Disagreement arises on dentist numbers in Australia

Uncapped higher education system contributes to oversupply, dental associations say

SYDNEY, Australia: Experts in Australia have questioned claims by the Australian Dental Association (ADA) and the Australian Dental Students Association in Sydney that the higher education system in the country is placing too many dental graduates on the market, thereby contributing significantly to an oversupply of dentists. Conor King, Executive Director of Innovative Research Universities, a network of seven universities with dental schools in the Gold Coast, Melbourne and Townsville, recently told the The Australian that the criticism is deficient and the current uncapped system has not lead to a “wild breakout” in dental places.

In a letter directed to Minister for Education Christopher Pyne, ADA President Dr Karin Alexander said that there are currently too many students graduating from dental programmes in Australia, which, according to her, would leave the entire industry over-supplied with dentists for at least another 12 years. She called for reducing the number of new graduates by removing dental from the

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IDEM Singapore
A look back at APAC’s leading dental show

Staying ahead in dentistry
Language competency and communication skills

PO composite restorations
One-step reproduction of shade and shape

MegaGen receives large-scale investment

Straumann has recently purchased convertible bonds for a total of US$50 million from MegaGen, a South Korean manufacturer of dental implant solutions. The investment can be converted into shares in 2016 to obtain a majority stake in the company, according to reports.

MegaGen will have an important role as a strong partner based in Asia, Straumann’s CEO Marco Gadola said. The Korean company stated that it will be investing the majority of the transaction proceeds in the expansion of its domestic and international implant business and the worldwide promotion of its digital platform.

MegaGen is a privately held company owned by about 150 shareholders, with the three founding shareholders holding 58 per cent of the shares. Based in Daegu and Seoul, the company offers a broad range of low-cost implant systems, digital dentistry solutions, regenerative tools and products to support implant procedures. In 2013, the company generated global revenue of more than US$550 million.

Higher imports

The value of imports of dental equipment from the United States to the Republic of Singapore has increased again. According to figures from the local US Commercial Service, over 50 per cent more goods for dentistry were exported from North American manufacturers to the city state last year compared to 2012.

Eroded teeth

In a study involving 600 students across seven primary schools, researchers from the University of Hong Kong’s Faculty of Dentistry found that 75 per cent of 12-year-olds suffer from early signs of dental erosion. Consumption of fruit juice and soft drinks were identified as main causes for the decay.

Dentist among MH370 victims

A list released by Malaysian authorities has revealed that a dentist was among the passengers of Malaysia Airlines Flight 570. Before he went missing, 27-year-old dental graduate Biam Liang Jing was working in construction in Singapore to earn money to open his own dental practice in his home country China. He leaves behind his wife and infant daughter, according to media reports.

International search and rescue efforts were still being conducted in parts of the Indian Ocean to find the remains of the airplane, which went off the radar in late March, when this newspaper went to print.

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Sinus grafting procedures are an established therapy to gain bone height, they can be performed using bone substitute materials without additional donor-site morbidity and additional stress for the patient. In the webinar, different approaches of sinus grafting procedures, the selection of different bone substitute materials, clinical and histological results and a sufficient complication management will be discussed.

Despite being taught at university level, there is little information on the effectiveness of oral health promotion programmes in dental education, according to Dr. Stacey Bracksley. At ADX14 in Sydney, she was presenting findings of a recent review on this matter, which she authored as part of her PhD. Dental Tribune had the opportunity to talk to her about the reasons for this lack of data and the importance of increased efforts to train dental students adequately in this area.

DT: Ms Bracksley, your paper is currently under review by a scientific journal. Could you tell us a bit about your findings nevertheless?

Stacey Bracksley: The aim of the review was to establish what has been published concerning health promotion training in dental schools internationally. There is a dearth of research and this was demonstrated by the inclusion of only four published studies, which were from Australia, Brazil, Canada and Belgium. It was interesting that the health promotion content was delivered in very different ways. One dental programme used a hospital setting, where the students were in terms providing oral health education to patients, whereas another dental and oral health course had a rural outreach programme.

It has been demonstrated that little evaluation of the health promotion training within these courses is taking place or may be taking place but not published, with only one of the papers using students’ personal accounts for evaluation. In some cases, health promotion was tacked on to other components in the course. Not one of the studies included evaluated the outcomes of the health promotion training concerning the students’ knowledge, both short and long term. There are many health promotion frameworks that are used internationally as best practice but they were not widely applied in studies. Health promotion needs to include a spectrum of activities, from individual-based to community-based activities.

What was found was that they are too focused on individuals, which has been shown to be ineffective. Using smoking as an example, we know that just telling people that smoking is bad for them is largely ineffective, but when we introduce a range of programmes, including legislation, community attitudes, regulations and settings, there is improvement in smoking rates. While it is good that students are gaining some exposure to health promotion within their degrees, working at the individual level alone will never be as effective as using a range of strategies.

So we know little about what effect these programmes can have on future dental professionals. Do you consider oral health promotion to be a relatively new concept, and if so could this be one of the reasons for the lack of information?

I would disagree that oral health promotion is a relatively new concept. The Ottawa Charter for Health Promotion (an international framework used to prevent non-communicable diseases) developed by the World Health Organization has been around since 1986. Campaigners like Prof. Audrey Sheirham from the University College London School of Life and Medical Sciences have also been talking about the importance of oral health promotion for decades.
I think there are a number of reasons for this lack of data. For example, oral health promotion has taken some time to be accepted and implemented into higher education. One of the main obstacles however is that the ethos of dentistry itself is still very much centred on individual-treatment care, rather than a holistic approach. This is deeply ingrained in the culture of the profession, making it difficult to incorporate oral health promotion.

Dentistry is also firmly rooted in the medical model of health, which does not fit well with the underpinning ideas of oral health promotion.

Why is training in oral health promotion generally needed in dental education?

In Australia and similarly in other countries, there has been a push to focus on prevention of diseases rather than a reactive approach to treating them. Dental diseases have been highlighted as preventable and costing a substantial amount of money to treat. With this push towards prevention, we will need trained dental professionals to undertake these prevention efforts.

I think that by not providing oral health promotion training to dental professionals a key aspect of the overall picture is missing. It is like training students in one aspect of health care and leaving out the rest. Dental professionals need to be trained in dental procedures, but they also need to see the bigger picture of a whole person and how the environment affects their patient. Oral health promotion training can provide students with this holistic view.

Despite international efforts like World Oral Health Day in March, oral health promotion still appears to play a minor role in daily practice in general. Is there any evidence that increased oral health promotion has an impact on disease rates for example?

There is evidence to support oral health promotion. One of the major oral health promotion efforts was and still is water fluoridation; this has been attributed to a decline in caries rates. Using history to demonstrate the effectiveness of oral health promotion, we know dental caries rates peaked in the 1960s and then a decline in rates was seen from the late 1960s until the early 1990s in industrialised countries. Although the decline cannot be credited to any single cause, it is thought that factors such as dietary changes, daily use of fluoridated toothpaste and the use of systemic (water) and topical fluoride may have all played a part in decreasing caries rates. All of these factors that contributed to the decline are oral health promotion efforts.

If we look to other success stories in population health, like the decreasing smoking rates, it was health promotion that made the difference. A whole of community approach using solid health promotion theory was taken towards smoking, with

Should dental schools generally be required to offer more oral health promotion in their degrees?

In Australia and other countries, health promotion is a competency for dentists and oral health therapists (hygienists and therapists). Therefore, health promotion training does occur to some extent in these courses. In theory, graduating dental professionals should be able to understand oral health promotion and be able to apply this knowledge in the field.

However, there needs to be evaluation of this training in my opinion. At this stage, this oral health promotion training is often a tick-box exercise: it just has to be somewhere in the course to meet this competency. There appears to be little regard as to whether the students’ understanding of health promotion is adequate and whether this will lead to long-term application once they have graduated. What I would like to see are dental professionals who have a solid understanding of things like the social determinants of health and have the ability to take these into account when treating patients.

Are dental schools adequately prepared to teach oral health promotion?

To some extent, dental schools are prepared. In Australia, this training is actually happening and it differs between schools as to who delivers this training, either dental professionals or public health professionals.

However, I think for oral health promotion training to be successful it needs to be integrated into the whole course and not separated from the clinical content. It must also be monitored and evaluated. At this stage, I do not think that this is being done adequately, so there is definitely room for improvement.

Thank you very much for the interview.
Dear reader,

With the mystery of Flight MH370 still to be resolved, it seems highly unlikely that relatives and friends of those lost in the accident will ever be able to bury the remains of their loved ones. If the plane did crash into the ocean, organic material for means of identification will soon be out of reach for even the most sophisticated search and rescue equipment.

In similar accidents, as well as natural disasters, forensics dentists are often the only experts able to identify the victims’ remains, mainly teeth. Unfortunately, this dental specialty is still under-developed in many parts of Asia with a few exceptions, like Japan, where, in the wake of the Great East Japan Earthquake in 2011, a new national standard for dental records is about to be introduced by the government. Since eight of the most damaging natural disasters occurred in Asia last year, more countries should follow its example.

Yours sincerely,
Daniel Zimmermann
Group Editor
Dental Tribune International

The previous Labor Government established a demand-driven system of university places, not just for dentistry, but all university degrees. In dentistry, after a century of having five dental schools, four extra schools have opened and many pre-existing programmes have increased the number of places.

The Australian Institute of Health and Welfare (AIHW) recently released its report Dental Workforce and Welfare (AIHW) recently released its report Dental Workforce and Welfare (AIHW) recently released its report Dental Workforce and Welfare (AIHW) recently released its report Dental Workforce and Welfare (AIHW) recently released its report Dental Workforce and Welfare (AIHW) recently released its report Dental Workforce and Welfare (AIHW) recently released its report Dental Workforce and Welfare. The results have not yet been released, the Australian Dental Association expects to predict a worsening dental workforce oversupply.

On the other side of the coin, there are sections of the Australian community who have poor oral health and poor access to dental care. These include: frail and older people, rural residents, Indigenous Australians, and people with intellectual disabilities, and people of low socio-economic status. If funding was available, improved access to dental care would be invaluable to such people. However, at the time of writing the current Liberal Government was close to releasing a Commission of Audit, in which it is expected to recommend that significant cuts will be necessary in its May 2014 Budget. Without extra Government funding for dental care or a cap on dental workforce numbers, it is not unreasonable to expect a growing oversupply of the dental workforce in Australia.

According to the report, improving exposure to fluoride, enjoying healthy food and drinks, chewing sugar-free gum as a supplement to a normal oral health care routine, protecting teeth by wearing a mouth guard when playing contact sports as well as having regular checkups are the five important steps every person should follow in order to achieve a minimum of oral health care.

Oral diseases are amongst the most common of all diseases, yet they receive little attention in many countries, especially those with poor health care systems. The recently launched Oral Health Worldwide Report by the FDI World Dental Federation highlights the fact that the majority of these are related to socioeconomic factors. People along a decreasing social gradient visit the dentist less often, have fewer fillings or higher rates of gum disease than those with higher socio-economic status.

It also draws attention to the fact that oral health and general health are closely linked. Oral diseases can seriously affect overall health and there are associations between oral and some systemic diseases, such as heart disease and diabetes. According to the report, improving exposure to fluoride, enjoying healthy food and drinks, chewing sugar-free gum as a supplement to a normal oral health care routine, protecting teeth by wearing a mouth guard when playing contact sports as well as having regular checkups are the five important steps every person should follow in order to achieve a minimum of oral health care.

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A new patient, fetch!

Expecting an oversupply

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• fluoride release
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• perfectly packable consistency
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• also available as application capsules

Light-curing micro-hybrid composite

• universal range of application
• high filler content
• excellent physical properties
• fast and easy application
Rise in surgical exports

KARACHI, Pakistan: Exports of surgical and dental instruments from Pakistan have almost quadrupled in the last three years. Latest figures released by the Karachi Chamber of Commerce and Industry indicate that manufacturers sold US$867.6 million worth of instruments worldwide in 2012–2015, a significant increase compared with the US$250 million generated in 2008–2009, a representative of the Surgical Instruments Manufacturers Association of Pakistan (SIMAP) recently told Dental Tribune Pakistan.

He said that numbers would be even higher if certain restrictions in the banking sector did not hinder the anticipated rate of export growth. Another member of SIMAP told the newspaper that the devaluation of the rupee has negatively affected the profitability of the industry, with the cost of goods sold (COGS) at an all-time high. He said that his organisation has made continued efforts to lower the prices of its products so that the increase in COGS is not transferred to consumers.

SIMAP has also requested of the government to ease taxes for the industry.

Despite these problems, the organisation expects growth in the export of surgical goods to accelerate further in 2014–2015 with key markets located in the Middle East, the US and Europe. Numerous incentives have been provided to traders of surgical instruments and products, including marketing study missions organised by SIMAP in co-operation with the Japan International Co-operation Agency and the Trade Development Authority of Pakistan (TDAP).

In order to boost future exports from Pakistan in the Asia Pacific region, the TDAP also sponsored the participation of a trade delegation of surgical manufacturers in the recent International Healthcare Conference and Exhibition in Malaysia.
New world oral health report released
Almost 100 per cent of adults suffer from dental caries

DTI
LONDON, UK: In celebration of World Oral Health Day, representatives of the FDI World Dental Federation presented the latest findings on oral health on 20 March at a press conference held in collaboration with the British Dental Association in London. The report identifies the main obstacles to achieving universal oral health and includes recommendations to improve oral health worldwide.

Among other aspects, the report, titled “Oral health worldwide: A report by FDI World Dental Federation”, highlights that nearly 100 per cent of adults and between 60 and 90 per cent of children worldwide have dental caries, which results in millions of lost school and work hours. For instance, in the US, an estimated 2.4 million days of work and 1.6 million days of school are missed owing to oral disease. In the Philippines, toothache is the primary reason for school absences. The FDI stated that about 97 per cent of Philippine 6-year-olds have dental caries.

In addition, the report states that only 60 per cent of the world’s population have access to oral care, creating enormous disparities between different populations. According to the FDI, people of a lower socio-economic status visit the dentist less often and have fewer fillings, more missing teeth, higher tooth decay and untreated caries, and higher rates of periodontitis compared with those of a high socio-economic status.

In order to increase access to oral care, the training of the oral health workforce needs to be strengthened and expanded to improve the quality of and increase the number of oral health professionals. Moreover, emphasis needs to be put on the equal geographical distribution of oral health personnel, especially within developing countries, where the dentist-to-population ratio is approximately 1:150,000 compared with about 1:2,000 in most industrialised countries.

The FDI further highlighted that a solely curative approach to tackling the burden of oral disease is neither realistic nor sustainable. The organisation asserts that the prevention of oral diseases and promotion of oral health must be at the core of national policies and programmes. In this respect, global and national surveillance should be strengthened to identify risk factors and oral health needs as a basis for developing appropriate approaches and measures, the FDI stated.

The event also saw the launch of The Tooth Thief, an illustrated book for children that includes oral health tips. The book emphasises the importance of good oral health to children to instil good oral care habits from a young age.


The complete white paper can be accessed free on the website as well.

DTI group announces Digital Dentistry Show

LEIPZIG, GERMANY: Today, digital technology is one of the fastest-growing market segments in dentistry and digital processes are increasingly determining everyday practice in dental offices and laboratories. In order to offer dental professionals a unique opportunity to keep up with these developments, Digital Dentistry Internationa (DTI) will be hosting the Digital Dentistry Show (DDS), the first event entirely dedicated to the field, in October this year.

In recent years, an increasing number of dental companies have released innovations in digital hardware, software and consumables, such as 3-D imaging, CAD/CAM and intraoral devices. DDS will provide comprehensive information on the latest digital technology and is targeted at dentists, dental technicians and representatives of the dental industry.

In contrast to the conventional booth-based presentation of products, DDS will be showcasing digital innovations through a combination of sponsored live product presentations, hands-on workshops, discussion sessions, an exhibition and a printed guide, offering participants a dynamic and interactive education experience.

The show will be launched at the International Exposition in Milan, one of the most important events in the Italian dental industry, which will be held from 16 to 18 October. Online registration for dental professionals will soon open on the DDS website.

More information about the DDS is available online at www.digitaldentistryshow.com.

Alternative system for periodontitis classification presented

NEW YORK, USA: Conventionally, periodontal disease is classified as either chronic or aggressive based on clinical signs and symptoms. However, this method lacks an unequivocal, pathology-based foundation. Researchers at Columbia University Medical Center have thus developed a new system for classifying periodontal disease based on the genetic signature of affected tissue.

In a study involving 120 male and female nonsmokers aged 11 to 78 with periodontitis, the researchers found that molecular profiling of gingival tissue could form a basis for the development of an alternative classification for periodontitis, explained Dr Panos N. Papapanou, study author and professor of dental medicine at Columbia University in the City of New York.

Analysing genome expressions in the gingival tissue taken from the study participants, the researchers observed that patients fell into two distinct clusters. “However, the clusters did not align with the current classification of chronic and aggressive periodontitis,” Papapanou said. According to the study, patients in the second cluster showed a more extensive form of the disease. They were mostly male, matching with the well-established observation that severe periodontitis is more common in men than in women.

The researchers believe that a new system based on genetic analysis could offer significant advantages for classifying patients.

“If a patient is found to be highly susceptible to severe periodontitis, we would be justified in using aggressive therapies, although this person may have subclinical disease,” Papapanou said. “Today, we basically don’t know whether a periodontal infection is truly aggressive until severe, irreversible damage has occurred,” he added.

In the near future, the researchers plan to conduct a prospective study to validate the new classification system’s ability to predict disease outcomes.
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June 21-22, 2014, Greece
The Venue will be held at the Petros M. Nomikos Conference Centre, Fira.

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Despite high expectations for the 2014 edition, fewer new visitors have registered for IDEM Singapore compared with the previous show. According to official figures released by organiser Koelnmesse a week after the event, slightly more than 7,800 dental professionals attended the International Dental Exhibition and Meeting this year, which equals an increase of roughly 8 per cent. In 2012, the number of new participants exceeded 20 per cent.

Despite the moderate growth, the organisers reacted positively to the outcome, saying that the show has strengthened its position as a key platform for dental companies to launch new products and solutions in Asia. Michael Dreyer, Asia Pacific Vice-President of Koelnmesse, told Dental Tribune Asia Pacific that the proven concept of a combined trade show and conference for APAC has demonstrated itself to be successful once again, substantiating the meeting’s role as a ‘must-attend’ meeting for professionals in the region. He said that further growth will be made possible through leftover space of 2,000 square metres at Level 6, currently used as a lunch area for congress delegates, that can be used to accommodate more exhibitors in future.

“As dental markets in the regions continue to develop and reach out to embrace the globalisation of dentistry and the opportunity it presents, IDEM Singapore will continue to play a strategic role for exhibitors in facilitating that development and outreach,” Dreyer commented.

Exhibitor numbers were at an all-time high this year with more than 500 dental manufacturers and distributors from around the globe showcasing their current and future product portfolio to customers in the region. Held for the first time in two exhibition halls at the recently renovated Suntec Singapore Convention and Exhibition Centre, the show received particular interest from market competitors in Asia in the form of two new joint country pavilions for the Japanese and Chinese dental industries. New exhibitors, however, also came from established markets in Europe and North America.

Several new products saw exclusive launch at the show, of which many were on display for dental professionals to try out. Among them were new implant lines, such as the Roxolid SLActive from Swiss dental manufacturer Straumann, which will be rolled out to dentists throughout the continent until the end of this year, as well as digital equipment, including CAD/CAM systems and dental cameras, such as the EyeSpecial C-II from Japanese dental specialist SHOFU Dental.

Generally speaking, we conducted good business. Our sales grew by 20 per cent compared with 2012, but these results may not be representative because of the launch of Opalescence Go,” said Nicolas Sondaz, General Manager for Asia Pacific at Ultradent, in summarising the outcome for his company, which introduced its latest tooth-whitening solution at IDEM.

In addition to the trade show, visitors learnt about the latest concepts and developments in dental medicine. Among the highlights of the official scientific programme, organised by the Singapore Dental Association in collaboration with the FDI World Dental Federation, were sessions on infection control practices, oral cancer and concepts in dental implantology, an area of dentistry that received special attention in the form of a roundtable discussion on the second day of the show.

Special events aimed at dental technicians and oral hygienists were also well attended. Outside the official programme, the Dental Tribune Study Club held its clinical symposium for the third consecutive time.
As a leading provider of tooth-whitening solutions and other products for dentistry, Ultradent is a familiar corporate face at IDEM Singapore. Dental Tribune Asia Pacific had the opportunity to speak with Nicolas Sondaz (General Manager for Asia Pacific) and Suzanne Wilson (Senior Marketing Manager—Brands) shortly after the company’s latest innovation in tooth whitening and why it will appeal to dentists in Asia.

**Dental Tribune Asia Pacific:** You place a lot of emphasis on Opalescence Go in your booth design. Is this product the main focus of your presentation here at IDEM?

Nicolas Sondaz: Tooth whitening is a big part of our business, so we clearly emphasise this here at the show. Opalescence Go is a very unique product that offers tooth whitening without having to cope with the challenges that usually come with the process. It is delivered in a ready-to-use prefilled tray that is very mouldable, so it can adapt better to the patient’s anatomy. It is not something you have to do with your body temperature and moulds to your teeth, keeping the gel in contact with the teeth for a better whitening result. Because of this material, the tray is also more comfortable to wear. It is certainly the best product for on-the-go whitening right now.

**Suzanne Wilson:** Opalescence Go was launched in the US not very long ago and we are excited to have it finally on display for the IDEM show. The Ultradent tray is made of a unique polymer that warms to the temperature of your body and moulds to your teeth, keeping the gel in contact with the teeth for a better whitening result. Because of this material, the tray is also more comfortable to wear. It is certainly the best product for on-the-go whitening right now.

**How do you think this product is going to appeal to dentists in Asia?**

Sondaz: A question that people always ask is whether what works in the US is going to fit Asian teeth because of the size or anatomy of the mandibular, for example. As a matter of fact, when this material was tested in the US, at least 30 per cent of the patients were of Asian heritage. An earlier version of Opalescence Go has also been successful on the market for about ten years. While there might be cultural differences, Asian dentists will appreciate the convenience of this product.

Wilson: The affordability of the product opens up possibilities in more markets. In-office whitening or custom tray bleaching might bring great benefits but they are sometimes prohibitive because of their high costs. Opalescence Go gives more people the opportunity to have access to tooth whitening on the go.

**In which markets is or will this product be available?**

Sondaz: This has been a global launch, which is kind of a new thing for us because we usually do not launch products this way. As it is highly accessible, we believe that Opalescence Go can reach any dentist and patient anywhere in the world.

**Thank you very much for this interview.**

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**Dental photography made simple by SHOFU**

**Patrick Loke, SHOFU Dental Asia-Pacific Managing Director.**

Prior to its premiere here at IDEM, the camera has been showcased at large dental meetings in the US and China.

But it was here, in Singapore, that the new EyeSpecial C-II was presented to a large community of Asian dental professionals for the first time.

“We believe that IDEM is the most suitable event in which to launch the EyeSpecial C-II as it will give this unique product regional exposure,” explained Loke.

He said that further development into shade taking and restorative simulating functions is anticipated for the camera in the future.

In addition to the camera, the company also had a number of products for restorative dentistry on display, including the universal direct aesthetic restorative BeautiFill Injectables and BeautiSealant, a product for sealing deep grooves and fissures free of gels and etchants, for example. As a matter of fact, when this material was tested in the US, at least 30 per cent of the patients were of Asian heritage. An earlier version of Opalescence Go has also been successful on the market for about ten years. While there might be cultural differences, Asian dentists will appreciate the convenience of this product.

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Thank you very much for this interview.
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Whip Mix, a US manufacturer specialising in equipment for the dental laboratory, exhibited at IDEM Singapore for the eighth time this year. Dental Tribune Asia Pacific spoke briefly with the company’s sales director, Flemming Poulsen, about its operations in the Asia Pacific region, and what it has in store for the future.

Dental Tribune Asia Pacific: It seems that more visitors than ever from the region visited IDEM this year. Was this also your initial impression, and what impact will this development most likely have on your company?

Flemming Poulsen: What we are seeing is that some countries that have been closed for many years, like Cambodia or the Union of Myanmar, are finally opening up. Professionals from these countries have started coming to IDEM, which is probably why there has been such an increase in visitors from the region. Eight years ago, you would not have seen any of those visitors. This development will help us gain exposure to markets and distributors to which it was previously difficult to gain access. Now, we finally have the opportunity to make contact with these people and find out who they are.

Are there any new partnerships on the horizon?

We are fortunate to have been exporting to the region for more than 40 years, so we are well established in most parts in the region. Currently, we have a partner in Bangladesh but have not been able to establish one in Cambodia.

What are the most important markets for you in the region currently in terms of business?

Singapore is important owing to its dental school for example, which in some ways sets the standards for other educational institutions abroad. Many people from the region also used to come here to buy from the local distributors, which is still largely the case.

In terms of business, however, Japan is by far the most important market for us because it is the largest in the region. Owing to its sheer size, we are now also doing significant business in China, Malaysia, the Philippines and Vietnam are some of the markets in which we envision growth for our company.

Your main focus is dental laboratories. Did you introduce any new products for the dental practice at IDEM?

One of the lines we emphasised at the meeting was our Denar Mark articulator series for use in restorative procedures. Over the last two years, there have also been many requests from our distributors for products related to CAD/CAM, so this is a field we most likely will focus on more in the future. Walking around at IDEM, I saw three different types of 3-D printers alone, which means that the technology that is already available in Europe and North America has now made it to Singapore. Once again, I expect Singapore to be the trend-setter, spreading the technology throughout the region.

Thanks very much for the interview.
One step further with CAD/CAM

Dr Steven Soo
Singapore

My presentation at the Dental Tribune Study Club Symposium at IDEM Singapore highlighted some of the advantages and disadvantages of the use of CAD/CAM in dentistry. My goal was to enable clinicians to see how it might become more widely accepted in their daily practice and remove some of their reservations. The next generation of dentists will hopefully come to view traditional methods of manufacturing dental prostheses in the same way as we now view fixed partial dentures as a way to replace missing teeth before implants.

CAD/CAM methods for conventional dental and implant-borne prostheses have gained popularity for a variety of reasons. Despite many advantages in terms of cost and convenience, the uptake of this relatively new technology is slow, hinting at a reluctance to try something new.

Many, if not most, clinicians still choose to have fixed implant-borne multi-unit prostheses fabricated by traditional methods of casting and veneering precious metal alloys. However, the associated high technical and material costs may be prohibitive to the group of patients who need this treatment modality the most. To this end, more cost-effective alloys, including base metal alloys, have been cast and veneered with a variety of tooth-coloured materials with good success. CAD/CAM takes this one step further. In fact, materials such as zirconia, which has revolutionised dental prostheses, would not be in use were it not for CAD/CAM.

There has been much discussion around the problem of achieving passivity of fit, the lack of which, it has been postulated, can contribute to mechanical and biological complications. The multiple steps and materials used in impression taking, casting a working model, producing a wax pattern, casting in metal alloy then veneering in tooth-coloured material all lead to a certain degree of misfit.

CAD/CAM can help to address this common problem. The use of digital dentistry is more common than clinicians might think, as the laboratory processes involved have already been widely implemented and dental technicians can take the credit for driving the use of the technology forwards. The next step is to adopt digital technology to replace some of the clinical steps in fabricating a prosthesis, namely the impression stage, which leads to production of a working cast.

These steps can introduce cumulative inaccuracies, as well as consume a variety of materials that are then discarded. In addition, there are time-savings to be made, perhaps not in the initial stages of learning and integrating new technology, but, once familiar with the systems involved, all will benefit from the improved and efficient workflow.
I think this is something that will happen gradually as the general awareness of the public concerning infection control practice increases. When wearing gloves became routine in dentistry in the early 1980s, for example, it took probably around five to ten years for patients to expect the person treating them during a dental visit to use gloves. Sometimes, these expectations take a while to work their way through the system. This is just the reality of the world we live in.

With tens of millions of new infections expected to occur in this decade in Asia alone, HIV/AIDS has been identified as one of the main threats to infection control. What other threats should health professionals, including dentists, be concerned about?

Dental Tribune Asia Pacific: Prof. Walsh, infection control in dental practices differs widely in Asia. What are the main reasons for that?

Prof. Laurence Walsh: In fact, standards of infection control vary around the world and part of the reason for that is the way dental services are regulated in each country, as well as the amount of effort national governments put into things like practice inspections and audits.

At the moment, the weakest area is how instruments are being processed. There is good evidence that, in several parts of the world, this is still mostly done by hand rather than by mechanical devices, such as ultrasonic cleaners or thermal disinfectors. We know that these machine-based systems do the job not only faster and more efficiently, but also with less risk to the staff. It is probably not uncommon for people to still be cleaning one instrument at a time in some parts of the world. In that sort of situation, it would be easier to overdo it or not use the correct method of disinfection.

Standing in for Prof. John Molinari, who was originally intended to present at IDEM Singapore this year, Prof. Laurence Walsh from the University of Queensland’s School of Dentistry in Brisbane in Australia presented the latest insights in infection control practice during a lecture and workshop that were held as part of the scientific programme. Dental Tribune Asia Pacific had the opportunity to speak with him about new threats and why infection control does not have to be a costly endeavour.

How often do incidences of failed infection control occur? In 2012, for example, the University of Hong Kong Health Service’s Dental Unit had to call in over 500 patients owing to incomplete sterilization of dental instruments. There were quite a number of instances in the media last year.

I guess the most famous one occurred in Oklahoma in the US, where 6,000 patients treated at a dental practice had to be recalled for blood tests. The practice had treated large numbers of patients who were known to have HIV and viral hepatitis, so it is likely that there might have been patients who were exposed to these sorts of conditions because of very poor sterilisation practices. That happens even in the developed world. I expect not all make the front page of the local newspaper but they keep consultants or investigators like me, who are brought in to unravel these problems, busy.

These incidences are not necessarily limited to a very affluent country or a country that is still developing. They actually happen because health professionals simply cut corners or do not know the correct way of doing things.

It comes down to continuing education and the way our students are trained in dental school. This is probably more important than government regulations, accreditations or practice inspections, which are things that often happen after the problem has occurred. They are more of a reaction to the problem than a preventative measure, which would be to train students properly in the first place.

How prepared are dental professionals for dealing with threats?

Standard precautions, such as using gloves and the routine processing of instruments, are expected to be followed around the world. These measures have been applied to the treatment of every patient every day regardless of who they are. What we are dealing with now are patients who may have tuberculosis or the seasonal influenza virus, which is quite a tricky situation in a clinical practice because they are very easily spread.

Probably one in four patients who contract the flu is known as a super secretor, which means they shed massive amounts of the virus in the saliva around them and are much more able to infect other people. If a practice does not follow precautions additional to the standard precautions in this case, it is very likely that either members of the staff or another patient they see later in the day could contract the flu. In terms of seriousness, it is well documented that patients who are over 65 have a much higher mortality if they contract the seasonal influenza virus than most other patient groups.

We tend to stress hepatitis B, HIV and hepatitis C, but, by sheer weight of numbers, patients are much more likely to contract influenza in a dental practice that does not follow correct infection control practices and then take it home to the other members of their family. The long-term consequences of that could be very severe.

When infection control is taught today, much time is given to how often do incidences of failed infection control occur? infected patients needing blood tests. The practice had treated large numbers of patients who were known to have HIV and viral hepatitis, so it is likely that there might have been patients who were exposed to these sorts of conditions because of very poor sterilisation practices. That happens even in the developed world. I expect not all make the front page of the local newspaper but they keep consultants or investigators like me, who are brought in to unravel these problems, busy.

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to things that can be inhaled, not just things that enter the body through a dental needle piercing the skin. When it became a hot topic in the early 1980s, the focus of infection control was very much around hepatitis and HIV, but, in terms of the frequency of exposure, we see a great deal of awareness now of things like biofilms, Legionella and influenza, things that dental staff can actually inhale at work. I guess that is a much more common-sense approach because it focuses on the exposure that dental staff may have at work every day rather than things they are rarely exposed to in many parts of the world.

In most countries, there are protocols for that. For example, in my country we use a pre-procedural mouth rinse, schedule the patient for the end of the day and clean all the surfaces in the dental surgery twice. There is a whole protocol of extra things that can be done to deal with the additional risk.

Is the correct way of performing infection control affordable, particularly for dentists in developing countries?

Some of the most simple and basic things in infection control come down to wearing a mask or gloves the correct way and ensuring that one is practising the correct hand hygiene. These are things that are not very expensive. The cost of putting on new disposable gloves for every patient is only a fragment of the actual total cost of providing care to the patient, which includes the use of materials, such as composites and bonding agents. When one looks at it in terms of the overall running of a practice, it is probably less than a couple of syringes or something else that we might have also used during the day.

So while it does cost, relatively speaking it does not cost quite that much.

In a number of countries, including my own, a great deal of work is being done in terms of sustainability, which basically focuses on throwing fewer things away. There is all sorts of unnecessary waste. In some parts of the world, people put on too many plastic covers when they probably do not need to because the surface is designed to be wiped over with a disinfecting agent. It is almost like a pendulum: when the pendulum swings too far, one applies additional measures and all that results are costs with no extra protection.

Around the world, there has been a very strong push towards looking at the evidence for doing or not doing certain things. A very good example is that, during the swine flu outbreak in many parts of the world, people bought large numbers of high-filtration masks. A number of studies showed that, while the mask has a better filter, often the staff did not wear it properly and therefore did not gain any benefit from having spent all the extra money and the discomfort of wearing the mask. So one might have a better protective measure, but people do not apply it properly or misunderstand it.

That is probably a very important lesson. Sometimes, infection control does not have to be more expensive or complex. It comes back to things like protecting against what people breathe in and ensuring that good hand hygiene is practised. These are some of the principles that are not expensive to follow but, if one gets them wrong, things can go bad very quickly.

Thank you very much for the interview.
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First Dental Technician Forum highlights current developments in dental labs
New educational format presented at IDEM Singapore a success

Dr Dobrina Mollova
Dental Middle East

SINGAPORE: Dental technicians are a very important part of the dental team. As an extension of IDEM’s educational offering, the first Dental Technician Forum organised by the Centre for Advanced Professional Practices in Dubai and Koelnmesse saw over 220 dental technicians from 18 countries come to Singapore to develop the knowledge and skills they need to keep pace with the rapid advances and innovations in dental technology. An exhibition sponsored by VITA, Sirona and SHERA, among other companies, created excellent networking opportunities and had the latest developments, systems and technologies on display.

Moderated by key opinion leaders from around the globe, the two-day event saw participants sharing and discussing cutting-edge knowledge and the newest clinical approaches in prosthodontics, aesthetics in implantology, and CAD/CAM technologies, among others. “Things in the dental lab are changing in a rapid manner. Digital technology and workflows allow us to be more economical and creative with new materials and produce excellent aesthetics,” said Swiss master dental technician Vanik Kaufmann-Jinoian, who presented a lecture on minimally invasive restorations with CAD/CAM.

The four table clinic presentations, which ran concurrently, were among the most appealing and enjoyable sessions for all participants. Among other things, new hybrid materials and their benefits were presented. Participants were also given the opportunity to ask questions on real cases that were printed live with help of 3-D scanners and milling machines. By analysing different cases, brothers Drs Andrea Mastrorosa Agnini and Alessandro Agnini from Italy gave the audience a surprising insight into the operational techniques that they have developed over time with their increasing knowledge of new materials. With new technologies replacing traditional materials and techniques, they said that achieving good clinical results has become more systematic and time effective.

A ceramist and professional photographer, Naoki Aiba demonstrated the capture of shade view photographs in order to communicate shade accurately. Tips for calibrating and coding a shade guide were also given. Hue and value analysis with shade view photographs utilizing Adobe Photoshop for ceramic fabrication generated a great deal of interest and discussion during the session.

Rik Jacobs’ presentation on the latest developments concerning 3-D printers, software, bio-compatible materials and workflow management drew a large crowd of not only participants but also industry representatives. The ensuing discussion lasted over an hour with debates sparked about the suitability of alginate impression materials for scanning, the accuracy of models milled by the inLab MC XI (Sirona Dental Systems), the shade availability of crown and bridge materials, as well as which zirconia blocks are recommended for good aesthetics.
“Oral cancer classes are not very sexy unfortunately”

An interview with Dr Barry Freydberg, USA

A subtype of head and neck cancer, oral cancer is one of the few cancer types to be exponentially on the rise. In a presentation that was held as part of IDEM’s scientific programme, US dentist Dr Barry Freydberg discussed the importance of early detection. Dental Tribune Asia Pacific had the opportunity to speak to him about oral cancer and what needs to be done by the dental profession to improve patient survival.

Dental Tribune Asia Pacific: Dr Freydberg, is the rise of oral cancer cases a worldwide trend or is it limited to certain regions?

Dr Barry Freydberg: I have to assume it is a worldwide trend. In North America alone, the number of people who have developed oral cancer increased from 37,000 in 2009 to 46,000 last year. This development is due to the fact that the demographics for this type of cancer have changed significantly. Oral cancer used to affect mainly middle-aged men who smoked regularly or consumed too much alcohol. Now, it is increasingly diagnosed in younger people and particularly women.

What are the reasons for this shift in demographics?

While cases that appear to have been caused by smoking seem to have gone down through measures like anti-smoking legislation, more patients now seem to be developing the condition because of the human papillomavirus, a sexually transmitted infection that can lead to oral cancer. One of the reasons for this is probably unprotected sexual activity among people who are 18 years and older. While we have seen many oral cancers in 60-year-olds, we are now looking more carefully at people well before they have reached that age.

Has the role of dental professionals in oral cancer detection changed in recent years?

Dentists should absolutely be the ones who are looking for oral cancer, as we are the ones who know the oral tissue best, along with ear, nose and throat physicians. By being familiar with the tissue and knowing what does not look normal, we should be the ones screening it on a regular basis, just as we should be screening patients for blood pressure or things like sleep apnoea. Even the American Medical Association has agreed to that position in a recent article.

We also see the patients more regularly than other members of the medical profession do, as they often come in for preventative visits instead of visiting us only when they have a health problem.
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Dentists still appear to overlook early signs of the condition however. What makes these lesions so difficult to detect?

Oral cancer starts when changes in the tissue underneath the mucosa occur. Lesions become cancerous once they break through the basement membrane of the tissue. The problem is that all this happens in a part of the mouth where one cannot see it by doing a visual exam.

The ideal time to detect these lesions would be when they are premalignant but at this stage they often have not grown large enough to be visible to the naked eye. By the time one can see the lesion, however, the survival rate has already dropped to probably 22–25 per cent after five years. When one discovers it before it becomes malignant, there is virtually a 100 per cent chance of survival and, if one catches it in the early stages, there is still a survival rate of about 80 per cent.

Therefore, it is critical that dentists use whatever means they have to see through the tissue in order to detect changes occurring underneath.

Oral cancer detection technology is already available on the market. What is your evaluation of the clinical value of devices like the VELscope, which was developed in Canada?

This device is probably the most cost-effective technology on the market that I am aware of. I recently discussed this with the manufacturer of the leading oral camera in North America and a dentist who did research on fluorescence visualisation. We could not understand why a dentist would not acquire this technology. It is so easy with the examination taking only under two minutes or so. The researcher understood that initially the cost of the device is quite high and I said that it is not so expensive and, with most dentists being able to charge for it and make an income, why would they not use it? One can look with the naked eye and the tissue might look normal until a lesion reaches the surface. And then the patient has a problem and the survival rate is very low. I have only found a couple of them but that was enough to save lives.

What changes would dentistry have to undergo to have a positive impact on oral cancer rates in the long run?

I sometimes hear from dentists that by looking at the tissue one could come up with false positives. This is a poor excuse because if one talks to people who have checked patients for years this rarely happens. And if it does, what does it matter? I am not an expert but I think dental education is the key. I can only hope that dental schools throughout the world are teaching oral cancer examinations like we do in the US and Canada.

Oral cancer classes are not very sexy unfortunately. Most dentists would rather attend something on cosmetics or implants before taking an oral cancer class. The explanation they give is that they do not have to deal with cancer very often but they do need to deal with implants.

Maybe a better idea would be to increase public awareness, so that dental patients begin to ask their dentists for oral cancer screenings with adjunctive technologies. There are successful examples of this type of campaign, like the one for prostate-specific antigen tests. Viagra had a breakthrough in the same way. Do you think that oral cancer examination will be standard in dental practices soon?

I cannot imagine that it will not be standard. Actually, it should be standard already. We have the responsibility to look at the tissue in the mouth and need to know what is abnormal when we look at it with adjunctive technologies. It only takes about two days of looking into the mouths of patients to become aware of what tissue is normal and what is not under fluorescence. One does not need a PhD for that. If in doubt, one can always take photographs of it and have them back in a week or two to be able to decide if something should be examined.

Thank you very much for the interview.
New instruments on display

Novelties for implant and endodontic surgery

The Universal Post Remover is a modification of FFDM’s GONON post remover. The new version, the company said clinicians will be able to easily remove the majority of posts (posts, screw posts, fiber posts) that are currently available in the market according to the specifications. The TTG is a non-traumatic treatment. They also feature depth marks in order to allow clinicians to accurately control the drilling depth. The company recommends to use the trephines on a contra angle in order to reach the required rotational speed of 500 to 800 rpm.

FFDM manufactures drills in complex shapes.

Endo files are available in stainless steel or nickel-titanium.

SINGAPORE: Dental products “made in France” were on display at level 6, where FFDM-Thomas presented a variety of dental instruments like dental implant drills and endodontic files. Moreover, the manufacturer from Bourges in the heart of France is showcasing dental trephines of the Thomas brand which can be used to remove bone around dental implants safely.

According to FFDM, the instruments have sharpened blades made of stainless steel that increase the cutting efficiency for hardened dentin easier. Depending on the situation, clinicians can choose between three sizes of the instrument. Recommended as perfect solutions for all ceramic-superstructures, zirconia abutments can now be shaped effortlessly using the new Z-Cut diamond instruments. Damage of the material by the formation of cracks and breaking of crystals is prevented by a special grid size of 80 mm. Lifetime of the instruments was enhanced through better stability of the grid, while a new bond offers unbeatable grinding performance by preventing the Z-Cut from breaking out, according to the company.

According to SOREDEX, Easy Scout and PickPoint enable accurate FOV positioning in all dental and facial areas. Adjustable rigid temple support and motorized chin rest ensure high stability with all facial FOV positions during 3-D imaging minimizing movement artefacts. With the novel patient positioning, the marking, colour identification are other fields the company says to have mastered.

Besides its comprehensive range of products for dental implantology, the company also offers a number of endodontic products including files that are sold under the Thomas brand. Available in manual or contra-angle versions, they can be used to clean, to disinfect and to shape the root canals when they are infected by bacterium, the company said. They come either in stainless steel or nickel-titanium, a shape memory alloy.

For the clinical challenge of removing posts from root canals prior to endodontic retreatment, the company now offers the Universal Post Remover, a modified version of its proven GONON post remover. With this new version, the company said clinicians will be able to easily remove the majority of posts (posts, screw posts, fiber posts) that are currently available in the market without risking the integrity of the remaining tooth structure.

CAD/CAM Discs on cobalt-chrome and titanium base

SINGAPORE: System Soft-Blank is a nickel- and beryllium-free cobalt-chrome disc that is offered by the German manufacturer Adentatec, that is biocompatible and features high resistance to corrosion. It is also said to be extremely soft, tensile and homogeneous owing to special heat treatment. According to the company, System Soft-Blank is suitable for soldering and available in many diameters and measurements for almost every type of machine. Adentatec has been offering a high-quality range of products for dental laboratories since 1997.

Specialised in the production and distribution of non-precious and precious dental alloys and CAD/CAM discs, it currently operates in many dental markets worldwide, including South-East Asia. All its products are produced in Germany and comply with DIN EN ISO 5834 and DIN EN ISO 9001:2008 standards.
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Dürr extends dental camera with interchangeable head

In an effort to help dentists to detect approximately caries better and in a non-harmful way, Dürr Dental recently introduced its dental camera system VistaCam IX with an optional interchangeable optical head. According to the German dental manufacturer, the new optical device is boasting infrared technology to aid diagnosis without further exposure to radiation.

The instrument is positioned above the occlusal surfaces of teeth and the two adjacent teeth, premolar or molar, are lit by two infrared LEDs. Owing to the preset wavelength, the dental enamel becomes slightly transparent when healthy or takes on a light coloured, opaque appearance when caries lesions are present. This way, any approximal caries becomes instantly visible and can be treated, the company said.

Straumann aims to set new standards with Roxolid SLActive in South-East Asia

SINGAPORE: The global provider of implant dentistry solutions Straumann has announced that its innovative implant material Roxolid will soon be available in all South East Asian markets. The new broadened Roxolid SLActive implant portfolio will be rolled out across the region by the end of 2014, the company said.

At IDEM, Roxolid was presented for the first time on all diameters and all implant lines in Asia. Furthermore, Straumann will showcase a new 4 mm short line to overcome clinical cases with limited vertical space, as for severely atrophic jaw bone.

GI restorative from SDI offers strength, mimics dentin

SDI offers strength, mimics dentin

SINGAPORE: With Riva Self Cure HV the Australian company presented a high viscosity, extremely strong self-curing glass ionomer restorative at IDEM, which is strong enough to resist surface indentation and to withstand substantial mechanical loads. Among other things, it can be bulk placed and does not adhere to your instruments. In addition, Riva Self Cure HV’s packability is supposed to make restorations easy to shape and contour.

Riva Self Cure HV can also be used to replace missing dentin. According to SDI, it is the best dental material currently available that virtually mimics dentin. Sensitivity is non-existent and no adhesive is required, the company added.

Riva Self Cure HV releases significant amount of fluoride resulting in increased anti-cariogenic properties for improved longevity of the restoration. It is currently available in shades A1, A2, A3 and A3.5.
Inibsa Dental, a company from Spain, has exhibited at every IDEM Singapore show since 2010. Dental Tribune Asia Pacific sat down with Managing Director Domènec Huguet Gimeno on Saturday morning to talk about markets in Asia and what products the company has brought to Singapore this year.

Dental Tribune Asia Pacific: Mr Gimeno, IDEM Singapore is one of few dental shows worldwide where you regularly present a booth. Why is that?

Domènec Huguet Gimeno: Everybody knows that the Asia-Pacific region is a key business area in the world, and that is the main reason that we are exhibiting our products here in Singapore. Despite the challenges in terms of regulatory processes, coming here is important to meet many of our customers and distributors for face-to-face conversations.

Are you introducing any special products in Singapore? The focus is on our comprehensive range of anesthetics for use in dentistry, but we are also introducing a line of cleaners and disinfectants here. As the Inibsa Group also consists of two biotech companies, we have a line of bone craft material on display that we already have started to produce in our plants in Spain.

What makes your anesthetics stand out from the competition? Of course, the molecules in our products are the same as the ones used in most anesthetics, but the main difference is that we probably have some of the most high-tech production facilities available in the world in terms of quality and quality control.

What are your key markets in Asia and how do you distribute your products here? Our most important markets in terms of revenue are Thailand, Malaysia and the Philippines; however, we have also started to do more business in countries like Singapore, Vietnam and Myanmar. We work exclusively with one distributor in each country and we decided against sharing distribution due to regulatory reasons. Getting anesthetics registered in most markets takes a lot of time and resources; you need people on-site who are really familiar with the process.

You also distribute products for use in medicine. How important is the dental business for your company? Currently, more than 50 percent of our business is generated from dentistry. We have made large investments in our production in Spain, and owing to this we are now able to produce and deliver 150 million cartridges per year. Our medical business is important to us too, but this is more centred in our home market Spain, as well as in Portugal.

Thank you very much.
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Language competency can mean different things to different people. A dentist and dental nurse for example, will use a completely different vocabulary to discuss the care of a patient to the one they will use when explaining the treatment and prognosis to the patient and his or her family. A different approach also needs to be adopted when giving emotional and palliative support to the patient and his or her relatives.

Socio-economic change over the past 65 years has allowed international migration and led to multicultural societies that would have been unthinkable two generations ago. Improvements in transport links, combined with changes in political and social attitudes towards professional and skilled migrant workers, have presented significant opportunities to those wanting to work abroad. There are a number of professional qualifications that are accepted globally, allowing dental practitioners to work without having to retrain before applying for new overseas posts.

But what about language skills? It is widely acknowledged that it is only a matter of time before all members of our profession, not just those from outside the EU, will have to demonstrate that they are proficient in English if they wish to practise in the UK. A dentist needs to be able to communicate on social, palliative and clinical levels using appropriate language for all three. For example, good social English is not specific enough when having to ask a patient appropriate questions during a consultation, and a dentist and dental nurse need to use specific clinical vocabulary to communicate effectively during a procedure.

Dentistry differs from other health professions in that much of what a dentist does is procedural. It does not just entail consultation: it also entails explaining to every patient what is being done, why it is being done and what the experience is likely to be. Treatment plans and alternatives need to be clearly explained and understood. Records have to be maintained accurately and be fully comprehensible to another dentist if it is a group practice. Letters of referral must be comprehensible and unambiguous.

Another factor that is relevant to the UK, Australia and New Zealand is that all three countries have a large number of immigrants, so it is not at all uncommon to have the situation in which neither dentist nor patient has English as his or her first language. In this situation, competency has to be at a high level. Workarounds such as telephone-based interpreter services have been trialled but often dismissed as unsuitable, as they rely on the interpreter having profession-specific vocabulary in multiple languages.

In order to work in many English-speaking countries, dental professionals whose first language is not English and have not trained on a course taught in English will have to demonstrate a level of competency by way of an International English Language Testing System (IELTS) examination or similar. However, the required IELTS score varies from governing body to governing body for different entry regulations.

Socio-economic change over the past 65 years has allowed international migration and led to multicultural societies that would have been unthinkable two generations ago. Improvements in transport links, combined with changes in political and social attitudes towards professional and skilled migrant workers, have presented significant opportunities to those wanting to work abroad. There are a number of professional qualifications that are accepted globally, allowing dental practitioners to work without having to retrain before applying for new overseas posts.

But what about language skills? It is widely acknowledged that it is only a matter of time before all members of our profession, not just those from outside the EU, will have to demonstrate that they are proficient in English if they wish to practise in the UK. A dentist needs to be able to communicate on social, palliative and clinical levels using appropriate language for all three. For example, good social English is not specific enough when having to ask a patient appropriate questions during a consultation, and a dentist and dental nurse need to use specific clinical vocabulary to communicate effectively during a procedure.

Dentistry differs from other health professions in that much of what a dentist does is procedural. It does not just entail consultation: it also entails explaining to every patient what is being done, why it is being done and what the experience is likely to be. Treatment plans and alternatives need to be clearly explained and understood. Records have to be maintained accurately and be fully comprehensible to another dentist if it is a group practice. Letters of referral must be comprehensible and unambiguous.

Another factor that is relevant to the UK, Australia and New Zealand is that all three countries have a large number of immigrants, so it is not at all uncommon to have the situation in which neither dentist nor patient has English as his or her first language. In this situation, competency has to be at a high level. Workarounds such as telephone-based interpreter services have been trialled but often dismissed as unsuitable, as they rely on the interpreter having profession-specific vocabulary in multiple languages.

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The GDC should be applauded for setting the bar on language assessment with UK dentistry and going beyond what is currently required by the Medical Act 1983. The very fact that candidates must demonstrate their language proficiency before sitting an examination demonstrates the importance of good communication. Any change is legislation or desire to improve language practice would...
Cambridge English Language Assessment’s Occupational English Test (OET)**, which differs from IELTS in providing a profession-specific, fit for purpose assessment that uses typical clinical scenarios to test knowledge and use of language. OET includes four subtests (listening, reading, writing and speaking) and, uniquely, all of these tests are rooted in the context of working as a dentist and using specific language that is relevant to being effective as a dentist.

A typical example in the dentistry speaking examination presents the candidate (who plays the role of a dentist) with the scenario of a parent of a six-year-old boy who grinds his teeth at night, asking for advice about this problem. The parent is on a limited income and is very concerned about the extent of possible treatment. In this example, the candidate is required to explain the boy’s problem, tell the parent ways of dealing with the problem, and reassure the parent about his or her concerns.

In the context of the clinical scenario, the candidate must demonstrate that he or she not only understands the vocabulary, but also can recognise the context and subtle variations of the conversation and respond accordingly. This particular scenario includes language functions concerning asking for advice, expressing concern, and looking for reassurance that would be common in a clinical communication event. The candidate’s use of language must demonstrate that he or she understands that he or she is not a friend putting an arm around the parent’s shoulder but a professional giving advice tailored to the parent’s circumstances in a competent and authoritative manner.

Several years ago, the ADC identified that a lack of confidence in English was by far the most common cause of failure among candidates. As a result, the ADC raised the entry requirement from OET Grade C to Grade B in each of the OET subtests. Subsequently, the requirement has been raised further to grades of A or B. Personal experience also highlights cases in which, despite demonstrating the required language skills prior to entry, clinically excellent fifth-year dental students had English language skills that were inadequate and not fit for purpose. Rather than indicating any failure in teaching, this simply reinforces the need to provide specific training in clinical communication skills.

By introducing enhanced language testing requirements, it is vitally important to ensure that examinations are not only fit for purpose, but easily administered, fair and secure. Cambridge English Language Assessment’s experience in running global, high-stakes, secure examinations, such as IELTS and OET is the best and meets very high standards in terms of authentication, security, reliability and validity. The organisation’s expertise and reputation can help provide regulators with a high level of confidence.

One issue that we are very aware of in the UK is increasing pressure on limited resources leading to restructuring within the National Health Service. With global issues of an ageing population, people living longer and a greater need for health care, there is going to be more scrutiny on regulators to recruit internationally to meet the resourcing needs. Testing language competency and communication skills is fundamental to this changing landscape in health care, and examinations such as OET are becoming increasingly important in this, in terms of not just regulation, but also ensuring patient safety and patient outcomes.
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.
In situations in which healthy tooth structure would have had to have been sacrificed in the past for the purpose of performing an indirect restorative procedure (e.g. inlay or partial crown), patients can now be offered a direct restoration with composite resin. The polymerisation shrinkage of composite resin restoratives, however, still remains a considerable challenge for both clinicians and dental manufacturers.

Bonding problems, microleakage, enamel fracture and post-operative sensitivity are just some of the risks that come with the process. Traditionally, dentists have resorted to incremental layering to better control the shrinkage stresses that occur in composite resin restorations, a method that can be very time-consuming, depending on the individual situation. Currently, traditional layering techniques are increasingly being replaced by the bulk-filling technique, which has made direct restorative procedures significantly easier. Some readers might argue that this technique could result in an increased risk of stress build-up. However, this problem can be controlled with many of the restorative materials available on the market today.

The dental industry has been pursuing the development of low-stress composite restoratives for many years. To date, only a few dental manufacturers have succeeded in doing so. Ivoclar Vivadent, for example, launched the new bulk-fill composite Tetric N-Ceram Bulk Fill, which can be placed in increments of up to 4 mm and contains an innovative photoinitiator (Ivocerin), as well as shrinkage stress relievers. The clinical case described here demonstrates restoration of a Class II cavity using the composite.

Clinical case

A 16-year-old patient presented to our clinic with a provisionally restored maxillary first molar (Fig. 1). Owing to a very deep carious lesion, her dentist feared that pulpitis might develop and referred her to a specialist. Percussion testing, bite testing and electronic examination revealed no signs of infection. A pulp test was performed and confirmed the vitality of the pulp. A firm decision was made to perform an indirect restoration in the most conservative way possible. After thorough discussion, a direct composite restoration was agreed upon.

Fig. 1: Pre-op situation: the maxillary first molar had been temporised.— Fig. 2: Cavity preparation: the temporary restoration and the carious dentine were removed with great care.— Fig. 3: After rubber dam isolation and the placement of a sectional matrix, the adhesive was applied.— Fig. 4: Tetric N-Flow was applied in the deepest area of the proximal box.— Fig. 5: Then the marginal ridge was moulded using Tetric N-Ceram Bulk Fill.— Fig. 6: The remaining cavity was filled with Tetric N-Ceram Bulk Fill. Occlusal depressions and cusp slopes were shaped to match the natural tooth anatomy.— Fig. 7: Verification of occlusion: the premature contact could easily be adjusted using finishing instruments.— Fig. 8: Final polishing was performed with OptraPol Next Generation and Astrobrush.— Fig. 9: The Tetric N-Ceram Bulk Fill restoration blended seamlessly with the natural surroundings in terms of occlusal anatomy and shade.

One-step reproduction of shade and shape
Taking the quick route to posterior composite restorations with low-stress composites

Sun-Young Kim
South Korea

The dental industry has been pursuing the development of low-stress composite restoratives for many years. To date, only a few dental manufacturers have succeeded in doing so. Ivoclar Vivadent, for example, launched the new bulk-fill composite Tetric N-Ceram Bulk Fill, which can be placed in increments of up to 4 mm and contains an innovative photoinitiator (Ivocerin), as well as shrinkage stress relievers. The clinical case described here demonstrates restoration of a Class II cavity using the composite.

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Bulk Fill ensures a thorough cure in a depth of 4 mm. In order to adjust its height to that of the adjacent tooth, the marginal ridge was extended to 1 mm short of the upper end of the matrix band (Fig. 5). The remaining cavity was filled with a bulk increment of Tetric N-Ceram Bulk Fill (Fig. 6).

The material’s viscosity and long working time (approximately 5 minutes) render the restorative procedure convenient and precise. The time was sufficient to sculpt and contour the individual increments (approximately 5 minutes). Morphological details such as cusps and fissures could be anatomically reproduced so that adequate masticatory function and food spillway were ensured. The restoration was contoured to meet the functional and aesthetic requirements. Finishing and polishing demanded only little time, as the preliminary work (modelling) had been done with great dexterity.

A premature contact was noted when the occlusion was verified (Fig. 7). Since an appropriate occlusal anatomy had already been created, this high-occlusion spot could easily be adjusted during the finishing step. Final polishing was performed with OpraPol Next Generation and Astrobrush (both Ivoclar Vivadent; Fig. 8).

Tetric N-Ceram Bulk Fill allowed an optimum restorative result to be obtained. The shape and shade of the final restoration blended seamlessly with the natural oral environment (Fig. 9).
Managing coronal destruction
A clinical case demonstrating the pre-endodontic reconstruction of a tooth

For many years, post systems have been an important component of post-endodontic core build-ups. Post crowns or posts and cores used to be manufactured in a dental laboratory with the primary goals of repairing the restoration on significantly destroyed teeth and stabilizing the tooth structure. With the development of adhesive systems, mechanical anchoring of the denture to the remaining tooth structure became increasingly less important, to such an extent that clinicians now debate whether a post is even needed.

Whether a tooth requires stabilization must be critically questioned as well, particularly in view of the risk of fracture and its causes. In this regard, root fractures, vertical root fractures and crown fractures have to be assessed differently. The risk of a fracture of the crown increases with the size and depth of the cavity being prepared in the tooth (Fig. 1).

A tooth with a mesial-occlusal-distal cavity (MOD) and an endodontic trepanation has a much higher risk of fracture than an undamaged tooth does. The risk of a cusp fracture can be significantly reduced through a preparation covering the cusps for endodontically treated teeth with an MOD cavity (Fig. 2). Vertical root fractures differ from fractures in the area of the crown. Lost endodontically treated teeth owing to a vertical fracture are often treated with a post. The difference in the elastic modulus between the hard tooth structure and
The apical radiolucency should be 1–2 mm around the tooth. X-ray by another dentist three months ago showed a root filling up to approximately 3 mm before the radiological apex, as well as an apical radiolucency (Fig. 3).

Since there was only a small amount of remaining tooth substance, the post cavity was prepared to a depth of 6 mm and thoroughly rinsed. The canal and remaining exposed dentine were conditioned with 55 % phosphoric acid for 15 seconds and then rinsed with a multifunctional syringe for 15 seconds (Fig. 7).

Excess fluid was suctioned off with a micro-suction device. The pre-bond was applied using an application tip and worked into the surface for 15 seconds. The micro-suction device was again utilised to remove any excess.

In order to prepare the bonding material, Bond A and B were mixed in equal portions for 15 seconds and then rinsed for 5 seconds and massaged into the dentine surface for 20 seconds (Fig. 8). Then they were blown to a thin layer and light cured for 10 seconds. The tooth was built up with the dual-curing core build-up material LuxaCore Z-Dual (DMG Dental; Fig. 9) and the post cavity was filled with LuxaCore Z-Dual. The Luxa-Post post (DMG Dental) was positioned and the material was light activated (Fig. 10).

The crown was built up in small increments, activated, and contoured and polished with diamond grinding tools (Figs. 11 & 12).

The retained root was cleared of remaining tissue, caries and plaque. Then the optimal post diameter was determined using a stencil. A size of 1.5 mm was selected.

Since the ferrule is more than 2 mm height and width to be considered, if applicable pre-endodontic reconstruction. If a clamp cannot be positioned, surgical crown lengthening is indicated, if applicable (Fig. 6).

Preparation that preserves hard tooth substance is considered to be a superior solution for preventing fractures. In addition, the fracture resistance in the coronal area is stabilised through adhesive build-up materials and restorations that cover the cusps. The post and the dentine should have a similar elastic modulus in order to reduce the risk of a vertical root fracture. The decision whether to use a post in the case of an endodontic build-up critically depends on the degree of destruction of the tooth; the more hard tooth tissue present, the less the need for a post.

The diagram in Figure 3 shows three different degrees of destruction of an anterior tooth. In the case of a coronally intact but root-filled anterior root, an adhesive restoration is sufficient. When treating teeth with damage to the hard tissue and for which a crown is planned, the remaining core height and width to be enclosed by the crown play a decisive role (ferrule effect). If the ferrule is more than 2 mm wide, a build-up secured with an adhesive is sufficient. If it is narrower than 2 mm, the use of a glass fibre post is indicated.

Clinical case
A busy sales representative came to our practice with tooth 12 broken. Owing to time constraints, we only had one hour available for the reconstruction of the crown. The fracture line ran circumferentially at the level of the gingiva (Fig. 4). A root canal treatment had been performed on this tooth by another dentist three months before.

Initially, the patient requested preservation of the tooth but, after discussion, he said that he was not able to invest time in undergoing systematic tooth treatment. The clinical findings showed a retained root. The degree of tooth mobility was Grade 0-1 and the probing depth was 1–2 mm around the tooth. X-ray images showed a root filling up to approximately 5 mm before the radiological apex, as well as an apical radiolucency (Fig. 1).

We diagnosed chronic apical periodontitis in tooth 12. The apical radiolucency should be subsequently observed and, if necessary, root canal treatment should be revised prior to placing a crown.

Being able to position a rubber dam clamp is a basic prerequisite for endodontic treatment and for pre-endodontic reconstruction. If a clamp cannot be positioned, surgical crown lengthening is indicated, if applicable (Fig. 6).