line regenerative.

Ideal for the following indications.

The data in this document is given as a general example. The selection of suitable products and the amount of their use should be determined based on the professional's clinical assessment considering the patient's systematic conditions, type of bone, severity of the defect and additional parameters, when necessary. Reported values may vary depending on the patient and the clinical condition of the defect.

	bonefill**cortical**	bonefill**porous**	bonefill**mix**	bonefill**block**	**hydroxyapatite**	beta**tcp**
Sinus **Elevation**		■	■		■	
Infra-bone **Defect**	■	■	■		■	■
Alveolar bone preservation **After extraction**		■	■		■	
Horizontal edge **Increase**	■	■	■	■	■	
Vertical edge **Increase**	■	■	■	■	■	
Concomitant edge increase **With implant**	■	■	■		■	
Exposed thread treatment **of implants**	■	■	■		■	
Interproximal **Bone formation**	■	■	■		■	
Filling of **Cystic cavity**	■	■	■		■	■
Estimated reentry time [**months**]	6 - 9	6 - 9	6 - 9	6 - 9	9	6
Estimated Integration [**months**]	6 - 9	6 - 9	6 - 9	6 - 9	9	6

	surgitime**ptfe** ❁	surgitime**3d**	surgitime**titanium**	surgitime**seal**	surgitime**collagen**
Sinus **Elevation**	■			■	■
Infra-bone **Defect**	■				■
Horizontal edge **Increase**	■	■	■		■
Vertical edge **Increase**	■	■	■		■
Concomitant edge increase **With implant**	■	■	■		■
Alveolar bone preservation **After extraction**	■			■	■ ❁❁
Exposed thread treatment **of implants**	■	■	■		■
Interproximal **Bone formation**	■				■
Alveolar bone preservation **Along with the implant**				■	■

❁ Remove after integration period or when early exposure occurs. ❁❁ Indicated as long as it is NOT exposed.

❁ The data in this document is provided as a general example only. The selection of suitable products and the amount of use should be determined based on the professional's clinical assessment considering the patient's systemic conditions, bone type, severity of the defect, and additional parameters, when necessary. Reported data may vary depending on patient and clinical condition.

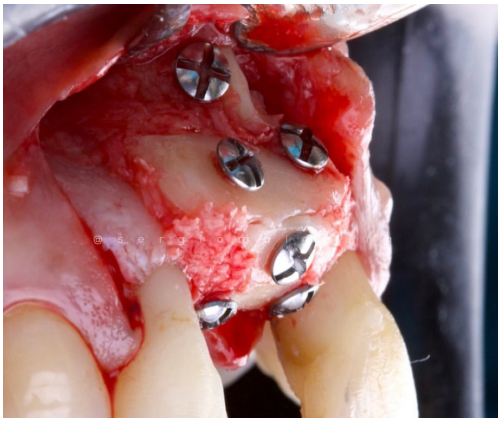
When one option it's enough.

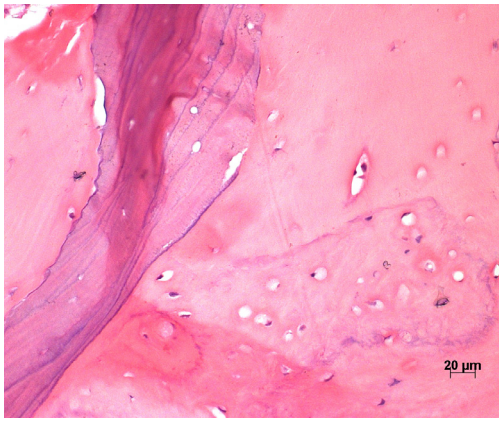
Bionnovation products were developed in close collaboration with professionals and for professionals.

As usual, development is focused on making our products simple and easy to use, so that the work is performed in an accurate, fast and successful way at all times.

Recognized as a global leader for hard tissue solutions, Bionnovation offers a comprehensive biologics portfolio upon which you and your practice can build a solid foundation. Our broad family of regenerative products are scientifically proven in a wide variety of grafting applications and formulated for consistent, quality performance.

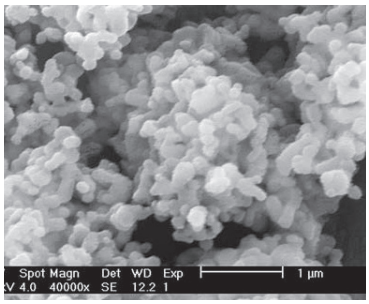
Our family of bone grafts and barrier membrane offers a comprehensive line solutions to support bone grafting procedures of all sizes.

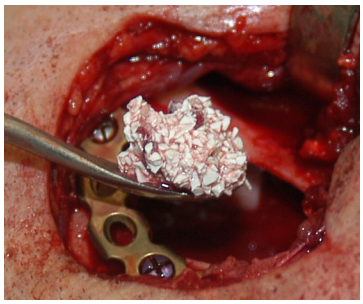
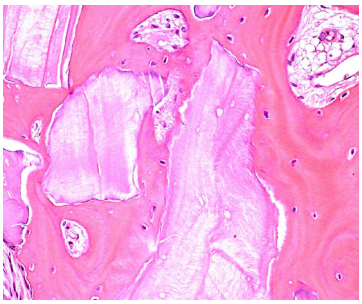




> Bone Grafts

We offers a comprehensive line of hard tissue solutions to support bone grafting procedures of all sizes. Choose between **xenograft bovine** and **synthetic** hard tissues in a variety of sizes and compositions.




Synthetic **hydroxyapatite** $Ca_{10}(PO_4)_6(OH)_2$ is one of the most biocompatible materials, favoring bone growth in the places where it is located (osteoconductive), establishing chemical connections between it and the bone tissue (bioactive), allowing the proliferation of fibroblasts, osteoblasts and other bone cells, which do not distinguish it from the bone surface. The hydroxyapatite surface allows the interaction of dipole-type bonds, causing water molecules and also proteins and collagen to be absorbed on the surface, inducing tissue regeneration.

Beta Tricalcium Phosphate (ß-TCP) pure phase (Ca3 (PO4) 2) is an absorbable synthetic particulate ceramic made from Calcium Hydroxide (Ca (OH) 2), Phosphoric Acid (H3PO4), whose proportion of Ca3 (PO4) 2 is 91.67%, according to the X-Ray Diffraction test, which has excellent osteoconduction, biocompatibility because it is chemically and crystallographically similar to human bone tissue, in addition to having rapid reabsorption, which reduces reactions biological.

> Origin: **100% synthetic**
> **Pure Phase ≥ 95%**
> **Osteoconductor**
> It has a structure similar to human bone
> apid integration through the formation of new bone
> adiopaque: Easy to locate on x-rays
> Highly interconnected pores [**Fast vascularization**]
> Optimal biocompatibility Proven "in vitro" e "in vivo"
> Fast and controlled osseointegration

Hydroxyapatite 0,5g	**16028** 0,05 - 0,10 **mm**	**16029** 0,35 - 0,40 **mm**	**16030** 0,50 - 0,60 **mm**
	16031 0,70 - 0,80 **mm**	**16032** 0,90 - 1,00 **mm**	**16033** 1,41 **mm**
Beta **TCP** 0,5g	**16057** 0,1 - 0,5 **mm**	■	■

Autogenous Bone Collector.

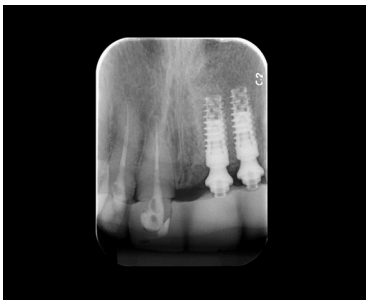
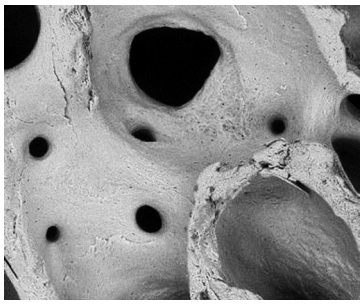
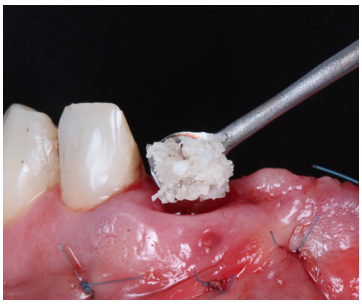
triple.blade

The **triple-blade drill** is a great option to facilitate the collection of autogenous bone in regenerative procedures. Among its differentials, it is worth mentioning three blades that provide greater efficiency in collecting autogenous bone and less trepidation and greater precision during the collection procedure in the donor bed. Furthermore, the association of autogenous bone with bone substitutes enhances the clinical results of grafting procedures due to the osteogenic and osteoinductive potential of autogenous bone associated with the osteoconductive potential of the bone substitute. So make your autogenous bone collecting procedure more predictable.

AutoBone **Collector.**	**05128** 5,0 **mm**	**05130** 7,0 **mm**

bonefill

Coming from the femoral heads of cattle, the deproteinized bovine bone matrix **Bonefill** possesses an interconnected macro- and micro-porous structure that strongly resembles human bone structure.


bonefill granulated

In granulated form, **Bonefill Dense**, **Bonefill Porous** and **Bonefill Mix** act as an osseoconductive mechanism that promotes bone growth and regeneration. Over time, **Bonefill** is partially remodeled by the action of osteoclasts and osteoblasts, being a viable alternative to autologous bone in defects suitable for its use and indication. **Bonefill Dense** is produced through a process that involves decalcification of the cortical portion of bovine bone. Conversely, **Bonefill Porous** is produced by applying the same decalcification process to the spongy portion of bovine bone, and **Bonefill Mix** is produced by applying the decalcification process to the **spongy** and **cortical** portion of bovine bone (at an approximate ratio of **70**:**30**). The **topographical** properties presented by Bonefill's particles provide optimal conditions for vascular and cellular adhesion and proliferation, resulting in predictable and reliable bone formation.

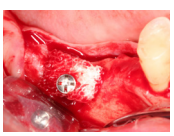
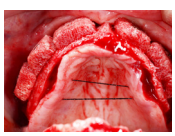
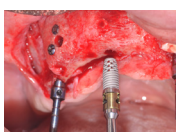
Clinical and **histological** outcomes indicated that deproteinized bovine bone matrix **Bonefill** was found to be a highly biocompatible and osteoconductive biomaterial

Bonefill **Dense**	**16001** Small 0,50**g** = 0,50**cc**	**16024** Medium 0,50**g** = 0,50**cc**	**16026** Large 0,50**g** = 0,50**cc**
Bonefill **Porous**	**16891** Small 1,00**g** = 1,50**cc**	**16892** Medium 1,00**g** = 2,10**cc**	**16893** Large 1,00**g** = 3,00**cc**
Bonefill **Mix**	**16955** Small / Medium 0,50**g** = 0,88**cc**	**16964** Medium/ Medium 0,50**g** = 0,88**cc**	■

bonefill block

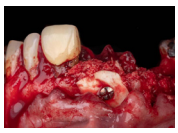
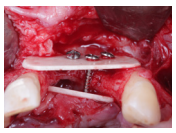
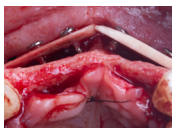
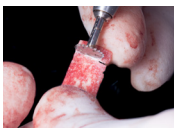
Unlike other block bone substitutes, **Bonefill Porous Block** is made from spongy xenogenic bovine bone, which offers unique characteristics that are essential to clinical success: [**1**] High level of **hydrophilicity** for rapid blood absorption. [**2**] **Interconnected pores** with a natural composition that allows the graft to be easily incorporated into the implant site. Images obtained through scanning electron microscopy (SEM) allow the blocks' superficial topography to be observed, particularly in terms of microscopic appearance, homogeneity and pore size. [**3**] **Bonefill Porous Block** offers an **elevated resistance** to compression from uniformly distributed forces [up to 5**00kg/m²**], which allows to be screwed.

Bonefill **Porous Block**	**16495** 5x10x10 **mm**	**16498** 5x20x20 **mm**	**16500** 10x10x20 **mm**

bonefill Plate

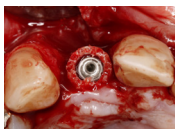
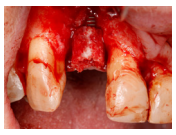
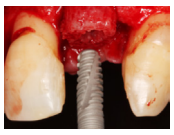
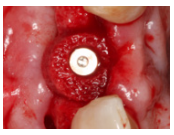
Bonefill Cortical Plate allows for the development of three-dimensional architecture that is favorable to bone reconstruction, ranging from the simplest to the most advanced structures. **Bonefill Cortical Plate** are particularly useful whenever a suitable space for guided bone regeneration is required, creating a three-dimensional containment effect in particulate grafts. These plate can be used for aesthetic purposes, as well as in the horizontal increase of two wall bone defects.

Bonefill **Cortical Plate**	**161470** ~25x10x1 **mm**

bonefill Cylindrical

Bonefill Cylinder [bonering] is a prefabricated ring made from spongy blocks originating from bovine femoral heads and is recommended for use in vertical augmentation carried out in combination with horizontal augmentation, edentulous space and maxillary sinus elevation. The **bonering** technique used to elevate the maxillary sinus floor during implant placement is recommended in cases in which the height of the residual maxillary bone is less than 4 mm but greater than 1 mm.

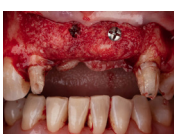





Bonefill **Porous Cylinder**	**16523** 6x10 **mm**	**161475** 3,2x6x10 **mm**	**161476** 4x6x10 **mm**

bonefill customized

Bonefill Porous Customized is an innovative bone block graft, **preformed**, **modeled** with greater precision based on the patient's bone defect. The planning is done based on the computed tomography of the patient's defect and using **Bonefill Porous Block** is made by a milling machine, making the procedure more comfortable for the patient, reducing the surgery time, and minimizing the risk of complications.



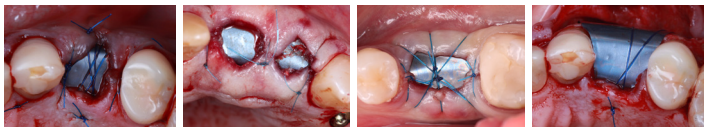
Barriers, Membranes & Meshes

Surgitime.seal

Surgitime Titanium Seal it is ideal for three-dimensional bone regeneration and was designed to be intentionally exposed in alveolar sealing procedures after tooth extraction, protecting the surgical wound against invagination of soft tissues, which promotes a resorption of the alveolar process. Thus, there is a statistically proven decrease in the reduction of the absorptive condition. Because it is bioelectrically neutral thanks to electrochemical passivation, it contributes to the growth of new bone without complications.

The required stay for the start of osteoconduction is 14 days for use in cases of sealing fresh alveolus.

> Greater tissue isolation;
> Self-anchoring;
> Total Oclusividade;
> Extremely low biofilm retention;
> Easy Removal;
> High biocompatibility;
> Made in **PURE Titanium Gr 1** [ASTM F-67];

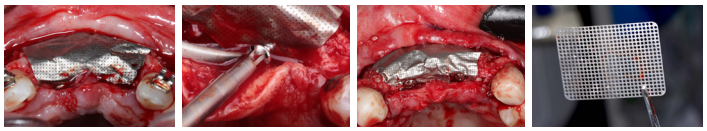


Surgitime **Titanium Seal**	**16890** 34 x 25 **mm**	

Surgitime.titânio

Surgitime Titanium is a titanium mesh that has different sizes, thicknesses and hole diameters in order to meet the different clinical needs. It has an occlusive property. Because it is permeable it allows the transmission of nutrients, it is easy to use, as it is very malleable and can be cut to adapt to surgical sites. It has the capacity to maintain a healthy regenerative space and the possibility of graft vascularization on both sides [periosteum and endosseous]. It is designed to guarantee the three-dimensional reconstruction of defects in the alveolar bone and to facilitate bone replacement through proper fixation of the replacement material.

> Ease of use in surgical sites;
> No trauma to the soft tissues;
> Adequate containment of the bone graft;
> Improves the space for bone regeneration;
> Ultra-thin [0.04 mm and 0.08 mm];
> Easy Removal [0.04 mm];
> High biocompatibility;
> Made in **PURE Titanium Gr 1** [ASTM F-67];

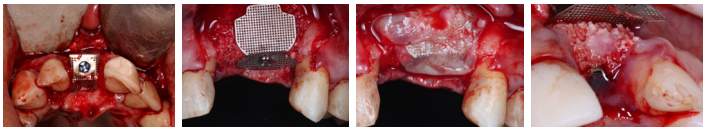


Surgitime **Titanium**	**16565** 34 x 25 x 0,04 **mm** Furo **0,15 mm**	**16472** 34 x 25 x 0,04 **mm** Furo **0,85 mm**	**16698** 34 x 25 x 0,08 **mm** Furo **0,85 mm**

Surgitime.3df

Surgitime 3DF Surgitime 3D Developed to promote bone formation, it can be customized for all types of bone defects, allowing molding in 3 different shapes and being stabilized directly on the implant with the healing abutment [ ]or using the cover screw [ ] of the DM tent screw.

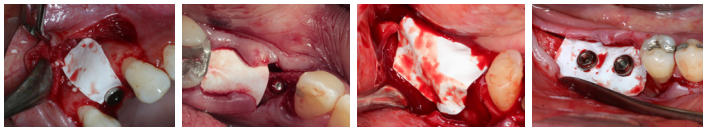
> Ease of use in surgical sites;
> Adequate containment of the bone graft;
> Improves the space for bone regeneration;
> High biocompatibility;
> Made in **PURE Titanium Gr 1** [ASTM F-67];



Surgitime **Titanium 3DF**	**161256** 18 x 12 x 0,35 **mm**

Surgitime.ptfe

Surgitime PTFE is a non-absorbable membrane composed of Dense Polytetrafluoroethyle, 0.10 or 0.25 mm thick. Polytetrafluoroethylene [PTFE] membranes or mechanical barriers for Guided Tissue Regeneration RTG - have the function of preventing the migration of cells of the epithelium and connective tissue, which would cause the inhibition of bone growth, providing adequate space for the formation of a framework fibrin, a precursor of bone tissue. The membrane avoids tissue competition between the conjunctiva and the bone, and is intended to isolate bone grafts, favoring tissue regeneration.



Surgitime **PTFE**	**16021** 30 x 20 x 0,10 **mm**	**16044** 30 x 20 x 0,25 **mm**

Drill Corticale.

Bone decortication performed several times as part of a biological key for guided bone regeneration (GBR). The biological rationale for bone decortication is to allow progenitor cells to gain access to a GBR-treated site and facilitate immediate angiogenesis. It can also improve the physical connection between a bone graft and a local recipient.

Corticale Drill.	**5131** 1,0 x 3,0 **mm**	**5132** 1,0 x 4,0 **mm**

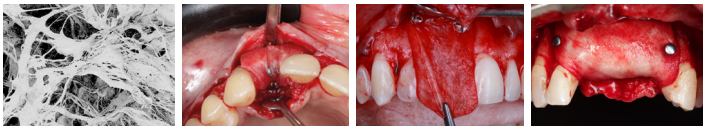
Surgitime.collagen

Surgitime Collagen Pericardium it is an acellular biological membrane of bovine pericardium, implantable and resorbable. Obtained by acellularization mechanisms from the bovine pericardium, the final product translates into a highly pure natural collagen membrane that acts as a regenerative biological barrier when implanted in the bone graft and below the gingival tissues, in guided bone regeneration procedures.

This membrane completely fulfills the functions of isolation, containment and graft stabilization [average reabsorption time between 60 and 90 days] with high resistance to ruptures, which makes it easy to suture or fix with screws or tacks.

One of the main advantages of the natural porous structure of **Surgitime Collagen Pericardium** is its excellent healing characteristic resulting from its good vascularization and tissue integration. Even in cases of dehiscence, the soft tissue usually heals well, and no additional growth is required.

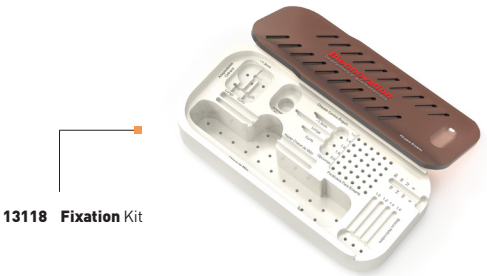
> Easy manipulation and No stickiness after rehydration



Surgitime **Collagen**	**161272** 15 x 20 **mm**	**161273** 20 x 30 **mm**	**161276** 30 x 40 **mm**

New **layout**

Agora mais completo.



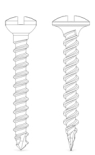
13118 Fixation Kit

Small and compact, the **Bionnovation Fixation Kit** consists of a practical kit that keeps all the necessary instruments [drills, wrenches and screws] for the procedures for fixing the bone block and membranes [barriers]. It is manufactured with precise tolerances to ensure easy pick-up of screws, stable transfer to the surgery site, and quick engagement in the maxilla or mandible.

bone screw **SMart 1**

The bone screw **Smart1** is well-designed and biomechanically improved to facilitate the fixation and stability of the Bonefill Cortical Plates.

> Made with **Titanium 6Al 4V** [ASTM F136];
> Head diameter: **2,5mm**
> Outside diameter: **1,2 mm**

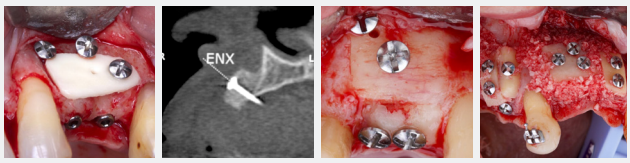


Bone Screw **SMart1**	**07102** 9mm	**07104** 11mm	**07106** 13mm	**07108** 15mm

bone **screw.**

The bone screws are manufactured to precise tolerances to ensure a safe and reliable installation, so it has a safe capture and stable transfer of the screw to the surgery site, and quick engagement in the maxilla or mandible.

> Made with **Titanium 6Al 4V** [ASTM F136];

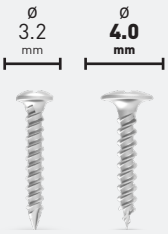


Bone **Screw 3,2**	**1,2**	**07097** 3mm	**07098** 4mm	**07092** 6mm	**07101** 8mm	**07103** 10mm	**07105** 12mm
	1,4		**07145** 4mm	**07090** 6mm	**07148** 8mm	**07150** 10mm	**07152** 12mm
	1,6		**07191** 4 mm	**07093** 6 mm	**07194** 8mm	**07094** 10 mm	**07095** 12mm

bone screw **expanded** head.

Our line of fixing screws now has the **expanded head format 4 mm**, different from the current models where the head diameter was all **3.2 mm**. The screws with expanded heads are also used to perform the "**umbrella technique**" because of their similarity to an umbrella. Its main function is to help in the stabilization of the graft, avoiding excessive forces on the grafted material and its micro movement.

Also known as a "**tent**" but with different characteristics from the current tent screws.

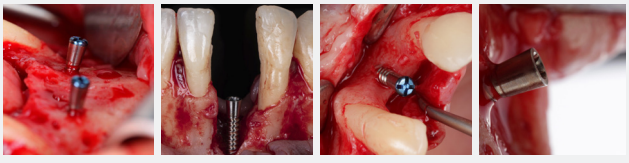


Bone Screw **Expanded 4,0**	**1,5**	**07171** 8mm	**07173** 10mm	**07175** 12mm
	2,0	**07288** 8mm	**07290** 10mm	**07292** 12mm

screw **tenda dm.**

Os **Parafusos Tenda DM** é constituído por um **parafuso âncora**, rosqueável, polido, com corpo de formato ligeiramente cônico, ponta cônica, auto atarraxante e com orifício na cabeça no qual o **parafuso de cobertura** será inserido.

In an evolution of technique, tent screws DM can help stabilize both the grafting material and the barrier, through the use of the through screw acting as an "**anchor**" for the entire graft/barrier set, and not only as a "**pillar**" of support.



Tent Screw **DM**	**07444** 6mm	**07445** 9mm	**07446** 12mm	**07447** 15mm

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