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 page 5.

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“Oral health promotion training is a tick-box exercise”

An interview with Stacey Brackley, Australia

Despite being taught at university level, there is little information on the effectiveness of oral health promotion programmes in dental education, according to La Trobe University teaching fellow Stacey Brackley. At ADX14 in Sydney, she was presenting the 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 Brackley, your paper is currently under review by a scientific journal. Could you tell us a bit about your findings nevertheless?

Stacey Brackley: 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 introduced to the importance of 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.

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. Campaigns like Prof. Audrey Sharman from the University College London School of Life and Medical Sciences have also been talking about the importance of oral health promotion for decades.

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.

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.
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 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 in 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 strategies such as legislation, smoking bans and taxation on cigarettes making the difference.

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, 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, or even the hills of the Andaman Sea, it is highly unlikely that relatives and friends of those lost in the accident will ever be able to bury the remains of their loved ones.

In similar accidents, as well as natural disasters, forensic 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 right 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

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Expecting an oversupply

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 2012. As part of its National health workforce series and reported a 55.5 per cent increase in registered dental practitioner numbers from 14,200 to 19,462 over the nine year time period from 2003 to 2012. Over the same time period, Australia’s population increased by 15.1 per cent from 19.6 million to 22.8 million resulting in the number of dental practitioners per 100,000 Australian residents increasing by 19.1 per cent from 72.5 to 86. Hence, the number of dental practitioners increased at over twice the rate of population growth.

Health Workforce Australia is currently preparing a report into the dental workforce. Although 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, Australians with physical and 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.

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Five steps

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 socio-economic 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, improved 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 have 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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Contact Info

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Contact Info

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4 Opinion

“A new patient, fetch!”

Prof Leonard Crocombe
Australia

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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.

According to Alexander, of the approximately 950 dentists entering the workforce in Australia annually, less than 60 per cent are required in order to meet the demand for dental services. She also said that her organisation had found that the number of graduates in full-time employment four months after graduation dropped from 95 per cent in 2011 to less than 60 per cent last year, increasingly forcing young dentists to work part time or take up another occupation to avoid unemployment.

A total of 14,687 dental professionals were registered with the Australian Dental Council in 2012, according to recent figures from the Australian Institute of Health and Welfare in Canberra, which ranks the country high above the ideal dentist–patient ratio of 1:3,500 recommended by the World Health Organisation. Starting salaries for dentists regularly exceed those of other high-skilled occupations, such as engineering and medicine, which makes the profession attractive not only to young people in Australia but also to dental professionals from abroad.

Last year, over 250 dentists with dental qualifications obtained outside the country received permission to work in Australia, a significant increase from only 57 who applied for assessment by the Australian Dental Council a decade ago.
New world oral health report released
Almost 100 per cent of adults suffer from dental caries

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 absenteeism. 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 tobacco consumption, higher rates of caries and untreated decay, 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 health 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 instill good oral care habits from a young age. The foreword was written by Yaya Toure, Manchester City Football Club player and three times African Footballer of the Year, who was this year’s World Oral Health Day ambassador. The book is available from the Apple iBooks Store and Amazon, and can be downloaded from the World Oral Health Day website, www.worldoralhealthday.com. 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 International (DTI) will be hosting the Digital Dentistry Show (DOS), 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 intra-oral devices. DOS 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, DOS 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 Exponential 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 DOS website.

More information about the DOS are 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, pathobiology-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 76 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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Moderate outcome for IDEM Singapore 2014 dental show receives record attendance but fewer new visitors

SINGAPORE: 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 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 round-table 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.

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An interview with Ultradent representatives about the launch of Opalescence Go

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 profiled tray that is very mouldable, so it can adapt better to the patient’s anatomy. It is not something you have to hold on the chair side or for which you have to take impressions.

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 Ultratray is made of a unique polymer that warms 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.

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

Wilson: The affordability of the product opens up possibilities in more markets. In-office whitening or custom tray bleaching may 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 so high accessible, we believe that Opalescence Go can reach any dentist and patient anywhere in the world.

Thank you very much for this interview.

Dental photography made simple by SHOFU

SINGAPORE: For almost a century, SHOFU Dental has been an international household name for dental clinical and lab materials. However, the company has also been manufacturing and selling equipment for digital dentistry and photography, only in its home market in Japan. With the introduction of the new EyeSpecial C-II, SHOFU brought a new digital camera to IDEM Singapore, exclusively developed for use in dentistry.

Made completely in-house in cooperation with experts in photography and cosmetic dentistry, the camera was conceptualised to be useful for a wide range of dental applications, including intraoral photography, shade selection and detailed image taking of anterior teeth. It comes with eight pre-set dental modes only, according to SHOFU Dental’s Asia-Pacific Managing Director Patrick Loke, are combined with a built-in proprietary flashmatic system and a number of image processing functions like colour correction and auto-cropping to simplify the process of dental photography significantly. He added that the camera is extremely lightweight and features a large LCD touchscreen display, making it possible for the user to operate it with one hand, leaving the other hand free for holding the mirror or cheek retractor.

“This camera is so simple and predictable that it provides a fool-proof solution for dentists, enabling even those without any in-depth knowledge of dental photography to take accurate photos every time. The entire dental team, even in multi-specialty practices, will benefit from it,” Loke told Dental Tribune Asia Pacific in Singapore.

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 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 Injectable and BeautiSealant, a product for sealing deep grooves and fissures, as well as an alternative to a conventional phosphoric acid etchant.
The recognition is inspiring. Every year since the inception of the Townie Choice awards, doctors have voted A-dec best in class across multiple dental-equipment categories. That’s more than a vote of confidence. It’s a testament to A-dec quality from those who know best.

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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 mifiit.

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.
“Infection control does not have to be more expensive or complex”

An interview with IDEM presenter Prof. Laurence Walsh, Australia

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?

HIV is still very much on the world stage, particularly in large, populous countries, such as India and China. While the percentage of HBV infections is very low owing to the large populations in these countries, it is important not to forget about the virus or think that it has been eradicated. In my home country, Australia, for example, the rate of HBV infections has not changed much, despite efforts such as education and public health measures.

A greater issue in Asia, however, is the various forms of influenza viruses and other infections. With the exception of the 2009 swine flu outbreak, many of these (SARS, Asian flu, Hong Kong flu, etc.) have originated on the continent. There are some unusual practices in many countries concerning people’s proximity to different sorts of birds, particularly domestic chickens. When animals and people live in such close proximity, opportunities for the potential spread of infection from animals to people arise.

In Australia, we currently have some major problems with viruses that are carried by large colonies of bats. If one has a colony of several thousand of these animals in one district, one probably does not want to spend too much time around them and risk being exposed to the virus. People now think about birds and chick- en in much the same way and this awareness is perhaps an important message to be taken from these incidences. There is an ongoing concern about the equatorial regions because large numbers of people and birds live very close together in those areas.

A second serious concern, mainly in developed parts of the world, is antibiotic resistance. There are many types of these today. The different varieties of resistant bacteria include tuberculosis and a whole range of gut bacteria. We now even have resistant bacteria in the mouth.

This is a phenomenon that a few years ago was only seen in hospitals and mental health institutions, but now is much more common in nursing homes and other care institutions. The number of newly developed antibiotics has been going down progressively over the last ten years, so there are fewer weapons being brought into the war against resistant bacteria each year.

There is a large push in countries like Australia, the UK and the US to limit the way health professionals use antibiotics. I was looking at some data recently for different regions in the US and there are actually parts of the country where more prescriptions for antibiotics are given out every year than there are people in that state. This means that every person in the state receives one or two prescriptions for antibiotics every year? This has created enormous potential for developing resistance. Many governments around the world are now starting to change regulations around the use of antibiotics in an attempt to restrict their use to essential indications, so that they are not used unnecessarily.

So, breaking it down, we have a high-technology problem in the developed world and a low-technology problem in developing countries.

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 sterilization 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 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 to be applied to the treatment of every patient every day regarding how they are treated. 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 area 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 regular 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 or respiratory disease than a flu 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 serious.

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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.
First Dental Technician Forum highlights current developments in dental labs

New educational format presented at IDEM Singapore a success

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 prosthetics, 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 ceramicist 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 utilising 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 XL (Sirona Dental Systems), the shade availability of crown and bridge materials, as well as which zirconia blocks are recommended for good aesthetics.
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 man 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.
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 just 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

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

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

SINGAPORE: NTI presented a number of new instruments at IDEM including cutters for shaping zirconia and titanium abutments. Carbide burs for the treatment of root canals were also showcased in half 4. With their small diameter, they were designed to allow clinicians to locate, open and extend the root canals of even the most gracile anterior teeth, the German manufacturer said. A longer slim neck also enhances the view, particularly under the endodontic microscope, when locating the root canals. NTI said that cutting has been simplified through a special cutting geometry that is supposed to make the removal of even 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 through the formation of cracks and breaking of crystals is prevented by a special grid size of less than 80 µm. 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.

Smooth surfaces can be produced both quickly and reliably using the congruent red ring finishing instruments. Long working parts are meant to provide perfect design results without rough edges, even in the case of long abutments.

NTI’s two-step system for shaping titanium abutments was developed to reduce the time and effort spend for the processing of abutments in practices and laboratories. The instruments feature an aggressive cutting geometry that allows clinicians to work quickly and effectively and to achieve the desired shape in all intraradial situations. The round form on the tip creates a classic shoulder and prevents the creation of angular preparations in the cervical area.

Endo files are available in stainless steel or nickel titanium.

Endo files are available in stainless steel or nickel titanium.

Dental trephines allow the removal of bone around dental implants. (DT/Photos FFDM, France)

FFDM manufactures drills in complex shapes.

Another specialty of FFDM is the production of dental implant drills that the company designs according to the specifications of clients. These cutting geometries are supposed to make the removal of even reinforced zirconia easier. Depending on the situation, clinicians can choose between three sizes of the instrument.

SOREDEX adds new technologies to CRANEX 3D

SINGAPORE: Dental equipment manufacturer SOREDEX has introduced a new image quality to its dental imaging system CRANEX 3D with SOREDEX Advanced Reconstruction Algorithm (SARA) and SOREDEX Metal Artifact Reduction (SMAR). The new technologies allow clinicians to detect clearly small anatomical details like small fractures or endodontic root fillings and reduce the effect of metals and other dense radiopaque objects on the 3-D image which usually create artefacts that are typically displayed as stripes and shadows.

The CRANEX 3D with the new ENDO 3D mode aims at endodontists who require very high image resolution. Its Endo imaging modes provide accuracy required for endodontic imaging with 85 µm voxel size and SMAR (90 kV, 10 mA), the manufacturer said. According to SOREDEX, EasyScout 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 CRANEX 3D combines diagnostic accuracy, fast imaging and low dose.

CAD/CAM Discs on cobalt-chrome and titanium base

SINGAPORE: System Soft-Blank is a nickel- and beryllium-free cobalt/chrome disc from the German manufacturer Adentatec that is bisocompatible 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 machines.

Adentatec has been offering a high-quality range of products for dental laboratories since 1997.

SPECIALISED in the production and distribution of non-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.

CBCT imaging in CRANEX 3D works smooth and fast.

Designed for the needs of general practice, as well as in implantology, orthodontics, endodontics, oral surgery, the CRANEX 3D from SOREDEX offers dental practices and clinics one of the most dynamic dental imaging systems. With panoramic, optional cephalometric and Cone Beam 3D imaging modes, it has excellent capabilities for accurate diagnostics, treatment planning and preparation of small surgeries, according to the company. With two selectable fields of view and four resolution selections, CRANEX 3D combines diagnostic accuracy, fast imaging and low dose.

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Dürr extends dental camera with interchangeable head

SINGAPORE: One of the main causes for approximal caries is that its innovative implant material mimics dentin. Sensitivity is non-existent and no adhesive is required, the company added.

New implant scaler designs available from Premier

DT Asia Pacific

GI restorative from SDI offers strength, mimics dentin

DT Asia Pacific

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

DT Asia Pacific

Dürr extends dental camera with interchangeable head

In an effort to help dentists to detect approximal caries better and in a non-harmful way, Dürr Dental has recently extended 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. Images or video captured with the system can be saved in the DBSWIN imaging software.

They are often recommended to take an X-ray to ensure that they detect any approximal caries in addition to examining the teeth with a probe. This exposes the patient to more radiation however.

GI restorative from SDI offers strength, mimics dentin

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GI restorative from SDI offers strength, mimics dentin

DT Asia Pacific
Inibsa Dental, a company from Spain, has exhibited at every IDEM Singapore show since 2010. Dental Tribune Asia Pacific sat down with Managing Director Domène 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?

Domène 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 anaesthetics 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 anaesthetics stand out from the competition?

Of course, the molecules in our products are the same as the ones used in most anaesthetics, 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 anaesthetics 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 per cent 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.

“Dental Tribune Asia Pacific Edition No. 4/2014 Special: IDEM Singapore”

An interview with Domène Huguet Gimeno, Managing Director of Inibsa Dental

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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 comprehensive to another dentist if it is a group practice. Letters of referral must be comprehensive 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 must demonstrate their language proficiency. This is done by sitting an exam called the International English Language Testing System (IELTS)® examination or similar. However, the required IELTS score varies from governing body to governing body as they rely on the interpreter and skilled migrant worker have passed rigorous language qualification tests. 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 mean full proficiency in English.

Dentists need to be able to communicate on social, palliative and clinical levels.
be an opportunity to make language proficiency requirements at entry more industry-specific.

With this in mind, it is instructive to review how tighter English language controls have already been implemented in Australia. The Australian Dental Council (ADC) requires overseas-trained dental practitioners to complete a three-part exam, one part being language proficiency. This was implemented in Australia. The Australian Dental Council (ADC) requires overseas-trained dental practitioners to complete a three-part exam, one part being language proficiency. It recently has been in place since 2007. The ADC raised the entry requirements in 2007, and since then very few candidates have failed. As a result, the ADC raised the entry requirement for OET Grade C to Grade B in each of the OET subtests. Subsequently, the requirement has remained the same. OET is partly based on an individual's proficiency in English. As well as IELTS, the ADC recognises OET (Occupational English Test) which differs from IELTS in providing a profession-specific, fit for purpose assessment that uses typical clinical scenarios to test language ability. It includes four subtests (listening, reading, writing and speaking) and, uniquely, all of these tests are tailored to the role of a dentist and the language that is relevant to that role. A typical example in the dental scenario, the candidate must demonstrate that he or she 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 there was a need to focus on English language proficiency 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 remained the same. OET is partly based on an individual’s proficiency in English. As well as IELTS, the ADC recognises OET (Occupational English Test) which differs from IELTS in providing a profession-specific, fit for purpose assessment that uses typical clinical scenarios to test language ability. It includes four subtests (listening, reading, writing and speaking) and, uniquely, all of these tests are tailored to the role of a dentist and the language that is relevant to that role. A typical example in the dental scenario, the candidate must demonstrate that he or she 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.

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By introducing enhanced language testing requirements, it is vitally important to ensure that examinations are not only fit for purpose, but also can demonstrate that they meet the required language skills prior to entry. 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.

One issue that we are very aware of in the UK is increasingly tight 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.
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One-step reproduction of shade and shape

Taking the quick route to posterior composite restorations with low-stress composites

Sun-Young Kim
South Korea

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
bulk fill was anatomically contoured in height (shade IVA) and it 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 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 remainder cavity was filled with a bulk increment of Tetric N-Ceram Bulk Fill (Fig. 6).

Once the matrix band had been placed, the bonding procedure was performed according to the instructions of the manufacturer. The enamel margins were selectively etched using 37% phosphoric acid (N-Etch, Ivoclar Vivadent) and rinsed thoroughly. Then Tetric N-Bond Self-Etch (Ivoclar Vivadent) was scrubbed into the entire cavity surface for 10 seconds using the Bluephase G2 curing light (Ivoclar Vivadent). Subsequently, light cured for approximately 3 minutes). After the initiation in Tetric N-Ceram Bulk Fill ensures a thorough cure in a depth of 4 mm. In order to ensure that the marginal ridge is located at exactly the same level as that of the adjacent tooth, the upper edge of the matrix should be positioned 1 mm above the marginal ridge of the adjacent tooth. In this case, the proximal box was prepared in such a way that a tight contact and an anatomical shape could be accomplished (Fig. 3).

In the restoration of Class II cavities, the proximal box is filled first, so that a simple Class I cavity remains. Here, it was filled with a Tetric N-Ceram Bulk Fill increment of 3–4 mm in height (shade IVA) and it was anatomically contoured (Fig. 5). The mesial ridge was shaped from one composite increment. According to the manufacturer, the patented photoinitiator in Tetric N-Ceram.

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As an alternative, composite resin can be applied to a wedge and light cured. As a result, the matrix will stay in close contact with the cavity walls during the entire restorative procedure (Fig. 4). In order to ensure that the marginal ridge is located at exactly the same level as that of the adjacent tooth, the upper edge of the matrix should be positioned 1 mm above the marginal ridge of the adjacent tooth. In this case, the proximal box was prepared in such a way that a tight contact and an anatomical shape could be accomplished (Fig. 3).

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Tetric N-Flow (Ivoclar Vivadent) was used to fill the deepest area of the proximal box (Fig. 4). Owing to its excellent flow properties, this low-viscosity composite has been shown to be ideal for sealing the cavity floor. The proximal region in particular is difficult to fill without voids or marginal gaps when a hybrid composite is used.

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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 stabilising 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 stabilisation 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. 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 images showed a root filling up to approximately 3 mm before the radiological apex, as well as apical radiolucency (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 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.

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