International mercury treaty signed

Minamata Convention bans products, Agrees to amalgam phase-down

MINAMATA, Japan: Certain products containing mercury will be banned from 2020, according to a new international treaty signed by governments in Minamata in Japan last week. The regulations apply to the production and trade of batteries, cosmetics and fluorescence lamps containing the toxic material, among other products. Amalgam dental fillings are not affected by the ban.

However, the treaty agreed on a number of provisions on the phasing down of the controversial dental material. The Convention, which was proceeded by five intergovernmental negotiation rounds and set in place for adoption at a meeting in Geneva in January, was signed by 87 countries.

Governments now have three years to develop and implement national strategies to reduce or eliminate the production and industrial use of the toxic metal. Mercury emission from large-scale industrial plants, the main source of mercury pollution worldwide, will also be controlled.

Dental associations reacted positively to the decision, which will permit the use of amalgam as a restorative dental material for the years to come. Dr Stuart Johnston from the British Dental Association, who took part in the negotiations on behalf of the FDI World Dental Federation, commented: “We are delighted that the Minamata Convention allows the dental profession continued access to a key restorative material. Dental amalgam is safe and effective: it has been in use for over 150 years and no studies have demonstrated any harm to human health.”

He said that despite amalgam not being banned by the treaty, a final-year student at the University of Hong Kong, who won the FDI World Dental Federation’s Global Student Physical Science and Innovation Award in 2013, created a new type of autoclave that uses solar energy to help sterilise dental instruments.

Rice University student Oara Neumann (left) and Dr Naomi J. Halas have invented a new type of antenna that uses solar energy to help sterilise dental and medical instruments. (DTI/Photos courtesy of Rice University USA)

Minamata Convention has recognised a dental student as the first international winner of a new scientific category, the FDI World Dental Federation’s Global Student Physical Science and Innovation Award. The prize was awarded during a meeting of the IADR's Asia Pacific divisions in Australia, New Zealand, China, Japan, Korea and South-East Asia that was held from 21 to 25 August in Bangkok.

Regeneration with diamonds

New research suggests that nanodiamonds could be used to promote bone growth as they bind rapidly to both bone morphogenetic protein and fibrin, which promotes new bone growth. According to the US scientists, the by-product of conventional mining and refining operations can be inserted noninvasively through injection or an oral rinse.

GC opens new headquarters

GC International has recently opened its new head office in Lucerne in Switzerland. The newly established international branch of dental products manufacturer GC will be guiding the international affairs of GC Asia, GC Europe and GC America in the future. GC Corporation will continue to operate independently from Japan.

Mouthwash made from neem bark

The International Association for Dental Research (IADR) has recognised a dental student from Myanmar for his research on the clinical effectiveness of mouthwash made from the bark of the neem tree, which is used in traditional South-East Asian medicine.

The study by Mg. Ye Htut Oo, a final-year student at the University of Dental Medicine, Yangon, found that the plant-derived mouthwash was just as effective as conventional mouthwashes. Moreover, it was more effective at reducing stains.

The prize was awarded during a meeting of the IADR’s Asia Pacific divisions in Australia, New Zealand, China, Japan, Korea and South-East Asia that was held from 21 to 25 August in Bangkok.
Participants will learn:

- To understand high tech diagnostic aids and digital impression/CAD/CAM systems
- To use digital and 3D radiography and associated implant and treatment planning
- To make intelligent purchase decisions

Among other topics, the aesthetic potential of modern CAD/CAM materials, as well as digital impression taking and guided implantology were discussed. Furthermore, two presentations demonstrated for the first time how modern digital technology can be applied to orthodontics.

The event also featured a number of workshops, where attendees gained hands-on experience of the latest technologies in fields like computer-guided implantology. The benefits of the new technology for dental laboratories were presented during a parallel session on the second day of the conference, which, according to the organiser, was attended by over 50 technicians from the region.

“Computerisation and advanced technologies have become the future of dentistry and we have to make an effort to stay abreast of the latest technologies,” Singapore Dental Association President Dr Kuan Chee Keng told Dental Tribune Asia Pacific in an interview. “The CAPP Asia conference is a good example of that.”

A spin-off of the successful congress series held by CAPP in Dubai in the United Arab Emirates annually since 2006, the event was supported by over 50 industry players from around the globe. During the show more than 55 brands were presented by leading manufacturers in the field, according to the organiser. It said that plans are already underway for the next show to be held in October next year, with dates and times to be announced in the upcoming weeks.

CAPP’s ninth Dubai edition is scheduled for May 2014. The organisation added that it will also host the Dental Technicians Forum at the upcoming International Dental Exhibition & Meeting in Singapore.
Study finds crucial role of dental therapists in child protection

DTI

DUNEDIN, New Zealand: A new study conducted by researchers in New Zealand has highlighted that dental workers may hold a key role in reporting child maltreatment. As the majority of injuries occur in the head and neck area, therapists, who are the most common type of health professional to see children up to the age of 14 in New Zealand, are in the best position to report physical abuse.

The study, which was conducted at the University of Otago, involved 520 registered dental therapists in New Zealand, who completed a questionnaire in which they were asked how frequently they had suspected and reported child maltreatment over the past year. The researchers found that 55 had each suspected up to 10 cases of physical abuse, while 87 had suspected up to 10 cases of child neglect. Moreover, 101 participants had suspected up to 10 cases of dental neglect.

According to Dhara Tilvawala, the final-year Bachelor of Dentistry student at the university who led the study, the therapists primarily reported bruises and physical signs of abuse to the head and neck area, including cigarette burns, and children who seemed overly fearful when the clinician tried to examine their mouth. Tilvawala said that 50 to 70 per cent of injuries occurred in the head and neck area.

Fears of reporting someone mistakenly, unfamiliarity with the signs of child abuse and fear of violence to themselves from caregivers were among the barriers to reporting. The greatest barrier, however, was that dental therapists were unsure of where to report suspected cases. According to Tilvawala, 60 per cent said that they would report directly to the Child, Youth and Family service, while others preferred to turn to an official or to discuss the matter with a colleague. Only a few said that they would report the matter to the police, she said.

DT

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Study finds crucial role of dental therapists in child protection

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Amalgam remains one of the most widely used restorative materials worldwide. Particularly in developing countries, it is often the only affordable means of treating dental caries, despite the availability of other methods, such as atraumatic restorative treatment. Unfortunately, it is also a significant source of mercury pollution. Recent national tests conducted in Pakistan, for example, found that levels in urban dental hospitals and practices were up to 20 times higher than acceptable levels, which was considered largely due to poor amalgam waste management.

According to estimates by the United Nations Environment Programme, between 500 and 480 metric tons of mercury is used in dental fillings every year worldwide, a tenth of the world’s annual consumption. The initial steps have already been taken with a pilot project launched recently by the FDI in partnership with the United Nations Environment Programme in East Africa that aims to train professionals in the country on managing and recycling amalgam waste more effectively.

According to estimates by the United Nations Environment Programme, between 500 and 480 metric tons of mercury is used in dental fillings every year worldwide, a tenth of the world’s annual consumption.
Dear reader,

It is not presumptuous to call the recent adoption of the Minamata convention a historic decision. Never before has such an international alliance of policy makers and experts rallied against the industrial use of a single substance.

For dentists, this decision, although containing provisions on how to phase down the use of amalgam, will not change a lot. Recent developments in dental technology are already aiming at prevention of dental diseases and the use of alternative materials that are much easier to handle and more friendly to the environment. In 2020, when most of the products mentioned in the convention will be banned from being produced and traded, amalgam will hopefully be something that most dentists consider a thing of the past.

Until then it remains important to remember that there are several effective ways to deal with the remains of the material, ranging from amalgam separators to full-scale recycling. Unfortunately, these measures are still not common in dental practice, both in developed and developing countries.

Yours sincerely,
Daniel Zimmermann
Group Editor
Dental Tribune International

Immediate implant placement

Prof. Mariano Sanz
Santo Domingo Hospital
Madrid in Spain. He can be contacted at marsan@ucm.es

The immediate implant placement therapeutic concept is one of the most debated and studied treatment protocols in current dental practice. Several systematic reviews have analysed its efficacy in comparison with the delayed implant placement protocol and have clearly established that both achieve similarly high survival rates. Moreover, several well-designed experimental and clinical studies have shown that similar levels of osseointegration can be achieved with high predictability with both protocols.

There is, however, controversy as to whether immediate implant placement in a fresh extraction socket may pose an aesthetic risk for the patient, mainly through the loss of the buccal bone contour of the maxilla, and recession of the peri-implant mucosa and exposure of the implant neck. These events occur more frequently when implants are placed in the anterior maxilla, where the buccal bone plate is usually thin, and above all when implants are placed too buccally.

Several authors, however, have demonstrated excellent long-term aesthetic results even in the anterior maxilla, provided the implants are placed in sites with thicker buccal ridges and in the optimal 5-D implant position or when the physiological changes occurring in the alveolar ridge after tooth extraction are compensated for using slow resorption bone replacement grafts and/or soft-tissue grafts.

All these procedures require thorough knowledge and skills in these surgical techniques and in the use of regenerative biomaterials and autogenous grafts. A lack of knowledge and expertise may increase the probability of post-surgical complications and therefore it may also impart a higher risk for the patient. In the hands of experienced and knowledgeable clinicians, it may be worth the risk because the achievement of good outcomes in a single therapeutic intervention could clearly be advantageous and comfortable for the patient.

Contact Info
Prof. Mariano Sanz is currently Professor of Periodontology at the Complutense University of Madrid in Spain. He can be contacted at mariano@ucm.es

Principles of MID

Prof. Roland Frankenberger
Frankfurt in Germany. He can be contacted at frank@aids.uni-marburg.de.

Modern repair strategies help to avoid these mistakes. Only through the combination of excavation, defect-oriented preparation, longevity and reparability, are we able to work responsibly with almost perfect aesthetic materials. Please think about this for a second.

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Prof. Roland Frankenberger is Director of the Department of Restorative Dentistry at the Philipps University of Marburg’s School of Dental Medicine in Germany. He can be contacted at frank@aids.uni-marburg.de.

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AWDC 2015—A big opportunity for Thai dentistry

Finally, the FDI World Dental Federation has granted Bangkok the opportunity to host its 165th Annual World Dental Congress (AWDC) in 2015. Praise and credit must be given to the Dental Association of Thailand, who continuously applied to organise this event for many years. It will be an opportunity for the international community to learn about Thai dentistry, especially in the area of dental public health, education, and services, which are well organised.

About 15,000 registered dentists in Thailand, more than one-third, serve the country’s population under the Ministry of Public Health at community or provincial level. The government’s universal Coverage scheme covers a number of dental services, including oral health promotion and the prevention of oral diseases, at public hospitals countrywide. All ten dental schools in Thailand are focusing on preventive dentistry by providing their students with experience in the field of community dentistry to prepare them to be public health dentists in the future. In addition, dental competency has been fully integrated into the six-year dental curriculum so that graduates can confidently begin practising dentistry once having completed the national dental licensure assessment.

It must be noted that curriculum requirements set by the Thai Ministry of Public Health are aimed at dental practitioners who aim to become one of the few Thai people but also an increasing number of medical tourists who come to the country to receive treatment.

The Dental Association of Thailand has been organising its biennial dental congress and trade exhibition for many years. Approximately 5,000 to 6,000 dental professionals usually attend these meetings. The exhibition has increasingly attracted companies and dealers from around the world and received a great response from Thai dentists, who are eager to upgrade their practices.

The 2015 FDI AWDC will provide a great opportunity for Thai dentists to gain exposure to the advanced knowledge of well-known experts and world authorities in dentistry, who will be coming to Thailand as speakers, panellists, and delegates from developed and developing nations with the goal of exchanging their knowledge with other participants from around the world. It will be the largest international dental congress for Thai dentists to obtain ideas on how to improve the quality of oral health care for the population.

Although most Thai dentists do not attend professional presentations given in English on a regular basis, the scientific programme for the Bangkok AWDC presented by world-class speakers will most likely encourage the participation of more regional dentists.

The dental expo will be a showcase for new products and materials, and there will be a competition between all exhibitors for the solution that offers the greatest benefit for the patient in terms of quality and cost-effectiveness. This will motivate the dental community to improve their practices.

The Bangkok congress will certainly boost the recognition of the importance of oral health care among the governmental institutions, and will hopefully result in activities that provide support for and greater efforts towards oral health care measures and promotion in the future. Presentations on the association between oral and general health will also raise awareness of oral health issues among policymakers for a better quality of life for the population.

The high number of participants at this year’s FDI congress in Istanbul poses a tremendous challenge for the organiser of the Bangkok AWDC. Since 2015 is the year by which the ASEAN Economic Community will be established, this will offer an important opportunity for dental professionals throughout the region to come together to host the congress in partnership. Thailand will be welcoming dentists from around the world to enjoy the country’s unique culture and beautiful landscapes in addition to visiting the congress.

The Dental Association of Thailand welcomed the 1,300 registered dentists present at this year’s FDI congress in Istanbul. (DTI/Photo Claudia Duschek)
European dental implant market limited by financial uncertainty
Countries in Eastern Europe poised for highest growth

Carmen Chan
Canada

The dental implant market, consisting of implants, abutments, and other devices, in Europe was valued at approximately €1.18 billion (US$1.6 billion) in 2012. Until the end of this year, the market will continue to contract slightly. It is expected to recover, however, and reach a value of just under €1.00 billion (US$1.3 billion) by 2021.

Germany reigns as the largest market, worth over US$500 million in 2012—almost the equivalent of France and Spain combined. Overall, these two countries have the lowest growth rates, with both suffering from either low GDP growth or high unemployment rates along with overall concerns regarding unsustainable national debt levels.

Demand for dental implant treatment continues to be fuelled by the ageing population. The US Census Bureau forecasts that the population aged 65 and older in Europe’s seven key markets will grow at an average compound annual growth rate of approximately 1.5% until 2021, whereas the total population will only grow at approximately 0.5% per year. As people age, their oral health tends to deteriorate, resulting in edentulism, for which implant restoration is increasingly becoming a recommended treatment option.

For most European patients, dental implant procedures are considered elective and need to be paid out-of-pocket by patients. As a result, financial considerations are among the most important factors influencing patients’ decision to undergo these treatments. The unstable economy has resulted in increased patient hesitance to seek dental implant treatment and in higher preference for lower-risk and less-costly traditional procedures and products, such as traditional loading (instead of immediate functional loading) and screw-retained abutments (over cement-retained ones).

Aside from the economy, countries such as Sweden and the Netherlands have experienced drastic shifts due to changes in government reimbursement. In the past year, both countries’ markets have suffered declines due to governments proposing changes to reimbursement. This uncertainty regarding dental implant treatment coverage has fuelled physician and patient reluctance to perform and undergo procedures.

The current dental implant market is defined by a never-ending number of competitors in the marketplace. Competition will become increasingly fierce with the recent merger of DENTSPLY Friadent and Astra Tech Dental to form DENTSPLY Implants, placing the company in direct competition with market leader Straumann for the top spot. While physicians and other competitors still perceive the two as separate brands, DENTSPLY Implants’ wider product portfolio and greater focus on the implant business will likely change this. Furthermore, smaller competitors are currently penetrating the market with a

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Researchers from the US have linked the growing number of adults under the age of 45 with oropharyngeal cancer to the human papillomavirus (HPV). From a review of cancer data spanning a 36-year period, the researchers observed a substantial increase in young adults with cancer of the tonsils and base of the tongue. In addition, they noted a wide deviation between Caucasians and African-Americans.

The researchers used data on more than 1,600 patients aged 36 to 44 who had been diagnosed with invasive oropharyngeal squamous cell carcinoma between 1973 and 2009. Overall, the study revealed a 60 per cent increase in cancers of the base of the tongue, tonsils, soft palate and pharynx in people younger than 45 during the period. While the rate of oral cancers decreased by 52 per cent among African-Americans, it increased by 113 per cent among Caucasians.

However, compared with Caucasians and other races, African-Americans had a lower five-year survival rate. The five-year survival for the whole study group was 54 per cent.

“THE predominance of oropharyngeal cancer in this age group suggests either non-sexual modes of HPV transfer at a younger age or a shortened latency period between infection and development of cancer,” explained Dr Farzan Siddiqui, lead author of the study.

According to the researchers, 50 to 65 per cent of patients underwent surgical resection for their tumours. Patients who had both surgery and radiation therapy had the highest five-year survival rate, they said.

Although the growing incidence of oral cancer has been largely attributed to the sexual revolution of the 1960s and 1970s and changes in sexual practices, the current study of people born during this period suggested that other factors may contribute to this development.

The study was conducted at the Henry Ford Hospital in Detroit. Data was obtained from the Surveillance, Epidemiology and End Results database. The findings were presented at the 55th Annual Meeting of the American Society for Radiation Oncology in Atlanta, USA, in September.

The American Cancer Society estimates 36,000 people in the US will contract oral cavity and oropharyngeal cancers in 2013, with about 6,850 people dying of these cancers.
Biolase could become the next Intuitive Surgical
An interview with the company’s CEO Federico Pignatelli

DT: Mr Pignatelli, your company seems to have been struggling recently, according to some analysts. What is your company’s position right now, and what does the recent sale of shares to Comerica Capital mean for your business?

Federico Pignatelli: The confusion arises from the fact that we grew 40 to 50 per cent a year for two years and in 2013 our growth has slowed down to “only” 15 to 20 per cent. We believe that BIOLASE will grow strongly in the years to come. We just needed to raise our capital with a few million dollars in order to improve our balance sheet. This capital raise, combined with our US$8 million Comerica Bank credit line, will give us enough capital to continue our plan of business expansion.

Also, as we approach the fourth quarter we see net income and positive cash flow returning and we are expecting this positive development to continue in 2014. So we feel very positively about where BIOLASE is right now.

DT: So have the recent restructuring measures paid off?

Yes, they have paid off handsomely, but there is more to do. I admit that in the past three years we have been some unhappy customers, but in our defence the company back then was managed by entirely different people and was locked into an exclusive global distribution agreement with Henry Schein. In the new BIOLASE, our customers are the number one priority and we do what it takes to take care of them.

What people need to realise is that BIOLASE is a cutting-edge technology company with a new technology that is potentially going to radically transform the way dental surgery is performed and practiced. As a new step in informing the marketplace about WaterLase, we have recently embarked on a social media and press campaign to reach out to millions of patients to educate them about the many advantages of being treated with BIOLASE’s technology.

We are glad to have Mr Fred Moll, the co-founder of Intuitive Surgical, who values our technology such that he joined our board of directors recently. He is a legend in the medical field because with his company he transformed the way surgery is approached through the use of robots. Thanks to a visionary like him, today tens of thousands of patients with cancer can be treated in a much more precise way than ever before.

We believe BIOLASE has a technology that is so advanced and revolutionary that the company could become the next Intuitive Surgical. That is because with WaterLase technology we can transform surgical dentistry for hundreds of thousands of dental practices around the world, while providing better and safer care for patients.

Why do you think lasers and particularly WaterLase will be the technology of choice in dentistry for the future?

If you think about it, dentistry has not really changed very much since the dental drill was invented by the Egyptians 7,000 years ago. The principle of removing tissue by mechanical rotation has remained the same since that time, with the only major change in the past 70 years being the attachment of a high-speed engine. With WaterLase technology, we are able to make use of the most basic element of human tissue, water. The human body in its entirety consists of 60 per cent water, so water can be found in almost all tissue. Dentine, for example, has 20 per cent water in it. By energizing water molecules with a laser, tissue can be cut without pain, heat, abrasion, vibration, or the risk of microfractures. At the same time, it is also much more precise. Clinically, this is much better dentistry.

Furthermore, there is no need for an anaesthetist for the patient; 99 per cent of patients can be treated without using Novocain. How wonderful is that? On top of that, laser energy kills bacteria, viruses and fungi, and that provides another advantage for dentists, since it is almost impossible and certainly very costly to have surgical instrumentation like dental burs and endodontic files fully sterilized, and too costly to have new instrumentation for every patient to be treated.

With all these advantages, why does it seem that the technology has not been adopted widely by dentists yet?

Where do you see the technology in the next five to ten years?

In contrast with other market-leading systems or technologies, such as Sirona’s CEREC, WaterLase is protected by over 100 patents, which will allow us to protect our competitive advantage. The adoption cycle of new technologies is growing increasingly shorter and more advanced technologies like WaterLase will rapidly find their way into dental practices. Dentists that do not upgrade their practices will likely begin to lose patients, become uncompetitive and lag behind. You cannot fight technology; you cannot fight innovation. If you do, you are doomed to be left out of the market.

Thank you very much for the interview.
R-dental awarded for universal registration material

The German provider of restorative dental products R-dental has reported to have received the "2013 Four Star Award" for METAL-BITE by the independent REALITY GROUP in Houston in the US.

Among all evaluated materials the universal registration material was also rated the second best bite registration material. Already in December last year, the dark grey A-silicone received the "2013 Preferred Products Award" by The Dental Advisor.

Available to dentists worldwide since 1990, the material is indicated for a broad variety of applications like tcp-registration, face bow registration, dynamic antagonist registration as well as for surgical guides. According to R-dental, its physical properties fulfil all requirements of dentists. In addition, it is optional scanable for CAD/CAM applications.

The material is available in commercial cartridges of 50 ml with 12 mixing camillas to dentists worldwide.

Micro Mega presents Revo-Solution Kit

The kit contains the Revo-S, the first sequence introduced with asymmetrical cross section files that is supposed to optimise debris removal with a snake-like movement of the instrument. The file is also minimises any stress along the length of the file, according to the company. With the renowned technique and clinically proven efficiency, the possibility of instrument separation is virtually eliminated, they added.

The Nickel-Titanium instrument ENDOPEARL allows to access the cavity prep, while the glide path can be established with G-files. The root canal is finally shaped and cleaned with Revo-S.

The Revo-Solution Kit is available to dentists worldwide.

Correction

In the article “Single instruments for root-canal shaping” published on page 22 in DT Asia Pacific 9/2013, the subtitle of Figure 4 was incorrect. The correct subtitle is “Pre-operative X-ray of tooth #15. A few months later, the patient returned with a root canal treatment on tooth #14, which was reviewed. A canal treatment was then initiated on tooth #15.”
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12 Trends & Applications

“The patient should be told the truth”

An interview with Prof. Stephen Porter, UK

According to Prof. Stephen Porter, a dentists duty is to tell the patient the truth about their condition.

There is no evidence that a particular frequency of dental examination will lessen the risk of mouth cancer.

Global disorder that typically occurs in middle-aged and older persons, termed “submucous fibrosis”, can cause painless white patches that sometimes ulcerate. Symptoms such as difficulty in swallowing or breathing can develop. This condition is usually diagnosed by a clinical examination and is not associated with increased risk of cancer.

However, overzealous reviewing of diagnostic tests may be detrimental and thus all patients should be advised that a change in gingivae or oral mucosa that persists for more than a few weeks should be reported. If no obvious local cause, or example a sharp tooth or filling, they should seek advice from their dentist.

In its 2008 policy statement, the FDI stresses the important role of dental professionals in the detection of oral cancer and patient education. To what extent are dental professionals fulfilling this role?

The majority of patients ultimately found to have oral cancer will have been identified by a dentist or other dental professional. However, sometimes dentists do not know what to look for, as they have probably never been taught how.

Oral health professionals should encourage patients to attend at least one screening examination per year, with a specialist.

The FDI stresses the importance of dental professionals in the detection of oral cancer and patient education. To what extent are dental professionals fulfilling this role?

The current role of oral health professionals in the detection of oral cancer is important.

Of course, many dentists will indicate that they have no experience of having seen oral cancer or having managed any patient who has previously had such disease. However, there are some simple rules. If a lesion is solitary, it is a benign condition, such as a skin tag, which is likely to be wasteful and unhelpful if further investigation.

Finally, the patient should be told the truth, i.e. that the dentist has no expertise in the condition. However, sometimes dentists do not know what to look for, as they have probably never been taught how.

Thank you very much for the interview. 

Prof. Stephen Porter (2012) Photo courtesy of UCL Eastman Dental Institute, UK

Detecting and managing potentially malignant disorders of the mouth: current challenges to dental professionals worldwide. At the 2015 AWDC in Istanbul, Prof. Porter noted the opportunity to speak with FDI examiner Dr. Stephen Porter from the UCL Eastman Dental Institute in London about new risk factors, prevention strategies and whyactor Michael Douglas is not a good poster boy for changing awareness of the threat of mouth cancer.

DTE: A recent study on Turkish dental patients in central Anatolia has shown that only one in two people are aware of oral cancer. Are these results representative of most people's knowledge about the condition nowadays?

Prof. Stephen Porter: It is not uncommon for individuals not to be aware that cancer can arise in the mouth. Indeed, there are several studies indicating that only one in two people are aware of oral cancer. Are these results representative of most people's knowledge about the condition nowadays?

Undoubtedly, it will increase. When a celebrity announces that he or she has a particular disorder, there is often an upsurge of referrals by concerned individuals. This is perhaps best illustrated when Freddie Mercury declared that he had HIV. There was a substantial rise in the number of persons seeking advice and/or testing for the disease in the aftermath.

A fair number of famous people have had oral cancers, including Hugh Grant, Idris Elba, U2’s Bono and machine gun man. In parts of India, Pakistan, Bangladesh and surrounding areas, this severe initial fibrosis of the oral tissue, termed “submucous fibrosis”, causes painless white patches that sometimes ulcerate. Symptoms such as difficulty in swallowing or breathing can develop. In its 2008 policy statement, the FDI stresses the importance of dental professionals in the detection of oral cancer and patient education. To what extent are dental professionals fulfilling this role?

Oral health professionals should encourage patients to attend at least one screening examination per year, with a specialist.

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Groups of a particular disease, but this requires people to want to attend a clinic and to appreciate the possible benefits of such attendance for their health and well-being.

Is there any evidence that regular screenings could help prevent oral cancer?

There is no evidence that a particular frequency of dental examination will lessen the risk of mouth cancer.

Groups of a particular disease, but this requires people to want to attend a clinic and to appreciate the possible benefits of such attendance for their health and well-being.

Is there any evidence that regular screenings could help prevent oral cancer?

There is no evidence that a particular frequency of dental examination will lessen the risk of mouth cancer.

Groups of a particular disease, but this requires people to want to attend a clinic and to appreciate the possible benefits of such attendance for their health and well-being.
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As a full-time general dentist, CAD/CAM technology is a subject that has been of significant interest to me. I incorporated CAD/CAM into my practice more than 10 years ago and have been a proponent of the technology and its efficiency ever since.

I began with CEREC 3D, and then graduated to CEREC 5D. After successfully incorporating 5-D technology into my practice, I was excited to see some new faces emerge in the CAD/CAM marketplace: E4D, Ivoclar and LaVera COS were all options to consider for digital capture, but only the E4D Dentist System and CEREC offered both scan and mill capability in the office.

When the time was right for me to upgrade to the newest technology, the E4D Dentist System by D4D Technologies was just a better fit—literally and figuratively. The software, support, training and results were more in line with my practice goals and vision, and I felt more confident in the longevity of the hardware. While both systems can produce high-quality restorations, I felt that I would be better supported in achieving restorative success with the E4D Dentist System. I made my decision to switch late in 2010 and have never looked back. Since then, research and development in CAD/CAM restorative materials have exploded. We have a wide variety of material options to choose from to meet all of our restorative and aesthetic demands.

My peers routinely ask me about how to use technology most effectively to cope with rising costs and lower margins. I often answer by saying that they need to incorporate chairside CAD/CAM into their practices. I am confident that chairside CAD/CAM is the future of restorative dentistry, not only from a clinical perspective, but also in terms of profitability and marketing.

Simple economics

Over the last five years, my practice has doubled in revenue. In 2010 it grew 18 per cent while other practices were struggling to break even. It consistently produces more than $1 million on a four-day work week, with an average collection rate of 98 per cent. It maintains an overhead of about 55 per cent and normally attracts more than 50 new patients per month.

I am able to do all of this while employing few providers, and I can manage my costs with ease and efficiency. My practice utilizes a networked office management software with computers in every operatory, office and support area.

In addition to digital radiography, we regularly use intraoral cameras, diode and erbium lasers and, most importantly, chairside CAD/CAM technology. Durability of high-quality restorative dentistry is a more efficient and less stressful way. My practice utilizes networked office management software with computers in every operatory, office and support area.

The decision to purchase and implement new technology can be challenging. In a PPO practice, where fees can be as much as 50 per cent lower than in a fee-for-service office, the decision can be even more daunting. With a lower potential profit margin, additional capital expenditures can have more of an impact on your bottom line.

I considered several factors when choosing whether to add CAD/CAM to my technology armamentarium. Quality, ease and durability of the restorations were the primary focus of my clinical decision. The predictability, practical application and return on investment were the primary focus of my business decision.

The E4D Dentist System also offers the option to have your restorations designed and/or milled offline using the E4D Sky network. For an additional fee, you can also send your designs to D4D Technicians to produce and deliver restorations designed and/or milled offline using the E4D Sky network.

Not only can it maintain the esthetics, strength and durability of CAD/CAM technology, it can also be used to provide advanced restorative/color options for a variety of digital services from laboratories and services through the E4D Sky network.

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It is critical to maximize the efficiency with which you provide dentistry in order to remain profitable, and one visit is more efficient than two. The economics of single-visit vs. multiple-visit indirect restorative dentistry is obvious and impactful.

In addition to an increase in total profit and hourly productivity, the dentist has 30–45 minutes of additional downtime to produce more dentistry, provide hygiene exams and perform administrative duties.

Beyond the financial return on investment are the intangible and immeasurable benefits that same-day dentistry provides. If a patient does not need a temporary, he or she is certainly less likely to call you over the weekend to have the temporary re-cemented.

If a second visit is not necessary to insert a restoration, then the potential of cancelling, changing or not showing for the appointment is eliminated. This reduces stress and opens up valuable time in your schedule to produce more dentistry profitably.

Marketing same-day dentistry
Wherever I am speaking with dentists or team members about practice management and increasing production, marketing strategies invariably become a topic of discussion. I usually suggest that the best marketing techniques focus on addressing the concerns that our patients have regarding dentistry.

Fearn, money, time and discomfort are common barriers to dental treatment. CAD/CAM addresses the issue of time quite well, but for most patients every dental visit represents time away from work, family members or other important tasks. By providing same-day restorative treatment you are saving your patients precious time.

People don’t like going to the dentist. It’s not personal. It’s just not pleasant. Have you ever had a colonoscopy? Not a great memory.

Now imagine the thought of a colonoscopy that took not one, but two visits and required you to “wear a temp between each visit that may fall out.”

It is much easier for patients to accept treatment if they can fit it into their budget, as well as into their schedule.

Show patients that you value their time and that you have made a significant time/money investment in your practice in order to facilitate the ease and efficiency with which you can provide treatment, and I will show you a great marketing strategy.

Not only is time a major determinant to treatment acceptance, but so is fear. When patients are told that they need a crown, these are the thoughts and images that come to mind: An awful tasting impression materials or temps that fall out during an important meeting. Ugly gray lines near the gum lines around old crowns. Think about how powerful a marketing tool it is to be able to tell them that in your practice:

• they don’t need any impressions,
• they don’t have to wear a temp,
• there is no metal under the crown so they won’t have gray lines,
• and the entire procedure can be done in one visit, during which they will have 30–45 minutes to catch up on work, return e-mails or just relax and watch TV (I have TVs in all of my operating rooms).

When that patient leaves with a brand new crown and goes back to work or out with friends, he (or she) is going to talk about what a wonderful and convenient experience he just had in your office.

“Now, I don’t have to go back. My dentist can do crowns in one day.”

That’s how to market your practice, and that’s the most significant return on your investment that CAD/CAM has to offer.

By offering CAD/CAM, you are able to address two common and significant barriers to treatment acceptance. Same-day dentistry is a powerful marketing tool, as well as an effective way to increase the frequency with which your patients choose to move ahead with restorative dentistry.

Although the decision to implement new technology into your practice can be stressful and challenging, reduced productivity due to outdated technology should be of greater concern.

Make an investment in your office, your team and your practice, and the results that you see will far outweigh the financial concerns that are preventing you from making a huge leap forward and a difference in your dentistry.
A new name for our winner: Proface will from now on be called Facelight.

Caries seen differently: Illuminating opened cavities with the Facelight light probe clearly reveals dentine infected with caries. This innovative method supports selective, minimally invasive excavation and minimises the risk of caries recurrence!

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Restoring anterior teeth with thin veneers

New materials like IPS e.max Press Impulse provide improved aesthetics

A 39-year-old patient consulted our clinic for improving the appearance of her anterior teeth (Fig. 1). Apart from slight periodontal problems, we diagnosed proximal caries in the first incisors, as well as Class III dental and skeletal malocclusion with an open bite (Fig. 2). A radiographic examination confirmed the fundamental periodontal problem and showed periapical infections surrounding teeth 51 and 52.

Based on these findings, a two-stage treatment plan was suggested, starting with the elimination of dental caries and the infection. Also, periodontal curettage and planing of root surfaces were performed to control the underlying disease. The existing malocclusion was corrected with orthodontic treatment.

The second stage focused on aesthetics and started with a clinical, radiological and photographic analysis (Figs. 3 & 4). An impression was taken and the maxillomandibular relationship was recorded by means of an arbitrary facebow. The gum line was adjusted with the help of connective-tissue transplants. The mandibular tooth arch was bleached and later reduced with a diamond bur (0.6 mm). In addition, the instrument was used to remove the ridges between the grooves and completely level out the surface. The proximal and gingival areas were prepared with the same diamond.

A retraction cord was placed along the gingival margin to protect the gingiva during the preparation procedure. The marginal and proximal areas were prepared and then polished. The entire preparation surface was completely smoothed with a polishing disc and a medium-grit polishing paste. All grooves and edges were eliminated. The silicone matrix was inserted to check the correct dimensions of the prepared teeth (Fig. 5). Then, the retraction cords were removed.

Impression

The heavy/light dual-phase impression was taken with a customized tray, which was coated with an adhesive to increase the adhesion of the impression material to the tray. Using the double-cord retraction technique, the first retraction cord (size 000) was individually packed into the sulcus of each prepared tooth. A second continuous retraction cord (size 00) was then placed on top. With this method, the gingiva is completely displaced from the prepared dental hard tissue, blood and saliva, which could affect the precision of the impression adversely. The heavy/light dual-phase impression technique makes use of impression materials of different viscosities. Accordingly, a heavy-body material was loaded into the tray, while a light-body material was syringed around the prepared teeth (Fig. 6).

The precision of the impression was checked and temporary restorations were produced chairside. For this purpose, a two-component composite resin was mixed and syringed into the previously fabricated silicone matrix. Once the composite resin had an ideal consistency, the matrix was placed in the patient's mouth. Then the provisional material was cured and the matrix was removed. Excess composite was trimmed away with rotary instruments. Subsequently, the temporary restorations were characterised with staining and glazing materials.

Laboratory work

The dental laboratory technician made a cast from the disinfected impression using Class IV plaster. After the models had hardened, the preparation margins were defined (Fig. 9). The veneers were waxed up and then removed from the die and invested. Subsequently, they were reproduced with IPS e.max using the press technique. The veneers were divested (Fig. 10). Finally, and individually characterised (Fig. 11a).

Try-in and cementation

In the second clinical phase, the veneers were tried in and cemented in place. At first, the temporary restorations were removed and the prepared teeth were cleaned. Each veneer was tried in individually to ensure a correct fit. Next, the proximal fit was checked by positioning one veneer correctly and then...
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The adhesive cementation procedure was divided into three stages: pretreatment of the veneers, conditioning of the prepared teeth, and placement and finishing of the veneers. A rubber dam was placed with a retentive clasp for each preparation. The veneers were tried in with the Varilink Try-In pastes. Subsequently, they were rinsed with a water jet and dried with oil-free air. For optimal cleaning results, Ivoclean (Ivoclar Vivadent) was applied for 20 seconds and then removed with a water jet.

The prepared teeth were then cleaned with brushes and fluoride-free prophylaxis paste. The enamel was etched with the 57% orthophosphoric acid Total Etch (Ivoclar Vivadent) for 30 seconds and then cleansed with a water jet and oil-free, uncontaminated air. Excite F adhesive (Ivoclar Vivadent) was applied shortly before the veneers were placed. The adhesive was applied thickly on enamel and dentine, and carefully scrubbed in for at least 10 seconds. The excess was dispersed to a thin layer with a weak stream of air. Pooling had to be avoided in the process.

The margins were isolated with Liquid Strip glycerine gel (Ivoclar Vivadent), which is supposed to prevent the formation of an oxygen-inhibited layer during polymerisation. It also enables the luting material to cure properly. Subsequently, the restorations were cured for 90 seconds from all sides.

The excess was removed with the help of a scalpel. Fine-grit burs and silicone polishers were used at the palatal margin. Finally, the rubber dam was removed and the occlusion was inspected (Fig. 11). After the treatment was finished, the patient received instructions on how to maintain her restorations. She was scheduled for a recall examination one month after treatment (Figs. 14a & b).

Conclusion
The topic of aesthetics continues to gain importance in dentistry. The development of innovative materials such as IPS e.max Press Impulse allows clinicians to use new techniques for non-invasive preparation of the teeth. Furthermore, they offer aesthetic benefits and eliminate the previous quality difference between the press-on and the layering techniques.

Specialist knowledge of the adhesive cementation of lithium disilicate restorations gives dentists the professional edge needed to address the challenges associated with this type of treatment. The treatment protocol is widely established today. However, it is of utmost importance for dentists and dental technicians to perform their work with great precision. In order to jointly have a positive impact on the results, both parties must be familiar with the entire procedure. Teamwork and a meticulous approach during the individual treatment phases are required to achieve better aesthetic outcomes.

Acknowledgement
I would like to thank Roberto Portas Moure for the excellent dental laboratory work and the patient for her confidence in us and her patience during the treatment.

A list of references is available from the publisher.
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I recently had the honour to attend the 6th ANZ Invisalign forum at the Intercontinental Hotels and resort in Natadola, Fiji, as a speaker. In the short history of this unique forum, it is the first time that it was organised as an “orthodontists only” event. With 180 participants it had a fantastic turnout.

The theme this year was “a forum designed exclusively for orthodontists to push the boundaries of your unique skill-set.” The keynote speaker of this year’s conference was Dr Willy Dayan, who flew all the way from Toronto in Canada with his lovely wife Ellen, who herself is a restorative dentist. Dayan presented three comprehensive lectures that tried to look at Invisalign from different perspectives. For example, his presentation on “think like plastic, feel like a tooth” shed light on how orthodontists can convert their ‘fixed braces’ mindset and biomechanics over to the clear aligner system.

The scientific programme was strongly supported by seven local speakers: six specialist orthodontists (who are top Invisalign users in Australia) and an associate professor of oral hygiene. They gave presentations on how to start up and build an Invisalign practice, evidence-based Invisalign treatment, as well as the latest innovations of the Invisalign System and how to achieve excellent clinical results with. Oral hygiene and orthodontics was also discussed. My presentation was on how to confidently prescribe extraction treatment plans, as well as how to diagnose and treat Class III cases with Invisalign.

The scientific programme was set in an easy going pace with three half-day lectures. With everyone attending the conference staying at the same conference location, there was no excuse on skipping any lectures. The attendance was overwhelming and the overall feedback was excellent. Social events are the very heart of any Invisalign forum. This time the organisers threw an immaculately beach dinner party at the Intercontinental’s Kama Beachfront.

The overall vibe of this conference, being an orthodontist only event, had everyone in their “learning comfort zone”. Ideas and clinical tips were shared all around, even during breaks, and the atmosphere was just great. I cannot wait for the next conference to be announced.

Dr Eugene Chan
Singapore

I am an Orthodontist with Specialist Dental Group in Singapore. He can be contacted at info@specialistdentalgroup.com.
Premier® Dental Products—A century of success

Premier® Dental Products Company, family-owned and operated, is now in its 4th generation and has product sales in over 75 countries, making Premier a leading brand in the worldwide dental market. Premier has a unique historical perspective with 100 years of dental product development. This perspective, with a long history in instrumentation, reminds us that change is always required. Investment in new product development demands a corresponding commitment to unique production equipment, expansion of our employees’ knowledge base, and a firm belief that the profession and patient deserve the best product available.

We at Premier believe that technological innovation is fundamental to developing useful products for the dental profession. Often, the sources of these ideas are active practitioners who step forward with very useful innovations which we help mold into a successful product. Dental product life cycles, although historically long-lived, are undergoing rapid changes. To lead these changes, Premier has many partners with expertise in many areas of technology, including world-class research capabilities in adhesive materials and modern manufacturing. These facilities provide innovative products into the dental practice.

Traxodent® is a recent innovation that is experiencing global success. This addition to our retraction line, complements other product offerings such as the new T-LOC™ Triple Tray® impression trays, Premier® Implant Cement™ and CompCore™ AF dual-core build-up material. Traxodent offers predictable retraction and hemostasis prior to impression making, cementation, bonding procedures or whenever atraumatic retraction and extraction are required. Traxodent can be dispensed directly from the stock syringe into the sulcus or can be used in combination with a Premier Retraction Cap for maximum tissue deflection. The absorbent paste replaces soft tissue and works synergistically with the astringent properties of aluminum chloride to create retraction. Fluid is absorbed while Traxodent occupies the sulcus. After two minutes, Traxodent is rinsed away, leaving an open, retracted sulcus.

Another exciting product line from Premier includes Enamel Pro® prophylaxis paste, the useful fluoride formula delivered to deliver ACP (Amorphous Calcium Phosphate). Enamel Pro® creates ACP when it contacts the patient’s teeth and saliva. Scientific data supports that Enamel Pro® actively delivers greater luster for whiter, brighter teeth. Enamel Pro® is gluten-free and removes stains and polishes quickly without splatter. It is available in five flavors and multiple grits.

Additional products delivering ACP include Enamel Pro® Varnish and Enamel Pro® Gel. This unique suite of products offers cutting-edge technology and several benefits to your hygiene armamentarium.

For instance, the ACP-forming ingredients strengthen teeth by acting as an enhanced fluoride-delivery system to deliver more fluoride than products without ACP. Enamel Pro® Varnish Clear delivers 4x more fluorine uptake into the enamel than the leading transparent varnish.1 Enamel Pro® prophylaxis paste provides 51 per cent more fluoride uptake2 while non-acidulated topical fluoride Enamel Pro® Gel provides the same fluoride uptake as APF gels without the addition of phosphoric acid.3

Recent innovations that are proving to be especially helpful and well received by dentists throughout Asia and around the globe include Premier® Implant Cement™, providing both secure retention and retrievability. Big Easy® Ultrate®—ergonomic scalers and curettes, utilizing SmartSharp® Technology, offering greater efficiency and comfort, helpful for tedious scaling; new 2pro® disposable prophylaxis angles that save time and money for the professional by combining a prophyl cup and tip—in the same angle. These helpful products for the professional complement the quality brands such as RC-Prep® and Hemodent® that have been proven successful through decades of clinical performance and tens of thousands of treatments.

Premier Dental introduced “Triple Tray”® in 1980. At the time of its introduction, a large number of dental professionals were primarily using single-arch impressions. Most dentists were not willing to consider using the new dual-arch technique and laboratories did not wish to alter their process for pouring and articulating models.3,4

Today, Triple Tray® is a 15-minute, once-a-day tooth whitening system featuring a refreshing finishing rinse. The patented hydrogen peroxide formula delivers proven whitening results and short wear-time. This water-based gel hydrates the teeth as it whitens to avoid thermal sensitivity naturally. RE-V™ Finishing Burs is used immediately after the whitening trays are removed, swished around for 20 seconds and expectorated. It contains an advanced form of highly stable vitamin C, removes any remaining gel and provides an added boost to the final effect.

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Inquiries on any Premier products can be directed to your local dealer representative or Sum Fuize, Premier Asia/Australia Sales manager at svf@premusa.com.

References
1. Data on file
In addition to its elegant and stylish design, its ease-of-use, its high image resolution and its reliability, the I-Max Touch 3D offers the ideal field of view (FOV) for use in dental imaging. With SimPlant® software pre-loaded, the I-Max Touch 3D is a MUST-HAVE for your implant planning procedure.