**A little extra can make a difference**

Vitoss continues to be the #1 selling Synthetic Bone Graft\(^1\) for the simplest of reasons…it works and has human clinical data. Vitoss Bioactive Bone Graft Substitute, launched in 2008, is now joined by Vitoss BA2X Bioactive Bone Graft Substitute, which contains increased levels of bioactive glass and has shown through in-vitro testing to induce two times the deposition of calcium phosphate onto the surface of the implant while retaining the same handling properties.\(^3\)

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**Bioactive Glass - Mechanism of Action**

Literature shows that bioactive glass has shown good bonding-to-bone properties in animal models.\(^4\)\(^-\)\(^6\) Upon implantation, the ionic constituents (Si\(^+\), Na\(^+\), Ca\(^{2+}\)) of bioactive glass are released into the surrounding environment and react with the bodily fluids.\(^7\)\(^-\)\(^{10}\) This reaction produces the deposition of a thin layer of physiologic calcium phosphate at its surface, favorable for osteoblast attachment.\(^17\) This is commonly referred to as an osteostimulatory effect.\(^4\)\(^-\)\(^6\),\(^9\)\(^-\)\(^{11}\),\(^{13}\) This may lead to the bonding of new bone to the scaffold.

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**3D Regeneration of Bone**

Only materials with interconnected porosity will allow for 3-D regeneration of bone as opposed to creeping substitution.\(^14\) Additionally, increased porosity has been shown to lead to higher fusion rates.\(^16\) With the addition of the bioactive glass, it helps to increase the osteoblasts to assist in the host tissue to regenerate new bone.\(^4\)\(^-\)\(^6\),\(^9\)\(^-\)\(^{11}\),\(^{13}\)
It was our goal to provide a bone graft with excellent handling properties and the benefits of additional bioactive glass.

Using the Vitoss BA platform, we have increased the amount of bioactive glass in Vitoss BA2X to provide an increased level of bioactivity without compromising clinical handling properties.

The #1 Selling Synthetic Bone Graft

In-Vitro Bioactivity

This chart shows the average score (n=5 per sample) of CaP coverage on Vitoss BA and Vitoss BA2X. Vitoss BA2X shows increased bioactivity versus Vitoss BA.

A 2X increase in in-vitro bioactivity over Vitoss BA BA3

2. Vitoss Bibliography, P/N 5701-0002 Rev. 00, 2011.