# INPLASY PROTOCOL

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**Support:** **None.**

**Review Stage at time of this submission:** **Data extraction.**

**Conflicts of interest:**
**None declared.**

# The most effective maneuver for pain control and surgical wound repair after removing a free gingival graft from the palate – A Systematic Review and meta-analysis

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**Review question / Objective:** **What is the most effective procedure for pain control and surgical wound repair when removing a free gingival graft from the palate?**
**Condition being studied:** **Different interventions (therapies) have been suggested to minimize postoperative pain and improve the epithelization of the palate following gingival graft harvestings, such as periodontal dressings hemostatic, absorbable gelatin sponges, photobiomodulation, LPRF, hyaluronic acid gel, ozonated oil, electrotherapy treatment, and cyanoacrylate glue. However, there is still limited information on which therapy would be best to minimize postoperative patient discomfort and accelerate wound healing.**

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 19 December 2022 and was last updated on 19 December 2022 (registration number INPLASY2022120077).

## INTRODUCTION

**Review question / Objective:** **What is the most effective procedure for pain control and surgical wound repair when removing a free gingival graft from the palate?**

**Rationale:** **Autogenous gingival grafts are widely used in periodontal plastic surgery. The main indications are covering of gingival recessions, increasing the width and thickness of keratinized gingiva, treating implant recessions, correcting the deficiency of keratinized tissue and the volume around implants, and soft tissue enlargement in general.**
**The donor area of the palate is the most used due to its tissue availability. Different**

graft removal techniques were described, the most used being the free gingival graft (FFG) and the subepithelial connective tissue graft (SCTG) with its variations. The FGG has become popular because of its ease of removal, greater tissue availability, and the ability to be removed from even the thinnest palatal mucosa. However, the donor area heals by second intention and requires a healing period of between two and four weeks, causing discomfort and pain for patients.

**Condition being studied:** Different interventions (therapies) have been suggested to minimize postoperative pain and improve the epithelization of the palate following gingival graft harvestings, such as periodontal dressings hemostatic, absorbable gelatin sponges, photobiomodulation, LPRF, hyaluronic acid gel, ozonated oil, electrotherapy treatment, and cyanoacrylate glue. However, there is still limited information on which therapy would be best to minimize postoperative patient discomfort and accelerate wound healing.

## METHODS

**Search strategy:** ((("free gingival graft"[All Fields]) OR ("connective tissue graft"[All Fields])) and (("palatal wound healing"[All Fields]) OR ("wound epithelization"[All Fields])))
((("palatal wound healing"[All Fields]) OR ("wound epithelization"[All Fields])) AND ((palate) OR ("palatal"[All Fields]))).
PubMed, Web of Science, Scopus, EBSCO, Scielo, Lilacs, and Cochrane.

**Participant or population:** Patients over 18 years old who received auxillary therapy for the healing of palatal wounds after epithelized gingival grafts.

**Intervention:** Use of auxiliary therapies for the repair of palatal wounds after the removal of epithelized gingival grafts.

**Comparator:** None.

**Study designs to be included:** RCT.

**Eligibility criteria:** Adult (18+ years-old), RCT, patients who received auxillary therapy for the healing of palatine wounds after gingival grafts.

**Information sources:** PubMed, Web of Science, Scopus, EBSCO, Scielo, Lilacs, Cochrane, and Grey Literature.

**Main outcome(s):** The primary outcome is "pain". Pain can be defined as its presence or intensity during the healing period of the donor area. Pain can be measured by VAS, analgesic consumption, and discomfort sensation. The measurement period varies from 01 to 14 days.

**Additional outcome(s):** The secondary outcome is epithelialization. Epithelialization can be defined as the total epithelialization of the palatal donor area. Epitelizathion can be measured by photographs, hydrogen peroxide test, toluidine test, disclosure solutions, and wound visual clinical healing (tissue color match, consistency, swelling, area, percentage). The measurement period varies from 01 to 60 days.

**Data management:** There are two reviewers. They will individually and blindly evaluate the selected studies using Rayyan. Disagreements will be solved through consensus and expert opinion.
The data to be extracted are the intensity of pain and the healing of the palatal surgical wound, in the postoperative period, on a period ranging from 01 to 60 days. One reviewer will extract data, and the other will check them. Disagreements will be elucidated through consensus and expert opinion. The RevMan 5.4 will be used to analyze the extracted data.

**Quality assessment / Risk of bias analysis:** The Cochrane risk of bias tool was used for bias assessment considering: Random sequence generation, allocation concealment, blinding of participants and personnel, blinding of outcome assessment, incomplete outcome data, and selective reporting characteristics will be assessed.

The results of assessments will be informed as a graph and/or summary.
Risk of bias graph: review authors' judgments about each risk of bias wil be presented as percentages across all included studies.
Risk of bias summary: review authors' judgments about each risk of bias item for each included study.
Unsolved disagreements between reviewers' judgments will be resolved with the intervention of the specialist.

**Strategy of data synthesis:** The systematic review will be performed with a minimum of 05 RCTs to assess postoperative pain data and palate healing data after the removal of a free gingival graft.
We will provide a narrative synthesis of the findings from the included studies, structured around the type of intervention, the target population characteristics, the type of outcome, and the intervention content. We will also provide summaries of the intervention effects for each study by calculating risk ratios (for dichotomous outcomes) or standardized mean differences (for continuous outcomes).

**Subgroup analysis:** Not applied.

**Sensitivity analysis:** For quantitative synthesis, data will be entered into RevMan 5 software, and the heterogeneity of studies will be assessed by I^2 statistic. Based on the heterogeneity of studies, either a fixed effect or random effects model will be applied to draw a result from pooled data.

**Language restriction:** Only RCT in english, spanish or portuguese will be accepted.

**Country(ies) involved:** Brazil.

**Other relevant information:** None.

**Keywords:** Free gingival graft; palatal wound healing; wound epithelization; palate; palatal; donor site of connective tissue grafts; connective tissue graft.

**Dissemination plans:** A paper will be submitted to a leading journal in this field.

**Contributions of each author:**
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