

Product of the moment: Biomin

A closer look at what this new step forward in toothpaste technology means for the mouths of your patients

B iomin toothpastes represent a major breakthrough for oral care and are the result of over a decade of scientific research at Queen Mary University of London.

Biomin F toothpaste incorporates a bioactive glass which is able to slowly release calcium, phosphate and fluoride ions to form acid resistant fluorapatite for up to 12 hours after brushing.

Bioactive glasses are extremely biocompatible, which has led to their use in surgical applications to replace diseased or damaged bone. Upon brushing with the toothpaste, the very fine glass particles (5 microns average) adhere to the tooth surfaces – in a similar manner to the adhesion of glass ionomers to tooth surfaces.

Saliva will slowly break down the glass structure releasing the three mineral ions. Because of this controlled manner of fluoride release, it is possible to provide high level of protection to tooth surfaces using much lower levels of fluoride than traditional toothpastes incorporating soluble fluoride; in most cases, the fluoride concentration provided by traditional 1450ppm fluoride toothpastes will halve every minute after brushing due to salivary dilution.

Protection and relief

Biomin F toothpaste mimics and enhances the way saliva replaces lost mineral on tooth surfaces, providing protection and relief from the effects of sensitivity, acid erosion and initial enamel decay.

The particles of Biomin F are designed to be small



enough to enter and occlude the dentine tubules. Here the saliva is able to slowly break down the glass matrix, releasing calcium, phosphate and fluoride ions that combine together and precipitate on the tubule surfaces as fluorapatite.

Acid response

Biomin F dissolves faster under acidic conditions and releases the mineral ions to help neutralise surface attack.

Hence, when faced with an acid challenge, as a result of bacteria metabolising sugars or drinking an acidic beverage, the glass dissolves quickly releasing calcium, phosphate and fluoride ions to form fluorapatite crystals and also raise the pH.

Best results with Biomin F toothpaste can be achieved by brushing twice per day: before breakfast and before going to bed at night. In both cases the foam after brushing should be swirled around the

mouth and then spat out – rinsing the mouth after brushing is not recommended as this will limit the effect of the toothpaste.

For those who refuse to use a fluoride-containing toothpaste, Biomin C toothpaste has been developed with strong remineralising properties to develop hydroxyapatite on the tooth surfaces. [OH](#)

