

Medical Coverage Policy | Intra-Articular Hyaluronan Injections for Osteoarthritis



EFFECTIVE DATE: 02|01|2016
POLICY LAST UPDATED: 05|17|2023

OVERVIEW

Knee osteoarthritis (OA) is common, costly, and a cause of substantial disability. Among U.S. adults, the most common causes of disability are arthritis and rheumatic disorders. Currently, no curative therapy is available for OA, and thus the overall goals of management are to reduce pain, disability, and the need for knee replacement surgery. Intra-articular injection of hyaluronan (IAHA) into osteoarthritic joints is thought to replace endogenous hyaluronan, restore the viscoelastic properties of the synovial fluid, and improve pain and function.

This policy is applicable to Commercial Products only. For Medicare Advantage Plans, Blue Cross & Blue Shield of Rhode Island (BCBSRI) follows Centers for Medicare and Medicaid Services (CMS) National and Local Coverage Determinations (NCD/LCD) guidelines. Please see the Related Policies section.

MEDICAL CRITERIA

Not applicable

PRIOR AUTHORIZATION

Not applicable

POLICY STATEMENT

Commercial Products

Intra-articular hyaluronan injections of the knee and all other joints are considered not medically as the evidence is insufficient to determine the effects of the technology on health outcomes.

COVERAGE

Benefits may vary between groups and contracts. Please refer to the appropriate Benefit Booklet, Evidence of Coverage, or Subscriber Agreement for applicable not medically necessary benefits/coverage.

BACKGROUND

Knee osteoarthritis (OA) is common, costly, and a cause of substantial disability. Among U.S. adults, the most common causes of disability are arthritis and rheumatic disorders.

Currently, no curative therapy is available for OA, and thus the overall goals of management are to reduce pain, disability, and need for surgery. Intra-articular injection of hyaluronan (IAHA) has been proposed as a means of restoring the normal viscoelasticity of the synovial fluid in patients with OA and reducing pain and improving function. This treatment may also be called viscosupplementation. Hyaluronan is a naturally occurring macromolecule that is a major component of synovial fluid and is thought to contribute to its viscoelastic properties. Chemical crosslinking of hyaluronan increases its molecular weight; cross-linked hyaluronans are referred to as hylans. In OA, the overall length of hyaluronan chains present in cartilage and the hyaluronan concentration in the synovial fluid are decreased.

IAHA into osteoarthritic joints is proposed to reduce pain and improve function. It is thought to replace endogenous hyaluronan and restore the viscoelastic properties of the synovial fluid. Most studies to date have

assessed hyaluronan injections for knee osteoarthritis (OA), and this is the U.S. Food and Drug Administration approved indication. Other joints (eg, hip, shoulder) are being investigated for IAHA treatment of OA.

For individuals who have OA of the knee who receive IAHA, the evidence includes randomized controlled trials (RCTs) and systematic reviews of RCTs. Relevant outcomes are symptoms, functional outcomes, and treatment-related morbidity. Many RCTs have been published over the last 2 decades. While outcomes of these RCTs have been mixed, the RCT evidence base is characterized by studies showing small treatment effects of IAHA. In many cases, these trials are at risk of bias, and it cannot be determined with certainty whether there is a true treatment effect or whether the reported differences are due to bias. Meta-analyses of RCTs have also had mixed findings. Some meta-analyses estimating the magnitude of treatment benefit have concluded that there is no clinically significant benefit; others have concluded that there is a clinically significant benefit. These meta-analyses have also highlighted the limitations of this evidence base, most notably publication bias and small trial bias. For example, a meta-analysis (2016) found more than a 3-fold larger treatment effect in small trials than in larger trials (ie, >100 participants). Overall, given the lack of a definitive treatment benefit despite a large quantity of literature, and given the biases present in the available evidence, it is unlikely there is a treatment benefit that is clinically meaningful. The evidence is insufficient to determine that the technology results in an improvement on net health outcome.

For individuals who have OA of joints other than the knee who receive IAHA, the evidence includes RCTs, systematic reviews of RCTs, and observational studies. Relevant outcomes are symptoms, functional outcomes, and treatment-related morbidity. Meta-analyses of RCTs either have not found statistically significant benefits of the procedure on health outcomes or have found benefits that were statistically, but likely not clinically, significant (eg, 0.27-point improvement on a 10-point visual analog scale for hip OA). The evidence is insufficient to determine the effects of the technology on health outcomes.

CODING

Commercial Products

The following codes are considered not medically necessary;

- J7318** Hyaluronan or derivative, durolane, for intra-articular injection, 1 mg
- J7320** Hyaluronan or derivative, GenVisc 850, for intra-articular injection, 1 mg;
- J7321** Hyaluronan or derivative, Hyalgan or Supartz, for intra-articular injection, per dose
- J7322** Hyaluronan or derivative, Hymovis, for intra-articular injection, 1 mg;
- J7323** Hyaluronan or derivative, Euflexxa, for intra-articular injection, per dose
- J7324** Hyaluronan or derivative, Orthovisc, for intra-articular injection, per dose
- J7325** Hyaluronan or derivative, Synvisc or Synvisc-One, for intra-articular injection, 1 mg
- J7326** Hyaluronan or derivative, Gel-One, for intra-articular injection, per dose
- J7327** Hyaluronan or derivative, Monovisc, for intra-articular injection, per dose
- J7328** Hyaluronan or derivative, Gel-syn, for intra-articular injection, 0.1 mg
- J7329** Hyaluronan or derivative, trivisc, for intra-articular injection, 1 mg
- J7331** Hyaluronan or derivative, synojoynt, for intra-articular injection, 1 mg
- J7332** Hyaluronan or derivative, triluron, for intra-articular injection, 1 mg

The following CPT codes are not medically necessary when used with one of the codes listed above:

- 20610** Arthrocentesis, aspiration and/or injection, major joint or bursa (e.g., shoulder, hip, knee joint, subacromial bursa)
- 20611** Arthrocentesis, aspiration and/or injection, major joint or bursa (e.g., shoulder, hip, knee, subacromial bursa); with ultrasound guidance, with permanent recording and reporting

RELATED POLICIES

Medicare Advantage Plans National and Local Coverage Determinations
Prior Authorization for Drugs

PUBLISHED

Provider Update, July 2023
Provider Update, September 2022
Provider Update, July 2021
Provider Update, June 2020
Provider Update, August 2019

REFERENCES

1. Blue Cross and Blue Shield Association Technology Evaluation Center (TEC). Intra-Articular Hyaluronan Injections for Treatment of Osteoarthritis of the Knee. TEC Assessments 1998;Volume 13:Tab 17.
2. Blue Cross and Blue Shield Association Technology Evaluation Center (TEC). Special Report: intra-articular hyaluronan for osteoarthritis of the knee. TEC Assessments. 2004; Volume 19:Tab 17.
3. Blue Cross and Blue Shield Association Technology Evaluation Center (TEC). Intra-articular hyaluronic acid for osteoarthritis of the knee. TEC Assessments. 2014; Volume 29:Tab 6.
4. Samson DJ, Grant MD, Ratko TA, et al. Treatment of primary and secondary osteoarthritis of the knee (Evidence Reports/Technology Assessments No. 157). Rockville, MD: Agency for Healthcare Research and Quality; 2007.
5. Agency for Healthcare Research and Quality. Evidence-based Practice Center Systematic Review Protocol: Treatment of Osteoarthritis of the Knee: An Update. 2016 July; https://effectivehealthcare.ahrq.gov/sites/default/files/pdf/osteoarthritis-knee-update_research-protocol.pdf. Accessed February 15, 2023.
6. Rutjes AW, Juni P, da Costa BR, et al. Viscosupplementation for osteoarthritis of the knee: a systematic review and meta-analysis. *Ann Intern Med.* Aug 07 2012; 157(3): 180-91. PMID 22868835
7. American Academy of Orthopaedic Surgeons. Treatment of osteoarthritis of the knee: Evidence-based guidelines. 2nd Edition. 2013; https://www.aaos.org/globalassets/quality-and-practice-resources/surgical-management-knee/smoak-cpg_4.22.2016.pdf. Accessed March 1, 2022.
8. Bannuru RR, Natov NS, Dasi UR, et al. Therapeutic trajectory following intra-articular hyaluronic acid injection in knee osteoarthritis--meta-analysis. *Osteoarthritis Cartilage.* Jun 2011; 19(6): 611-9. PMID 21443958
9. Colen S, van den Bekerom MP, Mulier M, et al. Hyaluronic acid in the treatment of knee osteoarthritis: a systematic review and meta-analysis with emphasis on the efficacy of different products. *BioDrugs.* Aug 01 2012; 26(4): 257-68. PMID 22734561
10. Miller LE, Block JE. US-Approved Intra-Articular Hyaluronic Acid Injections are Safe and Effective in Patients with Knee Osteoarthritis: Systematic Review and Meta-Analysis of Randomized, Saline-Controlled Trials. *Clin Med Insights Arthritis Musculoskelet Disord.* 2013; 6: 57-63. PMID 24027421
11. Johansen M, Bahrt H, Altman RD, et al. Exploring reasons for the observed inconsistent trial reports on intra-articular injections with hyaluronic acid in the treatment of osteoarthritis: Meta-regression analyses of randomized trials. *Semin Arthritis Rheum.* Aug 2016; 46(1): 34-48. PMID 27139169
12. Jevsevar D, Donnelly P, Brown GA, et al. Viscosupplementation for Osteoarthritis of the Knee: A Systematic Review of the Evidence. *J Bone Joint Surg Am.* Dec 16 2015; 97(24): 2047-60. PMID 26677239
13. Richette P, Chevalier X, Ea HK, et al. Hyaluronan for knee osteoarthritis: an updated meta-analysis of trials with low risk of bias. *RMD Open.* 2015; 1(1): e000071. PMID 26509069
14. Trojian TH, Concoff AL, Joy SM, et al. AMSSM scientific statement concerning viscosupplementation injections for knee osteoarthritis: importance for individual patient outcomes. *Br J Sports Med.* Jan 2016; 50(2): 84-92. PMID26729890
15. Ammar TY, Pereira TA, Mistura SL, et al. Viscosupplementation for treating knee osteoarthritis: review of the literature. *Rev Bras Ortop.* Sep-Oct 2015; 50(5): 489-94. PMID 26535192

16. Strand V, McIntyre LF, Beach WR, et al. Safety and efficacy of US-approved viscosupplements for knee osteoarthritis: a systematic review and meta-analysis of randomized, saline-controlled trials. *J Pain Res.* 2015; 8:217-28. PMID 26005358
17. Wang F, He X. Intra-articular hyaluronic acid and corticosteroids in the treatment of knee osteoarthritis: A meta-analysis. *Exp Ther Med.* Feb 2015; 9(2): 493-500. PMID 25574222
18. Newberry SJ, Fitzgerald JD, Maglione MA, et al. Systematic Review for Effectiveness of Hyaluronic Acid in the Treatment of Severe Degenerative Joint Disease (DJD) of the Knee. Rockville, MD: Agency for Healthcare Research and Quality; 2015.
19. Bannuru RR, Schmid CH, Kent DM, et al. Comparative effectiveness of pharmacologic interventions for knee osteoarthritis: a systematic review and network meta-analysis. *Ann Intern Med.* Jan 06 2015; 162(1): 46-54. PMID25560713
20. O'Hanlon CE, Newberry SJ, Booth M, et al. Hyaluronic acid injection therapy for osteoarthritis of the knee: concordant efficacy and conflicting serious adverse events in two systematic reviews. *Syst Rev.* Nov 04 2016; 5(1):186. PMID 27814744
21. Pereira TV, Jüni P, Saadat P, et al. Viscosupplementation for knee osteoarthritis: systematic review and meta-analysis. *BMJ.* Jul 06 2022; 378: e069722. PMID 36333100
22. Ran J, Yang X, Ren Z, et al. Comparison of intra-articular hyaluronic acid and methylprednisolone for pain management in knee osteoarthritis: A meta-analysis of randomized controlled trials. *Int J Surg.* May 2018; 53: 103-110. PMID 29574247
23. Miller LE, Fredericson M, Altman RD. Hyaluronic Acid Injections or Oral Nonsteroidal Anti-inflammatory Drugs for Knee Osteoarthritis: Systematic Review and Meta-analysis of Randomized Trials. *Orthop J Sports Med.* Jan 2020;8(1): 2325967119897909. PMID 32047830
24. Phillips M, Vannabouathong C, Devji T, et al. Differentiating factors of intra-articular injectables have a meaningful impact on knee osteoarthritis outcomes: a network meta-analysis. *Knee Surg Sports Traumatol Arthrosc.* Sep2020; 28(9): 3031-3039. PMID 31897550
25. Tammachote N, Kanitnate S, Yakumpor T, et al. Intra-Articular, Single-Shot Hylan G-F 20 Hyaluronic Acid Injection Compared with Corticosteroid in Knee Osteoarthritis: A Double-Blind, Randomized Controlled Trial. *J Bone Joint Surg Am.* Jun 01 2016; 98(11): 885-92. PMID 27252432
26. Askari A, Gholami T, NaghiZadeh MM, et al. Hyaluronic acid compared with corticosteroid injections for the treatment of osteoarthritis of the knee: a randomized control trail. *Springerplus.* 2016; 5: 442. PMID 27104130
27. Farr J, Gomoll AH, Yanke AB, et al. A Randomized Controlled Single-Blind Study Demonstrating Superiority of Amniotic Suspension Allograft Injection Over Hyaluronic Acid and Saline Control for Modification of Knee Osteoarthritis Symptoms. *J Knee Surg.* Nov 2019; 32(11): 1143-1154. PMID 31533151
28. Hermans J, Bierma-Zeinstra SMA, Bos PK, et al. The effectiveness of high molecular weight hyaluronic acid for knee osteoarthritis in patients in the working age: a randomised controlled trial. *BMC Musculoskelet Disord.* May07 2019; 20(1): 196. PMID 31064359
29. Petterson SC, Plancher KD. Single intra-articular injection of lightly cross-linked hyaluronic acid reduces knee pain in symptomatic knee osteoarthritis: a multicenter, double-blind, randomized, placebo-controlled trial. *Knee SurgSports Traumatol Arthrosc.* Jun 2019; 27(6): 1992-2002. PMID 30159738
30. Vannabouathong C, Del Fabbro G, Sales B, et al. Intra-articular Injections in the Treatment of Symptoms from Ankle Arthritis: A Systematic Review. *Foot Ankle Int.* Oct 2018; 39(10): 1141-1150. PMID 29909689
31. Witteveen AG, Hofstad CJ, Kerkhoffs GM. Hyaluronic acid and other conservative treatment options for osteoarthritis of the ankle. *Cochrane Database Syst Rev.* Oct 17 2015; (10): CD010643. PMID 26475434
32. Migliore A, Giovannangeli F, Bizzi E, et al. Viscosupplementation in the management of ankle osteoarthritis: are view. *Arch Orthop Trauma Surg.* Jan 2011; 131(1): 139-47. PMID 20697901
33. Munteanu SE, Zammit GV, Menz HB, et al. Effectiveness of intra-articular hyaluronan (Synvisc, hylan G-F 20) for the treatment of first metatarsophalangeal joint osteoarthritis: a randomised placebo-controlled trial. *Ann Rheum Dis.* Oct 2011; 70(10): 1838-41. PMID 21791454

34. Kroon FP, Rubio R, Schoones JW, et al. Intra-Articular Therapies in the Treatment of Hand Osteoarthritis: A Systematic Literature Review. *Drugs Aging*. Feb 2016; 33(2): 119-33. PMID 26650235
35. Trellu S, Dadoun S, Berenbaum F, et al. Intra-articular injections in thumb osteoarthritis: A systematic review and meta-analysis of randomized controlled trials. *Joint Bone Spine*. Oct 2015; 82(5): 315-9. PMID 25776442
36. Riley N, Vella-Baldacchino M, Thurley N, et al. Injection therapy for base of thumb osteoarthritis: a systematic review and meta-analysis. *BMJ Open*. Sep 11 2019; 9(9): e027507. PMID 31511280
37. Kroon FPB, Carmona L, Schoones JW, et al. Efficacy and safety of non-pharmacological, pharmacological and surgical treatment for hand osteoarthritis: a systematic literature review informing the 2018 update of the EULA Recommendations for the management of hand osteoarthritis. *RMD Open*. 2018; 4(2): e000734. PMID 30402266
38. Lieberman JR, Engstrom SM, Solovyova O, et al. Is intra-articular hyaluronic acid effective in treating osteoarthritis of the hip joint?. *J Arthroplasty*. Mar 2015; 30(3): 507-11. PMID 25542833
39. Wu B, Li YM, Liu YC. Efficacy of intra-articular hyaluronic acid injections in hip osteoarthritis: a meta-analysis of randomized controlled trials. *Oncotarget*. Oct 17 2017; 8(49): 86865-86876. PMID 29156841
40. Zhao Z, Ma JX, Ma XL. Different Intra-articular Injections as Therapy for Hip Osteoarthritis: A Systematic Review and Network Meta-analysis. *Arthroscopy*. May 2020; 36(5): 1452-1464.e2. PMID 31919027
41. Liao YY, Lin T, Zhu HX, et al. Intra-Articular Viscosupplementation for Patients with Hip Osteoarthritis: A Meta-Analysis and Systematic Review. *Med Sci Monit*. Aug 27 2019; 25: 6436-6445. PMID 31454342
42. Gazendam A, Ekhtiari S, Bozzo A, et al. Intra-articular saline injection is as effective as corticosteroids, platelet-rich plasma and hyaluronic acid for hip osteoarthritis pain: a systematic review and network meta-analysis of randomised controlled trials. *Br J Sports Med*. Mar 2021; 55(5): 256-261. PMID 32829298
43. Colen S, Geervliet P, Haverkamp D, et al. Intra-articular infiltration therapy for patients with glenohumeral osteoarthritis: A systematic review of the literature. *Int J Shoulder Surg*. Oct 2014; 8(4): 114-21. PMID 25538430
44. Zhang B, Thayaparan A, Horner N, et al. Outcomes of hyaluronic acid injections for glenohumeral osteoarthritis: a systematic review and meta-analysis. *J Shoulder Elbow Surg*. Mar 2019; 28(3): 596-606. PMID 30502030
45. Blaine T, Moskowitz R, Udell J, et al. Treatment of persistent shoulder pain with sodium hyaluronate: a randomized, controlled trial. A multicenter study. *J Bone Joint Surg Am*. May 2008; 90(5): 970-9. PMID 18451387
46. Kwon YW, Eisenberg G, Zuckerman JD. Sodium hyaluronate for the treatment of chronic shoulder pain associated with glenohumeral osteoarthritis: a multicenter, randomized, double-blind, placebo-controlled trial. *J Shoulder Elbow Surg*. May 2013; 22(5): 584-94. PMID 23333168
47. American Academy of Orthopaedic Surgeons. Management of osteoarthritis of the knee (non-arthroplasty): Evidence-based clinical practice guidelines. 3rd Edition. 2021; <https://aaos.org/globalassets/quality-and-practice-resources/osteoarthritis-of-the-knee/oak3cpg.pdf>. Accessed February 14, 2023.
48. American Academy of Orthopaedic Surgeons. Management of Osteoarthritis of the Hip Evidence-Based Clinical Practice Guideline. 2017; https://www.aaos.org/globalassets/quality-and-practice-resources/osteoarthritis-of-the-hip/oa-hip-cpg_6-11-19.pdf. Accessed February 13, 2023.
49. American Academy of Orthopaedic Surgeons. The treatment of glenohumeral joint osteoarthritis: guideline and evidence report. 2009; <https://www.aaos.org/globalassets/quality-and-practice-resources/glenohumeral/glenohumeral-joint-osteoarthritis-clinical-practice-guideline-4-24-19.pdf>. Accessed February 10, 2023.
50. Silverstein E, Leger R, Shea KP. The use of intra-articular hylan G-F 20 in the treatment of symptomatic osteoarthritis of the shoulder: a preliminary study. *Am J Sports Med*. Jun 2007; 35(6): 979-85. PMID 17395958

51. American Academy of Orthopaedic Surgeons. Management of glenohumeral joint osteoarthritis: evidence-based clinical practice guideline. 2020; <https://www.aaos.org/globalassets/quality-and-practice-resources/glenohumeral/gjo-cpg.pdf>. Accessed February 12, 2023.
52. Kolasinski SL, Neogi T, Hochberg MC, et al. 2019 American College of Rheumatology/Arthritis Foundation Guideline for the Management of Osteoarthritis of the Hand, Hip, and Knee. *Arthritis Rheumatol*. Feb 2020; 72(2):220-233. PMID 31908163
53. McAlindon TE, Bannuru RR, Sullivan MC, et al. OARSI guidelines for the non-surgical management of knee osteoarthritis. *Osteoarthritis Cartilage*. Mar 2014; 22(3): 363-88. PMID 24462672
54. Bannuru RR, Osani MC, Vaysbrot EE, et al. OARSI guidelines for the non-surgical management of knee, hip, and polyarticular osteoarthritis. *Osteoarthritis Cartilage*. Nov 2019; 27(11): 1578-1589. PMID 31278997
55. National Institute for Health and Care Excellence (NICE). Osteoarthritis in over 16s: diagnosis and management [NG226].2022; <https://www.nice.org.uk/guidance/ng226>. Accessed February 15, 2023.

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