Through the Bioglass

Dental Tribune looks at a thoroughly British development making its debut at Showcase...

Dental products are constantly evolving as new technologies make their way to market. More efficacy, cost-effectiveness, biocompatibility and patient comfort are just some of the driving forces behind new product development. Whilst this type of development often comes from companies, every once in a while something new comes from the research being undertaken within the university system that breaks boundaries. Sylc from OSpray is just such an example.

Sylc is a therapeutic bioglass prophylaxis powder which has been developed by a team of biomedical engineers and dentists from Imperial College London and Kings College (Guy’s Hospital) London. Ten years in the making, the technology has its origins in maxillofacial surgery, reconstructing faces after an accident or cancer. Sylc is a 100 per cent calcium phosphosilicate bioglass material - a powdery bioactive material that as it combines with saliva or water, forms hydroxyapatite crystals (HCA) that become entraped into the collagen of dentin and biologically bond into the mineral surface to promote regeneration of dentin and damaged tooth surfaces. Sylc has been developed to provide a wide range of clinical benefits including: cleans, polishes, desensitising, brightening, remineralising and anti-microbial properties.

In-vivo and in-vitro published studies demonstrate Sylc not only clean teeth more efficiently than existing materials, but also rapidly combats sensitivity and promotes remineralisation of tooth surfaces. Patient response is very positive, with much higher levels of comfort being reported.

Richard Whatley, Europe & Asia Business Director for OSpray Ltd, a technology start-up company funded to commercialise the development of the use of air-propelled bioglass powders for prophylactic and therapeutic treatment for minimally invasive in dentistry, spoke to Dental Tribune about the product. “Sylc has been 10 years in the making – from the original research and development, through the clinical trials and finally to the first viable product.

“Trials of Sylc were conducted at the University of Maryland in the United States. All studies showed a significant reduction in sensitivity and a higher level of patient comfort. Feedback from patients meaning the appreciation of its neutral, salt-free taste. The spray was meant to be far more direct, so it did not get all over the patient.”

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tient’s face and clothes. Clinicians reported positive feedback too – there was highly significant reduction in sensitivity and rapid stain removal.”

Richard added: “The way it is used is very simple – it is sprayed on using a standard air polisher (no specialist equipment is needed) one centimetre from the tooth surface. The powder can remove stain and discoloration, however it has the added benefit of impregnating the tooth surface to reduce sensitivity. The particles are able to embed themselves into the tuft and block the hot and cold sensations that cause the pain of sensitivity.

“It is biocompatible and is able to form a long-term barrier in just one application. For patients with good oral health, Sylc just needs to be applied every six months, so it is very convenient to introduce its use into a patient’s routine examination.

“The efficacy and cost-effective benefits are down to the density of the particles – as they are heavier than other prophylaxis powders they are able to produce more energy at the same speed. This is why they are able to remove stains more rapidly whilst not using as much in gram terms.”

Clinicians trialling the product have been really pleased with the results they have been getting with the product. Bash Patel, a dentist with practices in Swiss Cottage and Plumstead, commented: “The new Sylc Polishing Powder, which was provided a trial basis for the removal of extrinsic tooth stains and also for desensitising teeth, has been extremely successful.

“Patients find it very beneficial in terms of comfort and effect. The powder has less scatter than some of its competitors and I’m sure other dentists who use it find it has a similar benefit.”

Sylc is being launched at this month’s BDTA Dental Showcase at the NEC in Birmingham. The product comes in the form of two 185-gram bottles, with each bottle contains enough Sylc for more than 20 full mouth applications. With an RRP of £75 for the two bottles, Sylc is expected to be a fantastic revenue generator for practices.

Richard commented: “Sensitivity is an increasing problem for patients – at least 20 per cent of the overall population is expected to suffer significant sensitivity; this increases to almost 100 per cent as the population grows older.

“In addition, we are currently undertaking studies to validate the efficacy of Sylc in reducing sensitivity pre- and post-bonding.”

To find out more about Sylc and how it can be of benefit to your patients, visit the J&J Dava stand (M10) at Showcase, where you can take advantage of some special show offers for the product. More information can be found on www.csepap.com, or by contacting J&J Dava on 01455 278 908.”