



## **PARTICULATE BIOGLASS REDUCES THE VIABILITY OF BACTERIAL BIOFILMS FORMED ON ITS SURFACE IN AN IN VITRO MODEL.**

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45S5 Bioglass is a bioactive implant material which, in its particulate form, is used in the repair of periodontal defects. The surface reactions undergone by this material in an aqueous environment may exert an antibacterial effect that would be beneficial to periodontal surgical treatment. Biofilms of *Streptococcus sanguis*, an early plaque former, and mixed species biofilms from a salivary inoculum grown under conditions similar to those associated with periodontal implants, were grown on particulate Bioglass in a constant depth film fermenter (CDFF). Control biofilms were grown on inert glass particulates. At sample times of 3, 24 and 48 hours the viability of biofilms of *S. sanguis* grown on Bioglass was significantly lower than for those grown on inert glass. In the experiments with subgingivally-modelled mixed species biofilms, the total anaerobic counts were significantly lower on Bioglass after 24 and 48 hours, but not 96 or 168 hours, compared to inert glass. Thus, particulate Bioglass has the potential to reduce bacterial colonization of its surface in vivo, a feature relevant to post-surgical periodontal wound healing.

Clin Oral Implants Res. 2002 Feb;13(1):53-8.