

Prevention of ACL injuries in competitive adolescent alpine skiers

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Introduction

Results from two of our studies on alpine skiing, ACL injury profile and ACL injury risk factors showed a higher risk to sustain an injury in the left knee

Westin et al 2012, Westin et al submitted

Alpine skiing is an equilateral sport with the same physical demands on both sides of the body. Performance in alpine skiing therefore depends on each skier's ability to turn equally well to the left as to the right. Are skiers with a poor neuromuscular control regarding equally well performance of ski turns to the left and right at risk for injury?



Method

- “ In collaboration with the Swedish Ski Federation a prevention video based on identified intrinsic risk factors for ACL injuries in competitive adolescent alpine skiers was developed assisted by two professional film producers.
- “ The video consists of suggestions of different neuromuscular exercises, both indoors and outdoors on snow. The goal was to improve neuromuscular control in order to perform equally well ski turns to the left as to the right.
- “ The study was prospectively carried out between the ski seasons 2006/2007 and 2012/2013.
- “ The skiers who studied at a ski high school during the first five ski seasons were defined as a control group. The intervention group (prevention) was performed during the two ski seasons following the five “control” ski seasons.

Results

The prevention program showed a **45% reduction** of the ACL injury incidence rate during the intervention period when compared with the control period

Absolute risk reduction: – 0.22 (95% CI -0.44 – 0.00)/100 months attending a ski high school

Chi Square test: $p = 0.02$

www.youtube.com/watch?v=wtYxMJ_ij1g&feature=youtu.be

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