Clinical Guideline



Oscar Clinical Guideline: Viscosupplementation for Osteoarthritis (CG054, Ver. 9)

Viscosupplementation for Osteoarthritis

Disclaimer

Clinical guidelines are developed and adopted to establish evidence-based clinical criteria for utilization management decisions. Clinical guidelines are applicable according to policy and plan type. The Plan may delegate utilization management decisions of certain services to third parties who may develop and adopt their own clinical criteria.

Coverage of services is subject to the terms, conditions, and limitations of a member's policy, as well as applicable state and federal law. Clinical guidelines are also subject to in-force criteria such as the Centers for Medicare & Medicaid Services (CMS) national coverage determination (NCD) or local coverage determination (LCD) for Medicare Advantage plans. Please refer to the member's policy documents (e.g., Certificate/Evidence of Coverage, Schedule of Benefits, Plan Formulary) or contact the Plan to confirm coverage.

Summary

The Plan members with certain types of knee pain may be eligible for treatment with hyaluronic acid injections to improve function and decrease pain. Osteoarthritis is an inflammatory-mediated joint condition that often affects one or both knee joints, with increasing prevalence in older adults. It can present as tenderness, stiffness, swelling, and/or instability.

Many patients will improve with conservative measures such as physical therapy, exercise, weight loss, oral medications such as acetaminophen and nonsteroidal anti-inflammatory drugs (e.g., ibuprofen, naproxen, meloxicam, nabumetone), topical medications (e.g., capsaicin cream and diclofenac 1% gel), and/or intra-articular corticosteroid injections. Some patients with more severe symptoms or those who do not improve with conservative therapy may require further treatment. Surgery with total knee replacement is the standard of care for refractory osteoarthritis of the knee. However, some patients may benefit from a non-surgical treatment called viscosupplementation, which is an injection of a lubricating agent called hyaluronic acid to improve function and decrease pain. This guideline will provide criteria and exclusions for viscosupplementation with hyaluronic acid derivatives.

Table 1. Intra-articular Hyaluronic Acid Products

Brand Name	Dosing Guidelines / Injection Series (per 6-month period per knee)
Durolane® (hyaluronic acid)	60 mg (3 mL) x 1 dose
Euflexxa® (1% sodium hyaluronate)	20 mg (2 mL) once weekly x 3 doses
Gel-One® (cross-linked hyaluronate)	30 mg (3 mL) x 1 dose
Gelsyn-3™ (sodium hyaluronate 0.84%)	16.8 mg (2 mL) once weekly x 3 doses
GenVisc® 850 (sodium hyaluronate)	25 mg (2.5 mL) once weekly x 3-5 doses
Hyalgan® (sodium hyaluronate)	20 mg (2 mL) once weekly x 5 doses
Hymovis® (high molecular weight viscoelastic hyaluronan)	24 mg (3 mL) once weekly x 2 doses
Monovisc® (high molecular weight hyaluronan)	88 mg (4 mL) x 1 dose
Orthovisc® (high molecular weight hyaluronan)	30 mg (2 mL) once weekly x 3-4 doses
Supartz FX ™ (sodium hyaluronate)	25 mg (2.5 mL) once weekly x 3-5 doses
Synojoynt (sodium hyaluronate)	20 mg (2 mL) once weekly x 3 doses
Synvisc® (hylan G-F 20)	16 mg (2 mL) once weekly x 3 doses
Synvisc-One® (hylan G-F 20)	48 mg (6 mL) x 1 dose
Triluron™ (sodium hyaluronate)	20 mg (2 mL) once weekly x 3 doses
TriVisc™ (sodium hyaluronate)	25 mg (2.5 mL) once weekly x 3 doses
Visco-3™ (sodium hyaluronate)	25 mg (2.5 mL) once weekly x 3 doses

Sources: Prescribing Information (See References)

<u>NOTE:</u> The Plan may require that preferred products be used first. Please review the applicable Plan Clinical Guideline for a full list of our preferred and non-preferred products:

- (Commercial) Preferred Physician-Administered Specialty Drugs (CG052)
- Hyaluronate and Derivatives Medical Benefit Preferred Physician-Administered Drug Exceptions Criteria (CG094)

Definitions

"Hyaluronan" or "Sodium hyaluronate" or "Hyaluronic acid" is a thick fluid similar to the fluid naturally inside the joint. When injected into the knee joint in a process known as "viscosupplementation", it can act as a lubricant and shock absorber in an effort to decrease symptoms of osteoarthritis and improve function.

"Osteoarthritis" is a joint disease caused by inflammation where the protective cartilage of the joint wears down over time resulting in bone-on-bone contact. This can cause pain, swelling, decreased mobility, and stiffness.

"Viscosupplementation" is a procedure where hyaluronic acid is injected into the joint space. Examples of viscosupplements, or hyaluronic acid injections, are listed above (Table 1).

Medical Necessity Criteria for Initial Authorization

The Plan considers initial requests for <u>viscosupplement injections</u> medically necessary when ALL of the following criteria are met:

- 1. Diagnosis of osteoarthritis (OA) of the knee.
- 2. The member meets ONE of the following:
 - a. Radiologic evidence (e.g. x-ray or MRI) confirming OA of the knee, characterized by features such as joint space narrowing, subchondral sclerosis, osteophytes, and subchondral cysts; *or*
 - b. Persistent pain in the affected knee, significantly interfering with functional activities such as walking, standing for prolonged periods, or sleeping; *AND*
- 3. Other forms of joint disease to which the pain may be attributed have been ruled out; AND
- 4. The member is unable to use, or have failed to respond adequately (e.g. decrease pain or improve function) to at least a 3-month trial of ALL of the following:
 - a. Nonpharmacologic therapy (e.g. low-impact exercise, aquatic exercise, dietary weight management as part of a healthy lifestyle regimen for individuals presenting with body mass index ≥30 kg/m²); and
 - b. Oral or topical pharmacologic therapy (e.g. nonsteroidal antiinflammatory drugs [NSAIDs], capsaicin, acetaminophen, duloxetine, tramadol); *and*
 - c. Intra-articular corticosteroid injection therapy; AND
- 5. The member meets BOTH of the following:
 - a. Is not a candidate for surgery (e.g. high risk, contraindication) OR surgery is not expected within 6 months of the injection series (e.g., member being considered for knee arthroplasty [replacement] to treat arthritis or arthroscopy to treat a meniscal tear); and
 - Has no contraindications to injection per FDA label (e.g. infections or skin diseases in the area of the injection site) AND use is not listed below under Experimental or Investigational / Not Medically Necessary.

If the above prior authorization criteria is met, the requested product will be approved for one injection series lasting up to six (6) months to determine effectiveness.

Medical Necessity Criteria for Reauthorization (i.e., Continuing Treatment Post Initial Trial)

The Plan considers subsequent requests for viscosupplement injections medically necessary when ALL of the following criteria are met:

- 1. The above applicable "Initial Authorization" criteria continue to be met; and
- 2. A minimum of 6 months have elapsed since the last injection series, with no more than one injection series performed in a 6-month period; *and*
- 3. The patient demonstrated improvement in overall pain and function from the prior injection series, as evidenced by ALL the following:
 - a. Documented reduction in pain demonstrated through objective measures such as increased range of motion, decreased tenderness upon examination, or reduction in the amount and/or frequency of medication use; and
 - b. Documented enhancement in the ability to perform daily activities, such as walking, standing for extended periods, and improved quality of sleep.

Experimental or Investigational / Not Medically Necessary

The use of viscosupplementation for knee osteoarthritis where the above criteria are not met is considered *not medically necessary*. Viscosupplements for any other indication is considered not medically necessary or experimental or investigational. Non-covered indications include, but are not limited to, the following:

- Acute injury (e.g., sprain, fracture)
- Adhesive capsulitis of shoulder (frozen shoulder)
- Chondromalacia patellae
- Edema of the bone
- Infectious arthritis
- Knee joint infections
- Osteoarthritis for any joints other than the knee (e.g., shoulder, elbow, carpometacarpal, trapezium-metacarpal, thumb, hip, ankle, metatarsophalangeal)
- Psoriatic arthritis for any joints including the knee
- Rheumatoid arthritis for any joints including the knee
- Skin disease or infections in the area of injection site
- Temporomandibular joint disorders
- Tendinopathy
- Trigger finger
- Overuse knee syndrome

• Viscosupplementation in combination with intra-articular corticosteroid, mesenchymal stem cell, amniotic product, or platelet rich plasma (PRP) injection

Applicable Billing Codes (HCPCS/CPT Codes, ICD-10 Codes)

CPT/HCPCS codes considered medically necessary if criteria are met:		
Code	Description	
20610	Arthrocentesis, aspiration and/or injection, major joint or bursa (eg, shoulder, hip, knee, subacromial bursa); without ultrasound guidance	
20611	Arthrocentesis, aspiration and/or injection, major joint or bursa (eg, shoulder, hip, knee, subacromial bursa); with ultrasound guidance, with permanent recording and reporting	
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, Supartz or Visco-3, 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, GELSYN-3, 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	
ICD-10 codes	CD-10 codes considered medically necessary if criteria are met:	
Code	Description	
M15.8	Other polyosteoarthritis	
M15.9	Polyosteoarthritis, unspecified (generalized osteoarthritis NOS)	
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

References

- American Academy of Orthopaedic Surgeons Management of Osteoarthritis of the Knee (NonArthroplasty) Evidence-Based Clinical Practice Guideline. https://www.aaos.org/oak3cpg Published 08/31/2021
- American Academy of Orthopaedic Surgeons Management of Osteoarthritis of the Knee (NonArthroplasty) Appropriate Use Criteria. Available at: https://www.aaos.org/globalassets/quality-and-practice-resources/osteoarthritis-of-the-knee/oak-auc.pdf published 9/11/2022.
- 3. American Academy of Orthopaedic Surgeons (AAOS). Treatment of osteoarthritis of the knee. 2nd ed. Summary of Recommendations. Rosemount, IL: AAOS; 2013. Available at: https://www.aaos.org/cc_files/aaosorg/research/guidelines/oaksummaryofrecommendations.pdf.
- 4. American College of Rheumatology. 2019 American College of Rheumatology/Arthritis Foundation Guideline for the Management of Osteoarthritis of the Hand, Hip, and Knee. Arthritis & Rheumatology Vol. 72, No. 2, February 2020, pp 220–233DOI 10.1002/art.41142
- 5. Bannuru RR, Osani MC, Vaysbrot EE, et al. OARSI guidelines for the non-surgical management of knee, hip, and polyarticular osteoarthritis. Osteoarthritis Cartilage. 2019;27(11):1578-1589.
- 6. Bert J, Kinney J, Sgaglione NA, et al. Viscosupplementation for Osteoarthritis of the Knee: A Key Opinion Leader Panel Discussion. Journal of Managed Care & Specialty Pharmacy 2018 24:6-a Suppl, S2-S8. Available at: https://www.jmcp.org/doi/10.18553/jmcp.2018.24.6-a.s2.
- 7. Bhadra AK, Altman R, Dasa V, et al. Appropriate use criteria for hyaluronic acid in the treatment of knee osteoarthritis in the United States. Cartilage. 2016 Aug 10.
- Billesberger LM, Fisher KM, Qadri YJ, et al. Procedural Treatments for Knee Osteoarthritis: A Review of Current Injectable Therapies. Pain Res Manag. 2020; 2020. doi: 10.1155/2020/3873098

- 9. Brophy RH, Fillingham YA. AAOS Clinical Practice Guideline Summary: Management of Osteoarthritis of the Knee (Nonarthroplasty), Third Edition. J Am Acad Orthop Surg. 2022 May 1;30(9):e721-e729. doi: 10.5435/JAAOS-D-21-01233. PMID: 35383651.
- 10. Committee on Rheumatologic Care. American College of Rheumatology Position Statement: Intraarticular hyaluronic acid injection in osteoarthritis of the knee. February 2014. Available at: https://www.rheumatology.org/Portals/0/Files/Viscosupplementation.pdf. Accessed on: July 15, 2019.
- 11. Durolane (sodium hyaluronate) [prescribing information]. Durham, NC: Bioventus; September 2019
- 12. Euflexxa (sodium hyaluronate) [prescribing information]. Parsippany, NJ: Ferring Pharmaceuticals Inc; July 2016.
- 13. Eymard F, Chevalier X, Conrozier T. Obesity and radiological severity are associated with viscosupplementation failure in patients with knee osteoarthritis. J Orthop Res. 2017;35(10):2269-74. doi:10.1002/jor.23529

14.

- 15. Gel-One (cross-linked hyaluronate) [prescribing information]. Tokyo, Japan: Seikagaku Corporation; May 2011.
- 16. Gelsyn-3 (sodium hyaluronate) [prescribing information]. Durham. MC: Bioventus; September 2019.
- 17. GenVisc 850 (sodium hyaluronate) [prescribing information]. Doylestown, PA: OrthogenRx Inc; November 2019.
- 18. Hayes, Inc. Comparative Effectiveness Review of Hyaluronic Acid for Knee Osteoarthritis: A Review of Reviews. Published: October 31, 2017. Last reviewed: Dec 22,, 2021.
- 19. Henrotin Y, Chevalier X, Raman R, et al. EUROVISCO Guidelines for the Design and Conduct of Clinical Trials Assessing the Disease-Modifying Effect of Knee Viscosupplementation. Cartilage. 2020 Jan; 11(1): 60–70. Doi: 10.1177/1947603518783521
- 20. Hyalgan (hyaluronic acid derivative) [prescribing information]. Florham Park, NJ: Fidia Pharma; August 2017.
- 21. Hymovis (hyaluronic acid derivative) [prescribing information]. Florham Park, NJ: Fidia Pharma USA Inc; June 2021.
- 22. Hunter DJ. Viscosupplementation for osteoarthritis of the knee. N Engl J Med 2015; 372:1040.
- 23. Jevsevar D, Donnelly P, Brown GA, Cummins DS. Viscosupplementation for Osteoarthritis of the Knee: A Systematic Review of the Evidence. J Bone Joint Surg Am 2015; 97:2047.
- 24. Kohn MD, Sassoon AA, Fernando ND. Classifications in Brief: Kellgren-Lawrence Classification of Osteoarthritis. Clin Orthop Relat Res. 2016;474(8):1886–1893. doi:10.1007/s11999-016-4732-4
- 25. Kolasinski SH, 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 Care Res. 2019;72(2):149-162. doi: 10.1002/acr.24131. Epub 2020 Jan 6. Erratum in: Arthritis Care Res (Hoboken). 2021 May;73(5):764. doi: 10.1002/acr.24615.

- Legre-Boyer V. Viscosupplementation: Techniques, indications, results. Orthopaedics & Traumatology: Surgery & Research. 2015; 101 (1): S101-S108. Doi: https://doi.org/10.1016/j.otsr.2014.07.027
- 27. Miller LE, Altman RD, McIntyre LF. Unraveling the confusion behind hyaluronic acid efficacy in the treatment of symptomatic knee osteoarthritis. J Pain Res. 2016;9:421–423. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4918943/.
- 28. Monovisc (hyaluronan) [prescribing information]. Bedford, MA: Anika Therapeutics Inc; July 2020.
- 29. National Institute of Health and Care Excellence (NICE). 2022. Osteoarthritis in over 16s: diagnosis and management. NG226. Available at: https://www.nice.org.uk/guidance/ng226/chapter/Recommendations. Accessed June 5, 2025.
- 31. Orthovisc (hyaluronan) [prescribing information]. Bedford, MA: Anika Therapeutics Inc; September 2016.
- 32. Osteoarthritis Research Society International. OARSI guidelines for the non-surgical management of knee, hip, and polyarticular osteoarthritis. Available at: https://doi.org/10.1016/j.joca.2019.06.011. Accessed September 19, 2022.
- 33. Pereira TV, Jüni P, Saadat P, Xing D, Yao L, Bobos P, Agarwal A, Hincapié CA, da Costa BR. Viscosupplementation for knee osteoarthritis: systematic review and meta-analysis. BMJ. 2022 Jul 6;378:e069722. doi: 10.1136/bmj-2022-069722. PMID: 36333100; PMCID: PMC9258606.
- 34. Rutjes AW, Jüni P, da Costa BR, et al. Viscosupplementation for osteoarthritis of the knee: a systematic review and meta-analysis. Ann Intern Med 2012; 157:180.
- 35. Supartz FX (sodium hyaluronate) [prescribing information]. Durham, NC: Bioventus; April 2015.
- 36. Synvisc (hylan G-F 20) [prescribing information]. Ridgefield, NJ: Genzyme Biosurgery; September 2014.
- 37. Synvisc One (hylan G-F 20) [prescribing information]. Ridgefield, NJ: Genzyme Biosurgery a division of Genzyme Corporation; September 2014.
- 38. Tapasvi, S., Mohanty, S. S., Vedavyasa Acharya, K. K., Bhattacharya, K., Easwaran, R., & Charugulla, S. N. (2019). Viscosupplementation for management of knee osteoarthritis from an indian perspective: An expert consensus report. Pain and therapy, 8(2), 217-231.
- 39. Teva Pharmaceuticals USA, Inc. Synojoynt. Package Insert. North Wales, PA: Teva; March 2019.
- 40. Triluron (sodium hyaluronate) [prescribing information]. Florham Park, NJ: Fidia Pharma USA Inc; July 2019.
- 41. TriVisc (sodium hyaluronate) [prescribing information]. Doylestown, PA: OrthogenRx Inc; November 2019.
- 42. 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 2016;50:84-92. Available at: https://bjsm.bmj.com/content/50/2/84.

- 43. Uson J, Rodriguez-García SC, Castellano-Moreira R, et al. EULAR recommendations for intra-articular therapies. EULAR recommendations for intra-articular therapies. Ann Rheum Dis. 2021 Oct;80(10):1299-1305. doi: 10.1136/annrheumdis-2021-220266. Epub 2021 May 25.
- 44. Vangsness CT Jr, Adamson TC 3rd, Daley MJ. Consequences on Private Insurance Coverage: The AAOS Clinical Practice Guidelines and Hyaluronic Acid Injections. J Bone Joint Surg Am. 2020 May 20;102(10):920-926. doi: 10.2106/JBJS.19.00272. PMID: 32079873; PMCID: PMC7508284.
- 45. Vincent P, de Couville TL, Thomas T. Intra-Articular Hyaluronic Acid for Knee Osteoarthritis: A Postmarket, Open-Label, Long-Term Historical Control Study with Analysis Detailed per Krellgren-Lawrence Radiologic Osteoarthritis Scale Grade. Curr Ther Res Clin Exp. 2020; 92. doi: 10.1016/j.curtheres.2020.100575
- 46. Visco-3 (sodium hyaluronate) [prescribing information]. Warsaw, IN: Zimmer; received April 2017.

Clinical Guideline Revision / History Information

Original Date: 7/23/2019

Reviewed/Revised: 8/6/2020, 06/24/2021, 12/01/2021, 07/26/2022, 10/20/2022, 06/29/2023,

06/27/2024, 11/01/2025