



EFFECTIVE DATE: 08|02|2007

POLICY LAST UPDATED: 12|20|2023

OVERVIEW

Prolotherapy describes a procedure intended for healing and strengthening ligaments and tendons by injecting an agent that induces inflammation and stimulates endogenous repair mechanisms. Prolotherapy may also be referred to as proliferant injection, prolo, joint sclerotherapy, regenerative injection therapy, growth factor stimulation injection, or nonsurgical tendon, ligament, and joint reconstruction.

MEDICAL CRITERIA

Not applicable

PRIOR AUTHORIZATION

Not applicable

POLICY STATEMENT

Medicare Advantage Plans

Prolotherapy is not covered as a treatment of musculoskeletal pain as the evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Commercial Products

Prolotherapy is not medically necessary as a treatment of musculoskeletal pain as the evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

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/not covered benefits/coverage.

BACKGROUND

The goal of prolotherapy is to promote tissue repair or growth by prompting release of growth factors, such as cytokines, or by increasing the effectiveness of existing circulating growth factors. The mechanism of action is not well-understood but may involve local irritation and/or cell lysis. Agents used with prolotherapy have included zinc sulfate, psyllium seed oil, combinations of dextrose; glycerin; and phenol, or dextrose alone, often combined with a local anesthetic. Polidocanol and sodium morrhuate, vascular sclerosants, have also been used to sclerose areas of high intratendinous blood flow associated with tendinopathies. Prolotherapy typically involves multiple injections per session conducted over a series of treatment sessions.

A similar approach involves the injection of autologous platelet-rich plasma (PRP), which contains a high concentration of platelet-derived growth factors.

For individuals who have musculoskeletal pain (eg, chronic neck, back pain), osteoarthritic pain, or tendinopathies of the upper or lower limbs who receive prolotherapy, the evidence includes small randomized trials with inconsistent results. Relevant outcomes are symptoms, functional outcomes, and quality of life. The strongest evidence evaluates the use of prolotherapy for the treatment of osteoarthritis, but the clinical significance of the therapeutic results is uncertain. The evidence is insufficient to determine that the

technology results in an improvement in the net health outcome. Therefore, prolotherapy is considered not medically necessary.

CODING

The following code is not covered for Medicare Advantage Plans and not medically necessary for Commercial Products:

M0076 Prolotherapy

RELATED POLICIES

Not applicable

PUBLISHED

Provider Update, February 2023

Provider Update, March 2022

Provider Update, December 2021

Provider Update, January 2021

Provider Update, October 2019

REFERENCES

1. Dagenais S, Yelland MJ, Del Mar C, et al. Prolotherapy injections for chronic low-back pain. *Cochrane Database Syst Rev*. Apr 18 2007; 2007(2): CD004059. PMID 17443537
2. Dagenais S, Mayer J, Haldeman S, et al. Evidence-informed management of chronic low back pain with prolotherapy. *Spine J*. 2008; 8(1): 203-12. PMID 18164468
3. Chou R, Atlas SJ, Stanos SP, et al. Nonsurgical interventional therapies for low back pain: a review of the evidence for an American Pain Society clinical practice guideline. *Spine (Phila Pa 1976)*. May 01 2009; 34(10): 1078-93. PMID 19363456
4. Yelland MJ, Glasziou PP, Bogduk N, et al. Prolotherapy injections, saline injections, and exercises for chronic low-back pain: a randomized trial. *Spine (Phila Pa 1976)*. Jan 01 2004; 29(1): 9-16; discussion 16. PMID 14699269
5. Klein RG, Eek BC, DeLong WB, et al. A randomized double-blind trial of dextrose-glycerine-phenol injections for chronic, low back pain. *J Spinal Disord*. Feb 1993; 6(1): 23-33. PMID 8439713
6. Ongley MJ, Klein RG, Dorman TA, et al. A new approach to the treatment of chronic low back pain. *Lancet*. Jul 18 1987; 2(8551): 143-6. PMID 2439856
7. Bahgat MM, Abdel-Hamid AM. Is dextrose prolotherapy beneficial in the management of temporomandibular joint internal derangement? A systematic review. *Cranio*. Apr 25 2023; 1-9. PMID 37097125
8. Kim WM, Lee HG, Jeong CW, et al. A randomized controlled trial of intra-articular prolotherapy versus steroid injection for sacroiliac joint pain. *J Altern Complement Med*. Dec 2010; 16(12): 1285-90. PMID 21138388
9. Reeves KD, Hassanein KM. Long-term effects of dextrose prolotherapy for anterior cruciate ligament laxity. *Altern Ther Health Med*. 2003; 9(3): 58-62. PMID 12776476
10. Waluyo Y, Artika SR, Insani Nanda Wahyuni AMAK, et al. Efficacy of Prolotherapy for Osteoarthritis: A Systematic Review. *J Rehabil Med*. Feb 27 2023; 55: jrm00372. PMID 36847731
11. Cortez VS, Moraes WA, Taba JV, et al. Comparing dextrose prolotherapy with other substances in knee osteoarthritis pain relief: A systematic review. *Clinics (Sao Paulo)*. 2022; 77: 100037. PMID 35594623
12. Arias-Vázquez PI, Tovilla-Zárate CA, Castillo-Avila RG, et al. Hypertonic Dextrose Prolotherapy, an Alternative to Intra-Articular Injections With Hyaluronic Acid in the Treatment of Knee Osteoarthritis: Systematic Review and Meta-analysis. *Am J Phys Med Rehabil*. Sep 01 2022; 101(9): 816-825. PMID 34740224
13. Wee TC, Neo EJR, Tan YL. Dextrose prolotherapy in knee osteoarthritis: A systematic review and meta-analysis. *J Clin Orthop Trauma*. Aug 2021; 19: 108-117. PMID 34046305

14. Sert AT, Sen EI, Esmacilzadeh S, et al. The Effects of Dextrose Prolotherapy in Symptomatic Knee Osteoarthritis: A Randomized Controlled Study. *J Altern Complement Med.* May 2020; 26(5): 409-417. PMID 32223554
15. Rabago D, Patterson JJ, Mundt M, et al. Dextrose prolotherapy for knee osteoarthritis: a randomized controlled trial. *Ann Fam Med.* 2013; 11(3): 229-37. PMID 23690322
16. Reeves KD, Hassanein K. Randomized prospective double-blind placebo-controlled study of dextrose prolotherapy for knee osteoarthritis with or without ACL laxity. *Altern Ther Health Med.* Mar 2000; 6(2): 68-74, 77-80. PMID 10710805
17. Bayat M, Hojjati F, Boland Nazar NS, et al. Comparison of Dextrose Prolotherapy and Triamcinolone Intraarticular Injection on Pain and Function in Patients with Knee Osteoarthritis - A Randomized Clinical Trial. *Anesth Pain Med.* Apr 2023; 13(2): e134415. PMID 37601963
18. Jahangiri A, Moghaddam FR, Najafi S. Hypertonic dextrose versus corticosteroid local injection for the treatment of osteoarthritis in the first carpometacarpal joint: a double-blind randomized clinical trial. *J Orthop Sci.* Sep 2014; 19(5): 737-43. PMID 25158896
19. Rabago D, Mundt M, Zgierska A, et al. Hypertonic dextrose injection (prolotherapy) for knee osteoarthritis: Long term outcomes. *Complement Ther Med.* Jun 2015; 23(3): 388-95. PMID 26051574
20. Reeves KD, Hassanein K. Randomized, prospective, placebo-controlled double-blind study of dextrose prolotherapy for osteoarthritic thumb and finger (DIP, PIP, and trapeziometacarpal) joints: evidence of clinical efficacy. *J Altern Complement Med.* Aug 2000; 6(4): 311-20. PMID 10976977
21. Fong HPY, Zhu MT, Rabago DP, et al. Effectiveness of Hypertonic Dextrose Injection (Prolotherapy) in Plantar Fasciopathy: A Systematic Review and Meta-analysis of Randomized Controlled Trials. *Arch Phys Med Rehabil.* Apr 23 2023. PMID 37098357
22. Ahadi T, Cham MB, Mirmoghtadaei M, et al. The effect of dextrose prolotherapy versus placebo/other non-surgical treatments on pain in chronic plantar fasciitis: a systematic review and meta-analysis of clinical trials. *J Foot Ankle Res.* Feb 10 2023; 16(1): 5. PMID 36759882
23. Goh SL, Jaafar Z, Gan YN, et al. Efficacy of prolotherapy in comparison to other therapies for chronic soft tissue injuries: A systematic review and network meta-analysis. *PLoS One.* 2021; 16(5): e0252204. PMID 34038486
24. Chung MW, Hsu CY, Chung WK, et al. Effects of dextrose prolotherapy on tendinopathy, fasciopathy, and ligament injuries, fact or myth?: A systematic review and meta-analysis. *Medicine (Baltimore).* Nov 13 2020; 99(46): e23201. PMID 33181700
25. Zhu M, Rabago D, Chung VC, et al. Effects of Hypertonic Dextrose Injection (Prolotherapy) in Lateral Elbow Tendinosis: A Systematic Review and Meta-analysis. *Arch Phys Med Rehabil.* Nov 2022; 103(11): 2209-2218. PMID 35240122
26. Scarpone M, Rabago DP, Zgierska A, et al. The efficacy of prolotherapy for lateral epicondylitis: a pilot study. *Clin J Sport Med.* May 2008; 18(3): 248-54. PMID 18469566
27. Akcay S, Gurel Kandemir N, Kaya T, et al. Dextrose Prolotherapy Versus Normal Saline Injection for the Treatment of Lateral Epicondylopathy: A Randomized Controlled Trial. *J Altern Complement Med.* Dec 2020; 26(12): 1159-1168. PMID 32990454
28. Apaydin H, Bazancir Z, Altay Z. Injection Therapy in Patients with Lateral Epicondylalgia: Hyaluronic Acid or Dextrose Prolotherapy? A Single-Blind, Randomized Clinical Trial. *J Altern Complement Med.* Dec 2020; 26(12): 1169-1175. PMID 32931308
29. Bayat M, Raeissadat SA, Mortazavian Babaki M, et al. Is Dextrose Prolotherapy Superior To Corticosteroid Injection In Patients With Chronic Lateral Epicondylitis?: A Randomized Clinical Trial. *Orthop Res Rev.* 2019; 11: 167-175. PMID 31819675
30. Carayannopoulos A, Borg-Stein J, Sokolof J, et al. Prolotherapy versus corticosteroid injections for the treatment of lateral epicondylitis: a randomized controlled trial. *PM R.* Aug 2011; 3(8): 706-15. PMID 21871414
31. Rabago D, Best TM, Zgierska AE, et al. A systematic review of four injection therapies for lateral epicondylitis: prolotherapy, polidocanol, whole blood and platelet-rich plasma. *Br J Sports Med.* Jul 2009; 43(7): 471-81. PMID 19028733

32. Yelland MJ, Sweeting KR, Lyftogt JA, et al. Prolotherapy injections and eccentric loading exercises for painful Achilles tendinosis: a randomised trial. *Br J Sports Med.* Apr 2011; 45(5): 421-8. PMID 19549615
33. Lin LC, Lee YH, Chen YW, et al. Comparison Clinical Effects of Hypertonic Dextrose and Steroid Injections on Chronic Subacromial Bursitis: A Double-Blind Randomized Controlled Trial. *Am J Phys Med Rehabil.* Oct 01 2023; 102(10): 867-872. PMID 36897810
34. Kazempour Mofrad M, Rezasoltani Z, Dadarkhah A, et al. Periarticular Neurofascial Dextrose Prolotherapy Versus Physiotherapy for the Treatment of Chronic Rotator Cuff Tendinopathy: Randomized Clinical Trial. *J Clin Rheumatol.* Jun 01 2021; 27(4): 136-142. PMID 32975923
35. Bertrand H, Reeves KD, Bennett CJ, et al. Dextrose Prolotherapy Versus Control Injections in Painful Rotator Cuff Tendinopathy. *Arch Phys Med Rehabil.* Jan 2016; 97(1): 17-25. PMID 26301385
36. Schneider HP, Baca JM, Carpenter BB, et al. American College of Foot and Ankle Surgeons Clinical Consensus Statement: Diagnosis and Treatment of Adult Acquired Infracalcaneal Heel Pain. *J Foot Ankle Surg.* 2018; 57(2): 370-381. PMID 29284574
37. 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
38. North American Spine Society. Diagnosis and Treatment of Low Back Pain. 2020. <https://www.spine.org/Portals/0/assets/downloads/ResearchClinicalCare/Guidelines/LowBackPain.pdf>. Accessed September 22, 2023.
39. Centers for Medicare and Medicaid Services. National Coverage Determination (NCD) for PROLOTHERAPY, Joint Sclerotherapy, and Ligamentous Injections with Sclerosing Agents (150.7). 1999; <https://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=15&ncdver=1&bc=AAAAQAAAAAAA&>. Accessed September 22, 2023.

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