



# Allograft Surgical Solutions



## SAVING LIVES. RESTORING HEALTH. GIVING HOPE.

LifeNet Health's advanced allograft implants, technologies, and services that have improved allograft safety, clinical effectiveness, and ease of use — helping maximize efficiency in both patient care and cost.

As a non-profit organization, LifeNet Health is able to focus our energies and passion to our mission of saving lives and restoring health — not shareholders' concerns for the bottom line.

Our comprehensive portfolio allows healthcare systems to get more solutions from a single source, freeing resources to focus on providing the highest quality patient care.

Saving lives, restoring health, and giving hope. It's more than our mission. It's our sole motivation, made possible by the selfless gift of donation.

For nearly 40 years, LifeNet Health has led the industry in developing advanced allograft surgical solutions for patients around the world.

Our global presence represents our commitment to pairing unrelenting innovation with unsurpassed service. From clinical education to discoveries in cellular therapies, LifeNet Health stands as a center of excellence for allograft learning and innovation.



## COMPLETE ALLOGRAFT SOLUTIONS PROVIDER.

From spinal fusion to joint repair, LifeNet Health offers a solution for a vast range of surgical procedures. We are one of a select few tissue banks to prepare allografts for restoring circulation hampered by

vascular disease, and our record of providing high-quality grafts for spine, orthopedic and reconstructive surgeries means some of the world's leading surgical centers trust LifeNet Health to meet their needs.

### **AngioGRAFT®** Vascular Allografts

Available for managing vascular reconstruction.

### **CardioGRAFT®** Cardiac Allografts

Suitable for a wide variety of complex congenital heart defects, and valvular disease.

### **FlexiGRAFT®** Sports Medicine

FlexiGraft ligaments, tendons and bone are ideal for sports medicine applications.

### **ViviGEN®** Enhance Natural Healing

Cross-specialty bone void filler engineered to enhance bone regeneration.

### **ReadiGRAFT®** Cross-Specialty Allografts

Widely used for fracture management, general orthopedics, spine surgeries, and total joint arthroplasty.

### **ReadiGRAFT BLX®** Cross-Specialty Allografts

Surgical procedures that require versatile bone void filler.

### **DermACELL AWM®** Advanced Decellularized Dermis

Advanced decellularized dermis for surgical applications and wound management.

### **MatriGRAFT®** Structural Allografts

Durable grafts used for general orthopedics, fractures, total joint arthroplasty, and spine surgery.

### **PliaFX®** 100% Bone Osteobiologic

Recommended for surgical procedures that require a moldable bone void filler.

### **SymALIGN®** Foot Repair Allografts

High density grafts with the strength necessary for deformity correction.

### **MatrisPINE®** Spinal Allografts

Structural grafts available in many sizes and configurations to fit various spine surgery applications.

### **Optium®** Cross-Specialty Allografts

Surgical procedures that benefit from a ready-to-use bone void filler.

### **DermACELL®** Acellular Dermal Allografts

Supplements soft-tissue repairs in breast reconstruction.

### **ArthroFLEX®** Acellular Dermal Allografts

Supplements soft-tissue repairs in tendon repair and reconstruction.



# ReadiGRAFT BLX<sup>®</sup>

## DBM Fibers

**Clinical Overview** A proprietary mix of demineralized cortical fibers and mineralized cancellous chips engineered to encourage bone formation and healing.

**Applications** Surgical procedures that require a bone void filler

- Features & Benefits**
- **Malleable:** Conforms to the surgical site.
  - **Osteoconductive:** Large surface area and interconnected network of demineralized cortical fibers provides a scaffold that promotes cellular attachment and cell spreading.<sup>1,2</sup>
  - **Osteoinductive Potential:** Demonstrated presence of new bone elements in an athymic rodent model.<sup>2</sup>
  - **100% Bone:** No dilution of bone content.
  - **Customizable:** Easily mixes with autograft, allograft and/or fluid of surgeon's choice.
  - **Sterile:** Sterilized using proprietary Allowash XG<sup>®</sup> technology, providing a sterility assurance level of 10<sup>-6</sup> to reduce the risk of disease transmission without compromising the graft's osteoconductive properties or osteoinductive potential.<sup>3</sup>

*International use only. Not available in all markets.*



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Readigraft BLX DBM Fibers		
*Ambient Storage		
Volume	Order Code	Shelf Life
2.0 cc	DF-1002	3 Years
5.0 cc	DF-1003	3 Years
10.0 cc	DF-1006	5 Years
15.0 cc	DF-1004	5 Years
30.0 cc	DF-1005	5 Years

\*While ambient room temperature has not been defined by regulatory bodies, LifeNet Health would recommend storage at 2°C to 37°C with excursions of less than 24 hours up to 40°C. If an excursion outside this range occurs, please contact LifeNet Health.

Instructions for use available at [LifeNetHealth.org/IFU](http://LifeNetHealth.org/IFU)

#### References

1. Cornell C, Lane J. Current understanding of osteoconduction in bone regeneration. Clin Orthop Relat Res. 1998 Oct; (355 Suppl): S267-73.
2. Data on file at LifeNet Health. 68-20-181.
3. Eisenlohr, L.M. Allograft Tissue Sterilization Using Allowash XG® 2007 Bio-Implants Brief.

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# ReadiGRAFT®

## Cortical/Cancellous Chips

**Clinical Overview** A natural blend of cancellous and cortical bone that facilitates bone remodeling and space maintenance.

**Applications** Any surgical application that requires bone void filler

- Features & Benefits**
- **Osteoconductive:** Natural bone matrix facilitates cell attachment, proliferation, and vascular in-growth.
  - **Pre-Hydrated:** Allograft bio-implants featuring Preservon® are stored in a fully-hydrated state at ambient temperatures. Preservon eliminates thawing and re-hydration time, does not require freezer storage, and does not compromise the graft's inherent osteoconductive properties.<sup>1</sup>
  - **Sterile:** Sterilized using proprietary and patented Allowash XG® technology which provides a sterility assurance level of 10<sup>-6</sup>, without compromising the graft's inherent osteoconductive properties.<sup>2</sup>
  - **Versatile:** Available in grind sizes of 1-4 mm or 1-8 mm in multiple volumes to meet surgical needs.
  - **Absorbent:** Absorbs and retains bioactive fluids like blood, platelet rich plasma (PRP), and bone marrow aspirate (BMA).

- Alternative Grafts**
- ReadiGraft Cancellous Chips
  - MatriGraft® Femoral Head (Grinder)





## ReadiGraft Cortical/Cancellous Chips

\*Ambient Storage/5 Year Shelf Life

Grind Size	Volume	Freeze-Dried	Preservon
1-8mm	10	CC10	PCC10
	15		PCC15
	20	CC1/4	PCC1/4
	30	CC30	PCC30
	40	CC1/2	PCC1/2
	60	CC60	PCC60
	90	CC90	PCC90
Grind Size	Volume	Freeze-Dried	Preservon
1-4mm	15		PCC15 14
	30		PCC30 14
	60		PCC60 14
	90		PCC90 14

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Instructions for use available at [LifeNetHealth.org/IFU](https://www.lifenethealth.org/IFU)

### References

1. Samsell, B., Softic, D., Qin, X. et al. Preservation of allograft bone using a glycerol solution: a compilation of original preclinical research. *Biomater Res* 23, 5 (2019). <https://doi.org/10.1186/s40824-019-0154-1>.
2. Balsly CR, Cotter AT, Williams LA, Gaskins BD, Moore MA, Wolfinbarger L Jr. Effect of low dose and moderate dose gamma irradiation on the mechanical properties of bone and soft tissue allografts. *Cell Tissue Bank*. 2008;9(4):289-298. doi:10.1007/s10561-008-9069-0.





# OraGRAFT®

## Cortical Mineralized Particulate

**Clinical Overview** The OraGraft product line is comprised of hard and soft allograft implants generally used for sinus augmentation, craniofacial reconstruction and correction of periodontal and ridge defects.

- Applications**
- Periodontal Defects
  - Ridge Maintenance
  - Extraction Site Preservation
  - Sinus Grafting
  - Craniofacial Reconstruction

- Features & Benefits**
- **Highest Safety Level:** Sterile with an SAL of  $10^{-6}$ .
  - **Convenient Storage:** Ambient temperature with a three-year shelf life.
  - **Graft Incorporation:** Osteoconductive graft with dense architecture allows for healing through “creeping substitution.”
  - **Versatile:** Available in five size configurations.







## OraGraft Cortical Mineralized Particulate

Ambient Temperature\*/3 year shelf life

250 - 1000 microns

Sizes	Order Code
0.25 cc	GC1/20
0.50 cc	GC1/10
0.70 cc	GC1/8
1.20 cc	GC1/4
2.50 cc	GC

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Instructions for use available at [LifeNetHealth.org/IFU](https://www.lifenethealth.org/IFU)

### References

1. Roberts T, Rosenbaum A. Bone grafts, bone substitutes and orthobiologics: The bridge between basic science and clinical advancements in fracture healing. *Organogenesis* 8:4, 114-124; October/November/December 2012; 2012 Landes Bioscience.





# OraGRAFT®

## Cortical/Cancellous Mineralized Particulate (50/50 Mix)

### Clinical Overview

The OraGraft product line is comprised of hard and soft allograft implants generally used for sinus augmentation, craniofacial reconstruction and correction of periodontal and ridge defects.

### Applications

- Periodontal Defects
- Ridge Maintenance
- Extraction Site Preservation
- Sinus Grafting
- Craniofacial Reconstruction

### Features & Benefits

- **Increased Safety:** Sterile with an SAL  $10^{-6}$ .
- **Convenient Storage:** Ambient temperature with three-year shelf life.
- **Versatility:** Cortical and cancellous have unique properties.
- **Graft Incorporation:** Osteoconductive potential with a combination of open trabecular architecture and dense particles allows for healing through “creeping substitution.”





## OraGraft Cortical/Cancellous Mineralized Particulate (50/50 Mix)

Ambient Temperature\*/3 year shelf life

250 - 1000 microns

Size	Order Code
0.50 cc	C/CMix – 0.5
1.00 cc	C/CMix – 1.0
2.00 cc	C/CMix – 2.0

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### References

1. Roberts T, Rosenbaum A. Bone grafts, bone substitutes and orthobiologics: The bridge between basic science and clinical advancements in fracture healing. Organogenesis 8:4, 114-124; October/November/December 2012; 2012 Landes Bioscience.





# OraGRAFT<sup>®</sup>

## Cancellous Mineralized Powder

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**Clinical Overview** The OraGraft line is comprised of hard and soft allograft implants generally used for sinus augmentation, craniofacial reconstruction and correction of periodontal and ridge defects.

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- Applications**
- Periodontal Defects
  - Ridge Maintenance
  - Extraction Site Preservation
  - Sinus Grafting
  - Craniofacial Reconstruction
- 

- Features & Benefits**
- **Increased Safety:** Sterile with an SAL 10<sup>-6</sup>.
  - **Convenient Storage:** Ambient temperature with three-year shelf life.
  - **Graft Incorporation:** Osteoconductive potential with a combination of open trabecular architecture and dense particles allows for healing through “creeping substitution.”
- 





## OraGraft Cancellous Mineralized Powder

Ambient Temperature\*/3 year shelf life

250 - 1000 microns

Size	Order Code
0.50 cc	OCAN-0.5A
1.00 cc	OCAN-1.0A
2.00 cc	OCAN-2.0A

1000 - 2000 microns

Size	Order Code
0.50 cc	OCAN-0.5B
1.00 cc	OCAN-1.0B
2.00 cc	OCAN-2.0B

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Instructions for use available at [LifeNetHealth.org/IFU](https://www.lifenethealth.org/IFU)





# OraGRAFT®

## Cortical Demineralized Particulate

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### Clinical Overview

The OraGraft product line is comprised of hard and soft allograft implants generally used for sinus augmentation, craniofacial reconstruction and correction of periodontal and ridge defects.

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### Applications

- Periodontal Defects
  - Ridge Maintenance
  - Extraction Site Preservation
  - Sinus Grafting
  - Craniofacial Reconstruction
- 

### Features & Benefits

- **Highest Safety Level:** Sterile with an SAL of  $10^{-6}$ .
  - **Convenient Storage:** Ambient temperature with a three-year shelf life.
  - **Promotes Rapid Healing:** Osteoinductive potential enabled through PAD® technology that targets optimal residual calcium level 1-4%.
  - **Versatile:** Available in five size configurations.
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## OraGraft Cortical Demineralized Powder

Ambient Temperature\*/3 year shelf life

250 - 1000 microns

Size	Order Code
0.25 cc	DGC1/20
0.50 cc	DGC1/10
0.70 cc	DGC1/8
1.20 cc	DGC1/4
2.50 cc	DGC

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# OraGRAFT<sup>®</sup> MD 70/30

## Clinical Overview

OraGraft MD 70/30 is a particulate bone graft combining 70% mineralized ground cortical with 30% demineralized ground cortical. The combination leverages the benefits of space maintenance with ground cortical with the osteoinductive potential of demineralized ground cortical. This combination has been shown in studies to provide a favorable environment for the regeneration of vital bone.<sup>1-5</sup>

## Features & Benefits

- **Convenient:** 70/30 mix reduces time to blend grafts chair-side and minimizes the need to carry multiple graft types in inventory.
- **Sterile:** Sterilized using patented and proprietary Allowash XG<sup>®</sup> technology, which provides a sterility assurance level (SAL) of 10<sup>-6</sup>, without compromising the graft's inherent osteoconductive properties.<sup>6</sup>
- **Packaging:** Double-barrier sterile packaged for aseptic delivery to the sterile field.
- **Osteoconductive:** Natural bone matrix facilitates cell attachment and proliferation as well as vascular in-growth.
- **Osteoinductive Potential:** Demineralized using proprietary PAD<sup>®</sup> technology that targets optimal residual calcium levels of 1-4% without compromising the graft's inherent osteoconductive properties or osteoinductive potential.<sup>7-10</sup>







## OraGRAFT MD 70/30

250-1000 microns

Ambient Temperature Storage\* (10°C - 37°C) / 3 Year Shelf Life

Size	Order Code
0.5 cc	MD050
1.0 cc	MD010
2.0 cc	MD020

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Instructions for use available at [LifeNetHealth.org/IFU](http://LifeNetHealth.org/IFU)

### References

- Histologic healing following tooth extraction with ridge preservation using mineralized versus combined mineralized-demineralized freeze-dried bone allograft: a randomized controlled clinical trial. Borg TD, Mealey BL. J Periodontol. 2015 Mar;86(3):348-55. doi: 10.1902/jop.2014.140483. Epub 2014 Nov 21. PMID: 25415247 Conclusion: "Combination allograft results in increased vital bone formation while providing similar dimensional stability of the AR compared to FDBA alone in AR preservation." AR = Alveolar Ridge.
- Extraction site preservation using new graft material that combines mineralized and demineralized allograft bone: a case series report with histology. Holtzclaw D. Compend Contin Educ Dent. 2014 Feb;35(2):107-12; quiz 112. PMID: 24571560 Abstract: "The results of this case series suggest that blended bone allograft containing a 70 to 30 ratio of mineralized to demineralized cortical bone particles can be successfully used to facilitate future placement of dental implants with as little as 14 weeks of healing."
- Semin Arthroplasty. 1993 Apr;4(2):58-63. The biology of bone grafts. Goldberg VMI, Stevenson S. PMID: 10148544 Extract: "Cortical grafts, whether autogeneic or allogeneic, at least initially act as weight-bearing space fillers"
- J Periodontol. 1997 Nov;68(11):1085-92. Effect(s) of the demineralization process on the osteoinductivity of demineralized bone matrix. Zhang M1, Powers RM Jr, Wolfinbarger L Jr. PMID: 9407401 Extract: "...bone demineralized to levels of approximately 2% residual calcium provided for maximum osteoinductive potential in both assay systems."
- J Periodontol. 2016 Sep;87(9):1022-9. doi: 10.1902/jop.2016.160139. Epub 2016 Apr 30. Effect of Healing Time on New Bone Formation After Tooth Extraction and Ridge Preservation With Demineralized Freeze-Dried Bone Allograft: A Randomized Controlled Clinical Trial. Whetman J1, Mealey BL1. PMID: 27133791 Conclusion: "This study indicates significantly greater new vital bone formation occurs after tooth extraction and ridge preservation with DFDBA when sites healed for 18 to 20 weeks compared with 8 to 10 weeks prior to dental implant placement"
- Independent sources include the Virginia Commonwealth University Medical Center and the American Association of Mechanical Engineers. Data of file at LifeNet Health.
- Zhang M, Powers R, Wolfinbarger L. (1997). Effect(s) of demineralization process on the osteoinductivity of demineralized bone matrix. J Periodontol, 68:1085-1092.
- Turonis JW, McPherson JC 3rd, Cuening MF. (2006). The affects of residual calcium in decalcified freeze-dried bone allograft in a critical-sized defect in the Rattus norvegicus calvarium. J Oral Implantol. 32(2), 55-62.
- Herold RW, Pashley DH, Cuening MF. (2002). Effects of varying degrees of allograft decalcification on the cultured porcine osteoclast cells. J Periodontol, 72(2), 213-219.
- Mott DA, Mailhot J, Cuenin MF, Sharawy M, Borke J. (2002). Enhancement of osteoblast proliferation in vitro by selective enrichment of demineralized freeze-dried bone allograft with specific growth factors. J Oral Implantol, 28(2), 57-66.





# OraGRAFT<sup>®</sup>

## Cancellous Blocks and Cubes

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**Clinical Overview** The OraGraft product line is comprised of hard and soft allograft implants generally used for sinus augmentation, craniofacial reconstruction and correction of periodontal and ridge defects.

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- Applications**
- Ridge Maintenance (Horizontal & Vertical Augmentation)
  - Craniofacial Reconstruction
- 

- Features & Benefits**
- **Increased Safety:** Sterile with an SAL 10<sup>-6</sup>.
  - **Convenient Storage:** Ambient temperature with five-year shelf life.
  - **Ease of Use:** Can be affixed to surgical site using standard bone screws
  - **Rapid Remodeling:** Solid cancellous bone allows for space maintenance and rapid remodeling due to trabecular architecture.
  - **Match to Defect:** Easy to trim, can be shaped using standard instrumentation.
- 





## OraGraft Cancellous Blocks and Cubes

Ambient Storage\*/5 Year Shelf Life

Size	Order Code
10 x 10 x 10 mm	CANCUBE1
15 x 15 x 15 mm	CCUBE-01
15 x 15 x 8 mm	CCUBE-02
15 x 30 x 8 mm	CCUBE-03

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Instructions for use available at [LifeNetHealth.org/IFU](https://www.lifenethealth.org/IFU)





# OraGRAFT<sup>®</sup>

## Bi-Cortical Ilium Strips

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**Clinical Overview** The OraGraft product line is comprised of hard and soft allograft implants generally used for sinus augmentation, craniofacial reconstruction and correction of periodontal and ridge defects.

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- Applications**
- Ridge Maintenance
  - Craniofacial Reconstruction
- 

- Features & Benefits**
- **Increased Safety:** Sterile with an SAL 10<sup>-6</sup>.
  - **Convenient Storage:** Ambient temperature with five-year shelf life.
  - **Easy of Use:** Can be affixed to surgical site using standard bone screws, easily trimmed using standard instrumentation to expose cancellous located within cortical plates.
- 





## OraGraft Bi-Cortical Ilium Strips

Ambient Temperature\*/5 Year Shelf Life

Size	Freeze-Dried	Preservon
15 x 20 mm	IS SML	ISP SML
15 x 30 mm	IS MED	ISP MED
20 x 40 mm	IS	ISP

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# OraGRAFT™

## Unicortical Block

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**Clinical Overview** The OraGraft portfolio is comprised of allograft implants generally used for sinus augmentation, craniofacial reconstruction and correction of periodontal and ridge defects.

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**Applications** Alveolar Ridge Augmentation

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- Features & Benefits**
- **Safety:** Sterile with a Sterility Assurance Level (SAL) of  $10^{-6}$ .
  - **Convenient Storage:** Ambient temperature with 5 year shelf life stored with LifeNet Health's proprietary Preservon® technology.
  - **Ease of Use:** Can be affixed to surgical site using standard bone screws.
  - **Optimal Remodeling:** Cortico/Cancellous blocks allow for space maintenance and remodeling due to trabecular architecture.
  - **Match to Defect:** Easy to trim, can be shaped using standard instrumentation.
- 





## OraGRAFT Unicortical Block

**Ambient Temperature Storage (10°C - 37°C), 5 year shelf life**

Size	Order Code
10 x 15 x 8 mm	UB101508
10 x 25 x 8 mm	UB102508

Instructions for use available at [LifeNetHealth.org/IFU](https://www.lifenethealth.org/IFU)



# OraGRAFT<sup>®</sup>

## Cortical Plate

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### Clinical Overview

The shell technique involves using a thin plate of cortical bone, secured to host bone with at least two osteosynthesis screws, to create a biologic container that maintains the necessary space for bone graft particulates. The cortical plate functions as a stable, slowly resorbed material that can be used as a substitute for autologous bone recovered from the mandibular shelf, eliminating the need for a second surgical site.

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### Applications

Procedures utilizing the shell technique

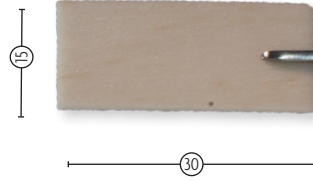
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### Features & Benefits

- **Convenience:** Ready to use out of the package, no need for rehydration. The graft is preserved using LifeNet Health's proprietary Preservon<sup>®</sup> technology to maintain it in a hydrated state. Preservon-treated grafts have been shown to have strength similar to that of frozen grafts and greater than freeze-dried grafts.<sup>1</sup>
  - **Safety:** Sterilized using patented and proprietary Allowash XG<sup>®</sup> technology, which provides a Sterility Assurance Level (SAL) of 10<sup>-6</sup> without compromising the graft's inherent osteoconductive properties.<sup>2</sup> No need for a second surgical site, which can eliminate the risk of donor-site morbidity and/or infection.
  - **Osteoconductive:** Natural bone matrix facilitates cell attachment and proliferation.
- 







OraGraft Cortical Plate	
Ambient Temperature*/5 Year Shelf Life	
Volume	Order Code
30 x 15 x 1	CP301501

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**References**

1. Independent sources include the Virginia Commonwealth University Medical Center and the American Association of Mechanical Engineers. Data on file at LifeNet Health, Virginia Beach, VA. Technical Report #TR-0216.
2. Eisenlohr LM. "Allograft Tissue Sterilization Using Allowash XG®". 2007 Bio-Implants Brief. (#68-0089)
3. Khoury F. (2017) Augmentation of severe bony defects with intraoral bone grafts: biological approach and long-term results. <http://dx.doi.org/10.1016/j.jiom.2017.02.099>
4. Khoury F. and Hanser T. (2015) Mandibular bone block harvesting from the retromolar region: a 10-year prospective clinical study. *Int J Oral Maxillofac Implants*. 2015 May-Jun;30(3):688-97. doi: 10.11607/jomi.4117
5. Peck MT (2015) Alveolar Ridge Augmentation Using the Allograft Bone Shell Technique *J Contemp Dent Pract* 2015; 16 (9): 768-773
6. Pendarvis WT, Sandifer JB. (2008) Localized ridge augmentation using a block allograft with subsequent implant placement: A case series. *Int J Periodontics Restorative Dent*. 2008 Oct;28(5):509-515.
7. Wallowy P, Dorow A. (2012) Lateral Augmentation of the Maxilla and Mandible Using Framework Technique With Allogenic Bone Grafts. *Journal of Oral Implantology*, Dec 2012, Vol 38 No. 2: 661-668





# OrACELL®

## Acellular Dermis

**Clinical Overview** An acellular dermal matrix used for soft tissue reconstruction in periodontal defects and ridge preservation.

- Applications**
- Guided Bone Regeneration: Extraction Socket, Ridge Augmentation, Sinus Augmentation
  - Soft Tissue: Root Coverage, Insufficient Attached Gingiva

- Features & Benefits**
- **Safe** – Sterile, with a Sterility Assurance Level (SAL) of  $10^{-6}$ .
  - **Decellularized** – Uses Matracell® technology to remove DNA and cellular remnants to decrease likelihood of an immune response.
  - **Biocompatible** – ≥ 97% of DNA removed and retains natural growth factors, collagen and elastin.
  - **No re-hydration needed** – Supplied pre-hydrated, ready-to-use.
  - **Convenient storage** – Room temperature (15°C to 30°C).





## Oracell Acellular Dermis

\*Ambient Storage

Thickness (mm)	Size (mm)	Order Code	Shelf Life
0.76 - 1.25	1.0 x 1.0	OCELL 150	18 Months
	1.0 x 4.0	OCELL 151	18 Months
	1.5 x 2.0	OCELL 100	18 Months
	2.0 x 4.0	OCELL 101	3 Years
1.26 - 1.75	1.0 x 1.0	OCELL 250	18 Months
	1.0 x 4.0	OCELL 251	18 Months
	1.5 x 2.0	OCELL 200	18 Months
	2.0 x 4.0	OCELL 201	3 Years

\*While ambient room temperature has not been defined by regulatory bodies, LifeNet Health would recommend storage at 2°C to 37°C with excursions of less than 24 hours up to 40°C. If an excursion outside this range occurs, please contact LifeNet Health.

Instructions for use available at [LifeNetHealth.org/IFU](https://www.lifenethealth.org/IFU)



# OraGRAFT<sup>®</sup> Prime

## Clinical Overview

OraGraft Prime is 100% bone fibers, demineralized to encourage bone formation and healing. The fibers interlock, allowing the graft to become moldable upon rehydration without the use of a carrier.

## Applications

Surgical procedures that require a bone void filler

## Features & Benefits

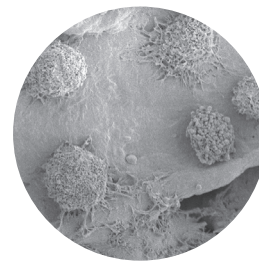
- **100% Bone:** Facilitates natural remodeling during the bone healing process (no human, xenograft or synthetic carriers).
- **Osteoconductive:** The large surface area and interconnected network of demineralized cortical fibers provides a scaffold that promotes cellular attachment and cell spreading.<sup>2</sup>
- **Osteoinductive Potential:** Optimally demineralized by LifeNet Health's patented and proprietary PAD<sup>®</sup> technology to expose natural growth factors.<sup>3-7</sup>
- **Versatile:** Moldable upon rehydration to conform to the surgical site.
- **Resists Migration:** Interlocking fibers allow graft to remain intact and in place.
- **Safety:** Sterilized using proprietary and patented technology, providing a sterility assurance level of  $10^{-6}$  to reduce the risk of disease transmission without compromising the graft's inherent osteoconductive properties or osteoinductive potential.<sup>8</sup>
- **Convenience:** Ambient storage and rapid rehydration.



100% bone fibers



Moldable upon rehydration



Hospitable environment for bone growth  
(cell attachment at one hour)



## OraGraft Prime

Freeze-dried (10°C to 30°C)

Volume	Order Code	Shelf Life
0.5 cc	DF-1007	4 years
1.0 cc	DF-1008	4 years
2.5 cc	DF-1009	5 years

Instructions for use available at [LifeNetHealth.org/IFU](https://www.lifenethealth.org/IFU)

### References

1. Boyan BD, Ranly DM, McMillan J, et al. Osteoinductive Ability of Human Allograft Formulations. *J Periodontol*. September 2006
2. Murphy MB, Suzuki RK, Sand TT, et al. Short term culture of mesenchymal stem cells with commercial osteoconductive carriers provides unique insights into biocompatibility. *J Clin. Med.* 2013; 2,49-66; doi:10.3390/jcm2030049
3. Zhang M, Powers RM, and Wolfinbarger L. Effect(s) of the demineralization process on the osteoinductivity of demineralized bone matrix. *J Periodontol*. 1997; 68:1085-1092
4. Turonis JW, McPherson JC 3rd, Cuenin MF, et al. The effect of residual calcium in decalcified freeze-dried bone allograft in a critical-sized defect in the *Rattus norvegicus* calvarium. *J Oral Implantol*. 2006; 32(2):55-62
5. Herold RW, Pashley DH, Cuenin MF, et al. The effects of Varying degrees of Allograft Decalcification on Cultured Porcine Osteoclast cells. *J Periodontol*. 2002 Feb; 73(2):213-9
6. Mott DA, Mailhot J, Cuenin MF, et al. Enhancement of osteoblast proliferation in vitro by selective enrichment of demineralized freeze-dried bone allograft with specific growth factors. *J Oral Implantol*. 2002; 28(2):57-66
7. Pietrzak WS, Ali SN, Chitturi D, et al. BMP depletion occurs during prolonged acid demineralization of bone: characterization and implications for graft preparation. *Cell Tiss. Bank*. 2007 (Published on line)
8. Eisenlohr LM. "Allograft Tissue Sterilization Using Allowash XG (R)." 2007 Bio-Implants Brief.





# OraGRAFT® Endure

## Moldable Demineralized Fibers with Cancellous

### Clinical Overview

OraGraft Endure is comprised of two components (1) bone fibers which are demineralized to encourage bone formation and healing and (2) cancellous particulate (250-1000 microns) which allows for improved space maintenance. The bone fibers interlock, allowing the graft to become moldable upon rehydration without the use of a carrier.

### Applications

Surgical procedures that require bone void filler

### Features & Benefits

- **100% Bone:** Facilitates natural remodeling during the bone healing process (no human, xenograft or synthetic carriers).
- **Osteoconductive:** The large surface area and interconnected network of demineralized cortical fibers provides a scaffold that promotes cellular attachment and cell spreading, with the added benefit of space maintenance from the cancellous component.<sup>1</sup>
- **Osteoinductive Potential:** Optimally demineralized by LifeNet Health's patented and proprietary PAD® technology to expose natural growth factors.<sup>2-6</sup>
- **Versatile:** Moldable upon rehydration to conform to the surgical site.
- **Resists Migration:** Interlocking fibers allow graft to remain intact and in place.
- **Safety:** Sterilized using proprietary and patented technology, providing a sterility assurance level of  $10^{-6}$  to reduce the risk of disease transmission without compromising the graft's inherent osteoconductive properties or osteoinductive potential.<sup>7</sup>
- **Convenience:** Ambient storage and rapid rehydration.





## OraGraft Endure

Ambient Storage\*/4 Year Shelf Life

Volume	Order Code
0.5 cc	DFC-1007
1.0 cc	DFC-1008
2.5 cc	DFC-1009

\*While ambient room temperature has not been defined by regulatory bodies, LifeNet Health would recommend storage at 2°C to 37°C with excursions of less than 24 hours up to 40°C. If an excursion outside this range occurs, please contact LifeNet Health.

Instructions for use available at [LifeNetHealth.org/IFU](https://www.lifenethealth.org/IFU)

### References

1. Murphy MB, Suzuki RK, Sand TT, et al. Short term culture of mesenchymal stem cells with commercial osteoconductive carriers provides unique insights into biocompatibility. *J Clin. Med.* 2013; 2:49-66; doi:10.3390/jcm2030049
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7. Eisenlohr LM. "Allograft Tissue Sterilization Using Allowash XG®". 2007 Bio-Implants Brief.





LifeNet Health helps to save lives, restore health and give hope to thousands of patients each year. We are the world's most trusted provider of transplant solutions, from organ procurement to new innovations in bio-implant technologies and cellular therapies — a leader in the field of regenerative medicine, while always honoring the donors and healthcare professionals that allow the healing process.

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