



# Louisiana

## Intra-Articular Hyaluronan Injections for Osteoarthritis of the Knee

Policy # 00075

Original Effective Date: 01/27/2003

Current Effective Date: 04/13/2020

*Applies to all products administered or underwritten by Blue Cross and Blue Shield of Louisiana and its subsidiary, HMO Louisiana, Inc. (collectively referred to as the "Company"), unless otherwise provided in the applicable contract.*

### When Services May Be Eligible for Coverage

*Coverage for eligible medical treatments or procedures, drugs, devices or biological products may be provided only if:*

- *Benefits are available in the member's contract/certificate, and*
- *Medical necessity criteria and guidelines are met.*

Based on review of available data, the Company may consider intra-articular hyaluronan (IAHA) injections (including, but not limited to Gel-Syn™, Genvisc™, Hymovis™, Monovisc®, Hyalgan®, Supartz®, Supartz® FX, OrthoVisc®, Synvisc®, Synvisc-One®, Euflexxa®, Durolane®, Gel-One®, Visco-3™, TriVisc™, Synjoyn™, or Triluron™)† for the treatment of painful osteoarthritis of the knee in patients who have insufficient pain relief from conservative non-pharmacologic therapy and simple analgesics to be **eligible for coverage**.\*\*

### Initial Treatment

#### Patient Selection Criteria

The use of intra-articular hyaluronan knee injections for initial treatment will be considered when ALL of the following criteria are met:

- Patient has failed conservative therapy for at least three months with non-steroidal anti-inflammatory drugs (NSAIDs), or acetaminophen, if there is a contraindication to NSAIDs, unless there is clinical evidence or patient history that suggests use of these products will be ineffective or cause an adverse reaction to the patient; AND  
*(Note: This specific patient criterion is an additional Company requirement for coverage eligibility and will be denied as not medically necessary\*\* if not met.)*
- Patient has knee pain and a documented diagnosis of osteoarthritis of the knee with x-ray (radiologic) confirmation of Kellgren-Lawrence Scale score of grade 2 or greater; AND
- For requests OTHER than Synvisc, Synvisc-One, or Euflexxa: Patient must be prescribed (and subsequently try and fail) Synvisc or Synvisc-One AND Euflexxa prior to other intra-

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articular knee injection products (unless there is clinical evidence or patient history that suggests the use of these products will be ineffective or cause an adverse reaction to the patient).

*(Note: This specific patient criterion is an additional Company requirement for coverage eligibility and will be denied as not medically necessary \*\* if not met.)*

### **Repeat Treatment**

#### **Patient Selection Criteria**

The use of intra-articular hyaluronan knee injections for repeat treatment will be considered when ALL of the following criteria are met:

- Patient has met and continues to meet the initial criteria in this policy regarding diagnosis, pain, imaging, and conservative treatment failures; AND  
*(Note: Conservative treatment failures are an additional Company requirement for coverage eligibility and will be denied as not medically necessary\*\* if not met.)*
- Six months or more have elapsed since the prior treatment cycle; AND  
*(Note: This specific patient criterion is an additional Company requirement for coverage eligibility and will be denied as not medically necessary\*\* if not met.)*
- Positive response (i.e., adequate pain relief, increase in or maintenance of function) to the prior course of therapy has been demonstrated and is documented in the medical records (office notes) of the treating physician; AND  
*(Note: This specific patient criterion is an additional Company requirement for coverage eligibility and will be denied as not medically necessary\*\* if not met.)*
- For requests OTHER than Synvisc, Synvisc-One, or Euflexxa: Patient has tried and failed Synvisc or Synvisc-One AND Euflexxa during prior courses of therapy (unless there is clinical evidence or patient history that suggests the use of these products will be ineffective or cause an adverse reaction to the patient).  
*(Note: This specific patient criterion is an additional Company requirement for coverage eligibility and will be denied as not medically necessary\*\* if not met.)*

### **When Services Are Considered Not Medically Necessary**

Based on review of available data, the Company considers the use of intra-articular hyaluronan knee injections when any of the following patient selection criteria are NOT met to be **not medically necessary\*\***:

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- For Initial and Renewal: Patient has failed conservative therapy for at least three months with NSAIDs, or acetaminophen, if there is a contraindication to NSAIDs.
- For Initial: Requests OTHER than Synvisc, Synvisc-One, or Euflexxa - Patient must be prescribed (and subsequently try and fail) Synvisc or Synvisc-One AND Euflexxa prior to other intra-articular hyaluronan knee injection products.
- For Renewal: Six months or more have elapsed since the prior treatment cycle.
- For Renewal: Positive response (i.e., adequate pain relief, increase in or maintenance of function) to the prior course of therapy has been demonstrated and is documented in the medical records (office notes) of the treating physician.
- For Renewal: Requests OTHER than Synvisc, Synvisc-One, or Euflexxa - Patient has tried and failed Synvisc or Synvisc-One AND Euflexxa during prior courses of therapy.

## When Services Are Considered Investigational

*Coverage is not available for investigational medical treatments or procedures, drugs, devices or biological products.*

Based on review of available data, the Company considers the use of intra-articular hyaluronan injections into joints other than the knee, to be **investigational**.\*

Based on the review of available data, the Company considers the use of intra-articular hyaluronan injections for diagnoses other than knee pain due to osteoarthritis to be **investigational**.\*

Based on the review of available data, the Company considers the use of intra-articular hyaluronan injections for patellofemoral syndrome to be **investigational**.\*

Based on the review of available data, the Company considers the use of intra-articular hyaluronan injections for chondromalacia patellae to be **investigational**.\*

Based on the review of available data, the Company considers the use of intra-articular hyaluronan injections when the patient does NOT have osteoarthritis of the knee confirmed by x-ray (radiologic) confirmation of Kellgren-Lawrence Scale score of grade 2 or greater to be **investigational**.\*

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### **Background/Overview**

Osteoarthritis is the most common form of arthritis and presents with joint pain, stiffness, and locomotor restriction. Symptoms typically present in just one or a few joints. Osteoarthritis is confirmed by radiographic evidence and is classified via the Kellgren-Lawrence Radiographic Criteria for Assessment of Osteoarthritis. The scale ranges from grade 0 to grade 4, with the higher number representing worsening disease. Grade 0 includes no radiographic features of osteoarthritis. Grade 1 represents doubtful narrowing of joint space with possible osteophytic lipping. Grade 2 represents possible narrowing of joint space with definite osteophytes. Grade 3 represents definite narrowing of joint space, moderate multiple osteophytes, some subchondral sclerosis, and possible deformity of bone contour. Grade 4 represents marked narrowing of joint space, large osteophytes, severe subchondral sclerosis, and definite deformity of bone contour.

Intra-articular injection of hyaluronan into osteoarthritic joints is thought to replace hyaluronic acid (HA), restore the viscoelastic properties of the synovial fluid, and improve pain and function. The majority of studies to date have assessed IAHA injections for knee osteoarthritis, and this is the U.S. Food and Drug Administration (FDA) -approved indication. Other joints, such as the hip and shoulder, are currently being investigated for intra-articular HA treatment of osteoarthritis.

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 HA increases its molecular weight; crosslinked HAs are referred to as hylans. In osteoarthritis, the overall length of HA chains present in cartilage and the HA concentration in the synovial fluid are decreased. Intra-articular injection of HA has been proposed as a means of restoring the normal viscoelasticity of the synovial fluid in patients with osteoarthritis. This treatment has been called viscosupplementation.

### **FDA or Other Governmental Regulatory Approval**

#### **U.S. Food and Drug Administration (FDA)**

Multiple preparations of intra-articular hyaluronans have been approved by the FDA as an alternative to nonsteroidal anti-inflammatory drug therapy in the treatment of osteoarthritis of the knee (Synvisc and Synvisc-One, Sanofi; Supartz, Supartz FX, Gelsyn, and Durolane, Bioventus; OrthoVisc and Monovisc, Johnson and Johnson; Euflexxa, Ferring; Gel-One and Visco-3, Zimmer; Genvisc and TriVisc, Orthogen RX; Hymovis, Hyalgan, and Triluron, Fidia Pharma USA; Synjoynnt, Teva). Euflexxa, Gel-Syn, Genvisc, Hymovis, Monovisc, Durolane, Orthovisc, TriVisc, Triluron, and

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Synjoynt are derived from non-avian sources (bacterial cells), whereas the other products are derived from rooster or chicken combs. The non-avian products may be useful in patients with allergies to eggs or poultry products. Synvisc and Synvisc-One products differ from the others in that they are a viscous mixture of chemically cross-linked HA composed of 80% hylan A and 20% Hylan B. After cross-linking, the preparation is purified.

As mentioned earlier, multiple products have been approved in this space and the products have varying numbers of injections. Single injection products include Monovisc, Synvisc-One, Durolane, and Gel-One. Hymovis uses two injections per course. Gel-Syn, Euflexxa, Synvisc, TriVisc, Triluron, Synjoynt, and Visco-3 call for 3 injections, while Orthovisc calls for 3 to 4 injections per course. Supartz, Hyalgan, and Genvisc call for 5 injections per course of therapy.

The FDA has not approved intra-articular hyaluronan injections for joints other than the knee. Of note, intra-articular HA products have not been approved by the FDA for patellofemoral syndrome or chondromalacia patellae. Further studies are needed in these conditions to definitively prove that intra-articular HAs will significantly delay the need for more invasive treatment.

### **Rationale/Source**

This medical policy was developed through consideration of peer-reviewed medical literature generally recognized by the relevant medical community, U.S. Food and Drug Administration approval status, nationally accepted standards of medical practice and accepted standards of medical practice in this community, Blue Cross and Blue Shield Association technology assessment program (TEC) and other non-affiliated technology evaluation centers, reference to federal regulations, other plan medical policies, and accredited national guidelines.

### **Knee**

Intra-articular hyaluronan (IAHA) products are generally safe and well tolerated. They are also generally considered to have modest improvement in symptoms of osteoarthritis (OA). There is no substantial clinical evidence to support a significant treatment difference between high molecular weight and low molecular weight IAHA products. The Express Scripts Clinical Summary of Hyaluronic Acid Derivatives cited the following meta-analysis: "A 2011 meta-analysis included all randomized controlled trials (RCTs) that enrolled patients and compared an IAHA to placebo when used to treat OA of the knee. Eligible trials were required to report a minimum of one measure of

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pain, function, or stiffness. The primary endpoint was pain reduction at approximately weeks 2, 4, 8, 12, 16, 20, and 24. A total of 49 reports that included 54 trials (n = 7,545) were included in the analysis. For the analysis, 49 trials (n = 6,962) contributed to pain-related outcomes, 16 trials (n = 2,571) contributed to function-related analysis, and 15 trials (n = 2,488) contributed to stiffness-related outcomes. Throughout the studies, the average age ranged from 45 to 72 years with women making up between 28% and 100% of the patients. The effect size on joint pain was evident by week 4 (0.31 [95% confidence interval {CI}: 0.17, 0.45), peaked at week 8 (0.46 [95% CI: 0.28, 0.65]), and was still evident at week 24 (0.21 [95% CI: 0.10, 0.31]). The effect size was 0.31 (95% CI: 0.11, 0.51) for function-related outcomes and 0.31 (95% CI: 0.12, 0.49) for stiffness-related outcomes with both values favoring IAHA (study time points not provided). Since an effect size of 0.20 has been determined to be clinically relevant for chronic pain, IAHA was found to be an effective agent for OA.”

Of course, there are various interpretations of the data, including those that cite that IAHA products do not have any significant effect on OA. Varying practice guidelines from national organizations also exist. The American Medical Society for Sports Medicine in 2016 recommended IAHA for “appropriate” patients (over 60 years of age) with knee OA based on high-quality evidence. The society also “suggests” IAHA for patients under age 60 with knee OA based on moderate-quality indirect evidence. The 2013 guidelines from the American Academy of Orthopaedic Surgeons (AAOS) on treatment of OA of the knee indicated that AAOS could not recommend using IAHA for patients with symptomatic knee OA. The American College of Rheumatology (ACR) released updated guidelines in 2020 (but titled 2019) that stated IAHA products are conditionally recommended against in patients with knee OA and strongly recommended against in patients with hip OA. The 2014 Osteoarthritis Research Society International guidelines, developed by consensus after review of existing guidelines and systematic reviews, gave an “uncertain” recommendation for the use of IAHA for knee OA and a recommendation of “not appropriate” for multijoint OA. The 2014 guidance by the National Institute for Health and Care Excellence stated: “Do not offer intra-articular hyaluronan injections for the management of osteoarthritis.” As noted, it is obvious that an argument exists regarding the clinical efficacy of IAHA products.

### **Joint**s Except the Knee

#### ***Ankle Osteoarthritis***

The evidence was examined from published RCTs and systematic reviews. A 2015 Cochrane review by Witteveen and colleagues addressed IAHA and other conservative treatments for ankle OA.

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Reviewers identified 6 RCTs, 3 of which were double-blind and compared IAHA to placebo. The other trials were single-blind. Two of them compared IAHA to another treatment (exercise in 1 study, botulinum toxin in the other) and the sixth trial compared different doses of hyaluronan. Five of the 6 trials included patients with unilateral ankle pain. Sample sizes at randomization ranged from 17 to 75, and length of follow-up ranged from 3 to 12 months. The authors pooled findings only for 2 of the 3 studies comparing IAHA and placebo. Meta-analyses of efficacy outcomes (pain, function) did not find statistically significant benefit favoring IAHA over placebo, with the exception of the outcome Ankle Osteoarthritis Scale (AOS) total score at 6 months. For the AOS outcome, the pooled effect size was -12.53 (95% CI: -23.84 to -1.22) in favor of IAHA; however, the evidence for this analysis was rated as low due to the limitation in study design (i.e., unclear risk of bias) and "...imprecision of result (low number of participants)." No serious adverse events were reported and no patient withdrew from the trial due to an adverse event.

A 2011 review of IAHA for ankle OA by Migliore and colleagues considered RCTs and observational studies. They identified 3 small RCTs with a total of 75 patients, and 4 case series. In 2 of the RCTs, IAHA was compared with placebo injection and the third RCT compared IAHA with exercise therapy. Reviewers were unable to conduct a meta-analysis due to the limited number of studies and study heterogeneity.

### ***Foot Osteoarthritis***

There is a very limited amount of evidence on IAHA injections in the foot. Munteanu and colleagues (2011) reported on an RCT of a single IAHA injection in 151 patients with first metatarsophalangeal joint OA. At the 1-, 3-, and 6-month follow-ups, there were no significant differences between the IAHA and placebo groups on the Foot Health Status Questionnaire.

### ***Thumb Osteoarthritis***

Two systematic reviews have evaluated IAHA and corticosteroid injections for treating thumb OA. The 2016 review by Kroon and colleagues identified 3 studies comparing IAHA and placebo and 6 comparing IAHA and corticosteroids. Findings from the IAHA studies were not pooled. Unlike the Kroon review, the 2015 systematic review by Trelu and colleagues included only RCTs and pooled study data. Six trials (total n=428 patients) were included in the meta-analyses; 169 patients were treated with IAHA, 147 with corticosteroids, and 74 with placebo. In pooled analyses of trials comparing IAHA and placebo (74 patients in each arm), there was no significant between-group difference in pain at week 12 (standardized response mean [SRM], -0.95; 95% CI, -3.87 to 1.97);

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however, functional capacity at week 12 was significantly better after IAHA than after placebo (SRM = -1.14; 95% CI, -1.69 to -0.60). When IAHA and corticosteroids were compared, there were no significant differences in pain, functional capacity, or pulp pinch force at 12 weeks. At 24 weeks, findings were mixed. There was no significant between IAHA and corticosteroids in functional capacity, IAHA was superior on pulp pinch force status (SRM = -1.66; 95% CI, -0.75 to -2.57), and corticosteroids were superior on pain (SRM=1.44; 95% CI, 0.14 to 2.74).

### ***Hip Osteoarthritis***

A 2015 systematic review by Lieberman et al included RCTs and observational studies (with a minimum of 10 patients) evaluating IAHA for treatment of pain associated with hip OA. Twenty-three studies were identified, 6 of which were RCTs. The studies evaluated 11 different formulations of IAHA. Durations of follow-up varied; 19 studies followed patients for 6 months or less, 3 studies had between 6 months and 1 year of follow-up, and 1 study followed patients for more than 1 year. The primary efficacy outcome was change from baseline in pain measured by a visual analog scale (VAS). Reviewers did not report the number of points on the VAS, but presumably this differed across studies and the authors appeared to standardize results on a 10-point VAS. A pooled analysis of data from all studies found a statistically significantly lower pain score at follow-up compared to baseline. Mean change was -1.97 points on the VAS (95% CI, -2.83 to -1.12). In a pooled analysis of the 6 RCTs, there was a significantly greater decrease in pain with IAHA than with a control intervention (-0.27 points on a VAS; 95% CI, -0.43 to -0.11). Although statistically significant, a between-group difference of 0.27 points on a VAS may not be clinically meaningful.

In 2016, Piccirilli and colleagues published a systematic review of RCTs evaluating IAHA for any type of hip disorder. They identified 25 RCTs; the trials addressed hip OA, hip rheumatoid arthritis, and femoroacetabular impingement. Reviewers provided a table of individual studies and noted that studies used different modalities and protocols; no attempt was made to synthesize findings quantitatively or qualitatively.

### ***Shoulder Osteoarthritis***

A 2014 systematic review by Colen and colleagues identified RCTs, controlled observational studies, and case series evaluating IAHA for treatment of glenohumeral OA in adults. Eight studies met the eligibility criteria; 2 were RCTs, 5 were prospective case series, and 1 was a retrospective case-control study. Due to heterogeneity across studies and the small number of controlled studies,

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reviewers did not pool study findings on the efficacy of IAHA compared with placebo or an alternative intervention for treating shoulder OA. The RCTs are described next.

Blaine and colleagues study (2008) was an industry-sponsored trial, 3-arm of 660 patients with persistent shoulder pain due to glenohumeral joint OA, rotator cuff tear, and/or adhesive capsulitis that compared 3 weekly injections to 5 weekly injections of Hyalgan and to 5 weekly injections of saline. Approximately 60% of patients had OA, although most with OA also had rotator cuff disorders or capsulitis. Sixty-nine percent (n=456) of the patients had a follow-up visit at 26 weeks. There was no significant difference among groups in the primary outcome measure (shoulder pain with movement at 13 weeks). Analysis of predefined, stratified subgroups revealed no significant differences in reported pain at 13 weeks but a statistically significant decrease of 7.5 mm and 7.8 mm (on a 100-mm VAS) in reported pain in both treatment groups at 26 weeks compared with placebo among patients with OA. In those without OA, there were no significant improvements with either regimen. Of note, this appears to be an as-treated analysis of the OA subgroup data, and the difference may not be clinically meaningful.

In 2013, Kwon and colleagues published findings from a multicenter, randomized, double-blind, placebo-controlled trial of IAHA in 300 patients with glenohumeral OA. Intention-to-treat analysis found similar improvements from baseline in 100-mm VAS for pain (19.88 mm for IAHA, 16.29 mm for sham treatment) and in the Outcome Measures in Rheumatoid Clinical Trials–Osteoarthritis Research Society International (OMERACT–OARSI) high responder rate (40.8% for IAHA, 34.9% for sham) at 26 weeks. In a subset of IAHA patients, there were statistically significant differences of 4.0 mm in VAS score and 8.37% on the OMERACT–OARSI. However, the clinical significance of these differences is uncertain.

### ***Spine Osteoarthritis***

The data are limited to small pilot studies and case series.

### **Summary**

IAHA injections into osteoarthritic joints are thought to replace hyaluronic acid, restore the viscoelastic properties of the synovial fluid, and improve pain and function. The largest amount of evidence is on treatment of OA of the knee. Individual trials show inconsistent results in pain and functional outcomes for IAHA compared to placebo or active control. Various meta-analyses of RCTs, however, support the clinical effectiveness of IAHA in OA of the knee. In general, studies

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report that IAHA had later onset but longer duration of action compared to intra-articular corticosteroid injections. A recent RCT found repeated injections of IAHA progressively increased the number of patients responding to IAHA. A positive carry-over effect for up to 1 year was also noted after repeated injections of IAHA. Therefore, based on a compilation of available evidence, IAHA injections for OA of the knee appear to reduce pain and improve health outcomes and may be considered to be eligible for coverage.

For individuals who have OA of joints other than the knee who receive IAHA injections, 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 (e.g., 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.

## **References**

1. Blue Cross and Blue Shield Association, Medical Policy Reference Manual, “Intra-articular Hyaluronan Injections for Osteoarthritis”, 2.01.31, 05:2019.
2. Clinical Summary of Hyaluronic Acid Derivatives. Express Scripts. Updated March 2016.
3. Hyalgan® [prescribing information]. Parsippany, NJ: Fidia Pharma USA; May 2014.
4. Synvisc® [prescribing information]. Ridgefield, NJ: Sanofi; September 2014.
5. Supartz® FX™ [prescribing information]. Memphis, TN: Smith & Nephew; April 28, 2015. .
6. Orthovisc® [prescribing information]. Raynham, MA: DePuy Mitek, Inc; Not dated. Code 59676-360-01.
7. Euflexxa® [prescribing information]. Parsippany, NJ: Ferring Pharmaceuticals, Inc.; June 2015.
8. Synvisc-One® [prescribing information]. Ridgefield, NJ: Sanofi; September 2014.
9. Gel-One® [prescribing information]. Warsaw, IN: Zimmer; May 20, 2011.
10. Monovisc™ [prescribing information]. Raynham, MA: DePuy Mitek, Inc./Johnson & Johnson; Not dated. Code 59676-820-01. Received 04/09/2014.
11. Gel-Syn [prescribing information]. Pambio-Noranco, Switzerland: IBSA; not dated. Accessed on October 14, 2015.

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12. Hymovis [prescribing information]. Parsippany, NJ: Fidia Pharma USA; not dated. Accessed on October 14, 2015.
13. GenVisc 850 [prescribing information]. Doylestown, PA: OrthogenRx; not dated. Accessed on March 6, 2016.
14. Divine JG, Zazulak BT, Hewett TE. A systematic review of viscosupplementation for knee osteoarthritis. *Clin Orthop Relat Res.* 2007;455:113-122.
15. Bannuru RR, Natov NS, Dasi UR, et al. Therapeutic trajectory following intra-articular hyaluronic acid injection in knee osteoarthritis--meta-analysis. *Osteoarthritis Cartilage.* 2011;19(6):611-619.
16. 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. PMID 26729890.
17. American Academy of Orthopaedic Surgeons. Treatment of osteoarthritis of the knee. 2013; <http://www.aaos.org/research/guidelines/TreatmentofOsteoarthritisoftheKneeGuideline.pdf>. Accessed March 6, 2017.
18. 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 and Rheumatology.* February 2020;72(2):220-233.
19. McAlindon TE, Bannuru RR, Sullivan MC, et al. OARSI guidelines for the non-surgical management of knee osteoarthritis. *Osteoarthritis Cartilage.* Mar 2014;22(3):363-388. PMID 24462672
20. National Institute for Health and Clinical Excellence (NICE). Osteoarthritis: national clinical guideline for care and management in adults [CG177]. 2014; <https://www.nice.org.uk/guidance/cg177>. Accessed March 6, 2017.
21. Witteveen AG, Hofstad CJ, Kerkhoffs GM. Hyaluronic acid and other conservative treatment options for osteoarthritis of the ankle. *Cochrane Database Syst Rev.* 2015;10:CD010643. PMID 26475434
22. Migliore A, Giovannangeli F, Bizzi E, et al. Viscosupplementation in the management of ankle osteoarthritis: a review. *Arch Orthop Trauma Surg.* Jan 2011;131(1):139-147. PMID 20697901
23. 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):1838-1841. PMID 21791454

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24. 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):119-133. PMID 26650235
25. 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):315-319. PMID 25776442
26. 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):507-511. PMID 25542833
27. Piccirilli E, Oliva F, Mure MA, et al. Viscosupplementation with intra-articular hyaluronic acid for hip disorders. A systematic review and meta-analysis. *Muscles Ligaments Tendons J*. Jul-Sep 2016;6(3):293-299. PMID 28066733
28. 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):114-121. PMID 25538430
29. 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):970-979. PMID 18451387
30. 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*. Jan 16 2013;22(5):584-594. PMID 23333168
31. Durolane [package insert]. Bioventus. Durham, North Carolina.
32. TriVisc [package insert]. Orthogen RX. Doylestown, Pennsylvania
33. Visco-3 [package insert]. Bioventus. Durham, North Carolina.
34. Triluron [package insert]. Fidia Pharma, USA. Florham Park New Jersey.
35. Synjoynt [package insert]. Teva Pharmaceuticals, USA. North Wales, Pennsylvania.
36. Kellgren JH, Lawrence JS. Radiological assessment of osteoarthritis. *Ann Rheum Dis*. 1957 Dec; 16(4): 494-502.

### **Policy History**

Original Effective Date: 01/27/2003

Current Effective Date: 04/13/2020

11/20/2002 Medical Policy Committee review

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## Intra-Articular Hyaluronan Injections for Osteoarthritis of the Knee

Policy # 00075

Original Effective Date: 01/27/2003

Current Effective Date: 04/13/2020

01/27/2003	Managed Care Advisory Council approval
01/20/2004	Medical Policy Committee review. Format revision. No substance change to policy.
01/26/2004	Managed Care Advisory Council approval
01/04/2005	Medical Director review
01/18/2005	Medical Policy Committee review
01/31/2005	Managed Care Advisory Council approval
01/04/2006	Medical Director review
01/17/2006	Medical Policy Committee review. Format revision. New criteria added. Must have failed conservative therapy for at least three months, have a documented diagnosis of osteoarthritis as evidenced by x-ray, and have failed a trial of at least one injection of a steroid into the knee to be eligible for coverage.
10/11/2006	Medical Director review
10/18/2006	Medical Policy Committee approval. Additional rationale/source was added from Hayes to support the requirement of a failed trial of at least one injection of a steroid into the knee.
12/06/2006	Medical Director review
12/20/2006	Medical Policy Committee approval. Coverage eligibility unchanged.
01/09/2008	Medical Director review
01/23/2008	Medical Policy Committee approval. Removed requirement of steroid injection from patient selection criteria prior to approval. Added statement to deny not medically necessary when patient selection criteria is not met.
01/07/2009	Medical Director review
01/14/2009	Medical Policy Committee approval. No change to coverage eligibility.
05/07/2009	Medical Director review
05/20/2009	Medical Policy Committee approval. Added new information regarding Synvisc-One.
08/05/2010	Medical Policy Committee review
08/18/2010	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.
08/04/2011	Medical Policy Committee review
08/17/2011	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.
08/02/2012	Medical Policy Committee review

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08/15/2012	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.
03/04/2013	Coding revised
11/07/2013	Medical Policy Committee review
11/20/2013	Medical Policy Implementation Committee approval. Coverage language changed without altering the intent of the policy.
08/07/2014	Medical Policy Committee review
08/20/2014	Medical Policy Implementation Committee approval. Added Monovisc as a covered medication for intra-articular hyaluronan injection for the treatment of painful osteoarthritis of the knee
01/01/2015	Coding Update
08/03/2015	Coding update: ICD10 Diagnosis code section added; ICD9 Procedure code section removed.
10/08/2015	Medical Policy Committee review
10/21/2015	Medical Policy Implementation Committee approval. Updated rationale section for the “joints other than the knee”. No coverage changes.
01/01/2016	Coding update
06/02/2016	Medical Policy Committee review
06/20/2016	Medical Policy Implementation Committee approval. Added three new products: Gel-Syn, Hymovis, Genvisc
01/01/2017	Coding update: Removing ICD-9 Diagnosis Codes
07/06/2017	Medical Policy Committee review
07/19/2017	Medical Policy Implementation Committee approval. Added criteria that preferred products (Synvisc or Synvisc One and Euflexxa) must be tried and failed.
12/07/2017	Medical Policy Committee review
12/20/2017	Medical Policy Implementation Committee approval. Added name of a new drug to policy (Durolane). Made a clarification that the failure of preferred products is for requests OTHER than Synvisc, Synvisc-One or Euflexxa.
04/01/2018	Coding update
12/06/2018	Medical Policy Committee review
12/19/2018	Medical Policy Implementation Committee approval. Added Visco-3, Supartz FX, and TriVisc to the policy. Added additional statements to clarify that patellofemoral syndrome and chondromalacia patellae are considered investigational.

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01/01/2019 Coding update  
12/05/2019 Medical Policy Committee review  
12/11/2019 Medical Policy Implementation Committee approval. Clarified coverage of osteoarthritis with the Kellgren-Lawrence Scale. Clarified coverage of pain due to osteoarthritis. Added two new products, Synojoynt and Triluron. Updated background information to include Kellgren-Lawrence Scale.  
03/05/2020 Medical Policy Committee review  
03/11/2020 Medical Policy Implementation Committee approval. Updated policy to clarify renewal criteria requirements that overlap with initial criteria requirements. Added the American College of Rheumatology Guideline statement. Added investigational statement clarifying the need to meet the Kellgren-Lawrence Scale Score.  
06/10/2020 Coding update  
Next Scheduled Review Date: 03/2021

### **Coding**

*The five character codes included in the Blue Cross Blue Shield of Louisiana Medical Policy Coverage Guidelines are obtained from Current Procedural Terminology (CPT®)‡, copyright 2019 by the American Medical Association (AMA). CPT is developed by the AMA as a listing of descriptive terms and five character identifying codes and modifiers for reporting medical services and procedures performed by physician.*

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*contains the complete and most current listing of CPT codes and descriptive terms. Applicable FARS/DFARS apply.*

CPT is a registered trademark of the American Medical Association.

Codes used to identify services associated with this policy may include (but may not be limited to) the following:

Code Type	Code
CPT	20610, 20611
HCPCS	J3590, J7318, J7320, J7321, J7322, J7323, J7324, J7325, J7326, J7327, J7328, J7329, J7331, J7332 Code added eff 7/1/2020: J7333
ICD-10 Diagnosis	M15.0-M16.0, M16.10-M16.12, M16.2, M16.30-M16.32, M16.4, M16.50-M16.52, M16.6-M17.0, M17.10-M17.12, M17.2, M17.30-M17.32, M17.4, M17.5, M17.9-M18.0, M18.10-M18.12, M18.2, M18.30-M18.32, M18.4, M18.50-M18.52, M18.9, M19.011-M19.079, M19.111-M19.179, M19.211-M19.279, M19.990-M19.993

\*Investigational – A medical treatment, procedure, drug, device, or biological product is Investigational if the effectiveness has not been clearly tested and it has not been incorporated into standard medical practice. Any determination we make that a medical treatment, procedure, drug, device, or biological product is Investigational will be based on a consideration of the following:

- A. Whether the medical treatment, procedure, drug, device, or biological product can be lawfully marketed without approval of the U.S. Food and Drug Administration (FDA) and whether such approval has been granted at the time the medical treatment, procedure, drug, device, or biological product is sought to be furnished; or
- B. Whether the medical treatment, procedure, drug, device, or biological product requires further studies or clinical trials to determine its maximum tolerated dose, toxicity, safety, effectiveness, or effectiveness as compared with the standard means of treatment or diagnosis, must improve health outcomes, according to the consensus of opinion among experts as shown by reliable evidence, including:
  - 1. Consultation with the Blue Cross and Blue Shield Association technology assessment program (TEC) or other nonaffiliated technology evaluation center(s);

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2. Credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community; or
3. Reference to federal regulations.

**\*\*Medically Necessary (or “Medical Necessity”)** - Health care services, treatment, procedures, equipment, drugs, devices, items or supplies that a Provider, exercising prudent clinical judgment, would provide to a patient for the purpose of preventing, evaluating, diagnosing or treating an illness, injury, disease or its symptoms, and that are:

- A. In accordance with nationally accepted standards of medical practice;
- B. Clinically appropriate, in terms of type, frequency, extent, level of care, site and duration, and considered effective for the patient's illness, injury or disease; and
- C. Not primarily for the personal comfort or convenience of the patient, physician or other health care provider, and not more costly than an alternative service or sequence of services at least as likely to produce equivalent therapeutic or diagnostic results as to the diagnosis or treatment of that patient's illness, injury or disease.

For these purposes, “nationally accepted standards of medical practice” means standards that are based on credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community, Physician Specialty Society recommendations and the views of Physicians practicing in relevant clinical areas and any other relevant factors.

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**NOTICE:** If the Patient’s health insurance contract contains language that differs from the BCBSLA Medical Policy definition noted above, the definition in the health insurance contract will be relied upon for specific coverage determinations.

**NOTICE:** Medical Policies are scientific based opinions, provided solely for coverage and informational purposes. Medical Policies should not be construed to suggest that the Company recommends, advocates, requires, encourages, or discourages any particular treatment, procedure, or service, or any particular course of treatment, procedure, or service.

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