

## The FIVB Beach Volleyball Injury Study: Injuries among professional beach volleyball players

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A number of research studies have been conducted to characterize the injury pattern in competitive indoor volleyball during the past two decades, but although beach volleyball has been recognized as an Olympic sport since 1996, very little is known about its injury patterns. The aim of the study was to describe the incidence and pattern of injuries in beach volleyball at the elite international level for men and women during the 2001 FIVB World Tour. Methods: All participants during the World Championships were invited to take part and a total of 176 of the 190 participating players were interviewed. All injuries and conditions that caused the athlete to seek medical assistance from a physician or physiotherapist during the 7.5 week period from June 10 through August 1 were recorded, and subsequently classified as either acute or overuse injuries. In addition, time spent training and competing during the same time period was recorded: a total of 4,241 player-hours of match play and 12,788 player-hours of training. Results: A total of 54 acute injuries were recorded, and 23 (43%) of these caused the player to miss one or more days of practice or competition. The incidence of acute time-loss injuries was 3.1 per 1000 competition hours (2.9 for men and 3.3 for women) and 0.7 per 1000 training hours (0.8 for men and 0.7 for women). Knee injuries (30%), ankle injuries (17%) and finger injuries (17%) accounted for more than half of all acute time-loss injuries. In addition, the players reported 79 overuse injuries for which they had received medical attention; of these 20 (25%) caused them to miss training or competition. The three most common overuse injuries were low back pain (26 players, 33%), knee pain (21 athletes, 27%, mainly patellar tendinopathy), and shoulder problems (17 athletes, 22%). Teams that had withdrawn because of injury prior to the start of the World Championships were not available for interview, and we know that season-ending injuries have occurred with potential World Championship participants – including serious knee injuries. Consequently, the injury rates presented here are *minimum* estimates. Conclusions: The rate of acute time-loss injuries in beach volleyball is considerably lower than most other team sports – similar to that seen in indoor volleyball. The injury pattern also resembles that of indoor volleyball, but with fewer ankle sprains. Overuse injuries affecting the low back, knees and shoulder represent a significant source of disability and impaired performance for professional beach volleyball players.