Dental water jet technology is proving an essential self-care tool in the removal of plaque biofilm and during orthodontic treatment, says Alec Hilton

Dental water jet technology has been much talked about among UK professionals with facts, figures and amazing claims surrounding this equipment. Dental professionals have testified to the benefits of introducing this technology to patients receiving treatment across a variety of dentistry fields including orthodontic, restorative, implant and aesthetic. Many claim to have introduced the dental water jet into their own regime.

But what are the simple facts? What is the scientific and clinical evidence behind the technology of the dental water jet without the hype?

What’s the problem?

In dentistry, as in all areas of medicine, prevention and self-care are the foundations of hygiene and health. This is particularly true in dentistry for a patient who has had a complex treatment.

The daily oral healthcare regime of patients in restorative or aesthetic cases can be difficult and without correct care, can often lead to complications.

Toothbrushing is the most obvious first step in effective oral hygiene. Combined with interdental devices, such as floss, that clean between the teeth, the extremely important role of plaque removal can be quite successful. But the use of interdental devices, especially floss, is infrequent among patients, with many surveys reporting that few people ever make use of them and if they do, very infrequently.

So are the claims of superior levels of oral hygiene for patients using water-jet technology accurate? Or claims that dental water jet incorporated into daily healthcare programmes will benefit patients of all cases?

Results are in

Research provides clear evidence that a dental water jet has significant benefits to teeth and leads to greatly improved oral hygiene. It is particularly significant that studies show that the jet is up to 95 per cent better at reducing bleeding than manual flossing and up to 92 per cent better at reducing gingivitis.
For orthodontic work

Orthodontic braces bring mixed reviews, depending on who is offering an opinion. Having orthodontic treatment requires the patient to maintain outstanding oral care and with most patients being under 17, this is sometimes a difficult undertaking. Recent studies\(^1\) that involved a test sample of young people being offered the use of an orthodontic tip with a dental water jet and manual brush showed that use of the jet reduced their plaque over three times more than when they only used manual brushing and flossing. The dental water jet also offered an astonishing 84.5% improvement in reducing bleeding compared with 66.4% for dental floss.

Plaque biofilm removal

The exciting results that have been carried out on the Waterpik dental water jet, have shown truly impressive results in plaque biofilm removal using dental water jet technology.

A noted team of biofilm experts conducted an investigation\(^2\) using a scanning electron microscope (SEM) to explore at microscopic level the impact of the pulsating dental water jet on dental plaque biofilm. This study revealed the extremely significant and encouraging information that in as little as three seconds, the dental water jet, using a standard tip, removed as much as 99.9% of plaque from the surface of the tooth. The test was then repeated using a special orthodontic tip, and here the SEM showed 99.8% per cent of plaque removed compared with untreated areas.

The conclusion

Looking at the facts and scientific evidence, the dental water jet is proving to be an evolution of technology and effectiveness in oral healthcare. The onward progress of dental hygiene aids has given patients a range of self-care devices that can be incorporated into daily care routines and offer patients some of the most fundamental and pleasant of health benefits. These include a hygienic mouth, strong and healthy teeth and gingivae, fresh breath confidence and the knowledge that they are well protected against plaque biofilm, bacteria, bleeding and a range of periodontal diseases.

1. Barnes, CM, Russell CM, Reinhardt RA et al. Comparison of irrigation to floss as an adjunct to tooth brushing: effect on bleeding, gingivitis and supragingival plaque. J Clin Dent. 2005; 16(5); 71-77

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