Abstract: A recent randomized trial from the Finnish Degenerative Meniscal Lesion Study Group was published in the *New England Journal of Medicine* and attempted to determine the efficacy of partial meniscectomy without osteoarthritis. Patients were randomized to either arthroscopic partial meniscectomy or sham surgery. The authors concluded that the clinical outcomes after arthroscopic partial meniscectomy were no better than those after the sham surgical procedure. However, there are several important limitations of this trial that make it difficult to generalize to the 700,000 arthroscopic partial meniscectomies performed in the United States each year. In this small sample of 146 patients, patients with traumatic meniscal tears and locking symptoms—those most likely to benefit from a partial meniscectomy—were excluded. In addition, although patients with radiographic arthritis were excluded, most of the patients in the study had degenerative changes at the time of arthroscopy. Therefore it is difficult to determine whether the patients were symptomatic from their chondral degeneration or their degenerative meniscal tear. In our opinion this study does not change the role of surgery in current clinical practice. The primary indication for arthroscopic partial meniscectomy remains symptoms of well-localized joint line pain with acute onset and mechanical symptoms such as catching or locking that have failed comprehensive nonoperative management.
products and degradative enzymes, which would have benefited both treatment groups. In addition, patients were asked to rate their pain after “exercise” within a 1-week period preceding the question without a definition of “exercise activity.” Lower-demand activities cause fewer knee symptoms, and a previous study suggested that patients modify their activity level according to comfort and tolerance.

Careful consideration of the inclusion and exclusion criteria is warranted to understand the type of patients being treated with arthroscopic knee surgery. Similar to the studies by Moseley et al. and Kirkley et al., Sihvonen et al. excluded patients with traumatic meniscal tears and patients with locking symptoms. Because these are the patients who could be helped most by arthroscopic partial meniscectomy, it is difficult to draw definitive conclusions from the small subset of remaining patients. In cases without an acute onset or mechanical symptoms, it can be difficult to determine whether the meniscal tear is the major source of symptoms or whether the pain is due to another cause, such as cartilage degeneration. The authors did perform a post hoc analysis that attempted to stratify patients with an acute onset of symptoms, but as the authors rightly acknowledge, it is difficult to draw any significance from such small numbers (only 10 patients had a sudden onset of symptoms in the arthroscopic partial meniscectomy group of only 14 patients in the sham surgery group). It is also important to note that patients with greater than 4 years of chronic knee pain were included in this study.

Sihvonen et al. attempted to exclude patients with OA, defined as preoperative radiographic degenerative changes (Kellgren-Lawrence grade >1). However, the classification of “no knee arthritis” is misleading because 80% of patients in the arthroscopic partial meniscectomy group had chondral degeneration at the time of arthroscopy. These patients were diagnosed with either degenerative changes (defined by the authors as a single grade 2 lesion or a grade 1 lesion in ≥2 compartments) or OA (defined by the authors as International Cartilage Repair Society grade 3 or 4). In comparison, 67% of patients in the sham group had degenerative or osteoarthritic chondral degeneration. In addition, although magnetic resonance imaging (MRI) studies were obtained for all patients, they were not used to exclude or stratify patients according to important markers of arthritis, such as subchondral edema or chondromalacia. Six patients were actually excluded at the time of diagnostic arthroscopy because they did not actually have a meniscal tear. This adds to the inclusion bias and brings into question the quality of the preoperative MRI accuracy. Lastly, patients were assessed for “meniscal signs” based on medial joint line tenderness, which does not distinguish meniscal pain from symptomatic cartilage degeneration.

We believe that a surgeon should treat the patient’s symptoms and not perform surgery based solely on the results of MRI findings. A carefully taken history, physical examination, and standing radiographs still remain the most important diagnostic tools. The primary indication for arthroscopic surgery includes distinct presenting symptoms of well-localized joint line pain with acute onset and mechanical symptoms such as catching or locking that have failed comprehensive nonoperative management. Sihvonen et al. are to be commended for their contribution of Level I Evidence to the literature, but the small subset of patients, including those with atraumatic tears, cartilage degeneration, and no mechanical symptoms, does not reflect most arthroscopic partial meniscectomy procedures.

References