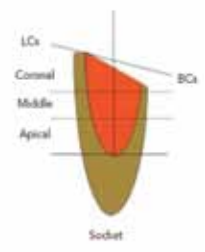
Preserve tissue volume in extraction sockets with Geistlich Bio-Oss® Collagen

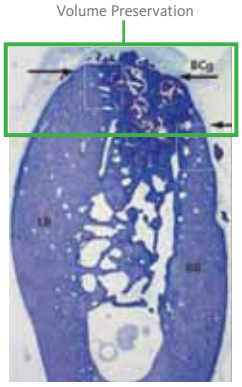
Excerpt from Araújo M., Linder E., Wennström J., Lindhe J. The influence of Bio-Oss Collagen on healing of an extraction socket: an experimental study in the dog. Int. J. Periodontics Restorative Dent. 2008 Apr; 28(2): 123-35.

Results

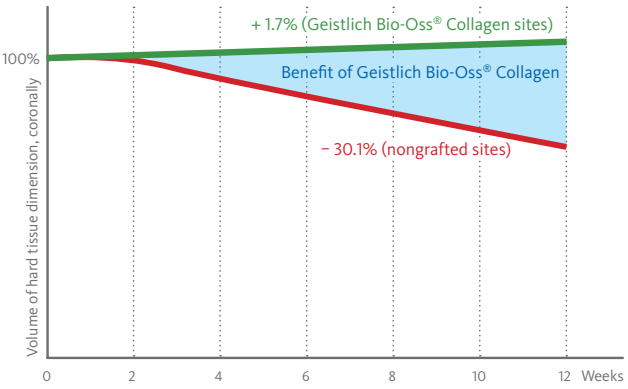


Schematic drawing (bucolingual view) illustrating measurements made to determine cross-sectional area of the apical, middle and coronal thirds of the socket.

LC: Lingual crest
BC: Buccal crest



With Geistlich Bio-Oss® Collagen: The marginal portion of this newly formed hard tissue was located coronal to the old bone crest.



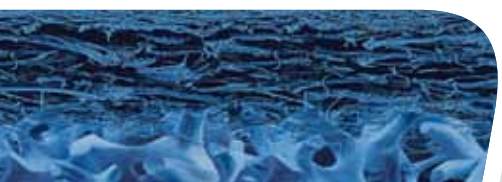
- **Socket without Geistlich Bio-Oss® Collagen:** At the marginal portion of the nongrafted sites, there was a marked reduction on the dimension of the ridge during the 3 months of healing. In comparison to the tooth site, about 30% of the surface area in this portion was lost.
- **Socket preservation with Geistlich Bio-Oss® Collagen:** In the Geistlich Bio-Oss® Collagen grafted sites, a reduction of the marginal hard tissue did not occur.

Study design

- 5 mongrel dogs
- P3 + P4 hemi-sected (mandible)
- Distal root removed
- Test: Socket Preservation with Geistlich Bio-Oss® Collagen; control: empty.
- Observation times: 12 weeks
- Histologies buccal to lingual

Conclusion

The presence of Geistlich Bio-Oss® Collagen promoted de novo hard tissue formation, particularly in the coronal region on the extraction site. Thus, the dimension of the hard tissue was maintained and the profile of the ridge was better preserved. The placement of a biomaterial – such as Geistlich Bio-Oss® Collagen – in an extraction socket may promote bone modelling and compensate, at least temporarily, for marginal ridge contraction.



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The Influence of Bio-Oss® Collagen on Healing of an Extraction Socket: An Experimental Study in the Dog

Araújo M., Linder E., Wennström J., Lindhe J. The influence of Bio-Oss Collagen on healing of an extraction socket: an experimental study in the dog. Int. J. Periodontics Restorative Dent. 2008 Apr; 28(2): 123-35.

Abstract

The objective of the present experiment was to evaluate the effect on hard tissue modeling and remodeling of the placemenet of a xenograft in fresh extraction socket in dogs. Five mongrel dogs were used. Two mandibular premolars (4P4) were hemisected in each dog, and the distal roots were carefully removed. In one socket, a graft consisting of Bio-Oss® Collagen was placed, whereas the contralateral site was left without grafting. After 3 months of healing, the dogs were euthanized and biopsies sampled. From each experimental site, four ground sections (two from the mesial root and two from the healed socket) were prepared, stained, and examined under the microscope. The presence of Bio-Oss® Collagen failed to inhibit the processes of modeling and remodeling that took place in the socket walls following tooth extraction. However, it apparently promoted de novo hard tissue formation, particularly in the cortical region of the extraction site. Thus, the dimension of the hard tissue was maintained and the profile of the ridge was better preserved. The placement of a biomaterial in an extraction socket may promote bone modeling and compensate, at least temporarily, for marginal ridge contraction.