



MedCom

UIAA'S MEDICAL ADVICE

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ACUTE AND CHRONIC OVERSTRAIN INJURIES OF WORLD CUP ICE CLIMBERS

BACKGROUND

While rock climbing injuries have been well investigated this is not the case for ice climbing and its various disciplines. Since extreme body positions are normal in extreme ice climbing specific injury patterns may be expected (fig. 1-3). The authors investigated the participants of the UIAA Ice Climbing World Championship in Saas-Fee to assess data about acute or chronic over-strain injuries to establish prevention strategies where necessary.



Figure 1: "Game over!" – fall over about 3 to 4m. Dynamic belaying reduces the risk of spine injuries significantly but the risk by sharp climbing equipment is always present



Figure 2: "Speed climbing. Maria Tolokonina, later the World Cup Winner, in action. About 16m vertical ice have to be climbed as fast as possible. Possible injury risk by the crampons (insert)



Figure 3: "Figure 8" in extreme overhanging terrain. Discipline "Lead" where maximal difficulties have to be climbed

MATERIAL & METHODS

Participants of the Saas-Fee World Cup volunteered (73/105, response rate 69.5%) to complete a questionnaire about acute or overuse injuries, training intensity, and activities in other climbing disciplines. Data evaluation was descriptive.

RESULTS

Mean climbing experience was **5.9** years. **67%** reported **10 to 15** hours of training per week. Mean age was **25.1** years, however there were some participants at the age of **40**. Mean BMI was **21.6** (4/73 >25). Compared to rock climbers the collective is significantly older, trains less in the specific discipline, shows a quite short experience in the discipline and has a significant higher BMI. Most perform other climbing disciplines, too, and do so at a high level (many climb up to UIAA grade **9** and more!). **23.5%** reported an accident with an acute injury (Tab.1), **38.6%** any kind of overuse injury. In contrast to acute injuries (lower leg!) no body region was prioritized here. Nearly all injuries were NACA 1 or 2, only one NACA 3.

Localization	Count	%
Head / face (H)	2	15.4
Upper arm (U)	1	7.7
Foot / toe / ankle (A, F)	2	15.4
Unspecified (X)	1	7.7
Wrist (W)	1	7.7
Knee (K)	1	7.7
Lower leg (Q)	4	30.8
Chest (C)	1	7.7

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Competition Ice Climbing is a very safe sport.”

CONCLUSION

Probably because training intensity is low there are few overuse injuries and only some acute injuries, most of them of minor consequences. Although spectacular, **Competition Ice Climbing is a very safe sport**. This differs significantly from other disciplines, especially “alpine” ones. Because the participants performed several other climbing disciplines it was not possible to link any injury pattern with competition ice climbing.

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