

FIS INJURY SURVEILLANCE SYSTEM

FIS ISS



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► Injuries in elite skiing and snowboarding

Data from the first two seasons with the FIS Injury Surveillance System (FIS ISS) has shown that serious injuries in elite skiing and snowboarding are a concern: Nearly 1/3 of World Cup athletes interviewed experienced a time-loss injury and about 1/3 of the injuries were so serious that the athletes lost more than 28 days of training and competition. The highest injury risk was seen in Alpine skiing, Freestyle skiing and Snowboard with approximately 30 injuries per 100 athletes per season. The numbers in the Nordic disciplines (Ski jumping, Nordic combined and Cross-country skiing) were much lower. Knee ligament injuries were the most common injury type followed by head injuries (mainly concussions).

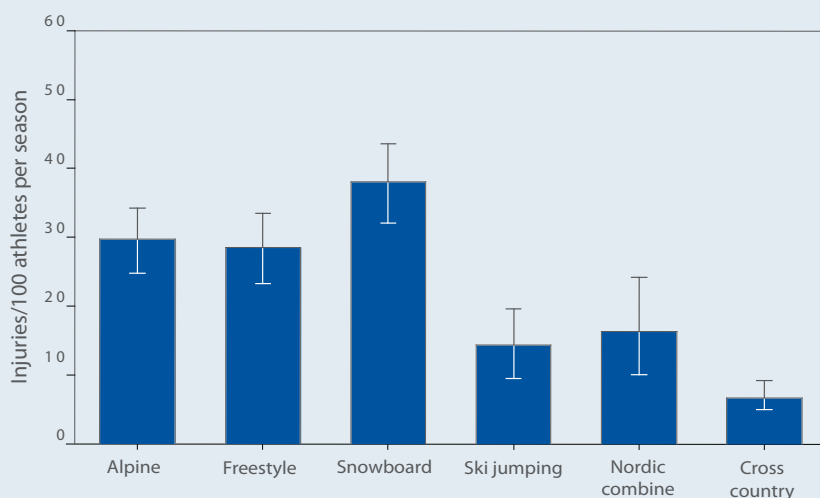


Figure 1. Injuries leading to absence from training and competition of one day or more presented as number of injuries per 100 athletes.

The next step is to find out how we can reduce these injuries. To do that we still need to improve our understanding of the causes of injury, their risk factors and injury mechanisms using techniques such as video and biomechanical analysis. This information is critical to be able to develop effective methods to prevent injuries.

► The FIS Injury Surveillance System (FIS ISS)

The FIS ISS was developed prior to the 2006-07 winter season by FIS in collaboration with the Oslo Sports Trauma Research Center. The FIS TDs have been asked to report all injuries occurring during official training and competition. The injury report form is collected by FIS for medico-legal purposes. During the first two seasons only about half of all injuries occurring during WC competition and official training were reported, reflecting a need to engage not only TDs but also local organizers, race doctors and – above all – all teams including athletes, coaches and medical personnel. Everyone's commitment is necessary to get a more complete picture of all injuries each season.

► What we kindly ask you to do is:

As **TD** – Please fill out the injury form for all injuries happening in official training and competition. We recommend that you enlist the assistance of the official race doctors (whenever available) in completing the injury reports

As **local organizer** – Please inform the race doctor(s) (whenever available) regarding the FIS ISS and ask them to complete the injury report together with the TD for any injury occurring during official training or competition during your event

As **race doctor** – Please complete the injury report together with the TD for any injury occurring during official training or competition during the event where you are the race doctor

As **team medical personnel** – Please report back to the TD and complete the injury report together with the TD if any of your athletes sustains an injury during official training or competition at any FIS event

As **athlete** – Please remind your medical personnel to report to the TD if you had an injury during official training or competition at any FIS event

A **reportable injury is defined as:** "All injuries that occur during competition or official training and require attention by medical personnel"

Please note that the TD reports are our only record of injuries during WC and other FIS events!

► What happens to your data?

All data is handled confidentially and put into an anonymous database. Nobody in the FIS has access to data that can be person-identified. The project has also been approved by the Privacy Issues Unit at the Norwegian Social Sciences Data Services and the Regional Committee for Medical Research Ethics in Southern Norway.

► Aksel Lund Svindal, Two-time World Champion 2007 and overall men's FIS World Cup winner 2006/2007

"I know from personal experience that there is a risk of serious injuries in our sport. I would encourage everyone to do their part to support the FIS ISS. As athletes we can remind our coaches and medical personnel to report back to the TDs if there is an injury so that the data collected is complete and accurate. Hopefully, together we can find ways to reduce injury risk in the future."



► Peter Krogoll, Alpine and Snowboard TD

"We as TDs have an important role to play in making sure the findings of the FIS ISS help us reduce athlete injuries in the future. Our experiences and detailed information on things such as snow conditions can help improve the general standard of safety at FIS events. By working together with the local organizers and the teams, we can help make sure that all the injuries are reported to the system. For that communication is key, filling out the form is no work after that!"



► Günter Hujara, FIS Chief Race Director Men's Alpine World Cup

"Our goal as FIS is to ensure the highest possible level of safety and minimize the risk of injury for our athletes. Along with optimized piste preparation, speed control and course setting measures, this includes the regulation of the material and best possible competition equipment. This will only work if the impact of each aspect and the overall course of events in each case of injury are properly REGISTERED AND analyzed scientifically. That is why full co-operation between the National Ski Associations, athletes, teams and the FIS ISS is of critical importance."



► FIS ISS Steering Committee

A Steering Committee has been established for the FIS ISS with three members, including the chair, appointed by FIS and the other two by the Oslo Sports Trauma Research Center (OSTRC). The Steering Committee consists of Hubert Hörterer, FIS, Hans Spring, FIS, Eero Hyvärinen, FIS, Roald Bahr, OSTRC and Stig Heir, OSTRC. The Steering Committee meets twice yearly to report on the ISS and related research activities. The Steering Committee also handles requests from other research groups for access to data from the ISS. Reports are presented to the FIS Medical Committee and other relevant FIS Committees annually for review. The reports serve as the basis for a risk management process, whereby the data are used to identify injury risk in FIS competitions and ensure that every possible effort is made to protect the health of the athletes.

► Oslo Sports Trauma Research Center

The Oslo Sports Trauma Research Center (OSTRC) was founded in May 2000 and is chaired by professor Roald Bahr MD PhD and professor Lars Engebretsen MD PhD. Oslo Sports Trauma Research Center is a joint venture between Ullevål University Hospital and The Norwegian School of Sport Sciences and is financed by the Royal Norwegian Ministry of Culture, the Norwegian Olympic Committee & Confederation of Sport, the Norwegian Eastern Health Corporate and Norsk Tipping AS. The main objective is to develop a long-term research program on injury prevention (including studies on basic epidemiology, risk factors, injury mechanisms and intervention studies). The Oslo Sports Trauma Research Center staff includes scientists with a multidisciplinary background (medical doctors, sports scientists, physiotherapists and biomechanists). The Oslo Sports Trauma Research Center organized the 1st and 2nd World Congress on Sports Injury Prevention in Oslo (2005) and Tromsø Norway (2008).

► DJO, our partner in Research

DJO Incorporated, best known by top athletes for its quality brands Aircast, Compex and DonJoy generously agreed to support this project from the outset and have pledged further significant support for the next stage of the research programme.

Lieve Vanden Berghe, DJO's Vice-President, International Marketing, explained: "When we met with OSTRC and the FIS board three years ago, we realised that we all had the same commitment and determination to help find solutions for the numerous athletes who are severely affected by the serious injuries that sideline them while competing and training. Combining our efforts with OSTRC and FIS was therefore a natural next step. We have been amazed to see how well this ground-breaking surveillance research project has been supported and carried through from top to bottom within the OSTRC and FIS organisations and are convinced that this committed and dedicated team of researchers will gain valuable new insights into injury prevention for snow sports participants.





NEVER STOP GETTING BETTER®

**DJO is proud to support the establishment of the
International Ski Federation Injury Surveillance System
at the Oslo Sports Trauma Research Center**



Kristi Richards
One of the 'Faces of DonJoy'
2007 World Champion
Moguls (Freestyle)

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Oslo Sports Trauma
RESEARCH CENTER

