

Early ACL surgery in kids would save money and prevent secondary injuries, study says

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Nearly \$30 million a year would be saved in hospital charges if early rather than delayed ACL (anterior cruciate ligament) reconstruction surgery was performed on pediatric patients, according to a study presented today at the American Orthopaedic Society for Sports Medicine's (AOSSM) Annual Meeting in Providence, Rhode Island. Additionally, more than 7,300 tears to the meniscus and 7,800 cartilage tears in children could be avoided each year in the U.S. by early ACL surgery.

"The timing of pediatric and adolescent ACL surgery has historically been controversial," said Theodore J. Ganley, MD, Director of [Sports Medicine](#) and Associate Professor at the Children's Hospital of Philadelphia. "The theoretical risks of growth disturbance in younger patients are balanced against the risk of further knee damage related to delaying treatment until closer to skeletal maturity."

The goal of ACL knee surgery is to stabilize the knee allowing patients get back to a healthy, active lifestyle. Long-term, the surgery aims to prevent instability and additional damage to the knee.

A 14 year review of ACL reconstructions presented by the authors at the 2009 AOSSM Annual Meeting revealed a 4 to 11-fold increase in meniscal and cartilage injuries with a greater than 12 week delay in ACL treatment.

In the current study, a model for pediatric ACL reconstruction was

developed based on probabilities derived from the ACL review. Identical groups of 100,000 patients, representative of the U.S. population were simulated to undergo either early or delayed ACL reconstruction, with the secondary meniscal and cartilage damage and hospital charges compared between the two groups.

"The decision tree and statistical modeling approach for the study created by my co-author Suneel Bhat, is unique in that it incorporates variability, thereby generating a [model simulation](#) of a large scale prospective study, which provides a way to generalize implications," said Dr. Ganley.

The simulation found that in females in the U.S., delaying ACL reconstruction beyond 12 weeks resulted in 1,560 medial meniscal tears and 2,100 cartilage tears relative to early surgery each year. In males, delayed surgery resulted in 3,300 medial meniscal tears and 5,720 cartilage tears relative to early surgery.

The study revealed that more than \$29.4 million would be saved in hospital charges for pediatric patients each year in the U.S. by reconstructing ACL tears early rather than delaying treatment.

Provided by American Orthopaedic Society for Sports Medicine

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