New Advances In Youth Sports Surgeries

The American Orthopaedic Society for Sports Medicine has recently made some interesting announcements regarding ACL and elbow surgeries. Eighty-four percent of children 18 and younger had successful clinical outcomes during an eight-year follow-up to repair a torn meniscus at the same time as reconstruction of the anterior cruciate ligament (ACL), according to a new study. The success of the meniscus repair, however, depended on whether the tear type was simple, complex or a “displaced bucket-handle,” the study found.

“We have a wealth of information regarding adults who have a meniscus tear repaired at the time of ACL reconstruction, but there was very little data regarding the pediatric population,” said Aaron Krych, chief resident, MD, Department of Orthopedic Surgery at the Mayo Clinic in Rochester, MN. “To our knowledge this is the largest study reported on the pediatric population.”

In the study, 99 patients (18 or younger) had a meniscus repair at the time of an ACL reconstruction between 1990 and 2005. Overall, patients had a 74 percent success rate of their meniscus tear. Patients with simple tears (one major tear) had an 84 percent successful repair rate. The success rate decreased to 59 percent for displaced bucket-handle tears (a tear around the rim of the meniscus, causing the central portion to displace into the joint) and 57 percent for complex tears (a tear that occurred in multiple planes). Two years after surgery, these patients had a freedom from failure rate of 90.9 percent; however, after 8 years, the rate decreased to 76.8 percent.

In evaluating knee function (limp, locking, instability, pain, swelling and trouble climbing stairs), the patients improved from a median score of 48 (in a range of 38-70) before surgery to 90 (range 52-100) after surgery. Rating the sporting activity level of patients on a scale of 0 – 10, with 10 being national elite competitive sports, and 0 being inability to perform daily activities, patients improved their activity level significantly to 6.2 from a 1.9.

Another study found that 95 percent of skeletally mature high school pitchers were satisfied with their “Tommy John” elbow reconstruction surgery. Almost as many, (94.7 percent) returned to competitive baseball. Tommy John surgery is a procedure where a damaged elbow ligament (ulnar collateral ligament or UCL) is replaced with a tendon from elsewhere in the body. The surgery is named for Hall of Fame pitcher Tommy John, who was the first person to have the surgery in 1974. John returned to the major leagues and went on to win 164 games after the surgery. Prior to this historic surgery, a UCL injury was a career-ending injury.

“High school kids have been a grey zone for this surgery,” said Michael J. Angel, MD, of Premier Orthopaedics of Westchester and Rockland. “Obviously, surgeons would avoid surgery on young patients whose growth plates had not closed. But this study

can give surgeons the confidence to recommend this surgery to teenage skeletally mature athletes. It also gives the teen and their parents assurance that the surgery should go well."

In the study, 20 high school baseball pitchers between 16 – 18 years old had the UCL surgery, 19 out of 20 reported being satisfied with the surgery. Eighteen of the 19 satisfied patients (94.7 percent) reported that they returned to competitive baseball. Of the 19 players, three reported that their highest level of competition was in the minor leagues, another 13 went on to play intercollegiate baseball and three returned to high school baseball.

Overuse injuries account for nearly 50 percent of all sports injuries in middle school and high school students, according to the National Center for Sports Safety. For high school athletes whose growth plates have closed, this study shows that the Tommy John UCL reconstruction is a successful option for teenage baseball pitchers who need it.

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