



## Long-Term Outcomes Are the Same Regardless of Age in Patients Having Meniscal Suture Repair

Written by Maria Vinall

Meniscus tears are among the most common orthopedic injuries. Because removal of the tissue surrounding the torn meniscus can lead to reduced protection of the surrounding articular cartilage, there has recently been an increasing preference for repair. In the past 7 years in the United States, meniscus repair procedures have increased, while the number of meniscectomies has stayed the same [Abrams GD et al. *Am J Sports Med* 2013]. Varying rates of failure have been reported, however, and it is unclear whether age is a factor in procedural failure.

Karen K. Briggs, MPH, The Steadman Clinic and Steadman Philippon Research Institute, Vail, Colorado, USA, reported the results of a study that assessed long-term outcomes following meniscus suture repair in patients aged <40 years compared with those aged ≥40 years. After 16 years of follow-up, there were no differences in outcomes; both groups were high functioning with similarly high levels of satisfaction.

This was a prospective data registry study of meniscus repairs by a single surgeon between 1992 and 2003 in patients aged <40 years (group 1) and those aged ≥40 years (group 2). All patients aged ≥18 years who underwent meniscus suture repair using the inside-out technique were included. Patients were excluded if they were <18 years of age, underwent previous meniscal surgery, had associated fractures, or had multiligamentous knee injuries.

Outcomes were measured after a minimum of 10 to 22 years of follow-up and included the Medical Outcomes Study 12-Item Short-Form Health Survey Physical Component Score and Mental Component Score, condition-specific outcomes measured by the Lysholm score, the International Knee Documentation Committee Subjective Knee Evaluation Form, and the Western Ontario and McMaster Universities Arthritis Index. Patient satisfaction was measured using a scale ranging from 1 to 10, with 10 indicating “very satisfied.”

Group 1 included 142 patients (97 men, 45 women) with a mean age of 27.5 years (range: 18–40 years). Fifty-one of these patients (36%) required subsequent surgery at a mean of 5.1 years (range: .8–19.5 years) after their initial surgery. Thirteen patients had surgery <1 year after the initial repair, while 15 patients had surgery >10 years after the initial repair.

Group 2 included 49 patients (26 men, 23 women) with a mean age of 49.9 years (range: 40.0–70.6 years). Nineteen of these patients (39%) required subsequent

surgery: 3 total knee arthroplasties at a mean time of 11.5 years (range: 9.8–14 years) and 16 arthroscopies at a mean time of 7.6 years (range: .8–16.5 years) after the initial surgery. Four patients had surgery <1 year after the initial repair, while 6 patients had surgery >10 years after repair. There were no differences in outcome scores between the groups at ~16 years.

This study had limitations, including an uncontrolled referral population, different types of meniscus tears, and the interpretation of subsequent surgery. Despite these limitations, the authors concluded that there was a similar prevalence of subsequent procedures required in both age groups. There were no outcome differences between the groups, with high function and high patient satisfaction being reported by most patients at an average of 16 years following meniscus suture repair.

## Second-Generation Meniscal Repair Systems as Effective as First Generation

Written by Maria Vinall

Second-generation suture-based devices for meniscal repair appear to have overcome some of the complications associated with first-generation all-inside designs, but there have been no outcome studies of these second-generation systems beyond 3 years. Ljiljana Bogunovic, MD, Washington University in St. Louis, St. Louis, Missouri, USA, discussed the results of a retrospective review of 83 consecutive meniscus repairs (either isolated or combined with anterior cruciate ligament reconstruction [ACLR]), which reported an 84% success rate with a second-generation all-inside repair system at a minimum of a 5-year follow-up. The success of the repair was similar for isolated repairs and for those performed in conjunction with ACLR. Patient age or sex did not affect the outcome.

Patients were identified by billing records as well as the Multicenter Orthopedic Outcomes Network database. A single sports-fellowship-trained surgeon using the FasT-Fix all-inside repair device performed the repairs arthroscopically. Sutures were placed until the desired stability was achieved. All tears were either longitudinal or bucket-handle in orientation, and involved either the red/red or red/white meniscal zones. Patients with isolated tears were weight bearing as tolerated in a knee immobilizer for 6 weeks postoperatively. Patients with combined ACLR were weight bearing as tolerated without bracing. *Failure* was defined as repeat surgical intervention requiring revision, repair, or resection. Failure information was obtained by telephone interview