Proving effective oral instructions in a clinical setting

Despite advances in good oral health care, many patients and dental professionals remain uncertain about oral prophylaxis and the concept of disruption of interdental biofilm. Although patients may have bought more oral care products and become more interested in their dental hygiene, many still do not know how to use them correctly. A previous article published in Dental Tribune Asia Pacific 11/2016 introduced to the outstanding research done by Prof. Denis Bourgeois, Dean of the University of Lyon's dental faculty in France. In his presentation at the FDI Annual World Dental Congress in Poznań in Poland, he presented scientific evidence that interdental brushes, in particular CURAPROX CPS interdental brushes, are efficient tools to interrupt the interdental biofilm. However, questions remain about the level of individual training that the dental staff should provide for their patients.

Naturally, dental professionals agree that, despite clinical evidence that supports the importance of interdental biofilm management, effective daily cleaning of interdental spaces remains a challenge among their patients. Removal of interproximal plaque is considered important for the maintenance of gingival health, prevention of periodontal diseases and the prevention of caries, as well as the prevention of systemic diseases. However, dentistry still argues whether today’s interdental cleaning tools are sufficient to interrupt biofilm development. Professionals debate on which tools to use and how to use them correctly, as uncertainty has remained about how to maintain clean interdental spaces.

As Bourgeois concluded in his presentation, the majority of studies have reported a positive significant difference in the plaque index when using an interdental brush compared with floss. In general, interdental brushes were found to be more effective in removing plaque compared with brushing alone or the combined use of toothbrushing and dental floss. However, in general, in a clinical setting, the majority of studies remain about the level of individual training that the dental staff should provide for their patients.

According to Prof. Denis Bourgeois, toothbrushing alone is not enough to prevent interdental plaque. Individually trained oral prophylaxis is key to success.

Individual instruction important for good interdental health

One major problem with interdental cleaning has always been patient ability and motivation. “Interdental cleaning does not readily become an established part of daily oral hygiene,” said Bourgeois throughout his presentation. Damaged and regular cleaning can reduce the risk of bleeding and oral bacteria,” said Bourgeois. “From a clinical point of view, the oral prophylactic goal of achieving thorough cleaning with minimal damage, due to the misuse of interdental brushes, is important. It is necessary to emphasise individual instruction and selection of oral hygiene means with a view to attaining a high level of cleanliness with little or no harm to either soft or hard tissue.”

Oral prophylaxis should therefore be taught individually and not in lectures. By correcting and repeating the right cleaning technique, prevention of oral and systemic disease can be achieved. Currently, Bourgeois offers prophylaxis training courses for dental students. To these, they are taught the correct use of oral hygiene tools such as interdental brushes, cleaning techniques, and the importance of motivation and repetition. As observed by the course participants, 95 per cent of the dental students continue to use interdental brushes after two years of completing the training. “Interdental cleaning needs to become an established part of daily oral hygiene for the reduction of interproximal plaque, the control of gingivitis and improvement of patient motivation. If you use a toothbrush twice a day, you have to use interdental brushes once a day. If not, you will risk your health,” Bourgeois said.

A probe as key to successful interdental cleaning

As an effective and predictable tool to objectively measure the size of the interdental spaces, interdental probes are now increasingly used by some dental hygienists to help choose the right access diameter defined by the thickness of the wire core. Bourgeois et al., titled “A colorimetric interdental probe as a standard method to evaluate interdental efficiency of interdental brush,” emphasised the need for choosing the right diameter so that the interdental brush can easily fit the interdental space. Apart from the individual anatomy, interproximal spaces can change with age, periodontal health or dental treatment. While under-sizing of the interdental brush will affect its efficiency, oversizing might influence acceptability, comfort and could cause gingival trauma.

Essentially, Bourgeois and his colleagues suggested that the use of a colorimetric probe and interdental brushes is more beneficial to both the patient and the practitioner than merely choosing interdental brushes based on the reference technique of trial and error alone. By using the IAP CURAPROX calibrating colorimetric probe, a clinical professional instrument with a rounded tip, dental professionals were able to measure the interdental space and choose the most suitable interdental brush for their patients. The study found that the brushes chosen had a diameter larger than that indicated by the probe in 25.54 per cent of cases and a diameter smaller than the probe value in 35.1 per cent of cases. According to the study, the colorimetric interdental probe can be considered as a newly developed in-clinic professional procedure that will make interdental cleaning easier and more predictable and help improve patient motivation.

By measuring the interproximal space correctly, Bourgeois and his team concluded that the latest generation of interdental brushes was able to access 92 per cent of interdental spaces. Over 80 per cent of the sites required a small-diameter interdental brush (0.6 to 0.7 mm) of the CURAPROX CPS Prime Series, and differences occurred between anterior and posterior sites. Participants were able to use the interdental brush easily following instructions. As a result, most interdental sites can be cleaned using interdental brushes, but accessibility of interdental spaces would need to be established in the dental practice with the use of the CURAPROX IAP Probe. More information can be found at www.curaprox.com.