Ano VII, v.1 2026 | submissão: 05/11/2026 | aceito: 12/11/2026 | publicação: 17/11/2026

Aesthetic restoration of peg-shaped teeth using direct restorations
Recuperação estética de dentes conoides com restaurações diretas
Recuperación estética de dientes conoides mediante restauraciones directas

Paloma Kheltry da Silva Macêdo – Centro Universitário Cesmac, palomamacedoo.pk@gmail.com – Dentistry | ORCID: 0009-0001-2779-4280
Gabriella Cardoso de Macena – Centro Universitário Cesmac, Cardosogabriella106@gmail.com – Dentistry | ORCID: 0009-0004-7558-882X
Izabel Cristina Gomes de Mendonça – Centro Universitário Cesmac, belgomess@gmail.com – supervisor | ORCID: 0000-0002-6098-318X

Abstract:
The aesthetic rehabilitation of peg-shaped teeth constitutes a relevant approach in restorative dentistry, considering that these morphological alterations may compromise smile harmony, dental proportions, and patients' self-esteem. In this context, direct composite resin restorations stand out as conservative alternatives capable of reshaping dental anatomy while preserving healthy tooth structures. This study aimed to analyze the aesthetic rehabilitation of peg-shaped teeth using direct composite resin restorations, considering their indications, advantages, limitations, and factors associated with clinical longevity. The research was characterized as a descriptive qualitative literature review based on the analysis of 13 scientific publications, including review articles and clinical case reports, published between 2022 and 2026. The analysis was conducted by organizing and comparing the contributions of the selected studies, addressing morphological characteristics, aesthetic planning, restorative techniques, and maintenance of clinical outcomes. The findings indicated that direct restorations enable the recovery of crown proportions, improvement of smile harmony, and preservation of dental structure, offering advantages related to their minimally invasive nature, repairability, and relatively affordable cost. However, limitations associated with color stability, wear, potential fractures, and the need for periodic follow-up were identified. Furthermore, restorative success was found to depend on individualized diagnosis, appropriate material selection, proper execution of adhesive protocols, and maintenance of periodontal health. It is concluded that direct composite resin restorations represent a viable alternative for the aesthetic rehabilitation of peg-shaped teeth, although longitudinal studies are necessary to evaluate their longevity and clinical predictability.

Keywords:
Composite resins. Dental esthetics. Permanent dental restoration.

Resumo:
A recuperação estética de dentes conóides constitui uma abordagem relevante na Odontologia Restauradora, considerando que essas alterações morfológicas podem comprometer a harmonia do sorriso, a proporcionalidade dentária e a autoestima dos pacientes. Nesse contexto, as restaurações diretas em resina composta destacam-se como alternativas conservadoras, capazes de promover a reanatomização dentária com preservação dos tecidos saudáveis. O presente estudo teve como objetivo analisar a recuperação estética de dentes conóides por meio de restaurações diretas em resina composta, considerando suas indicações, vantagens, limitações e fatores relacionados à longevidade clínica. A pesquisa caracterizou-se como uma revisão bibliográfica, de abordagem qualitativa e natureza descritiva, fundamentada na análise de 13 publicações científicas, entre artigos de revisão e relatos clínicos, publicadas entre 2022 e 2026.

Este é um artigo publicado em acesso aberto (Open Access) sob a licença CreativeCommons Attribution, que permite uso, distribuição e reprodução em qualquer meio, sem restrições desde que o trabalho original seja corretamente citado.

Ano VII, v.1 2026 | submissão: 05/11/2026 | aceito: 12/11/2026 | publicação: 17/11/2026

A análise ocorreu mediante a organização e comparação das contribuições dos estudos, contemplando características morfológicas, planejamento estético, técnicas restauradoras e manutenção dos resultados. Os achados evidenciaram que as restaurações diretas possibilitam a recuperação das proporções coronárias, a harmonização do sorriso e a conservação da estrutura dentária, apresentando vantagens relacionadas ao caráter minimamente invasivo, à possibilidade de reparos e ao custo relativamente acessível. Entretanto, identificaram-se limitações associadas à estabilidade cromática, ao desgaste, às possíveis fraturas e à necessidade de acompanhamento periódico. Verificou-se, ainda, que o sucesso restaurador depende do diagnóstico individualizado, da seleção dos materiais, da execução dos protocolos adesivos e da manutenção da saúde periodontal. Conclui-se que as restaurações diretas em resina composta representam uma alternativa viável para a reabilitação estética de dentes conóides, embora sejam necessários estudos longitudinais para avaliar sua longevidade e previsibilidade clínica.

Palavras-chave:
Resinas compostas. Estética dentária. Restauração dentária permanente.

Resumen:
La recuperación estética de los dientes conoides es relevante en odontología restauradora, pues estas alteraciones morfológicas pueden comprometer la armonía de la sonrisa, las proporciones dentales y la autoestima. Las restauraciones directas de resina compuesta ofrecen una alternativa conservadora para remodelar los dientes y preservar los tejidos sanos. El estudio analizó la recuperación estética de los dientes conoides mediante estas restauraciones, considerando sus indicaciones, ventajas, limitaciones y los factores vinculados a su longevidad clínica. Se realizó una revisión bibliográfica cualitativa y descriptiva de 13 publicaciones científicas, entre artículos de revisión e informes clínicos, publicadas entre 2022 y 2026. Se organizaron y compararon los aportes de los estudios sobre las características morfológicas, la planificación estética, las técnicas restauradoras y el mantenimiento de los resultados. Los hallazgos indicaron que las restauraciones directas permiten recuperar las proporciones coronarias, armonizar la sonrisa y conservar la estructura dental. Entre sus ventajas figuran su carácter mínimamente invasivo, la posibilidad de reparación y el costo relativamente accesible. Se identificaron limitaciones relacionadas con la estabilidad cromática, el desgaste, las posibles fracturas y la necesidad de seguimiento periódico. El éxito restaurador depende del diagnóstico individualizado, la selección de materiales, la ejecución de los protocolos adhesivos y el mantenimiento de la salud periodontal. Se concluye que las restauraciones directas de resina compuesta son una alternativa viable para la rehabilitación estética de dientes conoides, aunque se requieren estudios longitudinales para evaluar su longevidad y predictibilidad clínica.

Palabras clave:
Resinas compuestas. Estética dental. Restauración dental permanente.

1. Introduction

Dental aesthetics is an important aspect of contemporary dentistry because the appearance of the smile is associated with facial harmony, self-esteem, and perceived well-being. Changes in tooth morphology can disrupt the proportions of the smile and prompt patients to seek restorative treatments that re-establish natural anatomical features. Among these changes are peg-shaped teeth, characterized by smaller crowns and a tapered shape, most

Este é um artigo publicado em acesso aberto (Open Access) sob a licença CreativeCommons Attribution, que permite uso, distribuição e reprodução em qualquer meio, sem restrições desde que o trabalho original seja corretamente citado.

Ano VII, v.1 2026 | submissão: 05/11/2026 | aceito: 12/11/2026 | publicação: 17/11/2026

often affecting the maxillary lateral incisors. According to Rodrigues et al. (2023), reshaping these teeth is a treatment option for restoring their anatomy and improving their aesthetic integration with adjacent teeth.

Several restorative approaches can be used to improve the appearance of peg-shaped teeth. Direct composite resin restorations are particularly noteworthy because they make it possible to reconstruct the crown while preserving much of the sound tooth structure. This approach follows the principles of minimally invasive dentistry, which prioritizes conservative procedures and seeks to avoid unnecessary removal of tooth structure. Britto et al. (2026) describe composite resin reshaping as an aesthetic solution for peg-shaped lateral incisors and demonstrate its use in restoring tooth form.

Despite the options offered by direct restorations, the aesthetic restoration of peg-shaped teeth presents challenges involving material selection, reproduction of anatomical proportions, color stability, and maintenance over time. Improper restorative techniques can alter tooth contours, compromise proximal contacts, and make oral hygiene more difficult, affecting both aesthetic quality and periodontal health. Pádua et al. (2022) discuss factors associated with the success of direct veneers, emphasizing appropriate material selection and careful execution of the procedures.

Evaluating the use of direct restorations on peg-shaped teeth also requires understanding their advantages and limitations compared with other approaches to aesthetic rehabilitation. Soares and Borges (2023) discuss the indications and techniques for placing direct veneers and highlight the importance of individualized assessment for achieving satisfactory results. These considerations lead to the following research question: What are the main advantages, limitations, and clinical factors that influence the aesthetic restoration of peg-shaped teeth with direct composite resin restorations?

To address this question, the study used a descriptive, qualitative literature review based on scientific publications about the aesthetic restoration of peg-shaped teeth using direct composite resin. The review covered the morphology of peg-shaped teeth, aesthetic and functional planning, the properties of restorative materials, clinical protocols, and factors associated with restoration longevity. Scientific articles, literature reviews, and clinical case reports published between 2022 and 2026 were included to bring together relevant theoretical and clinical contributions.

The study used an interpretive and comparative analysis of selected publications, which were organized according to their contribution to the study objectives. Studies on the etiology,

Este é um artigo publicado em acesso aberto (Open Access) sob a licença CreativeCommons Attribution, que permite uso, distribuição e reprodução em qualquer meio, sem restrições desde que o trabalho original seja corretamente citado.

Ano VII, v.1 2026 | submissão: 05/11/2026 | aceito: 12/11/2026 | publicação: 17/11/2026

morphology, and aesthetic implications of peg-shaped teeth were examined first. Publications on restorative planning, composite resin placement techniques, preservation of dental tissues, and factors influencing maintenance of the outcomes were then analyzed. The discussion compared the authors' contributions to identify areas of agreement, findings specific to individual studies, and limitations of the available evidence.

The study proceeded from the hypothesis that direct composite resin restorations are an effective, conservative option for the aesthetic restoration of peg-shaped teeth, especially when supported by an accurate diagnosis, individualized planning, and careful adherence to restorative protocols. Preserving tooth structure while reconstructing anatomy and correcting crown proportions was expected to help achieve satisfactory aesthetic results suited to each patient's needs. The performance of these restorations was also understood to depend on factors such as material properties, occlusal conditions, periodontal health, and regular maintenance.

The scientific relevance of this study stems from the need to better understand the treatment options available for morphological dental abnormalities, particularly those that affect the appearance of the smile. Although direct composite resin restorations are widely used in restorative dentistry, it is important to examine critically the circumstances in which they are indicated and the factors that can affect clinical outcomes. Santos et al. (2023) and Britto et al. (2026) report specifically on aesthetic restoration of peg-shaped teeth, illustrating the relevance of studying this condition.

From clinical and social perspectives, the study is relevant because it addresses procedures that can improve the appearance of the smile, increase personal satisfaction, and preserve natural tooth structure. Minimally invasive techniques are an important consideration in dental practice, particularly when conservative options can help avoid extensive interventions. Santos, Alves, and Oliveira (2022) warn of the risks of overtreatment in aesthetic dentistry and emphasize the importance of responsible restorative practice.

This review was undertaken to organize and discuss what is known about the aesthetic restoration of peg-shaped teeth, given that existing studies use different methods and address specific aspects of restorative treatment. Some publications describe clinical cases, while others discuss material properties, techniques, and factors involved in maintaining restorations.

A further reason for the study was the need to discuss the clinical predictability of direct restorations and the factors that may compromise their longevity. Satisfactory immediate aesthetic outcomes do not guarantee that restorative properties will be maintained over extended periods. The literature addresses wear, color changes, marginal adaptation, periodontal health,

Este é um artigo publicado em acesso aberto (Open Access) sob a licença CreativeCommons Attribution, que permite uso, distribuição e reprodução em qualquer meio, sem restrições desde que o trabalho original seja corretamente citado.

Ano VII, v.1 2026 | submissão: 05/11/2026 | aceito: 12/11/2026 | publicação: 17/11/2026

and the need for repairs, but the longevity of restorations specifically in peg-shaped teeth still warrants further investigation.

The overall aim of this study was therefore to analyze the aesthetic restoration of peg-shaped teeth using direct composite resin restorations, considering their indications, advantages, limitations, and the factors that influence clinical outcomes. The specific aims were to understand the morphology of peg-shaped teeth and its aesthetic implications; discuss the importance of aesthetic and functional planning in rehabilitating these teeth; identify the main materials, techniques, and protocols used in direct composite resin restorations; and analyze the factors associated with their quality, maintenance, and longevity.

2. Theoretical framework

2.1 Peg-shaped teeth: etiology, morphological characteristics, and aesthetic implications

Alterations in tooth shape and size are relevant to restorative dentistry, especially when they affect the anterior portion of the dental arch, where the appearance of the smile is directly related to facial harmony. Among these alterations are peg-shaped teeth, characterized by reduced crown dimensions and tapered anatomy, often observed in maxillary lateral incisors. According to Rodrigues et al. (2023), the morphological differences between affected and adjacent teeth make this anomaly one of the clinical situations that call for tooth reshaping.

The etiology of peg-shaped teeth is related to alterations in tooth development, particularly in crown formation and morphological differentiation, and may involve genetic factors and conditions associated with odontogenic development. In their discussion of reshaping peg-shaped lateral incisors, Rodrigues et al. (2023) help explain this condition as a structural alteration requiring an individualized diagnosis that considers each patient's anatomical features.

Morphologically, the crowns of peg-shaped teeth narrow progressively toward the incisal edge, producing a pointed appearance that differs from the usual anatomy of lateral incisors. This alteration can create discrepancies between crown width and height, disrupting the visual continuity of the anterior arch and the balance between teeth. Santos et al. (2023) emphasize the importance of aesthetic rehabilitation because these alterations affect the appearance of the smile and the patient's self-perception.

Este é um artigo publicado em acesso aberto (Open Access) sob a licença CreativeCommons Attribution, que permite uso, distribuição e reprodução em qualquer meio, sem restrições desde que o trabalho original seja corretamente citado.

Ano VII, v.1 2026 | submissão: 05/11/2026 | aceito: 12/11/2026 | publicação: 17/11/2026

The location of peg-shaped teeth in the anterior maxilla increases their aesthetic impact because the maxillary lateral incisors contribute directly to the composition and symmetry of the smile. Reduced tooth dimensions can produce interdental spaces and discontinuities between proximal contours, changing the perceived alignment and proportions of the teeth. Rodrigues et al. (2023) describe reshaping the lateral incisors as an option for correcting these changes and restoring features closer to natural tooth anatomy.

In addition to altering the smile, peg-shaped teeth can affect self-esteem, personal satisfaction, and confidence in social interactions, especially when the anatomical difference is visible during speech or smiling. Britto et al. (2026) link aesthetic restoration of peg-shaped lateral incisors to improved dental harmony and psychological well-being in the patient described in their case report. Santos et al. (2023) similarly note the growing importance attached to dental aesthetics and the demand for procedures that correct alterations in tooth shape and size.

Clinical identification of peg-shaped teeth requires careful assessment of anatomical features, including crown size, the relationship with adjacent teeth, the presence of interproximal spaces, and overall oral health. Santos et al. (2023) stress the need to consider a range of factors before restoring anterior teeth, particularly clinical characteristics and patient expectations. Rodrigues et al. (2023) add that tooth reshaping depends on an understanding of the specific morphological characteristics of the lateral incisors.

Restoration of tooth anatomy should follow conservative principles, avoiding unnecessary enamel removal and prioritizing techniques that restore form and function through the addition of restorative material. Britto et al. (2026) describe direct composite resin as an option for reshaping peg-shaped lateral incisors and highlight the possibility of obtaining satisfactory aesthetic results with minimal removal of sound tooth structure.

2.2 Aesthetic and functional planning in the rehabilitation of peg-shaped teeth

Aesthetic and functional planning is essential for successful rehabilitation of peg-shaped teeth because restoring dental anatomy requires a combined assessment of morphology, occlusal relationships, and periodontal conditions. Restorative procedures performed without an adequate diagnosis may compromise smile harmony and produce results that do not meet the patient's individual needs. Rodrigues et al. (2023) emphasize the importance of selecting

Este é um artigo publicado em acesso aberto (Open Access) sob a licença CreativeCommons Attribution, que permite uso, distribuição e reprodução em qualquer meio, sem restrições desde que o trabalho original seja corretamente citado.

Ano VII, v.1 2026 | submissão: 05/11/2026 | aceito: 12/11/2026 | publicação: 17/11/2026

treatment options for reshaping peg-shaped lateral incisors carefully, with attention to the specific features of the anomaly.

Analysis of tooth proportions is a central part of restorative planning, particularly for peg-shaped teeth, whose reduced crown width can affect the visual relationship between the central incisors, lateral incisors, and canines. Santos et al. (2023) emphasize that aesthetic rehabilitation should account for the patient's expectations and clinical characteristics. Betanin et al. (2023) complement this perspective by describing how they planned tooth height-to-width proportions and used a wax-up and a restorative mock-up to guide aesthetic treatment.

Periodontal assessment is another fundamental aspect of aesthetic restoration of peg-shaped teeth because the appearance of the smile depends on dental anatomy and the harmony of the gingival tissues. Betanin et al. (2023) show that combining periodontal and restorative procedures can yield satisfactory aesthetic results when both gingival contours and tooth proportions are affected. Similarly, Martins, Oliveira, and Dias (2023) describe a case in which periodontal plastic surgery was combined with composite resin veneers to improve smile harmony.

Interdental spacing must also be considered during planning, since the reduced mesiodistal dimensions of peg-shaped teeth can result in diastemas and disrupt the aesthetic continuity of the anterior arch. In an integrative review of diastema closure with composite resin, Diniz, Vieira, and Palhari (2024) found that this approach was applicable to the conservative treatment of small interdental spaces and reported favorable aesthetic outcomes. Their findings relate to the discussion by Rodrigues et al. (2023) of reshaping peg-shaped lateral incisors to restore tooth dimensions and contours.

The choice of restorative material should take into account clinical characteristics, functional needs, and patient expectations, particularly given the availability of direct and indirect techniques for aesthetic restoration of anterior teeth. In comparing direct composite resin veneers with indirect ceramic restorations, Moura et al. (2022) discuss considerations such as the characteristics of the materials and the specifics of the procedures. This is consistent with Silva, Silva, and Yamashita (2022), who favor composite resin veneers with minimal tooth reduction when clinically appropriate.

Aesthetic planning should include a conversation between the dentist and the patient to establish expectations, clinical limitations, and realistic treatment options. Santos, Alves, and Oliveira (2022) discuss overtreatment in restorative dentistry and draw attention to the need to avoid unnecessary interventions driven solely by aesthetic demands. Silva, Silva, and

Este é um artigo publicado em acesso aberto (Open Access) sob a licença CreativeCommons Attribution, que permite uso, distribuição e reprodução em qualquer meio, sem restrições desde que o trabalho original seja corretamente citado.

Ano VII, v.1 2026 | submissão: 05/11/2026 | aceito: 12/11/2026 | publicação: 17/11/2026

Yamashita (2022) share this concern and emphasize the importance of an accurate diagnosis in determining whether direct veneers are indicated and whether any tooth reduction is necessary.

Planning tools such as clinical photographs, study casts, diagnostic wax-ups, and restorative mock-ups can improve the predictability of reconstructing the anatomy of peg-shaped teeth. Britto et al. (2026) describe a clinical protocol in which a restorative mock-up and a custom palatal index guided the reshaping of the maxillary lateral incisors. Similarly, Betanin et al. (2023) used a wax-up and a mock-up to assess the proposed changes to the smile before treatment.

2.3 Direct composite resin restorations: materials, techniques, and clinical protocols

Direct composite resin restorations are an option for improving the appearance of peg-shaped teeth, primarily because they allow anatomical reconstruction by adding restorative material to existing tooth structure. Advances in resin composites and adhesive systems have expanded their use in anterior teeth, enabling conservative procedures and the reproduction of optical characteristics similar to those of natural dental tissues. Britto et al. (2026) report a clinical case in which peg-shaped maxillary lateral incisors were reshaped with a nanofilled composite resin and the aesthetic and functional outcome was considered satisfactory.

The physical, mechanical, and optical properties of composite resins influence the clinical performance of restorations, particularly in anterior teeth, where appearance and strength must be considered together. Composites consist of an organic matrix, inorganic filler particles, and coupling agents, whose composition affects wear resistance, polishability, color stability, and the reproduction of natural tooth translucency. In their analysis of factors associated with successful direct veneers, Pádua et al. (2022) help explain the importance of appropriate material selection and sound technique.

Bonding is a fundamental step in direct restoration because the bond between the restorative material and the tooth structure influences retention and marginal integrity. In peg-shaped teeth, preserved enamel is favorable for predominantly additive restorations, provided the recommendations for the adhesive system are followed. Silva, Silva, and Yamashita (2022) emphasize assessing the need for tooth reduction beforehand and favor conservative approaches wherever clinically feasible.

Anatomical reconstruction by layering allows controlled placement of individual increments of composite resin to reproduce the three-dimensional form and optical

Este é um artigo publicado em acesso aberto (Open Access) sob a licença CreativeCommons Attribution, que permite uso, distribuição e reprodução em qualquer meio, sem restrições desde que o trabalho original seja corretamente citado.

Ano VII, v.1 2026 | submissão: 05/11/2026 | aceito: 12/11/2026 | publicação: 17/11/2026

characteristics of natural tooth structure. Britto et al. (2026) describe using this technique to restore peg-shaped lateral incisors, with a custom palatal index to guide the shape of the restoration. Soares and Borges (2023) likewise discuss the importance of mastering direct veneer techniques and emphasize the need to adapt procedures to clinical conditions.

Establishing proximal contours and contact points is an important step in restoring the appearance of peg-shaped teeth, especially when altered crown width is associated with diastemas. Diniz, Vieira, and Palhari (2024) discuss the use of composite resin to close interdental spaces and highlight how palatal indices can improve restorative accuracy. This approach is consistent with the protocol described by Britto et al. (2026), in which a custom index assisted the anatomical reconstruction of peg-shaped maxillary lateral incisors.

Shade selection and control of the optical properties of the material are essential to achieve natural-looking direct restorations, especially in anterior teeth. In their discussion of direct restorations for discolored teeth, Trevisan and Furtado (2022) consider the use of composite resins to modify tooth color and restore aesthetic harmony to the smile. Although their focus differs from the reshaping of peg-shaped teeth, their findings help explain the optical behavior of restorative materials.

Finishing and polishing are essential to the final quality of direct restorations because they affect surface texture, gloss, perceived appearance, and the potential for biofilm retention. Pádua et al. (2022) discuss factors associated with successful direct veneers, linking the quality of the clinical procedure to the maintenance of restorative properties. Souto et al. (2025) make a related observation by highlighting the adverse effects of poorly adapted restorations on periodontal health, particularly when the restorations have features that promote biofilm accumulation.

Clinical use of direct restorations on peg-shaped teeth therefore requires knowledge of resin composite properties, bonding procedures, and anatomical reconstruction techniques. Britto et al. (2026) demonstrate a specific conservative restorative protocol for peg-shaped lateral incisors, while Soares and Borges (2023) broaden the discussion of indications and techniques for direct veneers. Silva, Silva, and Yamashita (2022) emphasize minimal tooth reduction, and Pádua et al. (2022) complement this perspective by discussing the factors needed for restorative success.

Este é um artigo publicado em acesso aberto (Open Access) sob a licença CreativeCommons Attribution, que permite uso, distribuição e reprodução em qualquer meio, sem restrições desde que o trabalho original seja corretamente citado.

Ano VII, v.1 2026 | submissão: 05/11/2026 | aceito: 12/11/2026 | publicação: 17/11/2026

2.4 Clinical longevity, advantages, and limitations of direct restorations in the aesthetic restoration of peg-shaped teeth

The clinical longevity of direct composite resin restorations is important in the aesthetic restoration of peg-shaped teeth because the quality of treatment cannot be judged solely by the appearance immediately after the intervention. The durability of the results depends on material properties, restorative technique, occlusal conditions, and oral health maintenance habits. In their discussion of the success of direct veneers, Pádua et al. (2022) emphasize the importance of appropriate clinical and technical conditions for predictable restorations.

Preserving tooth structure is one of the main advantages of direct restorations, especially when anatomy can be restored by adding composite resin with minimal enamel reduction. Silva, Silva, and Yamashita (2022) discuss direct veneers with minimal reduction, favoring conservative interventions and careful case selection. This is consistent with Britto et al. (2026), who describe reshaping peg-shaped lateral incisors with direct composite resin. Their case report documents preservation of sound tooth structure and a satisfactory aesthetic result.

The relationship among cost, access to treatment, and clinical complexity also matters when choosing a restorative technique, since treatment options have different requirements for materials, equipment, and procedural steps. Moura et al. (2022) examine the particular features of direct composite resin veneers and indirect ceramic alternatives, providing a basis for choosing treatment suited to the patient's needs. Trevisan and Furtado (2022) describe direct restorations as options that can offer aesthetic, functional, and economic advantages over indirect procedures, although their study focuses on discolored teeth.

Despite preserving tooth structure and allowing direct placement, composite resin restorations have limitations that must be considered during planning and follow-up. Color changes, loss of surface gloss, wear, fractures, and compromised margins can affect appearance and integrity over time. Moura et al. (2022) compare direct and indirect restorative options and show that materials differ in their clinical behavior, requiring an individualized assessment of their indications.

Maintaining periodontal health is another determinant of the longevity of direct restorations, especially when reshaping peg-shaped teeth involves reconstructing proximal surfaces and altering crown contours. Souto et al. (2025) point out that poorly adapted restorations can promote biofilm accumulation and trigger gingival inflammation,

Este é um artigo publicado em acesso aberto (Open Access) sob a licença CreativeCommons Attribution, que permite uso, distribuição e reprodução em qualquer meio, sem restrições desde que o trabalho original seja corretamente citado.

Ano VII, v.1 2026 | submissão: 05/11/2026 | aceito: 12/11/2026 | publicação: 17/11/2026

compromising periodontal health and the stability of the restorative outcome. This observation relates to Betanin et al. (2023), who demonstrate the importance of integrating periodontal and restorative procedures to harmonize the appearance of the smile.

Functional conditions and individual patient habits can also affect the clinical performance of direct restorations, especially where factors can increase mechanical loads on the restorative material. Silva, Silva, and Yamashita (2022) stress the need to assess conditions such as bruxism, occlusal abnormalities, and inadequate oral hygiene before recommending direct veneers, given their potential effects on outcomes. Soares and Borges (2023) share this concern and discuss the importance of appropriate clinical indications and technical knowledge when carrying out these procedures.

Repairability is an advantage of direct composite resin restorations because some localized defects can be corrected without replacing the entire restoration. This feature relates to the principles of tooth preservation discussed by Santos, Alves, and Oliveira (2022), who warn of the risks of overtreatment and advocate a more judicious restorative approach. In line with this view, Silva, Silva, and Yamashita (2022) favor procedures that preserve tooth structure and illustrate the importance of interventions proportionate to clinical needs.

3. Results and discussion

Analysis of the selected publications identified direct composite resin restorations as a conservative treatment option for the aesthetic restoration of peg-shaped teeth, especially in cases of morphological alteration of the maxillary lateral incisors. Rodrigues et al. (2023), Santos et al. (2023), and Britto et al. (2026) agree on the importance of reshaping these teeth to restore their proportions and improve smile harmony. Rodrigues et al. (2023) address the topic through a literature review, while Santos et al. (2023) and Britto et al. (2026) report clinical experiences that show how restorative techniques are applied in specific situations.

Regarding the morphology of peg-shaped teeth, Rodrigues et al. (2023) and Santos et al. (2023) take a similar view, associating the alteration with reduced crown dimensions and disrupted tooth proportions in the anterior region. Santos et al. (2023) emphasize the clinical application of aesthetic rehabilitation, whereas Rodrigues et al. (2023) offer a broader discussion of reshaping options. Britto et al. (2026) complement these studies with a case in which rebuilding the maxillary lateral incisors restored anatomical features consistent with the adjacent teeth.

Este é um artigo publicado em acesso aberto (Open Access) sob a licença CreativeCommons Attribution, que permite uso, distribuição e reprodução em qualquer meio, sem restrições desde que o trabalho original seja corretamente citado.

Ano VII, v.1 2026 | submissão: 05/11/2026 | aceito: 12/11/2026 | publicação: 17/11/2026

Analysis of the aesthetic aspects revealed that reshaping peg-shaped teeth involves more than changing crown shape. It also involves how patients perceive their smile and how satisfied they are with its appearance. Britto et al. (2026) report aesthetic and functional improvement in their case and associate the intervention with better self-esteem and psychological well-being. This interpretation is consistent with Santos et al. (2023), who discuss the aesthetic effects of microdontia and the importance of restorative interventions that meet individual expectations.

With respect to restorative planning, the studies show that clinical predictability depends on assessing tooth proportions and periodontal conditions and using tools that can preview the intended results. Britto et al. (2026) describe a protocol that involved preliminary bleaching, a restorative mock-up, and fabrication of a custom palatal index to guide the reconstruction of peg-shaped lateral incisors. Similarly, Betanin et al. (2023) used a diagnostic wax-up and a mock-up to assess proposed changes in an integrated aesthetic treatment before carrying it out.

The relationship between tooth reshaping and interdental spacing also stood out in the discussion, since reduced mesiodistal width in peg-shaped teeth can favor the formation of diastemas. Rodrigues et al. (2023) address the need to restore the anatomical dimensions of peg-shaped lateral incisors, while Diniz, Vieira, and Palhari (2024) analyze the use of composite resin to close interdental spaces. Although the studies have different specific objectives, their findings complement one another by showing that additive techniques can both reconstruct crown form and improve proximal contacts.

Regarding the choice of restorative approach, Moura et al. (2022) discuss the characteristics of direct composite resin veneers and indirect ceramic restorations, showing that each has specific indications, advantages, and limitations. Silva, Silva, and Yamashita (2022) emphasize the potential for using composite resin with minimal tooth reduction, supporting conservative procedures. When considered alongside Britto et al. (2026), these findings suggest that the direct technique can be particularly suitable for peg-shaped teeth when there is sound tooth structure and the alteration can be corrected mainly by adding restorative material.

Regarding material selection, Pádua et al. (2022) and Soares and Borges (2023) provide complementary perspectives on the factors associated with successful direct restorations. Pádua et al. (2022) focus on factors that influence the clinical outcomes of composite resin veneers, while Soares and Borges (2023) address the indications and techniques for these procedures. Britto et al. (2026) add a practical perspective by describing the use of nanofilled composite resin to reconstruct peg-shaped lateral incisors with the aim of restoring their anatomical and optical characteristics.

Este é um artigo publicado em acesso aberto (Open Access) sob a licença CreativeCommons Attribution, que permite uso, distribuição e reprodução em qualquer meio, sem restrições desde que o trabalho original seja corretamente citado.

Ano VII, v.1 2026 | submissão: 05/11/2026 | aceito: 12/11/2026 | publicação: 17/11/2026

Layering is an important aspect of aesthetic reconstruction of peg-shaped teeth because it allows clinicians to control the shape, thickness, and optical characteristics of the restorative increments. Britto et al. (2026) report using this technique with a custom palatal index to restore the anatomy of the maxillary lateral incisors. Soares and Borges (2023) also discuss the importance of direct restorative techniques and stress the need to select procedures suited to the specific clinical situation.

The analysis of tooth preservation showed agreement among the conservative approaches discussed in the literature. Silva, Silva, and Yamashita (2022) favor composite resin veneers with minimal reduction, while Santos, Alves, and Oliveira (2022) warn of the risks of excessive intervention in aesthetic smile treatment. Britto et al. (2026) illustrate a clinical application of these principles by describing the reshaping of peg-shaped lateral incisors without substantial removal of sound tooth structure. The preservation of dental tissues depends on more than the choice between direct and indirect techniques. It relies primarily on appropriate indications and planning.

From a periodontal perspective, the findings show that restoration quality also depends on the relationship between tooth contours and gingival tissues. Souto et al. (2025) discuss the effects of direct veneers on periodontal health, highlighting the risks of inappropriate restorative contours and increased biofilm accumulation. Betanin et al. (2023) report a case of integrated periodontal and restorative treatment in which gingivoplasty and composite resin recontouring improved smile harmony. Martins, Oliveira, and Dias (2023) also address this integration in a clinical case involving periodontal plastic surgery and direct veneers.

Restoration stability was identified as fundamental to evaluating clinical outcomes, particularly because color changes, wear, fractures, and loss of gloss can compromise the initial appearance. Pádua et al. (2022) discuss the factors associated with successful direct veneers and show that durability depends on a range of technical and clinical conditions. Moura et al. (2022) extend this discussion by considering the differing characteristics of materials used in direct and indirect restorations. Soares and Borges (2023) complement these findings by emphasizing individualized assessment when direct veneers are considered.

Regarding maintenance, the literature supports conservative restorative techniques, particularly because localized repairs are possible in some clinical situations. Silva, Silva, and Yamashita (2022) emphasize the importance of preserving tooth structure, while Santos, Alves, and Oliveira (2022) question restorative approaches that result in unnecessary intervention. These considerations relate to Pádua et al. (2022), who analyze the factors required to achieve

Este é um artigo publicado em acesso aberto (Open Access) sob a licença CreativeCommons Attribution, que permite uso, distribuição e reprodução em qualquer meio, sem restrições desde que o trabalho original seja corretamente citado.

Ano VII, v.1 2026 | submissão: 05/11/2026 | aceito: 12/11/2026 | publicação: 17/11/2026

satisfactory results with direct veneers. Repairability, however, does not eliminate the risk of restoration failure or guarantee indefinite preservation of the material.

Functional conditions also merit attention when assessing restorative predictability, since reconstruction of anterior teeth can change contact areas and surfaces exposed to occlusal forces. Silva, Silva, and Yamashita (2022) discuss the need for clinical assessment before indicating composite resin veneers, while Soares and Borges (2023) examine the different techniques and conditions that influence these procedures. Rodrigues et al. (2023) focus specifically on reshaping peg-shaped lateral incisors and help relate these principles to the anatomical alterations in those teeth.

Comparing the types of research included in this review shows that case reports help demonstrate how restorative techniques are carried out, while literature reviews allow discussion of a broader set of indications, advantages, and limitations. Santos et al. (2023) and Britto et al. (2026) report clinical experiences in the aesthetic rehabilitation of peg-shaped teeth and illustrate the steps and immediate outcomes of treatment. Rodrigues et al. (2023), Soares and Borges (2023), and Pádua et al. (2022) use the literature to examine the indications, execution, and success of restorative procedures.

4. Final considerations

This study found that aesthetic restoration of peg-shaped teeth using direct composite resin is a viable, conservative treatment option for restoring dental anatomy and smile harmony. The literature showed that the technique offers several advantages, including preservation of sound tooth structure, the ability to reproduce natural tooth characteristics, lower cost than certain indirect techniques, and ease of repair.

Treatment success was also found to depend directly on careful diagnosis, individualized aesthetic and functional planning, and correct execution of clinical protocols. Appropriate selection of restorative materials, proficiency in bonding techniques, composite resin layering, and careful finishing and polishing are fundamental to satisfactory outcomes. In addition, the integration of restorative dentistry and periodontics proved relevant to preserving gingival health and maintaining the appearance of the smile.

Direct composite resin restorations are therefore an important option for the aesthetic restoration of peg-shaped teeth, especially because they allow minimally invasive interventions consistent with the principles of preserving dental tissues. Their use should be based on

Este é um artigo publicado em acesso aberto (Open Access) sob a licença CreativeCommons Attribution, que permite uso, distribuição e reprodução em qualquer meio, sem restrições desde que o trabalho original seja corretamente citado.

Ano VII, v.1 2026 | submissão: 05/11/2026 | aceito: 12/11/2026 | publicação: 17/11/2026

individual assessment of each case, taking into account patient expectations, functional conditions, and the need to preserve long-term oral health.

References

BETANIN, Uiliane et al. Integração periodontal e restauradora no tratamento estético do sorriso. [Integration of periodontal and restorative procedures in aesthetic treatment of the smile] **Archives of Health Investigation**, v. 12, n. 3, p. 388-393, 2023.

BRITTO, Beatriz Santiago et al. Reanatomização com resina composta como solução estética para dentes conóides: relato de caso clínico. [Composite resin reshaping as an aesthetic solution for peg-shaped teeth: a clinical case report] **Revista Ceuma Perspectivas**, v. 42, n. 1, p. 70-78, 2026.

DINIZ, Amanda Barauna; VIEIRA, Rayane Cristine; PALHARI, Fabiana Tavares Lunardi. O uso de resina composta para fechamento de diastemas: revisão integrativa. [Use of composite resin for diastema closure: an integrative review] **Revista Ciência e Saúde On-line**, v. 9, n. 2, 2024.

MARTINS, Ana Leticia Oliveira; OLIVEIRA, Lucas Farias; DIAS, Karina Sarno Paes Alves. Cirurgia plástica periodontal para correção de sorriso gengival associada a facetas em resina composta: caso clínico. [Periodontal plastic surgery to correct a gummy smile combined with composite resin veneers: a clinical case] **RECIMA21-Revista Científica Multidisciplinar-ISSN 2675-6218**, v. 4, n. 6, p. e463313-e463313, 2023.

MOURA, José Allysson de et al. Facetas diretas em resina composta ou indiretas em cerâmica: qual é a melhor opção?. [Direct composite resin or indirect ceramic veneers: which is the better option?] **Research, Society and Development**, v. 11, n. 8, p. e9411830562-e9411830562, 2022.

PÁDUA, Maria Cecília Gomes Andrade et al. Fatores De Sucesso Para Faceta Direta:: Revisão De Literatura. [Success factors for direct veneers: a literature review] **REMUNOM**, v. 7, n. 1, 2022.

RODRIGUES, Andreza Gonçalves et al. Reanatomização de incisivos laterais conoides: Revisão da Literatura. [Reshaping peg-shaped lateral incisors: a literature review] **LIBERTAS SAÚDE**, v. 2, n. 2, 2023.

SANTOS, Aline Fernanda dos; ALVES, Thallyta de Souza; OLIVEIRA, Patrícia Rezende dos Reis. Resina anteriores: um alerta para as negligências profissionais de Sobretratamento e uma nova abordagem restauradora na construção do Sorriso. [Anterior composite resin restorations: a warning about professional negligence and overtreatment, and a new restorative approach to smile design] **Research, Society and Development**, v. 11, n. 14, p. e373111436497-e373111436497, 2022.

SANTOS, Anna Danielle Oliveira dos et al. Reabilitação estética de dente conóide: relato de caso. [Aesthetic rehabilitation of a peg-shaped tooth: a case report] **Revista Clínica de Odontologia**, v. 5, n. 1, p. 80-94, 2023.

Este é um artigo publicado em acesso aberto (Open Access) sob a licença CreativeCommons Attribution, que permite uso, distribuição e reprodução em qualquer meio, sem restrições desde que o trabalho original seja corretamente citado.

Ano VII, v.1 2026 | submissão: 05/11/2026 | aceito: 12/11/2026 | publicação: 17/11/2026

SILVA, Sávio Nunes da; SILVA, Emilly Gabriely Barbosa da; YAMASHITA, Ricardo Kiyoshi. Facetas de resina composta com mínimo desgaste: revisão de literatura. [Composite resin veneers with minimal tooth reduction: a literature review] **Facit Business and Technology Journal**, v. 1, n. 35, 2022.

SOARES, Izabela Santos; BORGES, Tássia Silvana. Técnicas e indicações para a realização das facetas em resina composta direta: uma revisão integrativa da literatura. [Techniques and indications for direct composite resin veneers: an integrative review of the literature] **Research, Society and Development**, v. 12, n. 6, p. e3312641962-e3312641962, 2023.

SOUTO, Camilly Oliveira et al. A Relação Entre Facetas Diretas E A Periodontia: Uma Revisão De Literatura. [The relationship between direct veneers and periodontics: a literature review] **Revista Ibero-Americana de Humanidades, Ciências e Educação**, v. 11, n. 11, p. 7001-7016, 2025.

TREVISAN, Marco Antônio; FURTADO, Rafael Gustavo. Restaurações Diretas Em Dentes Escurecidos. [Direct restorations in discolored teeth] **Revista Ibero-Americana de Humanidades, Ciências e Educação**, v. 8, n. 11, p. 1065-1080, 2022.

Este é um artigo publicado em acesso aberto (Open Access) sob a licença CreativeCommons Attribution, que permite uso, distribuição e reprodução em qualquer meio, sem restrições desde que o trabalho original seja corretamente citado.