

# COREBONE

Bioactive Coral Bone Graft



The ideal alternative to bovine  
and synthetic bone grafts

Strong | Porous | Biodegradable

Pure coral mineral enriched with Silicium and  
Strontium for bioactivity and strength.  
Made from corals grown in a biomimetic  
controlled coral farm.



# Extraction socket management using bioactive coral bone graft

## Case 1

Extraction of tooth #36 with a fractured distal root and socket management procedure using CoreBone 1000. A particulated coral bone mineral (particles size 600-1000  $\mu\text{m}$ )

Prof. Ziv Mazor, Israel



Extraction socket after tooth removal. Significant socket width due to a wide bone defect around a fractured distal root



CoreBone 1000 is gently packed to completely fill the socket



A resorbable collagen membrane is placed over the bone graft and under the soft tissue margins



Non-resorbable sutures are placed over the membrane to approximate the soft tissue margins



X-ray immediately after socket management displays a complete filling of the socket with the bone graft

## Case 2

Extraction of tooth #45 with a periapical pathology and socket management procedure using CoreBlock cone. A root-shaped coral bone graft.

Dr. Marco Tallarico, Italy



Tooth #45 before extraction presenting with a radiolucent periapical lesion and PDL widening



Extraction socket after tooth removal. Significant socket width due to a wide bone defect



CoreBlock cone is adapted and placed into the socket, completely filling it with no gaps between the socket walls and the bone graft



Non-resorbable sutures are used over the bone graft to approximate the soft tissue margins as close as possible to primary closure



X-ray immediately after socket management displays perfect adaptation of the CoreBlock cone to the socket



### CoreBone 500

Particle size 300-450 microns  
0.5 ml | 1.0ml



### CoreBone 1000

Particle size 600-1000 microns  
0.5 ml | 1.0ml



### CoreBone 2000

Particle size 1600-2000 microns  
1.0ml | 2.0ml



### CoreBlock Cone

Root shape graft for socket  
preservation (two sizes)  
2 cones in per vial



### CoreBlock

Block-shaped graft  
10x10x3 mm | 10X20X3 mm  
Special sizes available on demand

## CoreBone Coral Graft

### The ideal alternative to bovine and synthetic products

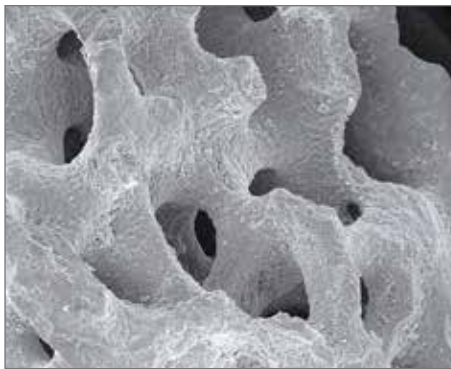
Corals have been used as bone grafting material for 30 years. Their bone - like qualities, composition, structure, strength and resorption, have led to their use in dental and orthopedics procedures in hundreds of thousands reported cases. However, in the last decade, corals have been declared as endangered species and their quality decreased due to the rising sea pollution.

CoreBone corals are grown in a closed, controlled aquatic (aquarium) system. Using proprietary technology and laboratory-made sea water enriched with bioactive nutrients, CoreBone leverages the coral natural bone-like properties and prevent sea pollution related risks.

CoreBone's graft material is comprised of the pure mineral part of the coral. It consists of calcium carbonate crystals (>95%) in the form of aragonite enriched with silicium, strontium, and other non-organic substances. The three main elements - calcium, silicium and strontium - are known to play an important role in the bone mineralization process and in the activation of enzymatic reactions with osteogenic cells.

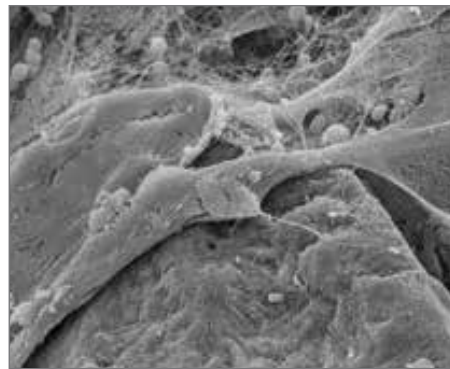
# CoreBone Coral Graft

- **Biomimetic** bone graft made from corals cultured in closed and monitored system enriched with silicium and strontium for bioactivity and strength
- **Bioactive** - Attractive to bone cells and stimulates new bone growth and connectivity
- **Strong** – Up to 5 times than cancellous bone/synthetics
- **Porous** – Optimal porous structure enables vascularity and new bone ingrowth
- **Biodegradable** – Remodels by osteoclastic activity
- **Cortico-Cancellous** coral types mix - for optimal bone formation and remodeling
- **Safe** – No human/bovine biological risks, no marine pollution



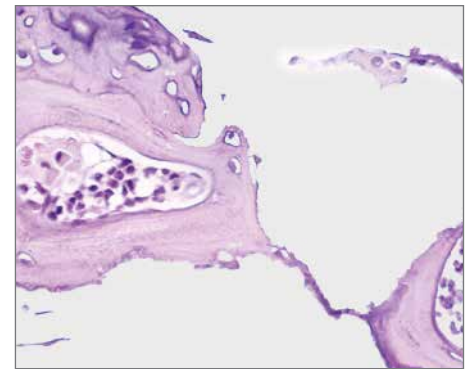
## 3D Through Porous Structure

Bioactive surface and interconnected pores in optimal dimensions for ingrowth of blood vessels and bone deposition.



## Bone Cells Attracted by CoreBone Graft

Layers of strained active osteoprogenitors attached to bioactive coral mineral surface (48 hours after grafting in vivo).



## Bone Deposition into Pores

Mineralized matrix of cortical bone is deposited on the surface of coral mineral. Ingrown blood vessel inside a pore of CoreBone graft.

## Strong as bone

CoreBone compressive strength is up to 18 MPa.

Independent studies show that CoreBone strength is up to 5 times more than human cancellous bone and most synthetic products

Power applied 2kN	CoreBone Granules	Human Bone Chips
Deformation (mm)	0.32	1.6
E-Module (Mpa)	213	45

E-Module – Stiffness/material resistance to deformation