Piezito – a unique innovation in dental ultrasonics

Here we take a look at a new and definitive approach to ultrasonics

Ultrasonic scaler development

Ultrasonic Scalers are now recognised as an essential tool in virtually all preventive dental procedures.

But since their initial introduction to the dental market in the early 1970s, they have undergone very little change in design, with most manufacturers having failed to incorporate the many technological advances that have taken place in this 40-year period.

The early units were simple in concept and were, in most instances, designed to be used with one basic tip, and this worked well within very limited parameters.

However, rapid advances in the design of scaler tips meant they became ever finer and longer, consequently requiring a measured and accurate control of both power and pressure.

Manufacturers tried to overcome this problem by an increase in power or voltage. This step proved inefficient, as an increase in power output and pressure invariably lead to tip damage and subsequent breakages. This produced a much narrower power curve that subsequently proved to be less than ideal.

A solution was therefore required that would provide specific power input control that in turn will always guarantee delivery of the correct frequency to the tip.

Recent advances

More recently, the Swiss based company TTT (Tip Top Tips), having extensive experience in dental ultrasonics, succeeded in producing a truly innovative unit that represents a quantum leap forward in design, control and operation.

The company devoted over five years to the research and development of new, advanced software, and a new ultrasonic generator that redefines the dental ultrasonic scaler as we know it.

The newly launched Piezito overcomes the problem of the narrow power curve by incorporating 64 parameters into the software, and this is known as IPC (Intelligent Power Curve). This design feature ensures that the right power is delivered at the right time, every time, according to tip selection and technique. This feature extends the potential of the unit considerably, making a greater range of power levels and applications possible, both for dry and wet work use.

TTT are confident that these advantages of the Piezito will enable clinicians to overcome the failings of those ultrasonic units that have been produced in the past, and will greatly enhance operator efficiency, and provide quieter and more comfortable treatment for the patient.

Figure 1: The Piezito unit showing easy-to-clean control panel and handpiece in situ

Figure 2: Close up of the Piezito handpiece with TTT tip in place

The Piezito unit

Having made mention of the Piezito's advanced IPC, clinicians need to be aware of the other benefits that this new unit can offer.

The Piezito's frequency range is much wider and considerably exceeds that of other units, with levels of between 25,000 and 32,000 HZ being possible, thus increasing the range of treatment options available.

Recently staged trials of the Piezito show that the level of patient acceptance as an alternative to other ultrasonic units was much higher, with feedback indicating that they found the unit much quieter and more comfortable in all treatment phases.

Ergonomically, Piezito offers the operator an advanced touch screen interface, which is easy to use and clean.

Another useful feature is the magnetic mounting system for the handpiece, which ensures safe and easy placement when not in use.

The sleek handpiece design incorporates colour-corrected LEDS for optimal illumination. This feature allows controlled examination of the oral cavity in both diagnostic and treatment procedures.

Overall appearances show a unit that is well designed, compact and practical with considerable scope to extend its use for different treatment modalities.

TTT 'double effect' ultrasonic scaler tips

TTT also produce high-grade tips for use with the Piezito, but that are also compatible with many other well-known manufacturers units.

Currently there are 4 different tips available: 'De Supra' tip for supra-gingival deposit removal and all tooth surfaces; 'De Proxi' for difficult to access areas and interproximal surfaces; 'De Maxi' for gross calculus and sub-gingival scaling; and 'De Fine' for deep sub-gingival work and root debridement

TTT 'double effect' tips are unique in their design as their double edged profile allows for improved acoustic streaming and accelerated water displacement (cavitation), resulting in gentler treatments, more efficacy and overall time saving.

• Optident Dental Hygienic Solutions are hoping to stage courses for hygienists in 2010. Contact course organiser Charlotte Billington on 01943 604400 or email char.billington@optident.co.uk.

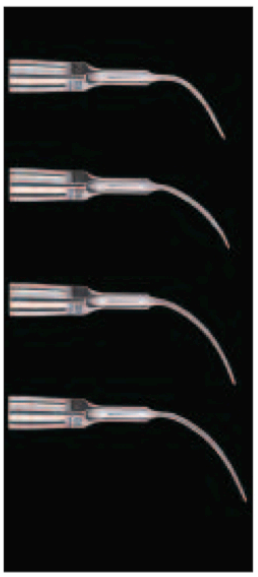

Figure 3: TTT Piezito tips, from top to bottom: Proxi, Supra, Fine and Maxi

For further details on the PIEZITO please contact MINT Devices Pty Ltd.
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