



Dental Clinical Policy

Subject: Biological Materials to Aid in Soft Tissue and Osseous Tissue Regeneration (Endodontic)

Guidelines #: 03-401

Status: Revised

Publish Date: 01/01/2026

Last Review Date: 10/14/2025

Description

This document addresses the biological materials to aid in soft and osseous tissue regeneration whether used alone or in conjunction with other procedures. The field of tissue engineering or regenerative medicine is a process by which damaged tissues are regenerated rather than using grafts (autografts, allografts) by developing biological substitutes that restore, maintain or improve tissue function. Regenerative therapy utilizing biological materials can be used for the treatment of periodontal disease defects of natural teeth and dental implants.

Criteria

1. Current, dated (within 12 months), pretreatment periapical radiographic images that are of diagnostic quality.
2. Current, dated 6-point periodontal charting as described by American Academy of Periodontology (AAP) and American Dental Association (ADA) indicating a minimum of 5mm pocket depths.
3. A letter of rationale explaining the necessity of the regeneration procedure, and the type of material being used may be requested. For example, platelet rich plasma (PRP), Emdogain, recombinant human bone morphogenic protein (rhBMP), Gem-21S, etc.
4. The use of biological materials may not be considered when used in conjunction with soft tissue grafting, bone grafts, guided tissue regeneration, ridge augmentation, periradicular surgery, placed within extraction sites, or when utilized with other regenerative materials regardless of specific group plan coverage.

Coding

The following codes for treatments and procedures applicable to this document are included below for informational purposes. Inclusion or exclusion of a procedure, diagnosis or device code(s) does not constitute or imply member coverage or provider reimbursement policy. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

CDT *including but not limited to:*

D3428	Bone Graft in conjunction with periradicular surgery, single site
D3429	Bone Graft in conjunction with periradicular surgery, each additional site
D3431	Biologic materials to aid in soft and osseous tissue regeneration in conjunction with periradicular surgery
D3432	Guided Tissue Regeneration, resorbable barrier, per site, in conjunction with periradicular surgery
D4265	Biological material to aid in soft and osseous tissue regeneration, per site
D7921	collection and application of autologous blood concentrate product

ICD-10 CM Diagnoses for Dental Diseases and Conditions: See the current CDT code book for details

References

1. Parodi R, Liuzzo G, et al. Use of Emdogain in the treatment of deep intrabony defects: 12-month clinical results. Histologic and radiographic evaluation. *Int J Perio Rest Dent* 2000;19:93.
2. Giannobile W, Somerman M. Growth and amelogenin-like factors in periodontal wound healing. A systematic review. *Ann Periodontol* 2003;8:193-204.
3. CDT 2026 Current Dental Terminology, American Dental Association.
4. McGuire MK and Scheyer ET. Xenogenic collagen matrix with coronally advanced flap compared to connective tissue with coronally advanced flap for the treatment of dehiscence-type defects. *J Perio* 2010; 81:1108-1117.
5. Materials Today, Volume 14, Issue 3, March 2011, pages 88-95: Biomaterials and Scaffolds for Tissue Engineering; Fergal J. O'Brien
6. Yassibag-Berkman Z, Tuncer O, et al. Combined use of platelet-rich plasma and bone grafting with or without guided tissue regeneration in the treatment of anterior interproximal defects. *J Perio* 2007; 78:801-809.
7. American Academy of Periodontology. AAP Commissioned Review. Bone augmentation techniques. *J Perio* 2007; 78:377-396.
8. American Academy of Periodontology. AAP Position Paper. Periodontal regeneration. *J Perio* 2005; 76:1621-1622.
9. Meyle J, Hoffman T, et al. A multi-center randomized controlled clinical trial on the treatment of intra-bony defects with enamel matrix derivatives/synthetic bone graft or enamel matrix derivatives alone. *J Clin Periodontol* 2011;38:652-660.
10. Sculean A, Windisch P and Chiantella GC. Human Histologic evaluation of an intrabony defect treated with enamel matrix derivative, xenografts, and GTR. *Int J Perio Rest Dent* 2004;24:326-333
11. Yukna RA and Mellonig JT. Histologic evaluation of periodontal healing in humans following regenerative therapy with enamel matrix derivative. A 10- case series. *J Perio* 2000; 71:752-759.

12. Yan X, Shao-Hua G, et al. A pilot study evaluating the effect of recombinant human bone morphogenic protein-2 and recombinant human beta-nerve growth factor on the healing of class III furcation defects in dogs. *J Perio* 2010; 81: 1289-1298.
13. Markous N, Pepelassi E, et al. The use of platelet-rich plasma combined with demineralized freeze-dried bone allograft in the treatment of periodontal endosseous defects. *J Amer Dent Assoc* 2010; 141:967-978.

History				
Revision History	Version	Date	Nature of Change	SME
	initial	02/08/2017	creation	Dr. Rosen

	Revision	02/06/2018	Related policies, Appropriateness/Medical Necessity, criteria	Dr. Kahn
	Revision	10/07/2020	Annual Review	Committee
	Revised	12/04/2020	Annual Review	Committee
	Revised	10/30/2021	Annual Review	Committee
	Revised	10/21/2022	Annual Review	Committee
	Revised	09/13/2023	Annual Review	Committee
	Revised	10/25/2024	Minor editorial refinements to description, clinical indications, criteria, and coding; intent unchanged.	Committee
	Revised	10/14/2025	Minor editorial refinements to description, clinical indications, criteria, and coding; intent unchanged.	Dr. Balikov

Federal and State law, as well as contract language, takes precedence over Dental Clinical Policy. Dental Clinical Policy provides guidance in interpreting dental benefit applications. The Plan reserves the right to modify its Dental Clinical Policies and guidelines periodically and as necessary. Dental Clinical Policy is provided for informational purposes and does not constitute medical advice. These Policies are available for general adoption by any lines of business for consistent review of the medical or dental necessity and/or appropriateness of care of dental services. To determine if a review is required, please contact the customer service number on the member's card.

No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, or otherwise, without permission from the Plan.