Chapter 8

Holistic Approach in Orthodontics and Prosthodontics

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Abstract

Multidisciplinary approaches in dentistry are essential for achieving optimal results. The collaboration between orthodontics and prosthodontics is particularly crucial in advanced and difficult cases. In this context, the cooperation of these fields ensures optimum aesthetics and function in cases such as tooth deficiencies, malocclusions, loss of vertical dimension, excessive tooth wear, and overturned molars. Achieving the ideal tooth position prosthetically in difficult cases, such as overturned, malposed, or crowded teeth, is only possible with an orthodontic intervention performed beforehand. Nowadays, orthodontics and prosthetics cooperation has become digital thanks to advanced digital dentistry. Contemporary approaches such as digital planning, CAD/CAM technology, clear aligners, and piezocision make the treatment process more predictable and patient-oriented. This method facilitates the establishment of interdisciplinary relationships and actively involves the patient in the treatment process. Consequently, for effective treatment, it is essential that the orthodontist and prosthodontist together devise a strategy, coordinate patient follow-up, and involve the patient in the treatment process.

Introduction

Orthodontic treatment is a method that enhances the efficacy and adaptability of prosthodontic treatment by facilitating the alignment of the teeth and jaws in the most suitable position. Prosthodontic treatment is critical in terms of occlusion regulation, rehabilitation of missing teeth, and

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parallelism of the roots in orthodontic rehabilitation patients (Spalding & Cohen, 1992).

Multidisciplinary treatment planning is important for obtaining the most optimal result by considering the case in terms of different disciplines rather than a unidirectional perspective. A multidisciplinary approach in the management of complicated prosthetic cases leads to successful aesthetic and functional results. This methodology ensures optimization of treatment time, the best approach for aesthetic appearance, and longer-lasting restorations (Geckili et al., 2011).

1. Compatible Planning of Orthodontic Treatment and Prosthetic Restoration

A multidisciplinary cooperation between prosthodontics and orthodontics is necessary for a more aesthetic and functional treatment (Happe et al., 2023). The dental design created after orthodontic treatment allows for a more natural smile (Kuljic, 2008). Such interdisciplinary cooperation is becoming increasingly popular and has led to the concept of prosthodontics-guided orthodontics (PGO) (Blasi et al., 2022). Before digital tools were available for planning orthodontics and prosthetics, PGO was a process where it was very hard to get the best treatment results and see how the teeth would move without working closely with the prosthodontist (Kuliš et al., 2024).

1.1. Orthodontic intervention prior to prosthesis

It is crucial that all dental treatments are completed by obtaining healthy tissues before prosthetic treatment. Moreover, prosthodontic treatment requires a multidisciplinary approach, since the condition of the teeth must be in harmony with the surrounding tissues in the jaw, joint, and facial region. Prosthodontic and orthodontic dentistry should collaborate in specific circumstances. A few of these are described below.

Multiple missing teeth: The presence of more than one toothless cavity necessitates changes to the treatment process. There are many factors to consider here. The patient's financial circumstances, the state of the supporting teeth, and the bite relationships, etc. The orthodontist can be involved in the final restoration planning process. Different approaches exist for applying prosthetic treatment, such as narrowing or expanding the edentulous space. This approach decision also determines the final prosthetic planning (Pinho et al., 2012; Uribe et al., 2013). In such cases, the reduced number of teeth will limit anchorage. The orthodontist has to employ

temporary anchorage devices to provide anchorage or place the implant(s) before or during orthodontic treatment in cases where implant-supported prostheses are planned as the final treatment (Alfallaj, 2020; Pinho et al., 2012)

1.2. Excessive Vertical Overbite Cases

Vertical overlap (overbite) is defined as the distance that the upper anterior teeth cover the lower anterior teeth (Edition, 2017). Coverage varies in healthy individuals (Akerly, 1977). As the amount of overbite increases, the amount of force on the teeth, soft tissue irritations, and the tendency to wear on the teeth tend to increase. Such conditions may complicate the provision of aesthetics and function in prosthetic restorations (Beddis et al., 2014). These cases can be treated restoratively, orthodontically, surgically, or multidisciplinarily. Modifying the occlusal surfaces of the teeth in restorative treatment can increase the vertical dimension (Ergun & Yucel, 2014) (Beddis et al., 2014). In orthodontic treatment, intrusion of anterior teeth, extrusion of posterior teeth, use of implant-supported anchorage, or a combination of these methods can be used. However, extrusion of the posterior teeth is more likely to recur, as the contraction of the masticatory muscles can return the posterior teeth to their original position. Therefore, segmented intrusion of the anterior teeth is preferred in adult patients (Weiland et al., 1996). In such patients, implant anchorage helps the intrusion of anterior teeth by providing absolute anchorage. In surgical treatment, mandibular sagittal split osteotomy can be used (Ishihara et al., 2014).

For cases of excessive vertical overbite, Kokich proposed the following approach.

1.2.1. Determination of the Occlusal Plane: First, the occlusal plane should be determined on the cephalometric radiograph. For this, the contact points of the maxillary-mandibular 2nd molars in the posterior and the tip of the upper lip in the anterior should be considered.

1.2.2. Determining whether the etiology depends on overbite: Clinicians evaluate the relationship of the maxillary and mandibular anterior teeth with the correct occlusal plane to determine the source of deep vertical overbite. This assessment is done by measuring the distance of the incisal edge of the maxillary central incisor from the occlusal plane. This distance should be 2 to 3 mm lower in young individuals and shorter in older individuals. If the distance exceeds these values, the maxillary anterior teeth may be the source of the deep bite. The incisal edge of the mandibular anterior teeth must

align with the occlusal plane; if these teeth are above this plane, they are considered over-erupted and may require intrusion.

1.2.3. Evaluation of Gingival Margin Position: If the gingival margins of the central incisors are coronal to the canines, the cause of this should be investigated. If the enamel-cementum junction is within 1 mm and the anterior teeth are worn, intrusion of the teeth may be necessary. If the enamel-cementum junction is within 1 mm and the anterior teeth are worn, intrusion of the teeth may be necessary. Before any orthodontic treatment is performed, restorative dentists and orthodontists should agree on a specific treatment plan and use the gingival margins (not the incisal edge) as a reference for tooth intrusion, especially if the patient shows a high smile line.

1.2.4. Surgical Necessity: Orthodontic treatment alone is sufficient for most patients with excessive anterior deep closure. However, in patients with severe facial disproportion, surgical intervention is required to correct excessive vertical overlap (Kokich, 2008).

1.3. Excessively Worn Anterior Teeth

An additional significant concern necessitating a multidisciplinary approach is the excessive wear of the anterior teeth resulting from anterior bruxism. The reason why this situation turns into a complex problem is the excessive shortening of the anterior teeth while the crown length of the posterior teeth remains normal. In this case, the anterior teeth will erupt together with the soft tissue and bone, and contact with the opposing teeth will be preserved. This will lead to the formation of short clinical crowns and incompatible marginal gingiva (Kokich, 2008; Turner & Missirlian, 1984a).

This problem can be solved by orthodontic intrusion of posterior teeth for restoration of worn anterior teeth, surgical extrusion of worn anterior teeth, space gain as a result of occlusal restoration of posterior teeth, or the use of the Dahl concept.

Orthodontic intrusion protects tooth structure; it does not necessitate incisal reduction or extensive preparation. It creates an aesthetic appearance by aligning the gingival margin (Alfallaj, 2020). However, it requires patient compliance due to apical root resorption and prolonged treatment (Bellamy et al., 2008).

Surgical extrusion of teeth is advantageous as it reduces the time required and enhances the retention area for the restoration. In addition, the short treatment time does not require extra patient compliance. However, it also

has disadvantages. However, the method is invasive, it changes the balance between the crown and root, can cause dental sensitivity because the root surface is exposed, and can lead to black triangles appearing on the gingiva (Kokich, 2008; Saha & Summerwill, 2004).

The occlusal vertical dimension can be increased by restoring the posterior teeth in one or both arches, thus creating adequate restorative space for the worn anterior teeth. However, adaptation of the patient to the new occlusion will take time (Kokich, 2008; Turner & Missirlian, 1984b).

Dahl Concept: It is a minimally invasive technique used to create an intermaxillary space in the anterior field. In this concept, an appliance is used that covers the palatal surface of the anterior teeth, thereby disoccluding the posterior teeth and allowing the posterior teeth to erupt. In this way, a space for restoration is created in the anterior area (Dahl et al., 1975; Hemmings et al., 2000; Poyser et al., 2005). This method has some disadvantages, such as the patient's difficulty in chewing and speaking, the occlusal force applied to the anterior teeth causing periodontal and endodontic complications, and the indefinite duration of use of the appliance (Poyser et al., 2005).

1.4. Uprighting of Tilted Molars

Uprighting of Tilted MolarsTilted posterior teeth, typically resulting from tooth loss or significant caries, might complicate restorative operations, particularly when mandibular second molars tilt following the loss of first molars (Stern et al., 1981). Tilting frequently leads to mesial infrabony deformities and a heightened risk of periodontal problems. Treatment alternatives encompass enameloplasty for mild cases, the application of locking attachments or telescopic crowns, and orthodontic uprighting (Revah et al., 1985). Orthodontic treatment improves occlusal alignment, facilitates prosthetic preparation, and increases force distribution (H. Kumar & Vijayalakshmi, 2009) Fixed appliances offer precise movement with adequate anchorage, while removable appliances rely on patient compliance and provide limited movement. The average treatment time is approximately 3 months, depending on tooth angulation, root length, and periodontal health (Alfallaj, 2020).

1.5. Orthodontic Crown Lengthening

Orthodontic extrusion is a conservative alternative to surgical crown lengthening treatment. It is particularly useful in cases involving subgingival caries, deep restorations, or fractures that compromise biological spacing. Maintaining restoration margins within 0.5-1 mm of the gingival sulcus

and at least 3 mm above the bony crest is essential for periodontal health (Baba et al., 2014). In the cases with subgingival caries, deep restorations, or subgingival defects, the patient may be referred for clinical crown lengthening to prevent invasion of the restoration into the biological width. In this case, the clinician should choose one of two methods: surgical crown lengthening or orthodontic crown lengthening with rapid and high extrusion forces that may cause tooth movement without an attachment appliance (Alsahhaf & Att, 2016). Compared to surgical methods, orthodontic extrusion offers several advantages: It improves the crown-to-root ratio, avoids compromising the alveolar bone of neighboring teeth, and better preserves aesthetics, especially in the anterior region. However, extrusion can cause coronal movement of both gingiva and bone, sometimes requiring subsequent corrective surgical crown lengthening (Potashnick & Rosenberg, 1982). Fiberotomy, including intrasulcular incisions and weekly root trimming, can reduce the need for post-treatment corrective surgery by preventing unwanted bone formation above the fiber attachment (Alfallaj, 2020).

Orthodontic extrusion treatment starts with endodontic intervention, succeeded by the implantation of a post, core, and temporary crown. We initiate extrusion with a force of 50 grams weekly, aiming for a movement of 1 mm per week. After achieving the correct dentogingival relationship, we stabilize the tooth for 6 to 8 weeks to allow for bone remodeling before applying the final restoration. Restorative procedures need to be planned carefully because the final crown has to fit the narrower root, finding a balance between too much shaping that can harm gingival health and tapering that can cause aesthetic issues like gaps between the teeth (Ingber, 1976).

2. Multidisciplinary Approach to Amelogenesis Imperfecta Patients

Amelogenesis imperfecta (AI), or congenital enamel hypoplasia, impairs the formation of enamel structure. The majority of AI cases result from mutations in genes that encode enamel matrix proteins, which are essential for the initiation, elongation, and organization of enamel mineralization (Kim et al., 2017). Patients with hypomature AI have clinically rough and pitted tooth surfaces, tooth sensitivity, and discoloration. Due to this nature, they have easy aligner retention and high caries incidence. In addition to these characteristics, short clinical crown length, malformed teeth, excessive or incomplete tooth formation compared to the dental arch, pulp calcifications, taurodontism, root malformations, anterior open bite, and abnormal growth of the maxilla and mandible can be observed (Alachioti et al., 2014;

Poulsen et al., 2008; Strauch & Hahnel, 2018a). The abnormal growth of the maxilla and mandible does not alter the occlusal vertical dimension and has minimal or no effect on the restorative space of the posterior teeth; however, it creates a significant restorative space in the anterior region due to the open bite. Optimal treatment usually includes both occlusal vertical dimension increase and clinical crown lengthening procedures. The increase in occlusal vertical dimension should be done by taking into account the amount necessary to organize the short posterior teeth. Otherwise, excessive anterior crown heights may be created, and the crown-root ratios of the teeth may reach dangerous levels (Ortiz et al., 2019).

It is necessary to have a multidisciplinary approach to treatment management. At least one pediatric dentist, orthodontist, and prosthodontist are required (Council, 2013). If the cases are presented to the clinic during the deciduous period, the main goals of treatment are to reduce sensitivity and pain, provide preventive care for caries, protect teeth until permanent teeth erupt, and offer a suitable environment for skeletal growth (Chen et al., 2013). Furthermore, minimizing psychological negativities is one of the important contributions of the treatment (Council, 2013). It is difficult to maintain oral hygiene in such cases. In these situations, stainless steel crowns or glass ionomer restorations can be used for back teeth, and composite resin crowns for front teeth to help prevent cavities and enamel wear while also looking good (Chen et al., 2013; Council, 2013; McDonald et al., 2012).

The main goals of treatment in patients in the mixed dentition period are to preserve the vitality and integrity of the tooth and to meet aesthetic and functional requirements. During this period, dental evaluation by an orthodontist and prosthodontist is mandatory upon eruption of the permanent first molars and anterior teeth (Chen et al., 2013). Stainless steel molar crowns and glass ionomer restorations can be used until all teeth are fully erupted. This method provides some protection against wear and caries until the teeth fully erupt. In the same way, anterior composite restorations provide protection. However, it is important to note that the edges of the restoration may be visible during tooth eruption, necessitating further procedures for aesthetic enhancement of the restoration (Chen et al., 2013).

Orthodontic evaluation at an early age is critical for the treatment success and overall management of patients with AI. Nonetheless, traditional fixed orthodontic procedures pose certain difficulties for people with AI. Securely bonding brackets to defective enamel is difficult. Defective enamel/dentin may cause durability problems during tooth movement. There is a high

risk of damage to tooth tissue during bracket removal (Arkutu et al., 2012; Chen et al., 2013).

Orthodontic treatment with clear aligners may be advantageous for individuals with AI. It can reduce sensitivity by creating a pseudo-coating on the defective enamel/dentin. It may improve the patient's quality of life (Sawan, 2021).

The goals of orthodontic treatment in AI patients are different from normal. The goal is not perfect occlusion. It is to optimize aesthetics, function, and restorative fit. The final prosthodontic treatment plan is organized in accordance with the orthodontic goals.

The main goals of AI treatment during the permanent teeth phase are to restore how the teeth bite together, enhance appearance, and reduce tooth sensitivity. Prosthetic full-mouth rehabilitation should be planned once the gingival tissues have matured and the clinical crown height has stabilized. Crown lengthening and gingival contouring may be required in cases of gingival hyperplasia or shortened crowns. If the structural integrity of the teeth is compromised, endodontic treatment or extractions may be required. Given the prevalence of skeletal disorders and malocclusions, orthodontic treatment is essential; in more severe cases, orthognathic surgery may be necessary (Chen et al., 2013; Möhn et al., 2021). The AI subtype, the patient's psychosocial status, and the patient's existing healthy dentition influence the treatment plan during the permanent dentition phase (Lindunger & Smedberg, 2005).

Subtype is important in AI patients. Orthodontic treatment planning may vary according to the subtype. Planning to close the interdental spaces in the hypoplastic type may result in a reduction in the crown size. Accordingly, further preparations may be required. This results from the need to prepare a suitable restoration surface because the enamel thickness is not normal. In the hypomature type, the enamel thickness is normal. Therefore, closing the gaps does not adversely affect restorative planning (Pousette Lundgren et al., 2015). The enamel in AI patients limits the use of brackets when orthodontic therapy requires them. The most important reason for the limitation is the lack of intact enamel to bond the brackets. Defective enamel is not suitable for brackets. Another reason for orthodontic treatment refusal is the long duration of treatment (Ortiz et al., 2019). You can use orthodontic treatment if the enamel is favorable or if you perform orthodontic treatment independently of the enamel (S. Kumar & Gupta, 2009).

Although prosthodontic treatment aims to provide lifelong function, aesthetics and proper occlusion, various difficulties are encountered in achieving the desired result. While conservative treatment is always the goal, a large amount of preparation and tooth extraction may be planned when necessary. This is more common in younger patients who have not received any orthodontic treatment (Patel et al., 2013).

While removable prostheses were used in the past in such cases, they are not preferred today. The psychological effects of removable prostheses in young patients and the restorative and digital advances in modern dentistry have led to the evolution of treatment planning. Even in cases where restoration of all teeth is not possible, we should consider implant treatment. If there is no suitable bone tissue, bone grafting can be performed (Patel et al., 2013). For restorable teeth, composite resins, porcelain veneers, stainless steel crowns, and CAD/CAM polymers may be preferred (Canger et al., 2010; Patel et al., 2013; Saeidi Pour et al., 2015).

Treatment planning should consider the subtype of AI and tooth structure problems, as these factors have a direct effect on the restoration's lifetime and bonding success.

- Hypoplastic AI: Even if the amount of enamel is small, the bond quality is usually acceptable; however, pitted enamel should be completely removed.
- Hypomaturation AI: Poor enamel quality, high risk of edge leakage, fracture, and abrasion due to porous structure; therefore, defective enamel must be completely removed.
- Hypocalcified AI: It has the poorest enamel quality and poor bonding success; in this type, the restoration may fail if the defective enamel is not completely removed.

Therefore, placement of restorative margins in a solid and healthy structure is critical for the success of the treatment (Chen et al., 2013).

In patients with AI in the permanent dentition, fixed treatment with full crowns is recommended to ensure functional occlusion and aesthetics with an appropriate occlusal vertical dimension. These restorations promote oral hygiene with reduced sensitivity due to enamel defects. Clinical studies have shown that indirect restorations last longer in AI patients (Strauch & Hahnel, 2018b). Studies have also reported that fixed crown restorations significantly reduce gingival infection and bleeding (Pousette Lundgren et al., 2015). While metal-ceramic crowns are commonly used, glass-based all-ceramic restorations are also preferred nowadays (Ozturk et al., 2004; Siadat

et al., 2007). However, although these restorations are more conservative restorations, there may be difficulties in masking discoloration due to enamel irregularities (Patel et al., 2013).

Early detection and appropriate treatment at a young age are crucial for long-term dental health and successful rehabilitation. Most of the reported literature on patients with AI are case reports, and there are hardly any studies examining long-term full-mouth rehabilitation in patients with AI. However, one retrospective study indicated that restorations were successful and patients had positive experiences with prosthetic rehabilitation (Lindunger & Smedberg, 2005).

Consequently, long-term follow-up is necessary for AI patients. With accurate diagnosis and treatment, AI may significantly improve patients' quality of life. The majority of the studies comprise case reports. Consequently, additional investigation is necessary. AI patients necessitate continuous care and meticulous monitoring from childhood to adulthood at every phase of treatment.

3. Digital Planning and approaches

Modern orthodontics and innovations in fixed orthodontic appliances have made significant advances in both biomechanical and aesthetic aspects. The main aim of research addressing the aesthetic concerns raised by fixed orthodontic appliances is to make patients feel more comfortable and confident throughout treatment.

Rapid advances in digital technologies and new materials have been a feature of dentistry recently. Prosthodontic treatments have shifted to minimally invasive procedures that achieve a natural and aesthetic appearance for restored teeth (Blatz et al., 2019).

Current digital advances allow visualization of the outcome of prosthetic treatment. Also, recent advances in orthodontic dentistry allow orthodontic tooth movements to be visualized by computer and the final treatment result to be shared with the patient and the dentist. Besides, clear aligners that are designed and manufactured with computer-aided design have been developed (Barreto & Santos, 2018).

3.1. CAD/CAM and Piezocision Effect in Orthodontics

CAD/CAM systems have a wide range of applications in orthodontics. Traditional brackets, clear aligners, and other orthodontic appliances can be designed and manufactured using virtual models. The integration of

3D technology enables the analysis of root inclination and alveolar bone thickness using tomographic pictures; hence, optimizing interdisciplinary treatments such as orthognathic surgery(Cunha et al., 2021).

A study presents an innovative digital constructor for the production of functional orthodontic appliances with CAD/CAM technology. This new approach aims to overcome the difficulties faced in traditional manufacturing processes, enabling faster, personalized, and more efficient production of orthodontic appliances by taking advantage of the possibilities of digital technologies. However, the feasibility of this new concept was evaluated, taking into account the difficulties of existing methods and the limitations of material options. The study demonstrated the construction of a functional appliance using digital models following intraoral scanning of the patient. In this way, it was said that the appliance construction, which would take a long time with the traditional method, could be done effectively and faster with digital methods (Roser et al., 2025).

In another meta-analysis, brackets produced digitally with the CAD/CAM method and brackets produced with the traditional method were compared. Consequently, the study concluded that brackets manufactured using CAD/CAM technology led to an average decrease in treatment duration of four months and that the production process was easier and shorter (Bardideh et al., 2024).

In another study, the effect of CAD/CAM customized orthodontic appliances and piezo-assisted decortication (piezocision) on orthodontic treatment time was investigated, focusing on the alignment and fine-tuning phases. Both technologies significantly reduced orthodontic treatment time; piezocision accelerated the alignment phase, while CAD/CAM appliances shortened the fine-tuning phase. The combination of both methods resulted in the fastest orthodontic treatment.

Piezocision Effect: By using the Regional Acceleration Phenomenon, a biological reaction to bone injury, piezocision significantly accelerated the alignment phase (RAP). However, this acceleration is temporary and lasts 4 to 6 months postoperatively. A second piezocision procedure may be considered to maintain acceleration throughout the fine-tuning phase, but further studies are needed to evaluate its benefits and potential risks.

Effect of the CAD/CAM System: The CAD/CAM system has enhanced the fine-tuning phase by providing precise treatment plans and improving the overall workflow. The system allows for a customized approach, including the creation of digital setups, customized brackets, and archwires.

This increased accuracy reduces the time required for the fine-tuning phase, resulting in a more efficient treatment compared to conventional methods.

Combined Approach (CAD/CAM + Piezocision): The combination of CAD/CAM and piezocision significantly accelerated orthodontic treatment, and the total treatment time was twice as fast compared to conventional methods. This combined approach has provided excellent results for patients with moderate crowding without compromising periodontal health (Charavet et al., 2021).

3.2. Digitally Clear Aligners

The production of clear aligners widely uses digital technologies, which also speed up the treatment simulation process. However, virtual tooth movements can sometimes be unrealistic. Therefore, we advise clinicians to obtain additional information about aligner biomechanics and exercise caution regarding anchorage, progressive movements, and auxiliary mechanics (Barreto & Santos, 2018).

Invisalign is an orthodontic treatment method consisting of transparent aligners used to straighten teeth. It substitutes traditional metal braces and offers an aesthetic alternative. The Invisalign® method, which involves a digitally designed and treated procedure, is an aesthetic option for orthodontic treatment and is particularly suitable for adults and adolescents who have fully erupted teeth. More complex malocclusions present limitations, but simple and intermediate cases that do not require tooth extraction yield the best results. The difficulty of some tooth movements performed with this method does not prevent Invisalign® from being fully utilized, as it can be used in conjunction with conventional appliances. Additionally, you can add customized attachments or composite materials to the appliance to achieve the desired tooth movements. Numerous sources have listed many advantages and disadvantages of the method. Table 1 (Melkos, 2005)

Table 1.

Advantages of Invisalign®	Disadvantages of Invisalign®
Ideal Aesthetics	Limited control over root movements
Ease of use for the patient	Limited intermaxillary correction (severe skeletal disorders cannot be corrected with Invisalign® alone)
Easy to use	Lack of physician control (no possibility to modify the appliance during the treatment process)
Ease of care and better oral hygiene	In the event that any changes need to be made after the start of treatment, additional time and/or documentation may be required
Potential metal allergies seen with fixed orthodontic appliances are eliminated	Mild intrusion (0.25-0.5 mm) of the posterior teeth may occur (this is corrected during the retention period)
Elimination of difficulties in bonding fixed appliances	
Detailed evaluation of treatment options before starting treatment	
The virtual treatment model can be a motivational tool for the patient	

Table 1 (Advantages And Disadvantages of Invisalign)(Melkos, 2005)

Conclusion

The combination of orthodontic and prosthodontic treatment modalities requires a multidisciplinary approach to address complex dental problems. Orthodontic treatment creates the most appropriate basis for prosthodontic rehabilitation by facilitating the correct alignment of the teeth, thus providing both functional and aesthetically effective results. Prosthetic restorations applied without the necessary orthodontic intervention negatively affect the treatment process and success.

Prosthetic treatment planning has an important role in guiding orthodontic treatment. Prosthodontic treatment can regulate conditions that affect orthodontic movements, such as tooth size regulation and occlusion regulation. Accordingly, effective communication and treatment coordination between both specialties directly affect the success of patient management.

Consequently, collaboration between the disciplines of orthodontics and prosthodontics reduces treatment time and provides success in terms of long-term biocompatibility, function, aesthetics, and needs fulfillment. Therefore, a common view of the treatment protocol, especially in the management of interdisciplinary cases, is key to clinical success. The integration of orthodontic and prosthodontic treatment approaches reveals the requirement of a multidisciplinary approach in solving complex dental problems.

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