Arthroscopic Lavage and Debridement for Osteoarthritis of the Knee Clinical Coverage Criteria

Overview

Osteoarthritis is a disease of the articular cartilage. When cartilage loss occurs, there may ultimately come to be bone on bone contact. Changes in structures around the joint (muscles and tendons), fluid accumulation and bony overgrowth (e.g., osteophytes or bone spurs) can develop. Articular cartilage has limited potential for regeneration or repair. There is no cure for osteoarthritis.

Osteoarthritis can affect any synovial joint. When it involves the knee joint it can cause severe chronic pain, loss of mobility, and disability. Treatment is focused on education, physical and occupational therapy, weight transfer modalities, joint protection and pharmacologic therapy. Patients with severe symptomatic osteoarthritis and limitation in activities of daily living should be referred to an orthopedic surgeon for evaluation. Knee joint replacement (knee arthroplasty) provides marked pain relief and functional improvement in most patients with osteoarthritis of the knee. Prosthetic implants have a limited life expectancy depending upon an individual's age, weight, activity level and medical condition. Revision arthroplasty is difficult, and outcomes of revision arthroplasty are not comparable to outcomes for primary arthroplasty.

Arthroscopy is a minimally invasive procedure that allows direct visualization of the interior of a joint. Knee arthroscopy allows orthopedic surgeons to assess - and in some cases, treat - a range of conditions affecting the knee joint. Reconstruction of the anterior cruciate ligament (ACL) and repair of a torn meniscus are among the most performed arthroscopic surgeries. Injuries to both the ACL and the menisci are common, particularly in young athletes. (Torn menisci are also seen in older patients as the result of degeneration.) Arthroscopic lavage and arthroscopic debridement have been proposed as options for patients with osteoarthritis of the knee to reduce pain and improve function, postponing knee joint replacement.

1. Arthroscopic lavage or “washout” consists of flushing the knee joint with up to 10 liters of fluid. Any intraarticular debris is washed out through arthroscopic cannulas. In contrast to arthroscopic debridement, no instruments are used to mechanically debride or remove intraarticular tissue.
2. Arthroscopic debridement may include low volume lavage. Debridement is a general term which is used to cover many arthroscopic procedures including partial synovectomy, decompression and resection of plicae/adipose tissue, partial menisectomy, chondroplasty, removal of loose bodies, and/or osteophyte removal.

Knee arthroscopy may be employed for diagnostic purposes alone on rare occasions, and has important roles including articular cartilage restoration, synovial biopsy, synovectomy, loose body removal, lateral release or patellar realignment, manipulation under anesthesia, acute trauma, and/or lysis of adhesions for arthrofibrosis; however, this policy does not address these indications.

Policy

This Policy applies to the following Fallon Health products:

☒ Fallon Medicare Plus, Fallon Medicare Plus Central (Medicare Advantage)
☒ MassHealth ACO
☒ NaviCare HMO SNP (Dual Eligible Medicare Advantage and MassHealth)
☒ NaviCare SCO (MassHealth-only)
☒ PACE (Summit Eldercare PACE, Fallon Health Weinberg PACE)
☒ Community Care (Commercial/Exchange)

Fallon Health Clinical Coverage Criteria

Fallon Health Clinical Coverage Criteria apply to Community Care.

Fallon Health's Technology Assessment Committee has concluded that the scientific evidence has not shown that arthroscopic lavage, arthroscopic debridement, or arthroscopic lavage and debridement improves health outcomes for patients with osteoarthritis of the knee. Randomized controlled studies demonstrating a clinically significant benefit for arthroscopic lavage and/or arthroscopic debridement when compared to a control group are lacking.

Fallon Health does not cover arthroscopic lavage, arthroscopic debridement, or arthroscopic lavage and debridement for the treatment of osteoarthritis of the knee because this procedure has not been shown to improve patient outcomes, specifically reduction in knee pain or improvement of knee function when compared to a control group.

Medicare Variation

Medicare statutes and regulations do not have coverage criteria for arthroscopic lavage and debridement for osteoarthritis of the knee. Medicare has an NCD for Arthroscopic Lavage and Arthroscopic Debridement for the Osteoarthritic Knee (150.9), Version Number 1, Effective Date of this Version 06/11/2004. National Government Services, Inc., the Part A/B Medicare Administrative Carrier with jurisdiction in the Plan's service area does not have an LCD for arthroscopic lavage and debridement for osteoarthritis of the knee (Medicare Coverage Database search 05/26/2025).

Medicare criteria for arthroscopic lavage and/or arthroscopic debridement are not fully established for the subpopulation of patients without severe osteoarthritis of the knee who present with symptoms other than pain alone.

Link: **NCD for Arthroscopic Lavage and Arthroscopic Debridement for the Osteoarthritic Knee (150.9)**, Version Number 1, Effective Date of this Version 06/11/2004

A. Nationally Covered Indications
N/A

B. Nationally Noncovered Indications
The clinical effectiveness of arthroscopic lavage and arthroscopic debridement for the severe osteoarthritic knee has not been verified by scientifically controlled studies. After thorough discussions with clinical investigators, the orthopedic community, and other interested parties, CMS determines that the following procedures are not considered reasonable or necessary in treatment of the osteoarthritic knee and are not covered by the Medicare program:

- Arthroscopic lavage used alone for the osteoarthritic knee;
- Arthroscopic debridement for osteoarthritic patients presenting with knee pain only; or,
- Arthroscopic debridement and lavage with or without debridement for patients presenting with severe osteoarthritis.

  Severe osteoarthritis is defined in the Outerbridge classification scale, grades III and IV. Outerbridge is the most commonly used clinical scale that classifies the severity of joint degeneration of the knee by compartments and grades. Grade I is defined as softening or blistering of joint cartilage. Grade II is defined as fragmentation or fissuring in an area 1 cm.

Grade IV refers to cartilage erosion down to the bone. Grades III and IV are characteristic of severe osteoarthritis.

C. Other
Apart from the noncovered indications above for arthroscopic lavage and/or arthroscopic debridement of the osteoarthritic knee, all other indications of debridement for the subpopulation of patients without severe osteoarthritis of the knee who present with symptoms other than pain alone, remain at local contractor discretion; i.e.: (1) mechanical symptoms that include, but are not limited to, locking, snapping, or popping (2) limb and knee joint alignment, and (3) less severe and/or early degenerative arthritis. Medicare contractors may require submission of one or all of the following documents to define the patient's knee condition:

- Operative notes,
- Reports of standing x-rays, or,
- Arthroscopy results.

MassHealth Variation

MassHealth has Guidelines for Medical Necessity Determination for Knee Arthroscopy (MassHealth website search 05/26/2025). MassHealth does not consider knee arthroscopy to be medically necessary for osteoarthritis of the knee when this is the sole diagnosis.

Exclusions

- Fallon Health excludes arthroscopic lavage and/or arthroscopic debridement to treat osteoarthritis of the knee.

Evidence Summary

Arthroscopic debridement (chondroplasty) is a procedure which involves the removal of cartilage or meniscal fragments, with the intention to improve symptoms and joint function in patients with mechanical symptoms such as locking or catching of the knee. Its effectiveness declines in arthritic joints, and it may be completely ineffective as a treatment option in knees with considerable osteoarthritis. Arthroscopic lavage involves the introduction of saline solution into the knee joint, washing out, debris or small, loose bodies from the osteoarthritic knee.

Arthroscopic knee surgery with meniscus resection is common for middle aged or older people with persistent knee pain. The knees of these patients often show "degenerative" lesions of cartilage, meniscus, and other tissues, suggestive of osteoarthritis. However, population-based studies using magnetic resonance imaging show that incidental findings of such lesions are also very common among people without knee symptoms and among those without plain radiographic signs of osteoarthritis, suggesting that the clinical significance of such findings is unclear (Thorlund et al., 2015).

Arthroscopic surgery in the middle aged and older population with knee pain represents most arthroscopies and is routinely performed based on a suspected meniscal tear by clinical examination or as diagnosed by magnetic resonance imaging, the reasoning being that the pain is associated with the meniscal tear. However, meniscal tears and other structural abnormalities (such as osteophytes, cartilage damage, and bone marrow lesions) are characteristics of knee osteoarthritis, often coexist, and are common findings in painful knees but also commonly occur in pain-free knees in middle aged and older people. Such joint damage is often present without a history of distinct trauma but is of a "degenerative" nature and indicative of early knee osteoarthritis. Thus, middle aged patients with knee pain and meniscal tears should be considered as having early-stage osteoarthritis and be treated according to clinical guidelines for knee osteoarthritis, starting with information, exercise, and often weight loss (Thorlund et al., 2015).

Randomized Controlled Trials

Although arthroscopic surgery has been widely used for osteoarthritis of the knee, scientific evidence to support its efficacy is lacking. No benefit of surgery was shown in a large-scale,

randomized, controlled trial reported in the literature (Mosely et al., 2002). However, the methods used in that study have been questioned, and the authors' conclusion that arthroscopic surgery is ineffective for the treatment of moderate-to-severe osteoarthritis of the knee has not been generally accepted. Additional randomized, controlled trials comparing optimized physical and medical therapy alone with arthroscopic treatment in addition to optimized physical and medical therapy have been conducted.

Kirkley et al., 2008, conducted a single-center randomized controlled trial (N=92) of arthroscopic surgery in patients with moderate-to-severe osteoarthritis of the knee (ClinicalTrials.gov number NCT00158431). Patients were randomly assigned to surgical lavage and arthroscopic debridement together with optimized physical and medical therapy or to treatment with physical and medical therapy alone. The primary outcome was the total Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) score (range, 0 to 2400; higher scores indicate more severe symptoms) at 2 years of follow-up. Secondary outcomes included the Short Form-36 (SF-36) Physical Component Summary score (range, 0 to 100; higher scores indicate better quality of life). Of the 92 patients assigned to surgery, 6 did not undergo surgery. Of the 86 patients assigned to control treatment, all received only physical and medical therapy. After 2 years, the mean (±SD) Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) score for the surgery group was 874±624, as compared with 897±583 for the control group (absolute difference [surgery-group score minus control-group score], −23±605; 95% CI: −208 to 161; P=0.22 after adjustment for baseline score and grade of severity). The Short Form-36 (SF-36) Physical Component Summary scores were 37.0±11.4 and 37.2±10.6, respectively (absolute difference, −0.2±11.1; 95% CI: −3.6 to 3.2; P=0.93). Analyses of WOMAC scores at interim visits and other secondary outcomes also failed to show superiority of surgery. At the end of 2 years, patients assigned to arthroscopic treatment in addition to optimized physical and medical therapy had no greater improvement in WOMAC scores than did those who received only physical and medical therapy. Patients assigned to surgery did have a greater improvement in WOMAC scores within the first 3 months; however, this transient benefit was anticipated, since sham surgery is associated with a large, short-term placebo effect. WOMAC scores at all other time points did not significantly differ between the groups. In addition to WOMAC scores, a broad range of validated patient-reported outcomes was assessed at multiple time points. None of these instruments identified a benefit of arthroscopic treatment. At the end of 2 years, patients assigned to arthroscopic treatment in addition to optimized physical and medical therapy had no greater improvement in WOMAC scores than did those who received only physical and medical therapy. Patients assigned to surgery did have a greater improvement in WOMAC scores within the first 3 months; however, this transient benefit was anticipated, since sham surgery is associated with a large, short-term placebo effect. WOMAC scores at all other time points did not significantly differ between the groups. In addition to WOMAC scores, a broad range of validated patient-reported outcomes was assessed at multiple time points. None of these instruments identified a benefit of arthroscopic treatment. The results of this randomized, controlled trial show that arthroscopic surgery provides no additional benefit to optimized physical and medical therapy for the treatment of osteoarthritis of the knee.

The results from Kirkley et al. are in agreement with the previously published findings of Moseley et al. in 2002. That trial, which was conducted by a single surgeon at a Veterans Affairs hospital, was methodologically rigorous since use of a sham-operation control allowed concealment of the treatment assignment. Nevertheless, several methodologic issues were raised that are addressed in the Kirkley et al. study. For example, the outcome measure in the study by Moseley et al., the Knee Specific Pain Scale, was not validated. Kirkley et al. used the WOMAC score, a validated instrument that has been widely used in osteoarthritis research, as the primary measure of efficacy. Patients with substantial malalignment (varus or valgus deformity) and those with advanced disease, who might have a poorer response to surgical intervention,7,11 were included in the earlier trial; we excluded patients with more than 5 degrees of malalignment and stratified the randomization according to both surgeon and Kellgren– Lawrence grade of radiographic severity. Moseley and colleagues evaluated mostly older men who were treated in a Veterans Affairs Medical Center. In contrast, Kirkley et al. evaluated a more typical population of both men and women who were treated in a university hospital. Seven experienced arthroscopists

performed lavage, debridement, or both at their discretion. Thus, the authors believe that their results are highly generalizable to usual orthopedic practice.

Gauffin et al., 2014, conducted a single center randomized controlled trial (N=150) to determine whether an arthroscopic intervention combined with a structured exercise program would provide more benefit than a structured exercise program alone for middle-aged patients (ages 45 to 64 (mean:54 ± 5) with meniscal symptoms that have undergone physical therapy (symptom duration more than 3 months). Participants were randomized to: (1) a physical therapy appointment within 2 weeks of inclusion that included instructions for a 3-month exercise program (non-surgery group); or (2) the same as (1) plus, within 4 weeks of inclusion, knee arthroscopy for resection of any significant meniscal injuries (surgery group). The primary outcome was change in pain at 12 months, assessed with the Knee Injury and Osteoarthritis Outcome Score (KOOS PAIN). Patients were informed that they had the opportunity to cross over to knee arthroscopy or to decline arthroscopy, according to their preferences. Of the 75 patients who initially were randomised to surgery, 66 had surgery (56 had partial meniscal resection, two had removal of degenerated joint cartilage fragments, one had resection of loose bodies, one had synovectomy, one had partial resection of ACL remnants and eight were judged not to need a surgical treatment). Of the 75 patients who initially were randomised to nonsurgical treatment, 16 crossed over and had surgery (11 had partial meniscal resection, one had resection of loose bodies, one had microfracture, one had partial resection of ACL-remnants, one was judged not to need a surgical treatment and there was missing information for two patients). As a standard, shaver was not used at meniscal resection. At the arthroscopic surgery, three patients (two initially randomised to surgery and one cross-over) were diagnosed to have a total rupture of the anterior cruciate ligament. In the Intention-To-Treat analysis, both treatment groups improved significantly in KOOS PAIN, at 12-month follow-up ($P < 0.001$). The change in KOOS PAIN was significantly larger in the surgery group than the non-surgery group (between-group difference in change: 10.6 points, 95% CI: 3.4 to 17.7; $P = 0.004$), with a medium effect size of 0.51. Both interventions had a significant, main effect on the change in KOOS PAIN. Age, categorized as ‘under 55 years’ or ‘55 and older’, had a significant main effect on KOOS PAIN, after controlling for the intervention. In both groups, older patients exhibited larger improvements than younger patients did. In the Intention-To-Treat analysis, both groups reported higher symptom satisfaction and higher activity levels at 12 months, compared to baseline. The changes in functional assessments were not significantly different between the groups. Despite the superior results for the arthroscopic surgery group, both intervention groups showed clinically-relevant improvements. The non-operative regimen in this study was designed to be structured but not excessive to the clinical routine as the aim of the study was to examine the effect of arthroscopic surgery and not the effect of exercise therapy. The exercise therapy may have been of too low dose since only 53% of the patients completed the exercise diary and on average, the patients performed 19 out of the 24 suggested training sessions. Consistent with these results, high quality studies have shown that exercise therapy had beneficial effects in patients with meniscal symptoms or knee OA (Fransen et al., 2015). In this study, arthroscopic surgery in addition to a structured exercise program had a larger effect compared to a structured exercise program alone. However, this study also had some limitations. The cross-over rate was 17%. Also, only 82% and 87% of patients completed the questionnaires at the 3- and 12-month follow-ups, respectively, indicating a small number of patients who were lost to follow-up that may have influenced the results.

Kise et al., 2016, conducted a randomized controlled trial comparing exercise therapy alone with arthroscopic partial meniscectomy alone in middle aged patients with degenerative meniscal tears. Follow-up assessments were performed at three, 12, and 24 months, with muscle strength at three months and patient reported outcomes at the two year follow-up as the primary end points. Whereas data at three and 12 months were collected during clinic visits, the follow-up at two years was conducted by mail, and only data on patient reported outcomes was collected. Inclusion criteria were age 35-60 years; unilateral knee pain for more than two months without a major trauma (defined as sudden onset of knee pain resulting from a single physical impact event); medial degenerative meniscal tear verified by magnetic resonance imaging; and, at most, radiographic changes equivalent to grade 2 according to the Kellgren-Lawrence classification.

The exercise therapy intervention consisted of progressive neuromuscular and strength exercises over 12 weeks, performed during a minimum of two and a maximum of three sessions each week (24-36 sessions). The participants filled in exercise diaries, and we assessed compliance with exercise as the total number of exercise sessions completed out of 24 sessions. The arthroscopic intervention was arthroscopic partial meniscectomy, and the participants followed normal preoperative, perioperative, and postoperative routines. The two primary endpoints were patient reported knee function at two years and thigh muscle strength at three months. The primary patient reported endpoint was change from baseline to two years in $KOOS_4$, defined as the average score for four of the five knee injury and osteoarthritis outcome score (KOOS) subscale scores covering pain, other symptoms, function in sport and recreation, and knee related quality of life. KOOS is reliable and has content validity for patients with meniscal tears and osteoarthritis. Eligible patients were randomized 1:1 to the two treatment groups, each with 70 patients. Questionnaires were completed by 129 participants (92%) at three and 12 months and 126 (90%) at two years. In the exercise group, 43 out of 70 (61%) participants completed the exercise therapy program with satisfactory (17 participants) or excellent (26 participants) compliance. These participants on average completed 25 exercise sessions (median 25, range 19-36). Fifteen participants had poor compliance, 10 declined exercise therapy, and two had lost their exercise diaries. In the arthroscopic partial meniscectomy group, six participants out of 70 (9%) did not undergo surgery, owing to personal preference (one participant) or too few knee symptoms on the day of surgery (five participants). In the intention to treat analysis, there was no clinically relevant difference in change between groups from baseline to two year follow-up in $KOOS_4$ score (0.9 points, 95% confidence interval −4.3 to 6.1; P=0.72) after adjustment for baseline imbalance and randomization stratification factors. The mean improvements were 25.3 points (21.6 to 29.0) in the exercise group and 24.4 points (20.7 to 28.0) in the meniscectomy group. Sixty two participants in the exercise group and 64 in the meniscectomy group were included in the intention to treat analysis. Likewise, there were no clinically relevant differences between groups in KOOS4 score from baseline to follow-ups at 3 and 12 months. The results of per protocol and as treated analyses of between group differences in mean change from baseline to two year follow-up in $KOOS_4$ score were similar to those of the intention to treat analysis; the difference in the per protocol analysis was 2.2 points (−3.7 to 8.0; P=0.47) and in the as treated analysis was 2.0 points (−4.1 to 8.1; P=0.52), both in favor of the exercise group. The exercise group had significantly greater improvement in all muscle strength variables at three months ($P \leq 0.004$) (fig 3). Results were similar for the per protocol and as treated analyses. From baseline to the two year follow-up, no serious adverse events were recorded in either group. During the same period, 23% of the participants in each group experienced pain, swelling, instability, stiffness, or decreased range of motion in the index knee that was serious enough to seek consultation. The findings from this study confirm previous studies evaluating the patient reported effect of surgery in addition to exercise compared with exercise alone. In this study, only 4% of participants had definitive radiographic evidence of osteoarthritis. Thus, this study extends previous findings to patients with early or no radiographic evidence of osteoarthritis. Nineteen per cent of participants allocated to exercise therapy crossed over to surgery during the two year follow-up, with no additional benefit. Results of this study should encourage clinicians and middle aged patients with degenerative meniscal tear and no radiographic evidence of osteoarthritis to consider supervised structured exercise therapy as a treatment option.

Systematic Reviews

Thorlund et al., 2015, conducted a systematic review and meta-analysis of randomized controlled trials assessing benefit for arthroscopic surgery involving partial meniscectomy, debridement, or both for patients with and without radiographic signs of osteoarthritis. The search identified nine trials assessing the benefits of knee arthroscopic surgery in middle aged and older patients with knee pain and degenerative knee disease. All but one of the nine randomized clinical trials of arthroscopic surgery in middle aged or older people with persistent knee pain failed to show an added benefit of interventions including arthroscopic surgery over a variety of control treatments. The main analysis, combining the primary endpoints of the individual trials from three to 24 months postoperatively, showed a small difference in favor of interventions including arthroscopic

surgery compared with control treatments for pain (effect size 0.14, 95% confidence interval 0.03 to 0.26). This difference corresponds to a benefit of 2.4 (95% confidence interval 0.4 to 4.3) mm on a 0-100 mm visual analogue scale. When analyzed over time of follow-up, interventions including arthroscopy showed a small benefit of 3-5 mm for pain at three and six months but not later up to 24 months. No significant benefit on physical function was found (effect size 0.09, −0.05 to 0.24). Nine studies reporting on harms were identified. Harms included symptomatic deep venous thrombosis (4.13 (95% confidence interval 1.78 to 9.60) events per 1000 procedures), pulmonary embolism, infection, and death. The small inconsequential benefit seen from interventions that include arthroscopy for the degenerative knee is limited in time and absent at one to two years after surgery. Knee arthroscopy is associated with harm. Taken together, these findings do not support the practice of arthroscopic surgery for middle aged or older patients with knee pain with or without signs of osteoarthritis.

In 2022, the Cochrane Musculoskeletal Group conducted a review to assess the benefits and harms of arthroscopic surgery, including debridement, partial menisectomy or both, compared with placebo surgery or non-surgical treatment in people with degenerative knee disease (osteoarthritis, degenerative meniscal tears, or both). The review included randomised controlled trials (RCTs), or trials using quasi-randomised methods of participant allocation, comparing arthroscopic surgery with placebo surgery or non-surgical interventions (e.g. exercise, injections, non-arthroscopic lavage/irrigation, drug therapy, and supplements and complementary therapies) in people with symptomatic degenerative knee disease (osteoarthritis or degenerative meniscal tears or both). Major outcomes were pain, function, participant-reported treatment success, knee-specific quality of life, serious adverse events, total adverse events and knee surgery (replacement or osteotomy). Sixteen trials (2105 participants) met our inclusion criteria. The average age of participants ranged from 46 to 65 years, and 56% of participants were women. Four trials (380 participants) compared arthroscopic surgery to placebo surgery. For the remaining trials, arthroscopic surgery was compared to exercise (eight trials, 1371 participants), a single intra-articular glucocorticoid injection (one trial, 120 participants), non-arthroscopic lavage (one trial, 34 participants), non-steroidal anti-inflammatory drugs (one trial, 80 participants) and weekly hyaluronic acid injections for five weeks (one trial, 120 participants). The majority of trials without a placebo control were susceptible to bias: in particular, selection (56%), performance (75%), detection (75%), attrition (44%) and selective reporting (75%) biases. The placebo-controlled trials were less susceptible to bias, and none were at risk of performance or detection bias. In this review, the authors limit reporting to the main comparison, arthroscopic surgery versus placebo surgery.

- High-certainty evidence indicates arthroscopic surgery leads to little or no difference in pain or function at three months after surgery, moderate-certainty evidence indicates there is probably little or no improvement in knee-specific quality of life three months after surgery, and low-certainty evidence indicates arthroscopic surgery may lead to little or no difference in participant-reported success at up to five years, compared with placebo surgery.

- Mean post-operative pain in the placebo group was 40.1 points on a 0 to 100 scale (where lower score indicates less pain) compared to 35.5 points in the arthroscopic surgery group, a difference of 4.6 points better. Mean post-operative function in the placebo group was 75.9 points on a 0 to 100 rating scale (where higher score indicates better function) compared to 76 points in the arthroscopic surgery group, a difference of 0.1 points better.

- Mean post-operative knee-specific health-related quality of life in the placebo group was 69.7 points on a 0 to 100 rating scale (where higher score indicates better quality of life) compared with 75.3 points in the arthroscopic surgery group, a difference of 5.6 points better.

- After surgery, 74 out of 100 people reported treatment success with placebo and 82 out of 100 people reported treatment success with arthroscopic surgery at up to five years. The authors downgraded this evidence to low certainty due to serious indirectness (diversity in

definition and timing of outcome measurement) and serious imprecision (small number of events).

- The authors are less certain if the risk of serious or total adverse events increased with arthroscopic surgery compared to placebo or non-surgical interventions. The certainty of the evidence was low, downgraded twice due to serious imprecision (small number of events) and possible reporting bias (incomplete reporting of outcome across studies). Serious adverse events included death, pulmonary embolism, acute myocardial infarction, deep vein thrombosis and deep infection.

- Subsequent knee surgery (replacement or high tibial osteotomy) was reported in 2 out of 100 people in the control groups and 4 out of 100 people in the arthroscopy surgery groups at up to five years in four trials. The certainty of the evidence was low, downgraded twice due to the small number of events.

Evidence-Based Clinical Practice Guidelines

BMJ Rapid Recommendations: Arthroscopic surgery for degenerative knee arthritis and meniscal tears: a clinical practice guideline (Siemieniuk et al., 2017)

Approximately 25% of people older than 50 years' experience knee pain from degenerative knee disease. Management options include watchful waiting, weight loss if overweight, a variety of interventions led by physical therapists, exercise, oral or topical pain medications such as non-steroidal anti-inflammatory drugs, intra-articular corticosteroid and other injections, arthroscopic knee surgery, and knee replacement or osteotomy. The preferred combination or sequence of these options is not clear and probably varies between patients.

Degenerative knee disease is an inclusive term, which many consider synonymous with osteoarthritis. We use the term degenerative knee disease to explicitly include patients with knee pain, particularly if they are >35 years old, with or without:

- Imaging evidence of osteoarthritis
- Meniscus tears
- Locking, clicking, or other mechanical symptoms except persistent objective locked knee
- Acute or subacute onset of symptoms

Most people with degenerative arthritis have at least one of these characteristics. The term degenerative knee disease does not include patients having recent debut of their symptoms after a major knee trauma with acute onset of joint swelling.

Knee replacement is the only definitive therapy, but it is reserved for patients with severe disease after non-operative management has been unsuccessful. Some believe that arthroscopic debridement, including washout of intra-articular debris, with or without arthroscopic partial meniscectomy to remove damaged meniscus, may improve pain and function.

Arthroscopic knee surgery for degenerative knee disease is the most common orthopedic procedure in countries with available data and on a global scale is performed more than two million times each year. Arthroscopic procedures for degenerative knee disease cost more than $3 billion per year in the US alone. A high prevalence of features advocated to respond positively to arthroscopic surgery (such as meniscal tears, mechanical symptoms, and sudden symptom onset) as well as financial incentives may explain why arthroscopic knee surgery continues to be so common despite recommendations against its use for osteoarthritis. Further, patients may be frustrated with their symptoms, having tried several less invasive management strategies by the time that they see the surgeon, and in many cases, this may come with an expectation for surgical management. Moreover, many patients experience important and marked improvements after arthroscopy, which may be erroneously attributed to the effects of the procedure instead of the natural course of the disease, co-interventions, or placebo effects.

A randomized controlled trial published in *The BMJ* in June 2016 found that, among patients with a degenerative medial meniscus tear, knee arthroscopy was no better than exercise therapy (Kise et al., 2016). This study adds to the body of evidence suggesting that the benefits of arthroscopy may not outweigh the burden and risks. The results of this study prompted two systematic reviews to inform the recommendations of the Rapid Recommendations panel.

The systematic review on the net benefit of knee arthroscopy compared with non-operative care pools data from 13 randomized trials for benefit outcomes (1668 patients) and an additional 12 observational studies for complications (>1.8 million patients).

Panel members identified three outcomes—pain, function, and quality of life—as the most important for patients with degenerative knee disease who are considering surgery. Although the included studies reported these patient-important outcomes, it is difficult to know whether changes recorded on an instrument measuring subjective symptoms are important to those with symptoms, for example, a change of three points might have completely different meanings in two different pain scales.

Therefore, a second team performed a linked systematic review addressing what level of individual change on a given scale is important to patients, a characteristic called the minimally important difference (MID). The study identified a range of credible MIDs for each key outcome; this range of MID estimates informed sensitivity analyses for the review on net benefit, informed discussions on the patient values and preferences, and was key to interpreting the magnitude of effect sizes as well as the strength of the recommendation.

The panel is confident that arthroscopic knee surgery does not, on average, result in an improvement in long term pain or function. Most patients will experience an important improvement in pain and function without arthroscopy. However, in <15% of participants, arthroscopic surgery resulted in a small or very small improvement in pain or function at three months after surgery—this benefit was not sustained at one year. In addition to the burden of undergoing knee arthroscopy, there are rare but important harms, although the precision in these estimates is uncertain (low quality of evidence).

It is unlikely that new information will change interpretation of the key outcomes of pain, knee function, and quality of life (as implied by high to moderate quality of evidence).

The panel is confident that the randomized controlled trials included adequate representation from groups commonly cited to derive benefit from arthroscopic knee surgery for degenerative knee disease—notably those with meniscal tears, no or minimal radiographic evidence of osteoarthritis, and those with sudden but non-traumatic symptom onset. Thus the recommendation applies to all or almost all patients with degenerative knee disease. Further, the evidence applies to patients with any severity of mechanical symptoms, with the only possible exception being those who are objectively unable to fully extend their knee (that is, a true locked knee). We did not consider young patients with sports related injuries or patients with major trauma in any age.

Trials that enrolled a majority of patients without radiographic osteoarthritis showed similar effect sizes to trials enrolling patients with radiographic evidence of osteoarthritis. Most of these trials exclusively included patients with meniscus tears. Meniscus tears are common, usually incidental findings, and unlikely to be the cause of knee pain, aching, or stiffness. Mechanical symptoms were also a prominent feature for most trial participants, and many had sudden or subacute onset of symptoms. Given that there is evidence of harm and no evidence of important lasting benefit in any subgroup, the panel believes that the burden of proof rests with those who suggest benefit for any other particular subgroup before arthroscopic surgery is routinely performed in any subgroup of patients.

It takes between two and six weeks to recover from arthroscopy, during which time patients may experience pain, swelling, and limited function. Most patients cannot bear full weight on the leg (that is, they may need crutches) in the first week after surgery and driving or physical activity is limited during the recovery period.

Degenerative knee disease is a chronic condition in which symptoms fluctuate. On average, pain tends to improve over time after seeing a physician for pain, and delaying knee replacement is encouraged when possible.

The panel's strong recommendation against arthroscopy reflects a low value on a modest probability (<15%) of small or very small improvement in short term pain and function that does not persist to one year, and a higher value on avoiding the burden, postoperative limitations, and rare serious adverse effects associated with knee arthroscopy. The panel, including the patient participants, felt that almost all patients would share these values. The recommendation is not applicable to patients who do not share these values (that is, those who place a high value on a small, uncertain, and transient reduction in pain and function, and a low value on avoiding the burden and postoperative limitation associated with arthroscopy).

Analysis of Evidence (Rationale for Determination)

Arthroscopic lavage and arthroscopic debridement are operative treatments for osteoarthritis that may be performed separately or at the same time. The evidence base includes several randomized controlled trials, level 1 systematic reviews and evidence-based treatment guidelines.

One level 1 systematic review reported that the small inconsequential benefit seen from interventions that include arthroscopy for the degenerative knee is limited in time and absent at one to two years after surgery. The other level 1 systematic reported that high-certainty evidence indicates arthroscopic surgery leads to little or no difference in pain or function at three months after surgery, moderate-certainty evidence indicates there is probably little or no improvement in knee-specific quality of life three months after surgery, and low-certainty evidence indicates arthroscopic surgery may lead to little or no difference in participant-reported success at up to five years, compared with placebo surgery.

These studies provide sufficient evidence to conclude that arthroscopic debridement and lavage separately or together, do not improve symptoms of osteoarthritis of the knee and, therefore, they are considered not medically necessary.

Coding

This policy is not intended to address arthroscopy for other medically necessary indications, such as in the presence of infection, synovectomy, for the removal of loose or foreign bodies, or for the repair of a symptomatic torn ACL and/or meniscus.

The following codes are included below for informational purposes only; inclusion of a code does not constitute or imply coverage or reimbursement.

Report CPT code 29999 (Unlisted procedure, arthroscopy) for arthroscopic lavage of the knee for treatment of osteoarthritis and/or arthroscopic debridement and lavage for patients with severe osteoarthritis.

Report CPT code 29877 (Arthroscopy, knee, surgical; debridement/shaving of articular cartilage (chrondroplasty)) for arthroscopic debridement with presentation of knee pain only, or arthroscopic debridement without lavage for patients with severe osteoarthritis.

Report HCPCS code G0289 for arthroscopy, knee, surgical, for removal of loose body, foreign body, debridement/shaving of articular cartilage (chondroplasty) at the time of other surgical knee arthroscopy in a different compartment of the same knee. HCPCS code G0289 should not be

reported for removal of a loose body or foreign body or debridement/shaving of articular cartilage from the same compartment as another knee arthroscopic procedure.

HCPCS code G0289 is nonpayable for MassHealth ACO members (MassHealth Physician Manual, Subchapter 6 (PHY-169), effective 01/01/2024).

CPT code 29877 (Arthroscopy, knee, surgical; for debridement/shaving of articular cartilage (chondroplasty)) is not payable with other knee arthroscopy codes (29866-29889).

Meniscectomy codes include:
CPT 29880 Arthroscopy, knee, surgical with meniscectomy (medial AND lateral, including any meniscal shaving) including debridement/shaving of articular cartilage (chondroplasty), same or separate compartment(s), when performed
CPT 29881 Arthroscopy, knee, surgical with meniscectomy (medial OR lateral, including any meniscal shaving) including debridement/shaving of articular cartilage (chondroplasty), same or separate compartment(s), when performed

During a meniscectomy, the surgeon removes a piece of the torn meniscus or the entire meniscus. CPT code 29880 reports a meniscectomy in both the medial and lateral compartments, while CPT code 29881 indicates a meniscectomy in either the medial or lateral compartment. Both codes include debridement/shaving of articular cartilage (chondroplasty), in the same compartment or separate compartments of the same knee.

Although the National Correct Coding Initiative (NCCI) bundles 29877 *Arthroscopy, knee, surgical debridement/shaving of articular cartilage (chondroplasty)* and the meniscal repair codes, with a "0" modifier indicator, which typically means you cannot separately report the codes under any circumstance, Medicare allows providers to separately report chondroplasty with meniscal repairs if performed in a different compartment of the same knee. Medicare instructs coders to use HCPCS Level II code G0289 *Arthroscopy, knee, surgical, for removal of loose body, foreign body, debridement/shaving of articular cartilage (chondroplasty) at the time of other surgical knee arthroscopy in a different compartment of the same knee*. Do not separately report chondroplasty if another surgery is performed in the same compartment.

Because the definition for G0289 says, "at the time of other surgical knee arthroscopy," if chondroplasty is the only procedure performed, 29877 is the appropriate code for all payers, including Medicare.

Arthroscopy codes 29877 and G0289 may never be reported with meniscectomy codes 29880 or 29881 for the same knee because the chondroplasty is inclusive to their definitions.

Note: HCPCS code G0289 is nonpayable for MassHealth ACO members.

Code	Description
29877	Arthroscopy, knee, surgical; debridement/shaving of articular cartilage (chondroplasty)
29999	Unlisted procedure, arthroscopy
G0289	Arthroscopy, knee, surgical, for removal of loose body, foreign body, debridement/shaving of articular cartilage (chrondroplasty) at the time of other surgical knee arthroscopy in a different compartment of the same knee

Consistent with National Government Services Medical Policy Article A52369, claims for CPT 29877, 29899 and HCPCS G0289 will deny vendor liable when submitted with one of the ICD-10-CM codes listed in the table below as the primary diagnosis.

ICD-10-CM	Description
M17.0	Bilateral primary osteoarthritis of knee
M17.10	Unilateral primary osteoarthritis, unspecified knee
M17.11	Unilateral primary osteoarthritis, right knee
M17.12	Unilateral primary osteoarthritis, left knee
M17.2	Bilateral post-traumatic osteoarthritis of knee
M17.30	Unilateral post-traumatic osteoarthritis, unspecified knee
M17.31	Unilateral post-traumatic osteoarthritis, right knee
M17.32	Unilateral post-traumatic osteoarthritis, left knee
M17.4	Other bilateral secondary osteoarthritis of knee
M17.5	Other unilateral secondary osteoarthritis of knee
M17.9	Osteoarthritis of knee, unspecified
M25.561	Pain in right knee
M25.562	Pain in left knee

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Policy history

Origination date:	05/01/2009
Approval(s):	Technology Assessment Subcommittee: 10/28/2008 2/26/2014 ICM codes mapped; 4/23/2014 correction due to ICD-10-CM implementation; 4/23/2014 currently not reimbursed separately for all lines of business, effective 7/1/2014 this service will deny vendor liable for all lines of business. Technology Assessment Committee: 01/13/2009, 03/26/2013, 10/22/2014 (updated language, references) 10/28/2015 (updated references), 10/26/2016 (removed ICD-9 codes), 10/25/2017 (annual review, no updates), 10/11/2018 (updated references), 10/23/2019 (updated references), 06/22/2021 (annual review; 06/15/2021 added clarifying language related to Medicare Advantage, NaviCare and PACE under policy section), 05/28/2024 (annual review; updated Medicare Advantage and MassHealth ACO information in Policy section; added Summary of Evidence and Analysis of Evidence; updated Coding section and References), 05/27/2025 (annual review; change title from Arthroscopy for Osteoarthritis of the Knee to Arthroscopic Lavage and Debridement for Osteoarthritis of the Knee to better reflect scope). Utilization Management Committee: 06/17/2025 (annual review; approved).

Instructions for Use

Fallon Health complies with CMS's national coverage determinations (NCDs), local coverage determinations (LCDs) of Medicare Contractors with jurisdiction for claims in the Plan's service area, and applicable Medicare statutes and regulations when making medical necessity determinations for Medicare Advantage members. When coverage criteria are not fully established in applicable Medicare statutes, regulations, NCDs or LCDs, Fallon Health may create internal coverage criteria under specific circumstances described at § 422.101(b)(6)(i) and (ii).

Fallon Health generally follows Medical Necessity Guidelines published by MassHealth when making medical necessity determinations for MassHealth members. In the absence of Medical Necessity Guidelines published by MassHealth, Fallon Health may create clinical coverage criteria in accordance with the definition of Medical Necessity in 130 CMR 450.204.

For plan members enrolled in NaviCare, Fallon Health first follows CMS's national coverage determinations (NCDs), local coverage determinations (LCDs) of Medicare Contractors with jurisdiction for claims in the Plan's service area, and applicable Medicare statutes and regulations when making medical necessity determinations. When coverage criteria are not fully established in applicable Medicare statutes, regulations, NCDs or LCDs, or if the NaviCare member does not meet coverage criteria in applicable Medicare statutes, regulations, NCDs or LCDs, Fallon Health

then follows Medical Necessity Guidelines published by MassHealth when making necessity determinations for NaviCare members.

Each PACE plan member is assigned to an Interdisciplinary Team. PACE provides participants with all the care and services covered by Medicare and Medicaid, as authorized by the interdisciplinary team, as well as additional medically necessary care and services not covered by Medicare and Medicaid. With the exception of emergency care and out-of-area urgently needed care, all care and services provided to PACE plan members must be authorized by the interdisciplinary team.

Not all services mentioned in this policy are covered for all products or employer groups. Coverage is based upon the terms of a member's particular benefit plan which may contain its own specific provisions for coverage and exclusions regardless of medical necessity. Please consult the product's Evidence of Coverage for exclusions or other benefit limitations applicable to this service or supply. If there is any discrepancy between this policy and a member's benefit plan, the provisions of the benefit plan will govern. However, applicable state mandates take precedence with respect to fully insured plans and self-funded non-ERISA (e.g., government, school boards, church) plans. Unless otherwise specifically excluded, federal mandates will apply to all plans.