Chlorhexidine is a tried and tested and highly effective anti-septic used in the oral cavity to treat minor oral infections, and has been available for many years in a sustained release form (trade name Periochip). Another two-stage chlorhexidine product (trade name Clostex) is based on two forms of chlorhexidine. Chlorhexidine digluconate (0.5%) is a small molecule and therefore it is released in high concentrations immediately after placement. Chlorhexidine dichloride (1%) is a larger and more complex molecule that is released over a period in excess of 7 to 8 days, at a consistent rate to maintain its anti microbial properties.

Other anti microbial gels are based on antibiotics such as Minocycline (Trade name Demтомycin) and Metronidazole (Trade name Elyzol).

A completely new concept in periodontal pocket disinfection is now available that uses the well-known property of the light (Trade name Periowave) to kill bacteria in the same way as those who suffer from acne find that their spots disappear after sitting in sunlight. A photosensitive gel which bonds to Gram negative bacterial proteins is introduced into periodontal pockets and activated by directing the intense light from a non-thermal soft laser into the pockets, destroying the ozone gas into periodontal pockets and root canals. Because ozone is a gas it permeates this tissues and inaccessible niches it potentially achieves instant total disinfection.

Such dramatic innovations present major potential to improve healing during the active phase of treatment, to manage recurrent bouts of active disease and to maintain tissue stability, and also to improve the potential for maintaining long-term periodontal health.

Conclusions
It must be emphasised that these products are all complementary and adjunctive to mechanical root surface debridement by means of scaling and rootplaning. It is crucial that as much foreign material by way of plaque, food debris, and subgingival calculus, is physically removed from the root surfaces prior to using these products.

Other innovative products that are now available use ozone. Ozone is a bioactive oxygen molecule that attaches to and destroys bacterial walls. A recently developed machine (Trade name Ozotop) uses micro-capillary tips to introduce the ozone gas into periodontal pockets and root canals. Because ozone is a gas it permeates this tissues and inaccessible niches it potentially achieves instant total disinfection.

Mechanical root surface debridement gives good results and remains the mainstay of periodontal therapy. Adjunctive topical and systemic antimicrobial and anti inflammatory products, photo disinfection, ozone and other treatment methods may give good treatment outcomes, but the best results are universally achieved when several different techniques adjunctive to root surface debridement are used together to complement each other.

Therefore modern periodontal therapy requires thorough and meticulous mechanical root surface debridement, together with the use of other adjunctive therapies to achieve the enhanced results that individual treatment techniques cannot achieve alone.

About the author
Dr. Peter Galgut is a long-standing clinical periodontist practicing in North West London (www.periodontal.co.uk). He has recently launched a website offering help and advice in the management of periodontal conditions for colleagues who do not have a local periodontist. This site address is www.periodontaldiagnosis.com.

Peter will be presenting at this year’s Clinical Innovations Conference to be held May 7-8 at The Royal College of Physicians London. For more information go to www.clinicalinnovations.co.uk.

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