



Evidence-based Practice Center Systematic Review Protocol

Project Title: Platelet-rich Plasma for Wound Care in the Medicare Population

Initial Publication Date: March 4, 2020

Amendment Date: March 20, 2020

(Amendments Details-see Section VI)

I. Background and Objectives for the Systematic Review

Chronic wounds are a common chronic medical condition with a high impact on the aging population, with chronic wounds or infections affecting nearly 15% of Medicare beneficiaries with a healthcare burden of \$28 to \$96 billion US dollars per year.¹

Conditions that are most commonly associated with wound formation include diabetes, pressure injuries, and venous or arterial diseases. Normal wound healing involves a complex process characterized by orderly and sequential events resulting in the

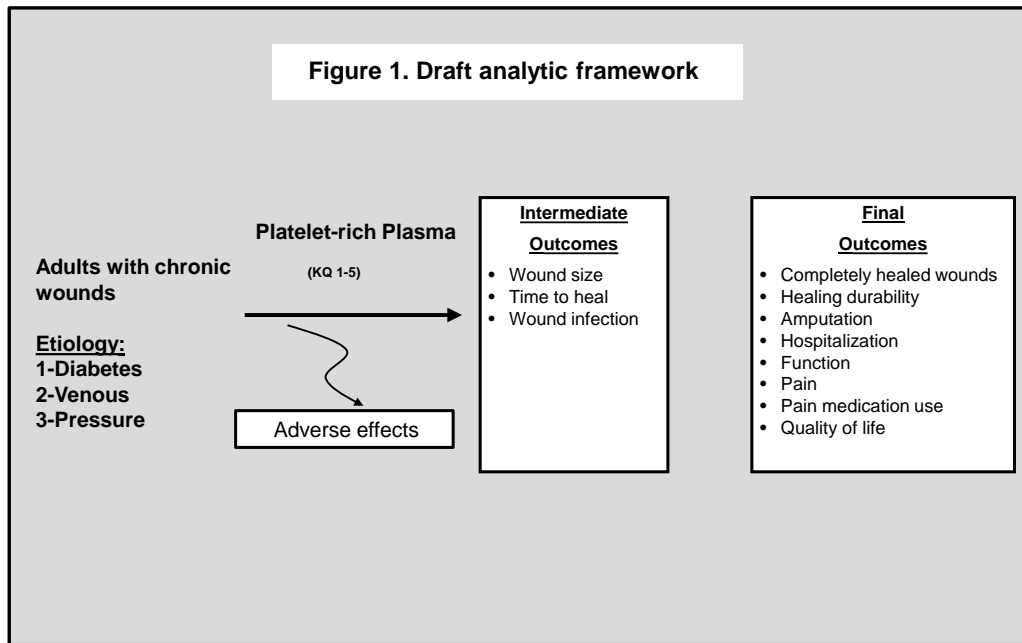
t3-6(c R)-2(e)-10(v)-4(-3.9(en)-2(e)-10th)2.1(e)]TJ 0 5(l)-6(ex)-6(c R)-2(e)J 0 5(l)-exz3f5 an

PRP preparations are being offered typically in a point-of-care setting, delivered as a preparation of aqueous suspension obtained by centrifugation of whole blood. PRP contains concentrated platelets, as few red blood cells as possible, and leukocytes at different levels for various indications. While there is no consensus, leukocyte-poor PRP are more commonly used for intra-articular application, leukocyte-rich PRP are more commonly used in soft tissue pathology such as tendinopathy and wound care for leukocyte's role in local cleaning and immune regulation of the wound healing process.⁹
¹⁰ Variability of PRP contents secondary to preparation technology and individual difference poses a challenge for research.¹¹

Carriers are used for PRP delivery in wound care. Those include hydrogels, sponge-like dressings, powders/beads, nanoparticles and scaffolds. The carriers are necessary for increasing efficacy by promoting sustained delivery of various factors contained in PRP. Different delivery systems were proposed for different settings. PRP gel combined with antibiotic-containing nanoparticles

PICOTS Elements	Inclusion Criteria	Exclusion Criteria
Subgroup analysis	<p>Age</p> <p>Gender</p> <p>Settings</p> <p>Comorbidities (e.g., status of HbA1c, diabetes, peripheral vascular disease, obesity, smoking, renal disease, liver disease)</p> <p>Wound characteristics (wound type, area, depth, volume, duration, severity, vascular status, infection status, and prior and concurrent wound treatments)</p> <p>Anatomical location (lower extremity diabetic wounds only)</p> <p>PRP formulation techniques</p> <p>PRP components</p> <p>PRP application techniques</p> <p>PRP frequency</p> <p>PRP “dosage” (amounts applied)</p> <p>PRP offloading procedures (e.g., total contact casting, removable CAM Walker™, irremovable offloading devices)</p> <p>Use of immunosuppressant medication</p>	
	x	

III. Analytic Framework



IV. Methods

Criteria for Inclusion/Exclusion of Studies in the Review: We will apply the following inclusion and exclusion criteria for the studies identified in the literature search (Table 1).

Searching for the Evidence: Literature Search Strategies for Identification of Relevant Studies To Answer the Key Questions: We plan to conduct a comprehensive database search, including Embase, Epub Ahead of Print, In-Process & Other Non-Indexed Citations, MEDLINE Daily, MEDLINE, Cochrane Central Registrar of Controlled Trials, Ovid Cochrane Database of Systematic Reviews, and Scopus from database inception to the present. We have developed a preliminary database search strategy (Appendix A) and found that these databases can adequately identify the relevant literature. We will use relevant systematic reviews and meta-analysis to identify additional existing and new literature. We will also search FDA, ClinicalTrials.gov, Health Canada, Medicines and Healthcare Products Regulatory Agency (MHRA), AHRQ's Horizon Scanning System, the International Working Group on the Diabetic Foot (IWGDF) website, conference proceedings, patient advocate group websites, and medical society websites. Reference mining of relevant publications will be conducted. The search strategy will be peer-reviewed by an independent information specialist. An experienced librarian will conduct the search. All citations identified through the process

will be imported to a reference management system (EndNote® Version X9; Thomson Reuters, Philadelphia, PA).

Independent reviewers, working in pairs, will screen the titles and abstracts of all citations using pre-specified inclusion and exclusion criteria. Studies included by either reviewer will be retrieved for full-text screening. Independent reviewers, again working in pairs, will screen the full-

V. References

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		stratified diabetic wounds/venous ulcers/pressure wounds	diabetic, venous or pressure wounds.	three etiologies may provide valuable information about these 3 types.
March 30, 2020	Table 1: Intervention	None	Add autologous platelet lysate	Interventions using autologous platelet lysate may provide additional information of autologous platelet-rich plasma.
March 30, 2020	IV. Methods	None	Qualitative synthesis and meta-analyses will be conducted separately by etiology (diabetic wounds, venous ulcers, pressure wounds, and mixed) and type of interventions (autologous platelet-rich plasma, and autologous platelet lysate),	Methods for analysis are changed due to the change of intervention and population.

VII. Technical Experts

Technical Experts constitute a multi-disciplinary group of clinical, content, and methodological experts who provide input in defining populations, interventions, comparisons, or outcomes and identify particular studies or databases to search. They are selected to provide broad expertise and perspectives specific to the topic under development. Divergent and conflicting opinions are common and perceived as healthy scientific discourse that results in a thoughtful, relevant systematic review. Therefore study questions, design, and methodological approaches do not necessarily represent the views of individual technical and content experts. Technical Experts provide information to the EPC to identify literature search strategies and suggest approaches to specific issues as requested by the EPC. Technical Experts do not do analysis of any kind nor do they contribute to the writing of the report. They have not reviewed the report, except as given the opportunity to do so through the peer or public review mechanism.

