



## High porosity artificial bone graft with interconnected channel

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### Experience:

Professor Chih-Hao Chang is currently the Associate Professor in National Taiwan University. He was the Managing Director of Taiwan Society for Surgery of the Hand (TSSH). He was engaged in teaching, research and clinical work for over twenty years. He received his PhD in Biomedical Engineering Institute in 2010 from National Taiwan University. In addition to his university and hospital work, Professor Chang is energetic in research relating to antibacterial material, surface treatment of medical device and 3D-printed orthopedics device.

### Market Needs:

After suffering trauma or tumor surgery, patient's alveolar bone and underlying bone have bone defect result from bone absorption because of surgery, extraction and periodontal disease. The repairment of the alveolar bone defect is a crucial object of clinical treatment. In orthopedics, the bone tissue defect results from cutting off infected tissue of bone tumor or osteomyelitis is a thorny problem. The methods can be adopted are autogenously bone graft, allograft and callus lengthening. Consequently, ceramic artificial bone becomes an alternative choice to allograft patients and autologous bone transplant patients without enough autologous bone.

### Our Technology:

This program has patent of additive manufacturing technique, make use the existing business additive manufacturing equipment and use currently authorized biomedical ceramic material to carry out composite ceramic formulation test. Develop artificial bone with interconnected channel for bone defect and relative surgery.

### Strength:

1. The ability to produce artificial bone independently
2. Increasing the mechanical strength of the composite ceramic materials.
3. The improvement of circulation of micro-environment inside the artificial bone.

### Competing Products:

3D Ceram (France)

### Intellectual Properties:

This method based on the SLG technique, a patented additive manufacturing method (I566920).

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