X-ray system in everyday clinical use. In this interview, the dentist talks about his experience with the new system.

Dr Liebaug, how many patients do you treat per week and what treatments do you primarily perform?

In principle, our practice covers the entire spectrum, from conservative to surgical treatment, including examination, medical history and assessment as well as periodontal, endodontic and prosthetic treatments and implant-based or oral surgical procedures. On some selected days, we also perform surgical procedures under anaesthesia with the assistance of physicians.

What is important to you in an imaging system in the context of these daily practice activities, and what have you paid special attention to when comparing different product options?

Before selecting a system, I looked at various manufacturers and device types, and also had the opportunity to see devices from different manufacturers in action at the Shandong University in China and three Chinese private clinics through my international activities and to evaluate their results.

The wide range of treatments offered at our practice requires a universal device that combines the relevant factors for implantology and endodontics. It’s not exactly easy to find this type of device on the market. There are device manufacturers that only offer very low volume sizes, but at a very high resolution. With the new OP300 Maxio, I have found a device that offers four different areas of examination as standard, with even an additional volume size as an optional extra. The different volume sizes from 5 × 5 cm to 13 × 15 cm are suitable for an extremely important criteria for me when selecting an X-ray and 3 D imaging system.

Were there any other aspects and properties that affected your decision to opt for the OP300 Maxio?

Another aspect that is important to me is the Low Dose Technology, which, despite very low radiation exposure, allows for easily evaluable presentations that are made possible thanks to features such as the automatic beam adjustment known as Automatic Dose Control (ADC). The ADC function takes into account the patient’s medical history and assessment as well as the patient’s safety. When used correctly, the OP300 Maxio makes implantology less risky and easier in its clinical implementation.

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The OP300 Maxio allows for comprehensive pre-implantation diagnosis, which provides increased safety both for me as a physician and also for the patient. We can use the device to successfully represent and measure the bone supply, vulnerable anatomical structures and nerve exit points in advance. This then allows us, for example, to draw conclusions about the nerve paths and leads to a significant reduction in the risk of injury during the operation. As a treating physician, I can use the diagnostic spectrum of the OP300 Maxio to work out anatomy, which in turn leads to an improvement in image quality and image information despite the low radiation dose.

Another special feature in the Automatic Spine Control (ASC) function is panoramic tomographic imaging, the image information in the frontal region is usually not as good as in the lateral areas due to the superposition of the spine. Through the application of ASC, the automatic dosage is readjusted so that an optimal image quality is achieved especially for this area, eliminating the need for additional recordings. This reduces the patient’s radiation exposure.

The Automatic Facial Contour function (AFC) is also relevant for orthodontics or orthognathic operations in which images of the facial contour are required. When performing the X-ray, this automatic function somewhat lowers the exposure factors in the facial skull so that the soft parts, such as nose, cartilage, skin and subcutaneous components can be well represented at a further reduced radiation dose.

Finally, I would like to talk about the metal artefact reduction function (MAR). This technology reduces the influence of the superimposition of the spine. Through the application of ASC, the automatic dosage is readjusted so that an optimal image quality is achieved especially for this area, eliminating the need for additional recordings. This reduces the patient’s radiation exposure.

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The patients have consistently demonstrated a positive response. On the one hand, they noticed that an innovative new device has been introduced into the practice, which provides us as a treatment team with a high information content. On the other hand, communication with patients has also generally improved, both in terms of the pre-operative explanation and the provision of information during continued treatment. The patient can visualize the treatment much better using the 3D representation rather than a 2D image. This enables me, as a dentist, to better explain the risks to the patient on the one hand, and the reasons for choosing the respective surgical procedure or treatment on the other hand.

How would you advise colleagues who are thinking about purchasing an imaging system like the OP300 Maxio?

He or she should first consider the range of treatments available in his or her practice or clinic and the direction he or she would like to develop in the future. Building on that, he or she should compare the devices that are currently on the market that offer the best possible choice of volume sizes and highest possible resolution for his or her indication, and that have low radiation exposure despite very good pictorial representation—a factor that will become increasingly important for precisely in the future when selecting their practice.

When selecting new technologies, one should always be aware of the quality of an X-ray or a three-dimensional volume representation and the diagnostics that are made based on this representation can be crucial for the success or failure in a patient’s treatment. In this regard, I can recommend the OP300 Maxio in good conscience.

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