



Figure 1. Example of an osteoarthritic knee

During the last decade there has been much debate, both scientific and public, on the effects of arthroscopic surgery in the arthritic knee.

This summary provides Mr. Vioreanu current evidence based opinion on the arthroscopic treatment of knee OA.

Prior to 2002, there were no rigorous, adequately powered Randomized Control Trials (RCT) of arthroscopic surgery versus non-operative therapy for knee OA.

Since 2002, six RCT's of arthroscopic management of knee OA have been published, two focusing on the efficacy of arthroscopic debridement and lavage on pain and function and four on the efficacy of arthroscopic partial meniscectomy in patients with symptomatic meniscal tear and underlying mild to moderate knee OA.

These studies showed that arthroscopic debridement for OA was no better than a sham procedure in relieving knee pain or improving functional status, and that patients who underwent arthroscopic partial meniscectomy (AMP) for a degenerative meniscal tear generally did not show more improvement than those who underwent sham meniscal resection or an intensive course of physical therapy (PT).

Mr. Vioreanu does not recommend arthroscopic knee surgery as part of the management of knee osteoarthritis.

Aggressive non-operative modalities including physical therapy, home exercises, non-impact loading exercise, weight reduction, anti-inflammatories and simple analgesics remain the main stay of treatment and avoid the potential complications of operative treatment. These options will be discussed at length during consultation.

The latest American Academy of Orthopaedic Surgeons (AAOS) Guidelines (2013) for treatment of knee osteoarthritis does NOT recommend performing arthroscopy with lavage and/or debridement in patients with primary diagnosis of symptomatic osteoarthritis of the knee. The strength of the recommendation, based on the quality of the reviewed evidence is strong.

RATIONALE FOR TREATMENT – Review of Evidence

Trials for Arthroscopic debridement and lavage for knee OA

1. Mosely study

A controlled trial of arthroscopic surgery for osteoarthritis of the knee. N Engl J Med. 2002

This study fundamentally altered the role of arthroscopic surgery in patients with knee OA. Planning to test the efficacy of the surgery and recognising that surgery also may have a placebo-like effect, the authors designed the study with a sham control and strict blinding of subjects and assessors. 180 patients were randomly allocated to 3 treatment groups: arthroscopic debridement and lavage, arthroscopic lavage alone, or sham surgery.

The sham surgery consisted of patients having an anaesthetic, receiving skin incisions, and undergoing a simulated operation without insertion of the arthroscope. All patients provided an informed consent prior to entering the study. Follow-up at 2 years found little improvement in patients in each of the 3 groups and no statistically significant difference between the groups as assessed by specific pain and function scores. At no point were there clinically important differences among the three arms.

The Moseley trial has left an enormous legacy. It established that arthroscopic lavage and debridement were no better than sham surgery in the management of OA. Because the study did not include an arm that received no surgical intervention at all, the investigators were unable to comment on whether simply doing surgery (real or sham) was more efficacious than a non-operative placebo intervention.

2. Kirkley study

A randomized trial of arthroscopic surgery for osteoarthritis of the knee. N Engl J Med. 2008

Kirkley and colleagues at University of Western Ontario, Canada, performed another pivotal study of the efficacy of arthroscopy for knee OA. Subjects were randomised to either a standardised physical therapy (PT) regimen or the PT regimen along with arthroscopic debridement. While the surgical group had an initial improvement in symptoms compared to the PT group at the 3-month follow-up visit, there were no differences in improvement between the two groups at any subsequent visits.

As also observed by Moseley, this trial did not identify a statistically significant or clinically meaningful difference in pain or functional status between those randomised to the PT regimen and those randomised to arthroscopic partial meniscectomy (APM) along with PT. Thus, the Kirkley study also failed to demonstrate that arthroscopic debridement is superior to a typical PT regimen in patients with moderately advanced OA.

Trials for Arthroscopic Partial Meniscectomy (APM) for Degenerative Meniscal Tears in mild or moderate OA.

The Moseley and Kirkley publications made it abundantly clear that arthroscopic lavage and debridement were no more effective than sham surgery or physical therapy in the management of symptomatic OA. However, the major indication for arthroscopy in the setting of knee OA is symptomatic meniscal tear. Patients often present with a diagnosis of meniscal tear based on the MRI report. The question of whether surgery is more effective than a standardised non-operative regimen in patients with symptomatic meniscal tear and concomitant knee OA remained unanswered even after the publication of these two landmark studies.

Four RCT's have been published in the last several years that begin to address the question about the role of surgery in patients with meniscal tear and concomitant OA. Patients across all these studies were randomized to receive either PT alone focused on strengthening or APM followed by PT. The results documented that subjects in both groups improved considerably in the first 6 months with no statistically significant or clinically important differences between randomized groups at 6 and 12 months of follow-up.

The investigators suggested that their findings supported initial treatment with non-operative therapy in middle-aged individuals with symptomatic meniscal tear and concomitant OA, with subsequent surgery in those who failed to improve.