**Advantages of Bioactive Bone**

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| **Advantage** | **Functionality** | **Reason** |
| Easy to use | After moistening with a few drops of saline or the patient's blood, the granules can be easily transferred as one unit to the graft site | Due to the unique polymer coating |
| Good bone growth at the graft site | "Summoning" osteoclast cells (absorb bone), and afterwards osteoblasts (build bone), enables a greater percentage of new homogenic bone. | Due to the polymer and cell nutrients to cells |
| Product defined as Bioactive bone | Production of uniform bone – without remnants of the grafted bone substitute – at the end of the period of regeneration. Competitor bone substitutes of bovine origin, are not fully replaced as opposed to this product which is completely absorbed after 9 months (according to the manufacturer) | Due to the use of a polymer, cell nutrients, and a low heating temperature in the production process of the bone substitute – the hydroxyapatite structure is preserved and is similar to natural human bone. |
| Ability for radiographic follow-up after building new bone | Little radiopacity at the grafting stage of the bone substitute which changes with time (indicates the similarity to a granular autogenous bone graft). With the passage of time after grafting, radiopacity intensifies – a fact which indicates the growth of new bone in the regenerative process. | Due to the use of a polymer, cell nutrients, and a low heating temperature in the production of the bone substitute, there is no change in the structure of the hydroxyapatite which is similar in structure to human bone.  |
| Maximal safety | Source of the bone graft is safe and upholds the highest standards, without concern for BSE disease ("mad cow disease") |

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| **Additional points** |  |

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| **Patent:**IBI is the only company that is a patent holder for the combination of Xenograft + polymers + cell nutrients |

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| **Use in additional medical fields**In addition to the field of dentistry, IBI markets bone substitutes to the fields of orthopedics, pediatric surgery, and oncology, where the complexity of treatment and product requirements are the highest. |

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| **Heating of the bone substitute**1. In the production process of the bone substitute, competitors heat the bone to high temperatures causing a morphological change in the bone, making complete absorption of the grafted bone difficult. Remaining bone granules of the grafted bone weaken the regenerative bone from the biomechanical aspect.
2. Heating temperature: IBI 45̊̊C, Geistlich>450̊C, Bottis>1000̊̊C.
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| Bone grafts of competitors1. Show a relatively small quantity of regenerative bone (New bone) over time, and a large quantity of bone substitute and connective tissue.
2. In Geistlich, for example, there is only 28%-40% new patient bone in the end, approximately 30% bone substitute and the remainder, connective tissue.
3. The Bioactive bone is fully replaced already after 9 months!

Following are photographs which illustrate the difference between the regenerative results of the competitor to results obtained after the use of Bioactive bone. |

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| An in vitro studied carried out in Israel, examined the adhesive ability of stem cells to bone substitute. The comparison was between: Bioactive Bone (Alpha Bio Tec.) and Bio-Oss® (Geistlich). Test results show that 69% of the cells adhered to Bioactive Bone as opposed to 12% of the cells to Bio-Os®! This indicates the role of the polymers and cell nutrients in the attraction to cells which determine the commitment of wound healing, which are the first minutes after placing the bone graft.  |

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| **Opacity:**1. The competing bone substitute demonstrates a great amount of opacity already at grafting, appears identical after 4 months or more, and therefore, does not enable follow-up of new bone created during healing.
2. The level of opacity of Bioactive bone gradually increases over the course of healing and is used as an indicator of the creation of new bone in the grafted area. For illustration, radiograms are attached from the study carried out at the University of Milan by Dr. Silvio Taschieri,

Dr. Massimo del Fabbro, Prof. Ofer Moses, Prof. Carlos Nembakovski, which indicate the increase in opacity.3 months after bone graft Immediately after bone graft Before bone graft |

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| **Tip**:Wet the bone substitute with only a few drops of saline or the patient's blood and do not flood with fluid in order to preserve the polymer coating. |