

## ALTERNATIVE APPROACHES TO THE TREATMENT OF THE POPOV–GODON PHENOMENON: A CLINICAL PERSPECTIVE AND PRACTICAL JUSTIFICATION

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**Abstract:** The Popov–Godon phenomenon represents a specific form of periodontal pathology in which, despite significant alveolar bone loss, the interdental papillae and gingival bridges remain intact, creating an illusion of periodontal stability. In traditional clinical practice, this condition is often regarded as an indication for the extraction of mobile teeth followed by prosthetic rehabilitation. However, contemporary trends in periodontology emphasize the need to explore less invasive and more organ-preserving treatment options.

This article examines alternative approaches to managing the Popov–Godon phenomenon, including the use of autologous plasma preparations (PRF/PRP), guided tissue regeneration, laser and photodynamic therapy, microimplants, and orthodontic tooth stabilization techniques. The case is made for a multidisciplinary and individualized treatment approach that may delay radical interventions and help preserve the functional integrity of the dentoalveolar system. Emphasis is placed on the regenerative potential of modern technologies and the importance of their integration into clinical protocols.

**Keywords:** Popov–Godon phenomenon; periodontitis; tooth mobility; PRF; guided tissue regeneration; plasma therapy; microimplants; photodynamic therapy; minimally invasive treatment.

### Introduction

The Popov–Godon phenomenon is a clinical scenario characterized by generalized alveolar bone resorption and tooth mobility, while the interdental papillae and gingival bridges between the teeth remain preserved, often creating the illusion of relative periodontal stability. At the same time, pathological tooth migration, diastemas, pronounced thinning of interradicular bone, and marked gingival recession in the vestibular area can cause significant functional and aesthetic discomfort for the patient.

In practice, this phenomenon is encountered more frequently than is commonly assumed — particularly in patients over the age of 40 with moderate to severe periodontitis. The typical complaint, "my teeth are loose, but the gums seem fine," is illustrative. While classical recommendations advocate for surgical debridement, splinting, and often tooth extraction with subsequent prosthetic rehabilitation, many patients are not ready for radical interventions — especially if functional complaints are not yet predominant.

Hence, there is a clinical demand for alternative, less invasive, or combined therapeutic approaches. These methods should aim not only to stabilize teeth mechanically but also to promote tissue regeneration, improve microcirculation, and minimize trauma.

**The objective of this article** is to present an overview of alternative strategies for managing patients with the Popov–Godon phenomenon, including plasma therapy, microimplant application, guided tissue regeneration, and other practical approaches in clinical dentistry.

### Conventional Approaches and Their Limitations

Traditionally, treatment for patients with advanced periodontal destruction — particularly in the presence of the Popov–Godon phenomenon — begins with inflammation control, oral cavity sanitation, and removal of dental deposits. When tooth mobility is high, splinting is generally recommended to distribute occlusal loads. In more severe cases, extraction of "problematic" teeth is performed, followed by prosthetic rehabilitation (removable or fixed) or implantation.

While theoretically sound, these approaches have several practical limitations:

1. **Surgical treatment and curettage** are often performed on severely damaged periodontal tissues. This increases trauma, recession, and may compromise esthetic outcomes — especially in the smile zone.
2. **Splinting** in cases of Grade III mobility usually provides only temporary relief. Masticatory function may remain limited, and the risk of further displacement persists. Moreover, inadequate hygiene may turn the splint into a plaque-retentive and inflammation-promoting factor.
3. **Tooth extraction** is often perceived as traumatic by patients — especially in the anterior zone. Implant placement in patients with generalized bone loss involves additional risks, may require bone augmentation, and is not always feasible due to medical or financial reasons.
4. **Prosthetic solutions**, including bridgework, often rely on periodontally compromised teeth, thereby reducing the long-term prognosis of the restoration.

Thus, although classical approaches remain fundamental, they must be applied with caution and individualized prognosis assessment. Furthermore, they often overlook modern opportunities for soft tissue regeneration, minimally invasive stabilization, and personalized treatment planning.

A logical next step is the consideration of alternative therapeutic modalities aimed at improving patient quality of life and postponing or avoiding radical interventions.

#### **Alternative Methods: Experience and Perspectives**

Modern concepts in the management of patients with the Popov–Godon phenomenon increasingly incorporate alternative treatment strategies aimed not only at clinical stabilization but also at the long-term preservation of teeth, improved quality of life, and minimization of traumatic interventions. Given the complex pathogenesis of this condition—characterized by significant periodontal destruction while maintaining the visible architecture of the gingiva—minimally invasive and combined approaches focused on tissue regeneration and biological support of residual structures are particularly relevant.

One of the most promising directions is the use of autologous platelet-derived preparations, such as PRF (Platelet-Rich Fibrin) and PRP (Platelet-Rich Plasma). These therapies work by locally stimulating angiogenesis, fibroblast proliferation, and reparative processes in periodontal tissues. In cases of the Popov–Godon phenomenon, local application of PRF in the interdental papillae and buccal surfaces of teeth contributes not only to the reduction of inflammation but also to partial restoration of soft tissue volume, which is important from both functional and aesthetic perspectives.

Another noteworthy approach is the use of temporary micro-anchorage—orthodontic mini-implants (TADs)—to achieve tooth stabilization without conventional splinting. These transgingivally placed implants redistribute occlusal load and can serve as a support for further orthodontic or prosthetic treatment. This method helps avoid overloading weakened teeth and gives the clinician additional time for pathogenetic therapy.

Laser technologies and photodynamic therapy also hold significant potential in managing mobile teeth and inflammation. Diode or Nd:YAG laser application enables periodontal pocket decontamination, reduces microbial load and bleeding, and stimulates local regeneration. Photodynamic therapy, which utilizes photosensitizers in combination with laser radiation, demonstrates pronounced antimicrobial effects without systemic side effects—an important advantage in cases with contraindications to antibiotics.

In cases of pronounced alveolar bone loss and interproximal defects, guided tissue regeneration (GTR) is indicated. By using resorbable or titanium membranes in combination with osteoconductive materials (e.g., hydroxyapatite,  $\beta$ -tricalcium phosphate), conditions can be created for re-establishing attachment. Combining these materials with PRF or growth factors (PDGF, BMP) enhances the regenerative potential of the intervention.

Orthodontic repositioning of mobile teeth is also a valid adjunct. Using gentle techniques (e.g., aligners, splints, sectional archwires), it is possible to gradually move teeth into more anatomically and functionally favorable positions, restore contact points, and redistribute masticatory load, further contributing to stabilization.

Thus, accumulated clinical experience points to the need to revise the traditional perception of the Popov–Godon phenomenon as an unequivocal indication for tooth extraction and prosthetic replacement. Modern minimally invasive techniques based on the principles of tissue regeneration and biomechanical stabilization not only allow tooth preservation but also contribute to the restoration of periodontal structures with improved functional and esthetic outcomes. In this context, an individualized and multidisciplinary approach should be considered an essential element of contemporary therapeutic strategy for this clinical form of periodontal pathology.

### Conclusion

The Popov–Godon phenomenon represents a distinctive clinical form of periodontal breakdown that requires a flexible, differentiated, and often multidisciplinary treatment approach. Unlike conventional invasive methods focused primarily on tooth extraction and subsequent prosthetic rehabilitation, modern alternative strategies emphasize the preservation of supporting structures, regeneration of periodontal tissues, and maintenance of occlusal stability.

Our analysis demonstrates that methods such as autologous plasma therapy, guided tissue regeneration, orthodontic micro-implants, and phototherapy possess proven therapeutic potential. Their application effectively reduces inflammation, restores soft tissue volume, stabilizes tooth positioning, and delays the need for radical interventions. Furthermore, the integration of these approaches into an individualized treatment plan offers not only temporary relief from clinical symptoms but also long-term control over disease progression.

Therefore, the Popov–Godon phenomenon should not be viewed as an absolute indication for tooth extraction, but rather as a clinical signal prompting the implementation of a comprehensive therapeutic strategy based on regenerative and function-preserving technologies. A promising avenue for future research is the systematic evaluation of the efficacy of these alternative approaches under controlled clinical conditions, with long-term follow-up and expanded outcome assessment criteria.

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