

# Question and Answer:

## CALMATRIX® Calcium Sulfate Bone Graft Binder

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**Q:** How is the CALMATRIX Calcium Sulfate Bone Graft Binder used?

**A:** CALMATRIX should always be used with a bone graft material (autograft, allograft, alloplast or xenograft). After site preparation, select an appropriately sized package of CALMATRIX Binder to go with the quantity of bone graft material of choice to treat the defect size. Combine CALMATRIX with the appropriate amount of bone, add the syringe liquid provided in the CALMATRIX package and mix vigorously. Place the composite graft into the prepared defect site and suture the soft tissue flaps back in the usual manner or as dictated by clinical expertise. After placement of the composite graft, it is recommended to cover the defect with CALFORMA Calcium Sulfate Bone Graft Barrier, a Teflon-based membrane, or another preferred membrane.

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**Q:** Which types of maxillary and mandibular osseous and periodontal defects can I treat with CALMATRIX?

**A:** Intrabony/infrabony defects, furcation defects, recession defects, dehiscence/fenestration defects (natural teeth and prosthetic root-form implants), extraction socket (ridge preservation) defects, ridge augmentation defects, sinus lift defects and endodontic bony defects.

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**Q:** What is CALMATRIX made of?

**A:** CALMATRIX contains a formulation of surgical grade calcium sulfate alpha-hemihydrate, carboxymethylcellulose (CMC) and a mixing solution (sterile water). Alpha-hemihydrate calcium sulfate has a more uniform size, form and structure than less “pure” forms of calcium sulfate such as beta-hemihydrate. Carboxymethylcellulose is a semisynthetic water-soluble polymer that is odorless and nontoxic. CMC allows a CALMATRIX composite graft to maintain its shape and functionality.

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**Q:** What is the resorption rate of CALMATRIX?

**A:** CALMATRIX contains a formulation of surgical grade calcium sulfate alpha-hemihydrate, sodium carboxymethylcellulose and a hydrating solution. Histologic references provide evidence indicating calcium sulfate is completely resorbed by less than 8 weeks and carboxymethylcellulose is completely resorbed within 12 weeks<sup>2</sup>.

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**Q:** Can CALMATRIX be used by itself as a bone graft substitute to fill osseous or periodontal defects?

**A:** No. CALMATRIX is not intended for use by itself as a bone graft substitute. However, when CALMATRIX is mixed with a bone graft material, it will create a composite graft that improves the handling characteristics of the graft, restricts migration of bone graft particles and increases bone graft material volume, and is reported to enhance the bone regeneration process.

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**Q:** Does CALMATRIX need to be combined with a specific bone graft material?

**A:** No. One of the significant advantages of CALMATRIX is the opportunity for the clinician to combine it with their bone graft material (autograft, allograft, alloplast or xenograft) of choice. Please read the package instructions.

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**Q:** What's the difference between the composite graft created by mixing the calcium sulfate powder from the RESERVE (binder) cup of CAPSET with a bone graft material versus the composite graft created by mixing CALMATRIX with a bone graft material?

**A:** The CALMATRIX composite graft forms a putty-like material that allows for improved handling characteristics over using the RESERVE cup of CAPSET. The CALMATRIX composite can be manipulated and is easily-molded to conform to irregular defect contours. It also reduces potential migration of bone graft materials during the surgical procedure and subsequent healing process.

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1. Kim CK, Chai JK, Cho KS, Choi SH; “Effect of calcium sulphate on the healing of periodontal intrabony defects.” *International Dental Journal*, Vol 48, (3 Suppl 1), Jun 1998, p330-7.

2. Wang H, Springer ING, Schildberg H, Acil Y, Ludwig K, Rueger DR, Terheyden H. “Carboxymethylcellulose-stabilized collagenous rhOP-1 device – a novel carrier biomaterial for the repair of mandibular continuity defects.” *J Biomed Mater Res. (Wiley Periodicals, Inc.)*. Dec 2003; 68A: 219-226.