



# Your Clinical Success with Our Proven Bone Substitutes

Geistlich Bio-Oss®

Geistlich Bio-Oss Collagen®

Geistlich Bio-Oss Pen®

vallos®

vallos®f

leading regeneration

**Geistlich**



# The Ideal Biomaterials for New Bone

Today, our extensive product portfolio of xenografts and allografts deliver regenerative excellence for your expanding treatment possibilities.

## Geistlich Bio-Oss® is the leading xenogeneic bone substitute in regenerative dentistry worldwide<sup>1,2</sup>

The osteoconductive properties of Geistlich Bio-Oss® lead to effective and predictable bone regeneration.<sup>3,5</sup> The xenograft material becomes fully integrated into living bone over time to maintain space and preserve regenerative volume.<sup>6,7</sup>



### Our xenograft portfolio includes:

- › Geistlich Bio-Oss®
- › Geistlich Bio-Oss Collagen®
- › Geistlich Bio-Oss Pen®

### Combination Products

- › Geistlich Combi-Kit Collagen
- › Geistlich Perio-System Combi-Pack

## Geistlich Bio-Oss® for long-term volume stability

- › Osteoconductive and cell friendly structure
- › Applicable in a wide range of therapeutic areas
- › Extensive clinical evidence



Scan for more information  
on Geistlich Bio-Oss®

## vallos®: the optimal allograft scaffold

vallos® allografts are natural bone graft substitutes, which due to the preservation of inherent biological properties, provides the optimal characteristics and scientific properties required for bone formation.<sup>8</sup> With our comprehensive allograft portfolio, you can be assured of the versatility required to meet your regenerative needs.

## vallos® for rapid turnover of new bone

- › 100% bone with no synthetic carrier
- › Osteoconductive and cell friendly structure
- › Osteoinductive\*
- › vallos®f fibers contain 100% demineralized bone, while retaining a putty-like consistency that is packable and conforms to the shape of the defect

\* demineralized products



### Flexibility to meet your clinical needs:

- › vallos® mineralized cortical allografts
- › vallos® mineralized cancellous allografts
- › vallos® mineralized cortico-cancellous allografts
- › vallos® demineralized cortical allografts
- › vallos® demineralized cortico-cancellous allografts
- › vallos®f demineralized fibers



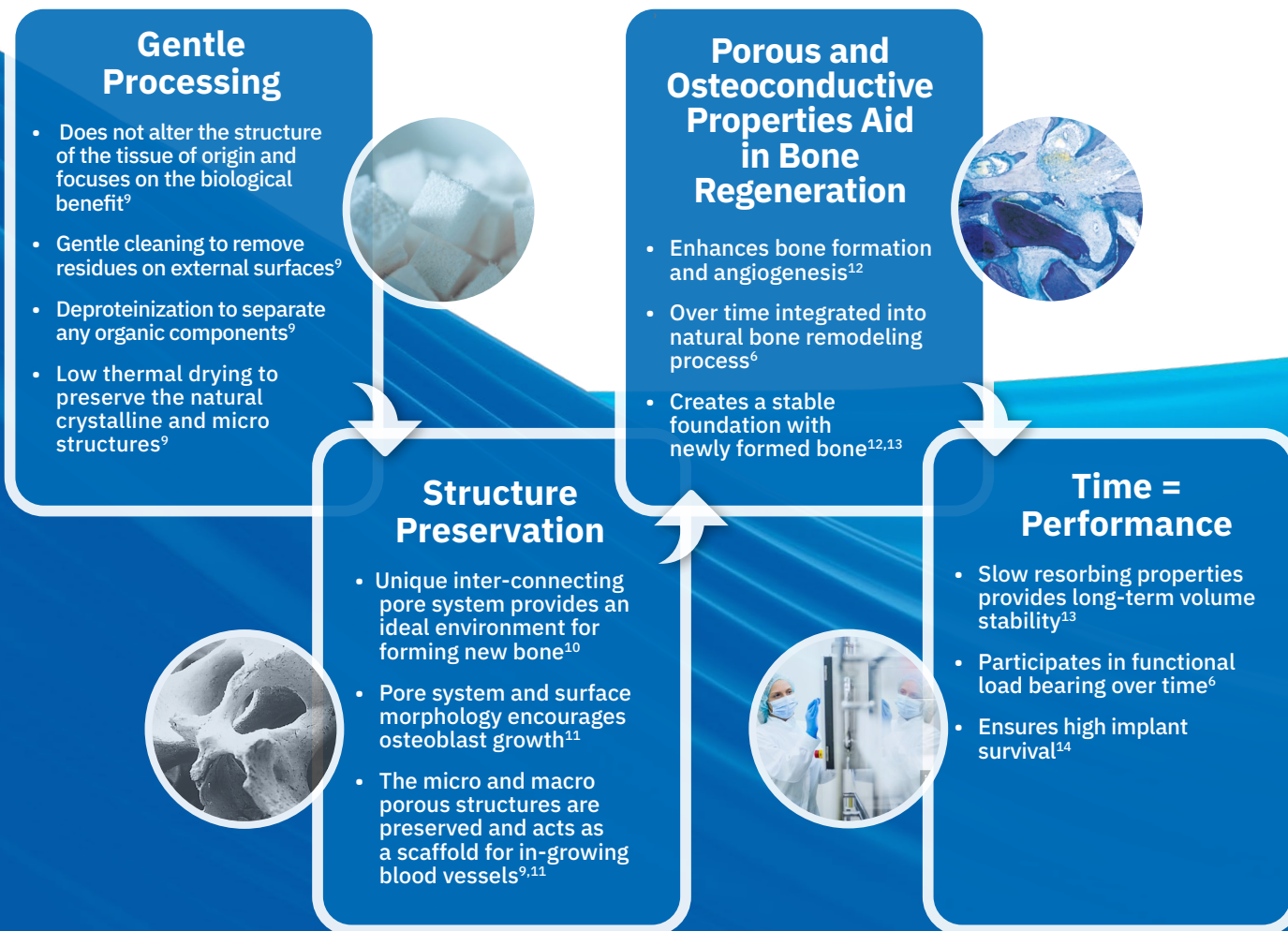
Scan for more information  
on vallos®



# Preserving Natural Structures: Two Processes, One Common Goal

## Our Xenograft is One of a Kind

In the production of Geistlich Bio-Oss®, derived from bovine bone, these complex tissues are reduced to their essential form. The native crystalline structure, which is highly similar to human bone, is preserved through our cleaning and deproteinization process.



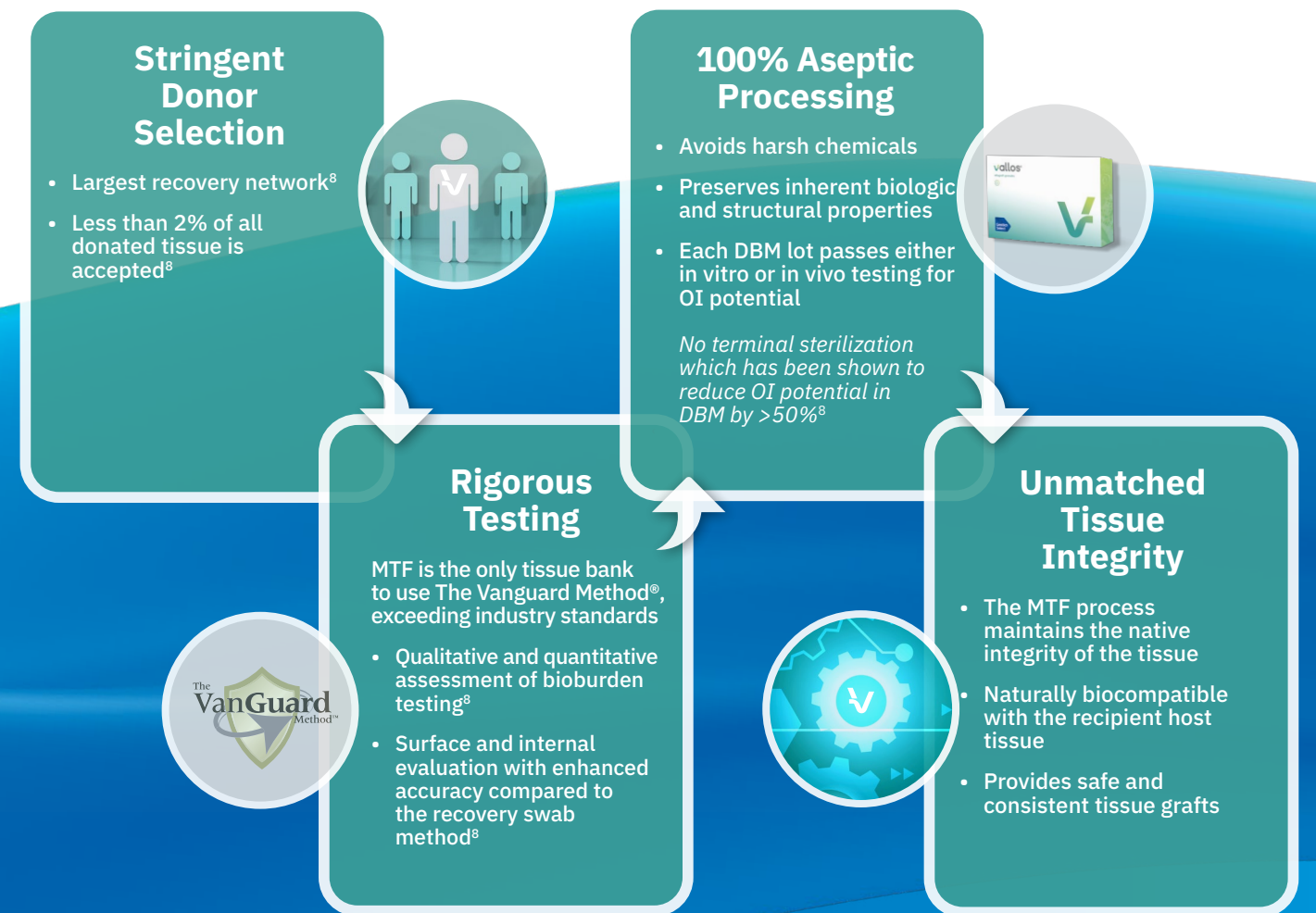
### Geistlich Experience You Can Count On

- > 15+ million successfully treated patients worldwide<sup>9</sup>
- > 165 years of collagen competence
- > 35+ years clinical success
- > 1,400 publications

The use of Geistlich Bio-Oss® resulted in significantly lower number of implant losses, compared to autogenous bone particles and other bone-graft materials.<sup>15</sup>

## Allograft Solutions with The MTF Difference™

MTF Biologics®, a non-profit service organization is dedicated to providing safe and effective allograft tissue. Standards for safety and quality are set by a Medical Board of Trustees to ensure the same processes for donor recovery and processing – delivering a consistent graft.



### MTF Biologics® Driven By Quality and Consistency

- > 35 years experience
- > 150,000 tissue donors processed
- > 10 million grafts provided
- > Zero viral disease transmission

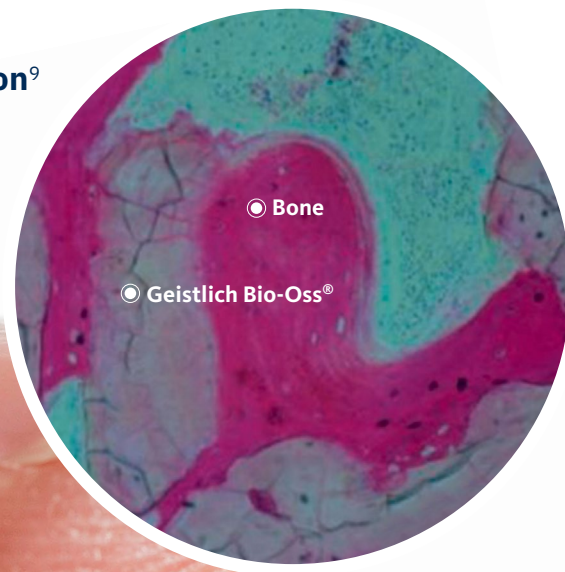
If you start with better tissue, you end with better tissue.

# Geistlich Bio-Oss®

## The Building Blocks

Geistlich Bio-Oss® is readily adapted to the natural modeling and remodeling process. The slow resorbing nature of Geistlich Bio-Oss® is a desirable characteristic providing long-term volume preservation and as the body recognizes and accepts these native crystalline structures, the particles become fully integrated into living bone. It is the sum of these characteristics that defines the biofunctionality of Geistlich Bio-Oss® and is the basis for its long-term clinical success.

### Matrix Deposition<sup>9</sup>



### Topographic Structure:

The unique and interconnecting porous structure supports optimal ingrowth for bone formation

### Hydrophilic Properties:

Allows for effective blood clot stabilization<sup>11</sup> and the adsorption of proteins enabling the adhesion of osteoblasts

### Biological Interaction:

Cellular events lead to improved osteoconduction, bone formation and quality<sup>16</sup>

For specific clinical indications where barrier function is needed, Geistlich Bio-Gide® is a natural companion to Geistlich Bio-Oss®—resulting in significantly more bone formation and greater bone density.<sup>17</sup>



# Geistlich Bio-Oss Collagen®

## 10% Collagen = Versatility

Comprised of 90% Geistlich Bio-Oss® granules and 10% highly purified porcine collagen, Geistlich Bio-Oss Collagen® can be used in all bone augmentation and periodontal indications.<sup>4</sup>

## Optimal Application and Handling

- › Addition of 10% porcine collagen enhances handling characteristics
- › Ability to tailor the material to the defect morphology
- › Versatility to treat a wide range of defects

## Clinical Benefits

- › Promotes bone regeneration resulting in good soft tissue esthetics<sup>4</sup>
- › Volume preservation is achieved due to slow resorption<sup>18</sup>
- › Clinical improvement of pocket depth (PD) and clinical attachment level (CAL)<sup>19</sup>



See handling video here



## Geistlich Bio-Oss Pen®

### Convenient and Versatile

- › Pre-filled syringe containing Geistlich Bio-Oss granules
- › Easy-to-use applicator for faster application, precision and convenience
- › Greater flexibility in a variety of clinical situations

## Clinical Benefits

- › Pre-filled delivery saves procedure time and is easy to hydrate with saline solution or patient blood
- › Optimal access that allows easy placement into posterior defects
- › Less waste and reduced spillage maximizes product use





# vallos® and vallos®f

A Comprehensive Portfolio of Granules and Fibers

Focused on your growing regenerative needs, our family of **Geistlich Select** products combines unique characteristics and compatibility with existing Geistlich biomaterials.

- > Single source supplier ensures consistent product quality<sup>8</sup>
- > A full portfolio offering that includes, granules, fibers, demineralized, mineralized and blended allografts
- > Minimal tissue processing maintains the biointegrity and biochemistry of the graft, which provides a suitable scaffold for bone repair<sup>8</sup>

## vallos® mineralized cortical & cancellous options:

- > Osteoconductive scaffold<sup>1</sup> which encourages bone formation and allows remodeling with the patient's own bone
- > 80% cortical and 20% cancellous bone ratio by weight which most closely represents the skeletal mass ratio in the human body<sup>20</sup>
- > Cortico-cancellous bone is known to provide a natural scaffold for cell attachment and infiltration<sup>21</sup>

## vallos®f demineralized fibers:

- > Rapid rehydration with saline, blood and bone aspirate, ready for use in <2 minutes
- > Contains 100% demineralized bone, while retaining a putty-like consistency that is packable and conforms to the shape of the defect
- > Consistently osteoinductive when compared to competing allografts, the large surface area of elongated fibers creates an environment allowing for cell attachment and infiltration<sup>22</sup>



Granules  
Mineralized Cancellous  
Mineralized Cortical  
Mineralized Cortico-Cancellous



Demineralized Fibers



Granules  
Demineralized Cortico-Cancellous  
Demineralized Cortical

vallos®

vallos™f

## vallos® demineralized cortico-cancellous:

- > 80% cortical bone, 20% cancellous
- > Osteoconductive porous scaffold that is demineralized to provide acute osteoinductive potential<sup>21</sup>
- > Pre-blended with no need to mix various graft materials

## Everything you need for bone regeneration in one partner

At Geistlich, we understand that today's clinical situations require a broad array of product options.

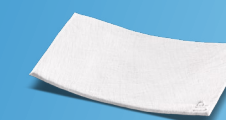
That's why we've expanded our offerings to include quality products which complement the use of the Geistlich regenerative portfolio.



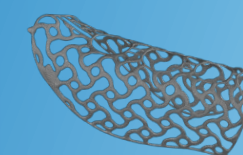
Geistlich Fibro-Gide®



Geistlich Mucograft®



Geistlich Bio-Gide®



3D Titanium Scaffold  
Yxoss CBR®



Bone Harvesting  
Instruments



Biologic Growth Factor  
GEM 21S®



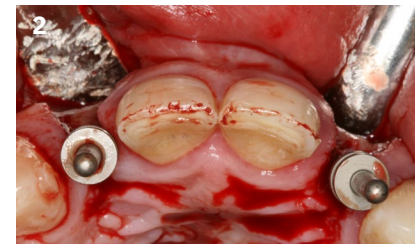
# Treatment in the Maxilla with Geistlich Bio-Oss®



Dr. Avinash Bidra Charles  
Farmington, CT, USA

**Objective:** Preserve existing soft tissue architecture improve the facial contour, and harmonize esthetics and function.

**Conclusion:** Implant placement and horizontal bone augmentation procedures utilizing **Geistlich Bio-Oss®** in combination with **Geistlich Bio-Gide®**, were successful in the treatment of bilateral congenitally missing maxillary lateral incisors.



**5-9 Years**

Predictably preserves facial bone wall<sup>1-3</sup>

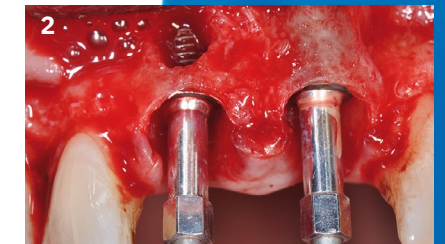
# Treatment in the Maxilla with Geistlich Bio-Oss Pen®



Dr. Paul Rosen  
Yardley, PA, USA

**Objective:** Replacement of two endodontically failed central incisors with immediate implants. Achieve successful osseointegration and improved anterior esthetics for the central incisors.

**Conclusion:** Tooth extraction with immediate implant placement combined with **Geistlich Bio-Oss Pen®** and **Geistlich Bio-Gide®** resulted in an esthetic outcome for tooth numbers 8 and 9.



**7.7%**

Ridge dimension changes vs. 33.5% in non-grafted sites

# Immediate Mandibular Molar Transition with Geistlich Bio-Oss Collagen®



Dr. Peter Hunt  
Philadelphia, PA, USA

**Objective:** Atraumatic removal of the fractured tooth, development of a channel for an ideally positioned implant. Placement of the implant with the platform just below the socket walls. Implant stability at placement.

**Conclusion:** This single stage replacement protocol has proven to be simple, safe and highly effective providing the socket is fully degranulated and the implant is stable and not loaded in the early healing stages.



**4 months**

Healing following Emergence Profile Development

# Ridge Augmentation in the Posterior Mandible with vallos®



L. Hachem, DDS, MS  
San Antonio, TX, USA

**Objective:** Restore the horizontal defect at sites #18 and #19. Utilizing **vallos®**, **Geistlich Bio-Gide®** and **Yxoss CBR®** mesh.

**Conclusion:** Post-operative healing at 6 weeks shows an increase in tissue width and no membrane exposure



**6 weeks**

Good healing of the surgical site with no complications



See more Geistlich  
Bio-Oss® cases here



See more vallos®  
cases here



# Bone Substitutes: Differentiating Properties Guide

Depending on your desired clinical outcomes, our differentiating properties guide helps you understand the key fundamental properties of our bone substitutes.

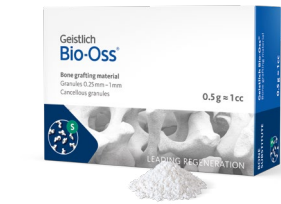
Are you looking to achieve better handling properties, a specific remodeling time or space maintenance? Our full suite of bone offerings has everything you need in one regenerative partner.

Bone Graft	Handling (moldability) <sup>1</sup>	Composition	Osteoconductive	Osteoinductive	Remodeling Time (Slow, Medium, Fast) <sup>2</sup>	Space Maintenance (Low, Medium, High)	Radiograph Visual	Time Saving/ Ease of Use <sup>3</sup>
Geistlich Bio-Oss®	*	100% DBBM Cancellous	Yes	No	Slow (6-9 months)	High	Yes	*
Geistlich Bio-Oss Pen®	*	100% DBBM Cancellous	Yes	No	Slow (6-9 months)	High	Yes	***
Geistlich Bio-Oss Collagen®	***	90% DBBM/10% Porcine Collagen	Yes	No	Slow (6-9 months)	High	Yes	***
vallos® Mineralized Cortical Allograft	*	100% FDBA/Cortical	Yes	No	Medium (4-6 months)	High	Yes	*
vallos® Mineralized Cancellous Allograft	*	100% FDBA/Cancellous	Yes	No	Medium (4-6 months)	Medium	Yes	*
vallos® Mineralized Cortico-Cancellous Allograft	*	80% FDBA Cortical / 20% Cancellous	Yes	No	Medium (4-6 months)	High/Medium	Yes	*
vallos® Demineralized Cortical Allograft	**	100% DFDBA/Cortical	Yes	Yes	Fast (3-4 months)	Low	No	*
vallos® Demineralized Cortico-Cancellous Allograft	**	80% DFDBA Cortical/ 20% Cancellous	Yes	Yes	Fast (3-4 months)	Low	No	*
vallos®f Demineralized Cortical Allograft	***	100% DFDBA/Cortical	Yes	Yes	Fast (3-4 months)	Low	No	***

1. On a scale of 1-3 \*: three stars means the product is more moldable  
2. Fast remodeling is 3-4 months, medium remodeling is 4-6 months, slow remodeling is 6-9 months  
3. On a scale of 1-3 \*: three stars means the product is easier to use  
These ratings are based upon a general understanding of the product/tissue properties as well as clinical feedback gathered from either clinician experience and/or clinical publication. This data is available via our regenerative specialist or on our website [www.geistlich.us](http://www.geistlich.us).

DBBM - Deproteinized Bovine Bone Mineral  
FDBA - Freeze-Dried Bone Allograft  
DFDBA- Demineralized Freeze-Dried Bone Allograft

# Bone Substitutes Product Range



**S** Small Granules  
(0.25 – 1 mm)

**L** Large Granules  
(1 – 2 mm)



Product Number	Product Description	Quantity/Volume
500804	Geistlich Bio-Oss® (0.25 – 1 mm)	0.125 g (≈ 0.25 cc)
20111	Geistlich Bio-Oss® (0.25 – 1 mm)	0.25 g (≈ 0.5 cc)
20112	Geistlich Bio-Oss® (0.25 – 1 mm)	0.5 g (≈ 1 cc)
500304	Geistlich Bio-Oss® (0.25 – 1 mm)	1 g (≈ 2 cc)
20113	Geistlich Bio-Oss® (0.25 – 1 mm)	2 g (≈ 4 cc)
20114	Geistlich Bio-Oss® (0.25 – 1 mm)	5 g (≈ 10 cc)
20121	Geistlich Bio-Oss® (1 – 2 mm)	0.5 g (≈ 1.5 cc)
500305	Geistlich Bio-Oss® (1 – 2 mm)	1 g (≈ 3 cc)
20122	Geistlich Bio-Oss® (1 – 2 mm)	2 g (≈ 6 cc)
20131	Geistlich Bio-Oss® Block	1 x 1 x 2 cm
20115	Geistlich Bio-Oss Pen® (0.25 – 1 mm)	0.25 g (≈ 0.5 cc)
20116	Geistlich Bio-Oss Pen® (0.25 – 1 mm)	0.5 g (≈ 1 cc)
500413	Geistlich Bio-Oss Collagen®	50 mg (≈ 0.1 – 0.15 cc)
20141	Geistlich Bio-Oss Collagen®	100 mg (≈ 0.2 – 0.3 cc)
20142	Geistlich Bio-Oss Collagen®	250 mg (≈ 0.4 – 0.5 cc)
20143	Geistlich Bio-Oss Collagen®	500 mg (≈ 0.8 – 1.2 cc)



See our entire portfolio here:  
[www.geistlich.us/shop/](http://www.geistlich.us/shop/)

**vallos<sup>f</sup>**  
allograft fibers



**vallos<sup>®</sup>**  
allograft granules

**S** Small Granules  
(212-850 µm)

**S** Small Granules  
(200-1000 µm)

**L** Large Granules  
(850 – 2000 µm)



**vallos<sup>®</sup> granules** –ideally suited  
for smaller routine defects.



**vallos<sup>f</sup> fibers** – for larger  
more complex defects.

Product Number	Product Description	Size
503410	vallos <sup>®f</sup> demineralized cortical allograft	0.5 cc
503411	vallos <sup>®f</sup> demineralized cortical allograft	1 cc
503412	vallos <sup>®f</sup> demineralized cortical allograft	2.0 cc

Product Number	Product Description	Size
503308	<b>S</b> vallos <sup>®</sup> demineralized cortico-cancellous allograft	0.25 cc
503310	<b>S</b> vallos <sup>®</sup> demineralized cortico-cancellous allograft	0.5 cc
503312	<b>S</b> vallos <sup>®</sup> demineralized cortico-cancellous allograft	1 cc
503314	<b>S</b> vallos <sup>®</sup> demineralized cortico-cancellous allograft	2 cc

503108	<b>S</b> vallos <sup>®</sup> demineralized cortical allograft	0.25 cc
503110	<b>S</b> vallos <sup>®</sup> demineralized cortical allograft	0.5 cc
503112	<b>S</b> vallos <sup>®</sup> demineralized cortical allograft	1 cc
503114	<b>S</b> vallos <sup>®</sup> demineralized cortical allograft	2 cc
503109	<b>L</b> vallos <sup>®</sup> demineralized cortical allograft	0.25 cc
503111	<b>L</b> vallos <sup>®</sup> demineralized cortical allograft	0.5 cc
503113	<b>L</b> vallos <sup>®</sup> demineralized cortical allograft	1 cc
503115	<b>L</b> vallos <sup>®</sup> demineralized cortical allograft	2 cc

502308	<b>S</b> vallos <sup>®</sup> mineralized cortico-cancellous allograft	0.25 cc
502310	<b>S</b> vallos <sup>®</sup> mineralized cortico-cancellous allograft	0.5 cc
502311	<b>S</b> vallos <sup>®</sup> mineralized cortico-cancellous allograft	1 cc
502312	<b>S</b> vallos <sup>®</sup> mineralized cortico-cancellous allograft	2 cc

502108	<b>S</b> vallos <sup>®</sup> mineralized cortical allograft	0.25 cc
502110	<b>S</b> vallos <sup>®</sup> mineralized cortical allograft	0.5 cc
502112	<b>S</b> vallos <sup>®</sup> mineralized cortical allograft	1 cc
502114	<b>S</b> vallos <sup>®</sup> mineralized cortical allograft	2 cc
502109	<b>L</b> vallos <sup>®</sup> mineralized cortical allograft	0.25 cc
502111	<b>L</b> vallos <sup>®</sup> mineralized cortical allograft	0.5 cc
502113	<b>L</b> vallos <sup>®</sup> mineralized cortical allograft	1 cc
502115	<b>L</b> vallos <sup>®</sup> mineralized cortical allograft	2 cc

502208	<b>S</b> vallos <sup>®</sup> mineralized cancellous allograft	0.25 cc
502210	<b>S</b> vallos <sup>®</sup> mineralized cancellous allograft	0.5 cc
502212	<b>S</b> vallos <sup>®</sup> mineralized cancellous allograft	1 cc
502214	<b>S</b> vallos <sup>®</sup> mineralized cancellous allograft	2 cc
502209	<b>L</b> vallos <sup>®</sup> mineralized cancellous allograft	0.25 cc
502211	<b>L</b> vallos <sup>®</sup> mineralized cancellous allograft	0.5 cc
502213	<b>L</b> vallos <sup>®</sup> mineralized cancellous allograft	1 cc
502215	<b>L</b> vallos <sup>®</sup> mineralized cancellous allograft	2 cc



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Princeton, NJ 08540  
Customer Care Toll-free: 855-799-5500  
info@geistlich-na  
<https://geistlich.us>

## Your Partner in a Strong Foundation

### Assurance

*Your assurance, our long-term evidence. Scientifically proven in over 1400 publications.*

### Proven Outcomes

*Over 15 million successfully treated patients worldwide.<sup>9</sup>*

### Trustworthy

*Every 14 seconds a Geistlich product is used.<sup>9</sup>*

For more information,  
please visit:  
[www.geistlich.us](http://www.geistlich.us)

CAUTION: Federal law restricts these devices to sale by or on the order of a dentist or physician.

For more information on contraindications, precautions, and directions for use, please refer to the Instructions for Use at: [dental.geistlich-na.com/ifu](http://dental.geistlich-na.com/ifu)

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