20 years of digital panoramic imaging: Seeing better with modern technology

The first digital panoramic X-ray machine that Sirona put on the market 20 years ago made perceptible changes in radiological imaging in dentistry—away from films that had to be developed with chemicals and then physically stored, to a fast, more precise method with easy storage function.

Digital X-rays, first patented in 1988, became a marketable commodity in 1995. Sirona presented the first panoramic X-ray machine with a digital sensor, the ORTHOPHOS Plus DS, 20 years ago. The ultimate goal: top image quality for an even more reliable diagnosis with lower radiation exposure for patients. The workflow within the practice was simultaneously improved. It was no longer necessary to develop films with chemicals.

Since then, digital imaging has become a fixed component of a dental practice and has many advantages over conventional imaging with X-ray films: time is saved because the images are available immediately, the images can be processed on a computer and the image quality is higher with reduced radiation exposure. Today, sensor or scanner systems are usually used for intraoral images instead of conventional films. Three-dimensional imaging has become standard, especially for implantology.

Digital imaging constantly improving

The latest innovations by Sirona in imaging techniques have taken digital imaging to a whole new level. The Direct Conversion Sensor (DCS) is new and absolutely unique in this form. It generates electrical signals directly from X-rays without the previously required intermediate stage of first converting them to light. The image data this yields is significantly better in relation to the exposure to radiation. The Direct Conversion Sensor generates extremely sharp X-ray images very efficiently.

For one panoramic image the Sharp Layer technology, which is also new, uses several thousand individual projections that are taken very rapidly from several angles in one rotation and reproduce the individual morphological situation very precisely. The advantages are excellent panoramic images and the possibility of compensating for positioning errors retroactively.

The future means integration

With respect to the many possibilities for digital imaging diagnostics, there is a clear trend: More and more processes in dental practices are digital. The next step here is integration. “Our products can be easily integrated with one another,” says Jörg Haist, Head of Product Management Imaging Systems at Sirona. “Our SIDEXIS 4 imaging software ensures that panoramic and other X-ray data can not only be processed, but also accessed in the treatment centre, documented in the practice administration, and used with CERE.” Thanks to interfaces that have been implemented, Sirona products will remain open for integration of different imaging systems in the future.
Exhibition    Live Product Presentations    Hands-on Workshops
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The Nordic Institute of Dental Education

Sharing CBCT expertise with dental professionals from around the world

Planmeca expanded its operations in the field of dental education last year by founding the Nordic Institute of Dental Education together with the University of Turku. NIDE has started off strong by already organising five courses in 2015—with several more lined up for 2016.

NIDE’s courses are an intriguing blend of theoretical and practical perspectives, complemented by fun activities outside the classroom. Most of the courses are held in Finland’s beautiful capital, Helsinki, with some of them also taking place in the coastal city of Turku. All courses are taught in English by leading experts in their fields.

3-D courses for users of different levels

The most popular NIDE course so far has been ‘3-D imaging and diagnostics’—an entry-level course, which continues to raise interest among dentists from all around the world. The two-day course offers detailed information on CBCT usage in digital dentistry and deals with a wide range of questions, such as effective patient doses, image analyses, and anatomic considerations. The course also incorporates a hands-on approach to learning, featuring example cases that have been handpicked by lecturers.

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publications and work at the forefront of applying digital imaging in dentistry. Specialists from Planmeca are also readily available to teach correct techniques and answer questions on the equipment used. This helps participants gain practical insights on digital technology, which support the academic aspects of the course.

In 2016, the Nordic Institute of Dental Education will also offer a CBCT course for more seasoned users. The ‘Advanced 3-D diagnostics’ course has been designed to provide a deeper comprehension of CBCT imaging.

In addition to its standard CBCT courses, NIDE offers tailor-made study tours for groups from clinics, distributors, or dental associations.

Fun in and out of the classroom

The Nordic Institute of Dental Education’s courses bring together participants from diverse clinical and cultural backgrounds. Throughout 2015, NIDE has hosted dental professionals from countries as varied as Belgium, Bulgaria, Croatia, Egypt, Finland, Lithuania, Norway, Portugal, Sweden, and Zimbabwe. This broad range of nationalities creates a truly international atmosphere in which participants can exchange experiences and ideas.

In addition to the cutting-edge academic and clinical contents featured in its courses, NIDE also wants visiting dental professionals to experience Finland in more leisurely ways. This is achieved through offering an interesting side programme as part of its courses, highlighting the beauty of Helsinki and its surrounding archipelago. A complimentary Nordic dinner is also included, as well as the possibility to try a traditional Finnish sauna. The side programme has received a great deal of positive feedback from participants, who have valued the authentic Nordic experience alongside the course’s high-quality content.

NIDE is offering a particularly special combination of learning and leisure in January of 2016. Titled ‘3-D winter school’, the unique package consists of NIDE’s ‘3-D imaging and diagnostics course’ and a trip to magical Finnish Lapland. After two intensive days of learning, ‘3-D winter school’ participants get to head up north for a relaxing weekend in the arctic tranquility.

With a rare blend of scientifically proven concepts, academic backgrounds, technological expertise, and beautiful Nordic surroundings, NIDE’s continued education courses are truly one of a kind.

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