

# DENTAL TRIBUNE

The World's Dental Newspaper · Asia Pacific Edition

PUBLISHED IN HONG KONG

www.dental-tribune.asia

No. 4 Vol. 11



**Amalgam phase-down**  
An interview about the future of dental materials

Page 5



**Caries detection**  
The latest technology and its clinical potential

Page 10



**The shaping movement**  
Fifth-generation technology in endodontics

Page 22

## HK takes first step to regulate dental bleaching

DT Asia Pacific

**HONG KONG:** The government in Hong Kong has proposed new legislation that would make it illegal for beauticians to perform dental bleaching and other cosmetic procedures classified as high-risk medical procedures. In the new guidelines under the Medical Registration Ordinance, only officially registered dentists and physicians would be permitted to do so, representatives of the Food and Health Bureau announced.

In addition to tooth whitening, the legislation would apply to Botox injections, chemical exfoliation and hyperbaric oxygen therapy. It is expected to come into effect in a few months from now once it has been accepted by a Legislative Council panel.

Cosmetic procedures offered at beauty spas and salons have become a thriving business in China's Special Administrative Region, which has raised concerns about the safety of risky procedures undertaken by non-professionals. Several incidences have occurred in the recent past, including the death of a 46-year-old woman who had undergone blood transfusion therapy at a DR beauty centre in the Causeway Bay area last autumn. Since then,



A beauty spa in the Hung Hom district. Salons like this have flourished in Hong Kong. (DTI/Photo Tony Lo, Hong Kong)

professional organisations like the Hong Kong Dental Association have repeatedly urged the government to address loopholes in current regulations that allow non-professionals to perform procedures that could potentially harm patients' health or place their lives at risk.

"Tooth whitening is a chemical procedure that can cause irreversible damage to human teeth if

handled improperly," council member, Dr Alfred Yung, told the newspaper *South China Morning Post* earlier in July. "Intra-oral treatment and dental procedures like tooth bleaching provided by non-dental or non-clinical professionals therefore pose a threat to public health and should be banned."

With the proposed guidelines, Hong Kong is following other coun-

tries in the region that revamped their tooth-whitening regulations. New Zealand, for example, recently restricted over-the-counter sale of tooth-whitening products with a high concentration of hydrogen peroxide. Earlier this year, Australia also changed its poison standard to stop the sale of tooth-whitening products containing more than 6 per cent of the harmful chemical in retail stores and pharmacies. **DTI**

## Five thousand too few

Malaysia's health minister, Datuk Seri Dr Subramaniam s/o K.V. Sathasivam, has recently admitted that his country will need to produce twice as many dentists as it currently has to achieve its target dentist-patient ratio of 1 to 3,000 by 2020. Although boasting slightly over 4,500 dentists, he said that Malaysia's oral health-care workforce is largely inadequate to serve the country's population of almost 30 million.

In order to address the shortage, his ministry will continue to collaborate with universities and dental schools nationwide to encourage more young people to pursue a career in dentistry. As a result, the intake of new dental students has already risen from 315 to 815 this year, Sathasivam said. He added that over 1,000 more students are expected to enrol for studies in dentistry next year.

The figures were presented at an oral health promotion event in the capital Kuala Lumpur in October. **DTI**



This image shows diversity in premolar and molar morphology in Neanderthals, modern humans and potential ancestral species, which, according to a new study, indicates that the dental profiles of the modern man and the common ancestors linking it to the first humans do not match. (DTI/Photo courtesy of Aida Gómez-Robles, USA)

### SA affects women most

The impact of obstructive sleep apnea, a serious disorder characterised by repeated interruption of breathing during sleep, may be more severe in women than in men. Researchers in the US report that body responses, such as high blood pressure and sweating, are less pronounced in people with sleep apnea and in women in particular. **DTI**

### It's all in your head

Japanese researchers have recently presented new research that could help to understand and manage dental phobia better. By investigating patients with help of functional magnetic resonance imaging, they found that brain activity in individuals with high anxiety levels significantly differs from those with less or no fear of the dentist. **DTI**

## Malament on tour in India

Ivoclar Vivadent has announced that Dr Kenneth Malament, a well-known prosthodontist from New York in the USA, will be holding a three-day lecture series on the integration of aesthetic dentistry into routine and complex prosthodontics in India this month.

In addition to the science and controversies involving modern dental materials, he will be discussing the concerns and factors for prosthodontists when working with patients who insist on aesthetic procedures, the dental material manufacturer said.

The lectures will take place from 26 to 28 November in the cities of Bangalore, Chennai and Mumbai. Dentists interested in attending can register through the Ivoclar Vivadent India website. **DTI**



### Distinguished by innovation

Healthy teeth produce a radiant smile. We strive to achieve this goal on a daily basis. It inspires us to search for innovative, economic and esthetic solutions for direct filling procedures and the fabrication of indirect, fixed or removable restorations, so that you have quality products at your disposal to help people regain a beautiful smile.

www.ivoclarvivadent.com

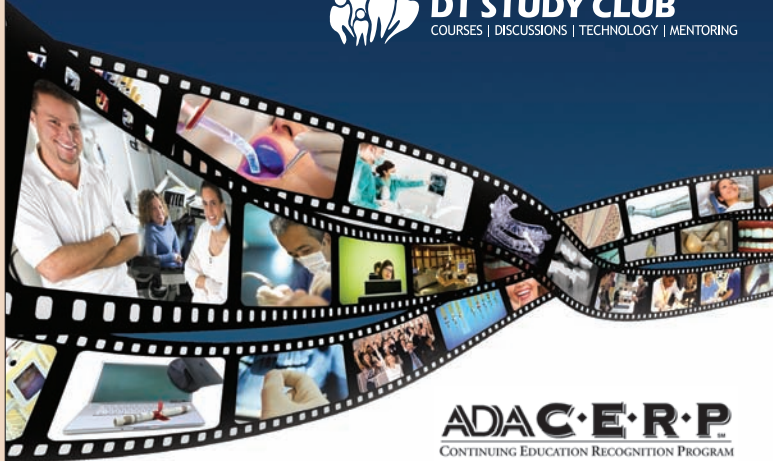
Ivoclar Vivadent AG  
Benderstr. 2 | FL-9494 Schaan | Liechtenstein | Tel.: +423 / 235 35 35 | Fax: +423 / 235 33 60

ivoclar  
vivadent  
passion vision innovation

AD



UPCOMING  
WEBINARS



DENTAL TRIBUNE AMERICA IS AN ADA CERP RECOGNIZED PROVIDER

29  
NOV

**LASERS IN ORAL IMPLANTOLOGY**

Gilles P. Chaumanet, DMD, MSc  
07:00 PM (EST)

The general advantages of laser surgery, such as decreased bleeding, dry surgical field, reduced post-operative pain and less edema, have led to a continuous interest in laser applications for bone cutting as well as soft tissue procedures in a minimally invasive surgical approach.

When combined with the use of the latest generation of implant materials and the development of bone expansion techniques, this unique new treatment paradigm for implantology has led to a simplification of the full implant procedure and enhanced methodologies for the treatment of peri-implantitis.

Hard-tissue surgical procedures such as bone block harvesting, implant bed osteotomy, sinus lift with crestal or lateral approach, immediate post-extractional implants, or implant recovery, are far less invasive when using a modern technique. In most cases, these complex surgical procedures can be completed with no flap or sutures and less or no use of drill and rotary instruments.

This course focuses on a new procedure which has been created without the use of any rotary instruments. This procedure, which uses a dual wavelength approach focused on the Er,Cr:YSGG and diode wavelengths, can lead to immediate impressioning, better healing and quicker loading conditions. Comparisons with conventional surgical tools like piezo electric have shown a better and quicker post-operative result. In soft tissues, pathological incisions, excisions, implant discovery, and other surgical treatments can be conducted without anesthetic and no sutures required, with excellent good three-dimensional control. The procedure incorporates a second wavelength with deep absorption in the tissues will permit better issues in immediate post-extractive infected sites. This course will determine how the use of Er,Cr:YSGG laser and diode laser allows a minimally approach of all these procedures and a better and quicker post-operative success profile.

1h  
CE FREE  
COURSE



REGISTER ON WWW.DTSTUDYCLUB.COM

03  
DEC

**ORAL HEALTH AND DENTAL TREATMENT FOR THE PREGNANT PATIENT**

Barbara J. Steinberg, DDS  
08:00 PM (EST)

This course will present the oral manifestations that may be encountered in pregnancy. Many myths regarding dental treatment for the pregnant patient will be discussed.

Emphasis will be placed on the consensus statement produced by an expert workgroup meeting convened by the Health Resources and Services Administration in collaboration with the American College of Obstetricians and Gynecologists and the American Dental Association and coordinated by the National Maternal and Child Oral Health Resource Center.

1h  
CE FREE  
COURSE



REGISTER ON WWW.DTSTUDYCLUB.COM

BECOME A FREE MEMBER:

www.DTStudyClub.com

# Australia to evaluate implementation of rapid oral HIV tests in dental practices

Daniel Zimmermann  
DT Asia Pacific

SYDNEY, Australia: HIV infections in Australia jumped by 10 per cent last year, according to recently published figures from the University of New South Wales in Sydney. A group of researchers are investigating whether dental practices and pharmacies could help stop I further spread of the virus by diagnosing more people who are infected and not aware of it through rapid oral HIV testing.

The trial, conducted in collaboration with the University of Sydney's Faculty of Dentistry, Western Sydney Sexual Health, and Sydney School of Public Health, is currently being conducted in the states of New South Wales, Victoria and Queensland. It seeks to examine knowledge of HIV, attitudes towards people living with HIV and the willingness of Australian dentists to conduct rapid HIV testing, lead researcher Dr Anthony Santella told *Dental Tribune Asia Pacific*.

He said that studies on the willingness of dental patients to accept such testing were begun recently. Depending on the test results, the team will also investigate how to implement them in practices that operate in neighbourhoods with high HIV prevalence rates in cities like Sydney. This step is anticipated for next year.



The OraQuick test can detect antibodies to the HIV virus with an oral swap. (Photo courtesy of OraSure Technologies, USA)

"Evaluations would also need to be done to explore whether it is cost-effective to implement rapid HIV testing in the dental setting versus other settings," Santella added. "Assuming it is cost-effective, we would then explore reimbursement mechanisms so dentists and possibly other dental professionals could bulk bill the government for the test."

Rapid HIV tests have been available to medical practitioners in Australia since late 2012, but the country has been slow to implement them. The OraQuick ADVANCE Rapid HIV-1/2 Antibody Test developed by US company OraSure Technologies and used in the trial has not yet

received approval from the Australian Therapeutic Goods Administration. It has been available to dental practitioners in the USA since early last year, when it was approved by the Food and Drug Administration. The latest studies suggest that rapid HIV testing in dental practices could increase testing frequency among regular testers, as well as testing rates.

According to the Kirby Institute at the University of New South Wales, about 25 per cent of HIV cases in Australia are undiagnosed. In total, more than 31,000 infections were reported in 2011, with almost every second one occurring in the state of New South Wales. [4]

## International Imprint

### Licensing by Dental Tribune International

Group Editor/Managing Editor DT Asia Pacific

Daniel Zimmermann  
newsroom@dental-tribune.com  
Tel.: +49 341 48474-107

Clinical Editor  
Online Editors

Magda Wojtkiewicz  
Yvonne Bachmann  
Claudia Duschek

### Publisher Torsten Oemus

Copy Editors

Sabrina Raaff  
Hans Motschmann

President/CEO

Media Sales Managers

Torsten Oemus  
Matthias Diessner  
Peter Witteczek  
Maria Kaiser  
Melissa Brown  
Veridiana Mageswki  
Hélène Carpentier

CFO/COO

Marketing & Sales Services  
Accounting

Business Development

Executive Producer

Ad Production

Designer

Dan Wunderlich  
Esther Wodarski  
Karen Hamatschek  
Claudia Salwiczek  
Gernot Meyer  
Marius Mezger  
Franziska Dachsel

### International Editorial Board

Dr Nasser Barghi, Ceramics, USA  
Dr Karl Behr, Endodontics, Germany  
Dr George Freedman, Esthetics, Canada  
Dr Howard Glazer, Cariology, USA  
Prof. Dr I. Krejci, Conservative Dentistry, Switzerland  
Dr Edward Lynch, Restorative, Ireland  
Dr Ziv Mazor, Implantology, Israel  
Prof. Dr Georg Meyer, Restorative, Germany  
Prof. Dr Rudolph Slavicek, Function, Austria  
Dr Marius Steigmann, Implantology, Germany

## DENTAL TRIBUNE

The World's Dental Newspaper - Asia Pacific Edition

### Published by Dental Tribune Asia Pacific Ltd.

© 2015, Dental Tribune International GmbH. All rights reserved.

Dental Tribune makes every effort to report clinical information and manufacturer's product news accurately, but cannot assume responsibility for the validity of product claims, or for typographical errors. The publishers also do not assume responsibility for product names or claims, or statements made by advertisers. Opinions expressed by authors are their own and may not reflect those of Dental Tribune International.

### Dental Tribune International

Holbeinstr. 29, 04229, Leipzig, Germany  
Tel.: +49 341 48474-302 · Fax: +49 341 48474-175  
Internet: www.dental-tribune.com E-mail: info@dental-tribune.com

### Regional Offices

#### Asia Pacific

DT Asia Pacific Ltd.  
c/o Yonto Risio Communications Ltd, 20A, Harvard Commercial Building, 105-111 Thomson Road, Wanchai, Hong Kong  
Tel.: +852 5115 6177 · Fax: +852 5115 6199

#### The Americas

Dental Tribune America, LLC  
116 West 25<sup>th</sup> Street, Suite 500, New York, NY 10001, USA  
Tel.: +1 212 244 7181 · Fax: +1 212 224 7185



# Motherhood clouded by dental problems

DT Asia Pacific

**TOKYO, Japan:** Women who have given birth to a number of children are more prone to dental diseases and tooth loss, new research from Japan implies. In

a nationwide study conducted by the Tokyo Medical and Dental University and the National Cancer Center, it is suggested that the more children a woman has had during her life, the more likely it is that she has fewer functional teeth.

In the study, female participants were compared with male participants, among whom no

relation between their number of teeth and number of children was found. The researchers therefore suggested that there might be a number of pathological and socio-behavioural factors that may promote tooth loss among high-parity women. In order to address this, greater effort regarding the information made available and management of a woman's dental health

during pregnancy is essential, they recommended.

The study, supported by the Ministry of Health, Labour and Welfare, was conducted between 2005 and 2006, and involved more than 1,500 women and men recruited from two national dental surveys done in 1990 and 2005. Women who had given birth to two children con-

stituted the largest group. Every fourth woman in the study had given birth to three children, and one in thirty women had given birth to four children. Similar figures regarding number of children were reported for the men in the study.

According to the researchers, it is the first study of its kind in Japan. [DT](#)

## Motivations of dental students differ widely

DT Asia Pacific

**SHENYANG, China/FUKUOKA, Japan:** Through a rare comparison, dental researchers from universities in China and Japan have gained new insight into the motivations of young people studying dentistry in both Asian countries. Among other findings, the study revealed that Chinese students appear to have chosen the profession primarily for its financial benefits and gain of personal prestige, while their fellow students in Japan reported that they had chosen the field to help people and out of personal interest.

According to the paper, money or social status was the decisive factor for enrolling in a dental school for almost every third dental student in China. Only one in five said that they had a higher motivation for studying dentistry. One in three admitted that they had chosen dentistry for no particular reason.

In Japan, however, more students appear to have actively chosen a career in dentistry. Family was also found to be a major motivation, which indicates that a significant number of dental students in the country are from a dentistry background and plan to continue their parents' family business after they have graduated.

With regard to career choices, more than half of all dental students in Japan want to become a general dentist. This differs significantly from the Chinese students, who want to specialise or pursue a master's degree. The researchers said that this could be because the income of general dentists is very low in the country even though there are too few dentists to treat its population of one billion adequately. They suggested that the country will need to reform its dental education system to address this gap by attracting students through better incentives.

The participants in the study, published in the latest issue of the *International Dental Journal*, were fifth- and sixth-year dental students from dental schools in Shenyang in China and Fukuoka in Japan. [DT](#)

## N-Cement Collection

Luting materials from Ivoclar Vivadent

A strong bond provides confidence and support

Variolink® N | Multilink® N | Multilink® Speed

- Powerful luting materials
  - Tried-and-tested product combinations
  - A wide collection for different demands:
- ESTHETICS | UNIVERSALITY | SIMPLICITY



[www.ivoclarvivadent.com](http://www.ivoclarvivadent.com)

Ivoclar Vivadent AG  
Benderstr. 2 | FL-9494 Schaan | Liechtenstein | Tel.: +423 / 235 35 35 | Fax: +423 / 235 33 60

Ivoclar Vivadent Marketing (India) Pvt. Ltd.  
503/504 Raheja Plaza | 15 B Shah Industrial Estate | Veera Desai Road, Andheri (West) | Mumbai 400 053 | India  
Tel.: +91 (22) 2673 0302 | Fax: +91 (22) 2673 0301 | E-Mail: [india@ivoclarvivadent.com](mailto:india@ivoclarvivadent.com)

Ivoclar Vivadent Pte. Ltd.  
171 Chin Swee Road | #02-01 San Centre | Singapore 169877 | Tel. +65 6535 6775 | Fax +65 6535 4991

ivoclar  
vivadent®  
passion vision innovation

AD

# Dear reader,



Daniel Zimmermann  
DTI

During a Greater New York Dental Meeting a couple of years ago, I had the rare opportunity to speak to one of the first dentists in the USA and worldwide to have introduced rapid oral HIV tests to a dental practice. I can vividly remember her enthusiasm concerning the new technology in my interview with her. Since then, few of her colleagues have followed her example unfortunately. It is thus encouraging to see that Australia—the first country in our region to do so—is now evaluating the feasibility of implementing these tests in dental practices nationwide. However, even if these tests do gain acceptance by the dental community there, this measure is only a drop in the ocean. Particularly in the Asia Pacific region, millions of new HIV infections are expected to occur in the years to come owing to sex trafficking and other reasons. It will require more and continuous efforts by the medical and dental communities to slow the spread of the virus. [DTI](#)

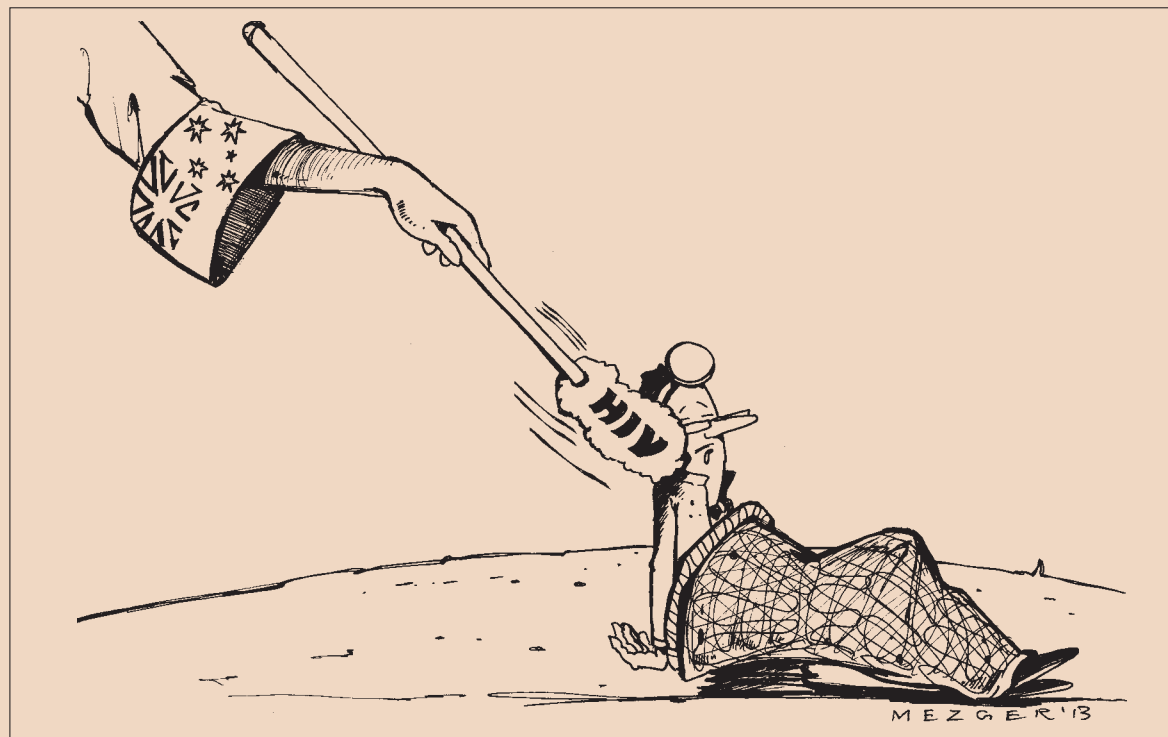
Yours sincerely,

Daniel Zimmermann  
Group Editor  
Dental Tribune International

Dental Tribune welcomes comments, suggestions and complaints at [newsroom@dental-tribune.com](mailto:newsroom@dental-tribune.com).



For quick access to our contact form, you may also scan the following QR code.



## A controversial topic in dentistry



Dr Sushil Koirala  
Nepal

Cosmetic dentists around the world routinely perform various diagnostic and therapeutic procedures that involve occlusion. Smile aesthetics and occlusion has been, and is still to some extent, controversial, as there are numerous questions related to smile and occlusion that have not been answered with scientific certainty and there are many diverse and polarised opinions regarding this.

In their undergraduate education, dental students are not fully trained in the science and art of both smile aesthetics and occlusion. When these new graduates enter into clinical practice and begin undertaking complex clinical cases, many become confused with the numerous theoretical recom-

mendations and varied concepts about cosmetic dentistry and occlusion in academic and clinical dentistry. In order to understand the core relationship between smile aesthetics and occlusion, a clinician must be familiar with the pros and cons of all the popular concepts and theories regarding smile aesthetics and occlusion, and based on this select the most conservative treatment that is best suited to the patient and that will ensure health and function. With this in mind, two global educational academies, namely Minimally Invasive Cosmetic Dentistry, or MiCD, and Teeth, Muscles, Joints and Airway Harmony, or TMJA, have been established with the aim of promoting healthy, comprehensive dentistry by disseminating the relevant knowledge and information regarding various concepts, theories and clinical protocols concerning smile aesthetics and occlusion.

I am pleased to mention here that recently the Faculty of Dentistry

of Thammasat University in Thailand and the Vedic Institute of Smile Aesthetics in Nepal, along with three supporting partners, signed a memorandum of understanding to establish the MiCD and TMJA Harmony International Training and Treatment Center at the Faculty of Dentistry of Thammasat University. This centre will coordinate with various like-minded clinicians, academics and researchers working in the field of cosmetic dentistry and offer structured, skill-based training in MiCD and TMJA harmony dentistry especially for dentists in the Asia Pacific region. [DTI](#)

### Contact Info

Dr Sushil Koirala maintains a private practice that focuses primarily on MiCD in Kathmandu, Nepal. He is also Editor-in-Chief of our sister publication *cosmetic dentistry*. He can be contacted at [skoirala@wlink.com.np](mailto:skoirala@wlink.com.np).

## A new paradigm



Isabella Rocchietta  
Italy

Nowadays, implant positioning is driven by prosthetic demands and requirements rather than the quality, quantity and morphology of the available bone and often we find ourselves confronted with the dilemma of whether the treatment plan should contemplate bone regeneration after a meticulous diagnosis.

Bone regeneration has embraced tissue engineering to overcome demanding cases. The concept lies in having a 3-D scaffold that holds specific signalling molecules *in situ*, which attract the host cells that form the tissue, that is, bone. The advent of digital technology in the form of 3-D printing has aroused the enthusiasm of clinicians and researchers, who are in the process of assessing its potential application to tissue regeneration. Currently, it is used as a diagnostic and surgical tool to improve overall surgical performance.

The maturation of tissue engineering in association with digital technology and its application to clinical surgical procedures will soon create a new paradigm. [DTI](#)

### Contact Info

Dr Isabella Rocchietta performs clinical work in periodontics and implant dentistry in London. She can be contacted at [isabella.rocchietta@gmail.com](mailto:isabella.rocchietta@gmail.com).

AD

Visit us at



[www.promedica.de](http://www.promedica.de)

# PROMEDICA

Highest quality made in Germany



- high quality glass ionomer cements
- first class composites
- innovative compomers
- modern bonding systems
- materials for long-term prophylaxis
- temporary solutions
- bleaching products ...

**All our products convince by**

- excellent physical properties
- perfect aesthetical results



**Temporary crown & bridge material**

- less than 5 min. processing time
- strong functional load
- perfect long-term aesthetics
- excellent biocompatibility



**Light-curing nano-ceram composite**

- highly esthetic and biocompatible
- universal for all cavity classes
- comfortable handling, easy modellation
- also available as flowable version

**Resin-reinforced glass ionomer luting cement**

- strong adhesion
- very low film thickness
- especially suited for zirconia-based pieces





**PROMEDICA Dental Material GmbH**  
phone: +49 43 21/5 41 73 · fax +49 43 21/5 19 08 · Internet: [www.promedica.de](http://www.promedica.de) · eMail: [info@promedica.de](mailto:info@promedica.de)



# “Reach a point where dental restorative materials are rare for everybody”

An interview with Christopher H. Fox, Executive Director of the International Association for Dental Research



Christopher H. Fox

The adoption of the Minamata Convention in Japan recently made way for a ban on mercury-containing products on a worldwide scale. Provision was also made for phasing down the use of and trade in dental amalgam. Dental Tribune International had the opportunity to speak with the Executive Director of the International Association for Dental Research (IADR), Christopher H. Fox, who attended four of the intergovernmental negotiating committee sessions on behalf of the dental profession, about the impact this could have on dentistry and the future of dental amalgam as a restorative dental material.

**DTI: The recently adopted Minamata Convention on Mercury includes provisions on phasing down dental amalgam on a global scale. What impact do you think this will have on the dental community and particularly restorative dentistry in the long run?**

Christopher Fox: I think it must be first pointed out that the Minamata Convention is a very broad treaty designed to reduce all use of and international trade in mercury, as well as the demand for mercury in products and processes. In addition, it is intended to address the need for the reduction of atmospheric emissions of mercury, as well as mercury releases on land and in water.

Dental amalgam is included in the treaty as a mercury-added product contributing to the global demand for mercury. In this regard, it is important to note that the treaty calls for phasing down the use of dental amalgam, as opposed to phasing out or banning the use of it. This will give the industry and profession time to make a transition and preserve dental restorative choices for our profession and patients.

One of the provisions for phasing down dental amalgam is for countries to set national

objectives aimed at dental caries prevention and health promotion, thereby minimising the need for any dental restoration. A greater emphasis on prevention and health promotion is indeed welcome and will provide the greatest benefit to populations.

Another provision promotes research and development of alternative dental restorative materials. So, in the long run, dentistry and restorative dentistry, in particular, will have improved dental restorative materials from which to choose for their patients.

**You were involved in some of the intergovernmental negotiating committee sessions in the run-up to the Convention. What were the most discussed issues in formulating the treaty, and did the outcome meet the expectations of those involved in dentistry?**

The most discussed dental amalgam issue was a ban versus a phase-down. Led by the Responsible Officer for the WHO Global Oral Health Programme, Dr Poul Erik Petersen, a coalition of concerned dental organisations was able to show country negotiators that a ban would be detrimental to population oral health. Dental amalgam is a safe and effective dental restoration and remains the best restorative choice in many clinical situations or health system situations. As with any complex negotiation, the outcome has met many people's expectations, but there are those who would have preferred a phase-out of dental amalgam and those who would have preferred no limitations set on dental amalgam.

Another area of discussion was the need for best environmental practices in dental facilities to reduce releases of mercury and mercury compounds to water and land. Dentistry must be a good steward of the environment and implement best environmental practices for dental amalgam, as well as for all other dental materials, medical waste and consumables.

**You mention that in the dental community amalgam is still considered to be effective and safe. So why phase down its use at all?**

Dental amalgam is a safe and effective restoration. The US National Institute of Dental and Craniofacial Research funded two large-scale randomised clinical trials on the safety of dental amalgam in children and failed to find any adverse health effects. The reason for the agreed-upon phase-down is solely the environmental and health effects of mercury in the environment, not

the direct health effects of the use of dental amalgam.

**Mercury poisoning from amalgam is mostly found in countries where recycling of the material is insufficient. Is this not a more pressing issue that should be addressed globally?**

The proper handling of dental amalgam and its waste must be adhered to by the dental profession and the health facilities in

## “The reason for the agreed-upon phase-down is solely the environmental and health effects of mercury in the environment, not the direct health effects of the use of dental amalgam.”

which they work. In addition to the provision in the Minamata Convention calling for best environmental practices, there is a provision calling for dental amalgam to be used only in its encapsulated state. Only some countries require the use of dental amalgam separators and many more dental professional organisations are calling for their universal use.

Even if we were successful with our oral health promotion programmes however and could stop using dental amalgam tomorrow by the introduction of next-generation dental restorative materials, dental facilities would need dental amalgam separators in place for at least a generation as currently placed dental amalgams come to the end of their life cycle and need to be replaced.

**According to the Convention, a number of products containing mercury will be banned from 2020. Do you believe that amalgam will still play a major role in restorative dentistry by that time?**

Seven years is a short time frame when we are relying on a research and development pipeline to deliver improved dental restorative materials. Without being too pessimistic, a typical research and development time frame from discovery to clinical use in the pharmaceutical arena is 17 years. So, I believe dental amalgam will still be with us in 2020, but I am optimistic it will play a much-reduced role in restorative dentistry.

**Alternatives to mercury-containing dental filling material were discussed last year at an IADR-FDI workshop on dental materials. Is there any viable alternative, and what needs to be done to implement and sustain its use in the future?**

The symposium at the recent FDI Annual World Dental Congress in Istanbul was actually a much-condensed summary of a two-day workshop held in December 2012 at King's College London. In brief, yes, we can have much-improved, innovative dental restorative materials, but it is going to take a significant commitment from government funders, academia and industry. Keep in mind that even if a new

your readers to the proceedings, which have just been published in the November issue of the *Advances in Dental Research*, an e-supplement to the *Journal of Dental Research*.

**With the advent of preventive dentistry, stem cell research and the sophistication of tooth replacements, will restorative materials become obsolete someday?**

material could be developed within a one- or two-year time frame, clinical safety and effectiveness trials and regulatory approvals will take significantly more time. Practising dentists have an important role here too, as they can participate in research networks evaluating new materials and identifying research questions, not to mention advocating for research funding with policy-makers in their country.

For a more complete answer to your question, I would refer


Dental restorative materials are already obsolete or nearly obsolete for the socially advantaged post-fluoride generation. Our greatest challenge is addressing the oral health needs of socially disadvantaged and vulnerable populations. The IADR has a research agenda to reduce these oral health inequalities across populations and hopefully we will reach a point at which dental restorative materials are rare for everybody.

Thank you very much for the interview. □

AD

www.idem-singapore.com

## THE BUSINESS OF DENTISTRY









**INTERNATIONAL DENTAL EXHIBITION AND MEETING**  
**APRIL 4 - 6, 2014**






Singapore International Convention and Exhibition Centre

**The Gateway to the Asia Pacific's Dental Markets**  
IDEM Singapore is a highly targeted trade exhibition and conference that offers exhibitors unrivalled prospects to meet and do business with the dental fraternity in the Asia Pacific region.


With a powerful combination of an extensive international trade exhibition and a world-class scientific conference, IDEM Singapore has been a cornerstone event in the dental community calendar since 2000.


Capitalize on this unique opportunity and participate in this "must attend" event for every professional who is in the business of dentistry.

Endorsed By:      


Supported By:     

Held In: 

In Cooperation With:  

Co-organizer: 

International Ms. Stephanie Sim  
T: +65 6500 6723  
F: +65 6296 2771  
E: s.sim@koelnmesse.com.sg

 koelnmesse  
reenergize your business



# World's first maxillofacial surgery broadcasted with Google Glass

Javier de Pison  
DT Latin America

**MURCIA, Spain:** Surgeons have demonstrated the medical applications of Google Glass, an advanced new device that can take pictures, record videos and

surf the Internet, by using it for the first time for streaming of a dental procedure in real time.

In October, three dental surgeons at Hospital de Molina in Murcia in Spain conducted a historic maxillofacial surgery

at a master class. The clinical procedure, performed by Drs Pedro Peña Martínez, Juan Francisco Piqueras Gómez and Alejandro López Gómez, was part of a 3-D diagnostics and treatment surgery course at the hospital's dental clinic and was

attended by dentists from all over Spain.

The clinic's programme provides training to dentists, and achieved an international milestone by using Google Glass to transmit a complex



Juan Francisco Piqueras Gómez, Pedro Peña Martínez and Alejandro López Gómez were the first dentists to use Google Glass in surgery. (DTI/Photo Javier de Pison, DT Latin America)

AD

maxillofacial surgery live for the first time.

The surgery was performed on a 70-year-old patient with a fully edentulous maxilla using a computer-guided implant technique pioneered by Dr Peña in Spain. The computer-guided surgery system allows surgeons to plan the clinical case.

A 3-D model of the patient's maxilla is created, which shows the position in which the implants are to be placed. A surgical guide is then fabricated to place the implants. In an hour, the patient has a complete prosthesis on dental implants.

The advantages of this implant system are accurate diagnosis, reliable information on bone quality, predictable treatment, reduced surgery time by avoiding the need for incisions and bone exposure, and shorter recovery time.

Using Google Glass in such a procedure has the additional benefit of allowing direct communication between the surgeon and the audience. The surgeon at the master class can interact with and answer questions from attendees, all of whom are able to see the procedure via the Google Glass broadcast.

The Google Glass device is a head-mounted wearable computer available only on a trial basis. It displays information and can communicate with the Internet via natural language voice commands. It is part of Google's Project Glass, a research and development initiative, which has worked on other futuristic technologies, such as driverless cars.

The technological advancement at the hospital was made possible by Droiders, a Spanish company that develops applications for Google Glass. According to representatives of the hospital, the procedure is an example of its commitment to providing high-quality training to professionals using the most advanced technologies. Dental publisher Ripano, who works with Drs López and Piqueras regularly, promoted the event and was on-site during the surgery.

The surgical procedure has attracted widespread media attention, as this new technology creates new possibilities for professional education in dentistry. [DTI](#)

AUSTRALIA





SEE BUY LEARN — SYDNEY



SEE BUY LEARN — SYDNEY

ADX14 Sydney

Australia's Premier Dental Exhibition

21-23 MARCH 2014 — SYDNEY, AUSTRALIA

- Australia's largest dental exhibition
- All major brands and product categories
- Discounted airfare and accommodation options
- Extensive professional skills program

[www.adx.org.au](http://www.adx.org.au)

## ADX14 Sydney — Australia's Premier Dental Exhibition

Australia's premier event for all with an interest in dentistry is **ADX14 Sydney**. Over three days, it affords all dentists and allied oral healthcare professionals the opportunity to visit a world-class dental exhibition, and also take part in a dental skills program full of practical solutions and vital insights into the latest innovative products and patient care options.

**ADX14 Sydney key features —**

- World-class exhibition featuring suppliers of quality dental products.
- Anticipated attendance of around 7,500 professionals from the dental community.
- Representatives from government, universities and other stakeholders within the Australian healthcare sector.

International visitors have access to tailored support services to help you apply for a visa and finalise your travel arrangements. Visit the **ADX14 Sydney** website to check out exclusive discounts on airfares and accommodation.

Use your attendance at **ADX14 Sydney** as a chance to visit the Sydney Opera House, climb the Harbour Bridge and visit the world-famous Bondi Beach. Why not take a quick tour to visit a national park to see kangaroos, koalas - all less than two hours away.

The **ADX14 Sydney** dental exhibition is organised by the Australian Dental Industry Association (ADIA), the nation's peak body for suppliers of quality dental product.

**ADX14 Sydney** — See more, buy more and learn more.

For more information visit [www.adx.org.au](http://www.adx.org.au)

Twitter  
[@ADXSydney](https://twitter.com/ADXSydney)

Facebook  
[www.facebook.com/dental.exhibition](https://www.facebook.com/dental.exhibition)

Simply complete this form to keep up to date about the exciting opportunities awaiting you at the **ADX14 Sydney** dental exhibition.

Contact person —

Job title —

Business —

Postal address —

Country —

Email —

Send me information about —

ADX14 Sydney visitor registration

ADX14 Sydney exhibition opportunities

Please Return This Form To —

a: GPO Box 960, Sydney, NSW, 2001 Australia  
e: [adx.sydney@adia.org.au](mailto:adx.sydney@adia.org.au)  
f: +61 2 9319 5381

# Caries bug may contribute to composite degradation

DTI

TORONTO, Canada: Secondary caries has been identified as

one of the major reasons for dental resin composite replacement. A Canadian study has recently provided new evidence that *Streptococcus mutans*, an oral bacterium that causes tooth decay, compromises the resin-dentin interface and thus con-

tributes to dental resin composite and adhesive degradation over time.

In collaboration with the University of Toronto's Institute of Biomaterials and Biomedical Engineering, researchers at the

university's Dental Research Institute studied standardised specimens of resin composite, and total-etch and self-etch adhesives that were incubated with *Streptococcus mutans* for 30 days.

Electron microscopy scans of the specimens' surfaces after the period found that all materials incubated with *Streptococcus mutans* showed increased degradation compared with controls.

In addition, a trend of increasing bishydroxy-propoxy-phenyl-

propane release, a Bis-GMA-derived biodegradation byproduct, throughout the incubation period was observed for all materials and this was more elevated in the resin composite material and self-etch adhesive specimens in the presence of the bacteria.

The study, titled "Cariogenic Bacteria Degrade Dental Resin Composites and Adhesives," was published online on Sept. 11 in the *Journal of Dental Research* ahead of print. [D](#)

# Amalgam phased down in Africa

DTI

DAR ES SALAAM, Tanzania: As reported by *Daily News*, a Tanzanian online newspaper, the East Africa Dental Amalgam Phase-down Project has been successfully implemented in Kenya, Uganda and Tanzania. Among other objectives, the project will investigate supply and trade patterns, and encourage switching to alternatives to dental amalgam in the three countries. Under the co-ordination of UNEP Chemicals, the centre for all United Nations Environment Programme activities concerning chemicals, and the World Health Organization's Global Oral Health Programme, the ministries of Environment and Health in Kenya, Tanzania and Uganda will be collaborating with the FDI World Dental Federation, International Dental Manufacturers and their respective national dental associations to explore essential conditions for a phase-down in the use of dental amalgam.

Over a period of a year, the project will investigate the current supply and trade of dental amalgam and materials alternative to amalgam. It will also assess the current waste management practices, create awareness of preventive dental care and encourage a switch to appropriate alternatives to dental amalgam among dentists and patients. In addition, the project is aimed at environmentally sound management of dental restoration material waste in selected dental facilities. However, Prof. Febronia Kokulengya Kahabuka, project coordinator in Tanzania and Associate Dean of the School of Dentistry at the Muhimbili University of Health and Allied Sciences, cautioned: "Even with the success of the pilot project, Tanzania faces inadequate funding to roll out to all dental facilities across the country."

Amalgam, which contains up to 50 percent mercury, remains one of the most widely used restorative materials worldwide, although scientists have expressed concerns about its possible adverse health effects, especially among younger patients. The chemical has been linked to kidney, brain, and neurological damage, as well as damage to the digestive tract. [D](#)

AD

**#1 Retraction Paste in the USA!**

**traxodent®**  
Hemodent® Paste Retraction System

**Easy, effective hemostasis and retraction.**  
Award winning Traxodent® is dispensed from a sleek syringe with a bendable tip that permits easy application of Traxodent directly into the sulcus. After two minutes it is rinsed, leaving an open, retracted sulcus.

**Traxodent is gentle, absorbent and fast.**  
The soft paste produces gentle pressure on the sulcus while it absorbs excess crevicular fluid. The aluminum chloride creates an astringent effect without irritating or discoloring surrounding tissue. Traxodent provides predictable hemostasis and retraction in less time and with greater comfort.

Place Traxodent

After 2 minutes, rinse away

Try it – starter and value packs are available through your authorized dealer.

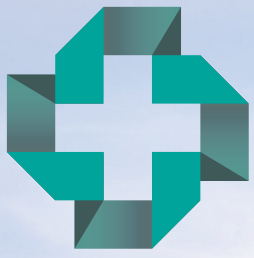
Go to [www.premusa.com](http://www.premusa.com) to view online tutorial!

premier 100 YEARS

Premier® Dental Products Company • 888-670-6100 • [www.premusa.com](http://www.premusa.com) • Cosmetic • Endo/Restorative • Hygiene/Perio • Instruments • Prosthetic

1. Strategic Dental Marketing, May 2013. / Clinical images courtesy of Shalom Mehler DMD, Teaneck, NJ.





# Tribune CME



## 6 Months Clinical Masters Program in **Implant Dentistry**

12 days of intensive live training with the Masters  
in **Como (IT), Maspalomas (ES), Heidelberg (DE)**



**Live surgery and hands-on** with the masters  
in their own institutes plus online mentoring and  
on-demand learning at your own pace and location.

**Learn from the Masters** of Implant Dentistry:



### Registration information:

**12 days of live training with the Masters**  
in Como, Heidelberg, Maspalomas + self study

Details and dates on [www.TribuneCME.com](http://www.TribuneCME.com)

**Curriculum fee: € 11,900**

contact us at tel.: **+49-341-48474-302** / email: **request@tribunecme**

(€ 900 when registering, € 3,500 prior to the first session, € 3,500 prior to the second session, € 4,000 prior to the last session)

**Collaborate**  
on your cases

and access hours of  
premium video training  
and live webinars



**University**  
of the Pacific

you will receive a  
certificate from the  
University of the Pacific



**Latest iPad**  
with courses

all early birds receive  
an iPad preloaded with  
premium dental courses



# 100

 ADA CERP  
C.E. CREDITS

**ADA C.E.R.P.**® | Continuing Education  
Recognition Program

Tribune America LLC is the ADA CERP provider. ADA CERP is a service of the American Dental Association to assist dental professionals in identifying quality providers of continuing dental education. ADA CERP does not approve or endorse individual courses or instructors, nor does it imply acceptance of credit hours by boards of dentistry.



## Glidewell and SHOFU partner

DT Asia Pacific

**KYOTO, Japan:** In extending its portfolio of dental products to Japan, Glidewell Laboratories has recently granted SHOFU in Kyoto exclusive distribution rights for BruxZir Solid Zirconia and BruxZir Shaded. The materials, which are recommended for monolithic dental restorations, will be available to dentists throughout the country by the beginning of December, the US manufacturer said.

The partnership is Glidewell's first entry into Asia's largest dental market. Besides Japan, it currently distributes BruxZir Solid Zirconia in several other countries in the region, including Korea, where it was introduced to dental professionals late last year. The company also collaborates with dental laboratories in Australia, among others. "Monolithic zirconia restorations are becoming very popular in the USA, and

we expect these new regions to contribute greatly to the growth of BruxZir Solid Zirconia. SHOFU has an excellent global reputation and an exceptionally strong presence in Japan through its wide range of proven restorative products," a company representative told *Dental Tribune Asia Pacific*. She said that her company plans to extend its relationship with SHOFU in the years to come to grow its respective business.

Introduced to dental markets in 2009, BruxZir Solid Zirconia is indicated for crowns, bridges, implants, inlays and onlays. Glidewell also markets the material as an aesthetic alternative to porcelain-fused-to-metal occlusal/lingual or full cast restorations. More than 3.6 million restorations have been placed with the material worldwide since it was introduced five years ago, it said. Recently, the material was named Top Long Term Performer by THE DENTAL ADVISOR in the USA. [DT](#)

## Asian biomedical companies combine research activities

DT Asia Pacific

**BANGALORE, India/SINGAPORE:** Indian Stelis Biopharma and Bio-Scaffold International (BSI) from Singapore have announced that they have signed a collaboration agreement that will see both companies combining their research activities in the

Therefore, a joint venture in Malaysia or Singapore is planned to seek investors to support the projects. Research activities will be jointly directed by the CEOs of both companies, Drs Anand Iyer and Margam Chandrasekaran. The financial details were not disclosed.

Formerly Rapid-Tech, BSI began developing biocompatible 3-D devices for use in the field of guided tissue engineering in 1999. Among other achievements, the company won the poster competition at the 2009 Annual World Dental Congress of the FDI World Dental Federation in Singapore with its presentation on Alvelac, a PLGA and polyvinyl alcohol-based synthetic scaffold designed for the preservation of the alveolar socket after tooth extraction, which is currently available to dentists in India, Hong Kong, Taiwan and the UK.

The company also has research partnerships with dental institutions in the region, including the Saveetha University dental school in Chennai in India.

A subsidiary of biomedical company Strides Arcolab from Bangalore, Stelis Biopharma specialises in the development and production of medicine- and stem cell-loaded biomedical devices. According to its own figures, the publicly listed company currently maintains operations in six countries, including India and Malaysia. [DT](#)

development of medicine- and stem cell-loaded devices for the treatment of various medical and dental conditions.

Signed in late October, the new partnership is intended to begin this month and aims to develop devices for use in oral and maxillofacial surgery, among other applications.

In a press release, both companies said that initial collaboration will focus on bone morphogenetic protein-loaded scaffolds for use in orthopaedics and in spinal fusion.

## BRIC dental implant markets to see rapid expansion

DTI

**TORONTO, Canada:** According to a new report, the Brazilian, Russian, Indian and Chinese (BRIC) markets will be the fastest-growing dental implant markets worldwide in the next few years. It is believed that they will reach \$1.3 billion in 2021 owing to the rising number of dentists learning to perform implant procedures and the increased importance of local low-cost competitors for the international dental industry.

According to the Millennium Research Group (MRG), a Canadian provider of strategic information to the health care sector, Brazil currently represents the largest of the BRIC markets and will continue to generate the highest proportion of revenues, accounting for over 50 per cent of all dental implant revenues. Dental implants have been available in the country for a long time

and many Brazilians seek this treatment owing to a high level of aesthetic consciousness in the society.

With regard to market expansion, however, MRG predicts that the less mature Russian, Indian and Chinese markets will have greater growth, with the dental implant market in China experiencing the strongest development.

"Price competition will be less prevalent in China than in Russia, India or Brazil," said MRG analyst Jeremy Seath. "Chinese dentists place greater emphasis on brand names and premium products because it improves the appearance of their practices to patients. The majority of patients undergoing dental implant treatment in China continue to be part of a wealthy social class and they are more likely to request higher-priced brands. As a result of this trend, the aggregate selling price

in China was more than double that of the other BRIC countries in 2012."

MRG also stated that low-cost products will gain more importance as price competition intensifies worldwide. Although the increasing availability of low-cost products will make dental implant procedures more accessible to patients, this trend will ultimately impede revenue, MRG suggested. Therefore, international competitors, particularly in Brazil, will be looking to meet growing demand for implants by acquiring local low-cost companies to offer low-cost products alongside their premium devices. In 2012, for instance, Straumann acquire a 49 per cent stake in Neodent, a leading dental implant company in Brazil.

The report, titled "BRIC Markets for Dental Implants 2013," can be accessed on MRG's website. [DT](#)

AD



### PURE NEWTRON®, generating wellness

ACTEON® SATELEC® revolutionizes dentistry with the new range of NEWTRON® ultrasonic generators.



[www.pure-newtron.com](http://www.pure-newtron.com)



SATELEC • A company of ACTEON group • 23/45 Sorachai Building 16th Floor Sukumvit 63 Road, Klongton Nua Wattana, BANGKOK • 10110 THAILAND  
Tel + 66 2 714 3295 • Fax + 66 2 714 3296  
E-mail : [info@th.acteongroup.com](mailto:info@th.acteongroup.com) • [www.acteongroup.com](http://www.acteongroup.com)