

The Osteoarthritis (OA) Treatment Pathway: Your Guide to Finding Pain Relief



20
YEARS

DUROLANE
POWERFUL &
LONG-LASTING
PAIN RELIEF

Were you recently diagnosed with OA?

If so, understanding your treatment options can help you spend less time seeking relief and more time doing what you love.

Or if you have not been diagnosed, you may recognize these common OA symptoms:¹

- Joint pain
- Joint stiffness and swelling
- Reduced joint range of motion and flexibility
- Joint weakness
- Grating sensations when moving your joints
- Fatigue
- Anxiety and depression

Early diagnosis of OA and proactive treatment can help you manage your OA effectively.

Starting your OA treatment pathway²

No single OA therapy works for everybody, and treatments vary in terms of risks, side effects, and duration of benefits. It is important to discuss your OA care options with your doctor.

Many doctors recommend an approach that includes a combination of treatments, such as:

- Physical therapy
- Exercise
- Weight management
- Anti-inflammatory medications
- Corticosteroid or platelet rich plasma (PRP) injection therapies
- Hyaluronic acid (HA) injection therapies, such as DUROLANE

DUROLANE[®]
hyaluronic acid, stabilized single injection



Understanding your OA treatment options

With so many treatments available, finding the right OA treatment pathway may seem overwhelming. The following chart can help you understand some of your options. Always consult your doctor and/or a qualified and recognized medical professional before starting any OA treatment.

Treatment	Potential Benefits	Disadvantages
Weight management³	May reduce inflammation and pressure on joints, increase energy and activity, slow OA progression, and improve your chances of OA flare remission	No known disadvantages
Joint mobility and strength training³	May decrease pain, strengthen muscles, and improve flexibility and balance	Too much exercise may cause excessive pain
Vitamins and supplements such as glucosamine and vitamin D^{3,4}	May reduce inflammation	Minor gastrointestinal events
Heat therapy, such as a heating pad, steam shower, or warm bath³	May relieve joint stiffness and muscle aches	Should not be used during an OA flare
Painkillers, such as acetaminophen⁴	May help manage pain	May cause liver toxicity
Nonsteroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen, diclofenac, celecoxib and naproxen⁵	May reduce joint inflammation, pain, and swelling	Excessive or long-term use increases the risk of adverse events affecting upper gastrointestinal tract, kidney, or cardiovascular functions
Opioids, such as oxycodone, hydrocodone, codeine, and morphine⁵	May reduce joint inflammation, pain, and swelling in more severe cases	Increases the risk of cardiovascular adverse events, fractures, and hospitalizations; may lead to addiction
Intra-articular corticosteroids^{6,7}	May provide immediate relief of OA pain and reduce joint inflammation	Not recommended for repeat use
Platelet rich plasma (PRP) injections⁴	May ease pain and improve function; no known side effects	Low-quality evidence support; high variability in effectiveness
Intra-articular hyaluronic acid injections^{8,9}	May provide long-lasting pain relief, while also improving joint function and range of motion.	Variability in results depending on HA chemical composition; risk of pain and stiffness after treatment



Where DUROLANE fits in your OA treatment pathway

If you do not get adequate pain relief from treatments such as oral medications, physical therapy, or corticosteroid injections, you may be a good candidate for DUROLANE.

DUROLANE is a high molecular weight, single-injection HA therapy.⁸ HA is found naturally throughout the body. It is an important component of synovial fluid, which provides lubrication and cushioning in healthy joints.

The HA in DUROLANE has the same composition as the natural HA that your body produces, but it's in a highly concentrated formulation that has been uniquely stabilized to resist degradation.⁸



Receiving your DUROLANE treatment?



LOCATION

Doctor's office
or medical clinic



PROVIDER

A trained and
authorized physician,
typically your
treating physician



DURATION

Less than 30 minutes



PAIN

Local anesthetic
to minimize injection
discomfort, if needed



STEPS



Many factors influence which OA therapies work best for different patients.

So talk to your doctor to find out if DUROLANE might be right for you.

1

The doctor will **locate** the joint cavity.

2

The doctor will **swab** the injection site with alcohol or an antiseptic solution.

3

The doctor may **apply a local anesthetic** to minimize any discomfort at the injection site.

4

If effusion is present, the doctor **may remove** the excess fluid.

5

The doctor will **inject DUROLANE** into the joint cavity. (The doctor may use image guidance to ensure accurate placement.)

What makes DUROLANE different?

As a patient, you may be presented with different options to treat OA without knowing how each option can help you. The following information can give you a clear understanding of DUROLANE's design and benefits.

HIGH MOLECULAR WEIGHT

With a molecular weight higher than that of the body's natural HA, DUROLANE can provide longer-lasting pain relief than lower molecular weight HAs, NSAIDs, or corticosteroid injections.^{5,6,10-12}



PATENTED NASHA® TECHNOLOGY

DUROLANE has a **cross-linked and stabilized molecular structure**. Its patented chemical design, called NASHA (non-animal stabilized hyaluronic acid), makes DUROLANE **highly viscous, shock absorbent, and resistant to degradation**.⁸

These qualities mean that DUROLANE provides extra cushioning and improved range of motion. Because it is resistant to degradation, DUROLANE also may provide longer-lasting pain relief than other OA treatments.^{8,13,14}



BIO-FERMENTED

DUROLANE is a bio-fermented synthetic product, eliminating avian allergens and reducing the risk of adverse events.^{8,16,17}



REDUCES PAIN SENSATION

DUROLANE can act as a shield around the pain signals sent from the joint. This may help reduce or eliminate your use of NSAIDs or other pain medications—which also means reducing or eliminating the risk of developing side effects of these treatments.^{5,15}



LONG-LASTING PAIN RELIEF

DUROLANE is known for its ability to provide OA patients with long-lasting pain relief.^{6,10}



Is DUROLANE right for you?

You may be prescribed DUROLANE if you are:

1. Diagnosed with mild to moderate OA⁹
2. Diagnosed with OA in the knee, hip, shoulder, ankle, wrist, fingers, or toes*⁹
3. A nonresponder to alternative OA treatments¹⁷
4. Allergic to animal-sourced products and in need of a synthetic product¹⁷
5. Motivated to get back to your normal daily activities
6. Looking to delay joint replacement surgery, with a treatment safe for repeated use over time^{6,18}
7. Not a surgical candidate and needing a nonoperative treatment for long lasting pain relief^{6,10,18}

Many factors may influence which OA therapies work best for you. So talk with your doctor to find out if DUROLANE should be part of your treatment pathway.

*For DUROLANE's full summary of indications, see back page of this booklet.



After receiving your DUROLANE treatment⁹

Your doctor will provide you with the DUROLANE post-injection treatment guide and care instructions.

The most common side effects of treatment with DUROLANE are mild to moderate pain, swelling, or stiffness for up to one week after the injection. Placing a cold pack on the site for 10 to 15 minutes may reduce these effects. If symptoms last more than a week, contact your doctor.

You may be advised to avoid strenuous activity (such as tennis, jogging, and long walks) for two days after the injection.

DUROLANE can give you freedom from knee OA pain, improving joint function and quality of life **as early as two weeks after treatment**.¹⁹

Five ways DUROLANE may affect your OA treatment pathway:

1

Predictable treatment outcomes

- Evidence-based treatment²⁰
- Powerful and lasting improvement in quality of life¹⁰

2

Cost-effectiveness

- Single injection regimen²¹
- Reduction in indirect costs, such as transportation and fuel
- Less time away from work

3

Flexibility

- Minimal clinic visits
- Easier for patients with mobility or transportation concerns

4

Proven safety and effectiveness^{9,16}

- Non-avian source and minimal cross-linking, resulting in a low risk of adverse events or allergic reactions

5

Delay of total joint replacement¹⁸

- Nonoperative treatment for patients who cannot have surgery
- Nonoperative treatment option while waiting for surgical intervention due to backlogs

Questions?

Visit: DUROLANE.com

Email: Customercare-International@BioventusGlobal.com



References: 1. Arthritis Society Canada. Osteoarthritis. Last updated September 2017. [https://arthritis.ca/about-arthritis/arthritis-types-\(a-z\)/types/osteoarthritis](https://arthritis.ca/about-arthritis/arthritis-types-(a-z)/types/osteoarthritis) 2. Bruyère O, Honvo G, Veronese N, et al. An updated algorithm recommendation for the management of knee osteoarthritis from the European Society for Clinical and Economic Aspects of Osteoporosis, Osteoarthritis and Musculoskeletal Diseases (ESCEO). *Semin Arthritis Rheum.* 2019;49(3):337-50. doi:10.1016/j.semarthrit.2019.04.008 3. Arthritis Foundation. Osteoarthritis. Accessed May 4, 2022. www.arthritis.org/diseases/osteoarthritis 4. Charlesworth J, Fitzpatrick J, Perera NKP, Orchard J. Osteoarthritis- a systematic review of long-term safety implications for osteoarthritis of the knee. *BMC Musculoskelet Disord.* 2019;20(1):151. doi:10.1186/s12891-019-2525-0 5. Maheu E, Bannuru RR, Herrero-Beaumont G, Allali F, Bard H, Migliore A. Why we should definitely include intra-articular hyaluronic acid as a therapeutic option in the management of knee osteoarthritis: results of an extensive critical literature review. *Semin Arthritis Rheum.* 2019;48(4):563-72. doi:10.1016/j.semarthrit.2018.06.002 6. Leighton R, Akermark C, Therrien R, et al. NASHA hyaluronic acid vs. methylprednisolone for knee osteoarthritis: a prospective, multi-centre, randomized, non-inferiority trial. *Osteoarthritis Cartilage.* 2014;22(1):17-25. doi:10.1016/j.joca.2013.10.009 7. Kompel AJ, Roemer FW, Murakami AM, Diaz LE, Crema MD, Guermazi A. Intra-articular corticosteroid injections in the hip and knee: perhaps not as safe as we thought? *Radiology.* 2019;293(3):656-63. doi:10.1148/radiol.2019190341 8. Ågerup B, Berg P, Akermark C. Non-animal stabilized hyaluronic acid: a new formulation for the treatment of osteoarthritis. *Biodrugs* 2005;19(1):23-30. doi:10.2165/000633030-200519010-00003 9. DUROLANE [package insert]. Durham, NC: Bioventus LLC; 2019. 10. McGrath AF, McGrath AM, Jessop ZM, et al. A comparison of intraarticular hyaluronic acid competitors in the treatment of mild to moderate knee osteoarthritis. *J Arthritis.* 2013;2(1):1000108. doi:10.4172/2167-7921.1000108 11. Hummer CD, Angst F, Ngai W, et al. High molecular weight Intraarticular hyaluronic acid for the treatment of knee osteoarthritis: a network meta-analysis. *BMC Musculoskelet Disord.* 2020;21(1):702. doi:10.1186/s12891-020-03729-w 12. 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.* 2020;28(9):3031-9. doi:10.1007/s00167-019-05763-1 13. Edsman K, Hjeltner M, Lärkner H, et al. Intra-articular duration of Durolane™ after single injection into the rabbit knee. *Cartilage.* 2011;2(4):384-8. doi:10.1177/1947603511400184 14. Lindqvist U, Tolmachev V, Kairemo K, Åström G, Jonsson E, Lundqvist H. Elimination of stabilised hyaluronan from the knee joint in healthy men. *Clin Pharmacokinet.* 2002;41(8):603-13. doi:10.2165/00003088-200241080-00004 15. Altman R, Lim S, Steen RG, Dasa V. Hyaluronic acid injections are associated with delay of total knee replacement surgery in patients with knee osteoarthritis: evidence from a large U.S. health claims database. *PLoS One.* 2015;10(12):e0145776. doi:10.1371/journal.pone.0145776 16. Zhang H, Zhang K, Zhang X, et al. Comparison of two hyaluronic acid formulations for safety and efficacy (CHASE) study in knee osteoarthritis: a multicenter, randomized, double-blind, 26-week non-inferiority trial comparing Durolane to Artz. *Arthritis Res Ther.* 2015;17(1):51. doi:10.1186/s13075-015-0557-x 17. Altman RD, Akermark C, Beaulieu AD, Schnitzer T; Durolane International Study Group. Efficacy and safety of a single intra-articular injection of non-animal stabilized hyaluronic acid (NASHA) in patients with osteoarthritis of the knee. *Osteoarthritis Cartilage.* 2004;12(8):642-9. doi:10.1016/j.joca.2004.04.010 18. Romero Jurado M, Enrique Fidalgo A, Rodríguez Villar V, Mar Medina J, Soler López B. Factors related with the time to surgery in waiting-list patients for knee prostheses. *Reumatol Clin.* 2013;9(3):148-55. doi:10.1016/j.reuma.2012.09.003 19. Krockner D, Matziolis G, Tuischer J, et al. Reduction of arthrosis associated knee pain through a single intra-articular injection of synthetic hyaluronic acid. *Z Rheumatol.* 2006;65(4):327-31. doi:10.1007/s00393-006-0063-2 20. Bioventus LLC. Claim for amount of studies investigating DUROLANE. Data on file, RPT-001367. 21. McIntyre L, Beach W, Bhattacharyya S, et al. Impact of hyaluronic acid injections on utilization of pain management medications. *Am J Pharm Benefits.* 2017;9(6):195-9.

Summary of Indications for Use:

DUROLANE (3 mL): Argentina, Australia,* Brazil, Chile, Colombia, EU,* India, Jordan, New Zealand,* Russia, Switzerland,* Turkey,* United Arab Emirates: Symptomatic treatment of mild to moderate knee or hip osteoarthritis. In addition, DUROLANE has been approved in Australia, EU and New Zealand for the symptomatic treatment associated with mild to moderate osteoarthritis pain in the ankle, shoulder, elbow, wrist, fingers, and toes.

Mexico: Symptomatic treatment of mild to moderate knee osteoarthritis.

Taiwan: Treatment of pain in OA of the knee in patients who have failed to respond adequately to conservative non-pharmacologic therapy and simple analgesics, e.g., acetaminophen.

Canada:* Symptomatic treatment of mild to moderate knee or hip osteoarthritis. In addition, DUROLANE has been licenced for the symptomatic treatment associated with mild to moderate osteoarthritis pain in the ankle, fingers and toes.

*DUROLANE is also indicated for pain following joint arthroscopy in the presence of osteoarthritis within 3 months of the procedure.

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