

“The Scanner mode is going to revolutionise dentistry”

An interview with Dr Ladislav Grad & Dr Matjaz Lukac, Fotona d.d.



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The new LightWalker hard- and soft-tissue dental laser system from Fotona was introduced at IDS 2011. The system offers a wide range of dental applications and, according to the manufacturer, will revolutionise dentistry in the coming years. **laser** had the opportunity to speak to Drs Ladislav Grad and Matjaz Lukac about the benefits of the system for general dentists, as well as specialists.

laser: *Dr Grad, Dr Lukac, congratulations on the launch of LightWalker! Would you please tell us about its applications and how dentists can benefit from using it?*

Dr Grad: LightWalker has two laser sources, offering a wide range of dental applications. The laser can be used in all different dental specialties—endodontics, periodontics, conservative dentistry, tooth whitening, etc.—but there is more. Fotona is a manufacturer of medical lasers and well known in the field of surgical and dermatological lasers. Owing to our background, we were able to include additional indications. You see, in some countries, dentists can perform aesthetic treatments, such as facial hair removal or removal of vascular lesions.

Our system is also perfect for surgical procedures. For example, treating leukoplakia was a very invasive procedure traditionally. With our laser, the lesions can be vaporised with almost no bleeding or trauma, which is a big advantage for patients and doctors. We know of some clinics, where one laser is shared by different departments: three days a week, it is used in the dental department; two days a week, the aesthetic doctors and dermatologists use it for their patients.

What was the impetus for developing the new laser?

Dr Lukac: We have been in dental lasers since the early '90s, and wanted to pool all of our experience—in terms of use and technology—into a new system without having to make any compromises. Amongst the most exciting applications of LightWalker is the photon-induced root-canal therapy that makes treating even posterior teeth a simple procedure for every general dentist. There is also a combined laser wavelength procedure, the TwinLight, for periodontal disease treatment. With TwinLight, hard-tissue calculus and soft-tissue epithelial lining can be removed. General dentists can now treat perio patients' disease comprehensively, without scalpels or sutures, right in their own practice. Amongst the aesthetic treatments, our patented TouchWhite tooth-whitening method should be mentioned. It is extremely gentle, yet shortens the whitening time by a factor of five.

Our patented quantum square pulse (QSP) technology allows the laser to ablate more efficiently and with greater precision because the laser beam is not affected by hard-tissue debris. We created this technology especially for this laser. By being able to ablate more efficiently, the edges of individual craters are virtually straight, creating a perfect cut and resulting in higher levels of precision and maximum tooth preservation in hard-tissue treatments.

Where are your biggest markets at the moment and which markets are you approaching?

Dr Grad: Currently, the biggest market for our lasers is Europe. However, with LightWalker we plan on becoming a global market leader.



What additional features are you offering with the laser?

Dr Lukac: There is one feature, the scanner mode, which we think is going to revolutionise dentistry. LightWalker is the first dental laser system in the world that can accommodate laser scanning technology. The scanner-ready Er:YAG laser will be able to provide consistent and even ablation in hard and soft tissue. The speed and consistency of ablation performed with a scanner is virtually impossible to achieve with any other tool. It is the "weightlessness" of the laser light that makes this possible. Our goal now is to guide dentists in using the scanning ability of the laser.

We also believe that one of the first fields that is going to be revolutionised will be implantology. Now, it is finally possible to drill larger diameter holes with laser. Currently, mechanical drills are used, which cause thermal damage and a smear layer, which can lead to problems later on, such as infections. We are currently conducting clinical research on this and we don't have FDA clearance yet, but that's where we are going.

What effect do you foresee lasers are going to have on dentistry?

Dr Lukac: The big selling point for this unit is its wide range of applications. This is what is drawing customers. As I said, this technology evolves so that it is easy to use. It is a tool that can be used for a variety of indications. I am predicting that soon there will be no more laser-specific dental meetings because the laser is becoming part of the regular dental practice, thus laser will become part of general meetings. Soon, lasers will be just another dependable tool that dentists use without hesitation.

How can dentists learn about how to use this laser effectively? Are you offering courses?

Dr Grad: Yes. Laser dentistry is currently not part of the dental curriculum taught at most universities.

There are, however, many possibilities for postgraduate dental education. We have reference doctors in different states who offer local training courses. We collaborate a great deal with Aachen University in Germany, which is the leading educational and research institution for lasers in dentistry. There are specific dates reserved on which practitioners can attend a training seminar at the university. It is very important for users to establish a safe and confident handling of this technology and education is the way to go about establishing that. There is no turning back. Without laser technology, there is no modern dentistry.

For information on Fotona laser workshops please go to www.fotona.com/en/dentistry/workshops/.



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