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PHARMACY / MEDICAL POLICY – 7.01.90

Implantable Shock Absorber for Treatment of Knee Osteoarthritis

BCBSA Ref. Policy:	7.01.90	
Effective Date:	Aug. 1, 2026	RELATED MEDICAL POLICIES:
Last Revised:	Jul. 14, 2026	None
Replaces:	N/A	

Select a hyperlink below to be directed to that section.

POLICY CRITERIA | DOCUMENTATION REQUIREMENTS | CODING
RELATED INFORMATION | EVIDENCE REVIEW | REFERENCES | HISTORY

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Introduction

Knee osteoarthritis is a common joint problem that happens when the cushioning cartilage in the knee breaks down over time. This can cause pain, stiffness, and trouble with walking or daily activities. Some people do not get enough relief from medicines, physical therapy, or standard surgeries. New devices, such as implantable shock absorbers, are being developed with the aim of reducing stress on the knee joint. These devices are placed inside the body to help absorb pressure during movement and may help relieve pain. Implantable shock absorbers as a treatment for knee osteoarthritis are considered investigational (unproven). There is not enough evidence to show they are effective.

Note: The Introduction section is for your general knowledge and is not to be taken as policy coverage criteria. The rest of the policy uses specific words and concepts familiar to medical professionals. It is intended for providers. A provider can be a person, such as a doctor, nurse, psychologist, or dentist. A provider also can be a place where medical care is given, like a hospital, clinic, or lab. This policy informs them about when a service may be covered.

Policy Coverage Criteria

Device	Investigational
Implantable shock absorbers for the treatment of knee OA	**The use of implantable shock absorbers as a treatment for knee osteoarthritis (e.g., MISHA Knee System) may be considered investigational.**

Coding

Code	Description
CPT	
27599	Unlisted procedure, femur or knee
HCPCS	
C1734	Orthopedic/device/drug matrix for opposing bone-to-bone or soft tissue-to bone (implantable)
C8003	Implantation of medial knee extraarticular implantable shock absorber spanning the knee joint from distal femur to proximal tibia, open, includes measurements, positioning and adjustments, with imaging guidance (e.g., fluoroscopy)

Note: CPT codes, descriptions and materials are copyrighted by the American Medical Association (AMA). HCPCS codes, descriptions and materials are copyrighted by Centers for Medicare Services (CMS).

Related Information

N/A

Evidence Review

Description

Implantable shock absorbers for the knee are intended to relieve pain and improve function in individuals with knee osteoarthritis who have failed nonsurgical treatment and are not candidates for or are unwilling to undergo joint replacement surgery. The MISHA Knee System (Moximed, Inc.) is the first and currently only US Food and Drug Administration (FDA)-authorized implantable shock absorber for this indication.

Background

Knee osteoarthritis (OA) is the most common form of arthritis and a leading cause of chronic pain and disability. Approximately 33 million US adults have OA, with the knee being the most commonly affected joint.[1] The condition is characterized by progressive degradation of articular cartilage, subchondral bone changes, synovial inflammation, osteophyte formation, and joint space narrowing, resulting in chronic pain, stiffness, functional limitation, and reduced quality of life. The global burden of OA is projected to increase by 75% by 2050, driven by aging demographics and increasing rates of obesity. Risk factors include increasing age, obesity, prior joint injury, and repetitive joint stress.[2,3]

Treatment

No curative therapy is currently available for knee OA, and overall management goals are to reduce pain, preserve function, and delay or avoid the need for joint replacement surgery. Nonsurgical first-line approaches include exercise, physical therapy, weight management, analgesics (NSAIDs, acetaminophen), intra-articular injections (corticosteroids, hyaluronic acid), and off-loader bracing.[2] For individuals who fail nonsurgical management, surgical options include high tibial osteotomy (HTO) and knee arthroplasty. A clinical gap exists for younger, active individuals who have failed conservative care but are not yet appropriate candidates for arthroplasty.[4]

Summary of Evidence

For individuals with knee osteoarthritis (OA) who receive implantable shock absorbers (ISA), the evidence consists primarily of a single pivotal nonrandomized cohort and a supporting qualitative systematic review of low-to-moderate certainty evidence. Relevant outcomes are

symptoms, functional outcomes, quality of life, and treatment-related morbidity. The MISHA Knee System received FDA De Novo authorization in April 2023. It is indicated to treat people with medial knee OA who have failed to find relief from non-surgical or surgical treatment, continue to experience pain that interferes with daily activities, and are ineligible for or unwilling to undergo joint replacement due to age or absence of advanced OA. The pivotal trial for the MISHA Knee System is the Calypso Study, a prospective, multicenter, open-label cohort study conducted at 10 centers across the US and Europe. The Calypso Study demonstrated superiority of the MISHA Knee System (n=81) over high tibial osteotomy (HTO, n=81) on a prespecified FDA-agreed composite primary endpoint at 24 months, with clinically meaningful and statistically significant improvements in pain and function. Key methodological limitations include the nonrandomized open-label design with a historical (HTO) control arm. Long-term durability and device safety data specific to the MISHA Knee System beyond 24 months are not yet available from peer-reviewed publications; the FDA-required post-market study (NCT06118892) is ongoing and will provide 5-year follow-up data. The ongoing MOTION RCT (NCT06843980), with an estimated completion of June 2030, is expected to provide evidence on the MISHA Knee System compared to nonsurgical management. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Ongoing and Unpublished Clinical Trials

Some currently ongoing trials that might influence this review are listed in **Table 1**.

Table 1. Summary of Key Trial

NCT No.	Trial Name	Planned Enrollment	Completion Date
Ongoing			
NCT06843980[a]	Evaluation of the MISHA® Knee System for Symptom Relief in Subjects With Medial Knee Osteoarthritis Versus the Use of Non-surgical Treatment: Randomized Clinical Trial and Comparison of Therapies for Medial Knee Osteoarthritis.	100	Jun 2030
NCT06118892[a]	Post-Market Evaluation of the MISHA® Knee System for Symptom Relief in Subjects With Medial Knee Osteoarthritis.	120	Jul 2030

NCT: national clinical trial. [a] Denotes industry-sponsored or cosponsored trial.

Practice Guidelines and Position Statements

The purpose of the following information is to provide reference material. Inclusion does not imply endorsement or alignment with the policy conclusions.

Guidelines or position statements will be considered for inclusion if they were issued by, or jointly by, a US professional society, an international society with US representation, or National Institute for Health and Care Excellence (NICE). Priority will be given to guidelines that are informed by a systematic review, include strength of evidence ratings, and include a description of management of conflict of interest.

American Academy of Orthopaedic Surgeons

The American Academy of Orthopaedic Surgeons (AAOS) Management of Osteoarthritis of the Knee (Non-Arthroplasty) Evidence-Based Clinical Practice Guideline (3rd Edition, August 2021) provides 27 evidence-based recommendations and 2 consensus statements covering nonsurgical and less-invasive surgical treatments for symptomatic knee OA, including exercise, weight management, pharmacologic therapies, injections, tibial osteotomy, and other procedures less invasive than arthroplasty.[13] The guideline includes a consensus statement recommending against the use of free-floating (unfixed) interpositional devices for symptomatic medial compartment knee OA; the MISHA Knee System is an extracapsular fixed device and is not addressed by this recommendation. The guideline does not otherwise address ISAs specifically, as it predates FDA authorization of the MISHA Knee System (April 2023). No subsequent AAOS guideline update addressing ISA devices has been published as of April 2026.

Medicare National Coverage

There is no national coverage determination.

Regulatory Status

On April 10, 2023, the US Food and Drug Administration (FDA) granted marketing authorization (De Novo classification, DEN220033)[5], for the MISHA Knee System (Moximed, Inc., Fremont, CA), as summarized in **Table 2**. The MISHA Knee System is indicated to treat people with medial

knee OA who have failed to find relief from non-surgical or surgical treatment, continue to experience pain that interferes with daily activities, and are ineligible for or unwilling to undergo joint replacement due to age or absence of advanced OA. The MISHA Knee System is the most recent and commercially available iteration of Moximed's implantable shock absorber technology; the earlier Atlas Knee System (developed in 2014) served as a developmental predecessor and was studied in early feasibility trials (e.g., the PHANTOM High Flex Trial) that informed the design of the current device. The Atlas system was not FDA-authorized for commercial distribution and should be considered a steppingstone in the development of the MISHA platform. An earlier ISA device, the KineSpring Knee Implant System (Biomet), was studied in early feasibility research but was never FDA-authorized and is no longer commercially available. See **Table 2** for FDA authorization details.

Table 2. Food and Drug Administration-Approved Implantable Shock Absorbers for Knee Osteoarthritis

Device	Manufacturer	FDA Cleared Indication	Description	FDA Product Codes	Clearance	Date
MISHA Knee System	Moximed	Treatment of medial compartment knee OA in patients who failed nonsurgical or surgical treatment, continue to experience pain interfering with daily activities, and are ineligible for or unwilling to undergo joint replacement	Extracapsular implantable shock absorber; cylindrical polymer absorber fixed via titanium plates to distal femur and proximal tibia. It is intended to reduce loads on the intra-articular medial joint surface to improve symptoms of OA. The device is not intended to span the lateral knee.	QVV	DEN220033 (De Novo)	2023

OA: osteoarthritis.

References

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13. American Academy of Orthopaedic Surgeons. Management of Osteoarthritis of the Knee (Non-Arthroplasty). Evidence-Based Clinical Practice Guideline (August 31, 2021). Accessed April 15, 2026.

History

Date	Comments
08/01/26	New policy, approved July 14, 2026, Policy created with literature review through April 15, 2026. The use of implantable shock absorbers as a treatment for knee osteoarthritis is considered investigational. Add to Surgery section.

local standards of practice. Since medical technology is constantly changing, the Company reserves the right to review and update policies as appropriate. Member contracts differ in their benefits. Always consult the member benefit booklet or contact a member service representative to determine coverage for a specific medical service or supply. CPT codes, descriptions and materials are copyrighted by the American Medical Association (AMA).

Scope: Medical policies are systematically developed guidelines that serve as a resource for Company staff when determining coverage for specific medical procedures, drugs or devices. Coverage for medical services is subject to the limits and conditions of the member benefit plan. Members and their providers should consult the member benefit booklet or contact a customer service representative to determine whether there are any benefit limitations applicable to this service or supply. This medical policy does not apply to Medicare Advantage.