

# Program may prevent knee injuries in young female soccer players

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A soccer-specific exercise program that includes individual instruction of athletes appears to reduce the risk of knee injuries in young female players, according to a report in the January 11 issue of *Archives of Internal Medicine*.

Soccer is a dominant cause of sports-related injuries in part because of its increasing popularity, according to background information in the article. Between 2000 and 2006, the number of female [soccer players](#) around the world increased by 19 percent, to 26 million. "The most frequent and severe type of injury among soccer players is to the legs, especially the knees. The anterior cruciate ligament (ACL) injury incidence is highest among young athletes," the authors write. "Knee injuries, and especially ACL ruptures, may have long-term consequences, including a long absence from soccer, incomplete recovery and secondary [osteoarthritis](#) of the knee."

Ashkan Kiani, M.D., of Uppsala Primary Care, Uppsala County Council, Sweden, and colleagues assessed an intervention program specifically designed to reduce the risk of soccer-related knee injuries among 1,506 13- to 19-year-old Swedish female players. The program featured strengthening exercises designed to achieve an improved motion pattern, reducing strain on the knee joint. The training sessions were integrated into the regular soccer practices and required no additional equipment. In addition, players, parents and team leaders attended a seminar to raise awareness of injury risk.

During 2007, 777 girls on 48 teams participated in the program and 729 players on 49 teams served as controls. Three knee injuries, including one non-contact injury (not involving another player), occurred among players participating in the program, compared with 13 knee injuries and 10 non-contact injuries among girls in the control group. Therefore, the program was associated with a 77 percent reduction in the incidence of knee injuries and a 90 percent reduction in the incidence of non-contact [knee injuries](#).

"The rate of injury was not only lower among teams participating in the preventive program but the injuries that did occur were also less severe," the authors write. All three injuries in the intervention group were categorized as major, but all three players regained full activity within six months. Among the control participants, most injuries were severe, and only four of the 13 regained full activity within six months.

Coaches reported their teams' adherence to the program at two time periods, after the preseason training period and after the competitive season. Of the 48 teams participating in the intervention, 45 (94 percent) reported a high adherence of at least 75 percent. "The high compliance rate in this study suggests that the program is easy to implement and incorporate into regular soccer practice," the authors conclude.

**More information:** Arch Intern Med. 2010;170[1]:43-49.

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