

#### Inside today

You will find an overview about the UAE International Dental Conference & Arab Dental Exhibition -AEEDC 2013, new developments and trends in the world of dentistry as well as information on dental products and the industry.



#### **Dental products in focus**

The UAE International Dental Conference & Arab Dental Exhibition 2013 will be an excellent opportunity to see the most up-to-date technologies and achievements in the field of dental medicine.



#### What's on in Dubai

You might want to consider our out-of-the-ordinary tips and extending your visit beyond the congress to experience what the city has to offer.

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## Lots to see and do at AEEDC

#### Dubai invites dental professionals to 17<sup>th</sup> UAE International Dental Conference and Arab Dental Exhibition



■ With participation by 28,000 dental professionals, the 2012 UAE International Dental Conference and Arab Dental Exhibition (AEEDC) is the largest dental meeting ever held in the MENA region. The 17th show, scheduled for the next three days, is expected to attract even more visitors, the organiser said.

According to Executive Chairman Dr Abdul Salam Al Madani,

over 1,000 dental equipment suppliers from 70 countries in the region and around the world have already registered for the industry exhibition. To accommodate the increase in numbers, the exhibition space in the Dubai World Trade Center has been expanded this year to over 30,000 square metres. Increasing interest in the show by companies operating in countries outside the region is particularly noteworthy, Al Madani said.

Last year, the show saw participation by slightly more than 900 companies. In addition to a number of pre-conference and specialty courses, AEEDC will be offering an extensive programme of clinical presentations with a special symposium focusing on the new field of rapid orthodontics, as well as a full-day session on Wednesday, 6 February, dedicated to different aspects of aesthetic dentistry, including the use of dental CAD/CAM. Over 130 clinicians from around the globe will be presenting the latest research and treatment concepts in different fields of dentistry.

New concepts and ideas are also expected to come out of the tenth Global Scientific Dental Alliance Meeting, which will again be held in conjunction with the AEEDC this year. Furthermore, oral health prevention and treatment concepts in the region will be presented at the GCC Preventive Dentistry Conference, chaired by Prof. Abdullah R. Al Shammery, Dean of the Riyadh Colleges of Dentistry and Pharmacy in Saudi Arabia.

"Keeping dental professionals and related personnel updated is one of the important issues that have an impact on the quality of the services provided to the public by dental specialists," commented Conference Chairman Dr Nasser Al Malik. "AEEDC Dubai has become becoming an effective platform for

providing continuing education in the dental field through lectures, advanced workshops, posters and a specialised dental exhibition. which all play a major role in dental education."

AEEDC is currently recognised as a Continuing Education Recognition Program provider by the American Dental Association. Organised annually in cooperation with the Dubai Health Authority. the Dubai equivalent of a health ministry, it is part of the World Dental Exhibitions Alliance, an international network of dental trade shows having originated at AEEDC Dubai in 2010 in order to promote dental business throughout the world.

Last year, deals worth at least US\$1.7 billion were concluded during the show, according to Dr Al Madani.



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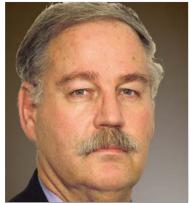
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By Dr Donald J. Ferguson, Dubai

## The status of dentistry in the Emirates

■ The common perception of the United Arab Emirates (UAE) is one of growth, freshness and innovation. No discussion on the status of dentistry in the Emirates would be complete without offering a brief insight into this unique context. The UAE became independent in 1971 and is comprised of a federation of seven emirates with a cur-

rent population of approximately 7.2 to 7.6 million inhabitants. Along with Qatar, another Gulf country, it was one of the two fastest growing (>10 per cent) populations in the world between 2000 and 2010.

Dubai and Abu Dhabi are the most populated emirates and comprise about 67 per cent of the UAE population—approximately 88 per cent of the population is expatriate. Currently, there are four colleges of dentistry in three emirates. The first postgraduate dentistry educational initiative to operate in the UAE was the European University College, which began offering its programmes in 2007. The Boston University Insti-

tute for Dental Research and Education had offered academic programmes from 2008 but closed in June 2012. The newest postgraduate facility in the UAE, the Dubai School of Dental Medicine, began operating this month.

Dental education in the Emirates, like the UAE federal monarchy, draws upon best practices primarily in Western countries. The dental curriculum at the University of Sharjah was modelled on that of the University of Adelaide in Australia. Boston University used its own American template to compile postgraduate specialty curricula. The European University College collaborates with Swedish universities and is influenced by the American Dental Association accreditation guidelines, while the postgraduate curricula at Dubai School of Dental Medicine is patterned after the University of Edinburgh in Scotland.

The phenomenal growth witnessed in Dubai is matched by the extraordinary efforts and proficiency demonstrated by the Commission for Academic Accreditation (CAA) established in 1999 by the Ministry of Higher Education and Scientific Research. In my view, the CAA has established world-class UAE educational standards based upon the best educational practices primarily in the USA, Europe and Australia. These best practices are represented in the CAA Standards for Licensure and Accreditation to which all UAE education in dentistry is held accountable.

Besides being a career dental academic and administrator, I have been an American citizen with the perspective of a UAE expatriate for nearly six years. In my opinion, the status of dentistry in the Emirates is impressive, but while the Emirates embodies growth, freshness and innovation, there is significant resistance to products of the UAE's own making. When you are in the dental education business, this resistance is tangible, palpable and real, and gets in the way of progress and the betterment of all.

During the past decade, the UAE has been creating its own dental education identity by appropriately retrofitting Emirates dental education standards to Western paradigms. But the hybrid product of doing so has not been widely accepted in the UAE. Western education on Arab soil is meant to represent the same high standards expected in the USA, Europe or Australia but it appears that resistance to Western dental education in the Emirates will prevail for some time to come.

Dr Donald J. Ferguson is a professor and Dean of the European University College in Dubai, UAE. On Wednesday, he will be presenting a paper titled "Comparing and contrasting techniques to enhance orthodontic treatment efficiency" during the Rapid Orthodontic Symposium that is part of this year's AEEDC scientific programme.



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## Contact allergies owing to gloves

A growing problem in dentistry

By Ben Adriaanse, DT Netherlands

■ In recent years, researchers have noted a significant increase in contact allergies to rubber additives among health care professionals. Although the cause of this cannot be stated with certainty, experts believe that nitrile gloves, which are most commonly used in dental care today, have contributed significantly.

In the 1980s, the use of medical gloves made of natural rubber latex was introduced into dentistry. Owing to an alarming number of allergic reactions caused by certain proteins contained in latex, synthetic alternatives like nitrile and vinyl gloves emerged shortly afterwards. While they, like other alternatives, score significantly lower in comfort and elasticity, nitrile gloves are most commonly used by dentists.

According to Michiel Paping, director of Budev, a Dutch research and development com-

pany focused on natural rubber latex allergens, type I allergic reactions, which are immediate reactions to allergens in a product, are very rare nowadays owing to improved quality standards and production processes. Type IV reactions, however, are delayed reactions to the chemicals used in the production process and are more common and can arise in response to nitrile or vinyl. "In fact, I think that synthetic rubbers cause more contact allergies than natural rubber latex," he told Dental Tribune Netherlands.

"It is not the raw, unprocessed rubber that causes type IV allergic contact eczema but the excipients added during the manufacturing process, such as vulcanisation accelerators, plasticisers, fillers, antioxidants and colourants. Excipients are present in both natural and synthetic rubber gloves," said Prof. An Goossens, a contact allergy expert at KU Leuven's Department of Dermatology in Belgium

In 2010, a soft nitrile glove was introduced that weighed only 2.5 to 3.5 g. The production lines were shortened and the vulcanisation was performed at lower temperatures to save costs and energy. However, concerns have been raised about the thinner gloves.

"Producing thinner gloves and thereby being able to fit more gloves in a shipment, saves costs for raw materials and transport. However, the production of such a thin product and vulcanisation at lower temperatures inevitably requires extra and new chemicals. In addition, it is unavoidable that thinner gloves will score worse in strength and permeability," said Paping after his company had tested various gloves with regard to these properties.

Alongside the growing number of contact allergies in recent years that are likely caused by added chemicals or antimicrobial agents, Paping and his team have observed an increase in al-

lergic reactions in daily practice. "Recently, we have seen that the professional body is becoming alarmed. Despite this, I am concerned that the average dentist is not aware of this matter," he said.

"When health care professionals start working in practice, they use the same glove out of habit. When gloves are ordered, the responsible person most often looks for the cheapest product on the market. As a result, cheap gloves of unknown origin are sometimes used in dental care," Paping said.

According to studies conducted in Finland and the Netherlands, the quality of latex gloves today is evolving and most manufacturers have eradicated the proteins that can cause allergies from their production. However, currently there is insufficient data on the new generation of latex gloves but initial studies have shown promising

According to the experts, a change of thinking and a policy on rubber gloves based on neutral information is urgently needed. Currently, a number of inferior products on the market owing to the fact that CE markings can be awarded based on self-assessment in Europe, Paping said. He recommended the implementation of new standards to replace the CE marking in order to promote high-quality products that are flexible, cause as little sensitisation as possible and keep permeability as low as possible.

Contact allergies caused by gloves are a growing problem and should not be underestimated, the experts concluded. "With an annual global use of more than 150 billion pieces, the medical glove is something that requires serious attention," said Paping. "It is a condition that can threaten your career and you can develop it suddenly," he warned.

Edited by Claudia Duschek, DTI

## FDI Global Caries Initiative steps ahead

By Virginie Horn, Education and Development Manager of the FDI

■ The Global Caries Initiative (GCI), was launched by FDI World Dental Federation in 2009, setting out an ambitious worldwide agenda together with a profession-led call to action, whose goal is "to improve oral health through the implementation of a new paradigm for managing den-

tal caries and its consequences, one that is based on our current knowledge of the disease process and its prevention, so as to deliver optimal oral and thus general health and well being to all peoples by 2020."

FDI and its membership acknowledge that they have a singular role and responsibility in terms of caries management and



^ GCI chair Dr Patrick Hescot (center) posing with FDI President Dr Orlando Monteiro da Silva (left) and DTI president Torsten R. Oemus during the launch of the Global Caries Intiative website at last year's FDI congress in Hong Kong.

leadership in any process of change. Together, they are working to reduce the burden of caries in the population worldwide. FDI membership has, through the Global Caries Initiative, reaffirmed the federation's role as the global representative body of Dental Medicine and Oral Health.

The most significant achievement of GCI so far was the development of the FDI Caries Matrix\*, which aims to facilitate the dialogue between all stakeholders. The Caries Matrix acts as a bridge between WHO Basic Methods (DMFT) and new approaches to caries management, for example the International Caries Detection Assessment System (ICDAS), creating a "middle ground" which is workable for the current clinical practice environment. It engages clinical dental practice, which has historically been reluctant to move away from the curative/restorative model. It recognises "enamel caries" or white spots and "non cavitated dentine lesions", which were not included within the traditional model, but can now be managed, through the Caries Matrix, by preventive measures and tools.

The World Oral Health Forum session organised in Hong Kong during the FDI congress on "Caries, a silent epidemic" (www.fdiworldental.org/gci) provided another opportunity for experts to meet and discuss with a panel of economists, public health experts and other medical professionals the way forward in our fight against the most common oral health disease.

FDI has been working with Dental Tribune International to deliver a professional communication and education platform (www.globalcariesinitiative.org) to facilitate activities at a global level and support the implementation of GCI at a national level by FDI member dental associations.

More recently, the UNEP Minamata Convention on mercury is creating a framework for a phase

down of dental amalgam, based on the WHO and GCI concepts of prevention, research into new restorative materials and best management practice.

FDI now wishes to implement collective and individual dental health promotion activities that will help combat tooth decay at all stages of life through its worldwide network. This will only be possible by informing and mobilising all stakeholders and partners, notably civil society, schools, teachers, educators and the parents. With this broad perspective, the GCI initiative will develop further and move closer to its ultimate goal.

\*A new model for caries classification and management, FDI World Dental Federation Caries Matrix. Fisher J, Glick M JADA 2012 143(6); 546-551

More information about the Global Caries Initiative are available at www.globalcariesinitiative.org and at Booth P84.

## US study suggests dentists cause implant failure

■ The indications and versatility of dental implants have increased, and so have complications. Researchers from the Loma Linda University School of Dentistry in the US have suggested that, regardless of patient risk factors like bruxism, successful long-term outcomes significantly de-

pend on the experience of the clinician performing the procedure.

By reviewing the records of patients who had received full-arch maxillary and/or mandibular supported fixed complete dentures over a period of ten years, the researchers found that 12 per

cent of implants failed when clinicians had less than five years of experience in the field. Implants were also twice as likely to fail if the surgeon had performed less than 50 implantations in his career, they report.

Other contributors to implant failure were identified as being

related to the patient rather than the implant. Almost every third patient with diabetes or a history of bruxism had experienced implant failure.

Other risk factors commonly associated with implant failure like the type of prosthesis used, smoking or implant location were found to have less impact on longterm success, according to the researchers. They stated that the absolute rate of success was found to be 90 per cent.

Overall, the records of 50 patients treated with 297 implants at the school were reviewed.



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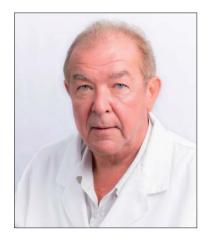
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## The use of robotics in dentistry

By Dr Steen Sindet-Pedersen, UAE

Following the developments in industrial robot technology, robotics has found its way into the medical field and is used in a range of surgical disciplines. The main purpose of the use of robots is to increase the precision, quality and safety of surgical procedures. The first surgical robot was introduced in 1992 but the technology had its first major breakthrough when the Da Vinci robot was approved by the US Food and Drug Administration (FDA) in 1997. Since then, it has found widespread use in surgery.

A large number of indications for this robot, which mainly consists of a number of robotic arms with video cameras, were approved by the FDA once the safety and efficacy of the technology had been documented. It can cut, clamp, coagulate and suture using minimally invasive procedures. The robot is controlled by a surgeon sitting in a control box away from the patient, from

where he or she is able to control any action of the robot based on 3-D images of the surgical field inside the patient produced by the video cameras, which can be magnified several times. For example, Da Vinci robot surgery is the most frequently used option nowadays for prostatectomy in the US.

Robotics is not yet used in dentistry even though all the necessary technologies have already been developed and could easily be adapted. Some of the technologies are already used in dentistry, such as image-based simulation of implant surgery followed by the use of surgical guides, and creating digital impressions of preparations using an intra-oral scanner, after which a milling device produces the restoration, but we have not yet seen any robot able to prepare teeth for crowns, inlays or bridges.



Such a robot would fundamentally be a dental drilling device coupled with a navigation device to determine the correct position of the device in relation to the patient. The robot would either be operated directly by a dentist or be preprogrammed to perform its functions based on imaging data (CT scan). Finally, an intra-oral scanner would be used to make digital impressions. This data would then be transferred to the lab to produce temporary crowns or bridges in a very short time using a milling machine and to manufacture the final restorations in much shorter time than with conventional procedures.

Robotics could offer dentistry improved accuracy, predictability, safety, quality of care and speed of treatment. One might wonder why robots have not yet been introduced to dentistry, as the functions needed are relatively simple. An explanation could be that robotics in dentistry is an example of a disruptive technology, meaning that the current manufacturers of dental equipment might fear a negative effect on their current business and the alienation of dentists, as robots might be seen as a threat to dental professionals.

Dr Steen Sindet-Pedersen is Professor of Oral-Maxillofacial Surgery at the European University College in Dubai. At AEEDC 2013, he will be presenting a paper on robotics in dentistry on Tuesday morning in Hall B.



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By Dr Roy Sabri, Lebanon

The anatomy of the smile is an integral part of modern dental practice. The various components that make up a balanced smile should be understood and patient's smile properly recorded and analysed so that desirable aspects are maintained and unpleasant components addressed.

## The eight components of a balanced smile

There are eight components when it comes to the smile:

- 1 The lip line is the amount of tooth exposure during a smile or the height of the upper lip relative to the maxillary central
- 2 The smile arc is a hypothetical curved line drawn along the edges of the four maxillary incisors that has to coincide or run parallel with the curvature of the inner border of the lower lip. Ideally, the clinical crowns of the maxillary incisors are displayed between the upper and lower lips.
- 3 The upper lip curvature is the curve direction from the central position to the corner of the mouth upon smiling. It is a muscle-driven position and can be upward, straight or downward.

- **4** The lateral negative space is the area between the buccal outline of the maxillary posterior teeth and the corners of the mouth in wide smiling.
- **5** Smile symmetry refers to the relative symmetric placement of the corners of the mouth in the vertical plane. It is the coincidence of commissural and pupillary lines for example.
- **6** The occlusal line is the line running from the tip of one canine to the other. From a distance, the occlusal line is parallel to the commissural line.
- **7** The dental components of the smile relate to the size, shape, texture and colour of teeth, as well as their alignment, axial inclination, dental midline symmetry and arch form.
- 8 The gingival components relate to the colour, contour, texture and height of the gingiva.

The variability of tooth or gingival exposure upon smiling depends on lip length (philtrum vs. commissural heights), the magnitude of lip elevation (7-8 mm, hyper/hypomobile smile), the vertical maxillary, clinical crown (10 mm) and vertical dental height, as well as crown inclination (incisor). The optimal vertical reference position for the maxillary incisal edge in treatment planning is with relaxed lips. A gingival smile should never be treated to ideal at the expense of under-exposing the incisors in rest position. A mild gingival display upon smiling is within the female norm and can be considered a sign of youth. There is a gradual reduction in the amount of maxillary central incisor exposure with age. Thus, a gummy smile will grow less obvious with time. A short lip is not

always associated with a high lip line or gingival smile. There is also a reduction in arch length with time that leads to lower incisor crowding. With age, patients become more concerned with the aesthetics of their lower inci-

These eight components of the smile should be considered not as rigid boundaries, but as artistic guidelines or a smile check-list to help dentists treat patients, who are more highly aware of smile aesthetics than

Dr Roy Sabri is a clinical associate at the American University of Beirut Medical Center in Lebanon. On Wednesday morning, he will be presenting a paper during the aesthetic dentistry specialist meeting in Hall A.

## Regenerative endodontics: Exploring new horizons



By Prof. Shobha Tandon, India

In the recent past, when biology and biotechnology began to replace chemistry, health scientists started looking for biological solutions to biological problems. The tremendous advances in the field of cellular and molecular biology indicate a paradigm shift from simple mechanical care to biologically based modalities for medical and dental health professionals. The introduction of new technologies and an information explosion in tissue engenieering have brightened the hopes of the clinicians.

Although the current techniques offer success rates that are relatively high for many condi-

tions, an ideal form of therapy may consist of regenerative procedures in which diseased or necrotic tissue is removed and replaced with healthy tissue to revitalise organs. In the first part of this century, there has been an increase in understanding and experimentation with stem cells as a primary tool in the expanding regenerative medicine revolution.

Regenerative endodontics is one of the significant developments among these biological approaches that will possibly involve a combination of disinfection and debridement of infected root-canal systems to regenerate apical tissue. Although the challenges of introducing these methods in the endodontic field are substantial, the potential benefits to patients and the profession are equally ground-breaking.

Regenerative endodontics can be defined as biologically based procedures designed to create or deliver tissue to replace diseased, missing or traumatised tissue of the pulp-dentine complex. Two concepts currently exist in regenerative endodontics: the first is the active pursuit of pulp-dentine regeneration to implant or regrow pulp, and the other is the formation of new living tissue from the stem cells present in the root, allowing root development. The objects of both these methods are to induce pulp dentine complex like tissue for the physiologic closure of root apex.

This presentation at AEEDC Dubai will provide an overview of potential regenerative endodontic treatment modalities for clinical application.

Prof. Shobha Tandon is Dean, Head of the Department of Pedodontics and Preventive Dentistry at the Babu Banarasi Das College of Dental Sciences, BBD University in Lucknow, India. She will be presenting a paper on regenerative endodontics on Tuesday afternoon in Hall D.



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