

## ACL knee injuries much more likely in female athletes: Simple techniques can reduce injury risk, surgeon says

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Female athletes are far more likely than males to suffer serious ACL knee injuries.

But many of these injuries could be prevented with preseason conditioning and using proper landing techniques after jumping, said Loyola University Medical Center [orthopaedic surgeon](#) Dr. Pietro Tonino.

With basketball season under way, Tonino and other orthopaedic surgeons are seeing a significant number of [knee injuries](#) in female athletes, ranging from middle school to the pros. Tonino is a [sports medicine](#) specialist who has performed thousands of [knee](#) surgeries.

Doctors aren't certain why [female athletes](#) are more prone to ACL injuries. One reason may be related to how they jump, Tonino said. Due to the shape of the female pelvis, women and girls tend to land from a jump with their knees locked. This puts added pressure on the knee. Females also tend to be more knock-kneed (with knees close together and the ankles far apart).

To reduce the risk of an ACL injury, Tonino said, an athlete should slightly bend the knees and hips when landing. Position the buttocks as if you were about to sit down, rather than standing upright. Land on your forefoot, not your heel. And strengthen your hamstrings with weight

training.

Tonino and other sports medicine physicians recommend athletes participate in summer programs that teach conditioning and [injury-prevention](#) techniques. The athlete or her parents should ask the team's certified athletic trainer or team physician about such programs.

Tonino noted that the American Orthopaedic Society for Sports Medicine website, [www.stopsportsinjuries.org](http://www.stopsportsinjuries.org), offers these additional tips to prevent basketball injuries:

- Have a preseason physical and follow your physician's recommendations for preventing injuries.
- Maintain proper fitness - injury rates are higher in athletes who have not properly trained.
- After a period of inactivity, progress gradually back to full-contact basketball through aerobic conditioning, strength training, etc.
- An athlete should return to play only when cleared by a health-care professional.

The ACL (anterior cruciate ligament) is one of the four major ligaments of the knee. It connects the front of the tibia (shinbone) with the back of the femur (thighbone). It helps provide stability to the knee joint. Patients with torn ACLs often experience their knee "giving out."

Minor ACL tears can be treated nonsurgically. But significant ACL tears require an operation. An orthopaedic surgeon removes a tendon from the patient's knee and uses it to replace the torn ligament.

Tonino said surgical instruments and techniques are improving, and ACL surgery is becoming less invasive. But the operation still requires six

months of rehabilitation. ACL injuries also can involve torn cartilage, which can limit motion and lead to arthritis.

"Unfortunately, a reconstructed knee will never be as good as the God-given knee," Tonino said. "So we should be doing all we can to prevent these injuries in the first place."

Provided by Loyola University Health System

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