# Molina Clinical Policy
# Platelet-Rich Plasma (PRP): Policy No. 207

**Last Approval: 04/09/2025**
**Next Review Due By: April 2026**

## DISCLAIMER

This Molina Clinical Policy (MCP) is intended to facilitate the Utilization Management process. Policies are not a supplementation or recommendation for treatment; Providers are solely responsible for the diagnosis, treatment, and clinical recommendations for the Member. It expresses Molina's determination as to whether certain services or supplies are medically necessary, experimental, investigational, or cosmetic for purposes of determining appropriateness of payment. The conclusion that a particular service or supply is medically necessary does not constitute a representation or warranty that this service or supply is covered (e.g., will be paid for by Molina) for a particular Member. The Member's benefit plan determines coverage – each benefit plan defines which services are covered, which are excluded, and which are subject to dollar caps or other limits. Members and their Providers will need to consult the Member's benefit plan to determine if there are any exclusion(s) or other benefit limitations applicable to this service or supply. If there is a discrepancy between this policy and a Member's plan of benefits, the benefits plan will govern. In addition, coverage may be mandated by applicable legal requirements of a State, the Federal government or CMS for Medicare and Medicaid Members. CMS's Coverage Database can be found on the CMS website. The coverage directive(s) and criteria from an existing National Coverage Determination (NCD) or Local Coverage Determination (LCD) will supersede the contents of this MCP and provide the directive for all Medicare members. References included were accurate at the time of policy approval and publication.

## OVERVIEW

Platelet-rich plasma (PRP) is a blood product derived from plasma that contains an increased concentration of platelets. PRP is also referred to as autologous platelet concentrate (APC) and autologous platelet gel (APG). The use of PRP is an approach being investigated for the treatment of soft tissue and bone healing, chronic non-healing wounds including burns and diabetic ulcers, osteoarthritis, tendon and ligament injuries and other surgeries. It is proposed that activated platelets initiate repair by releasing potent locally acting growth factors that stimulate a connective tissue response, causing division and migration of fibroblasts and formation of new capillaries to aid in the healing process. Platelet-rich plasma is usually prepared by drawing blood from the patient and processing the sample in a centrifuge to obtain a concentrated suspension of platelets. PRP is injected or implanted during surgery with the goal of accelerating healing. For wound healing, PRP is applied directly to the wound surface to promote growth of skin, soft tissue, and blood vessels (Hayes 2022; Hayes 2024; Hayes 2025).

## COVERAGE POLICY

Platelet rich plasma is considered **experimental, investigational, and unproven** because of insufficient evidence in the peer reviewed medical literature.

**DOCUMENTATION REQUIREMENTS.** Molina Healthcare reserves the right to require that additional documentation be made available as part of its coverage determination; quality improvement; and fraud; waste and abuse prevention processes. Documentation required may include, but is not limited to, patient records, test results and credentials of the provider ordering or performing a drug or service. Molina Healthcare may deny reimbursement or take additional appropriate action if the documentation provided does not support the initial determination that the drugs or services were medically necessary, not investigational, or experimental, and otherwise within the scope of benefits afforded to the member, and/or the documentation demonstrates a pattern of billing or other practice that is inappropriate or excessive.

## SUMMARY OF MEDICAL EVIDENCE

Results from both randomized controlled trials (RCTs) and nonrandomized controlled studies provide varied and inconclusive evidence regarding the ability of injection of platelet-rich plasma (PRP) to improve outcomes or accelerate healing in patients for any indication. Below is a summary of the most relevant evidence-based studies.

### Chronic Wounds

***Randomized Controlled Trials***

Hossman et al. (2022) completed a single-center, prospective, randomized controlled study to compare the local application of PRP to standard wound care for non-ischemic diabetic foot ulcers. Eighty patients were enrolled and randomized 1:1, to receive either local injection of PRP to the healing edge and floor of the diabetic foot ulcer (Group A) or receive standard wound care with moist dressing, either with or without collagenase ointment (Group B). Primary outcomes measured included improvement of the diabetic foot ulcer total surface area and rate of complete healing. Secondary outcomes included rates of wound infection, and major limb amputation. The following inclusion criteria for patient selection was applied: American Society of Anesthesiologists (ASA) type II, with either type 1 or type 2 diabetes, a chronic diabetic foot ulcer of 6 months duration or longer, no signs on infection, intact pedal pulse and an

arterial duplex showing a patent arterial tree with a peak systolic velocity of >60 cm/sec. Patients with an ASA of > II were excluded from the study. Group A received prepared PRP to the ulcer every two weeks up to three times. Group B received standard wound care. Participants had follow up sessions every week, for up to 12 weeks. Baseline and weekly photos were taken of the diabetic foot ulcers, and total surface area was measured. Over the first five weeks there was a statistically higher reduction in diabetic foot ulcer in Group A than in Group B. At 2.5 weeks in Group A there was a ≥50% reduction in ulcer total surface area, compared to 4.5 weeks for Group B (p <0.001). Group A had a 90% reduction in ulcer total surface area at 5 weeks, compared to 7 weeks for Group B (p <0.001). At week 6, 95% of Group A had achieved complete would healing, as compared to 77.8% of group B in the ninth week (p <0.001). There were 4 superficial wound infections in Group A (PRP), compared to 18 in Group B (standard care) who developed either superficial or deep wound infection and cellulitis (p <0.001). No major amputations occurred in Group A. There were four major amputations in Group B. The author noted limitations included lack of standardization in the fabrication of the PRP and application method. Additional limitations included small patient population and lack of long term follow up. This meta-analysis showed that at the 3, 6, and 12 month follow ups that intra-articular FR-PRP had better overall outcomes than intra-articular HA injections in patients with knee osteoarthritis in WOMAC and IKDC scores. There was no difference in the VAS scores of the LR-PRP group as compared to the HA group e at 1, 3, 6, and 12 months after injection. Limitations to this study were English only publications, high heterogeneity (gender, age, and severity of knee osteoarthritis). Additional elements include PRP injection frequency, volumes, intervals, as well as injection techniques. Lastly, some of the RCTs reviewed had small patient sample sizes.

***Systematic Reviews and Meta-Analysis***

Qu et al. (2020) conducted a systematic review and meta-analysis to evaluate the effectiveness of PRP in healing lower extremity diabetic ulcers, lower extremity venous ulcers, and pressure ulcers. The study included 22 randomized controlled trials (RCTs) and 5 observational studies with a total of 1,796 subjects. Follow up ranged from no follow up to 11 months. PRP therapy increased complete wound closure or healing (moderate strength of evidence) and shortened healing time and reduced wound size (low strength of evidence) in lower extremity diabetic ulcers compared to therapy without PRP. No significant changes were found regarding wound infection, amputation, wound recurrence, or hospitalization. The evidence was insufficient to estimate the effect of PRP on lower extremity venous ulcers or pressure ulcers. Limitations of the study include inadequate description of wound care procedures, wound characteristics, PRP formulation techniques, concentration, and volume; inadequate length of follow up; and lack of stratification by comorbidities and other patient characteristics.

Following a systematic review of 10 RCTs, Martinez-Zapata et al. (2016) concluded that PRP may improve the healing in diabetic foot ulcers, but the quality of evidence for this conclusion is low and based on two small RCTs. It is unclear whether autologous PRP is of value for treating other chronic wounds. Reports analyzed were based on small numbers of randomized controlled studies for the treatment of chronic wounds including 442 patients, most of whom were at either high or unclear risk of bias.

Another systematic review and meta-analysis evaluated the use platelet rich plasma (PRP) for the treatment of cutaneous wounds compared to standard wound care. These studies included 3 systematic reviews, 12 RCTs, 2 prospective cohort studies, 3 prospective comparative studies and 4 retrospective reviews. The results of the meta-analysis suggested that PRP therapy can positively impact wound healing and associated factors such as pain and infection in cutaneous wounds. Limitations of the studies included heterogeneous patient populations, lack of long-term follow-up, and pooling of data on different types of PFG products and regimens. Several of the studies included in the meta-analysis had conflicting results (Carter 2011).

## Knee Osteoarthritis

***Randomized Controlled Trials***

Argut et al. (2024) conducted a three-arm randomized, controlled clinical trial to evaluate whether platelet-rich plasma (PRP) therapy, a structured exercise program, or a combination of the two provided greater pain relief for knee osteoarthritis (OA). A total of 84 participants with mild-to-moderate knee OA were evenly allocated into three groups (n=28 per group). The exercise group participated in a 6-week structured regimen comprising 12 supervised sessions focusing on strength and functional exercises. The PRP group received three weekly injections of fresh, leukocyte-poor PRP, while the third group underwent both interventions. The primary outcome of the study was knee pain assessed over a 24-week period using an 11-point numeric rating scale (0 indicating no pain and 10 representing the worst pain), with a minimum clinically important difference (MCID) set at 2 points. Secondary outcomes included scores on the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), which ranges from 0 to 100 (lower scores reflect less disability, with an MCID of 12 points); completion times for the 40-meter fast-paced walk test and

stair climbing test; and the SF-12 health-related quality of life score. At the 24-week mark, no clinically meaningful differences in pain relief or secondary outcomes were observed across the groups. Exercise alone demonstrated better clinical outcomes than PRP alone, particularly in terms of function and the physical aspects of health-related quality of life. Based on these findings, the study concluded that PRP therapy does not enhance treatment outcomes for knee OA, and its added cost and effort cannot be justified given the lack of additional benefit over exercise alone.

***Systematic Reviews and Meta-Analysis***

Qaio et al. (2023) performed a systematic review and meta-analysis to evaluate injectable therapies for knee osteoarthritis, including platelet-rich plasma (PRP). The analysis encompassed 35 randomized controlled trials (RCTs) with a total of 3,104 participants. Treatment durations varied from 3 to 24 months, and the studies assessed outcomes using the visual analog score (VAS), the Western Ontario and McMaster Universities Osteoarthritis (WOMAC) score, and treatment-related adverse effects. All studies provided 3-month follow-up data, while fewer reported outcomes at 6, 9, or 12 months. The findings highlighted that PRP achieved the best results in WOMAC scores across all follow-up periods, indicating its effectiveness for knee osteoarthritis. In terms of VAS scores, PRP demonstrated the second-best outcomes at 3 months, although its effectiveness declined at 6 and 12 months compared to other injectable options. The researchers noted that PRP showed the lowest rate of adverse effects, though inconsistencies in data, the number of injections, and follow-up timelines limited the reliability of the findings. They recommended more standardized and high-quality studies to confirm PRP's potential benefits and establish its ideal application.

A meta-analysis of 14 RCT studies involving 1485 subjects for treatment of knee osteoarthritis was published by Peng et al. (2022) to evaluate treatment of knee osteoarthritis with intra-articular injections of leukocyte rich platelet-rich plasma (LR-PRP) versus hyaluronic acid (HA). Inclusion criteria included RCTs that compared intra-articular injections of LR-PRP with HA injection in symptomatic adult patients with knee osteoarthritis. Only RCTs that were published in the English language were included. Exclusion criteria were children under the age of 18, RCTs without a control group, studies that were noted to be cohort, case-controlled, cross-sectional, review article and conference abstracts. Cadaveric and animal studies were excluded as well. Outcomes that were measured included Western Ontario and McMaster Universities Arthritis Index (WOMAC) scores, visual analog scale (VAS) scores, International Knee Documentation Committee (IKDC) scores, and adverse events. Quality of the studies: “One study did not report methods of random sequence generation. Eight studies reported allocation concealment. Eight studies reported blinding participants and personnel, and seven studies reported blinding of outcome assessors. In total, five studies were double-blinded.” Of the 1485 patients included in the study 815 patients had received LR-PRP injections, and 670 patients received HA injections. LR-PRP treatment protocols varied with dosage ranges from 2-14 mL, intervals between doses ranged between 1 to 4 weeks, and injection times ranging from 1 – 4 times. HA treatment protocols varied with dosages of molecular weight from 500 to >10,000 (kDa [kilodaltons]) with five studies not mentioning the molecular weight. Intervals between doses ranged between 1 to 4 weeks, and injection times ranging from 1 – 4 times. This meta-analysis showed that at the 3, 6, and 12 month follow ups that intra-articular LR-PRP had better overall outcomes than intra-articular HA injections in patient with knee osteoarthritis in WOMAC and IKDC scores. There was no difference in the VAS scores of the LR-PRP group as compared to the HA group at 1, 3, 6, and 12 months after injection. No major adverse effects were reported in the LR-PRP or HA groups. Limitations to this study were English only publications, high heterogeneity (gender, age, and severity of knee osteoarthritis). Additional elements include PRP injection frequency, volumes, intervals, as well as injection techniques. Lastly, some of the RCTs reviewed had small patient sample sizes. The authors note “The ideal composition, injection intervals, and injection times of PRP for knee osteoarthritis injection treatment remain controversial”.

Sax et al. (2022) completed a systematic review and meta-analysis that included 24 RCTs comparing PRP injections to treatment with a control group (hyaluronic acid, corticosteroid injections, normal saline injections, or exercise therapy. The results showed that PRP could potentially be associated with improvements in pain and functional improvements; however, there was no clinically significant differences or knee-related structural changes between PRP injections and control groups. An RCT of 78 patients with bilateral OA were divided randomly into 3 groups. Group A (52 knees) received a single injection of PRP, group B (50 knees) received 2 injections of PRP 3 weeks apart, and group C (46 knees) received a single injection of normal saline. Results reported that a single dose of WBC-filtered PRP in concentrations of 10 times the normal amount is as effective as 2 injections to alleviate symptoms in early knee OA. The results, however, deteriorate after 6 months (Patel et al. 2013). Two RCTs compared the effectiveness of intraarticular (IA) multiple and single platelet-rich plasma (PRP) injections as well as hyaluronic acid (HA) injections in different stages of osteoarthritis (OA) of the knee and found there was no significant difference in the scores of patients injected with one dose of PRP or HA (Gormeli et al. 2017; Montanez-Heredia et al. 2016). A double-blind RCT conducted by Bennell et al. (2021) compared injection with PRP versus placebo (saline) in a group of 288 participants

with symptomatic medial knee OA and found no significant difference in symptoms or joint structure at 12 months between the two treatment groups.

### Tendon and Ligament Injuries

***Systematic Reviews and Meta-Analysis***

A Cochrane review including 32 RCTs and quasi-RCTs with 2337 participants concluded that evidence does not support the use of autologous blood or PRP injection for treatment of lateral elbow pain, or epicondylitis (Karjalainen et al. 2021). A systematic review and meta-analysis including 5 RCTs with 340 patients concluded there was no statistically significant difference in visual analog and patient-related tennis elbow evaluation scores when comparing PRP injections to surgery (Kim et al. 2022). A RCT conducted by Kesikburun et al. (2013) compared treatment with PRP vs. saline injection in a group of 40 patients with chronic rotator cuff tendinopathy. At 1-year follow up, PRP injection was not found to be more effective in improving quality of life, pain, disability, and shoulder range of motion than placebo. Kwong et al. (2021) compared PRP with corticosteroid injection in patients with rotator cuff tendinopathy and partial-thickness rotator cuff tears in a double-blind RTC and found that although subjects treated with PRP obtained superior improvement in pain and function at 3-month follow up, there was no sustained benefit of PRP over corticosteroid at the 12-month follow up. Zhao et al. (2015) conducted a meta-analysis of level I and II RCTs and found that evidence does not support the use of PRP in arthroscopic rotator cuff repair due to similar clinical outcomes and retear rates compared to placebo. Several RCTs and meta-analyses evaluated PRP for the treatment of Achilles tendinopathy or tendon rupture (Boksch et al. 2022; Chen et al. 2022; Krogh et al. 2016; Keene et al. 2019; Kearney et al. 2021), with none showing long-term benefit of treatment with PRP. Scott et al. (2019) conducted a RCT comparing injections of leukocyte-rich PRP, leukocyte-poor PRP, or normal saline for the treatment of patellar tendinopathy in a group of 57 subjects and concluded that a single injection of either PRP formulation was no more effective than saline for the improvement of patellar tendinopathy symptoms.

Results from RCTs evaluating use of PRP for tendon and ligament injuries provide mixed and inconclusive evidence regarding the ability of injection of PRP to improve outcomes or accelerate healing. A Cochrane review by Moraes et al. (2014) analyzed 19 studies with a total of 1088 patients and concluded there is currently insufficient evidence to support the use of PRP for treating musculoskeletal soft tissue injuries. Topics of the studies analyzed included rotator cuff tear repair, shoulder impingement syndrome surgery, elbow epicondylitis, anterior cruciate ligament reconstruction, patellar tendinopathy, and Achilles tendinopathy and rupture repair.

***Non-Randomized Studies, Retrospective Reviews and Other Evidence***

Delcogliano et al. (2024) completed a scoping review on existing evidence on platelet-rich plasma (PRP) as a biological augmentation in anterior cruciate ligament reconstruction (ACLR) surgery. A systematic search of multiple databases identified 23 randomized controlled trials (RCTs) involving 943 knees, with PRP being applied in either liquid or clotted form. There was considerable variability across the studies in surgical techniques, graft types, follow-up durations (ranging from 1 day to 2 years), and outcome measures. The risk of bias evaluation revealed that the overall quality of the included studies was low. The findings showed that the current body of evidence on PRP in ACLR is highly inconsistent and lacks standardization, making meaningful comparisons across studies difficult. Although PRP shows potential as a beneficial augmentation, its application methods and overall efficacy remain unclear. Future research should prioritize standardization in study design and procedures to evaluate PRP's role more accurately and establish its suitability for routine clinical use.

## National and Specialty Organizations

The **Wound Healing Society** updated guidelines on treatment of diabetic foot ulcers state “The evidence is uncertain for the efficacy of therapy with platelet rich plasma as studies report mixed results regarding the benefits of this therapy” (Lavery et al. 2024).

The **International Working Group on the Diabetic Foot (IWGDF) Guidelines** on interventions to enhance healing of foot ulcers in people with diabetes state “With the exception of autologous leucocyte, platelet and fibrin patch we suggest not using autologous platelets therapy (including blook bank derived platelets) as an adjunct therapy to standard of care” (Chen et al. 2023).

A *Clinical Practice Guideline on Management of Osteoarthritis of the Knee (3rd Edition)* published by the **American Academy of Orthopaedic Surgeons** indicates PRP may reduce pain and improve function in patients with symptomatic osteoarthritis of the knee, however the strength of the recommendation is limited, and the recommendation was downgraded two levels because of inconsistent evidence (AAOS 2021).

A guideline published by **Veteran Affairs/Department of Defense** (VA/DoD 2020) states there is insufficient evidence to recommend for or against PRP injections for the treatment of OA of the hip or knee.

The **American College of Rheumatology/Arthritis Foundation** *Guideline for the Management of Osteoarthritis of the Hand, Hip, and Knee* (Kolansinski et al. 2019) gives a strong recommendation against PRP for management of osteoarthritis of the knee or hip. Strong recommendations for management include exercise, weight loss, Tai Chi, oral and topical nonsteroidal anti-inflammatory drugs (NSAIDs), and intraarticular steroids.

The **National Institute of Health (NICE) Guideline** [NG19] on diabetic foot problems recommends against using platelet-rich plasma gel to treat diabetic foot ulcers unless as part of a clinical trial ([1]NICE 2019).

The **National Institute of Health (NICE)** published interventional procedures guidance [IPG637] for platelet-rich plasma injections for knee osteoarthritis which notes that evidence on efficacy is limited in quality. As such, the procedure should only be used with special arrangements and data should be collected either by audit or research ([2]NICE 2019).

## CODING & BILLING INFORMATION

**CPT (Current Procedural Terminology)**

| Code | Description |
|---|---|
| **0232T** | Injection(s), platelet rich plasma, any site, including image guidance, harvesting and preparation when performed |

**HCPCS (Healthcare Common Procedure Coding System)**

| Code | Description |
|---|---|
| **G0460** | Autologous platelet rich plasma (PRP) or other blood-derived product for nondiabetic chronic wounds/ulcers (includes, as applicable: administration, dressings, phlebotomy, centrifugation or mixing, and all other preparatory procedures, per treatment) |
| **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) |
| **P9020** | Platelet rich plasma, each unit |

**CODING DISCLAIMER.** Codes listed in this policy are for reference purposes only and may not be all-inclusive. Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement. Listing of a service or device code in this policy does not guarantee coverage. Coverage is determined by the benefit document. Molina adheres to Current Procedural Terminology (CPT®), a registered trademark of the American Medical Association (AMA). All CPT codes and descriptions are copyrighted by the AMA; this information is included for informational purposes only. Providers and facilities are expected to utilize industry standard coding practices for all submissions. When improper billing and coding is not followed, Molina has the right to reject/deny the claim and recover claim payment(s). Due to changing industry practices, Molina reserves the right to revise this policy as needed.

## APPROVAL HISTORY

| | |
|---|---|
| **04/09/2025** | Policy reviewed. No changes to coverage criteria. Summary of Medical Evidence and References updated. |
| **04/10/2024** | Policy reviewed, no changes to coverage criteria. Summary of Medical Evidence and References updated. |
| **04/13/2023** | Policy reviewed, no changes to coverage criteria. Summary of Medical Evidence and References updated. |
| **04/13/2022** | Policy reviewed, no changes to coverage criteria. Summary of evidence and references updated. IRO Peer Review on March 18, 2022, by a practicing physician board-certified in Orthopedic Surgery. |
| **04/05/2021** | Policy reviewed, no changes. |
| **06/17/2020** | Policy reviewed, no changes, references updated. |
| **06/19/2019** | Policy reviewed, no changes, references updated. |
| **09/13/2018** | Policy reviewed, no changes, references updated. |
| **09/19/2017** | Policy reviewed, no changes. |
| **09/15/2016** | Policy reviewed, no changes. |
| **12/16/2015** | Policy reviewed, no changes. |
| **10/08/2014** | New policy. |

## REFERENCES

1. American Academy of Orthopaedic Surgeons management of osteoarthritis of the Knee (non-arthroplasty) evidence-based clinical practice guideline. Published September 11, 2022. Accessed March 20, 2025.
2. Argut SK, Celik D, Ergin ON, Kilicoglu OI. Does the combination of platelet-rich plasma and supervised exercise yield better pain relief and enhanced function in knee osteoarthritis? A randomized controlled trial. Clin Orthop Relat Res. 2024 Jun 1;482(6):1051-1061. doi: 10.1097/CORR.0000000000002993. Epub 2024 Feb 6. PMID: 38323999; PMCID:
3. Bennell KL, Paterson KL, Metcalf BR, et al. Effect of intra-articular platelet-rich plasma vs placebo injection on pain and medial tibial cartilage volume in patients with knee osteoarthritis: The RESTORE randomized clinical trial. JAMA. 2021 Nov 23;326(20):2021-2030. doi: 10.1001/jama.2021.19415.
4. Boksh K, Elbashir M, Thomas O, et al. Platelet-rich plasma in acute Achilles tendon ruptures: A systematic review and meta-analysis. Foot (Edinb). 2022 Dec;53:101923. doi: 10.1016/j.foot.2022.101923. Epub 2022 Mar 16. PMID: 36037774.
5. Carter MJ, Fylling CP, Parnell LK. Use of platelet rich plasma gel on wound healing: A systematic review and meta-analysis. Eplasty. 2011;11:e38. Epub 2011 Sep 15. PMID: 22028946; PMCID: PMC3174862.
6. Chen J, Wan Y, Jiang H. The effect of platelet-rich plasma injection on chronic Achilles tendinopathy and acute Achilles tendon rupture. Platelets. 2022 Apr 3;33(3):339-349. doi: 10.1080/09537104.2021.1961712. Epub 2021 Aug 4. PMID: 34346853.
7. Chen P, Vilorio NC, Dhatariya K, et al. Guidelines on interventions to enhance healing of foot ulcers in people with diabetes (IWGDF 2023 update). Diabetes Metab Res Rev. 2023 May 25:e3644. doi: 10.1002/dmrr.3644. Epub ahead of print. PMID: 37232034.
8. Collins NJ, Misra D, Felson DT, et al. Measures of knee function: International Knee Documentation Committee (IKDC) Subjective Knee Evaluation Form, Knee Injury and Osteoarthritis Outcome Score (KOOS), Knee Injury and Osteoarthritis Outcome Score Physical Function Short Form (KOOS-PS), Knee Outcome Survey Activities of Daily Living Scale (KOS-ADL), Lysholm Knee Scoring Scale, Oxford Knee Score (OKS), Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), Activity Rating Scale (ARS), and Tegner Activity Score (TAS). Arthritis Care Res (Hoboken). 2011 Nov;63 Suppl 11(0 11):S208-28. doi: 10.1002/acr.20632. PMID: 22588746; PMCID: PMC4336550
9. Delcogliano M, Sangiorgio A, Bensa A, et al. Platelet-rich plasma augmentation in anterior cruciate ligament reconstruction: Evidence is still too scattered. A scoping review of randomised controlled trials. Knee Surg Sports Traumatol Arthrosc. 2024 May;32(5):1143-1159. doi: 10.1002/ksa.12127. Epub 2024 Mar 15. PMID: 38488226.
10. Delgado DA, Lambert BS, Boutris N, et al. Validation of digital visual analog scale pain scoring with a traditional paper-based visual analog scale in adults. J Am Acad Orthop Surg Glob Res Rev. 2018 Mar 23;2(3):e088. doi: 10.5435/JAAOSGlobal-D-17-00088. PMID: 30211382; PMCID: PMC6132313.
11. Görmeli G, Görmeli CA, Ataoglu B, et al. Multiple PRP injections are more effective than single injections and hyaluronic acid in knees with early osteoarthritis: a randomized, double-blind, placebo-controlled trial. Knee Surg Sports Traumatol Arthrosc. 2017 Mar;25(3):958-965. doi: 10.1007/s00167-015-3705-6. Epub 2015 Aug 2. PMID: 26233594.
12. Hayes. Comparative effectiveness review of platelet-rich plasma for treatment of conditions of the Achilles tendon and plantar fascia. Health Technology Assessment. Published March 14, 2019. Updated February 11, 2022. Accessed March 20, 2025. https://evidence.hayesinc.com/.
13. Hayes. Platelet-rich plasma for knee osteoarthritis. Health Technology Assessment. Published October 21, 2024. Accessed March 20, 2025. https://evidence.hayesinc.com/.
14. Hayes. Platelet-rich plasma for wound treatment of diabetic foot ulcers. Health Technology Assessment .Published January 26, 2024.Updated February 5, 2025. Accessed March 20, 2025. https://evidence.hayesinc.com/
15. Hossam EM, Alserr AHK, Antonopoulos CN, et al. Autologous platelet rich plasma promotes the healing of non-ischemic diabetic foot ulcers. A randomized controlled trial. Ann Vasc Surg. 2022 May;82:165-171. doi: 10.1016/j.avsg.2021.10.061. Epub 2021 Dec 8. PMID: 34896242
16. 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 Sep 30;9(9):CD010951. doi: 10.1002/14651858.CD010951.pub2. PMID: 34590307; PMCID: PMC8481072.
17. Kearney RS, Ji C, Warwick J, et al. ATM Trial Collaborators. Effect of platelet-rich plasma injection vs sham injection on tendon dysfunction in patients with chronic midportion Achilles tendinopathy: A randomized clinical trial. JAMA. 2021 Jul 13;326(2):137-144. doi: 10.1001/jama.2021.6986.
18. Keene DJ, Alsousou J, Harrison P, et al. PATH-2 trial group. Platelet rich plasma injection for acute Achilles tendon rupture: PATH-2 randomised, placebo controlled, superiority trial. BMJ. 2019 Nov 20;367:l6132. doi: 10.1136/bmj.l6132. PMID: 31748208; PMCID: PMC6863552.
19. Kesikburun S, Tan AK, Yilmaz B, et al. Platelet-rich plasma injections in the treatment of chronic rotator cuff tendinopathy: a randomized controlled trial with 1-year follow-up. Am J Sports Med. 2013 Nov;41(11):2609-16. doi: 10.1177/0363546513496542. Epub 2013 Jul 26. PMID: 23893418.
20. Krishnamurthy A, Lang AE, Pangarkar S, et al. Synopsis of the 2020 US Department of Veterans Affairs/US Department of Defense clinical practice guideline: The non-surgical management of hip and knee osteoarthritis. Mayo Clin Proc. 2021 Sep;96(9):2435-2447. doi: 10.1016/j.mayocp.2021.03.017. PMID: 34481599.
21. Kim CH, Park YB, Lee JS, Jung HS. Platelet-rich plasma injection vs. operative treatment for lateral elbow tendinosis: a systematic review and meta-analysis. J Shoulder Elbow Surg. 2022 Feb;31(2):428-436. doi: 10.1016/j.jse.2021.09.008. Epub 2021 Oct 14. PMID: 34656779.
22. 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 Care Res (Hoboken). 2020 Feb;72(2):149-162. doi: 10.1002/acr.24131. Epub 2020 Jan 6. Erratum in: Arthritis Care Res (Hoboken). 2021 May;73(5):764. PMID: 31908149.
23. Krogh TP, Ellingsen T, Christensen R et al. Ultrasound-guided injection therapy of Achilles tendinopathy with platelet-rich plasma or saline: A randomized, blinded, placebo-controlled trial. Am J Sports Med. 2016 Aug;44(8):1990-7. doi: 10.1177/0363546516647958. Epub 2016 Jun 2. PMID: 27257167.
24. Kwong CA, Woodmass JM, Gusnowski EM, et al. Platelet-rich plasma in patients with partial-thickness rotator cuff tears or tendinopathy leads to significantly improved short-term pain relief and function compared with corticosteroid injection: A double-blind randomized controlled trial. Arthroscopy. 2021 Feb;37(2):510-517. doi: 10.1016/j.arthro.2020.10.037. Epub 2020 Oct 28. PMID: 33127554.
25. Lavery LA, Suludere MA, Attinger CE, et al. WHS (Wound Healing Society) guidelines update: Diabetic foot ulcer treatment guidelines. Wound Repair Regen. 2024 Jan-Feb;32(1):34-46. doi: 10.1111/wrr.13133. Epub 2023 Dec 21. PMID: 38032324.
26. Martinez-Zapata MJ, Marti-Carvajal A, Solà I.et al. Autologous platelet-rich plasma for treating chronic wounds. Cochrane Database Syst Rev,

17. 2012. Updated May 25, 2016. doi: 10.1002/14651858.CD006899.pub3.
27. Montañez-Heredia E, Irízar S, Huertas PJ, et al. Intra-articular injections of platelet-rich plasma versus hyaluronic acid in the treatment of osteoarthritic knee pain: A randomized clinical trial in the context of the Spanish National Health Care System. Int J Mol Sci. 2016 Jul 2;17(7):1064. doi: 10.3390/ijms17071064. PMID: 27384560; PMCID: PMC4964440.
28. Moraes VY, Lenza M, Tamaoki MJ, et al. Platelet-rich therapies for musculoskeletal soft tissue injuries. Cochrane Database Syst Rev. 2014 Apr 29;2014(4):CD010071. doi: 10.1002/14651858.CD010071.pub3. PMID: 24782334; PMCID: PMC6464921.
29. [1] National Institute for Health and Care Excellence (NICE). Diabetic foot problems: prevention and management [NG19]. Published August 6, 2015. Updated October 11, 2019. Reviewed January 18, 2023. Accessed March 20, 2025. https:// https://www.nice.org.uk/guidance
30. [2]National Institute for Health and Care Excellence (NICE). Platelet-rich plasma injections for knee osteoarthritis: Interventional procedures guidance [IPG637]. Published January 23, 2019. Accessed March 20, 2025. https:// https:// https://www.nice.org.uk/guidance
31. Patel S, Dhillon MS, Aggarwal S, et al. Treatment with platelet-rich plasma is more effective than placebo for knee osteoarthritis: a prospective, double-blind, randomized trial. Am J Sports Med. 2013 Feb;41(2):356-64. doi: 10.1177/0363546512471299. Epub 2013 Jan 8. PMID: 23299850.
32. Peng YN, Chen JL, Hsu CC, et al. Intra-articular leukocyte-rich platelet-rich plasma versus intra-articular hyaluronic acid in the treatment of knee osteoarthritis: A meta-analysis of 14 randomized controlled trials. Pharmaceuticals (Basel). 2022 Aug 7;15(8):974. doi: 10.3390/ph15080974. PMID: 36015122; PMCID: PMC9413546.
33. Qiao X, Yan L, Feng Yet al. Efficacy and safety of corticosteroids, hyaluronic acid, and PRP and combination therapy for knee osteoarthritis: A systematic review and network meta-analysis. BMC Musculoskelet Disord. 2023 Nov 30;24(1):926. doi: 10.1186/s12891-023-06925-6. PMID: 38037038; PMCID: PMC10687893.
34. Qu W, Wang Z, Hunt C, et al. Platelet-rich plasma for wound care in the Medicare population [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US); 2020 Sep 17. PMID: 34978778.
35. Sax OC, Chen Z, Mont MA, et al. The efficacy of platelet-rich plasma for the treatment of knee osteoarthritis symptoms and structural changes: A systematic review and meta-analysis. J Arthroplasty. 2022 Nov;37(11):2282-2290.e2. doi: 10.1016/j.arth.2022.05.014. Epub 2022 May 7. Erratum in: J Arthroplasty. 2023 Sep;38(9):1908. PMID: 35537610.
36. Scott A, LaPrade RF, Harmon KG, et al. Platelet-rich plasma for patellar tendinopathy: A randomized controlled trial of leukocyte-rich PRP or leukocyte-poor PRP versus saline. Am J Sports Med. 2019 Jun;47(7):1654-1661. doi: 10.1177/0363546519837954. Epub 2019 Apr 30. 37.18.
37. Zhao JG, Zhao L, Jiang YX, et al. Platelet-rich plasma in arthroscopic rotator cuff repair: A meta-analysis of randomized controlled trials. Arthroscopy. 2015 Jan;31(1):125-35. doi: 10.1016/j.arthro.2014.08.008. Epub 2014 Sep 30. PMID: 25278352.

## APPENDIX

***Reserved for State specific information.*** *Information includes, but is not limited to, State contract language, Medicaid criteria and other mandated criteria.*

### Washington

For Medicaid reviews, consider and apply the following state-specific criteria: Health Technology Assessment (HTA) “Hyaluronic Acid/Viscosupplementation and Platelet Rich Plasma for Knee or Hip Osteoarthritis” Washington State Healthcare Authority, June 26, 2023.