

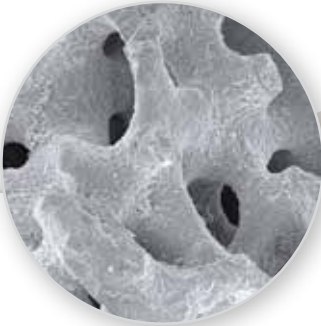
COREBONE

Bioactive Coral Bone Graft



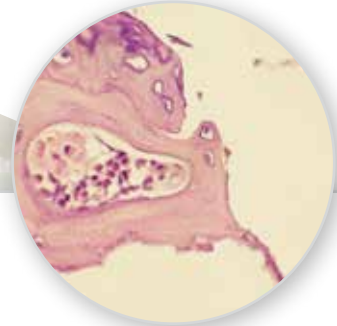
The Natural
Alternative to
Bovine and Human
Bone Grafts





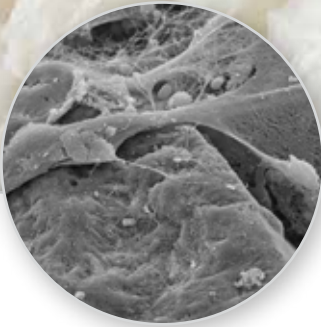
3D Porous Structure

Bioactive surface, interconnected canals and pores present for optimal net and dimensions (for developing blood vessels and depositing bone)



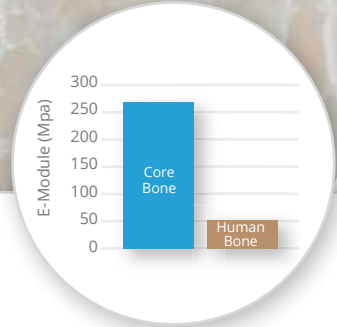
Bone-to-Graft Connectivity

Young woven bone deposited on the surface of grafted coral mineral; observed ingrowth of capillaries into the CoreBone graft



Bioactivity

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



Strength

5 times stronger than human cancellous bone and synthetic grafts (compressive strength, MPa)

Products



CoreBone 500
Particle size
300-450 μm
0.5 ml | 1.0 ml



CoreBone 1000
Particle size
600-1000 μm
0.5 ml | 1.0 ml



CoreBone 2000
Particle size
1600-2000 μm
1.0 ml | 2.0 ml



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

CoreBone is a natural alternative to current, bovine and human derived bone grafts. It provides volume maintenance, remodeling by osteoclastic activity, better biological safety profile and required bone formation qualities without the limitations associated with animal or human sources.

The following uses are recommended for dental and maxillofacial procedures:

CoreBone 500 fill narrow bone gaps and between implants

CoreBone 1000 fill wide bone gaps and voids; in sinus lift procedures

CoreBone 2000 in large bone defects and sinus lift procedures

CoreBlock for augmentation of facial bone defects and reconstructive surgery



CoreBone 500
300-450 μm

CoreBone 1000
600-1000 μm

CoreBone 2000
1600-2000 μm



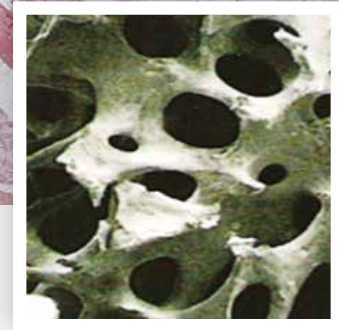
Histology of a core trephined from an edentulous upper posterior ridge 6 months post sinus lift.

Upper-left zone reveals graft particles (CB) surrounded by new bone (NB), indicating high graft conductivity; large amount of bone marrow (BM) evident.

(H&E original mag. X100)



CoreBone



Human Bone

Compressive Strength (UTS)

CoreBone	Cancellous Bone	Synthetics
17-22 MPa	3.5-7 MPa	2-5 MPa

CoreBone - Is the Natural Alternative

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 stronger than cancellous bone/synthetics

Porous - Optimal 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

Case Report: Open Sinus Lift Procedure

Augmentation using CoreBone 1000

Site: Posterior right maxilla

Follow-up: 10 months after augmentation

Dr. Jaroslaw Pospiech, DMD, PhD, Poland



Initial site PA X-ray
implant placement
due to proximity of
the maxillary sinus



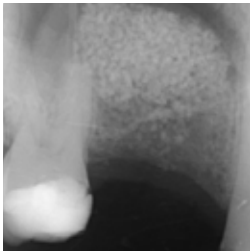
An open sinus lift
procedure was
performed. A collagen
membrane was placed
to secure the thin
mucosa lining of the
sinus



Extraction and augmentation using
CoreBone 1000 combined with
autogenous growth factors and fibrin



PTFE sutures
used for tissue
approximation



PA X-ray post
augmentation; graft
filling the floor of
the sinus creates
sufficient height
for future implant
placement



Implantation (6
months post
augmentation);
sufficient bone width
and height observed
clinically; primary
implant stability
achieved upon
implantation



PA X-ray, after
implant placement
(6 months post
augmentation)



Good volume
preservation
(10 months post
augmentation)



Full reconstruction
(4 months post
implant placement)

CoreBone Coral Graft

The natural alternative to bovine and human derived bone grafts

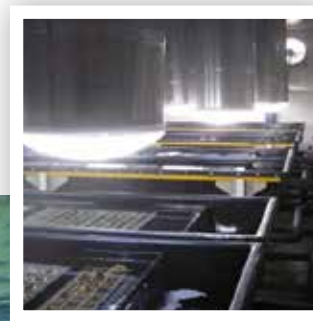
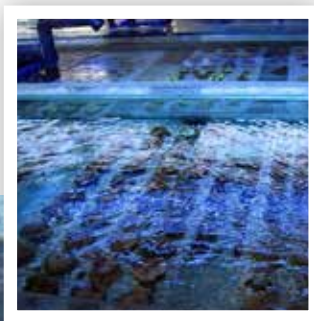


Coral has been used as bone grafting material for more than 30 years. Its bone-like qualities, composition, structure, strength and resorption has led to its use in hundreds of thousands of dental and orthopedics procedures. The main characteristics that make coral "bone" suitable and desirable for bone augmentations are osteoconduction and resorption. Moreover, coral has the potential to enhance bone regeneration, does not evoke inflammatory infiltrate or fibrous encapsulation. However in the last decade, coral has been declared an endangered species and its quality has decreased due to the rise in sea pollution.

CoreBone corals are grown in a closed, controlled aquatic (aquarium) system that uses proprietary technology and laboratory-made seawater enriched with bioactive nutrients and CoreBone's own coral breeding source. This enables CoreBone to leverage the natural bone-like properties of coral, prevent sea pollution-related risks and ensure product consistency.

CoreBone's graft consists of the pure coral mineral largely calcium carbonate crystals (>95%), in the form of aragonite that has been enriched with silicium, strontium and other nonorganic substances. The three main elements – calcium, silicium and strontium – are known to play an important role in bone mineralization processes and in the activation of enzymatic reactions with osteogenic cells.

CBCA 0119 EN



CE 0459

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