

# **A review of bioceramics and fibrin sealant. [Review] [73 refs]**

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## **Abstract:**

This review focuses on bone substitute composites made by mixing ceramic biomaterials with fibrin sealants. Different biomaterials such as coral, bone-derived materials, bioactive glass ceramics, and synthetic calcium phosphate have been mixed with fibrin sealant, resulting in a combination of the biological properties of the two components. This type of association has not produced identical results in all studies. In the past for some, the addition of fibrin sealant to the biomaterial failed to produce any significant, positive effect on osteointegration, whereas others found a positive impact on bone colonization. Despite the negative biological effects reported previously, bioceramic-fibrin composites have been widely used in various types of bone surgery because they are easy to manipulate. In particular, the intra-operative preparation of these composites makes it possible to add bone growth factors or autologous osteoprogenitor cells prior to bone reconstruction. The bone growth factors and autologous osteoprogenitor cells associated with the bioceramic-fibrin composites should provide surgeons with tissue engineered grafts with enhanced osteointegrative properties. This review discusses both the advantages and disadvantages, as well as the future perspectives, of using bioceramic-fibrin composites in various clinical indications. [References: 73]