

Shades of Grey in Prosthodontics: The Ongoing Clinical Dilemmas (Editorial)

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The field of prosthodontics stands at the intersection of science, art, and clinical judgment. Over the decades, advances in materials, technology, and digital workflows have revolutionized the way prostheses are designed and delivered. Yet, despite these developments, numerous controversies continue to persist-challenging the clinician's decision-making and sparking academic debate. These controversies are not merely academic curiosities; they influence clinical outcomes, patient satisfaction, and the long-term success of prosthodontic rehabilitation.

One of the most debated areas remains the philosophy of impression making for complete dentures-mucostatic versus selective pressure techniques. Advocates of the mucostatic approach emphasize minimal tissue displacement and preservation of mucosal health, while proponents of the selective pressure philosophy argue for better stability and retention by functional molding of the denture-bearing areas [1,2]. The choice often depends on clinical experience and ridge morphology rather than definitive evidence, reflecting a gap in standardized clinical protocols.

Similarly, the open versus closed tray techniques in implant impressions continue to generate controversy. Studies suggest that while the open tray method may provide higher accuracy for multiple implants, the closed tray method remains preferred for its clinical convenience, especially in single-unit restorations [3]. Yet, despite digital dentistry's emergence, consensus on the superiority of one method over another remains elusive, with intraoral scanners adding a new dimension to this debate [4].

The use of soft liners and resilient materials also represents a persistent gray area. Although these materials enhance comfort for patients with resorbed ridges or mucosal sensitivity, concerns persist regarding microbial colonization, durability, and maintenance [5]. Similarly, controversies surrounding occlusal schemes-balanced occlusion versus lingualized occlusion-continue, with literature supporting both approaches depending on patient-specific factors [6].

Another major debate revolves around tooth-implant connection protocols. While some clinicians prefer rigidly splinted connections to distribute load uniformly, others advocate segmented restorations to accommodate differential mobility and stress dissipation [7]. These differing philosophies often lead to contrasting clinical recommendations, illustrating how prosthodontic decision-making is both science- and experience-driven.

The advent of digital prosthodontics has not ended controversies-it has merely transformed them. The accuracy and reproducibility of CAD/CAM milled dentures compared to conventionally fabricated ones are still under scrutiny. While digital workflows improve efficiency and standardization, critics argue that the tactile artistry and adaptability of traditional techniques are being lost [8]. Furthermore, the integration of artificial intelligence (AI) in treatment planning and prosthesis design, though promising, raises ethical and reliability concerns regarding clinical validation, data bias, and accountability [9].

Perhaps one of the most enduring controversies pertains to evidence-based versus experience-based practice. Prosthodontics, unlike other dental disciplines, involves a high degree of craftsmanship and individualization. As a result, clinicians often rely on personal expertise and empirical outcomes, sometimes at the expense of rigid scientific validation [10]. This creates a paradox where both “art” and “science” coexist-sometimes harmoniously, sometimes contentiously.

In conclusion, controversies in prosthodontics are a reflection of the discipline’s evolution and dynamism. They stimulate research, encourage innovation, and compel clinicians to critically evaluate their choices. Rather than viewing these debates as obstacles, they should be embraced as opportunities for introspection and progress. The future of prosthodontics will likely not resolve these controversies completely-but through continuous dialogue, evidence-based practice, and digital integration, it can transform them into catalysts for excellence.

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