

Injury Prevention Key Findings in 2012

Overall injury rate 3.46 /1000 skier days increased from 3.2 / 1000 skier days in 2011 and 3.1 / 1000 skier days in 2010.

A descriptive overview on the prevalence of particular injuries and mechanisms will be provided to the next meeting of the Ski Areas Association Safety Group (Safety Service Managers/Ski Patrol Directors)

Research to inform practice:

The **Ski Areas Association NZ Incident Reporting Form** has been updated to include injuries that occur when a skier or snowboarder takes evasive action to miss a collision. The addition of a permission clause to contact injured people that supply their emails on the SAANZ Incident Reporting will provide opportunities to use anonymous surveys of injured people in the quest to find possible solutions.

Helmets - the publication of an international meta-analysis[1] of 10 case-control, 1 case control crossover and 1 cohort study on the protective value of helmets in preventing head injuries in snow sports provides SAANZ with robust **empirical evidence for increasing the promotion of helmet usage** for all skiers and snowboarders. Analysis by an epidemiologist of the research methods used in a case control study at 3 ski resorts in the western United States[2] where controls were people with other injuries has put to rest our questions regards whether the method of using people with other injuries as opposed to uninjured controls could skew the data [3].

Helmet wear limits the incidence of abrasions, lacerations, and mild concussion in alpine skiers and snowboarders. The force involved in a collision or a fall at high speed fall may overwhelm the protective value of the helmet, and the inertial effects of speed may still be transferred to the brain despite helmet wear; wearing a helmet is not a complete panacea. The integrity of the helmet is important as previous knocks to the helmet will reduce the efficacy. Injury prevention strategies adopted by SAANZ to reduce head injury will need to be multi-faceted rather than a single strategy such as helmet use.

Ski equipment–related injury research: the late importation of torque testing equipment from Switzerland and technical challenges led to a data poor situation at Mount Ruapehu; the torque testing intervention study was stopped in early August. Thanks to RAL the feasibility data of 12 knee and lower leg injured cases and 51 uninjured skiers gathered at Whakapapa in 2012 has helped to inform a new study planned for Snow Planet in 2013. The new study will determine whether alpine skis (private & rental) are correctly set-up using torque testing; skiers capacity to self-release test; and also establish skiers capacity to adjust their own equipment for safe set-up. The results of this new study will be presented to SAANZ in 2014.

Recommendations:

- Increase the promotion of helmet wear for skiers and snowboarders.
 - Consider compulsory helmet wear in terrain parks.
 - Consider strategies to model safe behaviour such as compulsory helmet wear in lessons.
 - Have all SAANZ members enter data in the National Incident Database (NID-ski).
 - Lift the embargo of confidentiality between Ski Areas on NID-ski injury statistics to enable joint problem solving and best injury prevention practice.
 - Update the NID-ski software with the 2013 changes to the SAANZ Incident Reporting Form and make it easy to read in data into SAS (the statistical analysis system).
1. Russell K, Christie, J., Hagel, B.E.: **The effect of helmets on the risk of head and neck injuries among skiers and snowboarder: a meta-analysis.** *Canadian Medical Association Journal* 2010, **182**(4).
 2. Mueller BA, Cummings B, Rivara FP, Brooks MA, Terasaki RD: **Injuries of the head, face, and neck in relation to ski helmet use.** *Epidemiology* 2008, **19**(2):270-276.
 3. Marshall SW: **Injury case-control studies using "other injuries" as controls.** *Epidemiology* 2008, **19**(2).