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PREVENTION OF ACL INJURIES IN FEMALE TEAM HANDBALL PLAYERS - A PROSPECTIVE INTERVENTION STUDY OVER 3 SEASONS

Purpose of the study: To assess the effect of a special balance and coordination training program on the incidence of ACL injuries in female team handball players.

Material and methods: The incidence of ACL injuries was evaluated in 58 female teams (940 players) in the three upper divisions from Aug. 15 to May 31 during the seasons 98-99 season (control period), 99-00 (intervention period I) and 00-01 (intervention period II). A program with three different balance exercises focusing on neuromuscular control and planting/landing skills was developed and introduced to the players in the autumn of 1999, and an revised program in the autumn at 2000, making the exercises more handball specific and functional. The teams were instructed to use the program three times weekly, 15 min each time, during a 5-week training period, and then once a week during the season. The teams were visited in the preparation period and were supplied with instructional video, posters, six balance mats and six wobble boards. Additionally, a physical therapist was attached to each team to follow up the intervention program from autumn 2000.

Results: There were 29 ACL injuries during the control season compared with 23 injuries during the intervention season I (OR: 1.15; P=0.83), and 17 injuries during the intervention season II (OR: 1.88; P=0.04). In the elite division there were 13 injuries during the control season and six injuries during the intervention season I (OR: 2.23; P=0.11), and five injuries in intervention season II (OR: 2.55; P=0.08). Of the 23 players injured during the intervention period I, five of the players had performed the program as prescribed, while seven of 17 injured players in intervention period II had followed the program as prescribed.

Conclusion: The study shows that ACL injuries among female team handball players can be prevented with specific balance training, and it seems to be a further potential for reduction of ACL injuries through better compliance with the training program.