

Consil[®]

Consil synthetic bone graft material is a bioactive ceramic containing salts of calcium, sodium, silica, and phosphorus. It undergoes a time dependent surface reaction when implanted at the dental or orthopedic repair site. The surface reaction results in the formation of a calcium phosphate layer that is substantially equivalent to the hydroxyapatite layer found in bone mineral. Osteoblasts infiltrate and proliferate on the surface of the material, and bone growth occurs uniformly throughout the defect.

Consil material accelerates the healing process and research has shown that Consil's mechanisms of action include enhancing cell signaling and cell division necessary for facilitating bone regeneration and repair of bony defects.^{1,2} The Consil material is gradually replaced by new bone allowing complete repair of the bony defect.

Advantages of Consil Dental, Orthopedic and Putty products:

- Restore bone, contributing to patient comfort and well being
- Conform readily to the defect site
- Composed of materials naturally present in the body
- Begin to repair bony defects through new bone production within 4 weeks³
- Develop a bending strength and stiffness very similar to normal bone in 3 months
- Can be used in contaminated sites because of the physiological pH maintained which inhibits bacterial growth,^{4,5} though site should be flushed well to remove debris
- Minimize bleeding at the site and will not migrate due to hemostatic properties^{3,6}
- Multiple year shelf life

Available in 2.5 cc
and 10 cc



5 cc (2 cups - 2.5 cc per cup)

7 cc



Visit nutramaxlabs.com, vet portal, to watch the Consil Video showing the application of Consil products:

- In an orthopedic comminuted fracture
- With incisor and canine tooth extractions

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Radiographs provided courtesy of Robert B. Wiggs, D.V.M., Diplomate, American Veterinary Dental College.

For more information, or to order, call
Nutramax Laboratories, Inc, at (888) 886-6442.

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Caution: Federal law restricts this device to sale by,
or on the order of, a licensed veterinarian.

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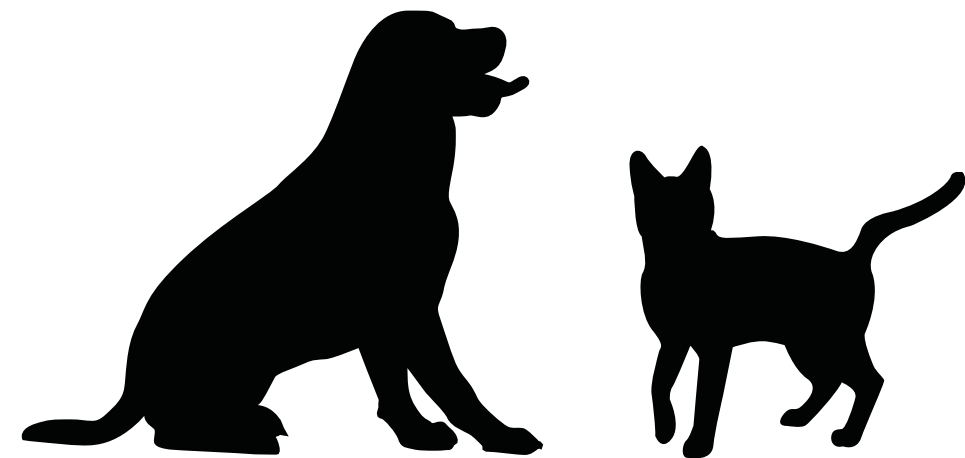
Consil[®]
DENTAL

Consil[®]
PUTTY

Consil[®]
ORTHOPEDIC

**Synthetic Bone Graft for
Dogs and Cats**

Particulate and putty formulations which provide a bone void filler that studies have shown improves the rate of bony growth while being resorbed and replaced with bone during the healing process





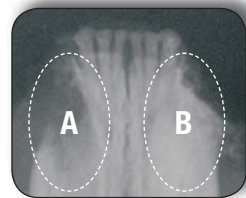
A unique bioactive ceramic that promotes the regeneration of bone lost due to periodontal disease and tooth extraction

What are the benefits of Consil Dental?

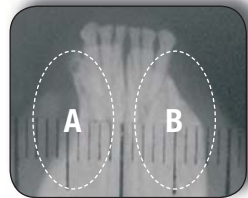
- Promotes new bone and periodontal ligament growth; forms a barrier to prevent epithelial cells from growing down into the repair site.⁶
- Maintains the height and width of the alveolar ridge
- Restores bone, contributing to patient comfort
- Conforms readily to the defect site
- Reduces cost even in large or multiple extraction site defects since most procedures use less than one 2.5 cc cup



1. Dental radiograph of feline mandible following extraction of both lower canine teeth.



2. Canine tooth alveolus on the left (A) not filled. Canine tooth alveolus on right (B) filled with Consil® Dental synthetic bone graft.



3. Dental radiograph 6 months later: extensive bone resorption has taken place on the left (A) unfilled side. The right side (B) filled with Consil® Dental maintained its thickness with normal, healthy bone.

Where to use Consil Dental:

- Tooth extraction sites
- Bone loss due to periodontal disease
- Infrabony defects caused by periodontal disease or bone cysts
- Fractures of the mandible when bone graft material is needed

How to use Consil Dental:

Consil Dental can be applied to the bony defect by creating a granular paste or by pouring the dry particulate directly into a blood filled site. To create the paste, mix it preferably with the patient's blood, or with sterile saline. Then, gently pack the paste or material into the extraction site or periodontal bone with a spatula or root elevator.

All Consil forms (particulate and putty) do not harden like a cement: therefore, they must be protected with a surgical flap.



The same bone graft particulate found in Consil Dental and Orthopedic, with all of the osteoconductive and osteostimulative properties, premixed with a synthetic, absorbable binder for improved handling and adaptability

Indications for both dental and orthopedic use:

DENTAL APPLICATIONS:

- Infrabony pockets caused by periodontal disease
- Tooth extraction sites
- Endodontic-periodontic lesions
- Traumatic defects or intraosseous flaws related to pulpal floor or lateral root perforations

ORTHOPEDIC APPLICATIONS:

- Long bone multiple or comminuted fracture repair
- Osteotomy sites
- Delayed unions/nonunions
- Arthrodesis
- To fill defects from cysts, tumors or screw removal
- Anywhere an autogenous bone graft would be used

APPLICATION RESULTS:

	Particulate		Putty		Empty	
	6 wk	12 wk	6 wk	12 wk	6 wk	12 wk
% New Bone	26.98	47.32	42.00	51.38	1.20	5.18
% Residual Graft	31.08	22.50	33.55	21.12	NA	NA

(Sheep intravertebral defect model: Data on file)

- At 6 weeks % new bone growth is significantly higher for Putty versus Particulate and Empty Sites
- At 6 weeks there is no statistical difference in the volume of residual graft material between Particulate and Putty
- At 12 weeks new bone growth seen with Putty is statistically significantly higher than Particulate and Empty Sites
- At 12 weeks, there is no statistical difference in the volume of residual graft material between Particulate and Putty

How to use Consil Putty:

Ready to use (no mixing or other prep needed) - just apply to surgical site. Non-hardening putty consistency makes graft material very easy to handle and mold to surgical site.



Synthetic bone graft particulate packaged for sterile field use in orthopedic procedures – can be used wherever bone graft material is needed

What are the benefits of Consil Orthopedic?

- Ease of use: The only additional steps necessary to your surgical routine are to mix with patient's blood or sterile saline and apply Consil Orthopedic to the repair site.
- No harvesting of autogenous graft from second site required:
 - No pain for patient at a second surgical site
 - Less time under anesthesia for patient; therefore, less potential for anesthetic complications
 - Less surgical preparation time
 - Less surgical time
- In cases requiring the use of an autogenous bone graft, e.g., with large volume (greater than 14 cc) defects, the addition of Consil Orthopedic will reduce the amount of autogenous graft needed^{7,8}
- Material is hemostatic^{3,6,9}
 - With bleeding minimized at the site, material does not migrate from the surgical site
- Improves the rate of osseous growth^{2,3,10,11}
- Bacteriostatic properties^{4,5,12}
- Synthetic material and therefore no risk of disease transmission

Where to use Consil Orthopedic:

It can be used wherever bone graft material is needed:

- Long bone multiple or comminuted fractures
- Joint arthrodesis
- Nonunions
- Delayed unions
- Osteotomies
- Osseous cavities as a result of cysts, tumors or screw removal

How to use Consil Orthopedic:

Prepare material: Mix Consil Orthopedic preferably with patient's blood or with sterile saline to a granular paste consistency just before application. Add approximately 2.8 mL of fluid to one 7 cc cup of Consil Orthopedic and mix to moisten uniformly, forming a paste.

Apply at repair site: Place the paste in the site gently (do not compress). Consil Orthopedic should fill the defect and be in contact with viable bone as much as possible. Do not blot away the blood/moisture at the site as the blood contains the cells and growth factors necessary to assist in bone formation.