una volta: 49% Una volta: 36% Meno di una volta: 15%

Dati forniti da: Associazione Ski-Man

Studio sulla sicurezza nello sci alpino (ottobre 2002)

2002 © POOL Sci Italia

Stato manutenzione attacchi



Livello tecnico dello sciatore: Principiante: 10% Buono: 73% Esperto: 17%
Anni dell'attrezzo esaminato: Meno di due: 45% Tra due e cinque: 47% Più di cinque: 8%
Numero di preparazioni dello sci in un anno: Più di una volta: 49% Una volta: 36% Meno di una volta: 15%

Dati forniti da: Associazione Ski-Man

Studio sulla sicurezza nello sci alpino (ottobre 2002)

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Stato manutenzione lamine



Livello tecnico dello sciatore: Principiante: 10% Buono: 73% Esperto: 17%
Anni dell'attrezzo esaminato: Meno di due: 45% Tra due e cinque: 47% Più di cinque: 8%
Numero di preparazioni dello sci in un anno: Più di una volta: 49% Una volta: 36% Meno di una volta: 15%

Dati forniti da: Associazione Ski-Man

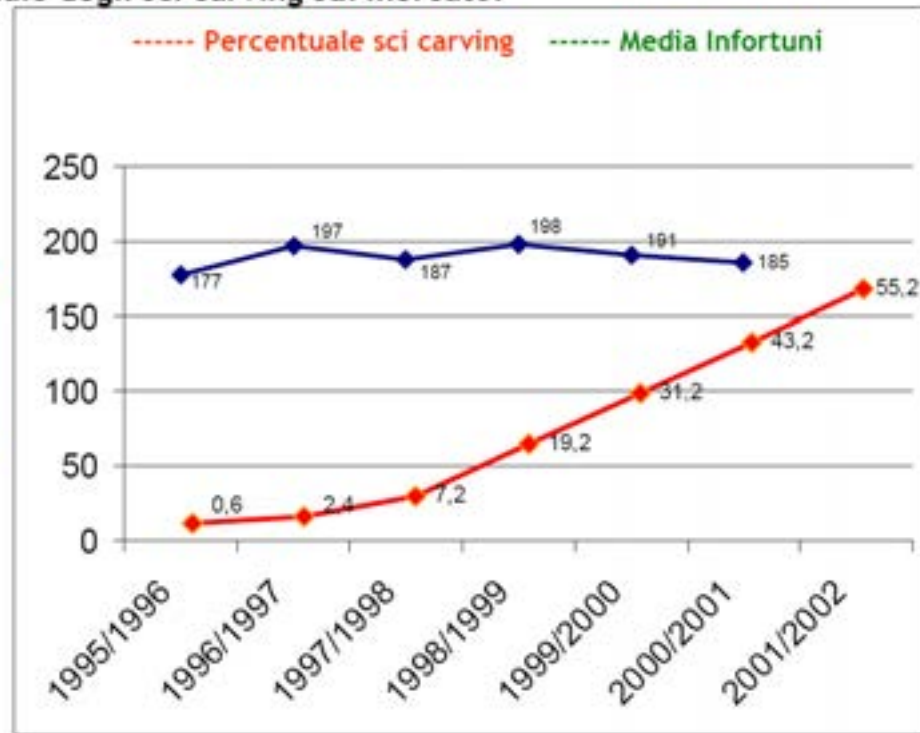
Studio sulla sicurezza nello sci alpino (ottobre 2002)

2002 © POOL Sci Italia

Rapporto tra attrezzo ed infortuni: sci-alpino

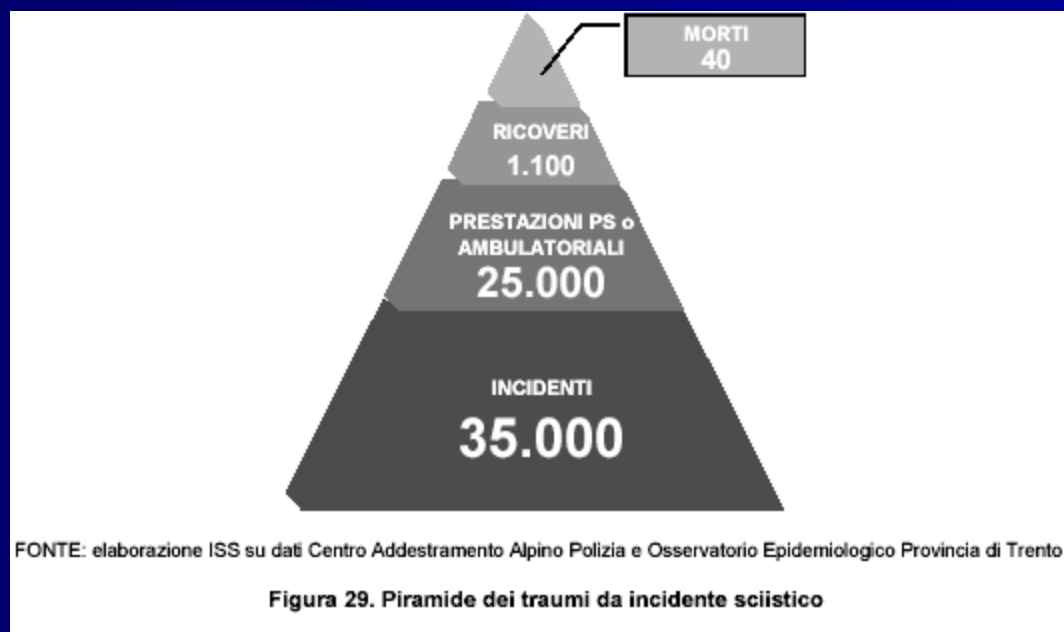
Settore 9: Sci carving

Grafico 5: Raffronto tra la media infortuni per stazione in Trentino e l'andamento percentuale degli sci carving sul mercato.



SIMON 03-06

Sorveglianza Incidenti in **MON**tagna



SIMON 03-06

Limone Piemonte (CN)

Prato Nevoso (CN)

Bardonecchia (TO)

Sestriere (TO)

Alagna (VC)

Breuil-Cervinia (AO)

Champoluc-Monte Rosa (AO)

Courmayeur (AO)

La Thuile (AO)

Pila (AO)

Valtournanche (AO)

Aprica (SO)

Bormio (SO)

Chiesa in Valmalenco (SO)

Livigno (SO)

Medesimo (SO)

Passo dello Stelvio (SO)

Santa Caterina Valfurva (SO)

Monte Campione (BS)

Passo del Tonale (BS)

Alba di Canazei (TN)

Andalo (TN)

Campitello di Fassa (TN)

Canazei (TN)

Cavalese (TN)

Folgaria (TN)

Madonna di Campiglio (TN)

Moena-Passo S. Pellegrino (TN)

Pampeago (TN)

Pinzolo (TN)

Pozza di Fassa (TN)

Predazzo (TN)

San Martino di Castrozza (TN)

Vigo di Fassa (TN)

Colfosco-Alta Badia (BZ)

Obereggen (BZ)

Arabba (BL)

Civetta (BL)

Cortina d'Ampezzo (BL)

Falcade (BL)

Falzarego-Lagazuoi (BL)

Malga Ciapela (BL)

Sappada (BL)

Gallio (VI)

Forni di sopra (UD)

Ravascletto (UD)

Tarvisio (UD)

Abetone (PT)

Campo Imperatore (AQ)

Monte Pratello (AQ)

Ovindoli (AQ)

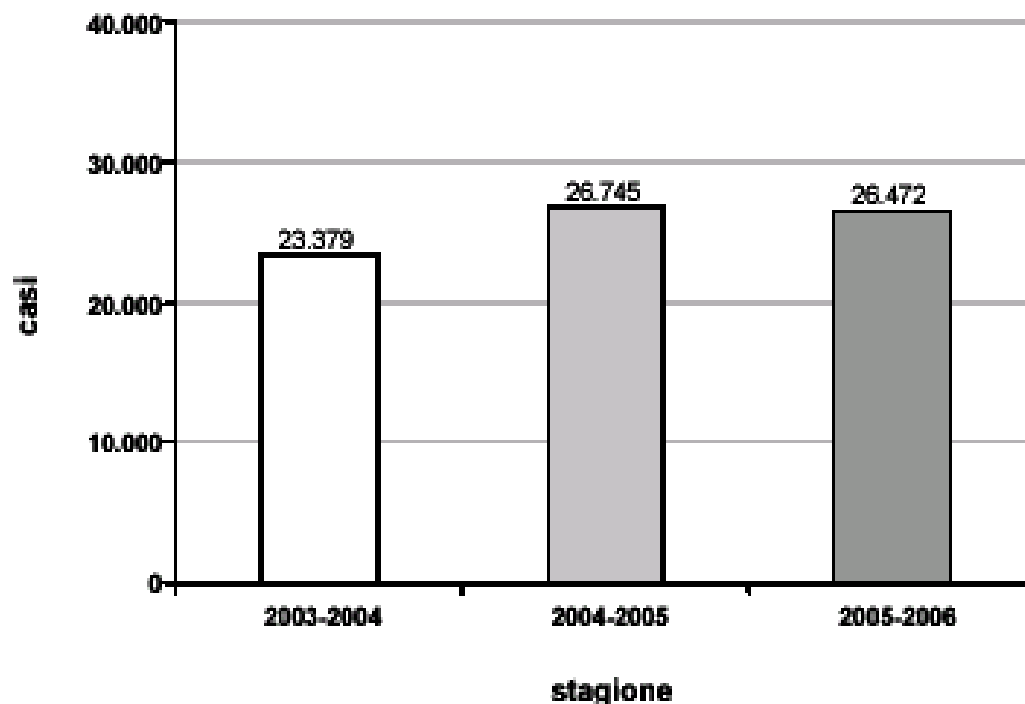
Roccaraso (AQ)

Terminillo (RI)

Campitello Matese (CB)

Etna nord (CT)

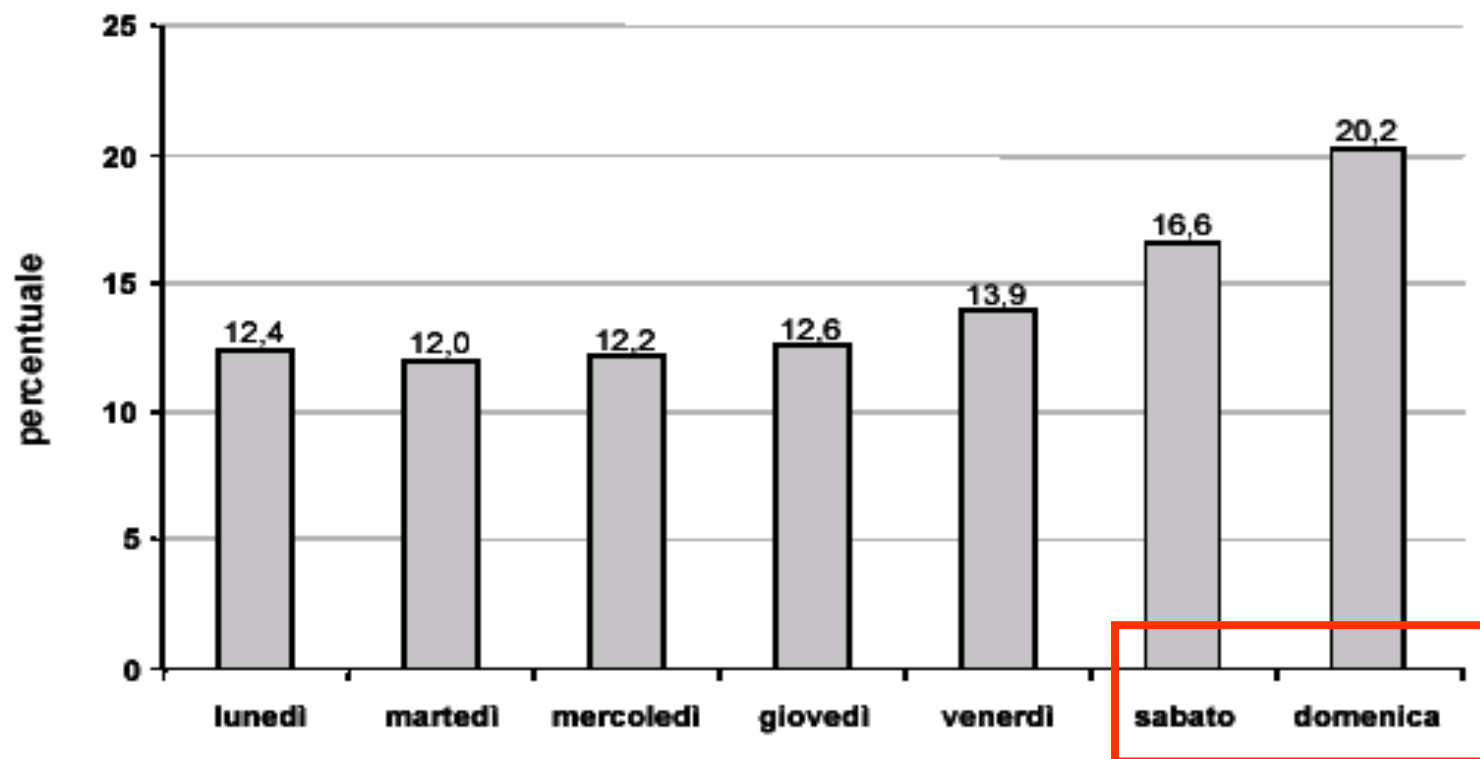
SIMON 03-06



FONTE: elaborazione ISS su dati Centro Addestramento Alpino Polizia e Centro Carabinieri Addestramento Alpino

Figura 2. Numero di soccorsi effettuati per stagione sciistica

SIMON 03-06



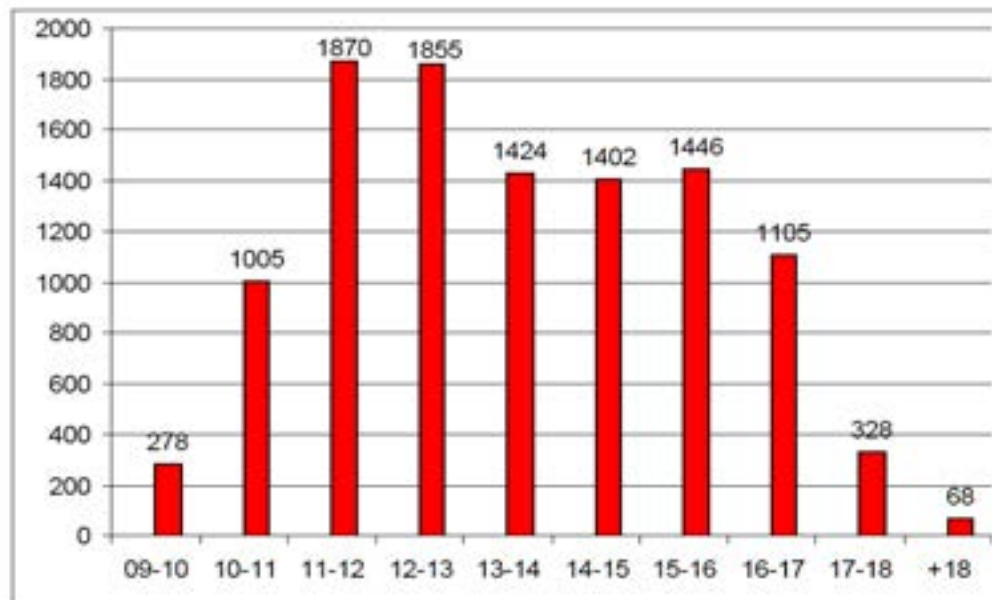
FONTE: elaborazione ISS su dati Centro Addestramento Alpino Polizia e Centro Carabinieri Addestramento Alpino

Figura 14. Distribuzione percentuale dei soccorsi per giorno della settimana

Fasce orarie ed intervento

Settore 5: Analisi sugli interventi effettuati

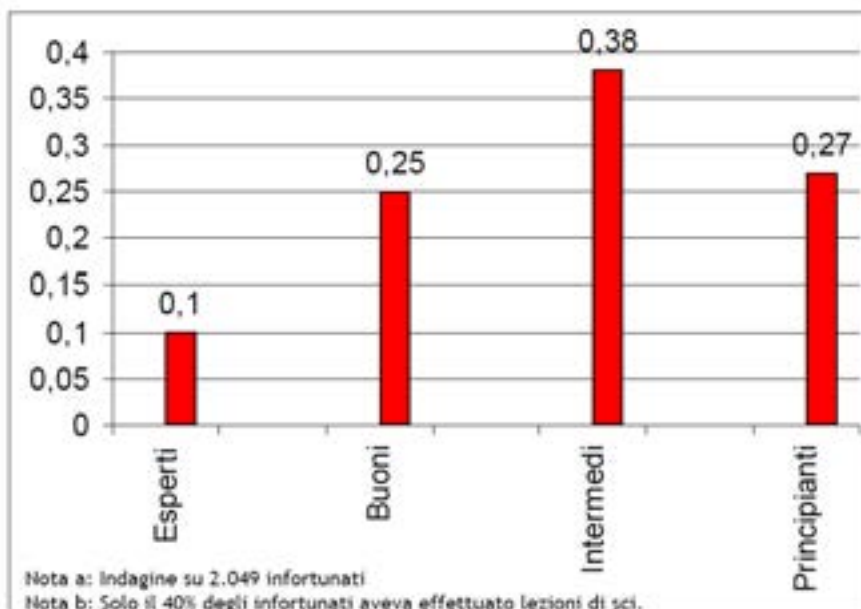
Grafico 1: Interventi di soccorso suddivisi per fasce orarie



Da: Polizia di Stato Centro addestramento alpino -Moena- Servizio sicurezza e soccorso in montagna
Dati 2000/01

Infortunati per fasce di abilità

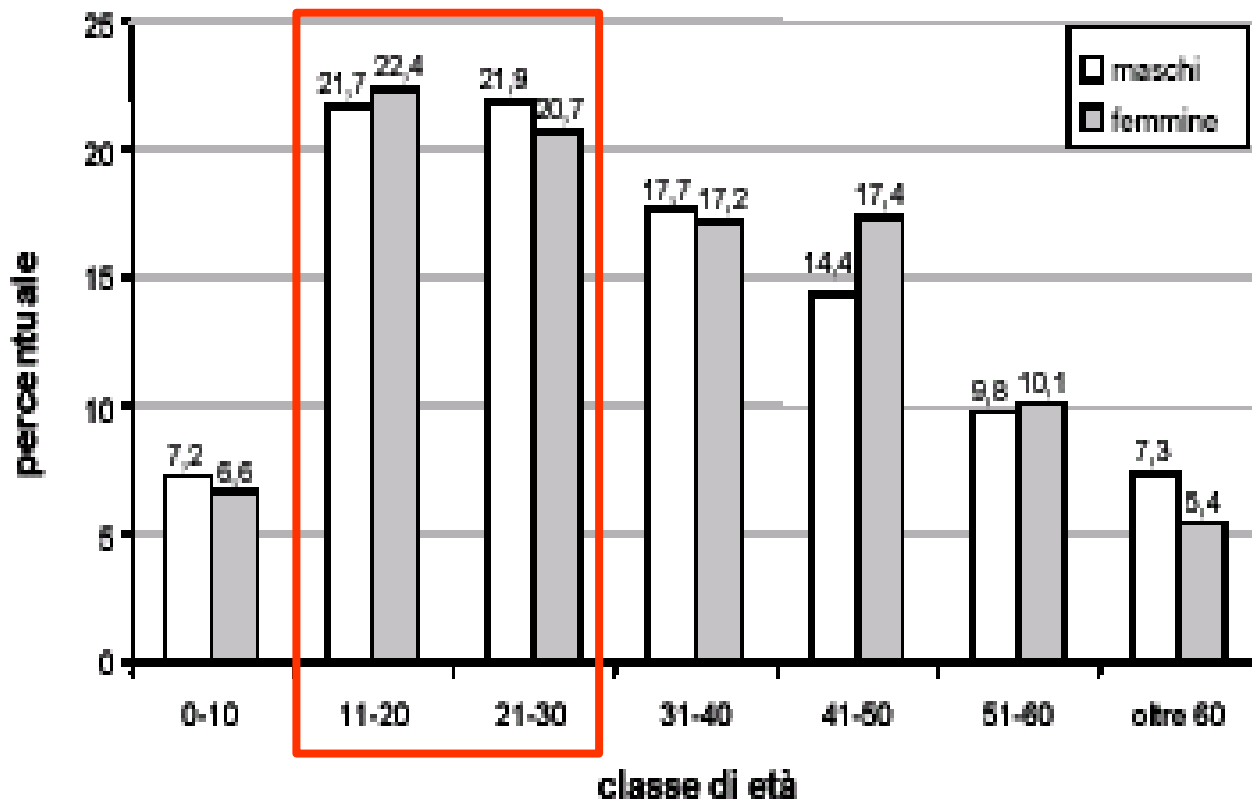
Settore 5: Analisi sugli interventi effettuati
Grafico 3: Infortuni suddivisi per fasce di abilità



Dati raccolti da "Norwegian Ski Lift Association" nelle stagioni 1996/1997 e 1997/1998
Da: Anne Ekeland - Andreas Rodven "Injuries in Alpine Skiing, Telemarking and Snowboarding"

SIMON 03-06

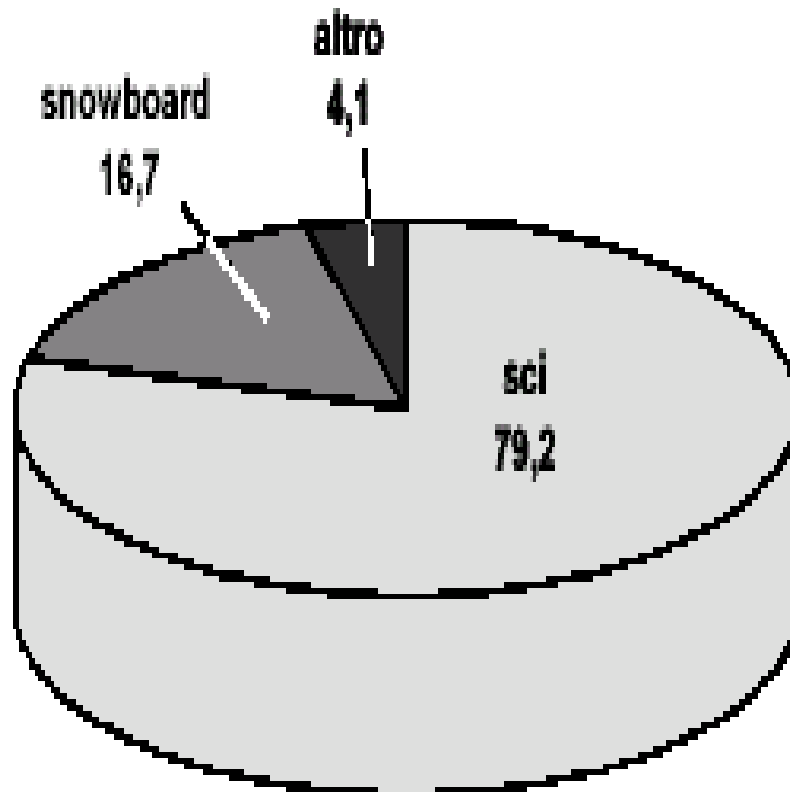
Infortunati per fasce di età e sesso



FONTE: elaborazione ISS su dati Centro Addestramento Alpino Polizia e Centro Carabinieri Addestramento Alpino

SIMON 03-06

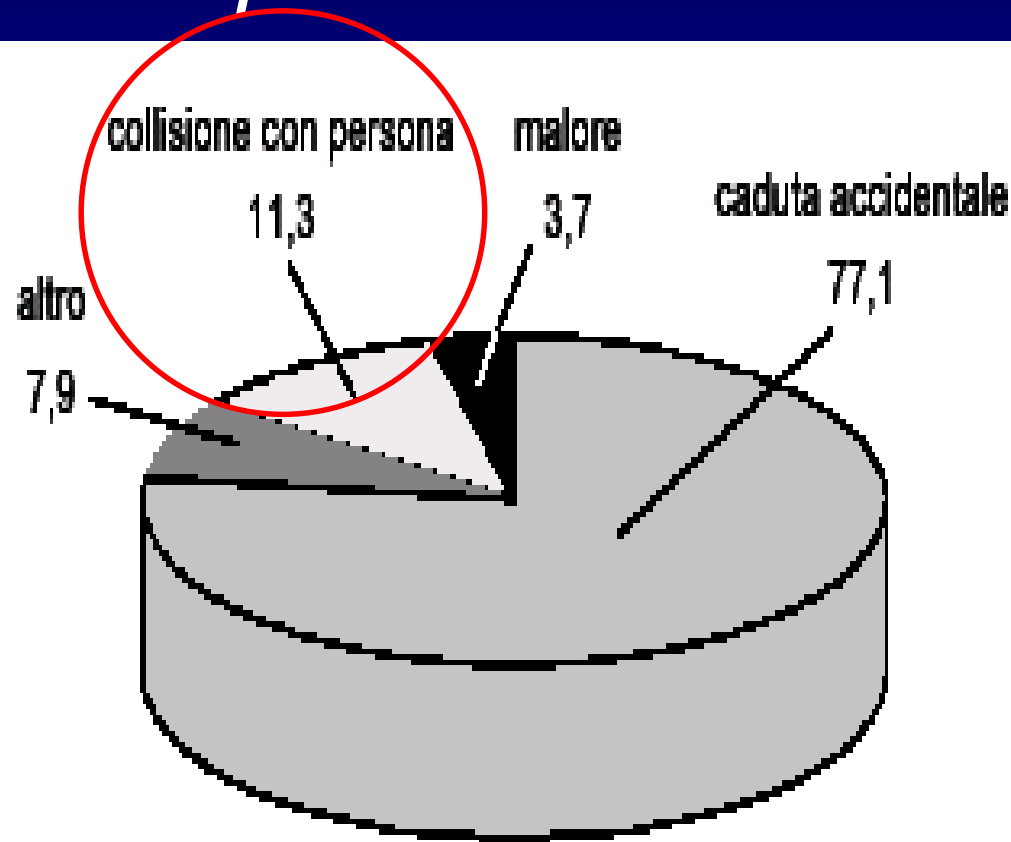
Distribuzione per tipo di attrezzatura



FONTE: elaborazione ISS su dati Centro Addestramento Alpino Polizia e Centro Carabinieri Addestramento Alpino

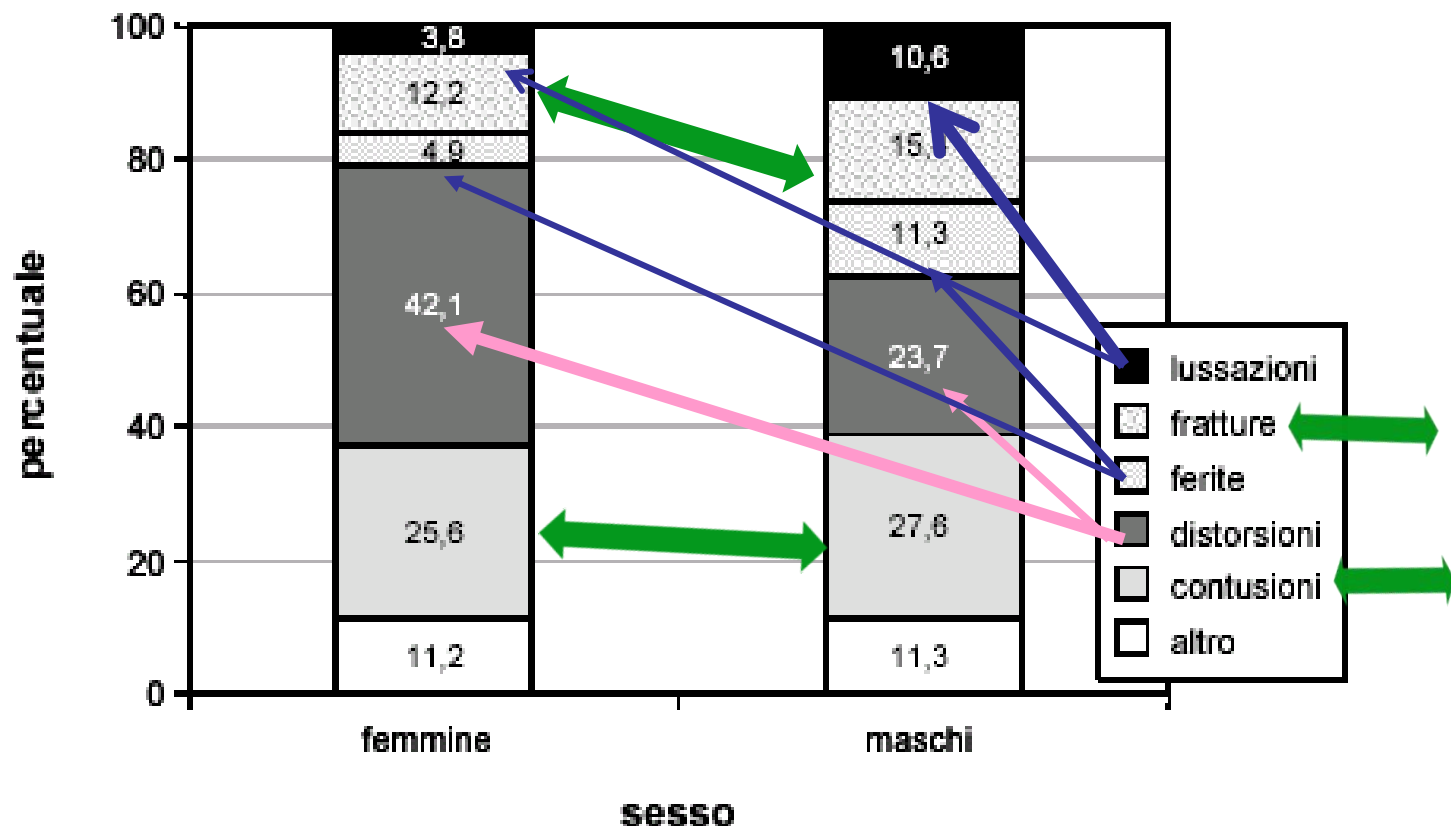
SIMON 03-06

Distribuzione per dinamica di incidente



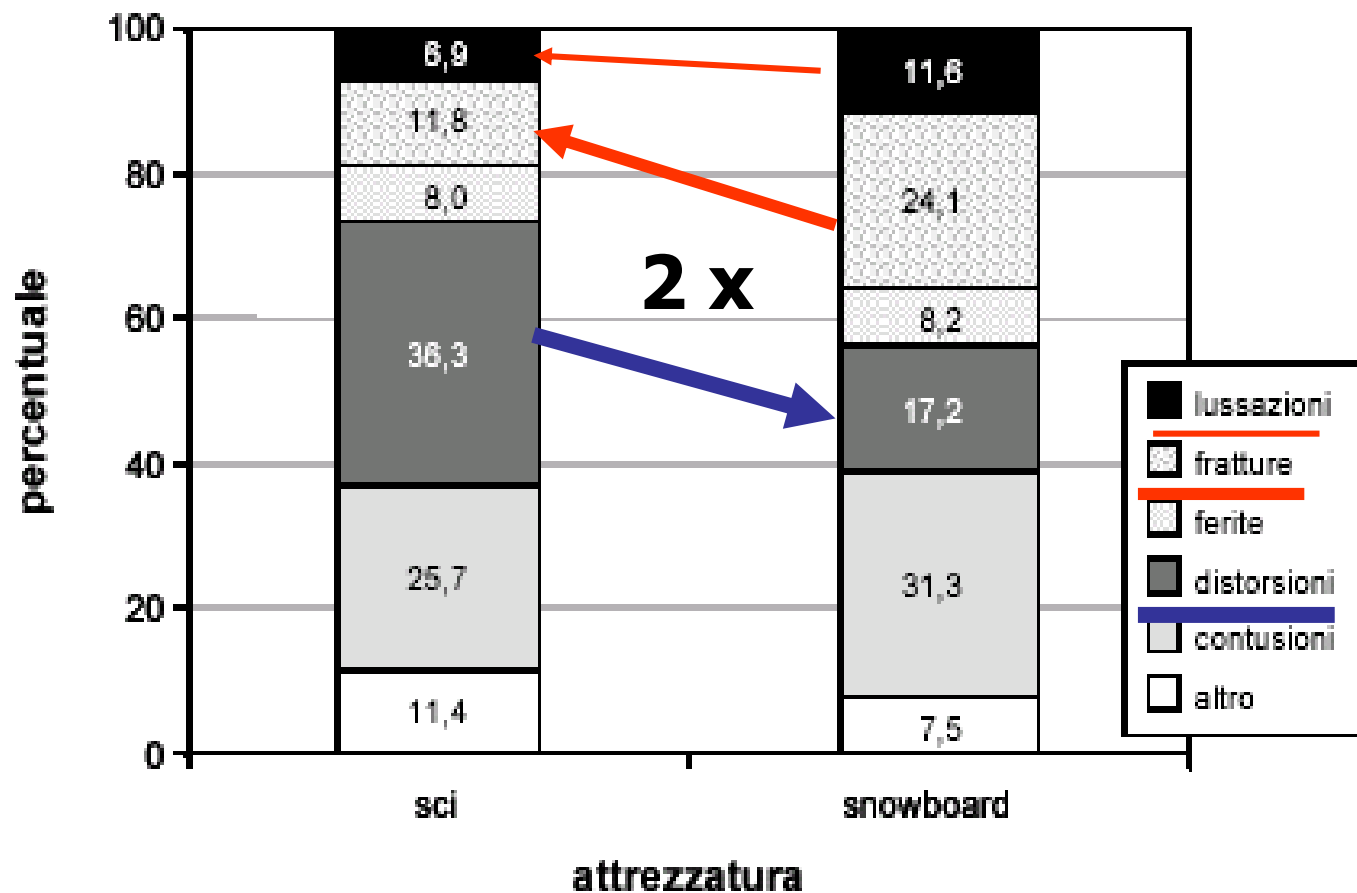
FONTE: elaborazione ISS su dati Centro Addestramento Alpino Polizia e Centro Carabinieri Addestramento Alpino

SIMON 03-06

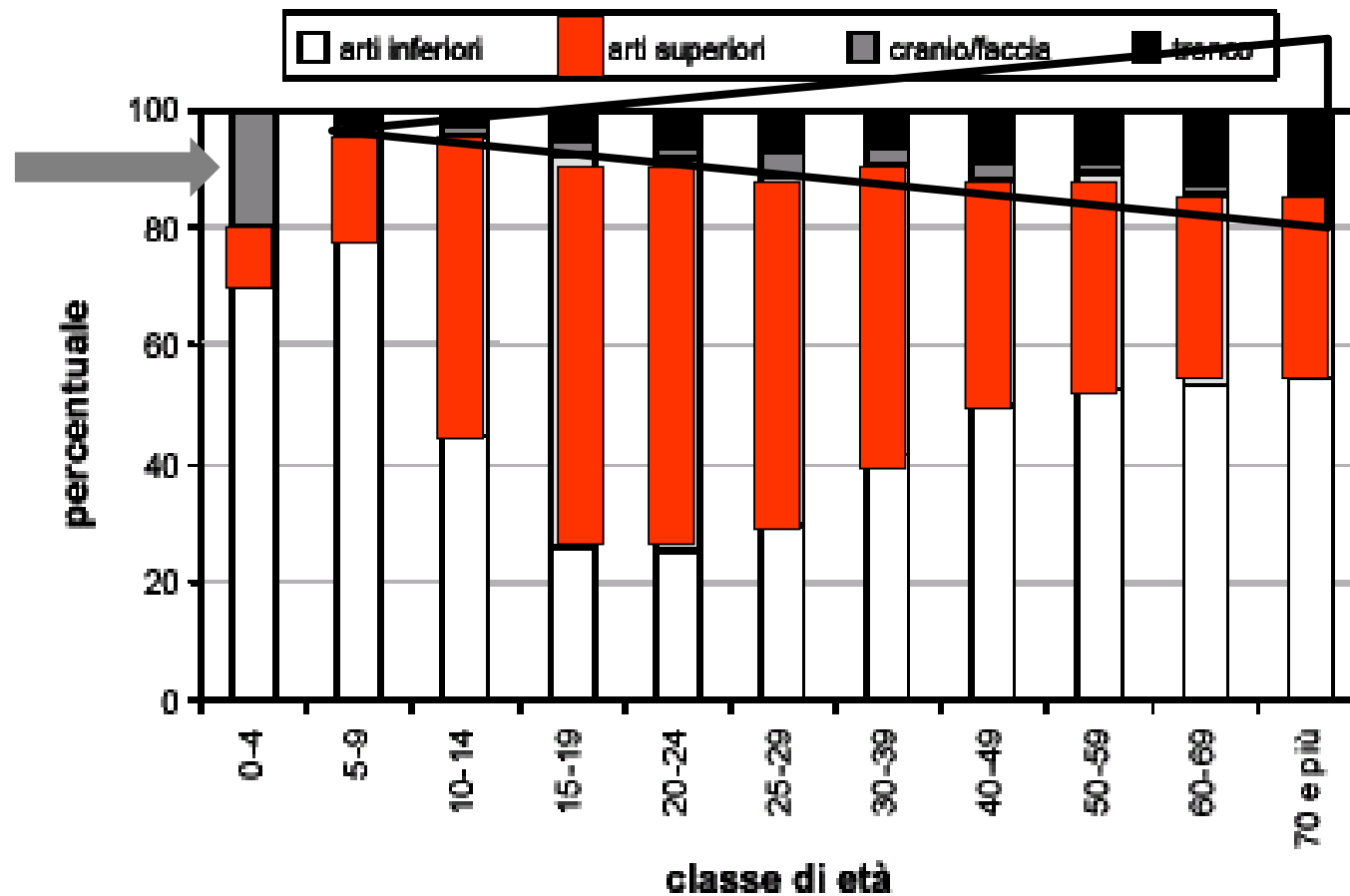


FONTE: elaborazione ISS su dati Centro Addestramento Alpino Polizia

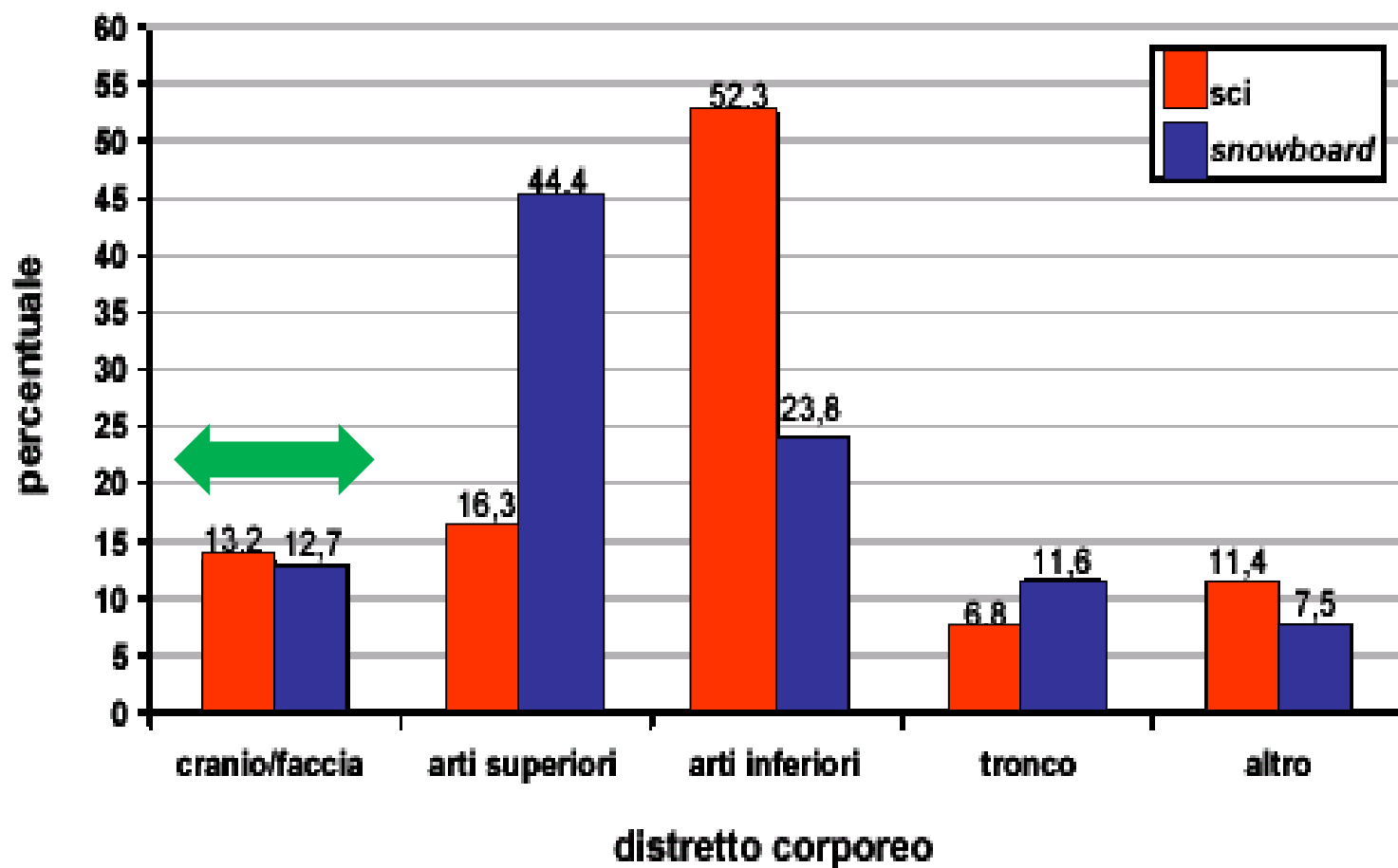
SIMON 03-06



SIMON 03-06



SIMON 03-06



SIMON 03-06

sci

Tabella 12. Distribuzione percentuale degli accessi in PS per tipo di diagnosi (prime 20)

Diagnosi	%
Distorsione al ginocchio	22,72
Trauma cranico	13,32
Lussazione alla spalla	6,25
Frattura composta alla gamba (tibia e/o perone)	5,72
Frattura composta al ginocchio	2,93
Contusione al volto	2,71
Frattura composta alla spalla (scapola, clavicola, acromion)	2,71
Contusione al bacino (sacro, coccige, anca)	2,63
Frattura composta del femore	2,63
Contusione al torace	2,48
Frattura scomposta alla gamba (tibia e/o perone)	2,48
Frattura composta al polso	2,03
Frattura composta al braccio (omero)	1,73
Contusione al ginocchio	1,73
Lesione ai muscoli, tendini e legamenti del ginocchio	1,66
Cause non traumatiche	1,50
Contusione alla spalla (scapola, clavicola, acromion)	1,43
Distorsione rachide cervicale	1,35
Frattura composta del bacino (sacro, coccige, anca)	1,35
Frattura composta al torace	1,20

FONTE: elaborazione ISS su dati Osservatorio Epidemiologico Provincia di Trento

SIMON 03-06

Tabella 13. Distribuzione percentuale degli accessi in PS per tipo di diagnosi (prime 20) -

Diagnosi	%
snowboard	
Frattura composta al polso	13,80
Trauma cranico	13,13
Lussazione alla spalla	8,08
Frattura composta all'avambraccio (ulna e/o radio)	6,06
Frattura composta alla spalla (scapola, clavicola, acromion)	4,04
Contusione al torace	3,70
Frattura composta al braccio (omero)	3,37
Distorsione al ginocchio	3,37
Contusione al bacino (sacro, coccige, anca)	3,03
Contusione lombare	2,69
Distorsione al polso (carpo e metacarpo)	2,69
Frattura scomposta del polso (carpo e metacarpo)	2,69
Frattura scomposta all'avambraccio (ulna e/o radio)	2,02
Frattura composta alla gamba (tibia e/o perone)	2,02
Contusione al volto	1,68
Distorsione rachide cervicale	1,68
Contusione al polso (carpo e metacarpo)	1,68
Ferita lacero-contusa al ginocchio	1,68
Contusione alla spalla (scapola, clavicola, acromion)	1,35
Ferita lacero-contusa al volto	1,01

FONTE: elaborazione ISS su dati Osservatorio Epidemiologico Provincia di Trento

SIMON 03-06

Tabella 20. Principali diagnosi riportate nei centri di pronto soccorso della provincia di Trento

%	Diagnosi riportata (in base all'ICD9 CM)
21,29	Frattura di diafisi, chiusa perone e tibia
→ 7,43	Concussione con nessuna perdita di coscienza
6,44	Frattura di epifisi prossimale, chiusa perone e tibia
5,45	Frattura transcervicale del collo del femore, chiusa, della sezione intracapsulare, non specific.
4,46	Frattura di diafisi (femore)
3,96	Frattura pertrocanterica chiusa (collo del femore)
→ 3,47	Concussione con breve perdita di coscienza
2,97	Frattura di diafisi, chiusa soltanto tibia
2,48	Frattura chiusa del corpo dell'omero
2,48	Frattura di epifisi prossimale, chiusa soltanto tibia
2,48	Frattura di diafisi, esposta perone e tibia
1,98	Frattura chiusa della colonna dorsale (toracica) senza menzione di lesione del midollo spinale
1,98	Frattura chiusa del collo chirurgico dell'omero
1,98	Altri e non specificati traumatismi del tronco
1,49	Frattura chiusa delle vertebre lombari senza menzione di lesione del midollo
1,49	Frattura chiusa dell'ileo (bacino)
1,49	Frattura pertrocanterica chiusa (collo del femore), sezione intertrocanterica
→ 1,49	Traumatismi intracranici di altra e non specificata natura

12,39%

FONTE: elaborazione ISS su dati Osservatorio Epidemiologico Provincia di Trento

SIMON 03-06

Tabella 14. Distribuzione percentuale degli accessi in PS per tipo di diagnosi e dinamica (prime 5 diagnosi)

Dinamica	%
<i>Caduta</i>	
Distorsione al ginocchio	22,3
Trauma cranico	10,2
Lussazione alla spalla	7,8
Frattura della gamba	5,8
Frattura del polso	5,0
<i>Scontro</i>	
Trauma cranico	26,0
Distorsione al ginocchio	9,3
Contusione al torace	6,1
Contusione al volto	5,1
Contusione al bacino	4,2

36%

52%

48%

FONTE: elaborazione ISS su dati Osservatorio Epidemiologico Provincia di Trento

- “Wearing a helmet is associated with reduced risk of head injury among snow boarders and alpine skiers”

Head injuries accounted for 578 injuries (17.6%). Using a helmet was associated with a 60% reduction in the risk for head injury when comparing skiers with head injuries with uninjured controls

Vol. 295 No. 8, February 22, 2006

[TABLE OF CONTENTS >](#)

Original Contribution

Helmet Use and Risk of Head Injuries in Alpine Skiers and Snowboarders

Steinar Sulheim, MD; Ingar Holme, PhD; Arne Ekeland, MD, PhD; Roald Bahr, MD, PhD

JAMA. 2006;295:919-924.

Traumi cranici e casco: Sci alpino

Tabella 21. Diminuzione stimata di traumi al cranio a fronte di differenti frontiere di utilizzo del casco

Prevalenza uso del casco		Diminuzione stimata (%)	Beneficio sanitario (stima 3.300 traumi cranici)
Prima	Dopo		
10%	30%	-10,5	347
10%	40%	-15,8	521
10%	50%	-21,1	696
10%	60%	-26,3	868
10%	70%	-31,6	1.043
10%	80%	-36,8	1.214
10%	90%	-41,1	1.356
10%	100%	-47,4	1.564



Epidemiologia degli incidenti ambiente alpino ostile





31 Delegazioni alpine



16 Zone speleologiche



2014: 6800 uomini di cui 177 medici e 244 infermieri

242 stazioni



27 stazioni





242 STAZIONI DI SOCCORSO



ABRUZZO	800258239
ALTO ADIGE	118
BASILICATA	118 - 349/1860842
CALABRIA	339 6197005; 347 4872105; 349 8231437
CAMPANIA	331 4597777
EMILIA ROMAGNA	118 - 800848088
FRIULI VENEZIA GIULIA	118
LAZIO	118 - 348/6131300
LIGURIA	118
LOMBARDIA	118
MARCHE	118
MOLISE	118 - 338 6575896; 338 6575554; 338 6575660
PIEMONTE	118
PUGLIA	340/6463497 339/6279810 340/27214740804/839097 368/3978306 339/4601088334/6067472 328/9369890
SARDEGNA	118
SICILIA	3349510149 3388441867 3403961735 3286221953 3479028236
TOSCANA	118
TRENTINO	118
UMBRIA	3335474180 3341997343 3343511179
VALLE D'AOSTA	118 0165/238222
VENETO	118

MODULO DENUNCIA INFORTUNIO A SOCIO C.A.I.

DATI PERSONALI SOCIO INFORTUNATO

COGNOME		NOME	
NATO A		IL	SESSO M F
RESIDENTE	VIA	CAP	PROV.
TEL. CASA	TEL. UFFICIO	FAX	CELLULARE
TESSERA C.A.I.		SEZIONE C.A.I.	
NOME EVENTUALE CONTATTO			
BANCA A CUI APPOGGIARE IL RIMBORSO		AGENZIA	
INTESTATARIO	CC	ABI	CAB
		CIN	

INTERVENTO

DATA INTERVENTO	LOCALITA'	NADIONE	QUORA
-----------------	-----------	---------	-------

ATTIVITA' COINVOLTA	CAUSA INCIDENTE	STATO FISICO
<input type="checkbox"/> ALPINISMO	<input type="checkbox"/> CADUTA CREFACCIO	<input type="checkbox"/> ILLESO
<input type="checkbox"/> MONTAGNATA FALCESIA	<input type="checkbox"/> CADUTA SASSI	<input type="checkbox"/> FERITO LEGGERO
<input type="checkbox"/> CADUTA A CORDICCO	<input type="checkbox"/> CADUTA VANTA	<input type="checkbox"/> FERITO GRAVE
<input type="checkbox"/> ESCURSIONISMO	<input type="checkbox"/> SCENDIMENTO IMPROVISO	<input type="checkbox"/> DECESSO
<input type="checkbox"/> FERRATA	<input type="checkbox"/> FERRATA MANOVRA CORONA	<input type="checkbox"/> OSPEDIO
<input type="checkbox"/> SCI ALPINSKIC	<input type="checkbox"/> POLI GORAZIONE	
<input type="checkbox"/> SCI FONDO ESCURSIONISTICO	<input type="checkbox"/> INCAPACITA'	
<input type="checkbox"/> SCI FUNDS POSTA	<input type="checkbox"/> MALORE	
<input type="checkbox"/> SPIELBOGGA	<input type="checkbox"/> MAL YERBRO	
<input type="checkbox"/> MOUNTAIN BIKE	<input type="checkbox"/> MORDO VIBERA	
	<input type="checkbox"/> PERDITA ORIENTAMENTO	
	<input type="checkbox"/> PUNTURA INSETTI	
	<input type="checkbox"/> STAMBO	
	<input type="checkbox"/> SCOCOLAIA	
	<input type="checkbox"/> SFIDAMENTO	
	<input type="checkbox"/> ZALANGA	

ELICOTTERO IMPREGATO
<input type="checkbox"/> AIR GLACIER
<input type="checkbox"/> AIR ZERMATT
<input type="checkbox"/> CHRISTOPHORUS FLUG
<input type="checkbox"/> GENOVAMERE
<input type="checkbox"/> HELIX
<input type="checkbox"/> TYROLER AN ABELLAUER
<input type="checkbox"/> NESSUNO

barrare con una X le voci interessate

BREVE DESCRIZIONE INCIDENTE

IMPORTO FATTURA ELICOTTERO	IMPORTO FATTURA SOC. ALPINO	IMPORTO FATTURA ALTRO
GIORNI RIC. OSPED. (certificato medico)	TOTALE	
DATA	FIRMA	

Da inviare a:

C.N.S.A.S. via Petrella 19 - 20124 MILANO tel. 02-29530433 fax. 02-29530364 segreteria@cnsas.it

entro e non oltre 10 gg dalla data dell'incidente o dalla ricezione delle fatture





RELAZIONE MEDICA



Dati anagrafici Cognome e nome M F età
 Luogo e data di nascita Tessera CAI SI NO Nazione

Residenza

Data incidente **Luogo** **N° persone coinvolte**

Ora: incidente allarme arrivo sull'infortunato evacuazione Amb/ELI H

Evento: medico trauma **Dinamica** caduta > 3m precipitazione slavinia scarica sassi altro

Descrizione evento

Atti vitali	Stato	Stato	Stato
Presenza <input type="checkbox"/>	Presente <input type="checkbox"/>	Presente <input type="checkbox"/>	Presente <input type="checkbox"/>
Dir. Part. <input type="checkbox"/>	Insult. <input type="checkbox"/>	Aspetto <input type="checkbox"/>	F.C. <input type="checkbox"/>
Dir. Tot. <input type="checkbox"/>	Assente <input type="checkbox"/>	F.C. <input type="checkbox"/>	P.A. <input type="checkbox"/>
Intestine <input type="checkbox"/>	Int. <input type="checkbox"/>	SpO ₂ <input type="checkbox"/>	SpO ₂ <input type="checkbox"/>
Di. Neum. <input type="checkbox"/>	Crescente <input type="checkbox"/>	Agiti <input type="checkbox"/>	Agiti <input type="checkbox"/>
A P <input type="checkbox"/>	Arrossa ret. <input type="checkbox"/>	Sapore <input type="checkbox"/>	Sapore <input type="checkbox"/>
V U <input type="checkbox"/>	Deformato <input type="checkbox"/>	Conto <input type="checkbox"/>	Conto <input type="checkbox"/>
Potenziale <input type="checkbox"/>	Comale <input type="checkbox"/>	Comale <input type="checkbox"/>	Comale <input type="checkbox"/>
Colo <input type="checkbox"/>	Monitor ECG <input type="checkbox"/>	Monitor ECG <input type="checkbox"/>	Monitor ECG <input type="checkbox"/>
Normale <input type="checkbox"/>	14 <input type="checkbox"/> 15 <input type="checkbox"/> 16 <input type="checkbox"/>	14 <input type="checkbox"/> 15 <input type="checkbox"/> 16 <input type="checkbox"/>	14 <input type="checkbox"/> 15 <input type="checkbox"/> 16 <input type="checkbox"/>
Primo A <input type="checkbox"/>	SA <input type="checkbox"/> BA <input type="checkbox"/> TP <input type="checkbox"/>	Primo A <input type="checkbox"/>	SA <input type="checkbox"/> BA <input type="checkbox"/> TP <input type="checkbox"/>
Primo B <input type="checkbox"/>	AN <input type="checkbox"/> DN <input type="checkbox"/> IV <input type="checkbox"/> TV <input type="checkbox"/>	Primo B <input type="checkbox"/>	AN <input type="checkbox"/> DN <input type="checkbox"/> IV <input type="checkbox"/> TV <input type="checkbox"/>
Primo C <input type="checkbox"/>	Altri <input type="checkbox"/>	Primo C <input type="checkbox"/>	Altri <input type="checkbox"/>

Condizioni all'arrivo



Schema lesioni

F ferita
 X frattura
 M deficit motori
 R sospetta lesione rachide
 S lesione parti molli
 V lesione vascolare
 U ustione

Altro

Portaggi in GCS: Part. in RTS:

PZ Psichiatrico

Esame obiettivo, sospetti diagnostici e note

.....

.....

.....

DIAGNOSI Pg. Critico non critico stabile instabile

Provvedimenti sul posto

RESPIRAZIONE	CIRCOLO	ALTRO	Farmaci/infusioni
<input type="checkbox"/> Nessuno	<input type="checkbox"/> Nessuno	<input type="checkbox"/> Medicazione	
<input type="checkbox"/> O ₂ terapia	<input type="checkbox"/> Monitoraggio ECG	<input type="checkbox"/> Collare Cervicale	
<input type="checkbox"/> Aspirazione	<input type="checkbox"/> Vena periferica G	<input type="checkbox"/> KED - Matriasso Vacuum	
<input type="checkbox"/> Cannula oro-faringea/baso-faringea	<input type="checkbox"/> MCE - BLS	<input type="checkbox"/> Immobilizzazione arti	
<input type="checkbox"/> Ventilazione Ambu	<input type="checkbox"/> Defibrillazione	<input type="checkbox"/> Bagnia cuscini	
<input type="checkbox"/> Intubazione OT NT	<input type="checkbox"/> Furosemi	<input type="checkbox"/> Telo termico	
<input type="checkbox"/> Altro	<input type="checkbox"/> Puntia nasopne	<input type="checkbox"/> Sorveglianza	

Complicazioni insorte

Nessuna Vasale Emorragia Respiratorie Circolatorie Neurologiche Diverso

Accesso e Evacuazione

Accesso all'infortunato	Evac. via terra	Elicottero	Non effettuata	Condizioni all'arrivo Amb/ELI
<input type="checkbox"/> Semplific. <input type="checkbox"/> Difficile	<input type="checkbox"/> Semplice <input type="checkbox"/> Complesso	<input type="checkbox"/> A terra <input type="checkbox"/> Hovering	<input type="checkbox"/> Non necessita assistenza	<input type="checkbox"/> Stazionarie
<input type="checkbox"/> Molto difficile <input type="checkbox"/> Impossibile	<input type="checkbox"/> Molto complesso	<input type="checkbox"/> Venticello <input type="checkbox"/> Gamma 5	<input type="checkbox"/> Rifiuta assistenza	<input type="checkbox"/> Peggiorate <input type="checkbox"/> Migliorate

Rifiuto intervento e/o ricovero

Il sottoscritto identifica nei dati riportati nella sezione Dati anagrafici DICHIARA di essere stato esaurientemente informato sul proprio stato di salute e/o sulla situazione e sulle eventuali complicazioni e assistente ciò di rifiutare il soccorso e/o l'assistenza e/o il trasporto in ospedale, assumendo la totale responsabilità delle conseguenze derivanti da tale rifiuto

.....

.....

Constatazione decesso

Il sottoscritto di Medico CNSAS, residente a

Identifica il/la paziente come in Dati Anagrafici, ne CONSTATA il decesso in data/...../..... ora Per causa: indeterminata

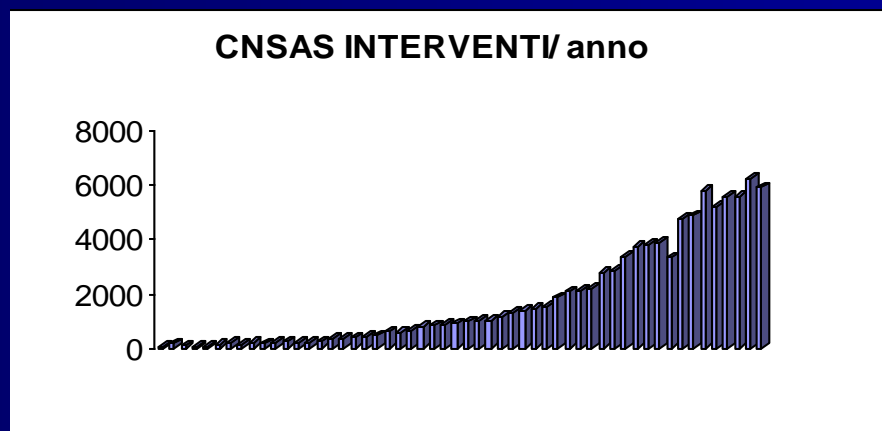
bi causa apparente Firma

Medico CNSAS Infermiere CNSAS Soccorritore CNSAS





1955 - 2012



Statistica CNSAS



STATISTICA GENERALE INTERVENTI DI SOCCORSO 1955-2012

anno	interventi	persone soccorse	soccorritori impiegati	deceduti	%	feriti	%	illesi	%	dispersi	%
1955-1964	1.543	2.186	9.874	689	31%	571	26,5%	917	42%	9	0,5%
1965-1974	3.277	4.866	25.793	987	20%	1.777	37%	2.026	41,5%	76	1,5%
1975-1984	8.405	11.026	69.315	2.066	19%	4.396	40%	4.101	37%	463	4%
1985-1994	18.010	21.904	111.567	2.453	11%	11.075	51%	7.985	36%	391	2%
1995-2004	42.748	48.066	212.646	3.516	7%	30.329	63%	13.629	29%	592	1%
2005	5.563	6.020	25.437	429	7,1%	3.892	64,7%	1.656	27,5%	43	0,7%
2006	5.568	5.938	27.519	405	6,8%	4.017	67,6%	1.495	25,2%	21	0,4%
2007	6.256	6.672	27.538	446	6,7%	4.613	69,1%	1.589	23,8%	24	0,4%
2008	5.898	6.521	28.540	417	6,4%	4.238	65%	1.856	28,5%	10	0,2%
2009	5.013	5.502	25.241	360	6,5%	3.759	68,3%	1.273	23,1%	10	0,2%
2010	5.813	6.027	28.894	469	7,8%	4.014	66,6%	1.528	25,4%	16	0,3%
2011	8.299	8.751	36.517	478	5,5%	5.397	61,7%	2.843	32,5%	42	0,5%
2012	6.504	6.542	30.222	383	6%	3.795	58%	2.322	35,5%	42	0,5%
TOTALE	122.897	140.021	659.103	13.098		81.873		43.220		1.739	

Attività generale 2012



GENERALE

Eventi di protezione civile	362
Piste sci	696
Evacuazione impianti a fune	6
Falsa chiamata	98
Forra	36
Incidenti stradali	76
Ricerca	815
Speleologico	11
Terreno impervio	4.377
Valanga	27
EVENTI	6.504

Soccorritori	30.222
U.C.V.	48
U.C.R.S.	92
U.C.R.M.	31
Ore/uomo	164.941
Durata giorni	23.008

ELICOTTERI

118	2.170	88,1%
Union Alpin Dolomit	62	2,5%
Privato	58	2,4%
Vigili del fuoco	38	1,5%
Protezione civile	35	1,4%
Polizia	22	0,9%
Corpo forestale	19	0,8%
Guardia di finanza	17	0,7%
Straniero	12	0,5%
Carabinieri	10	0,4%
Altro	8	0,3%
SaR	7	0,3%
Esercito	4	0,2%
TOTALE	2.462	100%

Nazionalità infortunati 2010

ITALIA	4.899	81,3%
GERMANIA	506	8,4%
EUROPA (ESCLUSO D-F-A-CH)	232	3,8%
ALTRI	202	3,4%
AUSTRIA	79	1,3%
FRANCIA	55	0,9%
SVIZZERA	54	0,9%

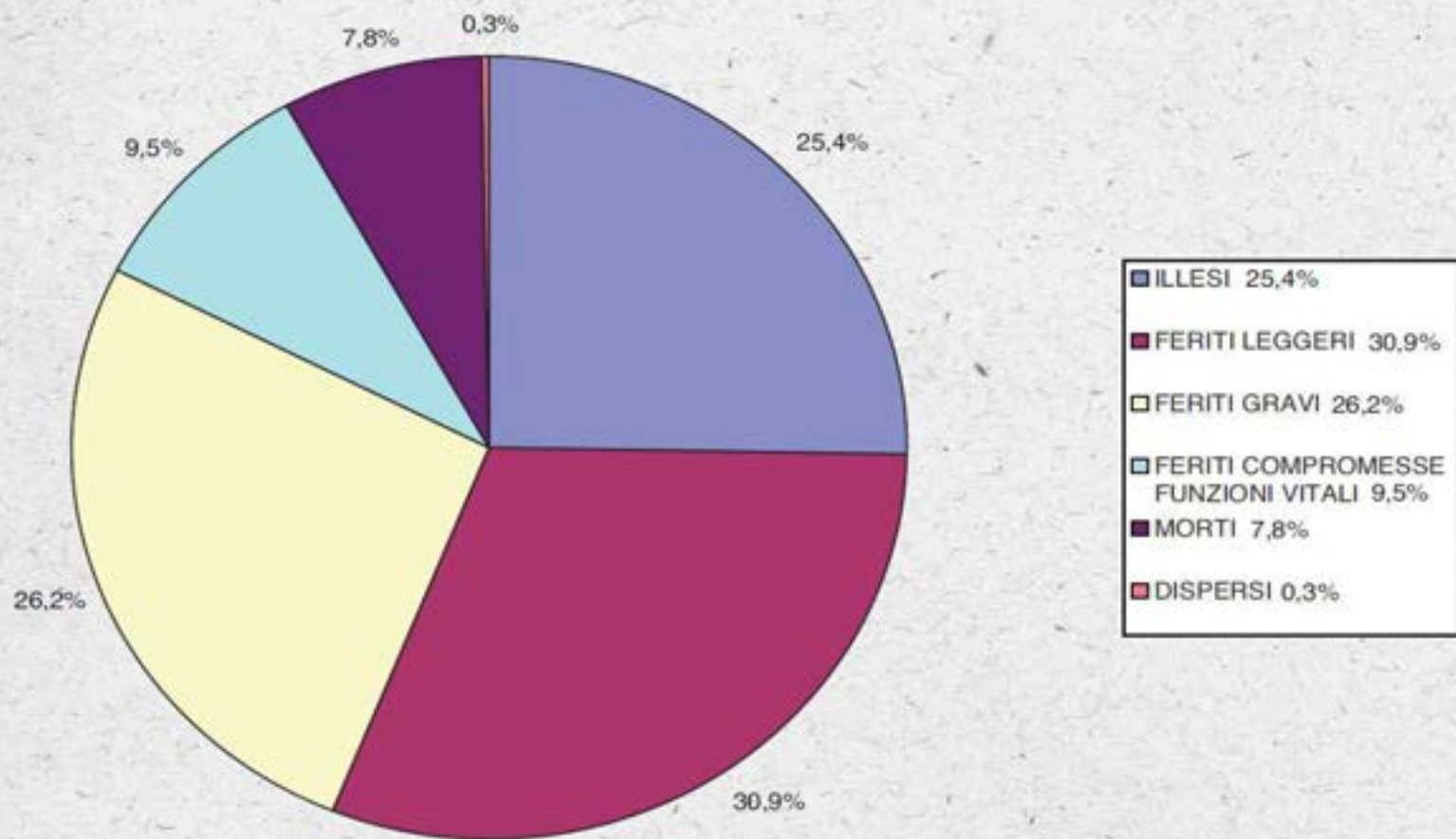
Ambiente di intervento 2012



AMBIENTE

Ipogeo	52	0,8%
Montano	2955	45,4%
Ostile/impervio	979	15,1%
Piste sci	696	10,7%
Antropizzato	129	2,0%
Rurale	201	3,1%
Scenario con richiesta competenza tecnica	61	0,9%
Stradale	76	1,2%
Non classificato	1355	20,8%
TOTALE	6504	100,0%

CONDIZIONE INFORTUNATI 2010 IN %



Interventi in ambiente montano 1987 vs 2006



- Illesi 40% (25%) Feriti gravi + Feriti con CFV
2013 25%
- Feriti leggeri 28% 2014 27%

■ Feriti gravi 15,4% (26.6 %)



■ Morti 13,6% (6.8 %)

Elicotteri

■ Dispersi 2,5% (0.4 %)

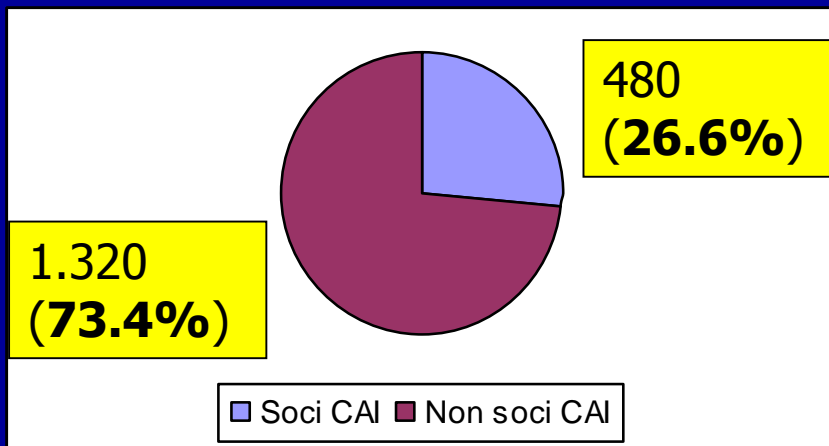
1987
42%

2006
57%

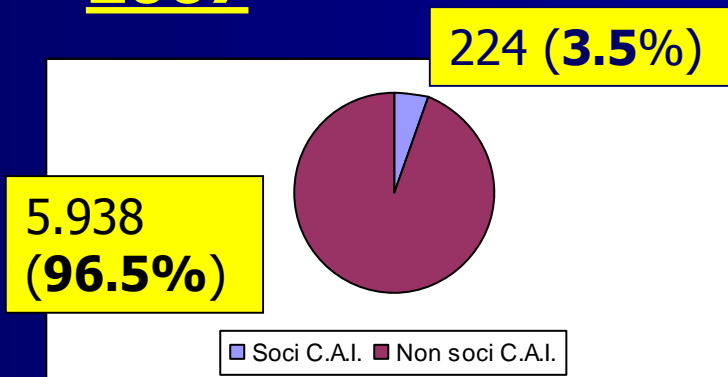
Soci C.A.I. vs. non Soci C.A.I.



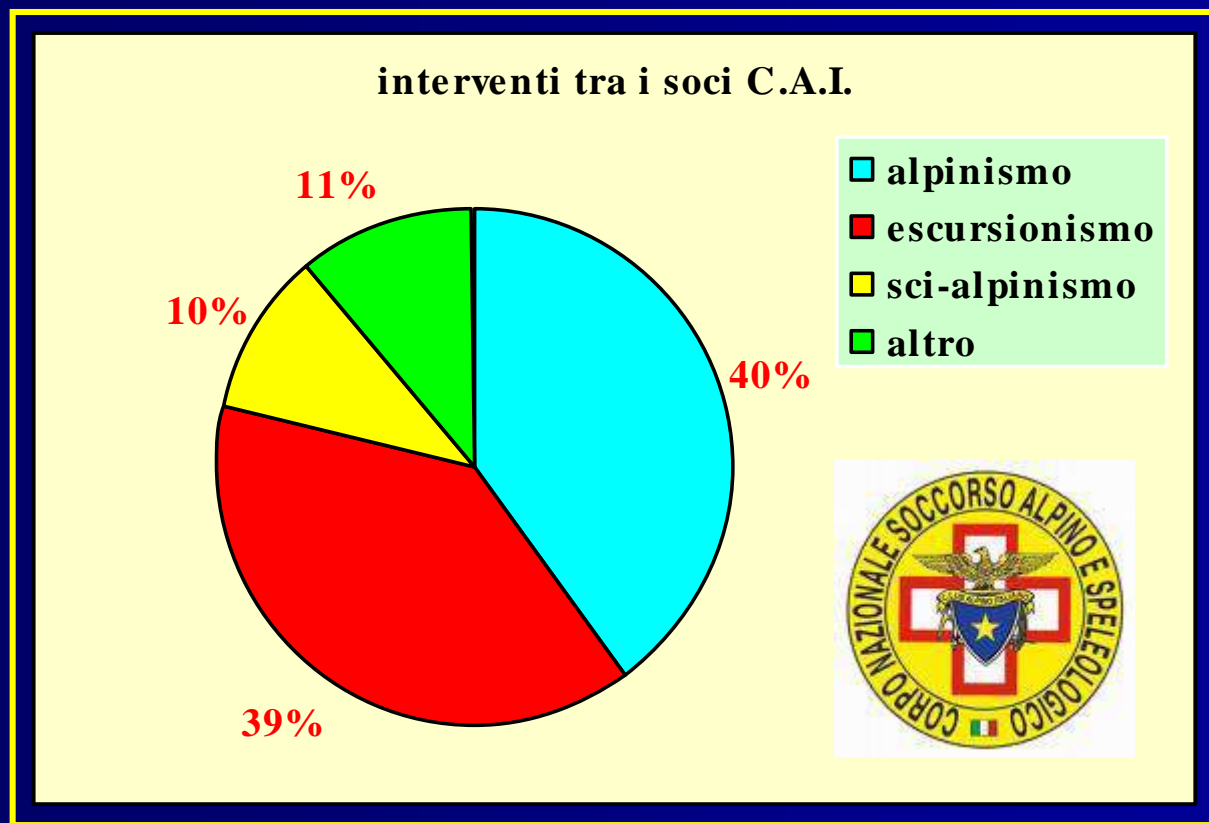
1987



2007



Tipologia intervento nei soci CAI





Interventi in ambiente montano : sesso ed età

ETA' INFORTUNATI 2008

ETA'	M	F	T	%
<10	90	41	131	2%
11 - 20	390	218	608	9%
21 - 30	499	216	715	11%
31 - 40	587	243	830	13%
41 - 50	634	269	903	14%
51 - 60	576	260	836	13%
61 - 70	470	177	647	10%
71 - 80	275	93	368	6%
>80	80	35	115	2%
NN			1.368	21%

TOTALE

6.521

Uomini 71.1 %
Donne 28.9%

Frequency of cardiovascular diseases among ski mountaineers in the Austrian Alps.

Fahulaber et al. Int. J. Sport Med. 2007 Jan; 28; 78-81

- 5.8 % (95 % CI: 4.3 - 7.3 %) of the ski mountaineers are afflicted with at least one cardiovascular disease.
- Hypertension is the dominant cardiovascular disease in ski mountaineers

Cardiovascular risk during physical activity in the mountains.

Ponchia A et al. J Cardiovasc Med 2006 Feb; 7:129-35

- The risk of cardiovascular events in the population practising physical activity in the mountains is very low and essentially limited to men over the age of 40, particularly if they do not practise regularly physical activity
- For these subjects the risk seems to be associated with physical activity, but not with altitude and other typical aspects of mountains, such as low temperature and difficulties of terrain.

Chiamata e durata interventi 2007 2008



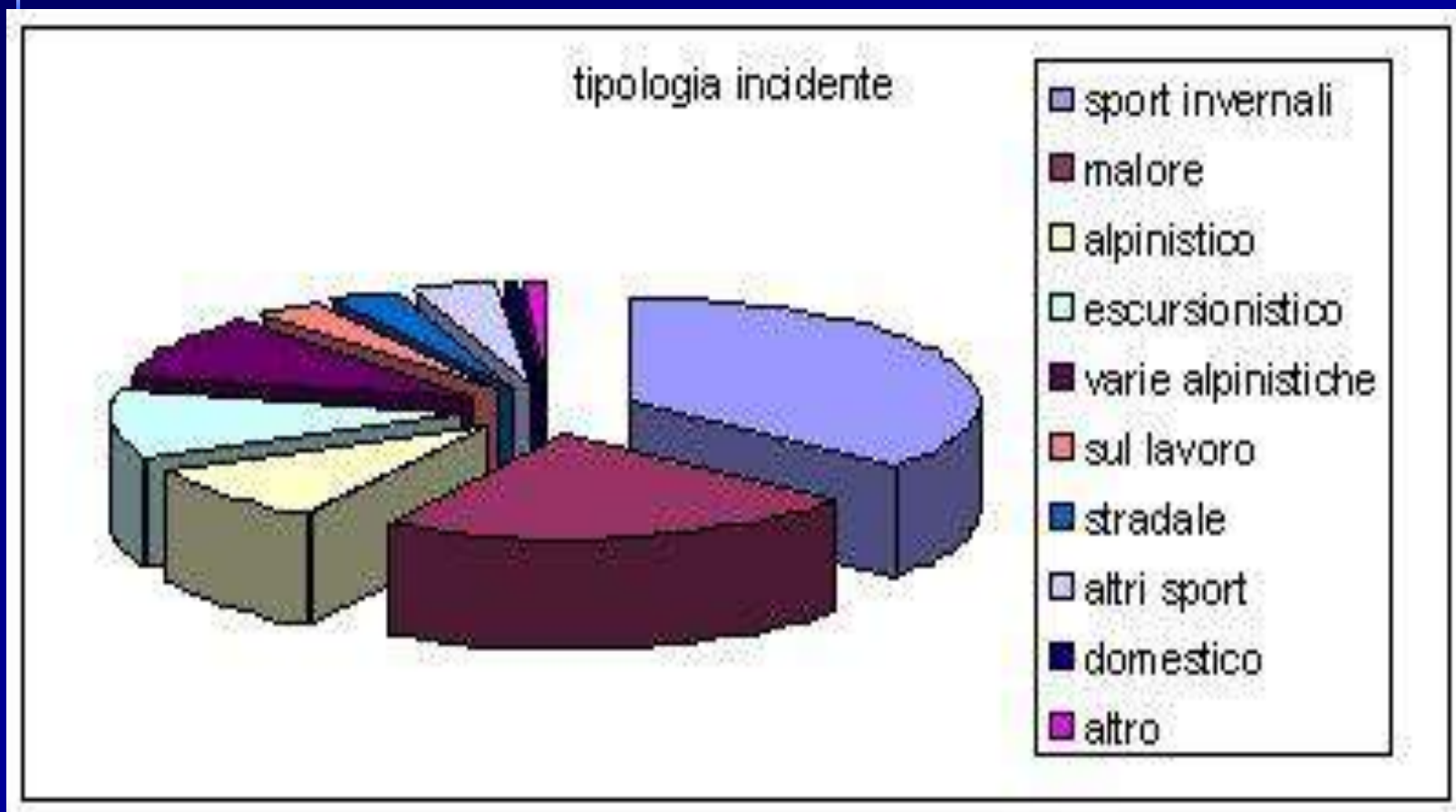
- > 50% in estate
 - Massimi
 - Luglio 18.8% **-2.7%**
 - Agosto 17.8%
 - Minimi
 - Novembre 2.6%
 - Maggio 4.2%
- 25% domenica
18.5% sabato
10-12% altri giorni
- Il 70% delle azioni si conclude in 2 h **67%**
 - Il 22% fra 2 e 6 h
 - 5.6% fra 6 h e 12 h
 - 2.4% > 12 h **6%**

Anno 2008

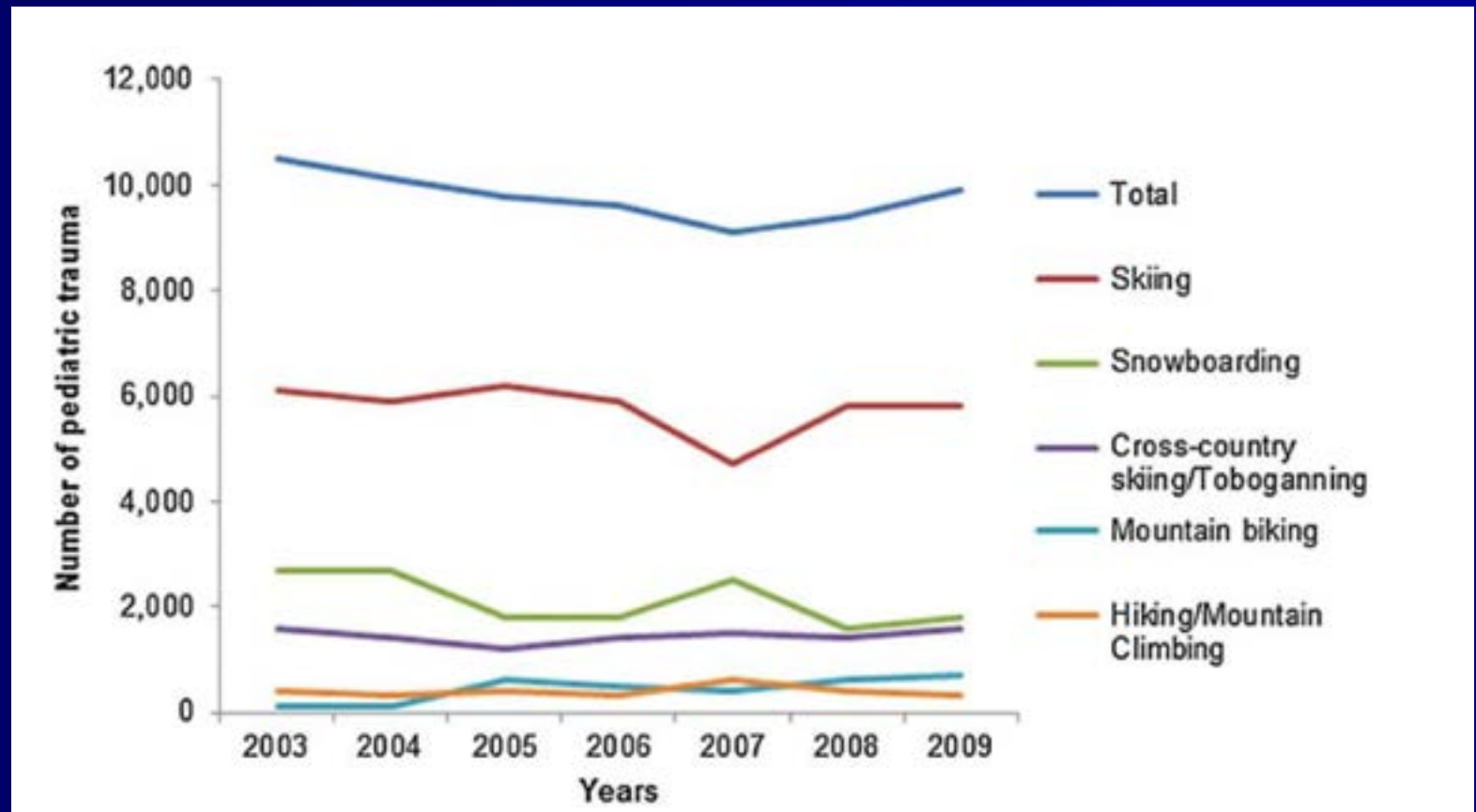
Impiego Elicottero



Elisoccorso dati Valle d'Aosta 2002-2005: *2180 interventi*



HEMS-Pediatico Alpi Austriache





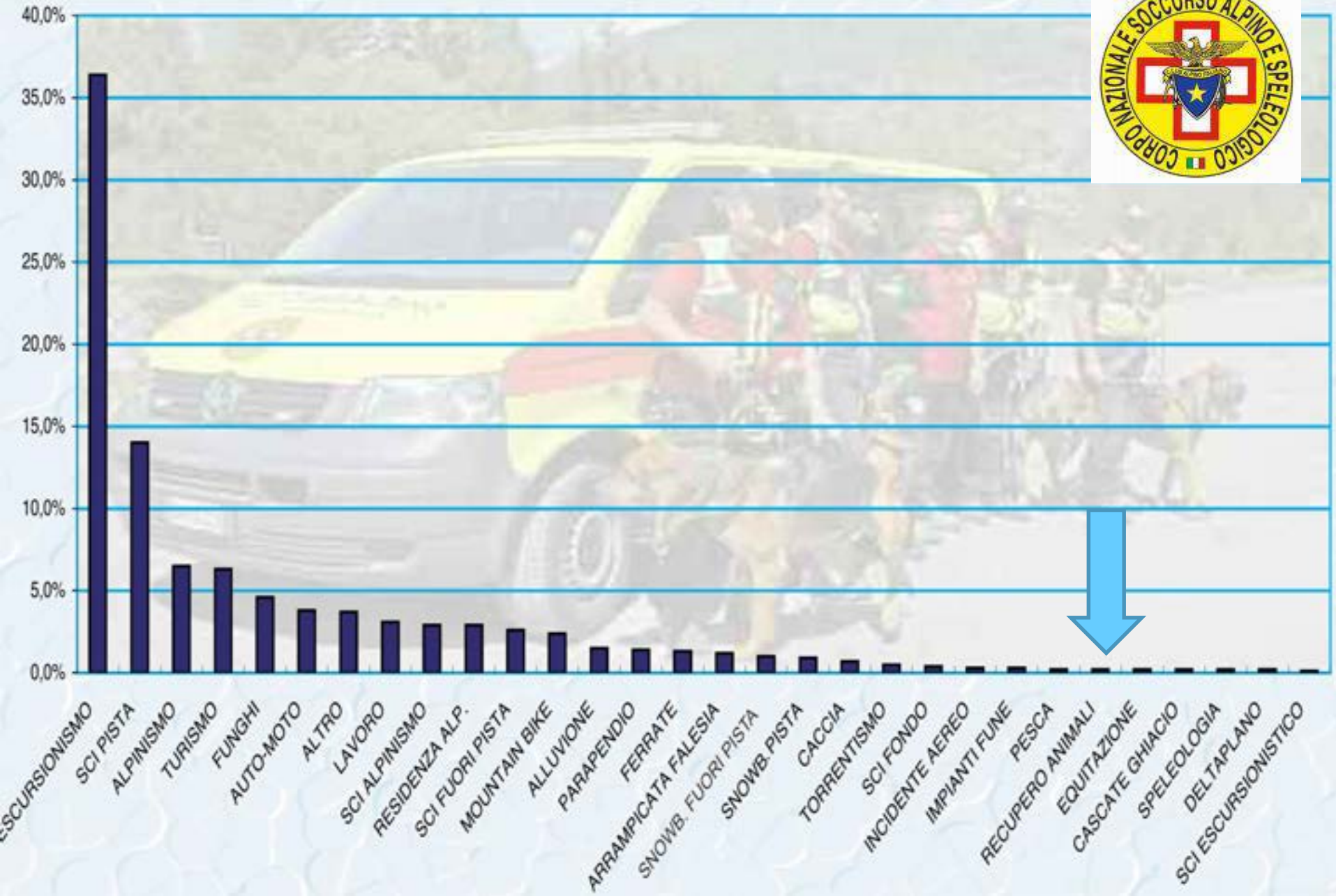
- As the number of life-threatening injuries declines, HEMSs more frequently serve as means of rescue rather than as providers of emergency treatment.

Kaufmann M, Moser B.

Changes in injury patterns and severity in a helicopter air-rescue system over a 6-year period

Wildwern. Env. Med 2006 Spring;17(1):8-14.

SUDDIVISIONE PER ATTIVITÀ 2009 IN %



IMBRACATURA PER MUCCHE E CAVALLI WAKA

KONG ITALY

fornita con sacca per il trasporto



8W.400

Prima dell'utilizzo dell'imbracatura seguire un training a terra con un manichino o un animale vero.

L'utilizzo improprio può provocare la perdita dello stesso.

Durante l'operazione di imbracatura e trasporto, se possibile bendare l'animale e farsi assistere da un veterinario.

Se l'animale è traumatizzato o nervoso, è meglio sedarlo. Per via dello shock da altitudine, l'animale

potrebbe tentare di divincolarsi, verificare quindi tutte le fibbie di chiusura prima di iniziare la manovra di sollevamento.

Il tempo di sollevamento è variabile da animale ad animale e non deve essere superiore ai 15 minuti; un tempo di sollevamento maggiore può provocare la morte per soffocamento o danni agli organi interni.



Imbracare l'animale come in figura facendo attenzione che le due estremità delle cinghie più lunghe siano della stessa lunghezza.



Inserire la cinghia anteriore e quella posteriore fissandole e regolandole con le fibbie poste sulla parte evidenziata.



Fissare le ultime cinghie evidenziate; se l'animale non fosse stabile verificare tutte le fibbie di serraggio e procedere con il sollevamento.

2014 incidenti per causa



	2014	2013
Caduta	2.388	2.212
Malore	967	860
Perdita orientamento	852	768
Altre	846	748
Scivolata	489	376
Incapacità	470	457
Ritardo	230	251
Sfinimento	209	162
Precipitazione	145	120
Maltempo	138	80
Scivolata neve	111	78
Valanga	95	78
Scontro	63	147
Falsa chiamata	48	29
Caduta sassi	43	32
Nebbia	42	34
Scivolata ghiaccio	37	23
Puntura insetti	36	27
Cedimento appigli	26	42
Corda doppia	20	30
Caduta crepaccio	14	4
Crollo	12	7
Morso vipera	7	8
Folgorazione	4	3
Frana	3	3
TOTALE	7.295	6.579



Severity and pattern of injury in survivors of alpine major fall accidents

Department of Anesthesiology and Critical Care Medicine, University Hospital Innsbruck, Innsbruck, Austria.

The pattern of injury observed in our study suggests a feet- or side-first body position at impact in the majority of individuals surviving Alpine fall accidents.

Furthermore, it indicates a direct impact, rather than deceleration type mechanism of injury.

Because of the high incidence of severe multisystem trauma, major fall in Alpine terrain should be used as triage criterion for the dispatch of an advanced trauma life support unit and direct transfer of the victim to a trauma center

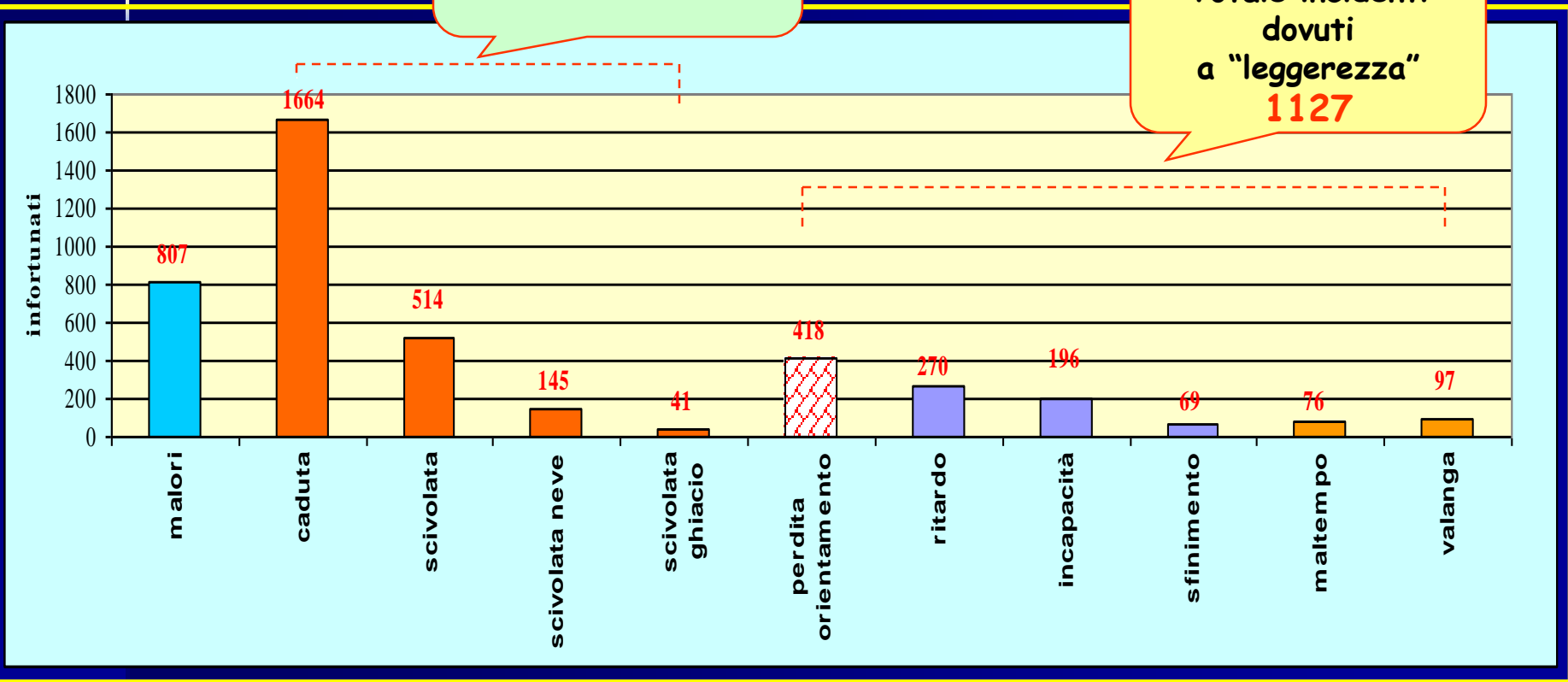
Considering the high incidence of fractures, measures for adequate immobilization and analgesia will generally be necessary before the difficult evacuation from the site of the accident can be started

Cause più comuni degli incidenti anno 2001



Totale incidenti
dovuti a "fatalità"
2364

Totale incidenti
dovuti
a "leggerezza"
1127



Incidenti evitabili



	2014	2013
Caduta	2.388	2.212
Malore	967	860
Perdita orientamento	852	768
Altre	846	748
Scivolata	489	376
Incapacità	470	457
Ritardo	230	251
Sfinimento	209	162
Precipitazione	145	120
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Frana	3	3
TOTALE	7.295	6.579



Epidemiology and mortality of glacier crevasse accidents

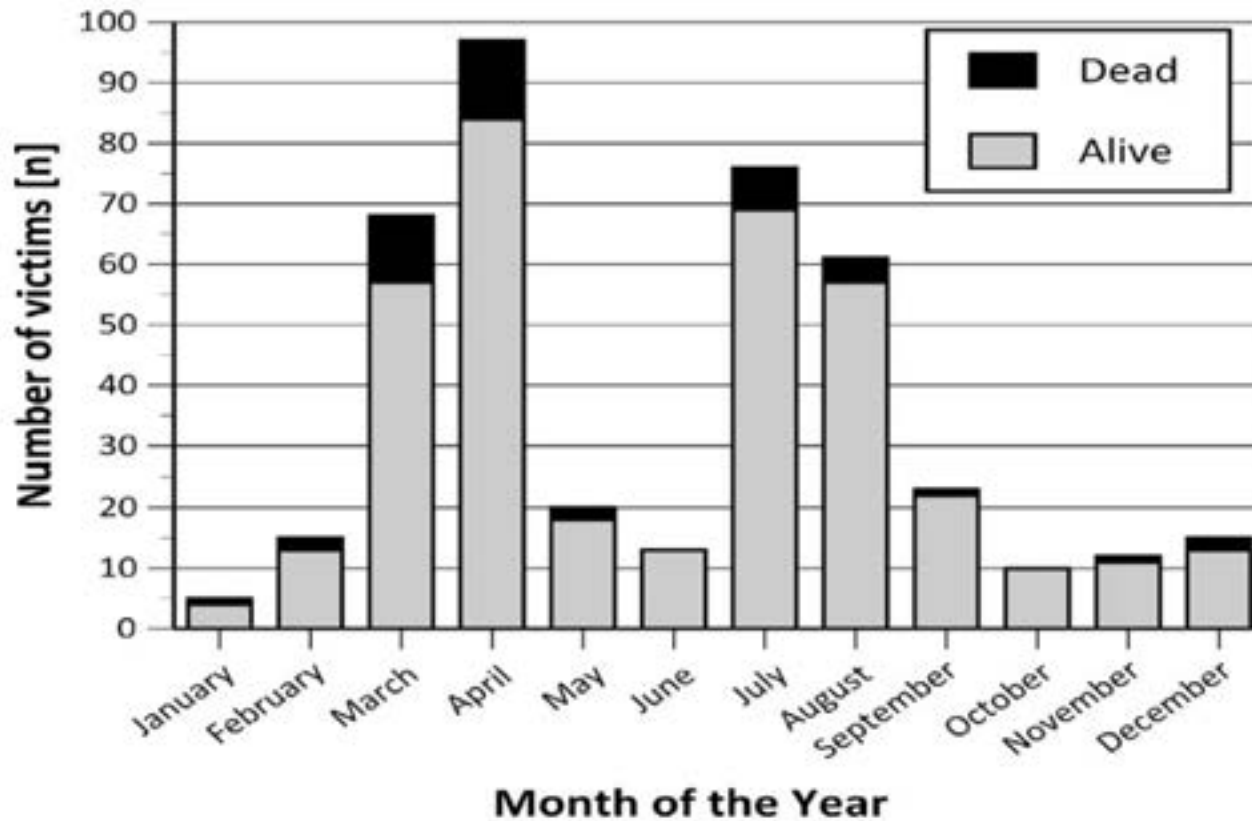


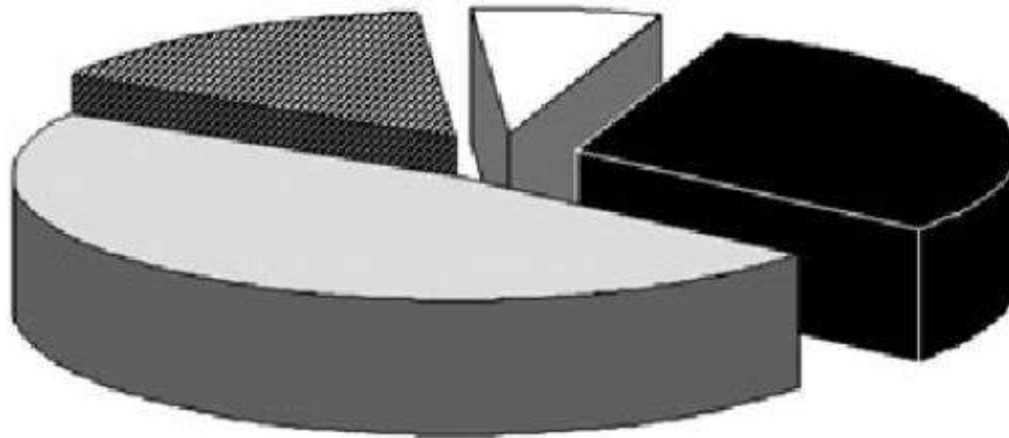
Fig. 1. Monthly count of glacier crevasse victims in Switzerland 2000–2010.

451 VCTS

Characteristics of the study population and according to survival status.

	Overall (n = 415)	Alive (n = 371)	Dead (n = 44)	P value
Outcome (%)	100	89%	11%	–
Age [SD] (n)	40 [13] (373)	40 [13] (332)	41 [12] (41)	0.47
Gender (%) (n)				0.66
Male	84 (346)	90 (310)	10 (36)	
Female	16 (65)	88 (57)	12 (8)	
Season (%) (n)				0.02
Ski season	53 (220)	86 (189)	14 (31)	
Ski offseason	47 (195)	93 (182)	7 (13)	
Nationality (%) (n)	100 (371)			0.01
Swiss	33 (123)	95 (117)	5 (6)	
Foreigner	67 (248)	86 (214)	14 (34)	
Activity (%) (n)	100 (414)			0.01
Mountaineering	42 (172)	94 (161)	6 (11)	
Ski touring	35 (145)	89 (129)	11 (16)	
Off-piste snowboarding	14 (56)	88 (49)	13 (7)	
Off-piste skiing	9 (38)	82 (31)	18 (7)	
Snowshoe touring	1 (3)	33 (1)	67 (2)	
Depth of fall (%) (n)	100 (75)			0.02
Metres of fall (SD) [range]	17 (9) [1–35]	16 mt [1–30]	22 mt [12–35]	

Experience with Helicopter Rescue Missions for Crevasse Accidents



Alpi austriache
85 incidenti
95 vittime
1998-2008

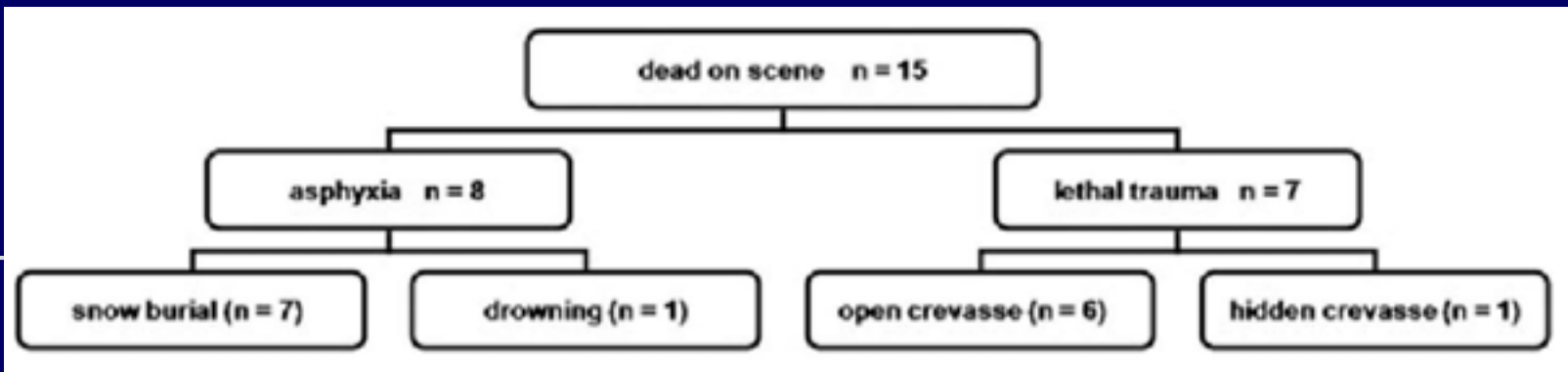
- self/companion rescue
- rapid extrication by rescue team
- ▨ prolonged extrication by rescue team
- prolonged extrication using special equipment

Gravità clinica

NACA	Description
0	No injury or disease
1	Injuries/diseases without any need for acute physician care
2	Injuries/diseases requiring examination and therapy by a physician but hospital admission is not indicated
3	Injuries/diseases without acute threat to life but requiring hospital admission
4	Injuries/diseases that can possibly lead to deterioration of vital signs
5	Injuries/diseases with acute threat to life
6	Injuries/diseases requiring resuscitation
7	Lethal injuries or diseases (with or without resuscitation attempts)

Naca 0	101	24%
1	34	8%
2	84	20%
3	104	25%
4	28	7%
5	13	3%
6	7	2%
7	44	11%

23% con
NACA score
> = 4



MEDICAL ASPECTS OF CREVASSE ACCIDENTS

TABLE 1. SEVERITY OF INJURY IN CREVASSE ACCIDENTS

<i>Injury severity score (ISS)</i>	<i>Patients (n)</i>
Dead	15 (16%)
ISS > 20	7 (7%)
ISS 16–20	9 (9%)
ISS 9–15	12 (13%)
ISS < 9	52 (55%)
Total	95 (100%)

IPOTERMIA: caduta crepaccio

Grado III o IV nel 10% delle vittime

33% fibrillazione ventricolare

2/3 durante estrinsecazione

1/3 all'inizio della valutazione dopo estrinsecazione

Tutti sottoposti a CPR con HEMS H di Innsbruck:

riscaldamento mediante circolazione extracorporea

100% sopravvivenza



Valanghe



- 100 incidenti da valanga causano 60 vittime.
- 61% di scialpinisti totalmente sepolti da valanga sono coinvolti in un seppellimento multiplo.
- 72% degli incidenti avvengono nella fase di discesa
- 92% di sopravvivenza se disseppellimento entro 15 min
- 35% di sopravvivenza se disseppellimento fra 15 e 35 min.
- 3% di sopravvivenza dopo 130 min se cavità area adeguata

100 incidenti stradali:3 morti

Associazione Interregionale Neve e Valanghe (AINEVA)

Istituto Ricerca Neve e Valanghe di Davos

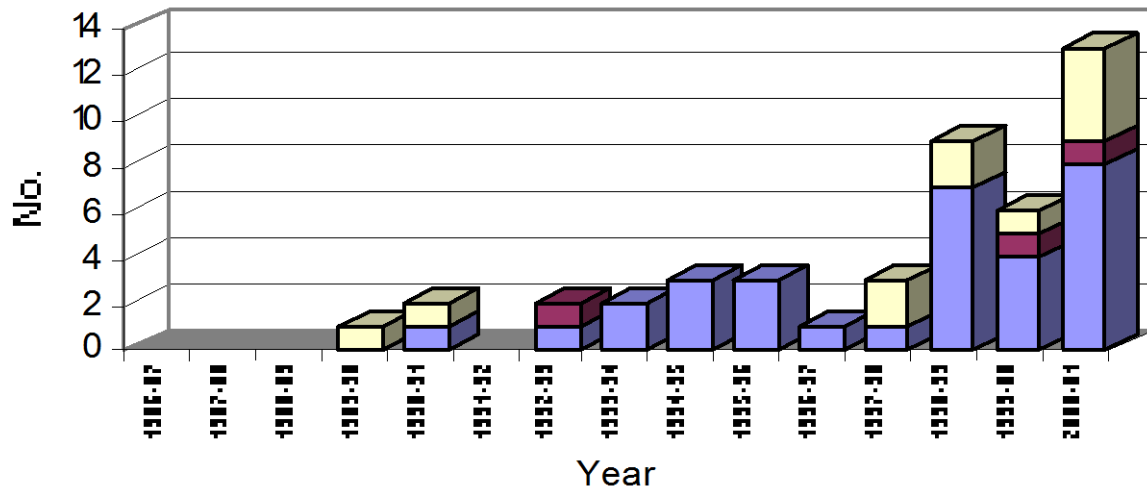


Valanghe

13 gennaio 2008
Valanga Maniva (Bs)
4 conduttori di motoslitte

■ Nuove attività !!!:

The new categories of avalanche accidents

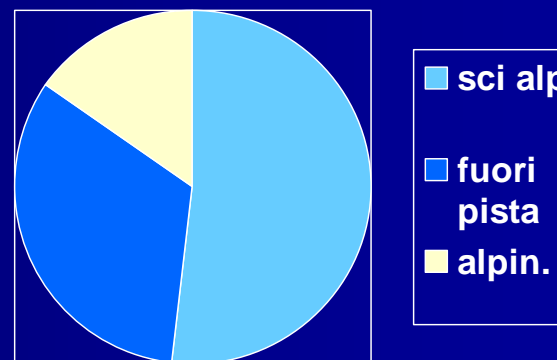


■ Snowboarding ■ Snow-shoeing ■ Ice fall climbing



Valanghe nel 2006: 101 incidenti

- sci alpinismo 44%
- sci fuori pista 28%
- alpinismo 13%
- 85% in aree non controllate.

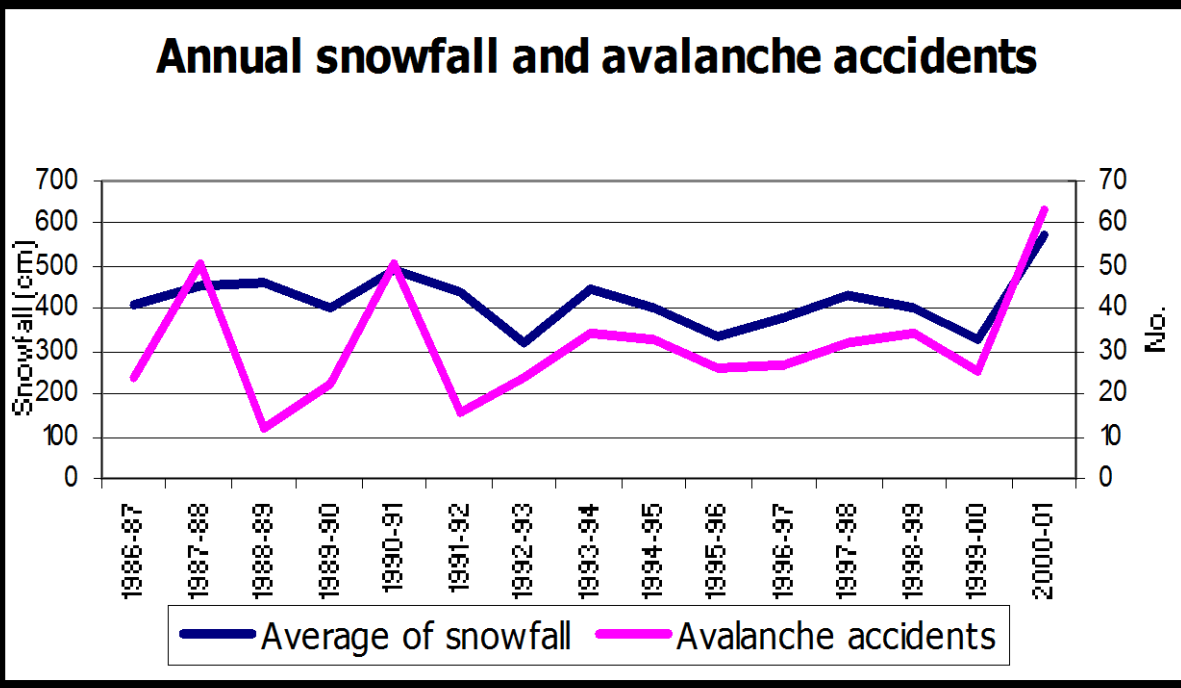


*Associazione Interregionale Neve e Valanghe
(AINEVA)*

Incidenti Valanga arco alpino italiano 2008/2009

A
I
N
E
V
A

1	15/11/2008	Gruppo Dolomiti Brenta-scivole nord cima Brenta	TN	Trentino	2	3	2	1	0	1	0	0	0	0	0
2	01/12/2008	Val d'Ultimo - Pavigl	BZ	Alto Adige	6	5	1	1	1	0	0	0	0	0	0
3	06/12/2008	Alpi Biellesi - Monte Mucrone	BI	Piemonte	1	3	1	1	0	1	0	0	0	0	0
4	06/12/2008	Valle Susa - Vallone Rio Nero	TO	Piemonte	3	3	1	1	0	1	0	0	0	0	0
5	06/12/2008	Valtournanche - verso la Grande Dent	AO	Valle d'Aosta	1	3	3	3	3	0	0	0	0	0	0
6	07/12/2008	Valle Pellice, Monte Granero	TO	Piemonte	1	3	4	4	0	0	0	0	0	0	0
7	07/12/2008	Gran San Bernardo - Monte Paglietta	AO	Valle d'Aosta	2	3	3	1	1	0	0	0	0	0	0
8	10/12/2008	strada Passo Fedais	BL	Veneto	6	4	1	1	1	0	0	0	0	0	0
9	12/12/2008	Strunico - Pian de Connes	BZ	Alto Adige	3	4	3	1	0	1	0	0	0	0	0
10	14/12/2008	Grignetta - Cresta Cermenati	LC	Lombardia	5	4	1	1	0	1	0	0	0	0	0
11	14/12/2008	Valchiavenna - Val dei Ratti - Loc. Franedo	SO	Lombardia	8	4	5	1	0	1	0	0	0	0	0
12	15/12/2008	Val Soana - Roccia Bianca - Grangia Randonero	TO	Piemonte	8	5	1	1	0	0	0	0	0	0	0
13	16/12/2008	Val Chisone - Fenestrelle	TO	Piemonte	6	5	1	1	1	0	0	0	0	0	0
14	20/12/2008	Alpi Sarentine - punta Cervina	BZ	Alto Adige	1	3	3	2	2	0	0	0	0	0	0
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52	07/03/2009	Alpe S. Zebro - Val San Pietro	TN	Trentino	6	4	4	4	1	2	1	0	0	0	0
53	07/03/2009	Cima Pagarella	TN	Trentino	3	4	2	2	1	0	0	0	0	0	0
54	07/03/2009	Val Gaimarara Altipiano Asiago	VI	Veneto	8	3	1	1	0	0	0	0	0	0	0
55	07/03/2009	Faloria - Pala del Moro	BL	Veneto	3	3	5	3	2	1	0	0	0	0	0
56	14/03/2009	Cima della Duaria	CO	Lombardia	8	3	2	2	0	1	0	0	0	0	0
57	30/03/2009	Courmayeur - Ghiacciaio Thoula	AO	Valle d'Aosta	3	3	3	1	1	0	0	0	0	0	0
58	30/03/2009	Curon Venosta - Valle Lunga - Valbenair	BZ	Alto Adige	1	2	10	3	2	1	0	0	0	0	0
59	02/04/2009	Valle Lunga - Pala Bianca	BZ	Alto Adige	1	3	7	3	3	0	0	0	0	0	0
60	13/04/2009	Alpe Devero - Canale Ferrari - Monte Cervandone	VB	Piemonte	1	3	7	5	2	3	0	0	0	0	0
61	25/04/2009	Solda - Gran Zebro	BZ	Alto Adige	1	2	30	6	0	6	0	0	0	0	0
62	25/04/2009	Val d'Ultimo - Cima Sternal	BZ	Alto Adige	1	2	4	2	2	0	0	0	0	0	0
63	01/05/2009	Val di Mazza - Rems Spitz	BZ	Alto Adige	2	2	3	1	0	0	0	0	0	0	0
64	01/05/2009	Marmolada-Pian dei Fiacconi (est Schena de Mul)	TN	Trentino	8	3	6	2	0	0	0	0	0	0	0
65	01/05/2009	S. Colombano - Valdisotto	SO	Lombardia	1	3	4	3	2	1	0	0	0	0	0
66	01/05/2009	Como S. Colombano - Valdisotto	SO	Lombardia	2	3	2	2	2	0	0	0	0	0	0
67	02/05/2009	Curon - Vallelunga	BZ	Alto Adige	1	2	11	11	8	3	0	0	0	0	0
68	24/12/2008	Arabba	BL	Veneto	6	3	4	1	1	0	0	0	0	0	0
TOTALE											274	142	77	44	21



68 incidenti
142 travolti
21 morti
44 feriti
77 illesi

2009/2010
103 incidenti
187 travolti
43 morti
46 feriti
97 illesi

Valanghe



- Dai casi esaminati risulta che in caso di incidente da valanga solo il 35% dei travolti rimane completamente sepolto.
- **Potenzialità delle tecniche di autosoccorso !!**

Associazione Interregionale Neve e Valanghe (AINEVA)

Attrezzatura ed attività alpinistica invernale

- 870 soggetti inverno 2001 (SVI, 3 commissioni CAI)

- ARVA:

- 32% es
- 57% s
- 0% es

Autosoccorso su suppelito a profondità di 1 mt

- ARVA, PALA E SONDA ≤ 15 min
- ARVA E PALA $>15 \leq 30$ min
- ARVA (mani e scarponi) 60 min

- Pala

- 5% es
- 25% s
- 0% es

Chris Semmel e Dieter Stopper

Sicherheitsforschung Deutsches Alpenverein

- Sonda

- 1% escursionisti con racchette
- 12% sci alpinisti
- 0% escursionisti

Bollettino valanghe : 47%

Come si muore in valanga ?



Patterns of death among avalanche fatalities: a 21-year review

CMAJ • MARCH 3, 2009 • 180(5)
© 2009 Canadian Medical Association

Table 2: Characteristics of victims and distribution by activity group of asphyxia and trauma deaths

Activity	No. (%) <i>n</i> = 204	Age, median (IQR), yr <i>n</i> = 203*	Sex, no. (%) male <i>n</i> = 204	Resident of Canada, no. (%) <i>n</i> = 188	Immediate cause of death (<i>n</i> = 202)†			
					Asphyxia		Trauma	
					No. (%)‡	No. (%)‡	95% CI§	
Backcountry skiing¶	62 (30)	32 (26–42)	49/62 (79)	46/60 (77)	46/62 (74)	16/62 (26)	16–38	
Snowmobiling	44 (22)	36 (28–42)	42/44 (95)	36/36 (100)	40/44 (91)	4/44 (9)	3–22	
Helicat skiing**	43 (21)	43 (30–48)	39/43 (91)	8/42 (19)	30/43 (70)	13/43 (30)	17–46	
Out-of-bounds skiing††	18 (9)	20 (17–30)	16/18 (89)	18/18 (100)	12/18 (67)	6/18 (33)	13–59	
Ice climbing	13 (6)	33 (30–41)	13/13 (100)	6/13 (46)	7/12 (58)	5/12 (42)	15–72	
Mountaineering	11 (5)	27 (26–35)	8/11 (73)	7/11 (64)	8/10 (80)	2/10 (20)	3–56	
Snowshoeing or hiking	8 (4)	22 (18–29)	7/8 (88)	3/4 (75)	8/8 (100)	0/8 (0)	0–37	
Other recreation	1 (< 1)	35 NA	1/1 (100)	1/1 (100)	0/1 (0)	1/1 (100)	3–100	
Control work‡‡	4 (2)	36 (34–39)	4/4 (100)	3/3 (100)	3/4 (75)	1/4 (25)	1–81	
All activities	204 (100)	33 (26–43)	179/204 (88)	128/188 (68)	154/202 (76)	48/202 (24)	18–30	

Note: CI = confidence interval, IQR = interquartile range, NA = not applicable.

*Age was missing for 1 backcountry skier.

†Does not include the 2 deaths attributed to hypothermia.

‡For calculating percentages for cause of death, the denominator is the sum of number who died of asphyxia and number who died from trauma for each type of activity.

§For binomial proportion of trauma.

¶Backcountry skiing is skiing and snowboarding that is entirely self-propelled and that takes place in the backcountry, away from lift-serviced ski areas.

**Helicat skiing involves the use of helicopters and snowcats to access backcountry terrain away from lift-serviced ski areas, for both skiing and snowboarding.

††Out-of-bounds skiing involves the use of ski lifts to access uncontrolled terrain beyond the boundaries of ski areas, for both skiing and snowboarding.

‡‡Control work is professional avalanche control.



**SOCCORSO ALPINO
E SPELEOLOGICO
PIEMONTESE**

C.N.S.A.S.

SECCORSO EN MONTAGNE
MONTAGNARD RESCUE
BERGRETTRUPPLÄNUNG





SOCCORSO SANITARIO IN VALANGA

In 2001, the **International Commission for Mountain Emergency Medicine** introduced an algorithm for the field management of care for avalanche victims.

Brugger H, Durrer B, Adler-Kastner L, et al. Field management of avalanche victims. Resuscitation 2001;51:7-15.

The rescue strategy is primarily governed by the length of time of burial.

With a burial time of 35 minutes or less, rapid extrication and, if necessary, basic life support measures are of the utmost importance.

With a burial time longer than 35 minutes and for those with a clear airway, hypothermia management is important.

Patients in cardiac arrest should be transported with continuous cardiopulmonary resuscitation to a specialist hospital for extracorporeal rewarming



CASE REPORT

Full recovery of an avalanche victim with profound hypothermia and prolonged cardiac arrest treated by extracorporeal re-warming[☆]

Rosmarie Oberhammer^{a,1}, Werner Beikircher^{b,2},
Christoph Hörmann^{c,3}, Ingo Lorenz^{d,3}, Roger Pycha^{e,2},
Liselotte Adler-Kastner^{f,4}, Hermann Brugger^{g,*}

^a Department of Anaesthesiology and Critical Care Medicine, General Hospital Innichen, Freisingstrasse 2, I-39038 Innichen, Italy

^b Department of Anaesthesiology and Critical Care Medicine, General Hospital Bruneck, Spitalstrasse 11, I-39031 Bruneck, Italy

^c Department of Anaesthesiology and Critical Care Medicine, Innsbruck Medical University, Anichstrasse 35, A-6020 Innsbruck, Austria

^d Department of Anaesthesiology and Critical Care Medicine, Division for General and Surgical Intensive Care Medicine, Innsbruck Medical University, Anichstrasse 35, A-6020 Innsbruck, Austria

^e Department of Psychiatry, General Hospital Bruneck, Spitalstrasse 11, I-39031 Bruneck, Italy

^f Centre for Health, Medicine and Society: Past and Present, Department of History, Oxford Brookes University, Oxford OX3 0BP, UK

^g Mountain Rescue Service provided by the South Tyrolean Alpine Association, International Commission for Mountain Emergency Medicine (President), Innsbruck Medical University, Europastrasse 17, I-39031 Bruneck, Italy

- ┌ This report describes full recovery of a 29-year-old backcountry skier completely buried for 100 min at 3.0 m. depth.
- ┌ On extrication he was unconscious, core body temperature measured 22.0 °C
- ┌ He was intubated and ventilated on site.
- ┌ Ventricular fibrillation commenced during helicopter transportation, whereby chest compression was lacking for 15 min.
- Defibrillation finally succeeded following re-warming to 34.5 °C.
- Total duration of cardiac arrest was 150 min.
- The patient was discharged from hospital on day 17.

Conoscere epidemiologia proprio territorio

Dati estratti dal sistema informatico gestione attività nazionale CNSAS (AROGIS)



ANNO 2014

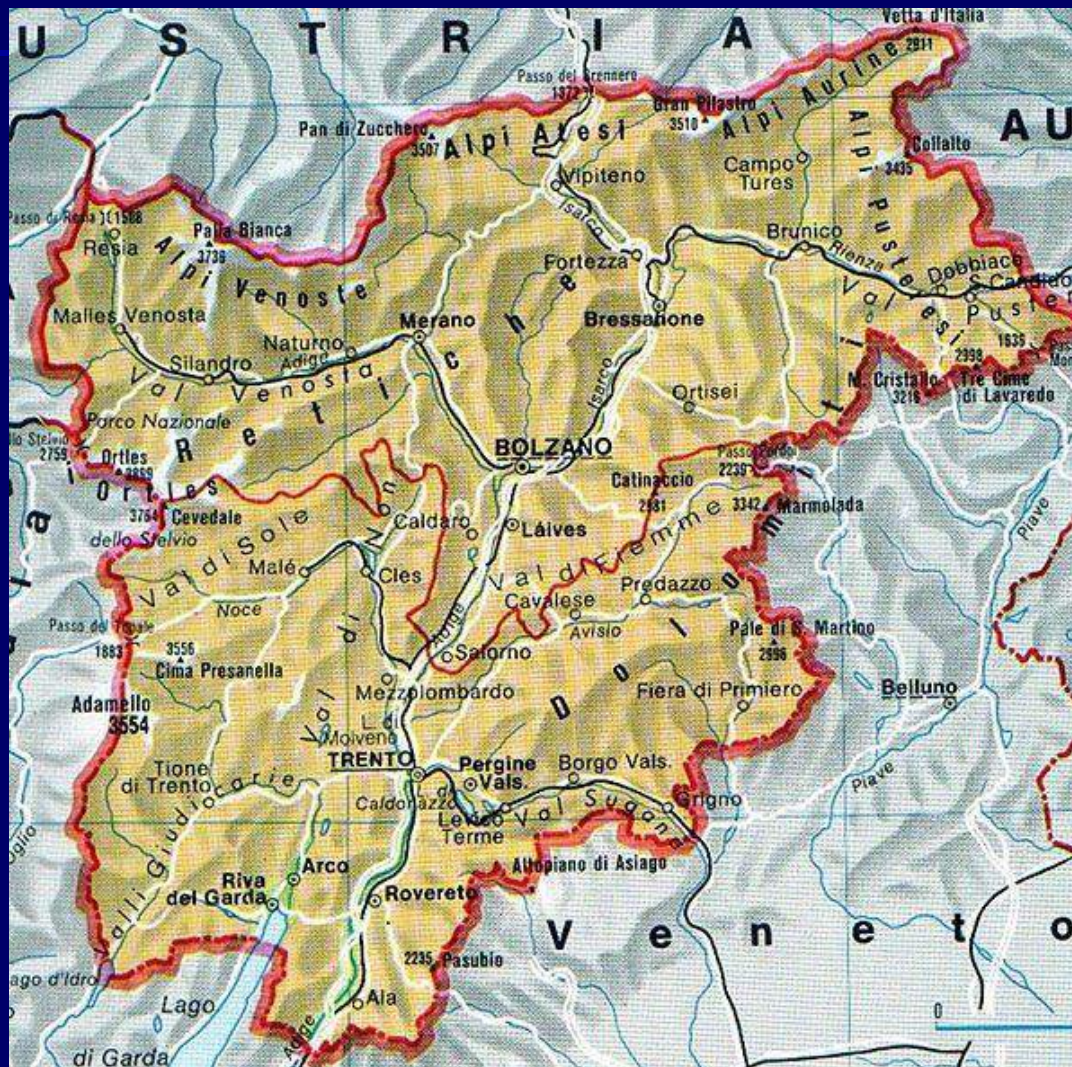
CONSUNTIVO DI ATTIVITA'



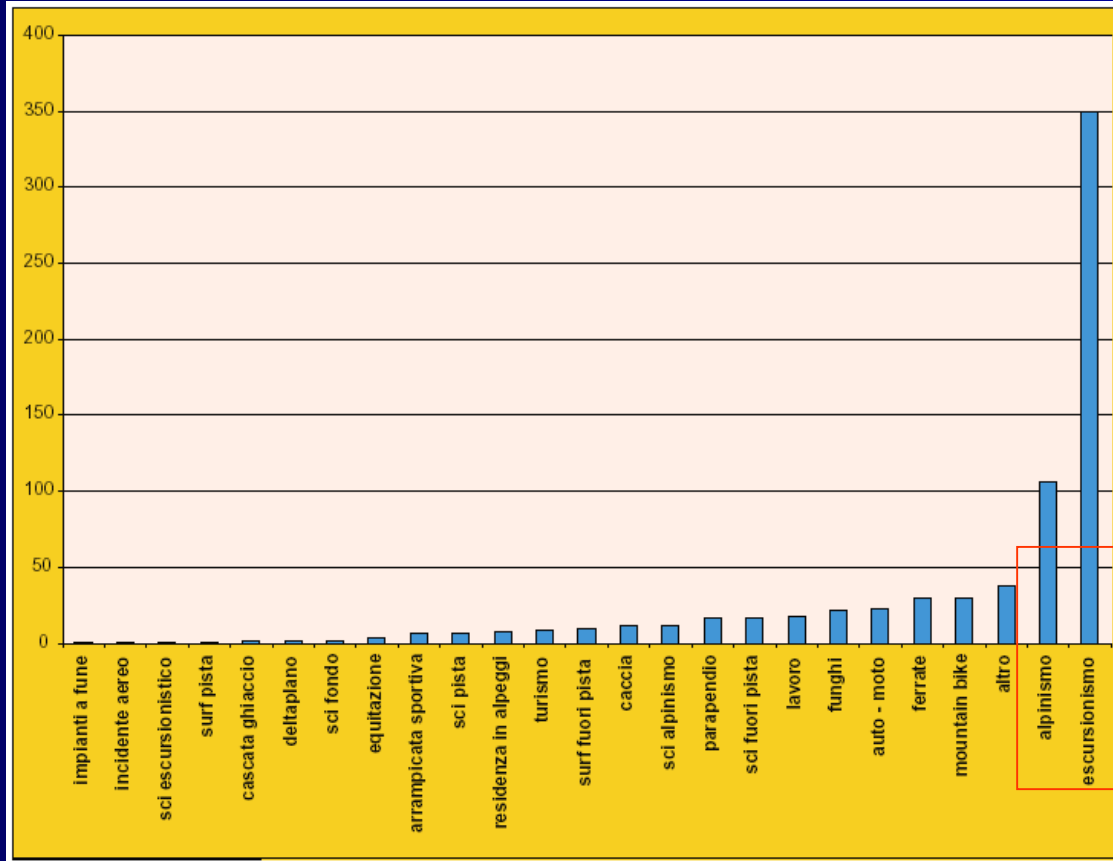
Attività di soccorso e protezione civile.
Soccorso sanitario effettuata in convenzione con il Dipartimento 118 della Regione Piemonte



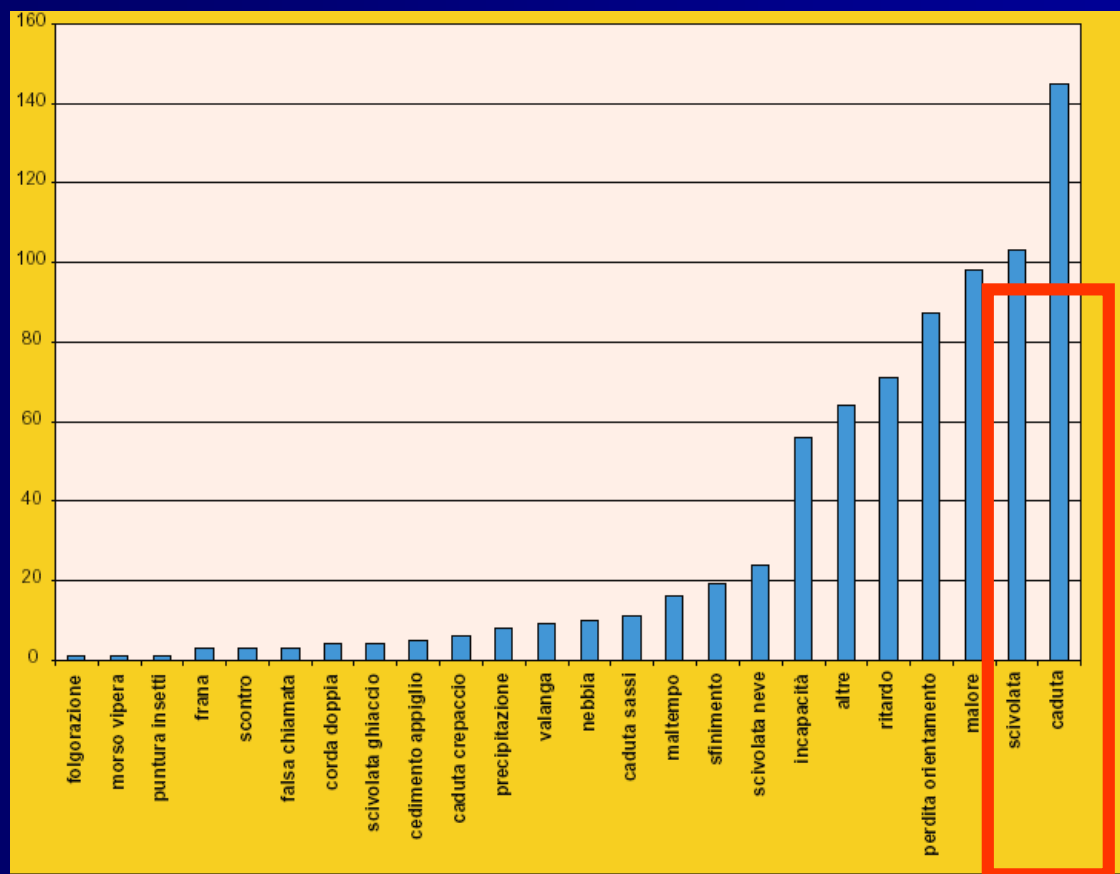
Epidemiologia mountain rescue: Trentino 2004



Epidemiologia mountain rescue: Trentino 2004



Epidemiologia mountain rescue: Trentino 2004



Epidemiologia mountain rescue: Liguria 05

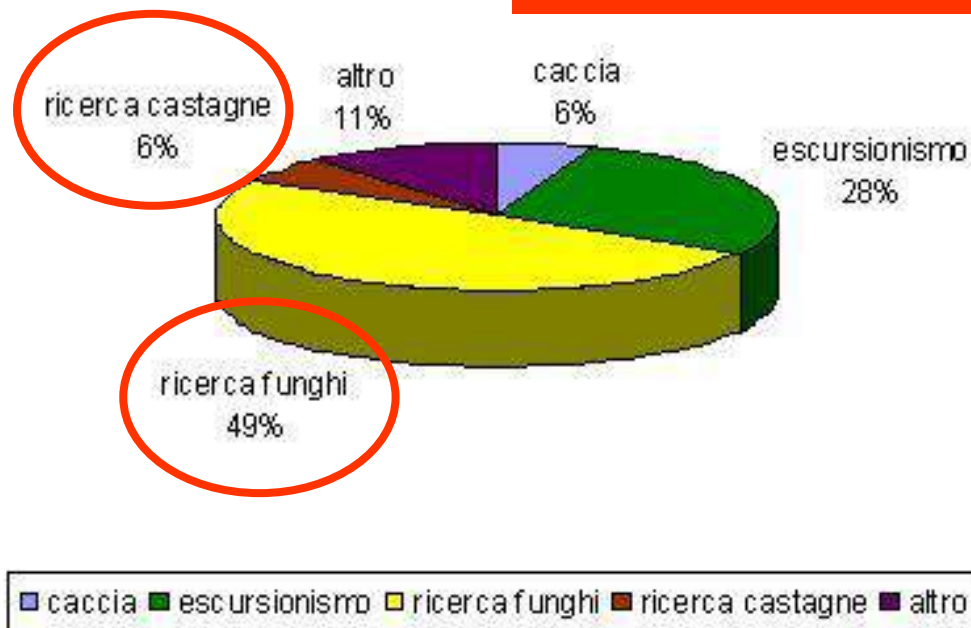


Epidemiologia mountain rescue: Liguria 05

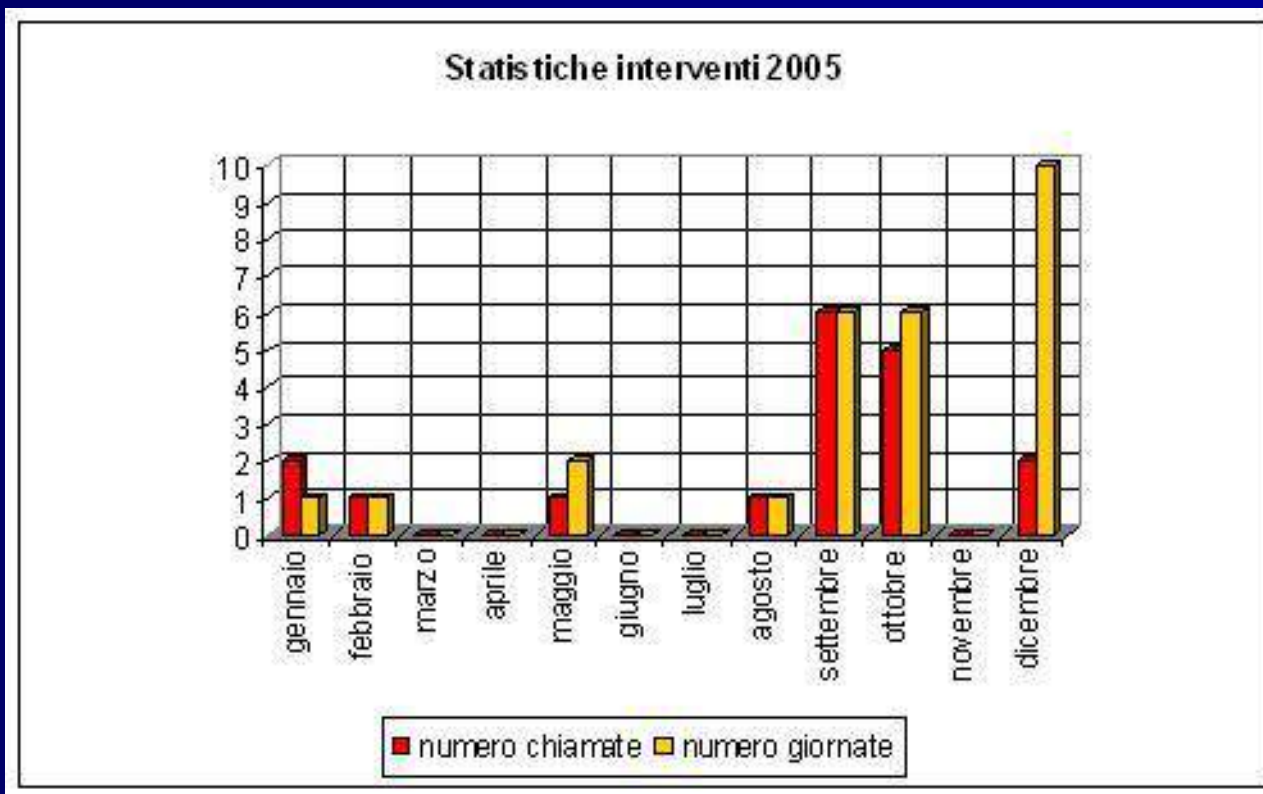


Attività coinvolte

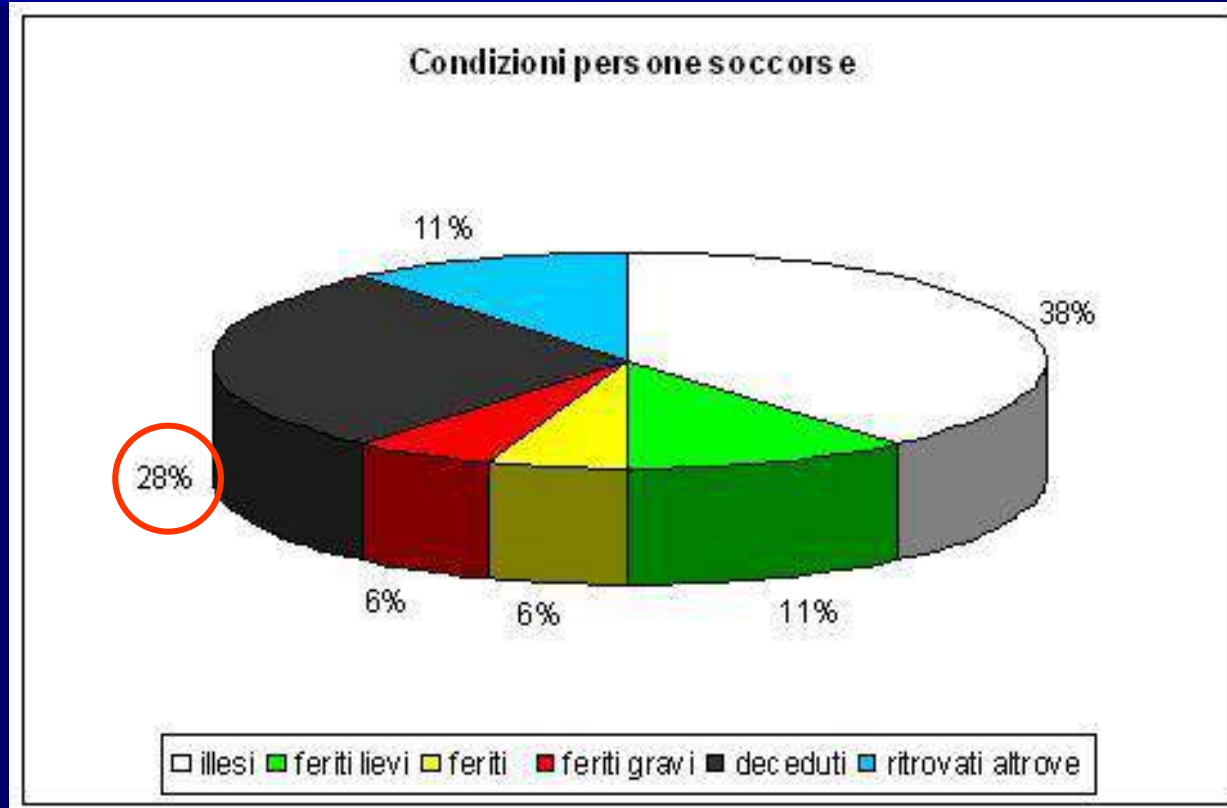
Mountain bike 6% nel 2007



Epidemiologia mountain rescue: Liguria 2005



Epidemiologia mountain rescue: Liguria 05



Interventi in grotta

2010

data	cavità	regione	momento	coinvolti	tipologia	causa	conseg.	sexso	età	nazione
09-gen.	Ab. Piani Eterni	Veneto	risalita	3	ritardo	tecnica	nessuna	M	nn	Italia
16-gen.	Buso della Rana	Veneto	risalita	4	ritardo	tecnica	nessuna	nn	nn	Italia
31-gen.	Grotta Porcara	Veneto	risalita	3	ritardo	tecnica	nessuna	M	nn	Italia
13-feb.	Abisso Astrea	Toscana	avanzam	1	trauma	caduta sasso	gravi	F	35	Italia
14-feb.	Voragine Rana	Sardegna	avanzam	1	trauma	caduta sasso	gravi	M	39	Italia
14-mar.	Grotta Su Bentu	Sardegna	risalita	7	ritardo	tecnica	nessuna	nn	nn	Italia
25-apr.	Grotta del Fiume	Marche	avanzam	1	caduta	scivolata	gravi	M	nn	Italia
27-mag.	Ris. Su Cologone	Sardegna	immers	1	annegam	malore	morte	M	60	Italia
03-lug.	Grotta Porcara	Veneto	risalita	5	ritardo	tecnica	nessuna	nn	nn	Italia
10-lug.	Grotta 87 VG	Friuli Venezia Giulia	scavo	1	trauma	caduta sasso	gravi	M	72	Italia
10-lug.	Grotta 87 VG	Friuli Venezia Giulia	scavo	1	trauma	colpito mazza	gravi	M	71	Italia
17-lug.	Gr. Tequila Bum Bum	Piemonte	avanzam	3	blocco	piena torrente	nessuna	M	nn	Italia
25-lug.	Grotta S. Giorgio	Liguria	immers	2	annegam annegam	esaurim. aria esaurim. aria	morte morte	M M	53 17	Italia Italia
19-ago.	Abisso Saragato	Toscana	risalita	2	ritardo ritardo	tecnica tecnica	nessuna nessuna	M F	40 26	Italia Italia
20-ago.	Ab. Cul di Bove	Campania	avanzam	1	caduta	scivolata	lievi	M	nn	Italia
24-ago.	Omber en banda	Lombardia	avanzam	1	caduta	rottura corda	gravi	M	34	Italia
01-nov.	Ab. Led Zeppelin	Friuli Venezia Giulia	avanzam	2	blocco	piena torrente	nessuna	M	nn	Ungheria
07-nov.	Buranco Paglierina	Liguria	estemo	1	caduta	scivolata	gravi	F	45	Italia
12-dic.	Antro del Corchia	Toscana	risalita	8	ritardo	falso allarme	nessuna	nn	nn	Italia
04-ott.	Dragonniere	Francia	immers	1	blocco	frana	morte	M	nn	Francia

INTERVENTI IN FORRA 2014 • INTERVENTI IN FORRA 2014

20 gennaio – Rio Sessarego (Liguria)

Intervento della 13° Zona per ricerca e recupero della salma di una persona caduta nella forra; operazione in collaborazione congiunta C.N.S.A.S., V.V.F., CC.

15 marzo – Orrido di Botri (Toscana)

Quattro persone di età compresa tra 30 e 40 anni, entrate nella forra in tarda mattinata, sono rimasti bloccati dal buio, erano muniti di due lampade. Visto il forte ritardo era allertata la 3° Zona che interveniva raggiungendo gli escursionisti bloccati e li portava all'esterno dell' orrido.

27 agosto – Torrente Maè (Veneto)

Intervento della 6° Zona in collaborazione con la squadra alpina, tecnici forre e speleosubacquea in località Igne – Longarone (Belluno). Si è trattato del recupero della salma di un suicida che si era gettato nel vuoto compiendo un salto di 120 metri, il corpo era incastrato a circa sessanta metri dalla verticale ed a tre metri di profondità.

12 settembre – Gola di Gorropu (Sardegna)

Mentre percorreva la forra, una ragazza era colta da malore e si bloccava, interveniva la 8° Zona con tecnici speleologi ed alpini, era anche presente una squadra S.A.F. dei Vigili del fuoco. La ragazza è stata imbarellata e trasportata fuori dalla gola, ed un elicottero la trasportava all'ospedale.

Epidemiological and medical aspects of canyoning rescue operations

Injury and illness by NACA score.

	Traumatic injury (%)	Medical/ environmental illness (%)	Total (%)
Minor-moderate (NACA 1–3) ^a	395 (94.3)	26 (53.1)	421 (90.0)
Severe (NACA 4–6)	15 (3.6)	13 (26.5)	28 (6.0)
Lethal (NACA 7)	9 (2.1)	10 (20.4)	19 (4.0)
Total (%)	419 (100.0)	49 (100.0)	468 (100.0)

^a Uninjured patients (NACA 0; $n = 50$) are not shown.

Epidemiological and medical aspects of canyoning rescue operations

Injury, Int. J. Care Injured 46 (2015) 585–589

Type of injury and illness in patients of canyoning rescue operations.

Injury/illness	<i>n</i>	Type	<i>n</i> (%) ^b
Traumatic injury	419	Head/face	5 (1.1)
		Spine/back	39 (9.2)
		Upper extremity	51 (12.6)
		Lower extremity	310 (74.0)
		Thorax	2 (0.4)
		Abdomen	1 (0.2)
		Pelvis	2 (0.4)
		Multiple	9 (2.1)
Medical/environmental illness	49	Drowning	16 (32.7)
		Heat-related illness	25 (51.0)
		Hypothermia	1 (2.0)
		Medical illness ^a	7 (14.3)
Uninjured	50		
Total	518		

^a Anaphylaxis (*n* = 1), anxiety (*n* = 1), coronary syndrome (*n* = 2), dizziness (*n* = 1), exhaustion (*n* = 1), seizures (*n* = 1).

^b % refers to each category of injury/illness.

Epidemiological and medical aspects of canyoning rescue operations

Injury, Int. J. Care Injured 46 (2015) 585–589

On-site medical procedures in patients of canyoning rescue operations ($n=520$).

	<i>n</i>	%
Oxygen administration	19	3.7
Airway management	0	0.0
Intravenous lines	31	6.0
Analgesics ^a	175	33.7
IV fluid administration	27	5.2
Vasoactive drugs ^b	0	0.0
Cardiopulmonary resuscitation	4	1.5
Reduction of dislocations	35	6.7
Splinting/immobilization	370	71.2
Hypothermia prevention	10	1.9
Antibiotics	0	0.0

^a Morphine or analogues ($n=81$), NSAID ($n=74$), pyrazole derivatives ($n=41$), tramadol ($n=19$), ketamine ($n=4$).

^b Epinephrine, ephedrine, atropine.

References

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Conclusioni

Physicians and paramedics operating in CRO should be familiar with Pre-hospital Trauma Life Support, medical procedures related to environmental, topographical and logistical conditions, and helicopter rescue operations including winch operations. Physicians and paramedics should be (i) comfortable to work in exposed situations, (ii) aware of patient and rescuer safety, and (iii) able to work under extreme conditions for long times including water exposure. Studies in different countries with different SAR organizations are necessary to further understand and improve pre-hospital management of patients with an injury or illness during canyoning.

Injury, Int. J. Care Injured 46 (2015) 585–589

Epidemiological and medical aspects of canyoning rescue operations



Grazie

a chi mi ha permesso di preparare questa relazione..

.....e a voi per l'attenzione! Grazie!