

Osteoallograft™ Orthomix™

Real Bone Allograft. Naturally Osteoinductive.™



**Real bone allograft
now brought to you.**

Veterinary Transplant Services, Inc. (VTS) is the world's first animal tissue bank. We provide you with animal bone and soft tissue allografts for animal use. Using professionally-procured bone allograft saves you from having to procure the patient's own bone when bone material is needed. This decreases your OR time & cost and spares the patient a second operative site.

Orthopedic surgeons in human medicine have been confidently using bone allografts for decades. As a veterinary version of a human tissue bank, we bring this significant medical advancement to veterinarians and are proud of having been doing so successfully since 1996.

Why graft?

Fills voids.

Filling voids with bone graft will make your fracture repairs, TTA's and TPLO's, arthrodesis and other cases heal faster.¹⁻³

Increases surface area.

Even when there are no voids after realigning a fracture or performing a TPLO, the usage of bone graft accelerates healing because it increases surface area for bone to grow on and more BMPs are on site.

Increases chances of a successful healing outcome.

Filling voids and increasing surface area accelerate healing and with it increase the chances of a successful outcome of your case.¹⁻³

Reduced OR time and cost.

Using bone allograft allows you to skip autograft harvesting, which reduces your surgical time and cost.⁴

Osteoinductive and proven.

Studies show that allografts are as effective as autograft in bone healing.^{1,5,6} Bone allograft is the only alternative to autograft that is both osteoinductive and osteoconductive. Both properties are needed for optimal bone healing.⁷

Increased availability and no donor site complications.

Bone allograft eliminates restrictions caused by limited availability of bone autograft. In many cases, usage of larger amounts of bone graft results in faster and better bone healing.³ Allografts also eliminate donor site complications. In humans, the morbidity rate associated with the collection of bone autograft is over 25%.⁸

Why use allograft?

The Osteoallograft™ Orthomix™ consists of osteoinductive Demineralized Bone Matrix (DBM) and osteoconductive cancellous chips. ▶

Use Osteoallograft™ Orthomix™ for:

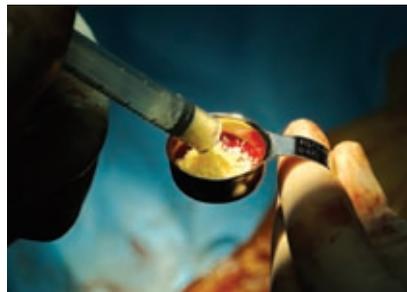
- ▶ Fracture repair
- ▶ Mal- or non-union cases
- ▶ Arthrodesis procedures
- ▶ Bone loss
- ▶ TTAs and TPLOs ^{1,9}
- ▶ Any other application where bone graft is required



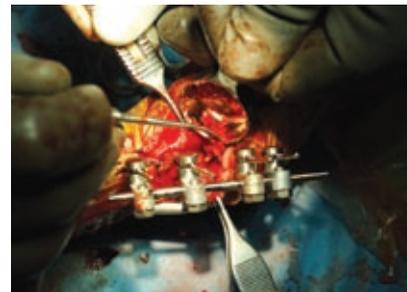
Easy To Use: ▼



Rehydrate graft with saline. If using frozen graft, rehydration is not necessary.



Mix Osteoallograft™ Orthomix™ with patient blood or bone marrow.



Apply to surgical site.



When working in a vascular site, grafts can be applied directly out of the syringe.

No graft

Bone
Substitute

Autograft

Real Bone
Osteoallograft

Orthomix™
Standard

Easy to use



Osteoconductive



Osteoinductive



Osteogenic



Pre-demineralized for immediate access to growth factors



No harvesting necessary



 While autograft has the advantage of being osteogenic, allograft is demineralized before it is placed into the surgery site allowing for immediate access to growth factors. This offsets the advantage of osteogenicity and helps to make allograft as effective as autograft.^{1,5,6}

 Not having to procure autograft reduces your surgery time and cost. And you avoid the potential morbidity associated with autograft procurement.⁴ Because allograft is as effective as autograft and makes graft harvest unnecessary, allograft is the grafting option of choice.^{1,5,6}

Orthomix™
Fine

High quality.

All VTS products are processed aseptically and meet USP guidelines for sterility. Immune reactions are not a significant concern, since VTS products are acellular, and processed by methods that have been shown to reduce immunogenicity; there is no need for any type of patient matching. Our stringent Quality Assurance Program provides confidence and consistency in our products.

From animals for animals.

All donor animals are provided to us by their owner after having been euthanized for unrelated reasons such as irreparable trauma or intractable aggression. Just like in human tissue banking, donor animals are donated to us for the noble cause of prolonging and improving the lives of others.

Readily available.

A shelf-life of 5 years for freeze-dried grafts and 6 months for frozen grafts allows you to conveniently keep your own inventory on-site. We ship the same day and offer expedited shipping for immediate needs.



References:

1. Hoffer M, Griffon D, Schaeffer D, Johnson A, Thomas M. Clinical applications of demineralized bone matrix: A retrospective and case-matched study of 75 dogs. *Vet Surg.* 37:639-647, 2008.
2. Kesemenli CC, Kapukaya A, Subasi M, Arslan H, Necmioglu S, Kayikci C. Early prophylactic autogenous bone grafting in type III open tibial fractures. *Acta Orthop Belg.* 70(4):327-31, 2004.
3. DeVries WJ, Runyon CL, Martinez SA, Ireland WP. Effect of volume variations on osteogenic capabilities of autogenous cancellous bone graft in dogs. *Am J Vet Res.* Oct 57(10):1501-1505, 1996.
4. St John TA, Vaccaro AR, Sah AP, Schaefer M, Berta SC, Albert TA, Hilibrand A. Physical and monetary costs associated with autogenous bone graft harvesting. *Am J Orthop.* Jan 32(1):18-23, 2003.
5. Samartzis D, Shen FH, Matthews DK, Yoon ST, Goldberg EJ, An HS. Comparison of allograft to autograft in multilevel anterior cervical discectomy and fusion with rigid plate fixation. *Spine J.* Nov-Dec 3(6): 451-9, 2003.
6. Piotrowski M, Pankowski R, Luczkiewicz P, Markowicz A. A comparison of the effect of autogenous vs. frozen homogenous grafts on the healing of non-union of forearm bones. *Ortop Traumatol Rehabil.* 10(2):146-51, 2008.
7. Griffon DJ, Dunlop DG, Howie CR, Gilchrist T, Salter DM, Healy DM. Early dissolution of a morsellised impacted silicate-free bioactive glass in metaphyseal defects. *J Biomed Mater Res (Applied Biomater).* 58(6):638-644, 2001
8. Younger EM, Chapman MW. Morbidity at bone graft donor sites. *J Orthop Trauma.* 3(3):192-195, 1989.
9. Lafaver S, Miller NA, Stubbs WP, Taylor RA, Boudrieau RJ. Tibial tuberosity advancement for stabilization of the canine cranial cruciate ligament-deficient stifle joint: Surgical technique, early results, and complications in 101 dogs. *Veterinary Surgery.* 36:573-586, 2007.

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