

Case Report 2

The Dual-Zone Therapeutic Concept of Managing Immediate Implant Placement and Provisional Restoration in Anterior Extraction Sockets

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ABSTRACT

Improvements in implant designs have helped advance successful immediate anterior implant placement into fresh extraction sockets. Clinical techniques described in this case enable practitioners to achieve predictable esthetic success using a method that limits the amount of buccal contour change of the extraction site ridge and potentially enhances the thickness of the peri-implant soft tissues coronal to the implant-abutment interface. This approach involves atraumatic tooth removal without flap elevation, and placing a bone graft into the residual gap around an immediate fresh-socket anterior implant with a screw-retained provisional restoration acting as a prosthetic socket seal device.

For more than 2 decades, the clinical protocol for immediate anterior implant placement into fresh extraction sockets has evolved from a two-stage protocol with full-thickness flaps^{1,2} to a one-stage protocol³—often flapless^{4,5} and sometimes with an immediate provisional restoration placed at the same appointment without compromising implant survival rates.⁶⁻⁸ This evolution was facilitated by improvements in the macro- and micro-geometry of implant designs and their respective restorative components as well as validation from animal^{9,10} and human^{11,12} clinical research.

The ongoing challenge for clinicians utilizing immediate anterior implant placement protocols today is no longer just achieving osseointegration, the rates of which are extremely high.^{13,14} Instead, the challenge is improving on protocols that allow for less traumatic, more time-efficient and yet highly predictable esthetic treatment outcomes in the more demanding anterior region.¹⁵⁻¹⁸ The main determinants to achieving long-term esthetic predictability in this environment are related to understanding and managing a complex combination of clinical and biologic factors, as follows:

1. diagnosis and classification of the extraction site in the esthetic zone
2. the natural biologic modeling and remodeling of extraction sockets
3. the relationship of underlying bone to the overlying soft-tissue profile and their stability

