INTEGRATED DENTAL IMAGING BASED ON THE CONE BEAM TECHNOLOGY

Joachim E Zoeller, Germany
9.00 - 10.00

LEARNING OBJECTS:
Understand the basics of dental x-ray examinations and digital 2D-x-rays
Know about indications and advantages of 3D-x-ray and cone beam (CB) technology
Be familiar with 3D implant planning and guided implant surgery
Understand clinical applications of these technologies

CONTENT:
3D imaging based on the cone beam technology has recently emerged into the clinical routine of dentists. Advantages of low-dose acquired 3D image information accompanied by cutting-edge technology drive this development and unleash new opportunities for treatment.
Current challenges are to keep pace with the scientific evaluation of the clinical benefits and to integrate these emerging technologies into a practical workflow. The results of our experimental and clinical investigations show that the cone beam technology offers advantages for a multitude of diagnostic problems, not only in the surgical realm.

COMPUTERIZED ORTHODONTICS - STATE OF THE ART

Georg Beckmann Van der Ven, Germany
10.00 - 10.45

LEARNING OBJECTS:
The learners will be presented the clinical relevance of computerized orthodontic applications
Computerized orthodontic applications can be divided into two groups:
1. Applications were adapted from other faculties, which may be used in orthodontics without greater technical adaptation.
2. Applications programmed specifically for clinical practice in orthodontics
CONTENT:

Computerized Orthodontics can be divided into two groups
1. Applications were adapted from other faculties, which may be used in orthodontics without greater technical adaptation. Some of them are:
   o digital x-ray with 3d x-ray and computer-tomograms
   o image processing
   o web-hosting as platform for communication
2. Applications programmed specifically for clinical practice in orthodontics
   o cephalometrics
   o treatment planning
   o three-dimensional scanned models
   o treatment simulation
   o invisalign aligner
   o bending of arch-wires
   o orthodontic surgery planning and simulation

The listed applications will be presented and an estimation of its current and prospective clinical significance will be made.

IMPRESSION FREE DENTISTRY — VISION AND REALITY

Klaus J. Wiedhahn, Germany

10.45 - 11.30

LEARNING OBJECTS

Introduced to a comprehensive synopsis on intra-oral scan technologies
Learn the benefits and limitations of impression-free procedures
Determine the impact on the dental practice of tomorrow and on the co-operation with the dental lab

CONTENTS:

Digitization of plaster models has become a widespread procedure in the modern dental lab. In-oral scanning of prepared and unprepared teeth is much more complex.
During the last 20 years the CEREC hard — and software has become the icon for chairside data acquisition and for CAD and CAM of single tooth restorations like crowns, inlays and veneers.
The next step in this development is the impression — free production of bridges. The presentation will show what intraoral scanning can do today and tomorrow and what are highlight the philosophies behind the various systems on the market.
**Single visit all ceramic restorations in the dental office**

*Bernd Reiss, Germany*

14.00 - 14.00

**Learning objects**

- Get an in-depth look at the present state of chair-side CAD CAM restorations.
- Learn about the history and development of the Cerec system.
- Look at 18 years follow-up of Cerec restorations in a dental office and clinical consequences.
- Discover quality assessment programmes for a clinical self-control with all ceramic restorations.

**Contents:**

20 years of clinical experience with the Cerec system lead to some expertise in the field of all ceramic chair-side restorations. An 18 years follow-up of more than 1000 restorations lead to clinical consequences for indication and therapy. The Association for all-ceramic restoration offers a platform for dentists to obtain a clinical self-assessment of their own clinical performance. Sending own data of the clinical procedure via an internet platform gives an immediate response of the proceeding, re-examination data show the comparison with the other 200 hundred colleagues participating since up to ten years.

---

**Providing Excellence Through Single Visit Fabrication and Placement of Highly Aesthetic Ceramic Restorations**

*Rich Masek, USA*

14.30 - 15.00

**Learning objects**

- Understand the benefits of providing single visit, long term restorations for our patients.
- Learn about preparation styles and case selection for predictable success.
- Observe the techniques for achieving esthetic excellence with posterior and anterior restorations.

**Contents:**

This course is designed for dentists, lab techs and staff that are interested in providing immediate fabrication and delivery of ceramic restorations to their patients. The technique for application of CAD/CAM software to clinical situations is discussed with clinical examples of posterior and anterior single and multiple unit restorative care. Dr. Masek will outline his techniques for preparations, optical impressions, characterization and cementation of all ceramic inlay, onlay, crown and veneer restorations utilizing chairside CAD/CAM.
**CAD-CAM Systems and Materials for the Dental Lab**

*Vanik Kaufmann-Jinoian, Switzerland*

15.00 - 15.30

**Learning Objectives**

- Study the different possibilities with CAD/CAM
- Choose the right CAD/CAM system
- Acquire the knowledge of what materials to be used
- Create high aesthetics
- Improve the laboratory quality
- Produce more economical work
- Solve problems with misplaced implants

**Contents:**

This presentation will show you the possibilities off using CAD/CAM systems and the various material used in a dental laboratory. With today's possibilities of CAD/CAM it is essential that the professional user has the knowledge what type of material to select for achieving high aesthetics and long lasting restorations.

Vanik Kaufmann-Jinoian who has been instrumental in the development of CAD/CAM software for various companies, and will give in depth information on CAD/CAM systems that are feasible and economical for most dental laboratories. During this presentation the speaker will also cover the possibilities of designing custom abutments from zirconium oxide or titanium that gives the patient many possibilities of getting the highest aesthetics.

---

**Barcode and RFID in Dental Clinic**

*Olaf Schenk, Germany*

15.30 - 16.00

**Learning Objectives**

- Bar Code and RFID – Benefits for dentist and the patient
- Different types of RFID and Bar Codes
- Health Industry Bar Code (HIBC)
- Scanner Systems for the Dental Office
- Principles of treatment documentation
- Obligatory documentation requirement
- Stock keeping using digital technology

**Contents:**

Digital documentation procedures, once a specialty for the computerized dental office has become an everyday ingredient for today's dentistry. Mandatory documentation, retraceable dental materials and more efficient ways of managing storage and ordering systems need tools to master the new challenges. The most commonly used devices are bar codes and RFID. Different standards make it difficult for the dentist and the manufacturer to implement a system to be used world-wide.

Major systems and their valance for routine and special tasks will be discussed and evaluated.
SOFTWARE ASSISTED QUALITY MANAGEMENT IN DENTAL PRACTICE

Heiko Spallek, USA
16.00 - 16.30

LEARNING OBJECTS

Overview knowledge about research challenges in the field of dental informatics
Understand the need for electronic patient records in dental care
Recognize the shortcomings of current chairside computing approaches
Become familiar with concepts of a digital dental office of the future

CONTENTS:

The presentation will explore what dental informatics is and how it can influence software-assisted quality management in dental practice. Dr. Spallek will showcase results from recent studies regarding chairside clinical computing and answer the following questions: (1) What data is recorded by dentists? (2) What are the limitations of current practice management systems? (3) Do current systems support the documentation of clinical findings? (4) What should a “digital office” look like? He will conclude by pointing out the challenges dental informatics faces in the near-term future and familiarize the audience with the Dental Informatics Online Community project.

You specify that for the interpretation you need a manuscripts of my presentation “well in advance of the Congress.” Can you give me a precise date on when you need this and to whom I need to submit this? of getting the highest aesthetics.