A game changer for cases with significant bone loss

An interview with Reed Dental's Dr Gonzalo Manuel Valle

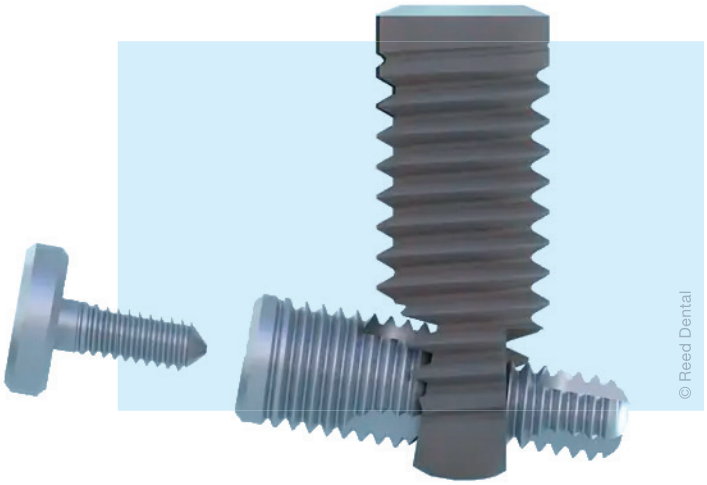
Designed to address severe bone defects in implant dentistry, the RAMAX system allows for simultaneous implant placement and bone regeneration in a single procedure. Its defining feature is a transverse screw that anchors the implant within the bone, providing enhanced primary stability even in compromised sites. In this interview, Dr Alina Ion speaks with the inventor of RAMAX, Dr Gonzalo Manuel Valle, lead clinical adviser to Reed Dental Technologies, which developed and manufactures RAMAX. Dr Valle explains the clinical rationale behind the system, its surgical application and its impact on implant dentistry.



What clinical challenges led to the development of RAMAX?
As an implantologist, I've encountered the same recurring obstacle: inadequate bone quality or volume, particularly in post-extraction, trauma and periodontal disease cases. The greatest challenge has always been the achievement of reliable primary implant stability. Without a solid foundation, micro-movements threaten osseointegration—especially in soft bone (Type III–IV)—increasing the risk of implant failure. RAMAX was born of my clinical need to overcome these limitations.

How does RAMAX address primary stability in cases with severe defects or extreme bone loss?
What sets RAMAX apart is its transverse screw mechanism, which anchors the implant directly into the cortical bone. This dual fixation—to both cortical and cancellous bone—provides immediate, superior mechanical stability. In mechanical tests conducted by an accredited external laboratory, we've measured over 80 per cent improvement in primary stability versus traditional implants. It's a game changer for cases with significant bone loss.

"We've measured over 80 per cent increase in primary stability."



What types of cases benefit most from RAMAX?
RAMAX is ideal for severe atrophy and complex situations, such as sockets with one-, two- or three-wall defects. Its versatility allows for its use in immediate loading, post-extraction placements and in reimplantation cases after failure. It can also be used as a go-to solution for high-risk patients—those with diabetes or osteoporosis or those undergoing radiotherapy—and for the aesthetic zone, where implant stability is critical from the start.

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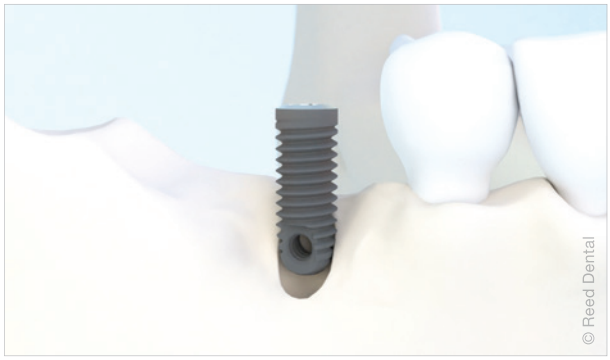
How does the biomechanics of RAMAX compare with that of traditional stability methods?

Conventional implants rely on thread compression in cancellous bone. RAMAX, however, uses a transverse screw to fix the implant in dense cortical bone—where micromovements are minimised. If needed, a cortical plate can be added and anchored by the same screw, increasing contact with dense bone. This can reduce inflammation, improve vascularisation and promote a more favourable environment for healing and osseointegration. RAMAX also distributes occlusal forces more evenly, protecting the surrounding bone—especially in areas of low bone density.

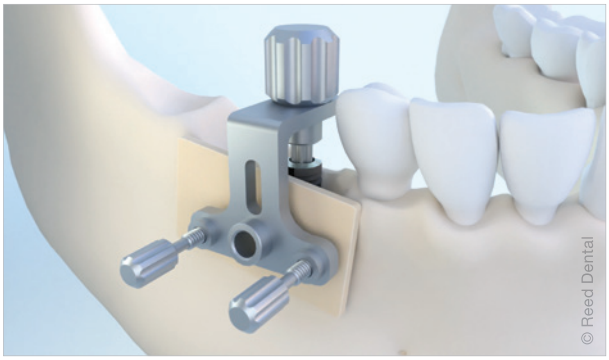
How has your surgical workflow evolved using RAMAX?

Currently, depending on the extent of bone and tissue deficiency for implant placement, using conventional methods, the clinician has to perform a graft, wait a few months and then place the implant. Using RAMAX, it is possible to routinely combine guided bone regeneration with immediate implant placement in a single procedure. This saves time, reduces the number of surgeries required and makes treatment less invasive and more predictable. Because they can leave with restored function and improved aesthetics and because treatment is less stressful, the difference is evident to patients.

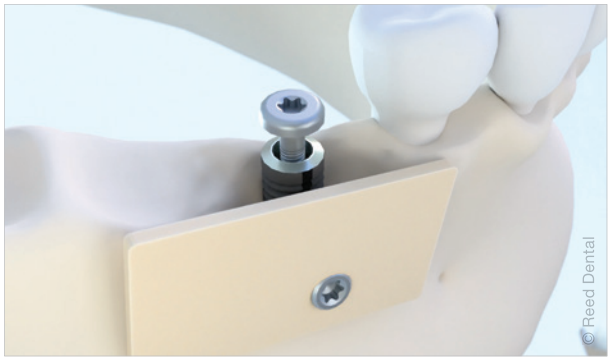
Surgical sequence with RAMAX®



Step 1: Insert the RAMAX implant into the prepared site.



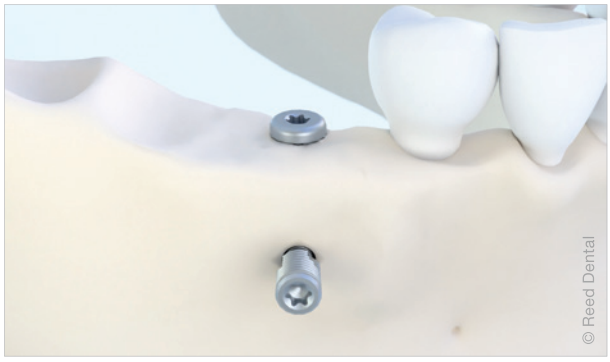
Step 2: Secure the RAMAX drill guide near the cortical plate and on the seated implant.



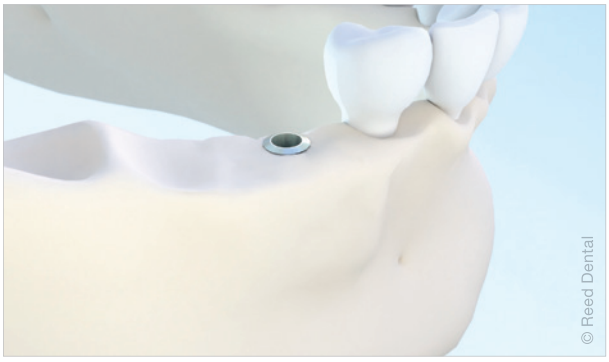
Step 3: Insert implant cover screw and the particulate bone graft material.



Step 4: Attach the membrane to the defect site with the RAMAX secondary screw.

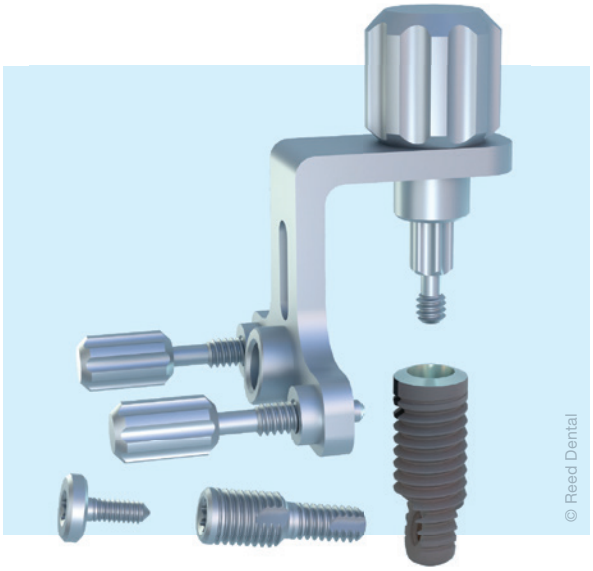


Step 5: After healing, remove the RAMAX secondary and transverse screws.



Step 6: Finalise a traditional restoration.

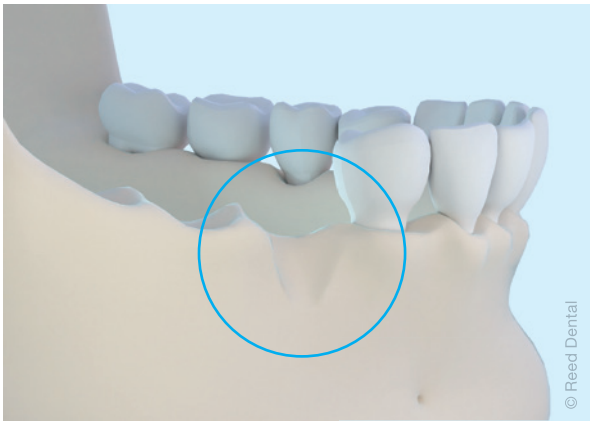
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Could you share a clinical case that illustrates the impact of RAMAX?
Certainly. Consider the case of a patient presenting with a three-wall defect after a complex molar extraction. Using RAMAX, one can place the implant in the ideal position and secure a cortical plate and bone graft with the transverse screw. A membrane can also be added and secured. Implant stability is then immediate, and predictable regeneration with minimal resorption can be achieved. Using traditional techniques, such a case would normally require two surgeries and a longer timeline.

Could you tell us more about how Reed Dental approaches the development of new technologies and ensures their clinical relevance?
At Reed Dental, we solve complex clinical challenges through micromechanical innovation. Our team has designed and developed technologies like RAMAX and FlexDrive. We work with an exclusive manufacturing partner to produce one-to-one functional prototypes, validated through *in vitro* preclinical testing in our laboratory and accredited facilities. With input from key opinion leaders, we ensure that our solutions are robust and practical for future clinical use. My role is to guide preclinical development to meet real-world clinical needs.



How do you support adoption of Reed Dental innovations by clinicians?
At this stage, we do not offer our innovations directly to clinicians. Instead, we provide them as finished solutions to dental implant manufacturers. We support adoption by training manufacturers' teams and equipping them with comprehensive educational resources—including clear, step-by-step clinical protocols—to ensure smooth integration into their product lines and workflows.

What's next from Reed Dental?
At Reed Dental, our innovation strategy is rooted in clinical need, and we focus on enhancing complex rehabilitation protocols and supporting minimally invasive approaches. Feedback from the 2025 International Dental Show confirmed that our approach is well aligned with global clinical needs, and our clinically driven strategy continues to shape our research and development pipeline. While we remain focused on supporting implant manufacturers through turnkey solutions, we plan to make some of our innovations directly accessible to clinicians as of 2026—to ensure that all practitioners, not just those using our partners' systems, can benefit from our technologies.

about the author

Dr Gonzalo Manuel Valle, Lead Clinical Advisor at Reed Dental, is a highly experienced prosthodontist and oral surgeon with nearly 20 years of clinical practice. Graduated from the National University of Córdoba in Argentina, he specialises in complex oral rehabilitation and implantology.

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