**WHO endorses public health care**

**Geneva meeting shortened to fight new influenza virus**

LEIPZIG, Germany/GENEVA, Switzerland: The improvement of primary health care and pandemic influenza preparedness are two of the main resolutions adopted at this year’s World Health Assembly in Geneva in Switzerland. Last week, the 193 Member States adopted a final plan of action on public health, innovation and intellectual property, which includes an agreed list of stakeholders who will be involved in the process, as well as a time frame and indicators by which to monitor progress. The plan of action aims, amongst other things, to reduce exclusion and social disparities in health-care systems worldwide and to promote public policy reforms in order to integrate health into all public sectors.

The WHO World Health Report 2008 found striking inequities in health outcomes and the access to care. Globally, annual government expenditure on health varies from as little as US$20 per person to well over US$6,000. For 5.6 billion people in low- and middle-income countries, more than half of all health-care expenditure is through out-of-pocket payments.

This year’s meeting in Geneva was closed after only five days to give senior high officials the chance to return to their home countries and prepare for a possible influenza pandemic.

During the high-level consultation on the new H1N1 virus, WHO Director-General Dr Margaret Chan was called upon to consider criteria other than geographical spread when evaluating the phases of influenza pandemic. Dr Chan further stated that her decision to declare an influenza pandemic would consider the scientific information available and would be supported by advice from the Emergency Committee, a body of international experts established in compliance with the International Health Regulations. The Director-General outlined what might be seen, based on current knowledge, as the virus continues to spread over the coming weeks and months.

She called for close monitoring of the virus as cases begin to appear in the Southern Hemisphere, where the new virus will have opportunity to inter-mingle with other currently circulating influenza viruses as the season at winter influenza epidemic begin.

**British Asian kids avoid the dentist**

Children of Bangladeshi, Indian and Pakistani origin in the UK visit the dentist less frequently than any other ethnic group, according to recent research. Three-quarters of all children under 16 in England have been for a check-up in the last year, but for all British Asian groups the statistics are low. The government claims that Bangladeshi children from deprived backgrounds, who often have a high amount of sugar in their diet, are the worst affected. The Department of Health is developing guidance notes for all Primary Care Trusts, aiming to provide ideas on promoting oral health care to the British Asian community.

**New college for Pakistan**

Pakistan has opened the new Sheikh Khalifa bin Zayed Bin Al Nahyan Medical and Dental College in Lahore. The school is the first of many in the country to be opened this year to tackle the shortage of medical and dental personnel.

**Devices for snoring fail**

A survey by the UK watchdog Which? has shown that three-quarters of over-the-counter remedies for snoring do not work for their users. Among others, the magazine tested dental devices that hold the jaw forward to keep the airway open.

**Czechs seek expertise in Japan**

Scientists from the Masaryk University in Brno in the Czech Republic have signed a cooperation agreement with the Faculty of Dentistry at the Tokyo Medical and Dental University in Japan to co-develop new materials for use in dentistry.

According to the Czech News Agency ČTK, the researchers will focus on special titanium alloys for dental implants and determine whether the materials have a negative impact on general health. In addition, the two universities have announced that they will arrange the exchange of students on a regular basis.

Tokyo Medical and Dental University is the largest public dental school in Japan, with over 5,000 students. The university hospital treats 19,000 patients per year.
HK company stocks up on face masks to fight swine flu pandemic

The Hong Kong-based biotech company Filligent announced the mobilisation of its anti-infective BioMask stocks to help contain the global spread of the H1N1 virus, also called swine flu. The mask, which was introduced to the public at the Asia Pacific Congress of Medical Virology in February 2009, is said to be the first medical face mask to kill viruses within seconds after contact, while retaining the breathability required by medical workers.

“Humanitarian organisations and governments are on the front line of containing infection, especially among children. We’re allocating our resources to respond to their needs,” said Filligent CEO Melissa Mowbray-d’Arbela. She added that Bio-Mask was designed to withstand the rigours of pandemic logistics.

“We are working with retailers and humanitarian organisations to get the BioMask and our other anti-infective products out to the people as soon as possible,” Ms Mowbray-d’Arbela said.

Filligent’s BioMask is based on an ‘intelligent filtration’ technology and fabricated from a tested multilayer material that has highly targeted anti-microbial properties. According to the company, this patented BioFriend textile layer captures pathogens by mimicking the sites on human cells to which they normally attach and destroys them by disrupting their surfaces and cell walls. Many viruses, including influenza viruses, are known to bind to a terminal sialic acid residue on the surface of the human cell membrane.

The new strain of the swine flu virus that swept through Mexico and other parts of the world has killed about 100 people worldwide, primarily in North America and Mexico. Latest data of the World Health Organization showed 15,508 people in 48 countries were confirmed to have caught the virus. India and Turkey have confirmed their first cases of swine flu and Japan has recorded its first domestic case of the illness.

Meanwhile, the Turkish Health Ministry says an American flying from the United States via Amsterdam was found to be suffering from the H1N1 virus that swept through North America and Mexico. Latest data of the World Health Organization showed 15,508 people in 48 countries were confirmed to have caught the virus. India and Turkey have confirmed their first cases of swine flu and Japan has recorded its first domestic case of the illness. Malaysia confirmed its second case of swine flu—a female student who was on the same flight as a 21-year-old man whom authorities a day earlier announced had tested positive.

The WHO has changed the current phase of pandemic alert to five, which is one step away from a global pandemic. In a press conference in May, Dr Keiji Fukuda, Assistant Director-General ad Interim for Health Security and Environment at WHO, said that despite all efforts to contain the outbreak, his organisation is expecting a large number of people to get infected worldwide.

“It would be a reasonable estimate to say that perhaps a third of the world’s population would get infected with this virus,” he said.

Asia News

The BioMask will help dentists and physicians to hold off from swine flu, the company says. (DT/Photo courtesy of Filligent)
Aussie university receives budget for new Oral Health Centre

Danil Zimmermann
DIT
LEIPZIG, Germany / BRISBANE, Australia: The Australian government has provided for a new US$79.2 million Oral Health Centre at the University of Queensland in Brisbane in Australia. It will bring together the University’s School of Dentistry and sections of Queensland Health’s Oral Health Services for treating about 17,000 dental and cancer patients each year and thereby meeting the national dentist shortage, University officials said. The Centre is scheduled for completion in 2012.

The University has hailed the decision announced last night in the Federal Budget, which will help build Australia’s largest and most advanced specialist oral health service and support up to 700 jobs in the construction, property, business, and manufacturing industries. The Centre will have up to 100 full-time equivalent staff and train an additional 20 dentists, as well as 15 oral health therapists each year. Students in these programmes will treat members of the public at the Oral Health Centre, under close supervision.

Vice-Chancellor Prof. Paul Greenfield welcomed the announcement as the start of a new era in dental care and education for Queensland. He said that plans for a new School of Dentistry date back 20 years.

“The new centre will substantially expand and improve oral health facilities and services for patients, particularly cancer patients and others with complex dental care needs,” Prof. Greenfield added. “Patients will also benefit from research, which will target better treatment outcomes and prevention.”

Research is to be conducted in restorative dentistry, periodontology, parodontics, oral radiology, oral medicine, periodontology, endodontics, special needs dentistry and other specialist areas. The centre will also house the largest dental library in Australia.

Open borders for Filipino dentists

Doctors and dentists from the Philippines will soon be able to practise in all member countries of the Association of Southeast Asian Nations (ASEAN), according to a new agreement recently signed by ASEAN education ministers in Phuket in Thailand. The agreement will make way for free movement of professional medical and dental labour from the Philippines to countries like Singapore, Indonesia or Vietnam.

Currently, the Philippines has 8,500 dentists.

Similar arrangements have already been introduced by the ASEAN regarding architects, surveyors, engineers and nurses. In December 2006, for example, ASEAN economic ministers signed a mutual recognition agreement on nurses, which are amongst the Philippines’ major human resource exports. The new agreement on physicians and dentists will be effective in August this year.

Under the agreement, physicians and dentists from the Philippines can apply for recognition in another ASEAN country, if they have a valid professional licence from the host country’s Professional Regulation Commission or have been practising as a general medical practitioner or dentist in the host country for no less than five continuous years.

Education Secretary of the Philippines Jesli A. Lapus said he added that the agreement requires dentists to comply with requirements imposed by the host country and have no pending administrative or criminal case in relation to the practice of their profession.

“We welcome these developments because these are concrete steps to realising a true ASEAN community that is inclusive, harmonious, and borderless and one that expands the opportunities for personal growth and development for our countrymen,” Lapus said. The ASEAN, with a combined market of about 550 million people, aims to have a single market by the year 2015, in order to be able to compete with other emerging markets in the region, such as China or India. The bloc has a combined gross regional product of US$1.1 trillion and total trade of about US$1.6 trillion.

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Dear reader,

Daniel Zimmermann
Group Editor
Dental Tribune International

Aesthetics and the brain

The age-old question as to what constitutes beauty has been subjected to yet another wrinkle. Research has been presented showing that left-sided brain people perceive beauty differently than right-sided ones. Beauty is and has been perceived through the ages through individual eyes. Perhaps different cultures encourage different zones of desire and contentment; also, people of different ages may have different views. Whatever the cause or conditioning, our vision encourages that beautiful zone. Is it due to our youth’s environment, perhaps where our mother’s left side of the brain influenced our concepts early, relating to beauty?

When I was presenting cosmetic periodontal techniques in Sicily, Italy, at a congress dedicated to aesthetics in dentistry, Dr DeLucia, an exquisite prosthodontist with exceptional aesthetic prosthetic results, brought up factors and questions regarding the effects of aesthetics from the right and left sides of the brain as well as the male/female dominance in their respective spheres.

In general, the right side is usually related to males. The left side of the brain is, in general, attributed to the female gender. Its characteristics are said to be non-verbal, intentional, emotional, excellence in spatial relationships, and good colour perception.

In the past 20 plus years of dentistry, aesthetics has changed the face of the profession. This is not meant to be a pun but an actual fact. At about the same time that cosmetic improvement was encouraged by our profession, the profile of the dental school population started to change. The number of female dental students became more predominant than ever before in the United States. Was this the left side of the brain making its mark?

The initiating pioneers in the aesthetic dental field, Drs Irwin Smigel and Ron Goldstein, forged awareness to the public as well as dentists, and encouraged the patient to request looking better orally. In turn, they encouraged the dentist to provide better aesthetically appealing, yet formidable, restorative materials. Did it take these pioneers the use of the right side of their brain to forge this field of aesthetics?

In other countries throughout the world, the number of female dental school graduates has been higher than males for years. In addition, 85 per cent is the common percentage of female dentists practicing in many such countries. In the US, that number hovers at about 50 per cent.

Does the right side of the brain dominate our field with the necessary precision that is demanded? Have the materials in dentistry today improved so much that there is compensation in techniques to allow the left side of the brain’s activity to transcend and emit an aesthetic sensitivity for the patient’s appearance? Can the individual dentist utilise the left and right side of his or her brain as noted in today’s terminology by the expression ‘crossover’?

Will the economic turmoil of today affect the demand by patients for cosmetic dentistry beyond the necessary health requirements? Know that for me to find the answer regarding the male/female, left and right brain relationships, I should unlimily have to ask my wife.

Dr David L. Hooester
USA

Contact Info
Dr David L. Hooester is director of the International Academy for Dental Facial Esthetics, and a clinical professor in periodontics at Temple University, Philadelphia, and maintains a practice in New York City, USA. He can be reached at dled@usl.com.

Procedures against the Influenza A H1N1 Virus

Evidently, there are still new cases of Influenza A caused by the H1N1 Virus. Throughout the world, the strategic response to the virus has been to slow and limit its spread. Basic measures for prevention and control of infection are the most effective means of achieving this.

The recommended procedures for preventing and controlling the spread of respiratory infections include frequently washing the hands, covering the mouth with tissue when coughing or sneezing, avoiding physical contact with patients, using surgical masks and, if necessary, isolating infected patients.

Successful infection control is based on our execution of procedures and exercise of caution.

For our own safety, as well as our patients’ health, all health workers should regard the following as potentially infectious body fluids (with or without visible blood), mucous membranes, and non-intact skin—these are standard precautions.

Additionally, during the flu season or an influenza outbreak such as the recent one, dental professionals with viral respiratory diseases should suspend all clinical activities until they are healthy.

In order to avoid the exposure of the dentist to flu, it is recommended that patients with symptoms of a respiratory infection of viral origin continue their dental treatment when they are free of symp- toms.

Resources for dental professionals on the Influenza A (H1N1) virus are available from the Organization for Safety and Asepsis Procedures at: www.osap.org/display-common.cfm?an=1&subarticleid=1216.

Dr Enrique Acosta-Gu
Mexico

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Scientists find someone new to target in periodontitis fight

SAN DIEGO, CA, USA: Researchers at the School of Dentistry at the University of California, Los Angeles (UCLA) in cooperation with the University of Michigan and the University of California, San Diego have identified a potential new focus of treatment for osteoporosis, periodontitis and similar diseases.

Dr Cun-Yu Wang, who holds UCLA’s Dr No-Hee Park Endowed Chair in Dentistry No-Hee Park Endowed Chair in the dental school’s Division of Oral Biology and Medicine, and his team suggested that inhibiting nuclear factor-kB (NF-kB), a master protein that controls the genes associated with inflammation and immunity, can prevent disabling bone loss by maintaining bone formation.

The NF-kB protein, a culprit in inflammatory and immune disorders, plays a major role in both osteoporosis and periodontitis, disrupting the healthy balance of bone destruction and formation. “Most studies focus on the part that NF-kB plays in the regulation of osteoclasts—bone-resorbing cells. For the past five years, we looked closely at the effect of NF-kB on osteoblasts—bone-forming cells,” said Dr Wang. “We knew that NF-kB promoted resorption. What we discovered in our in vitro and in vivo studies is that this protein also inhibits new bone formation, giving us a fuller picture of its role in inflammation and immune responses.”

The findings could offer new hope to millions who fight osteoporosis and periodontitis each year. The US National Institutes of Health estimates that in the US alone more than ten million people have osteoporosis, and many more have low bone mass, putting them at risk for the disease, as well as broken bones. According to the American Academy of Periodontology, mild to moderate periodontitis affects the majority of adults, while between 5 and 20 per cent of the population suffers from advanced periodontitis.

Many available treatments work to prevent further bone loss but are not able to increase bone mass. Dr Wang’s research results support the idea that a new drug that prevents the action of NF-kB in cells may represent a major therapeutic advance.

(Edited by Claudia Salwiczek, DTI)
According to a press note treating head and neck cancer, revealed promising results for in New York City in the US, has been removed from head and neck cancer patients and grown in the laboratory. Head and neck cancer refers to tumours originating from the upper aerodigestive tract, including the lips, oral and nasal cavity, as well as paranasal sinuses, pharynx, and larynx. It is the sixth most frequent cancer worldwide, comprising almost 50 per cent of all malignancies in some developing nations, such as India. In the US alone, approximately 50,000 new cases and 8,000 deaths are reported each year.

Until now, the common form of treatment has been radiation therapy, and in some cases also surgery or targeted therapy, which uses drugs or other substances to identify and attack specific cancer cells without harming normal cells. HDAC inhibitors, such as LBH589 tested at Einstein, appear to combat cancer by restoring the expression of key regulatory genes that control cell growth and survival to normal levels.

In addition, the researchers identified a set of genes whose expression levels change in response to the HDAC inhibitors, which could help doctors identify the patients most likely to respond to the drug. Plans call for testing LBH589 on head and neck tumour cells from more patients, so that the set of genes that respond to the drug can be more firmly established.
Joining the Dental Tribune International Group

We are excited to be the new licence partner of Dental Tribune International in India and to be able to introduce new publications in the country’s yet under-represented segment of dental professional media. Indian dentists in private practice will now be able to access a wide range of information on current trends in dentistry through DTI’s offerings, including their flagship publication Dental Tribune and five speciality magazines. The high demand for online information and educational tools will be met through DTI as well.

Our company Jaypee Brothers (JP) is India’s largest publishing house with an operating revenue of US$28 million. The group has four decades of publishing experience and maintains ten regional offices throughout the country. The group is moving forward with a commitment to the medical and dental community to publish scientific content in all areas of science, and is continuing to expand its current range of publishing ideas. A dedicated in-house team of 80 professionals in the editorial and design division continually evolves the product and content quality, in order to meet new market demands and support growth plans.

“With Dental Tribune as our new title for general practitioners, we hope to benefit from an already existing network of 25 international publishers”

Dental media by JP are also available worldwide in regions such as the Middle East, Eastern Europe, Africa and Southeast Asia. In the US, McGraw-Hill Publishers distributes JP titles on an exclusive basis, with a similar model in place for McGraw-Hill medical books in India. Overall, with the addition of 52 titles last year, and 55 new titles to be released this year to add to the existing 211 titles, the growth of JP’s print portfolio in dental medicine has been consistent and rapid. The portfolio includes undergraduate and postgraduate textbooks, reference books and handbooks for various specialities, and ranges from basic subjects, such as anatomy, physiology, oral histology and dental hygiene, to more advanced subjects, such as maxillofacial surgery, periodontics, prosthetics and restorative dentistry. The target readership of dental titles is dentists, dental assistants, dental hygienists, dental technicians and dental therapists. In addition, the dental titles are read in all 280 of the country’s dental colleges.

The group is also expanding its journal portfolio and plans to achieve a list of 17 journals by next year. The International Journal of Clinical Pediatric Dentistry and the International Journal of Clinical Implant Dentistry are already in active circulation. New titles in orthodontics and cosmetic dentistry are under development.

With Dental Tribune as our new title for general practitioners, we hope to benefit from an already existing network of 25 international publishers and look forward to bringing their expertise to our large readership in India.
The Indian market with a population of more than 1 billion people and an emerging middle class offers enormous potential for all kinds of industries. Dentistry is one of them. Editor Claudia Salwiczek spoke with Dr Johannes Wamser and Mike Batra from German consulting company Dr Wamser + Batra GmbH about the current market conditions in India and why foreign manufacturers of medical and dental equipment should start to invest now.

Dr Wamser: We are not exactly focused on dentistry and offer our services to many industries. The common denominator is simply India. In our company, you will find a number of professionals that have much experience in doing business there, such as managers from German companies who worked and lived in India for a couple of years. The reason is that we are dealing with dentistry now is trivial, India has much going for it!

Claudia Salwiczek: Dr Wamser, you offer consulting services to companies that are interested in setting up in India. Why are you focusing on dentistry?

Dr Wamser: Sure. Currently, a small but powerful social class is developing in India that is influenced by international media and is able to fly to London or Dubai occasionally to do shopping. This developing part of the population is placing high demands on the Indian health care system, which unfortunately is still underdeveloped in most parts of the country. India is still a classical example of a developing nation with low standards in clinics and the education of medical personnel.

This is changing now only in a small segment that offers high-quality products and services, but not throughout the country.

There is a large gap between what is currently available there and what people are willing to pay for good health care.

Mr Batra: Similar to other markets, the health care system in India is divided into the public and private sectors. In the past, we accompanied a number of German medical companies that were focusing on private clinics, which have multiplied in the big cities like Delhi, Mumbai and Bangalore. As these clinics are brand new, the risk of infection with Methicillin-resistant Staphylococcus aureus is minimal or non-existent, which is something these clinics regularly exploit for their advertising.

Dr Wamser: I have to agree because the number of doctors and clinics that want to purchase advanced technology and are able to use it is manageable. However, the number is sufficient to make the market attractive for foreign manufacturers.

So there is no mass market for medical or dental equipment in India?

Dr Wamser: I have to argue that the number of doctors and clinics that want to purchase advanced technology and are able to use it is manageable. However, the number is sufficient to make the market attractive for foreign manufacturers.

Could you briefly explain the health care system in India?

Mr Batra: Similar to other markets, the health care system in India is divided into the public and private sectors. In the past, we accompanied a number of German medical companies that were focusing on private clinics, which have multiplied in the big cities like Delhi, Mumbai and Bangalore. As these clinics are brand new, the risk of infection with Methicillin-resistant Staphylococcus aureus is minimal or non-existent, which is something these clinics regularly exploit for their advertising.

Mr Batra: Indeed. Public hospitals are generally uninteresting for most foreign manufacturers of medical equipment because the price and quality levels are different from what they offer in their markets. For example, it is common for 500 people to share a room that only has the capacity of 100 beds. Syringes are re-used twice or even three times, which makes these hospitals perfect breeding grounds for diseases like hepatitis C. Patients also have to bring or buy wound dressing materials from the clinics, and bedside care is often provided by a family member instead of a nurse.

Dr Wamser: Dental services are 60 to 70 per cent cheaper than in Europe or North America but the costs of materials are more or less the same. These clinics are independent and can offer less expensive services because they do not have to pay opportunity costs, for example.

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I suppose the conditions in public hospitals paint a different picture?

Mr Batra: Indeed. Public hospitals are generally uninteresting for most foreign manufacturers of medical equipment because the price and quality levels are different from what they offer in their markets. For example, it is common for 500 people to share a room that only has the capacity of 100 beds. Syringes are re-used twice or even three times, which makes these hospitals perfect breeding grounds for diseases like hepatitis C. Patients also have to bring or buy wound dressing materials from the clinics, and bedside care is often provided by a family member instead of a nurse.

What's the price range of these clinics?

Dr Wamser: Dental services are 60 to 70 per cent cheaper than in Europe or North America but the costs of materials are more or less the same. These clinics are independent and can offer less expensive services because they do not have to pay opportunity costs, for example.

Dr Wamser: Dental services are 60 to 70 per cent cheaper than in Europe or North America but the costs of materials are more or less the same. These clinics are independent and can offer less expensive services because they do not have to pay opportunity costs, for example.

What about dentistry?

Mr Batra: There are certain basic procedures like normal check-ups that are free. Dentures, however, must be paid for out of pocket and this is where street dentists usually come into play. We focus mainly on the private sector, which has experienced quite an upswing in the last four to five years. In this sector, the technological standard, the dentist–patient ratio and the quality of bedside care is comparable to Western countries. At the moment, a number of private clinics with capacities of 1,000 to 1,500 beds are being built that are aimed primarily at dentally insured tourists.

And these clinics mainly treat foreign patients?

Dr Wamser: They do at a very high level of quality but also at a reasonable price.

Many private clinics have dental departments that were established especially for overseas patients, which help them with travel arrangements, such as booking flights, transport from the airport and getting visas. I have to say that this has become very successful.

It is also not a secret that many Indian dentists who have practiced in England or the US are now using the opportunities that these clinics offer and return to practise in India for a while.

What potential does the Indian dental market really have?

Dr Wamser: On the one hand, we have a mass of people that offer dental services on the streets but who have never had any dental education. On the other hand, we have a small segment of well-educated and foreign-trained dentists who work in many of the private dental clinics. The group of street dentists or those with small practices are not able to buy expensive equipment; therefore, it falls upon the private sector and hospital chains to invest in new equipment. Meeting this growing demand is a significant opportunity for foreign manufacturers of dental equipment.

What should be done?

Dr Wamser: India needs a big leap forward to reach the same level of technological development that Western countries have achieved in two decades. This includes all sectors, such as high-quality equipment, sterilisation methods and hygiene standards.
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India is in need of—and certainly wants—foreign expertise and this can only be achieved through the purchase of new products. However, merely selling advanced equipment will be not enough: doctors in India have to be trained in new methods and technologies.

In most Asian countries, manufacturers often struggle with the various registration procedures for their products. What is the case in India?

Dr Wamser: I have to admit that India is a country with a very high level of bureaucracy. The system introduced by the British in the 19th century was taken over and even extended by the Indians. Therefore, product registration is a requirement in India and will become a problem when industry players try to achieve it under time pressure. Companies that plan and provide all the necessary documentation will face no problems.

Mr Batra: We found out that it took many German companies actually longer, sometimes years, to register a product in China than in India, even though they had been on the market there for quite some time. There is certainly the risk that guidelines and regulations change and extend the registration process, but usually it goes smoothly. As far as dental products are concerned, we have learned that the registration of implants takes more time than the registration of dental units.

How competitive is the dental market in India?

Dr Wamser: To answer that question we have to look into other industries. There certainly is competition and the market in India is not necessarily uncharted territory. If you compare it with China once again, private business has been allowed in India for decades and small- and medium-sized enterprises have been producing and selling dental equipment for years. Their products, however, usually do not meet the requirements for quality and technology that we have here in Europe or the US.

Sounds promising...

Dr Wamser: Well, not really. Foreign manufacturers still try to enter the Indian market by dumping technology that was state-of-the-art 20 years ago. Doing so is a big mistake and will definitely backfire because the low-price sector clearly is and will be dominated by Indian companies.

So what are your recommendations?

Dr Wamser: There are not many standards in India as far as technology is concerned and this gives companies the chance to influence the future of dentistry in India. Manufacturers that enter the market early will be able to shape the market conditions there.

Being the first is the key?

Dr Wamser: If we talk about dentistry in India, we do not only look at the present state and today’s market potential but at development that will last for the next two or three decades. Manufacturers can choose to enter the market now as pioneers or later when the market will be fully developed.

Also keep the persistence effect in mind. Dental graduates who practised on one particular device are likely to use that device or its successors for the rest of their professional lives. Being the first in the market can mean successful business for decades to come. Entering the market later means more competition or breaking into an already established market or system.

Thank you very much for the interview.
Mumbai prepares for major dental show
IDEM to address growing dental market opportunities in India

LEIPZIG, Germany/MUMBAI, India: Preparations for the first International Dental Meeting & Exhibition (IDEM) in Mumbai are in full swing. According to preliminary reports from the organiser Koelnmesse, more than 60 per cent of the available booth space at the Bombay Exhibition Center has been booked. The organisers have confirmed that countries like Switzerland, Italy, Korea, Germany and the US will have joint booth participation at the show. IDEM India is scheduled to take place from 25 to 25 October 2009.

IDEM India’s show concept is based on a major dental event that is organised by Koelnmesse in Singapore and takes place every two years. The last show in 2008 drew more than 6,000 trade visitors to the South Asian city-state and confirmed its role as a pivotal dental meeting in the Asia Pacific region. A survey revealed that more than 20 per cent of the exhibitors there are already serving Indian customers or are looking for a similar platform to address the Indian market directly.

Amongst Asia’s emerging market countries, India remains one of the countries with sustainable growth. The country currently has at least 40,000 practising dentists and a market volume of around US$440 million, which is three times higher than that of China. However, the tempo has slackened somewhat in India too, owing to the current situation in the global financial markets. For the current fiscal year 2008/09, analysts from the Centre for Monitoring Indian Economy corrected expectations from 8.2 per cent to 7.4 per cent after 9.0 per cent the previous year. The Office of Statistics in India is reckoning on only 7.1 per cent, which was confirmed in the most recent report by the company Germany Trade and Invest. However, compared with recent growth forecasts of only 2 per cent for countries in the EU or the US, the opportunities for making an entry into the Indian market are excellent.

IDEM India will feature not only a major dental exhibition, but also an academic conference where experts will have the opportunity to present on the latest topics in Indian and international dentistry. In addition, seminars and workshops will give visitors the opportunity to obtain selective training and continuing education. A Speaker’s Corner with product presentations by key industry players is also planned.

“We hope that IDEM India will become an important platform for the dental trade in the country, where they can contact existing and future customers.”

Kuhrt said that visitor advertising, which was begun during IDS Cologne in March and is targeted at dealers and professional users from India and the neighbouring countries in South-East Asia, will be increased in the coming months. Around 5,000 trade visitors from the Indian subcontinent are expected to attend the first IDEM India show, he added.

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![Traffic scene in Mumbai](DTAP0559_06-11_Wamser 29.05.2009 16:45 Uhr Seite 3)
Medical tourism in India is growing by 20–30 per cent

**Interview with Vivek Shukla, India**

Vivek Shukla is a health care marketing professional from New Delhi in India. He joined the health care business in 1998 and has since helped more than 20 hospitals around India in terms of management and brand development.

### Top 5 medical tourism destinations in Asia

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of arrivals (Year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thailand</td>
<td>900,000 (2007)</td>
</tr>
<tr>
<td>India</td>
<td>450,000 (2007)</td>
</tr>
<tr>
<td>Malaysia</td>
<td>570,000 (2008)</td>
</tr>
<tr>
<td>Singapore</td>
<td>548,000 (2007)</td>
</tr>
<tr>
<td>Philippines</td>
<td>190,000 (2007)</td>
</tr>
</tbody>
</table>

In India, the medical tourism initiative is driven by players from the private sector. There has been a continual rise in the number of private health-care ventures since 1990. Hence, the medical tourism business is growing far faster than the number of private health-care businesses increases. Currently, the Compound Annual Growth Rate of the industry is estimated to be about 15% to 15 per cent per year, in spite of the slowdown.

### Patient rights and legal protection are very important issues

There are initiatives in the European Union that aim to give patients seeking cross-border health care more rights. Will we see similar developments in Asia in the future through, for example, bilateral or multilateral free trade agreements?

Sooner or later this will happen. It is just a matter of someone taking the lead and introducing these initiatives. Patient rights and legal protection are very important issues. Countries that are flexible and open to these concepts will have advantages in the long run.

### What role will employers and insurance companies play in these developments?

I think they will play a major role. Patients will demand more security and rights. This will put pressure on the insurance companies and employers. In order to save costs and payouts, the insurance companies and employers will have to heed the demands of the patients. Low cost should not result in low quality.

### Let us take a look into the future

How big will the medical tourism sector in Asia be in 10 to 15 years?

This depends on many factors. Some of the most important factors include the cost of treatment in the Western world, political stability in Asia and the legal rights of medical tourists.

There is a high probability that the medical tourism market will grow further in the Asian region. I sense that in the long run, the number of players will be reduced. At the moment, everyone is trying to jump on the bandwagon. After a while, only those with robust plans and government backing will survive.

Thank you very much for the interview.
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**The tooth’s response to bleaching is individualistic and can only be determined by starting treatment**

**Interview with Prof. Van B. Haywood, USA**

Prof. Haywood: Tooth sensitivity is the single most significant deterrent to the very popular dental bleaching. How well do we understand this condition?

Dr Van B. Haywood is a Professor in the Department of Oral Rehabilitation in the School of Dentistry at the Medical College of Georgia. In 1989, Dr Haywood and Prof. Harald Heymann co-authored the first article in the world on nightguard vital bleaching (NGVB). He has completed over 90 publications on the NGVB technique and the topic of bleaching, and aesthetics, including the first papers on treatment of bleaching sensitivity with potassium nitrate, direct thermoplastic tray fabrication, extended treatment of tetracycline stained teeth and primary teeth bleaching.

Dental Tribune Editorial Claudia Salwiczek spoke with Dr Haywood about bleaching sensitivity.

Claudia Salwiczek: Tooth sensitivity is a single most significant deterrent to the very popular dental bleaching. How well do we understand this condition?

Prof. Van B. Haywood: Tooth sensitivity is the most common side effect of bleaching. Whereas all of the typical causes of dentine hypersensitivity generally involve the hydrodynamic theory of fluid flow, the sensitivity associated with bleaching seems to have a different origin. In bleaching situations, the teeth may be in an excellent condition, with no cracks, exposed dentin, or deep restorations, but following a few days of bleaching, the tooth may experience severe sensitivity.

This seems to be related to the easy passage of hydrogen peroxide and other bleaching agents through the intact enamel and dentine in the interstitial spaces into the pulp within 5 to 15 minutes. The tooth is a semi-permeable membrane that is quite open to molecules of a certain size. Once it is understood how easily the peroxide penetrates the tooth, the resultant pulpal response of sensitivity may be considered a reversible pulpitis.

Can bleaching sensitivity cause damage in the long term?

Although penetration of peroxide through the tooth to the pulp reduces sensitivity, the pulp remains healthy and the sensitivity is completely reversible when treatment is terminated. Long-term sequelae remain after the sensitivity has abated.

Research has shown that patients have tooth sensitivity even when using non-bleaching agents in a tray, or just wearing a tray alone. Hence, it is not possible to have all patients be sensitivity free because of the mechanical forces of the materials and occlusion, and some plans must be made to address potential problems.

How can bleaching sensitivity be prevented?

Reliable methods for complete prevention have not yet been established. However, a history of sensitive teeth and the patient’s response during examination can be reasonable predictors. The tooth’s response to bleaching is individualistic and can only be determined by starting treatment. Most reports of sensitivity occur within the first and the appropriate concentration of bleaching agent. They need to be aware that applications more than once a day or higher concentrations of bleaching agent can increase the likelihood of sensitivity. Patients with pre-existing tooth sensitivity must be cautioned that increased sensitivity, albeit transitory, may occur and that management of the sensitivity may require a longer time span for bleaching as a result of the additional time to treat the sensitivity.

What treatment objectives are available?

No bleaching treatment should be initiated without a proper dental examination, which generally includes radiographs and determines a diagnosis for the cause of the discolouration. The examination should include an explanation to the patient of all their treatment options, considering existing restorations — which will not bleach — and other aesthetic options. It should be noted that there are several causes of discolouration (abscessed teeth, caries, internal or external resorption) for which bleaching will mask the indication of pathology but not resolve the problem. Other treatments will be required before or instead of bleaching.

Sensitivity may be treated by no bleaching treatment should be initiated without a proper dental examination. How effective are the desensitising toothpastes available on the market, and how do they work?

No bleaching treatment should be initiated without a proper dental examination. The most common, professionally endorsed, self-applied approach to treating sensitive teeth is the use of desensitising toothpastes, which contain potassium salt (nitrate or chloride). Potassium ions pass easily through the enamel and dentine to the pulp in a matter of minutes. Potassium is believed to act by interfering with the transmission of the stimuli, by depolarising the nerve surrounding the odontoblast process. Most potassium-base desensitising toothpastes also contain fluoride for cavity protection, and some offer an array of flavours and the whitening, tartar-control, and baking soda benefits found in most regular toothpastes.

In clinical trials, the desensitising effect of brushing with anti-sensitivity toothpaste generally takes about two weeks of application twice per day to show reduction in sensitivity, and greater effect develops with continued use. The patient should be advised in accordance with the manufacturer’s instructions, typically to be applied by brushing twice daily as a part of the regular oral hygiene regime.

What is your recommendation to dentists performing bleaching procedures?

The biggest challenge in aesthetic dentistry is to maintain the ethics of the dental profession, and to place patient care ahead of financial gain. Patients should be presented with all options for treatment, including the cost/benefit ratio and the risk/benefit ratio, based on research where possible. Conservative treatment that preserves enamel and tooth structure is always preferred. My credo, which has worked well for me and my patients, is “Do unto others as you would have them do unto you.”

Thank you very much for the interview.
“Most people are worried it is often something worse.”

Dr Nick Rote. East Finchley, UK

1 in 3 people suffer from dentine hypersensitivity and over 50% of sufferers don’t mention it to their dental professional.\(^1\) Research shows that this may be because they fear it requires major dental work, the pain may be variable so they don’t report it or because they may be using techniques to try and avoid the pain.\(^2\)

These findings highlight the important role that dental professionals play in actively diagnosing dentine hypersensitivity.

Recommended daily brushing with Sensodyne is a simple, effective solution which is clinically proven to reduce the symptoms of dentine hypersensitivity.

“When they come back to see me next time, they’re very pleased that the solution was given to them so easily.”

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LEIPZIG, Germany: The oldest known skeleton showing signs of leprosy has recently been found in India and may help unravel the myth of where the disease originated. In the journal PLoS ONE, Assistant Professor Gwen Robbins, an anthropologist at Appalachian State University in the US, and researchers in India describe a middle-aged adult male skeleton demonstrating signs of leprosy in skeletal material, such as tooth loss and root exposure.

Historians have long considered the Indian subcontinent to be the source of the leprosy that was first reported in Europe in the fourth century B.C., shortly after the armies of Alexander the Great returned from India.

The 4,000-year-old skeleton was found near Udaipur in north-western India. The authors say their find confirms that a passage in the Atharva Veda, a set of Sanskrit hymns written around 1550 B.C., indeed refers to leprosy. The bacterium that causes leprosy seemed to have spread worldwide from a single clone, biologists reported three years ago.

But because of insufficient samples, they could not determine whether the bacterium was disseminated when modern humans first left Africa about 50,000 years ago or spread from India in more recent times.

Other biologists have contended that because the bacterium is not easily transmissible, requiring prolonged intimate contact between people, it would not have started to spread until around the third millennium B.C., when people started living in dense populations in cities and long-distance trade sprang up.

Dr Helen D. Donohue, an infectious disease specialist at University College London, said the finding was fascinating and fits in with the theory that Alexander’s army had brought leprosy back from its campaigns in India.

Leprosy is still common in many countries, especially in temperate, tropical, and subtropical climates. India has the largest number of leprosy patients in the world. The number of new cases of leprosy recorded by official services was 158,000 in 2007, but there are some two to three million people who have had to endure the disabilities caused by leprosy throughout their lives.

Leprosy is a chronic infectious disease caused by Mycobacterium leprae that affects almost 250,000 people worldwide. It is not very contagious and has a long incubation period, which makes it difficult to determine where or when the disease was contracted.

Leprosy has two common forms, tuberculoid and lepromatous. Both forms produce sores on the skin, but the lepromatous form is the most severe, producing large, disfiguring nodules (lumps and bumps).

All forms of the disease eventually cause peripheral neurological damage, which results in sensory loss in the skin and muscle weakness. People with long-term leprosy may lose the use of their hands or feet, owing to repeated injury resulting from a lack of sensation.

Effective medications exist, and isolation of victims in ‘leper colonies’ is unnecessary. The emergence of drug-resistant Mycobacterium leprae and an increased number of cases worldwide have led to global concern about this disease.

Editorial note: For the original article, please go to: http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0005669.
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Creating ultimate direct anterior restorations with the help of nanotechnology composite

Dr Arun Rajpara
India

Creating consistent results in aesthetic dentistry is certainly the ultimate goal that every clinician wants to achieve. However, achieving this result and patient satisfaction can be elusive at times. Because aesthetic restorative dentistry is artistic in nature, there is much subjectivity in fabricating the final aesthetic result.

Creating beautiful direct resin restorations requires the clinician to perform equally well on a range of tasks. The clinician has to consider all aspects present in the patient’s smile zone, from gingival architecture to tooth contour, from colour to surface texture, in order to create the ideal result. On a conceptual level, having an understanding of the final result is one thing, choosing the ideal technique and executing the process is another.

Clinicians have seen the revolution in composite material science and techniques since the advent of the acid etch technique in 1955. The development of hydrophilic dentine bonding agents has further added to restorative possibilities. The significant advantage of modern direct adhesive composite systems is that they allow clinicians to preserve sound tooth structure during the removal of caries and preparations compared with traditional restorative procedures.

The new composite restorative Tetric N-Ceram (Ivoclar Vivadent) features aspects of nanotechnology: ‘nano additives’ that help material sustain a good viscosity and polishability have been incorporated. Further organic pigments covalently bonded to silicon dioxide particles in a nanoscale range enable an outstanding colour match with natural tooth structure, and thus give outstanding aesthetic results clinically. Tetric N-Flow (Ivoclar Vivadent) with nano-optimised technology complements this composite resin, helping the clinician to achieve a predictable aesthetic result clinically. The nano-filled, light-cured, single-component total-etch adhesive Tetric N-Bond (Ivoclar Vivadent) ideally complements the Tetric N-Family products.

The objective of this article is to introduce the clinical application of the new Tetric N-Ceram, Flow and Bond. The rationale behind the clinical technique and intricate application methods is also discussed.

Clinical case
A young patient, a 16-year-old boy, presented with large cervical and proximal carious lesions on all maxillary and mandibular anterior teeth. (Figs. 1 & 2) All these lesions were surrounded by white hypocalcified enamel lesions. The patient presented a history of restorations on these in past that failed over time. Clinically, it was also observed that there was chronic gingival inflammation, evidenced by hyperplastic gingiva with bleeding from marginal areas.

After proper evaluation, the priority was to achieve good gingival health and contour. Further increments of Tetric N-Ceram composite enamel shades A2 and A1 were placed with the OptraSculpt instrument. —Fig. 7: Further increments of Tetric N-Ceram composite enamel shades A2 and A1 were placed with the OptraSculpt instrument. —Fig. 8: Finishing with the three-step polishing system Astropol (grey, green, pink). In the figure, the last step (pink) is shown. —Fig. 9: Final polishing was completed with Astrobrush.

Fig. 1: Initial situation of carious lesions on maxillary and mandibular anterior teeth, showing inflammation on surrounding gingival tissue with compromised smile aesthetics. —Fig. 2: A close-up view of maxillary incisors, showing a need for aesthetic restorations. —Fig. 3: Following tooth preparation, which included placing a shorter bevel at the DE junction area and a long facial bevel. —Fig. 4: Application of gel etchant Total Etch. —Fig. 5: A hydrophilic single component adhesive (Tetric N-Bond) was applied on etched surfaces. —Fig. 6: First increment of Tetric N-Ceram shade A3.5 dentine composite, which was lightly feathered onto the short and long bevels with contouring instruments and artist brushes. —Fig. 7: Further increments of Tetric N-Ceram composite enamel shades A2 and A1 were placed with the OptraSculpt instrument. —Fig. 8: Finishing with the three-step polishing system Astropol (grey, green, pink). In the figure, the last step (pink) is shown. —Fig. 9: Final polishing was completed with Astrobrush.
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A reasonable gingival health was achieved after about ten days and a restorative treatment was scheduled. After gingival retraction, complete caries was excavated with high-speed diamond burs and slow-speed round burs. Soft hypocalciﬁed enamel was removed as well. A ﬂame-shaped, high-speed diamond bur and coarse polishing discs were used to prepare the margins in the cervical area, extending to the complete labial surface of the tooth. On the labial surface, about 0.8 to 1 mm of enamel was reduced, in order to preserve the natural enamel left on the tooth. A short bevel was placed on the cervical preparation and on the Class III preparation at the DE junction area. Preparations were thoroughly rinsed with water (Fig. 5).

Restorative technique
The restorative plan included restorations of the involved carious lesions (Class V and Class III restorations), followed by direct veneering with Tetric N-Ceram composite material. Shade selection was done, and two maxillary central incisors were chosen for the restoration. Preparations were etched with 37% phosphoric acid gel Total Etch (Ivoclar Vivadent) for 15 seconds (Fig. 4). Neighbouring teeth surfaces were protected by covering them with Teflon tape. The teeth were rinsed and air-dried but not to the point of desiccation.

Next, the bonding agent Tetric N-Bond was applied on enamel and dentine (Fig. 5). After about 20 seconds, the preparation surfaces were air-dried with a gentle blast of air and light-cured for 10 seconds using the bluephase C8 LED light (Ivoclar Vivadent) in LOP mode. A small layer of ﬂowable composite Tetric N-Flow was placed in the deep proximal and cervical areas where dentine was exposed and was spread with a thin brush, followed by light curing for 20 seconds using the bluephase C8 light in SOF mode.

Tetric N-Ceram composite restorative shade A5.5 dentine was placed in the proximal and on the cervical areas, to replace the natural dentine (Fig. 6). This dentine shade composite material was also manipulated over the short bevel area, to hide the margin between the enamel and dentine. This was light-polymerised for 20 seconds using the bluephase C8 light in SOF mode. Next Tetric N-Ceram A2 enamel shade was placed on top of this dentine shade of composite and contoured properly (Fig. 7), followed by light curing for 20 seconds. The A1 enamel shade was placed from the middle third of the preparation until the incisal third and spread well with Optrasculpt (Ivoclar Vivadent) and light-cured for 20 seconds. After this, a ﬁnal transparent layer of Tetric N-Ceram composite shade T was placed in the middle third and spread as a very thin layer on the entire labial surface and the incisal surface with a one-way brush. The whole surface was given a smooth anatomy with a sable brush. This layer of composite was light-cured for 20 seconds. Finally, the entire restoration was subjected to ﬁnal polymerisation for 10 seconds each on the labial, palatal and proximal surfaces using the bluephase C8 light in HIP mode.

After completing the primary anatomy of the two central incisors, all the remaining lateral incisors and canines were restored with the same technique. Subsequently, all mandibular anterior teeth were restored in the same way.

For this case, as gingival health was comparatively poor initially at the time of develop- ing this restoration (because of the presence of caries and no control over the accumulation of plaque), the ﬁnal ﬁnishing and polishing, in order to develop the secondary anatomy, was delayed until the following appointment a week later.

Finishing and polishing
For ﬁnishing and polishing, 12 ﬂuted carbide and diamond ﬁnishing burs were used. Thereafter, the Astropol (Fig. 8) and Astrobrush System (both Ivoclar Vivadent; Fig. 9) were employed to impart a high lustre, whilst maintaining the existing created texture and surface anatomy. Astrobrush was used with a slow-speed motion without pressure. The whole procedure was repeated after modifying the restoration according to the patient’s requirements.

Conclusion
When done properly, composite restorations can be long lasting and beautiful, appearing as real as nature intended. Today’s technological advances of materials, such as Tetric N-Ceram’s shade variety and strength, and the polishability of composite resin allow clinicians to close spaces, transform spaces and enhance colours with minimal removal of tooth structure, as we can appreciate in the Figures 10 and 11.

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“You can take someone out of India but you can never take India out of them”

Interview with Prof. Raman Bedi, United Kingdom

Prof. Raman Bedi is one of many dentists of Indian origin that live and work in the UK. As Chief Dental Officer (CDO), he helped shape British dentistry between 2002 and 2005. We spoke to him about his latest project Dentalghar and dentists of Indian origin working in other parts of the world.

Daniel Zimmermann: Prof. Bedi, you were Chief Dental Officer for the UK from 2002 to 2005. What are you doing at the moment?

Prof. Raman Bedi: I consider my time spent as CDO a real privilege and loved the job but have also never looked back. When I was asked to be CDO, I was thrilled and keen to meet the challenge. But in 2002, when the opportunity came for me to lead the Global Child Dental Health Taskforce, whose vision is supported by the World Health Organization (WHO), the choice was simple.

I am now living out the dream that had at start of my career and this is very satisfying and fulfilling.

I knew that I would be a paediatric dentist from my second undergraduate year. I remember writing to David Barnes, then head of the Oral Health Unit at WHO in Geneva, asking him for a job. He was kind enough to take the time to respond and pointed out that if this was a career option then I should gain postgraduate qualifications and about 20 years experience before applying to WHO—quite daunting feedback for a 21-year-old dental student!

The current CDO, Barry Cockersett, recently said in an interview with our sister publication in the UK that public dentistry has improved significantly in Britain. Do you agree with him?

It is not easy to be a public figure and a spokesperson for Government policy. There are deep-rooted constraints and market in which it is provided, so the remuneration of dentists is critical.

You are the founder of Dentalghar, a new worldwide community for dentists of Indian origin. What is the purpose behind this community?

It is simply responding to a global movement that is occurring within the Indian Diaspora. I was born in India, but my parents migrated when I was two years of age. Similar to me, there is a large community of Indian origin whose physical links with the subcontinent—but not emotional ones—were severed. There is a saying in India: you can take someone out of India but you can never take India out of them.

I noticed that our medical colleagues were organising themselves and linking up with their counterparts in India.

They have established joint ventures, conferences and collaborative training opportunities. In dentistry, proportionately speaking, we have more dentists of Indian origin worldwide than our medical colleagues, and so this factor gave rise to the drive to start Dentalghar. It is, if you will, a response to a need.

Are there any requirements for joining the group?

I will simply say that dental care is much influenced by the people of Indian origin have settled.

The organisation is not a campaigning one, and the particular issue of work permits has not been discussed by members. We simply bring people together and if certain issues come up then members might want to respond as individuals.

What I have noticed is that many dentists are asking how they can help or volunteer in India. Others are reconnecting with their roots (that is, the towns where Indian families originated) and asking what dentistry is like there. So in fact, the interest is reversed and directed towards India.

How many dentists of Indian origin are currently working abroad?

This is very difficult to determine, as there has not been a global census. We do know that India has over 25 per cent of all dental schools in the world and that in the UK, US and Australia, a sizable proportion of dental students have their ancestral roots in the subcontinent. The Ministry of Indian Affairs estimates that there are over one million health-care professionals worldwide who have Indian origins, a proportion of which are dentists. At Dentalghar, we conservatively estimate that 20 per cent of dentists worldwide have Indian origins.

You are of Indian origin yourself but as I understand, you became involved in dentistry here in the UK.

Indeed, my parents were part of the large migration from India to the UK that occurred in the late 1950s and 1960s. They had little experience of Higher Education, and so my brothers and I entered university life with very little background information or guidance as to what subjects we should choose. It was also at a time when professional career advice was hard to obtain. And thus, I drifted into dentistry with very little understanding about what to expect. In spite of this somewhat disadvantaged position, I loved my time at Bristol Dental School and have never regretted the choice I made to study dentistry.
Eye on India

“We have more dentists of Indian origin worldwide than our medical colleagues”

The outsourcing sector attracts professionals from all sectors; dentistry just one of them. Many new graduates work in dental practice but supplement their income by working at BPO centres for a few hours each week. I was in India two months ago and met 50 deans of dental schools, who came to engage with the Global Child Dental Health Taskforce project. They shared their concerns about dental employment for their future graduates. What is needed in India is a national workforce strategy that is carefully devised and implemented.

What are the main reasons that dentists leave the country?

In the past, it was for employment and training. Now, for many, India is an attractive place to live and work, with increasing potential. Overseas postgraduate education is still a strong pull for dentists. But, the situation over the next 10 to 15 years will change dramatically. With higher demands for quality dentistry by local people, dental tourism, postgraduate training opportunities etc., many dentists will stay in India and some may even return.

Are dentists from India sufficiently trained for service in regions like the UK?

It is difficult to answer this question. There are many dental schools in India that are excellent, whilst others require modernisation. One thing is certain: the dentists who sit entry exams in regions such as the US or the UK do very well. From my personal experience, the postgraduates I have supervised who trained in India have been outstanding.

Last year, the House of Lords abandoned guidelines that discriminate against overseas medical graduates. Did this also concern dentistry and, if so, has this decision improved working conditions for Indian dentists in the UK?

The House of Lords’ ruling was on a very specific case taken up by the British Association of Physicians of Indian Origin (BAPIO). It has more of an impact on those who are medically trained than on those seeking dental training. BAPIO was courageous in making this appeal and it will be seen as a landmark event in race relations within the National Health Service here in the UK. For a minority ethnic organisation to challenge government in the High Court is remarkable and even more so for them to have their case upheld – well unbelievable! But it was the right thing to do. I am proud to have been asked to be the Chairman of BAPIO.

Regions like the UK rely heavily on dentists from abroad to sustain their services. What impact do and will foreign doctors have on dentistry in the country?

Historically, we have relied on overseas-trained doctors and dentists. In 2004, England published a dental workforce strategy to build a home-grown workforce, which is why our dental schools increased their undergraduate numbers by 25 per cent in 2006. If in 20 years’ time, we got the numbers wrong, then we know who to blame: I chaired the review!

Thank you very much for the interview.
File selection: Why geometry matters most

L. Stephen Buchanan

Shortly after the excitement of the rotary file revolution wore off, the next frontier in shaping technology became the search for faster cutting efficiency. This is logically similar to our continuing search for increasingly faster computers.

Clinicians can now provide more beautiful all-ceramic restorations with BIOMET’s Encode Healing Abutment and the shade selection, is the only information the laborator
tory will need to deliver a patient-specific final restoration. According to the company, the Encode Zirconia Abutment allows angle correction up to 30 degrees and will be available in Micro-Miniplan 4.1 and 5 mm Certain Implant restorative platforms.

BIOMET 3i introduces zirconia abutment and goes to Asia

Clinicians can now provide more beautiful all-ceramic restorations with BIOMET 3i’s new Encode Zirconia Abutment.

Instead of an implant-level impression, clinicians will be able to make a direct impression of the Encode Healing Abutment, the company said. Codes embedded on the occlusal surface of the healing abutment communicate the implant depth, hex orientation, platform diameter and surface. An impression of the Encode Healing Abutment and the opposing arch, with a bite registration and the shade selection, is the only information the laboratory will need to deliver a patient-specific final restoration. According to the company, the Encode Zirconia Abutment allows angle correction up to 30 degrees and will be available in Micro-Miniplan 4.1 and 5 mm Certain Implant restorative platforms.

BIOMET 3i recently announced that it has established direct operations to serve markets in Korea and Japan. These new offices will operate under the leadership of Ulf Sewerin, BIOMET 3i’s Business Area Director for Asia Pacific operations.

“Online learning is not the next big thing, it is the now big thing.”

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Clinical examples (2)
Repositioning individual teeth

The straightening of mesially tipped (second) molars in a full dentition represents a therapeutic challenge. The treatment is further complicated if the teeth are not only tipped but also partially impacted. The presence of a non-erupted third molar does not simplify the process (Fig. 1a). When planning the required appliance, it is important to consider whether it is necessary, for example, to reshape the entire dental arch (Figs. 1a-d) or just uproot the tipped tooth. If miniscrows with bracket heads are used, it is possible to employ a special NiTi uprighting spring (such as the Memory Titanol spring, FORSTADENT). A standard multi-bracket appliance can be used to reshape the dental arch. At the same time, a second force element can be applied with the aid of a miniscREW and an uprighting spring (Figs. 1b-d). This avoids the loss of anchorage that inevitably occurs when only an uprighting spring is fixed to the multi-bracket appliance (Fig. 2). The straightening of an individual tooth may become necessary for periodontological, prosthetic or orthodontic reasons. This is a very simple procedure if a miniscREW and uprighting spring are used, and the appliance remains invisible to the observer. The tooth need only be fitted with an appropriate attachment system that makes it possible to fix this to the uprighting spring. Depending on how the spring is set, it is even possible to achieve intrusion or extrusion of the tooth. This form of treatment is inexpensive for the patient and the orthodontist will find it highly effective.

Alignment of retinated teeth

The alignment of retained or displaced teeth, particularly in the case of canines, is one of the most common forms of surgical intervention in the field of orthodontic techniques. Numerous appliances are available—rubber bands, springs, orthodontic chains—that are effective to a greater or lesser extent. All these mechanisms have the same underlying problem: the neighbouring teeth must be used—directly or indirectly—to provide anchorage for the alignment of displaced teeth (Figs. 3a–c). If sufficient space is available, brackets will not be needed in the initial phase of treatment.

Skeletal adjustments

Palatine suture expansion

Rapid palatal expansion (RPE) is one of the most effective and stable methods of acquiring more transverse space in the upper jaw. The targeted screw rate should be in the range of 0.2 to 0.6 mm/day. As a rule, the appliance is fixed by means of bands to the molars and premolars. The desired transverse width can generally be achieved within 18 to 24 days. Therapists, therefore, after the lengthwise stabilization phase should be observed, in order to allow ossification of the ruptured palatine suture. The standard anchorage technique—with dental support only—has several disadvantages. The most significant is the risk of tipping the anchor teeth. Many appliances have been described that distribute the force over more than one tooth. A further problem is apparent here: as it is necessary to leave the appliance in place for a longer period after the active phase, it is only possible to commence further corrective treatment for teeth in the anterior region. It is possible to overcome these problems by using the ‘hybrid RPE’ (Figs. 4–6). Banda are employed as usual in the molar region. In the anterior region, the RPE appliance is fixed using two miniscrows. These should be placed on a notional transverse line connecting the canine/premolar contact points paramedi- nally. Distraction is achieved using the same method as in standard techniques. There are several advantages to hybrid RPE. Preparation of the apparatus is much simpler and cheaper, whilst the dental arch, including the premolars, is reversible for additional tooth correction measures.

Class II corrections

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Class II correctional appliances (Herbst splint, Sabbagh Universal Spring, FMA, Jasper Jumper etc.) or orthognathic surgery. The patient must be informed of the advantages and disadvantages of each approach. All fixed Class II correctional appliances—irrespective of whether these use the Herbst splint or canted plane principle—have the same problem and the same undesirable side effects. There is a risk of protrusion of the lower frontal teeth and/or distalisation of the upper molars. By means of passive stabilisation with the aid of two miniscrews (Figs. 7 & 8), these effects can be readily avoided.

Orthognathic surgery

After surgical intervention to relocate or reposition the jaw (for orthodontic or traumatisational reasons), it is important to maintain a stable correlation between bone fragments and the jaw in the postoperative phase. This promotes healing and prevents relapse. The occlusion appliance is fixed intra-orally, using intermaxillary elastic or wire ligatures, depending on the situation. It is essential to use the appropriate fixing options, whether this is a splint (Schuchardt splint) or a multi-bracket appliance. Where these are really only needed in one jaw or jaw section, the question arises of whether, in the era of the miniscrew, it is necessary to involve the other jaw in the stabilisation of the surgical effect. If miniscrews are used in the opposing jaw (Fig. 9), the same effect is achieved—but with considerably less restriction from the point of view of the patient.

Pro-prosthetics

It is the aim of pre-prosthetic orthodontics to position the teeth optimally for the subsequent prostheses. This can include intrusion, uprighting, and the opening or closing of gaps, amongst other techniques. As this series and many other publications have already shown, miniscrews are particularly useful in this context. Mini-screws can also be used as anchoring elements for a prosthetic prosthesis. Where teeth are missing (particularly the second canines, Fig. 10a) and the growth phase is not yet completed, the fitting of an intermmediate prosthesis is problematic. As an alternative, particularly where additional anchorage is required, miniscrews can be used. A longer screw (8 or 10 mm) can be inserted in the centre of the dental ridge (Fig. 10b). There should be at least 1 mm of bone to the mesial and distal sides of the mini-screw. The hole for the insertion of a miniscrew (1.6 mm) should thus be at least 2.6 mm. A provisional crown can then be mounted onto the head of the mini-screw. If necessary, a bracket can be fixed to this crown (Fig. 10c).

Outlook

The clinical use of mini-screws supports a wide range of tasks. Dental repositioning that was previously deemed impossible becomes achievable, whilst possible repositioning techniques are improved and supported. In order to achieve this, miniscrews alone are not sufficient; an appropriate range of equipment is also necessary. Several suppliers of miniscrews offer, in addition to screws and insertion tools, a number of devices that facilitate the use of miniscrews. The fifth part of this series will focus on the wide range of useful auxiliaries that are available.

Fig. 8a–d: Anchorage of the canine using a miniscrew: avoids protrusion of the anterior teeth when using a fixed Class II correction appliance (here: Williams appliance, FORESTADENT).

Fig. 9: The use of miniscrews to attach intermaxillary rubber traction bands is fixed intra-orally, using intermaxillary elastic or wire ligatures, depending on the situation. It is essential to use the appropriate fixing options, whether this is a splint (Schuchardt splint) or a multi-bracket appliance. Where these are really only needed in one jaw or jaw section, the question arises of whether, in the era of the miniscrew, it is necessary to involve the other jaw in the stabilisation of the surgical effect. If miniscrews are used in the opposing jaw (Fig. 9), the same effect is achieved—but with considerably less restriction from the point of view of the patient.

Fig. 10a–d: Missing tooth 12 is to be replaced by an implant-based crown. The initial phase of treatment involves widening the gap (a). The head of the vertically inserted OrthoEasy screw (b) is used to anchor a provisional crown (including bracket), which serves to widen the gap further (c).

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