Platelet rich plasma for nonhealing diabetic wounds

Clinical Policy ID: CCP.1278

Recent review date: 2/2026

Next review date: 6/2027

Policy contains: Diabetic wounds; platelet-derived growth factors; platelet rich plasma.

Select Health of South Carolina has developed clinical policies to assist with making coverage determinations. Select Health of South Carolina's clinical policies are based on guidelines from established industry sources, such as the Centers for Medicare & Medicaid Services (CMS), state regulatory agencies, the American Medical Association (AMA), medical specialty professional societies, and peer-reviewed professional literature. These clinical policies along with other sources, such as plan benefits and state and federal laws and regulatory requirements, including any state- or plan-specific definition of "medically necessary," and the specific facts of the particular situation are considered, on a case by case basis, by Select Health of South Carolina when making coverage determinations. In the event of conflict between this clinical policy and plan benefits and/or state or federal laws and/or regulatory requirements, the plan benefits and/or state and federal laws and/or regulatory requirements shall control. Select Health of South Carolina's clinical policies are for informational purposes only and not intended as medical advice or to direct treatment. Physicians and other health care providers are solely responsible for the treatment decisions for their patients. Select Health of South Carolina's clinical policies are reflective of evidence-based medicine at the time of review. As medical science evolves, Select Health of South Carolina will update its clinical policies as necessary. Select Health of South Carolina's clinical policies are not guarantees of payment.

Coverage policy

Platelet rich plasma is investigational/not clinically proven and, therefore, not medically necessary for any clinical indication except the following:

- As an adjunct treatment for chronic diabetic wounds, when both criteria are met (Qu, 2020):
    - There is a lack of healing progress with standard wound care (e.g., offloading, infection control, glycemic control, and wound bed preparation including debridement).*
    - Platelet rich plasma is prepared using devices that are U.S. Food and Drug Administration-(510(k)-cleared) for management of exuding cutaneous wounds, such as diabetic ulcers.

*Note: Generally defined as ulcer reduction of less than 40% after at least four weeks of standard therapy (Wound Healing Society, 2017).

Limitations

Required documentation includes wound history, recurrence, and characteristics (location, staging, size, base, exudates, infection condition of surrounding skin and pain). The rate of wound healing should be evaluated to determine if treatment is optimal (Wound Healing Society, 2017).

The effectiveness of platelet rich plasma for treating chronic non-healing diabetic wounds should be reevaluated at 20 weeks of treatment (Qu, 2020). Continuation of treatment beyond 20 weeks requires secondary medical review.

Alternative covered services

Primary care and specialty physician (including surgical) evaluation and management including:

- Simple analgesics.
- Anti-inflammatory medications.
- Corticosteroid injections.
- Physical or occupational therapy.
- Immobilization.
- Thermal therapy.
- Reducing workload and increasing rest.
- Relaxation and biofeedback techniques.
- Strengthening and conditioning exercises.
- Stretching exercises and therapeutic massage.

Background

Platelets contain hundreds of growth factors important to healing injuries and regenerating tissue (Roffi, 2017). Platelet rich plasma is a blood derivative containing a higher concentration of platelets and a correspondingly higher concentration of growth factors above levels in peripheral blood. Although the mechanism of action is unclear, laboratory studies suggest a correlation between the increased concentration of growth factors in platelet rich plasma and an increase in the native inflammatory healing cascade.

A wide variation of protocols used for standardization and preparation of platelet rich plasma exists (Dhurat, 2014). It may be produced in an autologous manner or homologous manner from blood from multiple donors. The basic protocols involve a two-stage centrifugation process to separate platelets from blood plasma and red blood cells, require intrinsic or exogenous activation of platelet rich plasma to initiate formation of a fibrin network, and ultrasonographic guidance to inject autologous platelet rich plasma into the injured area. Platelet rich plasma may be leukocyte-rich or leukocyte-poor.

The U.S. Food and Drug Administration Center for Biologics Evaluation and Research regulates both the systems used to separate out platelets and the clinical use of platelet rich plasma (21CFR640.34). Nearly all of these systems have received 510(k) clearance for producing platelet rich preparations intended to be mixed with bone graft materials to enhance bone graft handling properties in orthopedic practices to treat bony defects (21CFR864.9245). Uses in other fields such as dermatology (for tissue regeneration and scar revision) and chronic wound care (U.S Food and Drug Administration, 2021) are expanding.

Findings

Platelet-rich plasma has been evaluated across numerous clinical domains, including orthopedic surgery, dentistry, dermatology, and chronic wound care. The body of evidence has evolved substantially over the past decade. For diabetic foot ulcers, multiple meta-analyses now demonstrate meaningful clinical benefits, including improved healing rates, shorter time to healing, and reduced rates of infection and amputation compared to conventional wound care alone. For most other applications, evidence remains limited by small study sizes, heterogeneous preparation and administration protocols, inconsistent outcome measures, and variable patient

selection criteria. As a result, clinical consensus favoring platelet-rich plasma exists primarily for diabetic foot ulcer management.

Guidelines

Professional society guidelines addressing platelet-rich plasma vary in their conclusions depending on the clinical indication and the date of publication. United States-based medical societies have generally taken cautious positions, while some international guidelines have begun to incorporate emerging evidence supporting use in diabetic foot ulcers.

The Wound Healing Society (2017) supports consideration of adjunctive therapies for individuals with diabetic foot ulcers who do not respond to conventional methods such as offloading, infection control, glycemic control, and wound bed preparation. However, the guideline does not specifically endorse platelet-rich plasma by name. The guideline recommends reassessing wounds that do not demonstrate adequate healing progress, generally defined as less than 40 %% ulcer reduction after at least four weeks of standard therapy, and considering selective adjuvant agents at that point.

The American Academy of Orthopaedic Surgeons has addressed platelet-rich plasma across several condition-specific clinical practice guidelines. For knee osteoarthritis, the Academy's 2021 guideline states that platelet-rich plasma may reduce pain and improve function in patients with symptomatic osteoarthritis; the strength of this recommendation is graded as Limited, reflecting mixed results across studies, heterogeneity precluding meta-analysis, and differential findings by disease stage. For other orthopedic indications, including tendinopathies, anterior cruciate ligament injuries, hip osteoarthritis, and rotator cuff pathology, Academy guidelines published between 2017 and 2022 include no formal endorsement because of insufficient or conflicting data.

International guidelines reflect divergent conclusions. The National Institute for Health and Care Excellence in the United Kingdom advises against autologous platelet-rich plasma gel for diabetic foot ulcers unless as part of a clinical trial, as stated in recommendation 1.5.12 of guidance document NG19 (updated 2019). In contrast, the Italian Guidelines for the Treatment of Diabetic Foot Syndrome, an international guideline published in 2024 (Monami, 2025), concluded that adjuvant therapies including platelet-rich plasma or fibrin can significantly increase ulcer healing odds. This divergence reflects the rapidly evolving evidence base and differences in how guideline development groups weigh emerging trial data.

Systematic reviews

Systematic reviews published between 2018 and 2020 addressed platelet-rich plasma across a broad range of clinical applications beyond diabetic foot ulcers. These reviews consistently identified limitations in the available evidence, including small sample sizes, risk of bias, and heterogeneity in platelet-rich plasma preparation and administration protocols.

Analyses published in 2018 by Andriolo (updated 2019), Bousnaki (2018), Ye (2018),, and Zhang (2018a, 2018b) evaluated platelet-rich plasma for patellar tendinopathy, temporomandibular joint disorders, hip osteoarthritis, knee osteoarthritis, and chronic Achilles tendinopathy. Results were inconclusive across these indications, reflecting low-quality evidence and heterogeneous study characteristics.

In 2019, multiple systematic reviews addressed platelet-rich plasma for diverse indications. Analyses by Al-Boloushi, Chen (2018), Del Pino-Sedeno, Dragonas, Gupta (2018), Li (2019), Ling (2018), Liu, 2019; Scott, 2019; Strauss, 2018; Vannabouathong (2018), Wang, 2019and Yao (2018) evaluated platelet-rich plasma for bony defects, intraoral bone applications, Achilles tendinitis, erectile dysfunction, androgenic alopecia, diabetic foot ulcers, and plantar fasciitis. These reviews noted insufficient evidence to support routine clinical use for most of these indications.

Systematic reviews published in 2020 observed persistent study limitations and inconclusive outcomes across non-diabetic-wound indications. Reviews by Catapano, Chen (2019, 2020), Cruciani (2019), Hsieh (2019), Li (2019b, 2020), Mao (2019), Marchitto (2019), Sundaram (2019), and Xia (2019) reiterated the pattern of minimal or conflicting data regarding efficacy outside of diabetic wound management.

The Agency for Healthcare Research and Quality commissioned a technology assessment on platelet-rich plasma for wound care in the Medicare population, completed by the Mayo Clinic Evidence-based Practice Center (Qu, 2020). This assessment identified moderate-strength evidence that platelet-rich plasma improves wound closure in individuals with chronic diabetic ulcers. The findings from this assessment informed the 2022 decision to establish coverage of platelet-rich plasma as an adjunct treatment for chronic diabetic wounds that do not respond to standard care.

Meta-analyses

The evidence base for platelet-rich plasma in diabetic foot ulcers has expanded considerably, with multiple meta-analyses published between 2019 and 2025 consistently demonstrating clinical benefit. The most recent and methodologically robust analyses report improved complete healing rates, shorter time to healing, and reduced rates of infection and amputation compared to conventional wound care alone.

A 2025 meta-analysis synthesizing 15 randomized controlled trials with 1,010 participants found significantly higher complete healing rates with platelet-rich plasma compared to conventional care (risk ratio 1.53, 95 %% confidence interval 1.39 to 1.58, P <0.001) and shorter healing time (weighted mean difference −19.48 days, 95 %% confidence interval −27.91 to −11.05, P <0.001). Infection rates were lower in the platelet-rich plasma group (risk ratio 0.51, 95 %% confidence interval 0.35 to 0.75, P < 0.001), as were amputation rates (risk ratio 0.45, 95 % confidence interval 0.26 to 0.79, P = 0.005). Treatment-related adverse events did not differ significantly between groups (Xu, 2025).

Several meta-analyses published in 2023 and 2024 corroborate these findings. Ruiz-Muñoz (2024) pooled 11 randomized controlled trials with 828 participants comparing autologous platelet-rich plasma with conventional wound care. Complete ulcer healing was markedly improved (odds ratio 3.69, 95 % confidence interval 2.62 to 5.20), with statistical heterogeneity of zero % across studies. Follow-up periods ranged from three weeks to 24 months, with most studies observing participants for approximately 12 weeks.

Additional meta-analyses reinforce the benefit of platelet-rich plasma for diabetic foot ulcers. Deng (2023) analyzed 22 studies with 1,559 participants and concluded that platelet-rich plasma offers improved healing rates, faster healing, and fewer amputations. Peng (2024) included 10 randomized clinical trials with 550 participants, reporting a 38 % improvement in healing rates and a 23-day reduction in healing time compared to controls. OuYang (2023) evaluated 20 studies with 1,131 participants and observed significantly faster healing (mean difference −3.21 days, 95 % confidence interval −3.83 to −2.59, P less than 0.001), although changes in ulcer size did not reach statistical significance (P = 0.08). Gong (2023) assessed 19 studies with 1,435 participants and found significant wound closure benefits for both autologous platelet-rich plasma (odds ratio 1.95, 95 % confidence interval 1.49 to 2.56, P less than 0.001) and allogeneic platelet-rich plasma (odds ratio 6.19, 95 % confidence interval 2.32 to 16.56, P less than 0.001), despite moderate heterogeneity.

The meta-analysis conducted to support development of the Italian Guidelines for the Treatment of Diabetic Foot Syndrome synthesized eight randomized controlled trials with 605 participants receiving platelet-rich plasma or fibrin dressings for diabetic foot ulcers (Monami, 2025). Complete ulcer healing rates were significantly higher in the treatment group (Mantel-Haenszel odds ratio 2.32, 95 % confidence interval 1.41 to 3.83, P = 0.001), with a shorter mean healing time by 10.53 days (95 % confidence interval −18.10 to −2.95, P <0.001) and fewer major amputations (Mantel-Haenszel odds ratio 0.32, 95 % confidence interval 0.11 to 0.93, P = 0.04). Serious adverse events occurred more frequently in the treatment group (Mantel-Haenszel odds ratio 2.32, 95 % confidence interval 1.41 to 3.83, P = 0.001).

In 2026, we reorganized the findings section. We incorporated the Xu (2025) meta-analysis of 15 randomized controlled trials demonstrating improved healing rates, reduced infection, and fewer amputations with platelet-rich plasma for diabetic foot ulcers. No policy changes were warranted.

References

On January 10, 2026, we searched PubMed and the databases of the Cochrane Library, the U.K. National Health Services Centre for Reviews and Dissemination, the Agency for Healthcare Research and Quality, and the Centers for Medicare & Medicaid Services. Search terms were “Platelet-derived growth factor” (MeSH), “platelet rich plasma” (MeSH), and “platelet-rich plasma.” We included the best available evidence according to established evidence hierarchies (typically systematic reviews, meta-analyses, and full economic analyses, where available) and professional guidelines based on such evidence and clinical expertise.

21CFR640.34.

21CFR864.9245.

Al-Boloushi Z, Lopez-Royo MP, Arian M, Gomez-Trullen EM, Herrero P. Minimally invasive non-surgical management of plantar fasciitis: A systematic review. *J Bodyw Mov Ther.* 2019;23(1):122-137. Doi: 10.1016/j.jbmt.2018.05.002.

Al-Hamed FS, Hijazi A, Gao Q, Badran Z, Tamimi F. Platelet concentrate treatments for temporomandibular disorders: A systematic review and meta-analysis. *JDR Clin Trans Res.* 2021;6(2):174-183. Doi: 10.1177/2380084420927326.

American Academy of Orthopaedic Surgeons. Management of anterior cruciate ligament injuries. Evidence-based clinical practice guideline. https://www.aaos.org/globalassets/quality-and-practice-resources/anterior-cruciate-ligament-injuries/aclcpg.pdf. Published August 22, 2022.

American Academy of Orthopaedic Surgeons. Management of osteoarthritis of the hip evidence-based clinical practice guideline. https://www.aaos.org/globalassets/quality-and-practice-resources/osteoarthritis-of-the-hip/oa-hip-cpg_6-11-19.pdf. Published March 13, 2017.

American Academy of Orthopaedic Surgeons. Management of osteoarthritis of the knee (non-arthroplasty). Evidence-based practice guideline. Summary of recommendations. https://www.aaos.org/oak3cpg. Published August 31, 2021.

American Academy of Orthopaedic Surgeons. Management of rotator cuff pathology appropriate use criteria. https://www.aaos.org/globalassets/quality-and-practice-resources/rotator-cuff/rcauc.pdf. Published September 12, 2020.

Andriolo L, Altamura SA, Reale D, et al. Nonsurgical treatments of patellar tendinopathy: Multiple injections of platelet-rich plasma are a suitable option: A systematic review and meta-analysis. *Am J Sports Med*. 2019;47(4):1001-1018. Doi: 10.1177/0363546518759674.

Andronic O, Hincapié CA, Burkhard MD, et al. Lack of conclusive evidence of the benefit of biologic augmentation in core decompression for nontraumatic osteonecrosis of the femoral head: A systematic review. *Arthroscopy.* 2021. Doi: 10.1016/j.arthro.2021.04.062.

Anil U, Markus DH, Hurley ET, et al. The efficacy of intra-articular injections in the treatment of knee osteoarthritis: A network meta-analysis of randomized controlled trials. *Knee.* 2021;32:173-182. Doi: 10.1016/j.knee.2021.08.008.

Belk JW, Kraeutler MJ, Houck DA, et al. Platelet-rich plasma versus hyaluronic acid for knee osteoarthritis: A systematic review and meta-analysis of randomized controlled trials. *Am J Sports Med.* 2021;49(1):249-260. Doi: 10.1177/0363546520909397.

Betzler BK, Chee YJ, Bin Abd Razak HR. Intraosseous injections are safe and effective in knee osteoarthritis: A systematic review. *Arthrosc Sports Med Rehabil.* 2021;3(5):e1557-e1567. Doi: 10.1016/j.asmr.2021.06.006.

Boffa A, Previtali D, Di Laura Frattura G, et al. Evidence on ankle injections for osteochondral lesions and osteoarthritis: A systematic review and meta-analysis. *Int Orthop.* 2021;45(2):509-523. Doi: 10.1007/s00264-020-04689-5.

Bousnaki M, Bakopoulou A, Koidis P. Platelet-rich plasma for the therapeutic management of temporomandibular joint disorders: A systematic review. *Int J Oral Maxillofac Surg.* 2018;47(2):188-198. Doi: 10.1016/j.ijom.2017.09.014.

Brewer CF, Smith A, Miranda BH. The use of platelet-rich products for skin graft donor site healing: A systematic review and meta-analysis. *J Plast Surg Hand Surg.* 2021;55(3):133-140. Doi: 10.1080/2000656x.2020.1846544.

Cai YF, Tian TZ, Chen LY, et al. The effect of platelet-rich plasma on the fusion rate and clinical outcome of spinal fusion surgery: A systematic review and meta-analysis. *PLoS One.* 2020;15(12):e0243204. Doi: 10.1371/journal.pone.0243204.

Catapano M, Catapano J, Borschel G, et al. Effectiveness of platelet-rich plasma injections for nonsurgical management of carpal tunnel syndrome: A systematic review and meta-analysis of randomized controlled trials. *Arch Phys Med Rehabil.* 2020;101(5):897-906. Doi: 10.1016/j.apmr.2019.10.193.

Chen JX, Justicz N, Lee LN. Platelet-rich plasma for the treatment of androgenic alopecia: A systematic review. *Facial Plast Surg.* 2018;34(6):631-640. Doi: 10.1055/s-0038-1660845.

Chen PC, Wu KT, Chou WY, et al. Comparative effectiveness of different nonsurgical treatments for patellar tendinopathy: A systematic review and network meta-analysis. *Arthroscopy.* 2019;35(11):3117-3131.e3112. Doi: 10.1016/j.arthro.2019.06.017.

Chen Z, Wang C, You D, et al. Platelet-rich plasma versus hyaluronic acid in the treatment of knee osteoarthritis: A meta-analysis. *Medicine (Baltimore).* 2020;99(11):e19388. Doi: 10.1097/md.0000000000019388.

Cruciani M, Franchini M, Mengoli C, et al. Platelet-rich plasma for sports-related muscle, tendon and ligament injuries: An umbrella review. *Blood Transfus.* 2019;17(6):465-478. Doi: 10.2450/2019.0274-19.

Del Pino-Sedeno T, Trujillo-Martin MM, Andia I, et al. Platelet-rich plasma for the treatment of diabetic foot ulcers: A meta-analysis. *Wound Repair Regen.* 2019;27(2):170-182. Doi: 10.1111/wrr.12690.

Deng J, Yang M, Zhang X, Hongmin, Z. Efficacy and safety of autologous platelet-rich plasma for diabetic foot ulcer healing: A systematic review and meta-analysis of randomized controlled trials. *J Orthop Surg Res*. 2023;18:370. Doi: 10.1186/s13018-023-03854-x.

Derwich M, Mitus-Kenig M, Pawlowska E. Mechanisms of action and efficacy of hyaluronic acid, corticosteroids and platelet-rich plasma in the treatment of temporomandibular joint osteoarthritis-a systematic review. *Int J Mol Sci.* 2021;22(14). Doi: 10.3390/ijms22147405.

Dhurat R, Sukesh M. Principles and methods of preparation of platelet-rich plasma: A review and author's perspective. *J Cutan Aesthet Surg.* 2014;7(4):189-197. Doi: 10.4103/0974-2077.150734.

Dragonas P, Schiavo JH, Avila-Ortiz G, Palaiologou A, Katsaros T. Plasma rich in growth factors (PRGF) in intraoral bone grafting procedures: A systematic review. *J Craniomaxillofac Surg.* 2019;47(3):443-453. Doi: 10.1016/j.jcms.2019.01.012.

Fei X, Lang L, Lingjiao H, Wei C, Zhou X. Platelet-rich plasma has better mid-term clinical results than traditional steroid injection for plantar fasciitis: A systematic review and meta-analysis. *Orthop Traumatol Surg Res.* 2021;107(6):103007. Doi: 10.1016/j.otsr.2021.103007.

Gazendam A, Ekhtiari S, Axelrod D, et al. Comparative efficacy of nonoperative treatments for greater trochanteric pain syndrome: A systematic review and network meta-analysis of randomized controlled trials. *Clin J Sport Med.* 2021. Doi: 10.1097/jsm.0000000000000924.

Gazendam A, Ekhtiari S, Bozzo A, Phillips M, Bhandari M. 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.* 2021;55(5):256-261. Doi: 10.1136/bjsports-2020-102179.

Gong H, Li K, Xie R, et al. Clinical therapy of platelet-rich plasma vs hyaluronic acid injections in patients with knee osteoarthritis: A systematic review and meta-analysis of randomized double-blind controlled trials. *Medicine (Baltimore).* 2021;100(12):e25168. Doi: 10.1097/md.0000000000025168.

Gong F, Zhang Y, Gao J, et al. Effect of platelet-rich plasma vs standard management for the treatment of diabetic foot ulcer wounds: A meta-analysis. *Int Wound J*. 2023;20(1):155-163. Doi:10.1111/iwj.13858.

Gupta AK, Mays RR, Dotzert MS, et al. Efficacy of non-surgical treatments for androgenetic alopecia: A systematic review and network meta-analysis. *J Eur Acad Dermatol Venereol.* 2018;32(12):2112-2125. Doi: 10.1111/jdv.15081.

Hamid MS A, Sazlina SG. Platelet-rich plasma for rotator cuff tendinopathy: A systematic review and meta-analysis. *PLoS One.* 2021;16(5):e0251111. Doi: 10.1371/journal.pone.0251111.

Han SB, Seo IW, Shin YS. Intra-articular injections of hyaluronic acid or steroids associated with better outcomes than platelet-rich plasma, adipose mesenchymal stromal cells, or placebo in knee osteoarthritis: A network meta-analysis. *Arthroscopy.* 2021;37(1):292-306. Doi: 10.1016/j.arthro.2020.03.041.

Hohmann E, Tetsworth K, Glatt V. Platelet-rich plasma versus corticosteroids for the treatment of plantar fasciitis: A systematic review and meta-analysis. *Am J Sports Med.* 2021;49(5):1381-1393. Doi: 10.1177/0363546520937293.

Hong M, Cheng C, Sun X, et al. Efficacy and safety of intra-articular platelet-rich plasma in osteoarthritis knee: A systematic review and meta-analysis. *Biomed Res Int.* 2021;2021:2191926. Doi: 10.1155/2021/2191926.

Hsieh TS, Chiu WK, Yang TF, Wang HJ, Chen C. A meta-analysis of the evidence for assisted therapy with platelet-rich plasma for atrophic acne scars. *Aesthetic Plast Surg.* 2019;43(6):1615-1623. Doi: 10.1007/s00266-019-01471-w.

Huang H, Sun X, Zhao Y. Platelet-rich plasma for the treatment of burn wounds: A meta-analysis of randomized controlled trials. *Transfus Apher Sci.* 2021;60(1):102964. Doi: 10.1016/j.transci.2020.102964.

Karjalainen TV, Silagy M, O'Bryan E, et al. Autologous blood and platelet-rich plasma injection therapy for lateral elbow pain. *Cochrane Database Syst Rev.* 2021;9(9):Cd010951. Doi: 10.1002/14651858.CD010951.pub2.

Lavery LA, Davis KE, Berriman SJ, et al. WHS guidelines update: Diabetic foot ulcer treatment guidelines. *Wound Repair Regen.* 2016;24(1):112-126. Doi: 10.1111/wrr.12391.

Li A, Wang H, Yu Z, et al. Platelet-rich plasma vs corticosteroids for elbow epicondylitis: A systematic review and meta-analysis. *Medicine (Baltimore).* 2019;98(51):e18358. Doi: 10.1097/md.0000000000018358.(b)

Li F, Wu C, Sun H, Zhou Q. Effect of platelet-rich plasma injections on pain reduction in patients with temporomandibular joint osteoarthrosis: A meta-analysis of randomized controlled trials. *J Oral Facial Pain Headache.* 2020;34(2):149-156. Doi: 10.11607/ofph.2470.

Li Y, Gao Y, Gao Y, et al. Autologous platelet-rich gel treatment for diabetic chronic cutaneous ulcers: A meta-analysis of randomized controlled trials. *J Diabetes.* 2019;11(5):359-369. Doi: 10.1111/1753-0407.12850.(a)

Ling JF, Wininger AE, Hirase T. Platelet-rich plasma versus corticosteroid injection for lumbar spondylosis and sacroiliac arthropathy: A systematic review of comparative studies. *Cureus.* 2021;13(3):e14062. Doi: 10.7759/cureus.14062.

Ling Y, Wang S. Effects of platelet-rich plasma in the treatment of plantar fasciitis: A meta-analysis of randomized controlled trials. *Medicine (Baltimore).* 2018;97(37):e12110. Doi: 10.1097/md.0000000000012110.

Liu R, Yan M, Chen S, et al. Effectiveness of platelet-rich fibrin as an adjunctive material to bone graft in maxillary sinus augmentation: A meta-analysis of randomized controlled trails. *Biomed Res Int.* 2019;2019:7267062. Doi: 10.1155/2019/7267062.

Mao G, Zhang G, Fan W. Platelet-rich plasma for treating androgenic alopecia: A systematic review. *Aesthetic Plast Surg.* 2019;43(5):1326-1336. Doi: 10.1007/s00266-019-01391-9.

Marchitto MC, Qureshi A, Marks D, et al. Emerging nonsteroid-based procedural therapies for alopecia areata: A systematic review. *Dermatol Surg.* 2019;45(12):1484-1506. Doi: 10.1097/dss.0000000000002053.

Medina-Porqueres I, Ortega-Castillo M, Muriel-Garcia A. Effectiveness of platelet-rich plasma in the management of hip osteoarthritis: A systematic review and meta-analysis. *Clin Rheumatol.* 2021;40(1):53-64. Doi: 10.1007/s10067-020-05241-x.

Migliorini F, Driessen A, Quack V, et al. Comparison between intra-articular infiltrations of placebo, steroids, hyaluronic and PRP for knee osteoarthritis: A Bayesian network meta-analysis. *Arch Orthop Trauma Surg.* 2021;141(9):1473-1490. Doi: 10.1007/s00402-020-03551-y.

Monami M, Scatena A, Ragghianti B, et al. Effectiveness of most common adjuvant wound treatments (skin substitutes, negative pressure wound therapy, hyperbaric oxygen therapy, platelet-rich plasma/fibrin, and growth factors) for the management of hard-to-heal diabetic foot ulcers: a meta-analysis of randomized controlled trials for the development of the Italian Guidelines for the Treatment of Diabetic Foot Syndrome. *Acta Diabetol*. 2025;62(7):1081-1095. Doi: 10.1007/s00592-024-02426-7.

National Institute for Health and Care Excellence. Diabetic foot problems: Prevention and management. https://www.nice.org.uk/guidance/ng19/chapter/1-Recommendations. Published August 2015. Updated October 2019.

National Institute for Health and Care Excellence. Platelet-rich plasma injections for knee osteoarthritis. Interventional procedures guidance [IPG637]. https://www.nice.org.uk/guidance/ipg637. Published January 23, 2019.

Nauwelaers AK, Van Oost L, Peers K. Evidence for the use of PRP in chronic midsubstance Achilles tendinopathy: A systematic review with meta-analysis. *Foot Ankle Surg.* 2021;27(5):486-495. Doi: 10.1016/j.fas.2020.07.009.

North American Spine Society. Evidence-based clinical guidelines for multidisciplinary spine care. Diagnosis and treatment of low back pain.

https://www.spine.org/Portals/0/assets/downloads/ResearchClinicalCare/Guidelines/LowBackPain.pdf. Published 2020.

OuYang H, Tang Y, Yang F, et al. Platelet-rich plasma for the treatment of diabetic foot ulcer: a systematic review. *Front Endocrinol* (Lausanne). 2023;14:1256081. Doi:10.3389/fendo.2023.1256081.

Peng Y, Wang J, Liu X, Zhou Y, Jia S, Xu J, Zheng C. Efficacy of platelet-rich plasma in the treatment of diabetic foot ulcers: A systematic review and meta-analysis. *Ann Vasc Surg*. 2024;98:365-373. Doi: 10.1016/j.avsg.2023.05.045.

Phillips M, Bhandari M, Grant J, et al. A systematic review of current clinical practice guidelines on intra-articular hyaluronic acid, corticosteroid, and platelet-rich plasma injection for knee osteoarthritis: An international perspective. *Orthop J Sports Med.* 2021;9(8):23259671211030272. Doi: 10.1177/23259671211030272.

Qu W, Wang Z, Hunt C, Morrow AS, Urtecho M, Amin M, et al. Platelet-rich plasma for wound care in the Medicare population. Technology Assessment Program Project ID 040-353- 492. (Prepared by the Mayo Clinic Evidence-based Practice Center under Contract No. HHSA290201500013I.) Rockville, MD: Agency for Healthcare Research and Quality. https://www.ncbi.nlm.nih.gov/books/NBK575939/September 2020.

Roffi A, Di Matteo B, Krishnakumar GS, Kon E, Filardo G. Platelet-rich plasma for the treatment of bone defects: From pre-clinical rational to evidence in the clinical practice. A systematic review. *Int Orthop*. 2017;41(2):221-237. Doi: 10.1007/s00264-016-3342-9.

Ryan J, Imbergamo C, Sudah S, et al. Platelet-rich product supplementation in rotator cuff repair reduces retear rates and improves clinical outcomes: A meta-analysis of randomized controlled trials. *Arthroscopy.* 2021;37(8):2608-2624. Doi: 10.1016/j.arthro.2021.03.010.

Schneider BJ, Hunt C, Conger A, et al. The effectiveness of intradiscal biologic treatments for discogenic low back pain: a systematic review. Spine J. 2022;22(2):226-237. Doi: 10.1016/j.spinee.2021.07.015.

Scott S, Roberts M, Chung E. Platelet-rich plasma and treatment of erectile dysfunction: Critical review of literature and global trends in platelet-rich plasma clinics. *Sex Med Rev.* 2019;7(2):306-312. Doi: 10.1016/j.sxmr.2018.12.006.

Strauss FJ, Stahli A, Gruber R. The use of platelet-rich fibrin to enhance the outcomes of implant therapy: A systematic review. *Clin Oral Implants Res.* 2018;29 Suppl 18:6-19. Doi: 10.1111/clr.13275.

Sundaram K, Vargas-Hernández JS, Sanchez TR, et al. Are subchondral intraosseous injections effective and safe for the treatment of knee osteoarthritis? A systematic review. *J Knee Surg.* 2019;32(11):1046-1057. Doi: 10.1055/s-0039-1677792.

Thanigaimani S, Jin H, Ahmad U, Anbalagan R, Golledge J. Comparative efficacy of growth factor therapy in healing diabetes-related foot ulcers: A network meta-analysis of randomized controlled trials. *Diabetes Metab Res Rev*. 2023;39(5): e3670. Doi:10.1002/dmrr.3670.

U.S. Food and Drug Administration. 510(k) Premarket Notification database. Searched using product code PMQ). https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpmn/pmn.cfm. Updated January 26, 2026.

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.* 2018;39(10):1141-1150. Doi: 10.1177/1071100718779375.

Wang C, Fan H, Li Y, et al. Effectiveness of platelet-rich plasma injections for the treatment of acute Achilles tendon rupture: A systematic review and meta-analysis. *Medicine (Baltimore).* 2021;100(41):e27526. Doi: 10.1097/md.0000000000027526.

Wang Y, Han C, Hao J, Ren Y, Wang J. Efficacy of platelet-rich plasma injections for treating Achilles tendonitis: Systematic review of high-quality randomized controlled trials. *Orthopade.* 2019;48(9):784-791. Doi: 10.1007/s00132-019-03711-y.

Wound Healing Society. Chronic wound care guidelines. Abridged version. https://woundheal.org/files/2017/final_pocket_guide_treatment.pdf. Published 2017.

Xia Y, Zhao J, Xie J, Lv Y, Cao DS. The efficacy of platelet-rich plasma dressing for chronic nonhealing ulcers: A meta-analysis of 15 randomized controlled trials. *Plast Reconstr Surg.* 2019;144(6):1463-1474. Doi: 10.1097/prs.0000000000006281.

Xiang XN, Deng J, Liu Y, et al. Conservative treatment of partial-thickness rotator cuff tears and tendinopathy with platelet-rich plasma: A systematic review and meta-analysis. *Clin Rehabil.* 2021;35(12):1661-1673. Doi: 10.1177/02692155211011944.

Xu H, Huang K, Tao X. Efficacy and safety of platelet-rich plasma versus conventional care in diabetic foot ulcers: a meta-analysis of randomized controlled trials. *Acta Diabetol*. 2025;62(10):1585-1596. Doi: 10.1007/s00592-025-02555-7.

Yao W, Shah B, Chan HL, Wang HL, Lin GH. Bone quality and quantity alterations after socket augmentation with RHPDGF-BB OR BMPS: A systematic review. *Int J Oral Maxillofac Implants.* 2018;33(6):1255-1265. Doi: 10.11607/jomi.6542.

Ye Y, Zhou X, Mao S, Zhang J, Lin B. Platelet rich plasma versus hyaluronic acid in patients with hip osteoarthritis: A meta-analysis of randomized controlled trials. *Int J Surg*. 2018;53:279-287. Doi: 10.1016/j.ijsu.2018.03.078.

Zhang HF, Wang CG, Li H, Huang YT, Li ZJ. Intra-articular platelet-rich plasma versus hyaluronic acid in the treatment of knee osteoarthritis: A meta-analysis. *Drug Des Devel Ther*. 2018;12:445-453. Doi: 10.2147/dddt.s156724.(a)

Zhang YJ, Xu SZ, Gu PC, Du JY, Cai YZ, Zhang C, Lin XJ. Is platelet-rich plasma injection effective for chronic Achilles tendinopathy? A meta-analysis. *Clin Orthop Relat Res*. 2018;476(8):1633-1641. Doi: 10.1007/s11999.0000000000000258.(b)

Policy updates

10/2016: initial review date and clinical policy effective date: 2/2017

12/2018: Policy references updated. Policy ID changed.

12/2019: Policy references updated.

12/2020: Policy references updated.

2/2022: Policy references updated. Coverage modified.

2/2023: Policy references updated.

2/2024: Policy references updated.

2/2025: Policy references updated.

2/2026: Policy references updated.

Related Codes

Below are the most commonly submitted codes for the service(s)/item(s) subject to this policy CCP.1278. This is not an exhaustive list of codes. Providers are expected to consult the appropriate coding manuals and bill accordingly.

Code	Code Description
G0465	Autologous platelet rich plasma (PRP) or other blood-derived product for diabetic chronic wounds/ulcers, using an FDA-cleared device for this indication (includes as applicable administration, dressings, phlebotomy, centrifugation or mixing, and all other preparatory procedures, per treatment)