



## Tooth replacements again key topic at IDS 2011

Osseogenesis concepts and implant-supported superstructures on display

■ At IDS 2011, dentists and dental technicians will have the opportunity to get a comprehensive overview of the latest concepts in implant geometries and materials. Clinical case figures have confirmed a trend towards increasing use of prosthetic implant therapy, especially in Western markets like Europe and the United States. In Germany alone, more than

800,000 implants were placed by dental practitioners last year, a 10 per cent increase compared to 2009.

This rapid growth reflects a continuing demand from patients worldwide who are in favour of implant-supported prosthetics. A wide variety of endosseous implants are now available from the industry so that

implant-supported prosthetic solutions can be realised for almost every dental indication. Zirconium oxide ceramic is gaining importance besides classic implant materials such as titanium and allows for the manufacturing of completely ceramic tooth replacements, mesostructures, crowns, as well as peg-supported and bridge-supported superstructures.

Standardised abutments are also prefabricated from titanium or zirconium oxide and can be used for cementable or telescopic restorations. Thanks to modern digital milling processes, an alternative to these prefabricated items that enables the increasing individualisation of superstructures is about to gain ground. Nowadays, one and two-part abutments can already be individually designed at acceptable cost and adapted to the gingival margins in a beneficial manner.

Implant superstructures are increasingly manufactured in industrial milling centres as well as in-house at dental laboratories. Companies specialised in this field are now even offering to design and manufacture complex peg or bridge-supported superstructures which is providing commissioning laboratories with more freedom and the possibility to invest more time and effort in the finishing process. The latest development in this field are opto-digital processes that have been developed in such a way that (plaster) models are no longer required. With this procedure, implant prosthetics are calculated directly through a digital scan and manufactured by using a milling process. Due to the increasing networking of its team members including therapeutic personnel, dental technicians and industry, implantology is significantly boosting quality management at all process levels.

Progress in implantology is also closely linked to diagnostic developments. Three-dimensional X-ray navigation processes combined with laser scans of plaster models and special design software gives dentists the possibility to plan reliable implant measures. Even in most difficult cases, exact 3-D images of the osseous structures can be created by digital volume tomography. In combination with modern planning and design software, implant specialists can obtain stereolithographic guide templates that allow for highest precision during implant bed preparation and insertion. Nowadays, an entire pallet of powerful imaging techniques and user-friendly software compatible to the DICOM standards is available to dental practitioners.

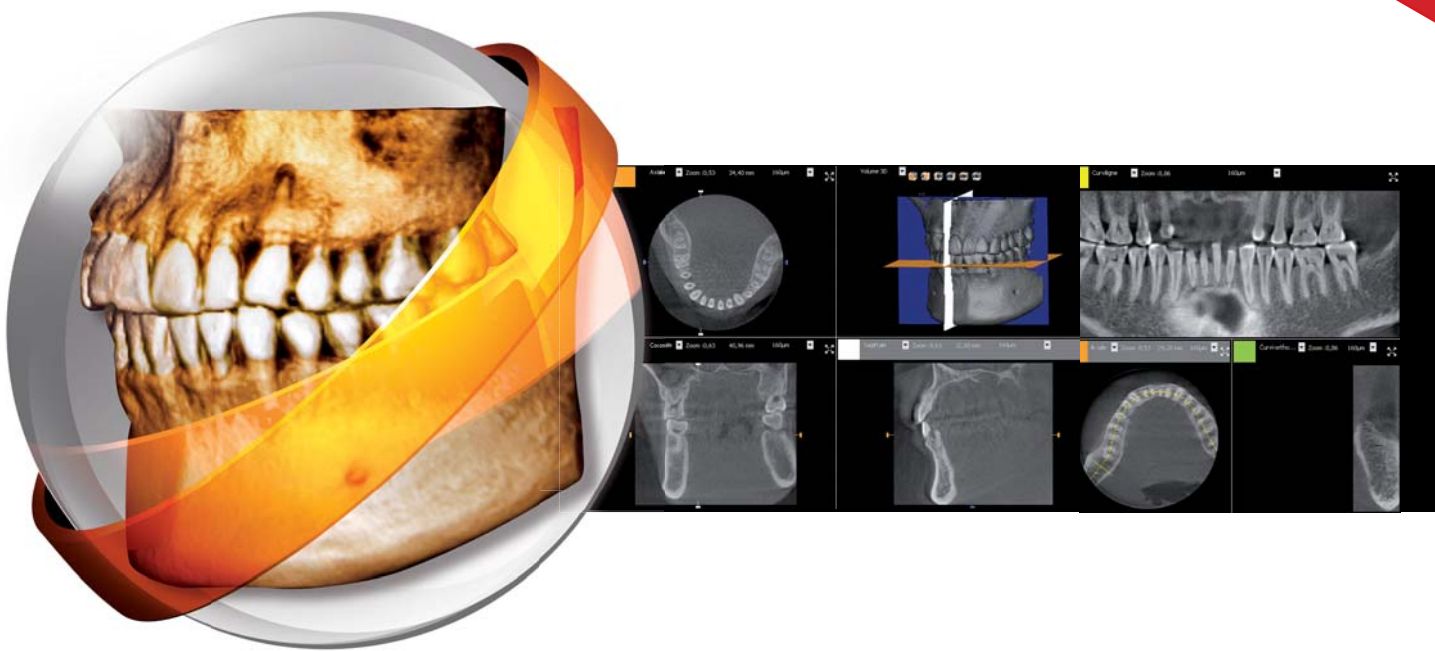
New instruments for implant procedures will also be shown at IDS including atraumatic dental forceps, modern cylinder osteotomes, efficient bone mills or complete surgical units for oral and maxillofacial surgery. Optimised methods for retaining the alveolar process, augmentation or alveolar distraction osteogenesis will also be presented.

In addition, the International Dental Show will be introducing latest biotechnological strategies for osseogenic including adult stem cell technology. New developments in bone marrow stem cells will be presented as well as bone replacement, carrier membranes and biologically resorbable bone pegs—partly made of collagen or mucous membrane material. ◀◀

(Source: Koelnmesse/Edited by Daniel Zimmermann, today international)

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