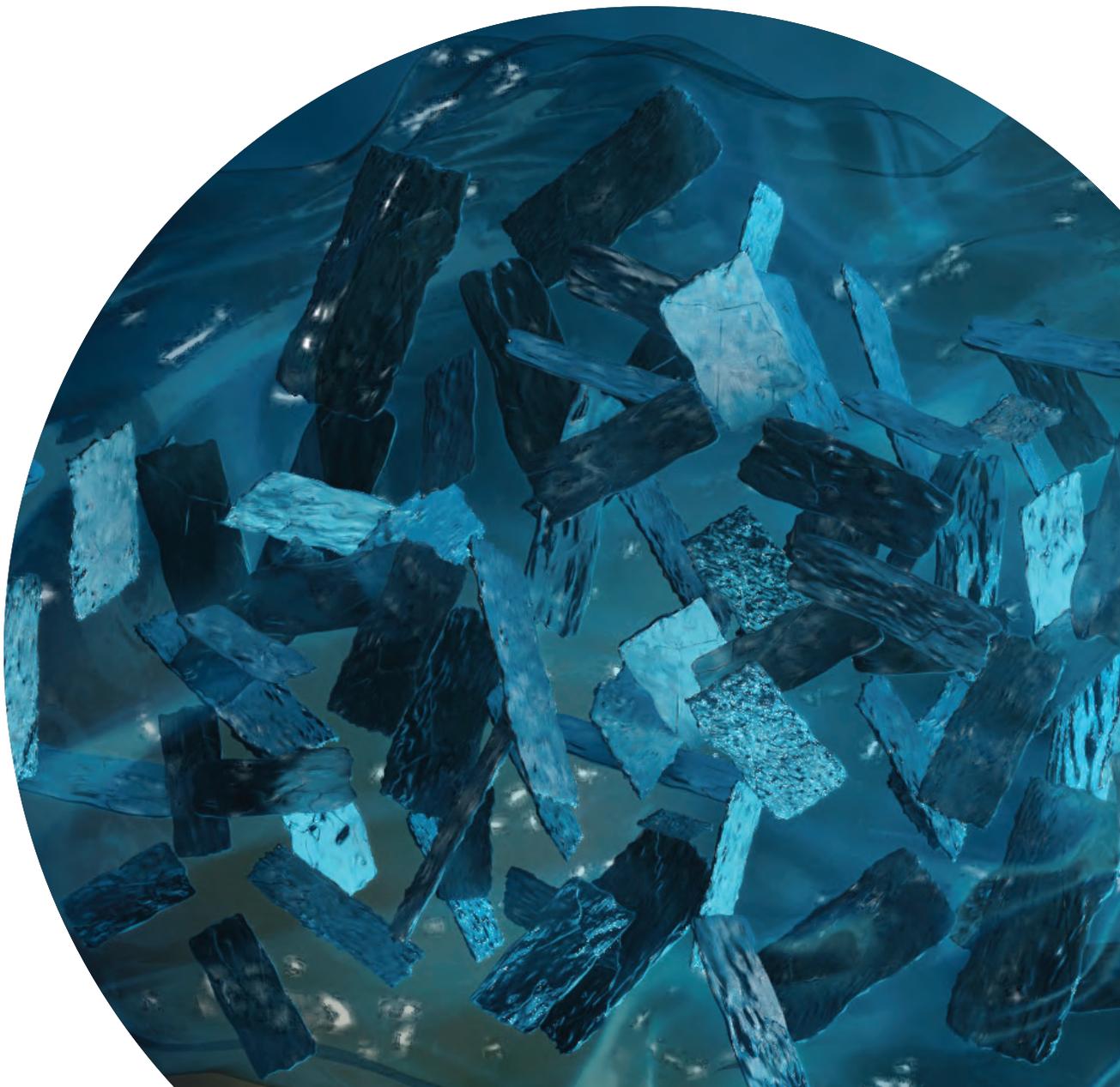




Artoss Inc.

Rapid Osteogenesis™

NanoBone® is a patented bone graft substitute composed of bioidentical nanocrystalline hydroxyapatite in an amorphous silica gel.



NanoBone® for Rapid Osteogenesis™

NanoBone is a bone graft substitute that harnesses the body's own capacity to heal bone.

- Consistent, reliable, predictable outcomes
- Nothing to add, no mixing
- Excellent handling, stays where you put it
- Creates osteogenic matrix within 14 days
- Clinical & radiographic healing in 8 weeks¹
- Cost-effective

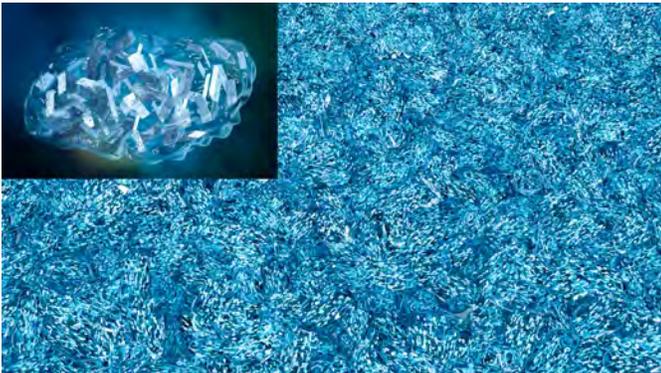
“NanoBone is uniquely designed to get into a very small space and create conditions for fusion by creating a natural osteogenic matrix within days of implantation.”

- **William Lavelle, MD**

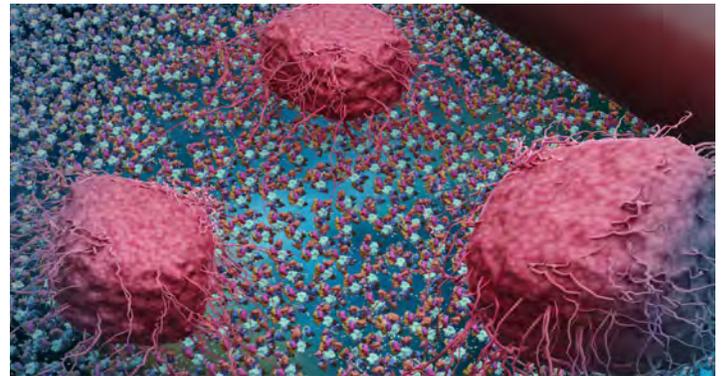
Spine Surgeon
Upstate Orthopedics,
East Syracuse, NY

¹ Ortega, G. Using Nanotechnology as stand-alone bone grafting in open fracture bone defects and nonunions, Orthopaedic Trauma Association Annual Meeting, #1043, 2020.

NanoBone® Mechanism of Action



Nanocrystalline hydroxyapatite (HA) and amorphous silica gel (ASG) initiate the bone healing cascade



ASG is selectively replaced by cells and proteins forming an organic matrix with HA within 14 days



The osteoid undergoes cellular remodeling to form mature bone



Cellular remodeling leads to clinical and radiographic evidence of healing in as early as 8 weeks¹

NanoBone® – Standalone Performance in Different Orthopaedic Cases

SPINE Posterior Treatment of Previous Multilevel ACDF Patient *Vikram Udani, MD*



Preoperative lateral X-ray demonstrating prior cervical fusion and progressive disease



5-month postoperative X-ray demonstrating solid fusion mass present in lateral gutters

- 80-year-old male with previous cervical fusion (ACDF) had continued degenerative disc disease and C3-T1 spinal stenosis.
- Posterior C3-T1 cervical fusion performed with 30ml of NanoBone QD Bone Graft in lateral gutters.
- At 5-months postop, VAS decreased from 9.0 to 0, postop X-rays demonstrate well-positioned hardware with a solid fusion mass, and patient is back to light-intensity activities with decreased narcotics use.

TRAUMA Open Tibial Fracture with Bony Defect *Gilbert Ortega, MD*

- 20-year-old male with Type 3B open right tibia fracture with a bone defect underwent reduction and IMN fixation of his tibia with 10mm nail and a free tissue muscle transfer to cover his open soft tissue defect.
- Bony defect was filled with 10ml of NanoBone SBX Putty in outpatient setting 8-weeks after initial procedure.
- At 3-months post-grafting with NanoBone, patient was clinically and radiographically healed.

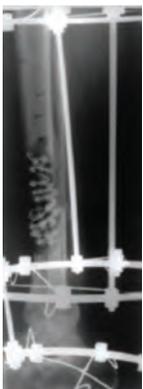


Preoperative medial X-ray demonstrating Type 3B open right tibia fracture with bony defect



Postoperative X-ray demonstrating well-healed tibia 3-months after NanoBone application

TRAUMA Infected Tibial Shaft Fracture Repair in 60-year-old Alcoholic *Arndt Schulz, MD, PhD*



8-weeks postop X-ray showing antibiotic beads



12-weeks postop X-ray showing surgical void filled with 15ml of NanoBone



12-months postop X-ray demonstrating tibial healing

- 60-year-old male with right tibia midshaft fracture with complicating conditions of chronic alcohol abuse.
- 8-weeks after initial surgery, patient was readmitted to hospital with grossly infected tibia, all hardware removed with infected portion of tibia resected, and antibiotic implant with external stabilization added.
- After 4-weeks, antibiotic implant was removed and 15ml of NanoBone added to void.
- At 12-months post-grafting with NanoBone, tibia was fully healed on X-rays and patient returned to normal daily activities.

Consistent, reliable, and predictable outcomes.

Based on 15 years of clinical experience in over 100,000 cases, the FDA cleared NanoBone as a standalone bone graft substitute for its ability to create an autologous organic matrix in 14 days.

“With NanoBone’s bone healing process, you have autologous extracellular matrix forming within 15 days, whereas other products take much longer, typically within 4 to 8 weeks”

– Gil Ortega, MD, MPH,
Trauma Surgeon
Sonoran Orthopedics
Scottsdale, AZ

NanoBone® SBX Putty

combines advanced bone repair with exceptional handling for the surgeon



NanoBone® QD

features NanoBone SBX Putty in an easy-to-use applicator designed for quick delivery in controlled & precise manner



NanoBone SBX Putty and QD are available in the following sizes:

Part Number	Description	Size
200042	NanoBone SBX Putty	1.0ml
200044	NanoBone SBX Putty	2.5ml
200045	NanoBone SBX Putty	5.0ml
200046	NanoBone SBX Putty	10.0ml
200056	NanoBone QD	5.0ml
200057	NanoBone QD	10.0ml

To order NanoBone, please contact your NanoBone representative, or email us at info@nanobone.us



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