
Knee injuries to girls can lead to arthritis

Researched by Bruce Stapleton, Lifegevity Program founder
Edited by Jim Good, Senior Writer

By age 30, girls who suffered sports-related knee injuries may develop arthritic knees similar to those of a 70-year-old woman.

Swedish researchers found that more than a third of female youth soccer players who had injured the anterior cruciate ligament (ACL) – tissue that helps stabilize the knee – developed osteoarthritis of the joint within 12 years. Osteoarthritis, the most common form of arthritis, affects more than 21 million Americans – with an alarming number recently reported by women in their 30's.

“For comparison, this is the rate of osteoarthritis found in non-injured 70-year-old women,” said Dr. Harold Roos, an associate professor at Lund University in Sweden. Roos said that these injured women reported that their quality of life had gone down and that they had to cut back on playing sports and other physically demanding recreational activities because of knee pain.

“This data doesn't argue for them not to play sports,” added Roos. “The overall benefits outweigh the risks. But they need to take precautions. The best way to prevent these cases is to prevent the injury to the knee.”

According to the American Journal of Sports Medicine (vol. 25,1995), women are twice as likely to have an ACL injury as a result of player contact and three times more likely to obtain such an injury through non-contact mechanisms than their male counterparts. The majority of ACL injuries happen during practice or competition in basketball, volleyball and soccer.

The anatomical differences between men and women play a role in injury incidence. The National Collegiate Athletic Association (NCAA) states that the greater incidence of ACL injuries in women probably stems from complex, interrelated factors, including hamstring-quadriceps strength imbalances, joint laxity, knee structure, pelvis size, hormones and less muscular thigh development.

Many female athletes use their quadriceps muscles when rapidly changing direction. This can put enough force on the shinbone to tear the ACL if the knee isn't bent enough. By strengthening and using the hamstrings rather than the quadriceps, they could reduce their risk of an ACL injury.

Female athletes also don't bend their knees as much as men do when landing from a jump and they turn and pivot in a more erect position, which strains the ACL, according

to the American Academy of Orthopaedic Surgeons. Learning to crouch and bend at the knees and hips could reduce the stress on the ACL. These maneuvers are motor skills that can be learned, practiced and improved, just like a golf swing or tennis stroke.

The academy said that women could take three steps to help reduce their risk of ACL injuries:

- Training and conditioning should be a year-round program. Skill drills and strength and flexibility exercises will enhance balance and coordination so you'll be ready when the season starts. Balance controls your coordination and movements on and off the athletic stage.
- Make strengthening exercises for the hamstring and quadriceps muscles a regular part of your conditioning program. Don't work on just your quads, as the hamstrings are just as important.
- Practice proper landing techniques and learn to do cutting maneuvers in a crouched posture with a slight bend at the knee and hip.

Another way to help prevent ACL injuries is Pilates, a form of exercise that limbers and stretches muscles by incorporating the benefits of aerobic and weight training. It tones muscles, improves posture, balance and flexibility, increases physical and mental strength and lessens fatigue and pain. These exercises encompass the entire body, putting all major muscle groups in balance with each other.

It is essential for young female athletes to be correctly trained in their sports by using training protocols that will help prevent ACL injuries. Otherwise, they may end up with 70-year-old knees 40 years ahead of time.

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