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## **Teenagers and ACL: Tears common and additional surgery likely**

ROSEMONT, Ill – Anterior cruciate ligament (ACL) injuries are one of the most common injuries to the knee. Each year thousands of patients undergo reconstructive surgery to repair these injuries. According to a new study published in the October 2009 issue of *The Journal of Bone and Joint Surgery (JBJS)*, the number of patients undergoing ACL reconstruction is increasing substantially and women and younger patients are more likely to need subsequent knee surgery following the initial repair.

The investigators analyzed surgical outcomes in the largest number of patients ever included in a study of ACL surgery and among their key findings was that patients younger than 20 years old, who had an ACL reconstructive surgery, had an 82 percent increased risk for additional ACL surgery.

"We found that patients younger than age 40 and female patients are both more likely to have subsequent knee surgery after ACL reconstruction," said study author Stephen Lyman, PhD, Director of Epidemiology and Biostatistics at the Hospital for Special Surgery in New York.

The study found that the younger the patient is at the time of the procedure, the more likely they are to need additional ACL surgery within one year after having their initial ACL reconstruction. Researchers observed the following trends:

- Patients 30 to 39 years old had a 19 percent increased risk for additional ACL surgery; and
- Patients 20 to 29 years old had a 43 percent increased risk for additional ACL surgery.

"We believe that younger patients may be at a higher risk for additional ACL surgery because they tend to be more active and this can lead to graft rupture," explains Dr. Lyman. He also says

younger patients may be less likely to adhere to rehabilitation restrictions when it comes to high-impact activity.

Study authors looked at more than 70,000 patients who had ACL reconstruction surgery from 1997 to 2006 in the state of New York. In addition to age, other factors contributed to an increased likelihood for subsequent surgery, for instance:

- Female patients are about 18 percent more likely than men to need subsequent knee surgery on one of their knees after ACL surgery; and
- Patients treated by 'lower-volume' surgeons and at 'lower-volume' hospitals also are at a higher risk for having subsequent knee surgery.

"This trend has also been demonstrated in other surgical disciplines including cardiac and cancer surgery," explains Robert Marx, MD, MSc, a co-author of the study and Professor of Orthopedic Surgery at the Hospital for Special Surgery. "ACL reconstruction is not an easy operation for someone who does not do it on a regular basis. Patients may wish to consider this information if they elect to undergo ACL reconstruction."

Hospitals and surgeons reviewed as part of this study were considered to be 'low-volume' when:

- Hospitals handled fewer than 24 ACL cases per year; or
- Surgeons performed fewer than 6 ACL operations a year.

Understanding the risk factors is important because re-injury, requiring subsequent surgery, can be associated with the development of arthritis explains Dr. Lyman. "Just like any medical procedure, there are potential complications with ACL reconstruction and this study gives patients an idea of how frequent those complications can be."

"We hope the new information we found will help inform patients about potential risk factors and help them make the best decisions possible in terms of their care," said Dr. Marx.

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