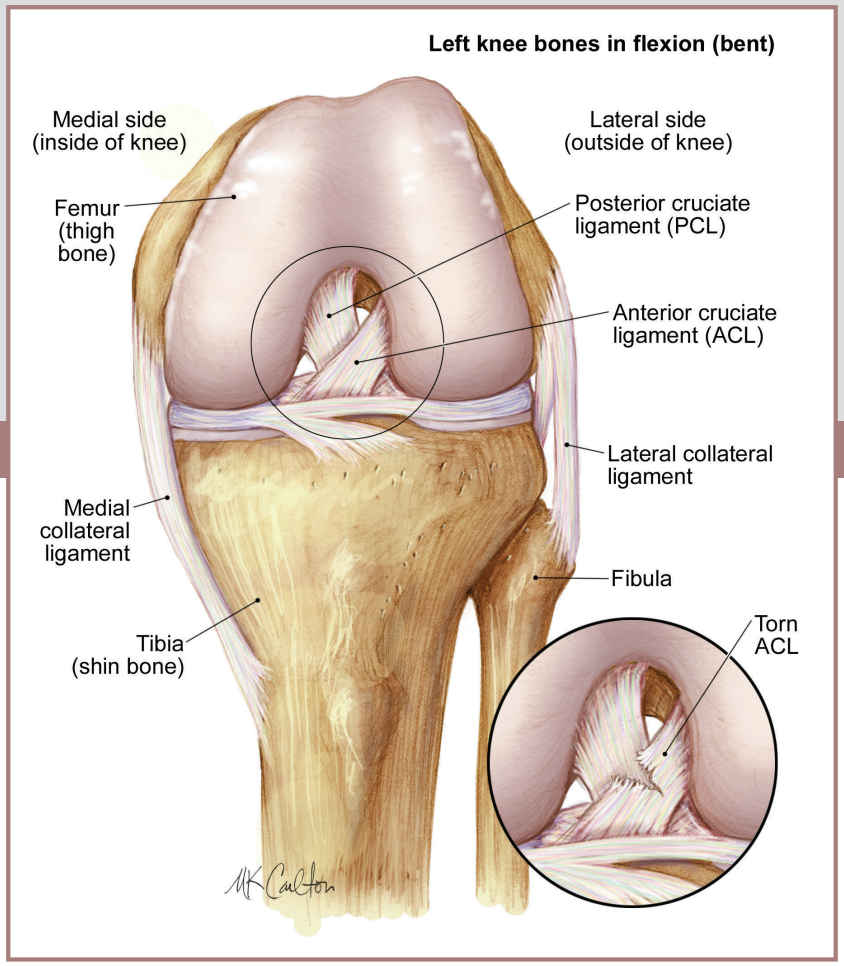
ACL INJURIES IN YOUNG ATHLETES

ACL (anterior cruciate ligament) knee injuries can cause many problems for kids who play sports. Besides the chance of having to sit out an entire season, they might face loss of scholarship funding, lowered academic performance, [1] and long-term disability from osteoarthritis (a painful joint condition). More than 50,000 debilitating ACL injuries occur in female athletes at the high school and intercollegiate varsity levels in an average year.



WHY DO ACL INJURIES OCCUR IN KIDS?

Most ACL tears do not occur from player-to-player contact. The most common causes of noncontact ACL injury include: change of direction or cutting maneuvers combined with sudden stopping, landing awkwardly from a jump, or pivoting with the knee nearly fully extended when the foot is planted on the ground.

ACL INJURIES

WHO IS AT RISK FOR AN ACL INJURY?

There is no definitive link between age and gender, and the rising rates of ACL injuries. However, landing, cutting, and pivoting maneuvers have been shown to differ between male and female athletes. For example, some female soccer players may perform playing actions with more of a knock-kneed position, or a reduced hip and knee joint range of motion, or decreased hamstring strength, any of which may underlie their increased risk for an ACL injury.

HOW CAN AN ACL INJURY BE PREVENTED?

It is difficult to assess how athletes can best modify their movements to prevent noncontact ACL injuries. Speaking with an athletic trainer, physical therapist, or sports medicine specialist is a good place to start. Recent research has allowed therapists and clinicians to easily identify and target weak muscle areas (e.g., weak hips, which leads to knock-kneed landing positions) and identify ways to improve strength and thus help prevent injury. In addition, other risk factors such as reduced hamstring strength and increased joint range of motion can be further assessed by a physical therapist or athletic trainer to improve performance—or rehabilitation efforts after an injury has occurred.

Current studies also demonstrate that specific types of training, such as jump routines and learning to pivot properly, help athletes prevent ACL injuries. These types of exercises and training programs are more beneficial if athletes start when they are young. It may be optimal to integrate prevention programs during early adolescence, prior to when young athletes develop certain habits that increase the risk of an ACL injury.

SUMMARY

There are several factors that determine whether or not a young athlete will get an ACL injury. Preseason screening programs that monitor important risk factors and identify young "high-risk" athletes who would benefit from targeted neuromuscular training interventions may be the most beneficial way to reduce the risk of ACL injuries in young athletes.

EXPERT CONSULTANTS

Teri McCambridge, M.D.
Gregory D. Myer, Ph.D.

REFERENCES

[1]Orthopedics, January 2010 - Volume 33 · Issue 1

STOP SPORTS INJURIES