Lasers have been used in different medical fields for many years. It is impossible to overlook the many treatments, notably eye surgery and hair removal. The technology is an established aspect of modern dentistry and is widely used in Europe and the U.S. Anke Schieman, a dentist with a fellowship in laser therapy and founding board member of the Laser Practice Association of Sweden (WCMID), prior to the recent CONGRESS in Stockholm in Sweden.

Anke Schieman: In a nut-shell, what are the benefits of using laser in dental clinical today?

Graeme Milicich: Lasers have many applications in clinical dentistry. The laser has proven to be an innovative tool and has been used for both the patient and the dentist. Many hard and soft tissue laser treatments are much less invasive compared with conventional approaches. I do not think there is another procedure that has the ability to perform as well as it can.

What are the chances of treating peri-implantitis with lasers?

There are many case studies showing excellent results when treating peri-implantitis with a laser. The laser can be used for debridement and disinfection which gives the operator an advantage in the use of implant treatment. The laser is safe to use around implants with little risk of damage to the implant. Peri-implantitis is a disease that is associated with a deep cavity while cutting tooth structure. With a laser, you can remove both bone and soft tissue by simply changing a setting, and this can be done in one appointment.

The use of laser in fields like endodontics or periodontology is highly controversial, but what are the main issues here?

Once again, competent laser clinicians are ahead of the research in these fields. Clini- cal results are being achieved that are now only beginning to be validated by research, and until the research results are available, use of lasers in these fields is going to remain controversial for many. Those that are using lasers and are observing the outcomes, have little doubt as to the effi- cacy of their treatments. Person- ally, I have been involved in research using the Waterlase (Diomed) laser, and the ability for complete de- bridement of the canals follow- ing root canal prepa- ration using radial firing tips in a non-ablative mode is signific- ant. It addresses the issues of air and fluid entrapment at the apex that are associated with conventional techniques used for final canal debride- ment and rinsing.

In your FDI lecture you talked about lasers associated with therapist. Can you give our readers a brief insight into this concept and explain these concepts?

The most common complaint from a new user is that it will not cut fast enough. The most significant contributor to slow ablation rates is the user, not the technology. The single biggest hurdle a dentist faces when moving over to lasers is the difference between rotary instrumentation and lasers. Many laser clinicians are not competent in the use of air and fluid entrapment at the apex that are associated with conventional techniques used for final canal debride- ment and rinsing.

The first concept is that lasers are end cutting. We have all become very competent using rotary instrumentation and have developed reflex mo- tions as a result. The natural tendency is to apply these ‘re- fluxes’ when using a laser and this leads to frustration for the new user. When using a high- speed bur, the tip is moved away from the tooth, so this leads to the bur laterally to extend a cut. This does not work with a laser. The new user will become frustrated and may fail to reintegrate their new laser into their treatment regimes.

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The third concept is focusing on the laser wavelength. Lasers are only going to continue to expand in the future. The multiple applications of lasers are only going to expand in the future. Do you expect lasers to be an essential part in every dental practice in 10 to 15 years?

Many dentists focused on minimising the use of lasers. Many have used lasers for many years. Laser effects are frequency specific, and as applications develop, this will lead to a plethora of technology that becomes difficult for the clinician to incorporate into a practice. Do you think lasers will be an essential part in every dental practice in 10 to 15 years?

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