

## MEDICAL POLICY – 2.01.543

# Recombinant and Autologous Platelet-Derived Growth Factors for Wound Healing and Other Non-Orthopedic Conditions

BCBSA Ref. Policy: 2.01.16

Effective Date: Apr. 1, 2025  
Last Revised: Mar. 10, 2025  
Replaces: N/A

### RELATED MEDICAL POLICIES:

2.01.26	Prolotherapy
2.01.57	Electrostimulation and Electromagnetic Therapy for Treating Wounds
2.01.98	Orthopedic Applications of Platelet-Rich Plasma
7.01.113	Bioengineered Skin and Soft Tissue Substitutes
7.01.142	Surgery for Groin Pain in Athletes
7.01.583	Amniotic Membrane and Amniotic Fluid
8.01.52	Orthopedic Applications of Stem Cell Therapy (Including Allografts and Bone Substitutes Used with Autologous Bone Marrow)
8.01.55	Stem Cell Therapy for Peripheral Arterial Disease

Select a hyperlink below to be directed to that section.

[POLICY CRITERIA](#) | [DOCUMENTATION REQUIREMENTS](#) | [CODING](#)  
[RELATED INFORMATION](#) | [EVIDENCE REVIEW](#) | [REFERENCES](#) | [HISTORY](#)



Clicking this icon returns you to the hyperlinks menu above.

## Introduction

Special substances that are found in the blood may help cells to grow and divide. Some of these blood-derived growth factors, including some platelet-derived growth factors (PDGFs) and platelet-rich plasma (PRP), have been used to treat wounds and skin ulcers. Some of these growth factors have been made in the lab by manipulating genetic material such as DNA. These are called recombinant blood-derived growth factors. Other growth factors come from your own body. These are called autologous blood-derived growth factors. This policy discusses the use of recombinant and autologous blood-derived growth factors when treating wounds and skin ulcers.

**Note:** The Introduction section is for your general knowledge and is not to be taken as policy coverage criteria. The rest of the policy uses specific words and concepts familiar to medical professionals. It is intended for providers. A provider can be a person, such as a doctor, nurse, psychologist, or dentist. A provider also can be a place where medical care is given, like a hospital, clinic, or lab. This policy informs them about when a

service may be covered.

## Policy Coverage Criteria

Treatment	Medical Necessity
<b>Recombinant platelet-derived growth factor (i.e., becaplermin)</b>	<p><b>Recombinant platelet-derived growth factor (i.e., becaplermin) may be considered medically necessary when used as an adjunct to standard wound management for the following indications (for information on individual selection criteria, see <a href="#">Additional Guidelines</a> section below):</b></p> <ul style="list-style-type: none"><li>• Neuropathic diabetic ulcers extending into the subcutaneous tissue</li><li>• Pressure ulcers extending into the subcutaneous tissue</li></ul> <p><b>Other applications of recombinant platelet-derived growth factor (i.e., becaplermin) are considered investigational, including but not limited to:</b></p> <ul style="list-style-type: none"><li>• Ischemic ulcers</li><li>• Venous stasis ulcers</li><li>• Ulcers not extending through the dermis into the subcutaneous tissue</li></ul>

Treatment	Investigational
<b>Use of platelet-rich plasma (i.e., autologous blood-derived preparations)</b>	<p><b>Use of platelet-rich plasma (i.e., autologous blood-derived preparations) is considered investigational for the treatment of acute or chronic wounds, including surgical wounds, nonhealing ulcers, and for fat graft retention (aka fat graft take)</b></p>

## Additional Guidelines

### Becaplermin

- **Appropriate candidates for becaplermin gel for treatment of neuropathic ulcers should meet ALL of the following criteria:**
  - Adequate tissue oxygenation, as measured by a transcutaneous partial pressure of oxygen of 30 mm Hg or greater on the foot dorsum or at the margin of the ulcer



## Additional Guidelines

### AND

- Full-thickness ulcer (i.e., stage III or IV), extending through the dermis into subcutaneous tissues

### AND

- Participation in a wound management program, which includes sharp debridement, pressure relief (i.e., non-weight bearing), and infection control

- **Appropriate candidates for becaplermin gel for the treatment of pressure ulcers should meet ALL of the following criteria:**

- Full-thickness ulcer (i.e., stage III or IV), extending through the dermis into subcutaneous tissues

### AND

- Ulcer is in an anatomic location that can be off-loaded for the duration of treatment

### AND

- Albumin concentration is  $>2.5$  dL

### AND

- Total lymphocyte count is  $>1,000/\mu\text{L}$

### AND

- Normal values of vitamins A and C

- Individuals are typically treated once daily for up to 20 weeks or until they are completely healed. Application of the gel may be performed by the individual in the home
- Becaplermin is available in 2-g, 7.5-g, and 15-g tubes and is applied in a thin continuous layer, about 1/16th of an inch thick (i.e., 1.6 mm or the thickness of a dime). The amount of the gel used will depend on the size of the ulcer, measured in square centimeters. However, an average-sized ulcer, measuring  $3\text{ cm}^2$ , treated for an average length of time of 85 days, will require a little more than one 15-g tube. If the ulcer is treated for the maximum length of time of 140 days, 1.75 of the 15-g tubes would be required.

## Documentation Requirements

**For recombinant platelet derived growth factor (i.e., Regranex [becaplermin]) to be used as an added treatment to standard wound management the following supporting documentation is required:**

- For neuropathic diabetic ulcers extending into the subcutaneous tissue (diabetic ulcers that reach the innermost layer of skin):



## Documentation Requirements

- Adequate tissue oxygenation as shown by a transcutaneous partial pressure of oxygen of 30 mm Hg or greater on the top of the foot or at the margin of the ulcer
- AND**
- Full-thickness ulcer (stage III or IV) ulcer, extending through the dermis and into subcutaneous tissues
- AND**
- Participation in a wound management program, which includes the cutting away of tissue, pressure relief (that is, non-weight bearing), and infection control
- For Pressure ulcers extending into the subcutaneous tissue (the innermost layer of skin):
  - Full-thickness ulcer (stage III or IV), extending through the dermis and into subcutaneous tissues
  - AND**
  - The wound is in a location where pressure can be relieved for the duration of treatment
  - AND**
  - Albumin concentration greater than 2.5 dL
  - AND**
  - Total lymphocyte count greater than 1,000/ $\mu$ L
  - AND**
  - Normal values of vitamins A and C

## Coding

Code	Description
<b>CPT</b>	
0232T	Injection(s), platelet rich plasma, any site, including image guidance, harvesting and preparation when performed
<b>HCPCS</b>	
G0460	Autologous platelet rich plasma for nondiabetic chronic wounds/ulcers, including phlebotomy, centrifugation, and all other preparatory procedures, administration and dressings, per treatment
G0465	Autologous platelet rich plasma (PRP) for diabetic chronic wounds/ulcers, using an FDA-cleared device (includes administration, dressings, phlebotomy, centrifugation, and all other preparatory procedures, per treatment)

Code	Description
P9020	Platelet rich plasma, each unit
S0157	Becaplermin gel 0.01%, 0.5 gm
S9055	Procuren or other growth factor preparation to promote wound healing  (Please note that Procuren may no longer be available, but this code is used to report other growth factor preparations that promote wound healing.)

**Note:** CPT codes, descriptions and materials are copyrighted by the American Medical Association (AMA). HCPCS codes, descriptions and materials are copyrighted by Centers for Medicare Services (CMS).

## Related Information

### Benefit Application

Becaplermin may be used as part of a wound management program, as described in the [Additional Guidelines](#). Use of becaplermin gel is potentially high, particularly if used for off-label indications, or if used outside the setting of adequate and diligent standard wound management.

## Evidence Review

### Description

The use of blood-derived growth factors, including recombinant platelet-derived growth factors (PDGFs) and platelet-rich plasma (PRP), has been suggested as a treatment for wounds or other miscellaneous non-orthopedic conditions, including but not limited to, diabetic ulcers, pressure ulcers, venous stasis ulcers, and surgical and traumatic wounds.

## Background

### Wound Healing Treatment

A variety of growth factors have been found to play a role in wound healing, including PDGF, epidermal growth factor, fibroblast growth factors, transforming growth factors, and insulin-like growth factors. Autologous platelets are a rich source of PDGF, transforming growth factors (that function as a mitogen for fibroblasts, smooth muscle cells, and osteoblasts), and vascular endothelial growth factors. Recombinant PDGF has also been extensively investigated for clinical use in wound healing.

Autologous platelet concentrate suspended in plasma, also known as platelet-rich plasma (PRP), can be prepared from samples of centrifuged autologous blood. Exposure to a solution of thrombin and calcium chloride degranulates platelets (releasing various growth factors) and results in the polymerization of fibrin from fibrinogen, creating a platelet gel. The platelet gel can then be applied to wounds or may be used as an adjunct to surgery to promote hemostasis and accelerate healing. In the operating room setting, PRP has been investigated as an adjunct to a variety of periodontal, reconstructive, and orthopedic procedures. For example, bone morphogenetic proteins are a transforming growth factor, and thus PRP has been used in conjunction with bone-replacement grafting (using either autologous grafts or bovine-derived xenograft) in periodontal and maxillofacial surgeries.

PRP is distinguished from fibrin glues or sealants, which have been used for many years as a surgical adjunct to promote local hemostasis at incision sites. Fibrin glue is created from platelet-poor plasma and consists primarily of fibrinogen. Commercial fibrin glues are created from pooled homologous human donors; Tisseel (Baxter International) and Hemaseel (Haemacure Corp.) are examples of commercially available fibrin sealants. Autologous fibrin sealants can also be created from platelet-poor plasma. This policy does not address the use of fibrin sealants.

### Wound Closure Outcomes

This policy addresses the use of recombinant PDGF products and PRP for nonorthopedic indications, which include a number of wound closure-related indications.

For this policy, the primary end points of interest for the study of wound closure are as follows, consistent with guidance from the US Food and Drug Administration (FDA) for the industry in developing products for the treatment of chronic cutaneous ulcer and burn wounds<sup>1</sup>:



1. Incidence of complete wound closure
2. Time to complete wound closure (reflecting accelerated wound closure)
3. Incidence of complete wound closure following surgical wound closure
4. Pain control

## Summary of Evidence

### Recombinant Platelet-Derived Growth Factors

For individuals who have diabetic lower-extremity ulcers who receive recombinant PDGFs, the evidence includes randomized controlled trials (RCTs) and systematic reviews. The relevant outcomes are symptoms, change in disease status, morbid events, quality of life, and treatment-related morbidity. Results have shown improved rates of healing with use of recombinant PDGF for diabetic neuropathic ulcers and pressure ulcers. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have pressure ulcers who receive recombinant PDGF, the evidence includes a single RCT. The relevant outcomes are symptoms, change in disease status, morbid events, quality of life, and treatment-related morbidity. Results have shown improved rates of healing with use of recombinant PDGF for pressure ulcers. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have venous stasis leg ulcers or acute surgical or traumatic wounds who receive recombinant PDGF, the evidence includes small RCTs. The relevant outcomes are symptoms, change in disease status, morbid events, quality of life, and treatment-related morbidity. The level of evidence does not permit conclusions whether recombinant PDGF is effective in treating other wound types, including chronic venous ulcers or acute traumatic wounds. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

### Platelet-Rich Plasma

For individuals with chronic wounds who receive PRP, the evidence includes meta-analyses of a number of small, controlled trials. The relevant outcomes are symptoms, change in disease status, morbid events, quality of life, and treatment-related morbidity. In meta-analyses of



individuals with lower extremity diabetic ulcers, PRP demonstrated an improvement over the control groups in complete wound closure, recurrence rate, and healing time, but moderate to high risk of bias and imprecision preclude drawing conclusions on other important outcomes such as recurrence, infection, amputation, and quality of life. In individuals with venous ulcers, PRP did not demonstrate an improvement over the control groups in complete wound closure, recurrence, wound infection, or quality of life, although imprecision likely precluded identifying differences on these outcomes. In individuals with pressure ulcers, although PRP reduced wound size, other important outcomes such as complete wound closure were not measured. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have acute surgical or traumatic wounds who receive PRP, the evidence includes systematic reviews and a number of small, controlled trials. The relevant outcomes are symptoms, change in disease status, morbid events, quality of life (QOL), and treatment-related morbidity. Current results of trials using PRP are mixed, and the studies are limited in both size and quality. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals where platelet rich plasma has been used for fat graft retention (aka fat graft take) there is limited evidence that supports this use. Published trials regarding the use of platelet rich plasma combined with fat grafting address different clinical scenarios such as facial liposstructure for cheek contouring and split treatments to the face and hand with autologous fat grafting and PRP. One histological review of fat grafting and PRP in wound healing from animal studies concluded, “the fundamental issue of low fat graft survival hinders its clinical use in all settings.” The review acknowledges that PRP may increase the viability of fat grafts but states that well-designed studies in humans are needed to establish its clinical usefulness. Another article discussing the use of PRP for facial rejuvenation and hair restoration in combination with fat grafting describes the lack of standardized protocols for the platelet rich plasma preparation. Limitations of these studies include small sample sizes and lack of long-term follow-up which is needed to determine the sustainability of the response of this treatment. These limited clinical scenarios prohibit the ability to extrapolate their findings to other clinical scenarios. Thus, the evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

## Ongoing and Unpublished Clinical Trials

Some larger studies that might influence this review are listed in [Table 1](#).



**Table 1. Summary of Key Clinical Trials**

NCT No.	Trial Name	Planned Enrollment	Completion Date
<b>Ongoing</b>			
<a href="#">NCT05850611</a>	The Effect of Combination Therapy of Oral Methylene Blue and Platelet-rich Plasma-fibrin Glue in Patients With Non-healing Diabetic Foot Ulcer: a Pilot Study	20	Sept 2024
<a href="#">NCT05996614</a>	Evaluation of Platelet Rich Plasma in Skin Graft Take for Patients With Post Burn Raw Areas	40	Feb 2025
<a href="#">NCT06281483</a>	Efficacy of Platelet-rich Plasma Versus Platelet-rich Fibrin Versus Conventional Treatment in Chronic Non-healing Skin Ulcers: A Comparative Study	36	Jan 2026
<a href="#">NCT06298110</a>	The Effect of PRP on Wound Healing in High Risk Patients Undergoing Abdominal Hysterectomy	80	Sep 2024
<a href="#">NCT05979584</a>	Platelet Rich Plasma VS Platelet Fibrin Plasma in Treatment of Diabetes Foot Ulcer: a Randomized Controlled Trial	56	Aug 2025
<b>Unpublished</b>			
<a href="#">NCT02071979</a> <sup>a</sup>	Registry Trial of the Effectiveness of Platelet Rich Plasma for Chronic Non-Healing Wounds (CMS)	1500	Jan 2018 (terminated; updated 01/16/18)
<a href="#">NCT02312596</a> <sup>a</sup>	A Prospective, Randomized Clinical Trial of PRP Concepts Fibrin Bio-Matrix in Chronic Non-Healing Pressure Ulcers	200	Dec 2021 (unknown)
<a href="#">NCT02312570</a> <sup>a</sup>	A Prospective, Randomized Clinical Trial of PRP Concepts Fibrin Bio-Matrix in Chronic Non-Healing Pressure Ulcers	200	Dec 2021 (unknown)
<a href="#">NCT02307448</a> <sup>a</sup>	Effectiveness of Autologous Platelet Rich Plasma in the Treatment of Chronic Non-Healing Wounds	80	Dec 2022 (terminated)
<a href="#">NCT02402374</a> <sup>a</sup>	Randomized, Placebo-controlled, Blind-assessor Study to Evaluate the Safety and Efficacy of Autologous Platelet Rich Plasma Gel Prepared With the RegenKit-BCT Plus Family of Kits for the Treatment of Diabetic Foot Ulcer	192	Dec 2020 (unknown)

NCT: national clinical trial; PRP: autologous platelet-rich plasma

<sup>a</sup> Denotes industry-sponsored or cosponsored trial.

## Practice Guidelines and Position Statements

The purpose of the following information is to provide reference material. Inclusion does not imply endorsement or alignment with the policy conclusions.

Guidelines or position statements will be considered for inclusion if they were issued by, or jointly by, a US professional society, an international society with US representation, or National Institute for Health and Care Excellence (NICE). Priority will be given to guidelines that are informed by a systematic review, include strength of evidence ratings, and include a description of management of conflict of interest.

### American College of Physicians

In 2015 the American College of Physicians (ACP) published guidelines on treatment of pressure ulcers.<sup>85</sup> The guidelines noted that “although low quality evidence suggests that dressings containing PDGF [platelet-derived growth factors] promote healing, ACP supports the use of other dressings such as hydrocolloid and foam dressings, which are effective at promoting healing and cost less than PDGF dressings.” A search of the ACP website on December 1, 2020, found that this 2015 guideline is now listed as inactive.

### Association for the Advancement of Wound Care

The Association for the Advancement of Wound Care developed guideline recommendations for the management of pressure ulcers (2010)<sup>86</sup> and venous ulcers (2015)<sup>87</sup>:

- Pressure ulcer: “Growth factors are not indicated for PU [pressure ulcers] at this time” (level C evidence – no RCTs available comparing growth factors with A-level dressings)<sup>86</sup>
- Venous ulcer: “Platelet derived growth factor has shown no significant effects on VU [venous ulcer] healing or recurrence” (level A evidence)<sup>87</sup>

### National Institute for Health and Care Excellence

In 2019, the National Institute for Health and Care Excellence updated its guidance on the prevention and management of diabetic foot problems.<sup>88</sup> The guidance stated that neither

autologous platelet-rich plasma (PRP) gel nor platelet-derived growth factors should be offered in the treatment of diabetic foot ulcers.

## Medicare National Coverage

In 2012, the Centers for Medicare & Medicaid Services (CMS) revised its national coverage decision on autologous blood-derived products for chronic non-healing wounds.<sup>89,90</sup> This revision replaces prior noncoverage decisions.<sup>91,92</sup>

The Centers for Medicare & Medicaid Services covers autologous PRP only for individuals who have chronic non-healing diabetic, pressure, and/or venous wounds and when all of the following conditions are met:

The patient is enrolled in a clinical research study that addresses the following questions using validated and reliable methods of evaluation...

The clinical research study must meet the requirements specified below to assess the effect of PRP for the treatment of chronic non-healing diabetic, venous, and/or pressure wounds. The clinical study must address:

Prospectively, do Medicare beneficiaries that have chronic non-healing diabetic, venous, and/or pressure wounds who receive well-defined optimal usual care, along with PRP therapy, experience clinically significant health outcomes compared to patients who receive well-defined optimal usual care for chronic non-healing diabetic, venous, and/or pressure wounds as indicated by addressing at least one of the following:

- a. Complete wound healing?
- b. Ability to return to previous function and resumption of normal activities?; or
- c. Reduction of wound size or healing trajectory, which results in the patient's ability to return to previous function and resumption of normal activities?

In response to a formal request from Nuo Therapeutics on May 9, 2019, CMS began a fourth reconsideration of its national coverage decision.<sup>63</sup> To inform this reconsideration, the Mayo Evidence-based Practice Center performed a technology assessment that was published by Qu et al (2020) and its results are described in the Rationale section.<sup>93</sup> Following their review of this evidence, on December 21, 2020, CMS posted a Proposed Decision Memorandum that proposes to expand its 2012 Coverage with Evidence Development decision to cover any use of



autologous PRP "...for the treatment of chronic non-healing diabetic wounds under section 1862(a)(1)(A) of the Social Security Act (the Act)."<sup>92</sup> This decision is based on the evidence described above that is sufficient "...to demonstrate that patients with diabetic ulcers who are treated with autologous PRP have better outcomes (complete wound healing) when compared to patients who receive standard care." CMS additionally noted that a limitation of the evidence is that "None of these studies addressed whether or not PRP affected a patient's ability to return to previous function and resumption of normal activities or resulted in reduction of wound size or healing trajectory as an intermediary towards a formal endpoint of a patient's ability to return to previous function and resumption of normal activities."

For other chronic non-healing wounds, "CMS proposes that coverage of autologous PRP for the treatment of all other chronic non-healing wounds will be determined by local Medicare Administrative Contractors (MACs) under section 1862(a)(1)(A) of the Act."

In April 2021, CMS published an updated decision memo following the fourth reconsideration of the national coverage analysis stating that CMS will "cover autologous platelet-rich plasma (PRP) for the treatment of chronic non-healing diabetic wounds under section 1862(a)(1)(A) of the Social Security Act (the Act) for a duration of 20 weeks, when prepared by devices whose FDA cleared indications include the management of exuding cutaneous wounds, such as diabetic ulcers. Coverage of autologous PRP for the treatment of chronic non-healing diabetic wounds beyond 20 weeks will be determined by local Medicare Administrative Contractors (MACs).

Coverage of autologous PRP for the treatment of all other chronic non-healing wounds will be determined by local Medicare Administrative Contractors (MACs) under section 1862(a)(1)(A) of the Act."<sup>94</sup>

## Regulatory Status

### Becaplermin

In 1997, becaplermin gel (Regranex; Smith & Nephew), a recombinant PDGF product, was approved by the FDA for the following labeled indication:

Regranex Gel is indicated for the treatment of lower extremity diabetic neuropathic ulcers that extend into the subcutaneous tissue or beyond and have an adequate blood supply. When used as an adjunct to, and not a substitute for, good ulcer care practices including initial sharp debridement, pressure relief, and infection control, Regranex Gel increases the complete healing of diabetic ulcers.



The efficacy of Regranex Gel for the treatment of diabetic neuropathic ulcers that do not extend through the dermis into subcutaneous tissue or ischemic diabetic ulcers ... has not been evaluated...Regranex is not intended to be used in wounds that close by primary intention.

In 2008, the manufacturer added the following black box warning to the labeling for Regranex:

An increased rate of mortality secondary to malignancy was observed in patients treated with three or more tubes of Regranex Gel in a post marketing retrospective cohort study. Regranex Gel should only be used when the benefits can be expected to outweigh the risks. Regranex Gel should be used with caution in patients with known malignancy.

In 2018, the "Boxed Warning" and "Warnings and Precautions" were changed to remove "increased rate of cancer mortality" and "cancer mortality," respectively.

## Platelet-Rich Plasma

The FDA regulates human cells and tissues intended for implantation, transplantation, or infusion through the Center for Biologics Evaluation and Research, under Code of Federal Regulation title 21, parts 1270 and 1271. Blood products such as PRP are included in these regulations.

Under these regulations, certain products including blood products such as PRP are exempt and therefore do not follow the traditional FDA regulatory pathway. To date, the FDA has not attempted to regulate activated PRP.<sup>2</sup>

Numerous PRP preparation systems have been cleared for marketing by the FDA through the 510(k) process. These devices are intended to concentrate patient plasma at the point of care during bone grafting procedures. The use of different devices and procedures can lead to variable concentrations of active platelets and associated proteins, increasing variability between studies of clinical efficacy.

## References

1. U.S. Food and Drug Administration. Guidance for Industry: Chronic Cutaneous Ulcer and Burn Wounds -- Developing Products for Treatment. Rockville, MD: Food and Drug Administration; 2006 June.

2. U.S. Food and Drug Administration (FDA). Tissue and Tissue Products. 2016;  
<http://www.fda.gov/BiologicsBloodVaccines/TissueTissueProducts/>. Accessed February 5, 2025.
3. Blue Cross and Blue Shield Association Technology Evaluation Center (TEC). Becaplermin for wound healing. TEC Assessments. 1999;Volume 14:Tab 5.
4. Crovetti G, Martinelli G, Issi M, et al. Platelet gel for healing cutaneous chronic wounds. *Transfus Apher Sci.* Apr 2004; 30(2): 145-51. PMID 15062754
5. Eppley BL, Woodell JE, Higgins J. Platelet quantification and growth factor analysis from platelet-rich plasma: implications for wound healing. *Plast Reconstr Surg.* Nov 2004; 114(6): 1502-8. PMID 15509939
6. Kevy SV, Jacobson MS. Comparison of methods for point of care preparation of autologous platelet gel. *J Extra Corpor Technol.* Mar 2004; 36(1): 28-35. PMID 15095838
7. Castillo TN, Pouliot MA, Kim HJ, et al. Comparison of growth factor and platelet concentration from commercial platelet-rich plasma separation systems. *Am J Sports Med.* Feb 2011; 39(2): 266-71. PMID 21051428
8. Mazzucco L, Balbo V, Cattana E, et al. Not every PRP-gel is born equal. Evaluation of growth factor availability for tissues through four PRP-gel preparations: Fibrinet, RegenPRP-Kit, Plateltex and one manual procedure. *Vox Sang.* Aug 2009; 97(2): 110-8. PMID 19392780
9. Blue Cross and Blue Shield Association Technology Evaluation Center (TEC). Growth factors for wound healing. TEC Evaluations. 1992;7:352-377.
10. Zhao XH, Gu HF, Xu ZR, et al. Efficacy of topical recombinant human platelet-derived growth factor for treatment of diabetic lower-extremity ulcers: Systematic review and meta-analysis. *Metabolism.* Oct 2014; 63(10): 1304-13. PMID 25060693
11. Sridharan K, Sivaramakrishnan G. Growth factors for diabetic foot ulcers: mixed treatment comparison analysis of randomized clinical trials. *Br J Clin Pharmacol.* Mar 2018; 84(3): 434-444. PMID 29148070
12. Margolis DJ, Bartus C, Hoffstad O, et al. Effectiveness of recombinant human platelet-derived growth factor for the treatment of diabetic neuropathic foot ulcers. *Wound Repair Regen.* 2005; 13(6): 531-6. PMID 16283867
13. Rees RS, Robson MC, Smiell JM, et al. Becaplermin gel in the treatment of pressure ulcers: a phase II randomized, double-blind, placebo-controlled study. *Wound Repair Regen.* 1999; 7(3): 141-7. PMID 10417749
14. Senet P, Vicaud E, Beneton N, et al. Topical treatment of hypertensive leg ulcers with platelet-derived growth factor-BB: a randomized controlled trial. *Arch Dermatol.* Aug 2011; 147(8): 926-30. PMID 21482863
15. Freedman BM, Oplinger EH, Freedman IS. Topical becaplermin improves outcomes in work related fingertip injuries. *J Trauma.* Oct 2005; 59(4): 965-8. PMID 16374289
16. Martinez-Zapata MJ, Martí-Carvajal AJ, Solà I, et al. Autologous platelet-rich plasma for treating chronic wounds. *Cochrane Database Syst Rev.* May 25 2016; 2016(5): CD006899. PMID 27223580
17. Martinez-Zapata MJ, Martí-Carvajal AJ, Solà I, et al. Autologous platelet-rich plasma for treating chronic wounds. *Cochrane Database Syst Rev.* Oct 17 2012; 10: CD006899. PMID 23076929
18. 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. PMID 22028946
19. Picard F, Hersant B, Bosc R, et al. The growing evidence for the use of platelet-rich plasma on diabetic chronic wounds: A review and a proposal for a new standard care. *Wound Repair Regen.* Sep 2015; 23(5): 638-43. PMID 26019054
20. Del Pino-Sedeño T, Trujillo-Martín MM, Andia I, et al. Platelet-rich plasma for the treatment of diabetic foot ulcers: A meta-analysis. *Wound Repair Regen.* Mar 2019; 27(2): 170-182. PMID 30575212
21. 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.* May 2019; 11(5): 359-369. PMID 30182534
22. Qu W, Wang Z, Hunt C, Morrow AS, Urtecho M, Amin M, Shah S, Hasan B, Abd-Rabu R, Ashmore Z, Kubrova E, Prokop LJ, Murad MH. 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. HHSA2902015000131.) Rockville, MD: Agency for Healthcare Research and Quality. Archived.

23. Deng J, Yang M, Zhang X, et al. 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.* May 19 2023; 18(1): 370. PMID 37202812
24. Martínez-Zapata MJ, Martí-Carvajal A, Solà I, et al. Efficacy and safety of the use of autologous plasma rich in platelets for tissue regeneration: a systematic review. *Transfusion.* Jan 2009; 49(1): 44-56. PMID 18954394
25. Qu S, Hu Z, Zhang Y, et al. Clinical Studies on Platelet-Rich Plasma Therapy for Chronic Cutaneous Ulcers: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. *Adv Wound Care (New Rochelle).* Feb 2022; 11(2): 56-69. PMID 33607926
26. Platini H, Adammayanti KA, Maulana S, et al. The Potential of Autologous Platelet-Rich Plasma Gel for Diabetic Foot Ulcer Care Among Older Adults: A Systematic Review and Meta-Analysis. *Ther Clin Risk Manag.* 2024; 20: 21-37. PMID 38288358
27. Ahmed M, Reffat SA, Hassan A, et al. Platelet-Rich Plasma for the Treatment of Clean Diabetic Foot Ulcers. *Ann Vasc Surg.* Jan 2017; 38: 206-211. PMID 27522981
28. Alamdari DH, Asadi M, Rahim AN, et al. Efficacy and Safety of Pleurodesis Using Platelet-Rich Plasma and Fibrin Glue in Management of Postoperative Chylothorax After Esophagectomy. *World J Surg.* Apr 2018; 42(4): 1046-1055. PMID 28986682
29. Chen HY, Chen CX, Liang Y, Wang J. Efficacy of autologous platelet rich gel in the treatment of refractory diabetic foot. *Chin J New Clin Med.* 2008; 17:1-2.
30. Driver VR, Hanft J, Fylling CP, et al. A prospective, randomized, controlled trial of autologous platelet-rich plasma gel for the treatment of diabetic foot ulcers. *Ostomy Wound Manage.* Jun 2006; 52(6): 68-70, 72, 74 passim. PMID 16799184
31. Elsaid A, El-Said M, Emile S, et al. Randomized Controlled Trial on Autologous Platelet-Rich Plasma Versus Saline Dressing in Treatment of Non-healing Diabetic Foot Ulcers. *World J Surg.* Apr 2020; 44(4): 1294-1301. PMID 31811339
32. Friese G, Herten M, Scherbaum WA. The use of autologous platelet concentrate activated by autologous thrombin (APC+) is effective and safe in the treatment of chronic diabetic foot ulcers-a randomized controlled trial. In: eds. *Proceedings of the Fifth International Symposium on the Diabetic Foot*, May September 12, 2007, Noordwijkerhout, The Netherlands. 2007.
33. Game F, Jeffcoate W, Tarnow L, et al. LeucoPatch system for the management of hard-to-heal diabetic foot ulcers in the UK, Denmark, and Sweden: an observer-masked, randomised controlled trial. *Lancet Diabetes Endocrinol.* Nov 2018; 6(11): 870-878. PMID 30243803
34. Gude W, Hagan D, Abood F, et al. Aurix Gel Is an Effective Intervention for Chronic Diabetic Foot Ulcers: A Pragmatic Randomized Controlled Trial. *Adv Skin Wound Care.* Sep 2019; 32(9): 416-426. PMID 31436621
35. Goda A, Metwally M, Ewada A, et al. Platelet-rich plasma for the treatment of diabetic foot ulcer: a randomized, double-blind study. *Egyptian Journal of Surgery.* Mar 2018; 37 (178-184).
36. Habeeb T, AA E, H M. Platelet-rich plasma (PRP) bio-stimulant gel dressing in treating chronic non-healing leg and foot ulcers; cost and effectiveness. *Randomized Controlled Clinical Trial.* 2021.
37. Helmy Y, Farouk N, Ali Dahy A, et al. Objective assessment of Platelet-Rich Plasma (PRP) potentiality in the treatment of Chronic leg Ulcer: RCT on 80 patients with Venous ulcer. *J Cosmet Dermatol.* Oct 2021; 20(10): 3257-3263. PMID 33880860
38. 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.* May 2022; 82: 165-171. PMID 34896242
39. Jeong SH, Han SK, Kim WK. Treatment of diabetic foot ulcers using a blood bank platelet concentrate. *Plast Reconstr Surg.* Mar 2010; 125(3): 944-52. PMID 20195121
40. Kakagia DD, Kazakos KJ, Xarchas KC, et al. Synergistic action of protease-modulating matrix and autologous growth factors in healing of diabetic foot ulcers. A prospective randomized trial. *J Diabetes Complications.* 2007; 21(6): 387-91. PMID 17967712
41. Karimi R, Afshar M, Salimian M, et al. The effect of platelet rich plasma dressing on healing diabetic foot ulcers. *Nurs Midwifery Stud.* 2016;5(3):e30314.



42. Li L, Wang C, Wang Y, He LP, Yang YZ, Chen LH, et al. Impact of topical application of autologous platelet-rich gel on medical expenditure and length of stay in hospitals in diabetic patients with refractory cutaneous ulcers. *Sichuan Da Xue Xue Bao Yi Xue Ban*. 2012;43(5):7625
43. Li L, Chen D, Wang C, et al. Autologous platelet-rich gel for treatment of diabetic chronic refractory cutaneous ulcers: A prospective, randomized clinical trial. *Wound Repair Regen*. 2015; 23(4): 495-505. PMID 25847503
44. Liu GY, Deng XL, Sun Y, Wang MZ, Gao J, Gou J. Effect of autologous platelet-rich gel on the treatment of diabetic foot ulcers. *J Xi'an Jiaotong Univ (Med Sci)*. 2016;37:264-267.
45. Liao X, Liang JX, Li SH, et al. Allogeneic Platelet-Rich Plasma Therapy as an Effective and Safe Adjuvant Method for Chronic Wounds. *J Surg Res*. Feb 2020; 246: 284-291. PMID 31622885
46. Meamar R, Ghasemi-Mobarakeh L, Norouzi MR, et al. Improved wound healing of diabetic foot ulcers using human placenta-derived mesenchymal stem cells in gelatin electrospun nanofibrous scaffolds plus a platelet-rich plasma gel: A randomized clinical trial. *Int Immunopharmacol*. Dec 2021; 101(Pt B): 108282. PMID 34737130
47. Ma L. Clinical efficacy of autologous platelet rich gel in the treatment of diabetic foot and diabetic chronic cutaneous ulcer. *Chin J Mod Drug Appl*. 2014;8:86-88
48. Miłek T, Baranowski K, Zydlewski P, et al. Role of plasma growth factor in the healing of chronic ulcers of the lower legs and foot due to ischaemia in diabetic patients. *Postepy Dermatol Alergol*. Dec 2017; 34(6): 601-606. PMID 29422826
49. Qi KQ, Chen TJ, Shang XL. The application of autologous platelet-rich gel in the treatment of diabetic foot ulcers. *Chin J Diabetes*. 2014;22: 1102-1105.
50. Rainys D, Cepas A, Dambrauskaite K, et al. Effectiveness of autologous platelet-rich plasma gel in the treatment of hard-to-heal leg ulcers: a randomised control trial. *J Wound Care*. Oct 02 2019; 28(10): 658-667. PMID 31600109
51. Saad Setta H, Elshahat A, Elsherbiny K, et al. Platelet-rich plasma versus platelet-poor plasma in the management of chronic diabetic foot ulcers: a comparative study. *Int Wound J*. Jun 2011; 8(3): 307-12. PMID 21470370
52. Saldalamacchia G, Lapice E, Cuomo V, et al. A controlled study of the use of autologous platelet gel for the treatment of diabetic foot ulcers. *Nutr Metab Cardiovasc Dis*. Dec 2004; 14(6): 395-6. PMID 15853123
53. Serra R, Grande R, Butrico L, et al. Skin grafting and topical application of platelet gel in the treatment of vascular lower extremity ulcers. *Acta Phlebologica*. 2014 01 Dec;15(3):129-36.
54. Singh SP, Kumar V, Pandey A, et al. Role of platelet-rich plasma in healing diabetic foot ulcers: a prospective study. *J Wound Care*. Sep 02 2018; 27(9): 550-556. PMID 30204574
55. Steed DL, Goslen JB, Holloway GA, et al. Randomized prospective double-blind trial in healing chronic diabetic foot ulcers. CT-102 activated platelet supernatant, topical versus placebo. *Diabetes Care*. Nov 1992; 15(11): 1598-604. PMID 1468291
56. Steed DL, Edington HD, Webster MW. Recurrence rate of diabetic neurotrophic foot ulcers healed using topical application of growth factors released from platelets. *Wound Repair Regen*. 1996; 4(2): 230-3. PMID 17177818
57. Mohammadi Tofigh A, Tajik M. Comparing the standard surgical dressing with dehydrated amnion and platelet-derived growth factor dressings in the healing rate of diabetic foot ulcer: A randomized clinical trial. *Diabetes Res Clin Pract*. Mar 2022; 185: 109775. PMID 35149167
58. Xie J, Fang Y, Zhao Y, et al. Autologous Platelet-Rich Gel for the Treatment of Diabetic Sinus Tract Wounds: A Clinical Study. *J Surg Res*. Mar 2020; 247: 271-279. PMID 31706541
59. Yang L, Gao L, Lv Y, et al. Autologous platelet-rich gel for lower-extremity ischemic ulcers in patients with type 2 diabetes. *International Journal of Clinical and Experimental Medicine*. 2017 30 Sep;10(9):13796-801.
60. Zhang L, Qiang D, Sun YH. Clinical observation of autologous platelet rich gel in the treatment of diabetic foot ulcers. *Ningxia Med J*. 2016;38:809-811.
61. Zhou XP, Gong YX, Yang ZD, Wang W. Application value analysis of autologous platelet gel in refractory skin ulcer of diabetic patients. *World Lat Med Inform*. 2015;15:19-20





62. Zhu SF, Liu H, Li L, Wang XF. Preliminary application of autologous platelet rich gel in diabetic neuropathic ulcers. *Med Innov China*. 2012;9:18-19.
63. Centers for Medicare & Medicaid Services (CMS). National Coverage Analysis (NCA) Tracking Sheet for Autologous Blood-Derived Products for Chronic Non-Healing Wounds (CAG-00190R4). 2020; <https://www.cms.gov/medicare-coverage-database/details/nca-tracking-sheet.aspx?NCAId=300&NCDId=217>. Accessed February 5, 2025.
64. Gupta A, Channaveera C, Sethi S, et al. Efficacy of Intralesional Platelet-Rich Plasma in Diabetic Foot Ulcer. *J Am Podiatr Med Assoc*. May 01 2021; 111(3). PMID 33231614
65. Qu W, Wang Z, Hunt C, et al. The Effectiveness and Safety of Platelet-Rich Plasma for Chronic Wounds: A Systematic Review and Meta-analysis. *Mayo Clin Proc*. Sep 2021; 96(9): 2407-2417. PMID 34226023
66. Oliveira BGRB, Carvalho MR, Ribeiro APL. Cost and effectiveness of Platelet Rich Plasma in the healing of varicose ulcer: Meta-analysis. *Rev Bras Enferm*. 2020; 73(4): e20180981. PMID 32609173
67. Fang Q, Zhang Y, Tang L, et al. Clinical Study of Platelet-Rich Plasma (PRP) for Lower Extremity Venous Ulcers: A Meta-Analysis and Systematic Review. *Int J Low Extrem Wounds*. Dec 2023; 22(4): 641-653. PMID 34665051
68. Hu Z, Wang S, Yang H, et al. Efficacy and safety of platelet-rich plasma in the treatment of venous ulcers: A systematic review and meta-analysis of randomized controlled trials. *Int Wound J*. Feb 2024; 21(2): e14736. PMID 38361238
69. Saha S, Patra AC, Gowda SP, et al. Effectiveness and safety of autologous platelet-rich plasma therapy with total contact casting versus total contact casting alone in treatment of trophic ulcer in leprosy: An observer-blind, randomized controlled trial. *Indian J Dermatol Venereol Leprol*. 2020; 86(3): 262-271. PMID 31997794
70. Shehab AW, Eleshra A, Fouda E, et al. Randomized prospective comparative study of platelet-rich plasma versus conventional compression in treatment of post-phlebotic venous ulcer. *Vascular*. Dec 2023; 31(6): 1222-1229. PMID 35603798
71. Zhou SF, Estrera AL, Loubser P, et al. Autologous platelet-rich plasma reduces transfusions during ascending aortic arch repair: a prospective, randomized, controlled trial. *Ann Thorac Surg*. Apr 2015; 99(4): 1282-90. PMID 25661906
72. Serraino GF, Dominijanni A, Jiritano F, et al. Platelet-rich plasma inside the sternotomy wound reduces the incidence of sternal wound infections. *Int Wound J*. Jun 2015; 12(3): 260-4. PMID 23692143
73. Zhu S, Gao J, Yu W, et al. Platelet-rich plasma influence on the sternal wounds healing: A meta-analysis. *Int Wound J*. Nov 2023; 20(9): 3794-3801. PMID 37350616
74. Sidman JD, Lander TA, Finkelstein M. Platelet-rich plasma for pediatric tonsillectomy patients. *Laryngoscope*. Oct 2008; 118(10): 1765-7. PMID 18622315
75. El-Anwar MW, Nofal AA, Khalifa M, et al. Use of autologous platelet-rich plasma in complete cleft palate repair. *Laryngoscope*. Jul 2016; 126(7): 1524-8. PMID 27075516
76. Dinaki K, Grigoriadis N, Vizirianakis IS, et al. The impact of submucosal PRP injection on wound healing after endoscopic sinus surgery: a randomized clinical trial. *Eur Arch Otorhinolaryngol*. Jul 2024; 281(7): 3587-3599. PMID 38334783
77. Almdahl SM, Veel T, Halvorsen P, et al. Randomized prospective trial of saphenous vein harvest site infection after wound closure with and without topical application of autologous platelet-rich plasma. *Eur J Cardiothorac Surg*. Jan 2011; 39(1): 44-8. PMID 20634084
78. Mohamadi S, Norooznezhad AH, Mostafaei S, et al. A randomized controlled trial of effectiveness of platelet-rich plasma gel and regular dressing on wound healing time in pilonidal sinus surgery: Role of different affecting factors. *Biomed J*. Dec 2019; 42(6): 403-410. PMID 31948604
79. Slaninka I, Fibír A, Kaška M, et al. Use of autologous platelet-rich plasma in healing skin graft donor sites. *J Wound Care*. Jan 02 2020; 29(1): 36-41. PMID 31930949
80. Kazakos K, Lyras DN, Verettas D, et al. The use of autologous PRP gel as an aid in the management of acute trauma wounds. *Injury*. Aug 2009; 40(8): 801-5. PMID 18703188



81. Marck RE, Gardien KL, Stekelenburg CM, et al. The application of platelet-rich plasma in the treatment of deep dermal burns: A randomized, double-blind, intra-patient controlled study. *Wound Repair Regen.* Jul 2016; 24(4): 712-20. PMID 27169627
82. Yeung CY, Hsieh PS, Wei LG, et al. Efficacy of Lyophilised Platelet-Rich Plasma Powder on Healing Rate in Patients With Deep Second Degree Burn Injury: A Prospective Double-Blind Randomized Clinical Trial. *Ann Plast Surg.* Feb 2018; 80(2S Suppl 1): S66-S69. PMID 29369904
83. 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.* Feb 2021; 60(1): 102964. PMID 33127309
84. Imam MS, Alotaibi AAS, Alotaibi NOM, et al. Efficiency of platelet-rich plasma in the management of burn wounds: A meta-analysis. *Int Wound J.* Sep 30 2023; 21(2). PMID 37776166
85. Qaseem A, Humphrey LL, Forciea MA, et al. Treatment of pressure ulcers: a clinical practice guideline from the American College of Physicians. *Ann Intern Med.* Mar 03 2015; 162(5): 370-9. PMID 25732279
86. Association for the Advancement of Wound Care (AAWC). Guideline of Pressure Ulcer Guidelines. Malvern, PA: AAWC; 2010.
87. Association for the Advancement of Wound Care (AAWC). International Consolidated Venous Ulcer Guideline (ICVUG). 2015; <https://aawconline.memberclicks.net/assets/appendix%20c%20guideline%20icvug-textformatrecommendations-final%20v42%20changessaved18aug17.pdf>. Accessed February 5, 2025.
88. National Institute for Health and Clinical Excellence (NICE). Diabetic foot problems: prevention and management [NG19]. 2019; <https://www.nice.org.uk/guidance/ng19/resources/diabetic-foot-problems-prevention-and-management-pdf-1837279828933>. Accessed February 5, 2025
89. Centers for Medicare and Medicaid Services (CMS). National coverage determination (NCD) for blood-derived products for chronic non-healing wounds (270.3). Effective date of version August 2, 2012. <https://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=217&ncdver=5&NCAId=260>. Accessed February 5, 2025
90. Centers for Medicare & Medicaid Services (CMS). Decision Memo for Autologous Blood-Derived Products for Chronic Non-Healing Wounds (CAG-00190R3). 2012; <https://www.cms.gov/medicare-coverage-database/details/nca-decision-memo.aspx?NCAId=260>. Accessed February 5, 2025.
91. Centers for Medicare & Medicaid Services (CMS). CMS Manual System: Pub 100-3 Medicare National Coverage Determinations (Transmittal 127). 2010 Oct; <https://www.cms.gov/Regulations-and-Guidance/Guidance/Transmittals/downloads/R127NCD.pdf>. Accessed February 5, 2025.
92. Centers for Medicare & Medicaid Services (CMS). Decision Memo for Autologous Blood Derived Products for Chronic Non-Healing Wounds (CAG-00190R2). 2008; <https://www.cms.gov/medicare-coverage-database/details/nca-decision-memo.aspx?NCAId=208>. Accessed February 5, 2025.
93. Qu W, Wang Z, Hunt C, Morrow AS, Urtecho M, Amin M, Shah S, Hasan B, Abd-Rabu R, Ashmore Z, Kubrova E, Prokop LJ, Murad MH. 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. HHS2902015000131.) Rockville, MD: Agency for Healthcare Research and Quality. Archived.
94. Centers for Medicare & Medicaid Services (CMS). National Coverage Analysis (NCA) for Autologous Blood-Derived Products for Chronic Non-Healing Wounds (CAG-00190R4). 2021; <https://www.cms.gov/medicare-coverage-database/view/ncacal-decision-memo.aspx?proposed=N&ncaid=300>. Accessed February 5, 2025. Keyhan SO, Hemmat S, Badri AA, et al., Use of platelet-rich fibrin and platelet-rich plasma in combination with fat graft: which is more effective during facial liposuction? *J Oral Maxillofac Surg.* 2013;71(3):610-621. PMID: 22883321.
95. Sasaki GH. A preliminary clinical trial comparing split treatments to the face and hand with autologous fat grafting and platelet-rich plasma (prp): a 3D, IRB-approved study. *Aesthet Surg J.* 2019;39(6):675-686. PMID: 30534955.
96. Chamata ES, Bartlett EL, Weir D, Rohrich RJ. Platelet-rich plasma: evolving role in plastic surgery. *Plast Reconstr Surg* 2021;147(1): 219-230. PMID: 33370070.



97. Nolan, GS, Smith OJ, Jell G, et al., Fat grafting and platelet -rich plasma in wound healing: a review of histology from animal studies. *Adipocyte*. 2021: 10(1):80-90. PMID: 33525977.

## History

Date	Comments
05/05/97	Add to Medicine Section - New Policy
08/17/99	Replace Policy - Revised policy; addresses becaplermin gel.
10/08/02	Replace Policy - Policy reviewed with changes: new policy statement on becaplermin gel for treatment of pressure ulcers.
10/16/03	Replace Policy - Policy updated; no change in policy statement. Information regarding Autologel and SafeBlood provided. Title updated by removing Platelet and adding Blood.
01/11/05	Replace Policy - Policy updated focusing on autologous blood derived wound healing products; reference added; no change in policy statement.
01/10/06	Presented at January MPC - Policy revised; policy statement added regarding miscellaneous use of platelet-rich plasma as a primary procedure. Description and rationale now include discussion of platelet-rich plasma. MPC requested further research before adopting.
02/14/06	Replace Policy - Policy revised per MPC request of removing description regarding fibrin sealant and surgical indications (primary wound closure).
06/16/06	Update Scope and Disclaimer - No other changes
07/10/07	Replace Policy - Policy updated with literature search; references added; policy statement unchanged.
08/12/08	Replace Policy - Policy updated with literature search; no change to the policy statement.
01/13/09	Code Updates - Codes Q4102 and Q4103 added, effective 1/1/09.
10/13/09	Replace Policy - Policy updated with literature search; policy statement updated to include "acute" wounds for PRP. References added.
12/27/10	Codes Updated - CPT code 0232T added to policy; no other changes.
06/13/11	Replace Policy - Policy updated with literature search, reference numbers 11-14, 18, 19, 23, 24 added, policy statements unchanged. ICD-10 codes added to policy. CPT coding related to platelet-rich plasma also updated. Title changed to "Recombinant and Autologous Platelet-Derived Growth Factors as a Treatment of Wound Healing and Other Conditions."



Date	Comments
03/22/12	Minor update, Related Policies updated with 7.01.113 and 1.01.16.
06/26/12	Replace policy. Policy updated with literature search through February 2012, references added and reordered; some references removed; policy statements unchanged. Codes Q4102 and Q4103 removed; these do not apply to this policy and appear on 7.01.113.
07/25/12	Related Policies Update: 8.01.52 and 8.01.55 have been added.
08/24/12	Update Related Policies – Remove 1.01.16 as it was archived. Update coding section – ICD-10 codes are now effective 10/01/2014.
07/23/13	Replace policy. Policy updated with literature search through March 8, 2013; references added and reordered; policy statements unchanged.
03/17/14	Update Related Policies. Remove 7.01.100 as it was archived.
07/31/14	Annual Review. Policy updated with literature review through March, 2014. References 6, 19, 22-23, 26, 31, 36, and 48 added; others renumbered/removed. Policy statements unchanged. HCPCS code G0460 added to the policy.
09/23/14	Update Related Policies. Add 7.01.142.
07/14/15	Annual Review. Policy title changed to “Recombinant and Autologous Platelet-Derived Growth Factors as a Treatment of Wound Healing and Other Non-Orthopedic Conditions.” Orthopedic applications of platelet-rich plasma (PRP) policy statements removed from this policy and placed in new Policy No. 2.01.98. Coding table in Policy Guidelines updated to match Coding section of policy. Policy updated with literature review through April 15, 2015; references 1 and 3 added. Policy statements removed as noted, others remain unchanged. CPT code 20926 removed; platelet-rich plasma is not considered a tissue graft. ICD-9 and ICD-10 codes removed; these were for informational purposes only.
09/01/15	Update Related Policies. Add 7.01.149
10/16/15	Update Related Policies. Remove 7.01.142.
04/01/16	Annual Review, approved March 8, 2016. Policy updated with literature review through October 29, 2015; references 16 and 18-19 added. Policy statements unchanged.
04/01/17	Annual Review, approved March 14, 2017. Policy updated with literature review through November 8, 2016; references 1, 16, 20, 23, and 27-31 added. Policy statements unchanged.
09/22/17	Policy moved to new format. No changes to policy statements.
04/01/18	Annual Review, approved March 20, 2018. Policy updated with literature review through November 2017; no new references added; notes 1-2, 29-30, and 32-34 updated. Policy statements unchanged.
03/01/19	Annual Review, approved February 25, 2019. Policy updated with literature review through October 2018; 12, 27, and 30 references added. Policy statements unchanged.



Date	Comments
04/01/20	Annual Review, approved March 19, 2020. Policy updated with literature review through November 2019; references added. Policy statements unchanged.
08/01/20	Update related policies. 7.01.149 is now 7.01.583.
04/01/21	Annual Review, approved March 2, 2021. Policy updated with literature review through December 1, 2020; references added. Policy statements unchanged.
04/01/22	Annual Review, approved March 7, 2022. Policy updated with literature review through December 13, 2021; references added. Policy statements unchanged. Added HCPCS code G0465. Removed CPT code 86999.
04/01/23	Annual Review, approved March 6, 2023. Policy updated with literature review through December 13, 2022; references added. Minor editorial refinements to policy statements; intent unchanged. Changed the wording from "patient" to "individual" throughout the policy for standardization. Updated code description for HCPC code G0460.
03/01/24	Annual Review, approved February 26, 2024. Policy updated with literature review through November 14, 2023; references added. Policy statements unchanged.
01/01/25	Policy renumbered from 2.01.16 Recombinant and Autologous Platelet-Derived Growth Factors for Wound Healing and Other Non-Orthopedic Conditions to 2.01.543, approved December 10, 2024. Added to the policy statement that "for fat graft retention (aka fat graft take)" the use of PRP is considered investigational. References added.
04/01/25	Annual Review, approved March 10, 2025. Policy updated with literature review through November 22, 2024; references added. Policy statements unchanged.

**Disclaimer:** This medical policy is a guide in evaluating the medical necessity of a particular service or treatment. The Company adopts policies after careful review of published peer-reviewed scientific literature, national guidelines and local standards of practice. Since medical technology is constantly changing, the Company reserves the right to review and update policies as appropriate. Member contracts differ in their benefits. Always consult the member benefit booklet or contact a member service representative to determine coverage for a specific medical service or supply. CPT codes, descriptions and materials are copyrighted by the American Medical Association (AMA). ©2025 Premera All Rights Reserved.

**Scope:** Medical policies are systematically developed guidelines that serve as a resource for Company staff when determining coverage for specific medical procedures, drugs or devices. Coverage for medical services is subject to the limits and conditions of the member benefit plan. Members and their providers should consult the member benefit booklet or contact a customer service representative to determine whether there are any benefit limitations applicable to this service or supply. This medical policy does not apply to Medicare Advantage.

