

Children with ACL injuries require special treatment

February 6 2013

Until a child's bones have fully matured (in girls, typically by age 14; in boys, age 16), an injury to the anterior cruciate ligament (ACL)—the primary, stabilizing ligament of the knee joint—requires special consideration, treatment and care to ensure appropriate healing and to prevent long-term complications.

According to a review article in the February 2013 issue of the [Journal of the American Academy of Orthopaedic Surgeons](#) (JAAOS), ACL injuries once were considered rare in children and adolescents. However, the number of ACL injuries in young athletes is on the rise, "whether they result from year-round training, less free play or increased single sport concentration," said lead study author and pediatric orthopaedic surgeon Jeremy Frank, MD, with Joe DiMaggio Children's Hospital's Department of Pediatric Orthopaedics and [U18] Sports Medicine in Hollywood, Fla.

To avoid potential future complications, such as early onset osteoarthritis, the literature review outlines the [optimal strategies](#) for treating pediatric ACL injuries based on the specifics of the injury and the child's skeletal (bone), age and developmental maturity.

Among the recommendations:

- Children should be treated by an orthopaedic surgeon who has expertise in the operative treatment of pediatric [ACL injuries](#).

- For pediatric and [adolescent patients](#) with partial ACL tears compromising less than 50 percent of the diameter of the ligament, non-surgical management, including activity modification, bracing and/or physical therapy, can be considered.
- Treatment for complete ACL ruptures typically involves transphyseal ACL reconstruction surgery that partially or completely spares the femoral physis (the growth plate, contributing to 70 percent of thigh-bone growth), and adult-type surgical or arthroscopic reconstruction in adolescents at or nearing skeletal maturity.
- Postoperative management may include weight-bearing and activity modifications, bracing, and a progressive physical therapy program emphasizing range of motion (ROM), closed-chain strengthening (exercises on the knee while the foot remains stationary) and a gradual and measured return to sport-specific maneuvers and activities.

"There are currently numerous safe and effective surgical techniques to reconstruct the ACL in the skeletally immature sports person to restore stability and forestall the early progression towards meniscal and chondral (cartilage) pathologies (disease)," said Dr. Frank. Complications from ACL surgery are rare in children when the appropriate operation is performed on the right patient.

Provided by American Academy of Orthopaedic Surgeons

Citation: Children with ACL injuries require special treatment (2013, February 6) retrieved 26 April 2024 from <https://medicalxpress.com/news/2013-02-children-acl-injuries-require-special.html>

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