

Horowitz et al., 2026



Private Practice



2

Patients



8-18 Month

Follow-up



DISCLAIMER

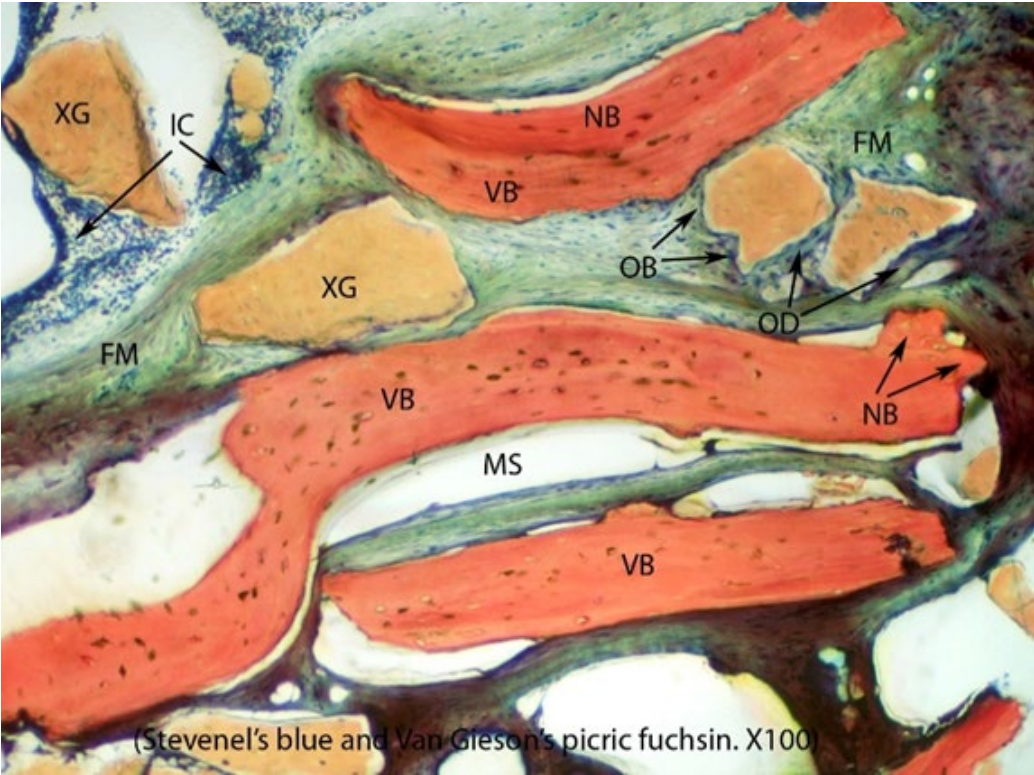
The following page contain summaries of data published by Horowitz et al., 2026 as interpreted by Geistlich. Although we try to reflect to the best of our knowledge the results and conclusions of the cited studies, errors cannot be excluded. We explicitly emphasize that the authors of the cited study cannot be held responsible for the content of the summaries.

2-Stage Implant Placement & Surgical Periodontal Treatment

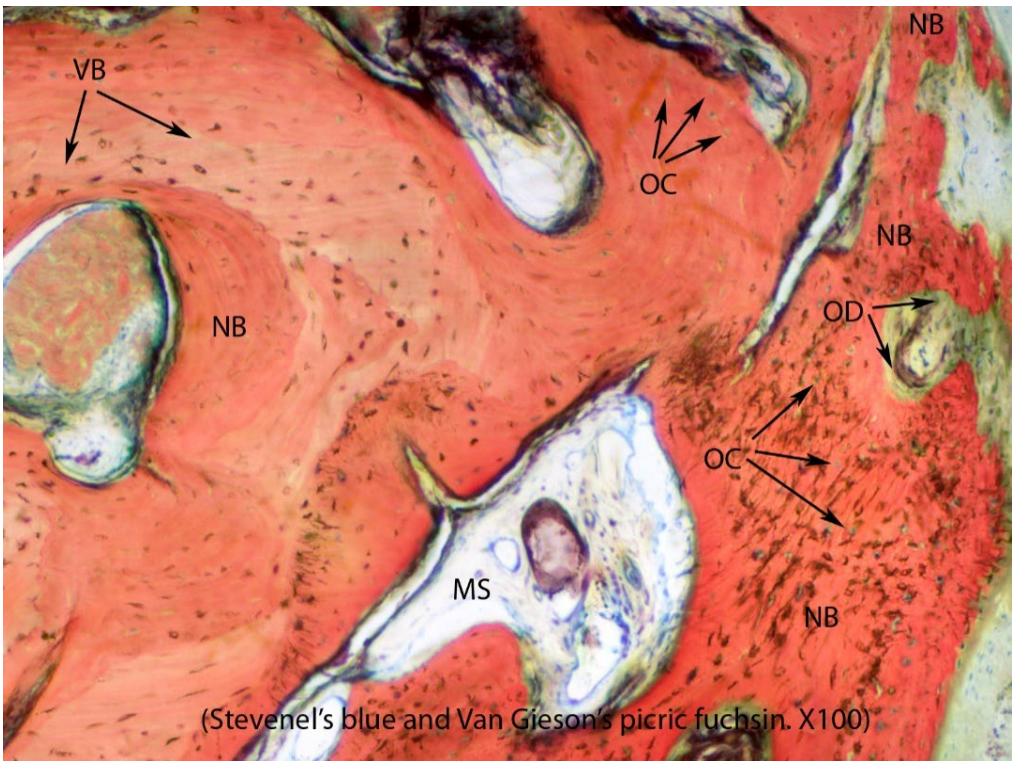
Histologic Insights in Implant Site Regeneration

Histologic analysis at 100× magnification

- Histology shows mature vital bone with only small remnants of Geistlich Bio-Oss®, indicating solid graft integration and advanced remodeling.
- Well-organized trabeculae and stable marrow spaces reflect a mature regenerative environment suitable for predictable implant placement.



Case 1 (9 months post-grafting): Histologic analysis at 100× magnification shows vital bone trabeculae with small remnants of Geistlich Bio-Oss® embedded within fibrotic marrow spaces. Features include vital bone (VB), new bone (NB), fibrotic areas (FM), lymphocytic inflammatory cells (IC), osteoblasts (OB), and peripheral osteoid (OD).



Case 2 (11 months post-grafting): Histologic analysis at 100× magnification shows thick, well-organized trabeculae of vital bone undergoing active remodeling, with peripheral osteoid seams and scattered osteoclasts involved in the resorption of remaining graft components. Features include vital bone (VB), new bone (NB), marrow spaces (MS), osteoid (OD), and residual osteoclast activity associated with graft turnover.

Horowitz RA, Kurtzman GM, Prasad HS. *Regenerative materials in site preparation for implant placement: A clinically validated histological perspective*. Compend Contin Educ Dent. 2026;47(5):230-236.

Key Message

The study shows that combining rhPDGF-BB (GEM 21S®), vallos®, and Geistlich Bio-Oss® provides predictable, high-quality bone regeneration in challenging defects, resulting in stable, implant-ready sites confirmed by histology.

Study results

- **Enhanced Bone Regeneration:** The synergistic combination of rhPDGF-BB, vallos®, and Geistlich Bio-Oss® scaffolds accelerates early healing, enhances angiogenesis, and supports high-quality vital bone formation.
- **Predictable Implant Ready Sites:** Histology confirmed dense, mature, vital bone with minimal residual graft material, enabling confident implant placement and long-term stability.
- **Material Synergy Improves Outcomes:** vallos®: active remodeling and complete turnover | Geistlich Bio-Oss®: long-term structural stability | rhPDGF-BB: biologic acceleration of healing | Together, they provide both structural support and biologic stimulation.



Level V (Narrative Review / Expert Opinion)



2 Patients



Private Practice



Up to 18 Months



To demonstrate how the combined use of GEM 21S® (rhPDGF-BB), vallos® fibers, and Geistlich Bio-Oss® can create predictable, implant-ready bone in complex defects, supported by histologic evidence.

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