

## Girls Need to Learn to Run Like Boys Study finds doing so cuts risk of ligament injuries

**By Dennis Thompson Jr.**  
*HealthScoutNews Reporter*

SATURDAY, Oct. 5 (HealthScoutNews) -- "You run like a girl!"

It's an age-old taunt, but sports medicine experts have discovered that if female athletes are trained to run, jump and pivot like males, they can prevent serious knee injuries.

Female athletes are two to eight times more likely to tear their anterior cruciate ligament (ACL), the major stabilizer of the knee. Each year, one out of 100 high school female athletes and one of 10 college female athletes experience an ACL injury, according to the National Institutes of Health.



The National Collegiate Athletic Association reports that in any given year, approximately 2,200 collegiate female athletes are expected to rupture their ACLs.

However, a special training program could be just what the doctor ordered. By teaching women soccer players to keep their knees bent and play lower to the ground, the training resulted in 88 percent fewer ACL tears.

Dr. Letha Griffin of the University of Georgia and Dr. Bert R. Mandelbaum of the Santa Monica Orthopedic and Sports Research Foundation in California devised the program.

They compared knee injuries among 1,041 female soccer players in the Coast Soccer League of Southern California who'd been given the injury prevention training. The researchers then compared those injuries to ones suffered by 1,902 players who didn't receive the training.

At the end of the 2000 season, the players who received the training had only two ACL tears, compared with 32 in the group that didn't receive training on moving more like boys.

Griffin and Mandelbaum say that's because girls don't move with the kind of flexibility needed to relieve pressure on the knee.

"Girls run and pivot in a stiff-legged, upright posture," says Griffin, who is head physician for all sports teams at the University of Georgia. "Boys, on the other hand, have knees bent and can play low to the ground."

"Boys can touch the ground from their running position. That's not true of girls," she adds.

Griffin says girls need to learn to keep their hips and knees bent, their body balanced over their legs and their posture straight.

The training program she and Mandelbaum devised for the California soccer league involved a special 20-minute warm-up that concentrated on running, jumping and pivoting with knees bent. The women would perform normal soccer movements, but with a special emphasis on centering their weight lower to the ground.

The findings on their work were presented at a recent meeting of the American Academy of Orthopaedic Surgeons.

Orthopedic surgeons have offered several theories for why females are more likely to suffer ACL injuries, says Stephanie Vlach, manager of fitness education for the Life Fitness Academy. These include anatomical differences, variations in movement patterns and muscular imbalances.

"Women tend to have much stronger quads (the large muscle in the back of the upper leg) than they do hamstrings," Vlach says about recent muscle-related theories. "Men have much more equal strength between the two muscles."

Since none of these can be altered, researchers like Griffin and Mandelbaum have focused on teaching female athletes motor patterns that will prevent excessive stress on the ACL, Vlach says.

Vlach speaks from personal experience about ACL injuries. About 10 years ago, she tore hers while a competitive gymnast, and ended up receiving reconstructive surgery and nine months of physical therapy.

"These are no fun, and more and more women today are tearing their ACLs. Coaches and personal trainers who work with girls and women really need to consider this during training," she says.

Griffin says parents who want to prevent injuries to their daughters should encourage them to practice jumping and landing in a correct body posture, with their knees bent and their center of gravity low to the ground. The girls could hop in front of a mirror to watch whether they land in a proper flexed position, or parents could videotape their girls in action and then review how they are running, jumping and landing. That will let parents identify girls who are landing stiff-legged and need more training to keep themselves in a flexed position.

"The whole idea is to train on exercises that help develop neuromuscular control," Griffin says. "The proper position comes naturally to guys. It doesn't come so naturally to women."

## **What To Do**

To learn more about preventing anterior cruciate ligament injuries in women, visit the **American Academy of Orthopaedic Surgeons** or the **Cleveland Clinic** .

SOURCES: Letha Griffin, M.D., head physician, sports teams, University of Georgia, Athens; Bert R. Mandelbaum, Santa Monica Orthopedic and Sports Research

Foundation, Santa Monica, Calif.; Stephanie Vlach, manager, fitness education, Life Fitness Academy, Franklin Park, Ill.

Copyright © 2002 **ScoutNews, LLC** . All rights reserved.