

Confronting Severe Bone Defects - Techniques Come and Go, But The Fundamentals Remain.

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Severe bone defects remain one of the most challenging situations in implant dentistry. Over the past decades, numerous regenerative techniques and biomaterials have been introduced, enabling clinicians to treat cases that were previously considered difficult or even untreatable. Nevertheless, achieving predictable outcomes in extensive bone defects is still demanding. In such situations, clinicians must not only rely on new techniques but also approach the problem with a clear sense of clinical responsibility and sound surgical judgment.

Throughout the history of implant therapy, many surgical techniques and materials have appeared and disappeared. However, the fundamental biological and surgical principles required for successful bone regeneration have remained largely unchanged. Principles such as tension-free primary closure, wound stability, and proper suturing continue to be essential for predictable regenerative outcomes. In guided bone regeneration (GBR), these concepts are well summarized by the PASS principle—primary closure, angiogenesis, space maintenance, and stability.

In this lecture, I will discuss how severe bone defects can be approached and managed in clinical practice. Both successful and failed cases will be presented, with particular emphasis on the lessons learned from failures based on my personal clinical experience. Although numerous surgical techniques have been developed over time, I would like to emphasize that successful treatment outcomes ultimately depend on adherence to fundamental principles and sound clinical judgment.

Profile

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