Dental Tribune

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A year in review
Our dental specialists look back at 2011
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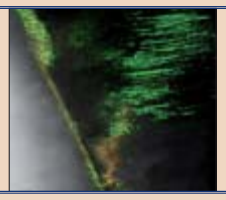

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Researchers bite into spinal cord injury rehab

Daniel Zimmermann
DTI

One in 50 people are living with paralysis due to injuries of the spinal cord. (DTI/Photo Alexander Raths/Germany)

HONG KONG/LEIPZIG, Germany: In recent years, dental stem cells have increasingly been investigated for their use in medical applications, including the rehabilitation of lost or damaged biological function. Scientists from the Nagoya University in the Nagasaki Prefecture in Japan have reported that they could possibly help to repair injuries of the spinal cord, a leading cause of paralysis and disability.

Having transplanting human dental pulp stem cells into lab rats with severe spinal cord injury (SCI), they found that the animals regained significantly more limp function than through a transplant of human bone marrow stromal cells or skin-derived fibroblasts. According to the researchers, the cells not only inhibited the death of nerve cells, but also promoted the regeneration of severed nerves and replaced lost support cells with new ones, two main factors essential for functional rehabilitation.

"Spinal cord injury often leads to persistent functional deficits due to the loss of neurons and glia and to limited axonal regeneration," they stated in the study published in the *Journal of Clinical Investigation* last week. "Our data demonstrate that tooth-derived stem cells may provide therapeutic benefits for treating SCI through both cell-autonomous and paracrine neuroregenerative activities."

Investigating different types of stem cells for their potential in SCI rehabilitation has a long track record in science. This September, for example, researchers from the Medical College of Wisconsin reported that they had begun to implant foetal neural cells into SCI patients. The Nagoya study is the first to have shown a rehabilitation effect in SCI cases with stem cells derived from dental tissue.

Classified by the grade of impairment, SCI can have mild to severe health effects on patients, including total loss of biological function. Common therapies include surgery, long-term physical therapy and other rehabilitation efforts. DT

Award given to Specialist Dental Group

Specialist Dental Group has won a "Promising Brands" Award at this year's Singapore Prestige Brand Award organised by the Association of Small and Medium Enterprises (ASME) and the country's largest Chinese-language newspaper *Lianhe Zaobao*. The annually trophy recognises up and coming brands in the city state that have been developed and managed effectively through various branding initiatives.

Prior to the winning the SPBA, Specialist Dental Group was already selected as one of three finalists for "Best Healthcare Experience" at the Singapore Experience Awards for the second year in a row.

Founded in 1979, the group has grown into one of the largest multi-speciality dental practices in Singapore employing dental specialist who offer treatment in areas such as prosthodontics, orthodontics, periodontics, oral maxillofacial surgery and paedodontics. According to SDG, their signature treatments include dental implants, braces, Invisalign, gum treatment, oral surgery, crowns/veneers and dentistry for children. DT

Colonel William R. Bachand, former Commander of the Pacific Regional Dental Command of the US Army, spoke to Dental Tribune *recently about his new post in Europe. (DTI/Photo Annemarie Fischer)* ▸ WORLD NEWS, page 6

Korea sees new dental laser

Dental laser specialist Biolase has announced to have gained regulatory approval for its Waterlase iPlus all-tissue dental laser system in South Korea. According to the US manufacturer, the system will be available beginning of December through the company's dealer MJ DMT in Seoul. DT

Scaling is good for you

A study from Taiwan has found that scaling teeth at least once year can reduce the risks of suffering from a heart attack by more than 20 per cent. Presented at the Scientific Session of the American Heart's Association in the US, the study followed 100,000 people over the period of seven years. DT

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Early osseointegration to hydrophilic and hydrophobic implant surfaces in humans

Prof. Niklaus P. Lang
Switzerland

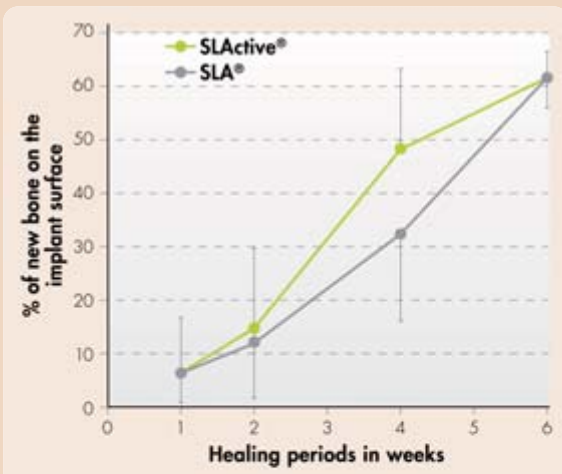
The surface characteristics of titanium implants influence the rate and degree of osseointegration. Moderately rough surfaces such as SLA® have demonstrated superior bone-to-implant contact (BIC) than surfaces such as titanium plasma-sprayed (TPS), Al_2O_3-blasted or machined surfaces. Chemical modification, such as with the hydrophilic SLActive® surface, can further enhance the osseointegration process.

Investigations comparing osseointegration with various implant surfaces have been performed, but tend to be *in vivo* animal studies. No data are available from human studies, and the healing sequence of the early osseointegration process in man and how it compares to the process–seen in other *in vivo* investigations–is relatively unknown.

The aim of this investigation, therefore, was to evaluate the rate and degree of osseointegration at two different implant surfaces (SLA® and SLActive®) during the early phases of healing in a human model.

Materials and methods

A total of 49 specially designed titanium implants (length 4 mm, outer diameter 2.8 mm) with either a SLA® or SLActive® surface were placed in the retromolar region of 28 healthy volunteers. A healing cap with an internal screw assembly was attached to the coronal part of the implant. After submerged healing periods of 7, 14, 28 and 42 days, the implants were removed using a specially designed trephine, which removed the implant and circumferential tissue of 1 mm thickness.



% mean value (SD)	7 days	14 days	28 days	42 days
SLActive®	6.14 (10.63)	14.80 (15.37)	48.34 (14.91)	61.62 (4.98)
SLA®	6.47 (6.02)	12.19 (10.62)	32.38 (16.21)	61.53 (5.79)

Table 1: Percentage of BIC after 7, 14, 28 and 42 days

Histological sections were prepared and histometric analyses performed for amounts of new bone, old bone, bone debris, soft tissue and BIC.

Results

Healing was uneventful at all sites. Of the 49 implants placed, 30 were available for histological/histometric analysis; difficulty in harvesting the biopsies resulted in the loss of some specimens. Artifacts were present on a number of specimens—these areas were excluded from analysis so that only artifact-free regions were evaluated. The percentages of new bone-to implant contact after 7, 14, 28 and 42 days are shown in ***Table 1***.

After seven days, no differences were observed between the SLA® and SLActive® specimens. BIC was approximately 6 %, and some early bone apposition was noted in places where existing bone was in close contact with the implant surface; bone therefore bridged a gap between old bone and implant in these situations. The majority of the space between bone and implant was filled with soft tissue comprising primitive matrix with various bone debris particles.

BIC increased to 12.2 % and 14.8 % for SLA® and SLActive®, respectively, after 14 days. Bone formation was noted on the existing bone, extending partly onto the implant surface. The beginning of new bone apposition was evident over large areas of the surface of the SLActive® implants. Larger bone particles were seen to be surrounded by osteoid, which helped trabecula formation.

BIC increased in both sample types by day 28, but was significantly higher with SLActive® (48.3 %) than with SLA® (32.4 %). A bony coating was observed with both specimen types ***(Fig. 1 and Fig. 2)***, but almost complete BIC was observed within some threads of the SLActive® implants ***(Fig. 2)***, and new mineralized bone trabeculae were observed extending into the provisional matrix.

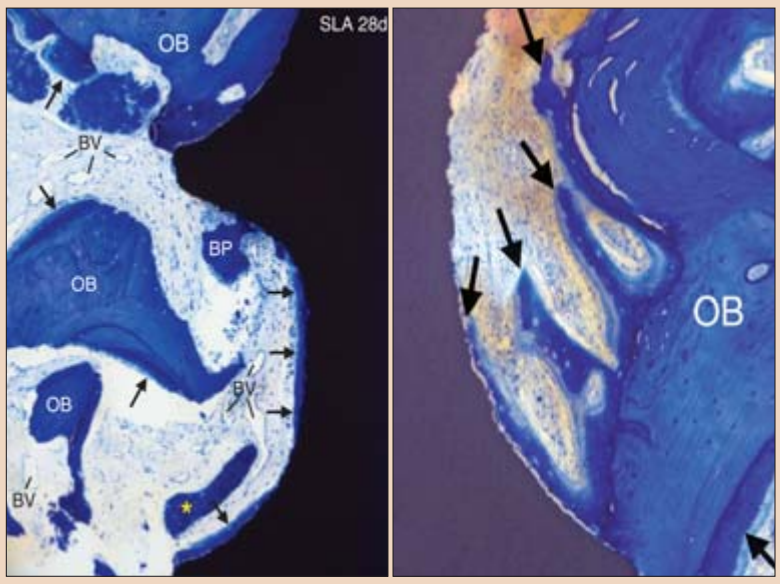


Fig. 1: *Light micrograph of the implant-tissue interface at a SLA® surface after 28 days (arrows indicate new bone).* —***Fig. 2:*** *Light micrograph of the implant-tissue interface at a SLActive® surface after 28 days (arrows indicate struts of woven bone trabeculae extending from old bone, or OB, towards the implant surface).*

After 42 days, BIC increased further to 62 % for both SLA® and SLActive®. An advanced stage of bone maturation was observed with both surfaces, and the formation of Osteons was observed away from the implant surface. The osteocoating was noted to be thick and extensive, and was frequently connected via trabeculae, extending onto new bone.

Conclusions

Similar healing patterns were observed for both SLA® and SLActive® implants. Osseointegration (BIC) was greater after 14 days and significantly greater after 28 days for SLActive®. The rate of osseointegration was substantially slower (approximately double the healing time) in humans than that observed in animal studies. This is the first study to demonstrate histologically the osseointegration process with SLActive® in humans. DT

This article first appeared in Clinical Oral Implants Research, 2011, 22, pages 349–356.

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Philippines comes out tops in DENTSPLY Asia Student Clinician Competition

From news reports

SINGAPORE/MANILA, Philippines: A dental student enrolled at the Centro Escolar University-Malolos School of Dentistry in Manila in the Philippines has won DENTSPLY's 2011 Student Clinician Competition for Southeast Asia. Twenty-two-year-old Kime Calbaquinto was recognised for her outstanding research in the field of dentistry.

This is the first time that a Filipino dental student has won the annual competition. During a first attempt to win the trophy in 2009, representatives from the Southeast Asian country only finished third place. As the winner, Calbaquinto will become a member of the Student Clinician American Dental Association and receive travel funding to represent the International Association for Dental Research South-East Asia division at next year's session of the American Dental Association in San Francisco, university officials said.

This year's competition was held in conjunction with the 25th Convention of the International Association for Dental Research and 22nd Annual Meeting of the South East Asia Association for Dental Education in Singapore and joined by winners of national student clinicians competitions held in countries like Malaysia, Singapore, Vietnam and Indonesia.

US-based dental equipment manufacturer DENTSPLY has organised the annual contest for undergraduate students in the USA since 1959 and has since exported the concept to more than 35 countries worldwide. DT

(DTI Photo CEU, Philippines)

Aussies spend more on dental services

Daniel Zimmermann
DTI

HONG KONG/LEIPZIG, Germany: Australians incurred more out-of-pocket expenses on dental services last year, a new report on oral health and dental care released by a government agency has found. According to the paper, the overall dental expenditure in 2009–2010 increased by more than 10 per cent to AUS$7.6 billion (US$5.67 billion).

The report published by the Australian Institute of Health and Welfare (AIHW) in Canberra gathered information from surveys conducted and managed by the Australian Research Centre for Population Oral Health. It also found that over two-thirds of adults in the country had to pay for various dental treatments out-of-pocket, despite having insurance and nine per cent had to pay for their dental expenses fully.

The results could fuel demands for the creation of a universal Denticare scheme by the Green party, who made improved access to dental care a condition for a coalition with the Labor party in last year's federal elections. Both parties have clashed repeatedly over the issue in the last twelve months.

As a basic commitment, the government recently announced that it would provide additional funding of AUS$55 million (US$56 million) for dental care next year and set up a National Advisory Council on Dental Health in order to develop recommendations on the reform of the deficient public dental health care system. Prior to that, Labor angered its coalition partner with plans of scrapping dental funding from its 2012 budget entirely.

According to the AIHW report, almost 30 per cent of adult Australians had untreated tooth decay in 2006,. It also found that every second teenager had caries in their permanent teeth at the age of 15. DT

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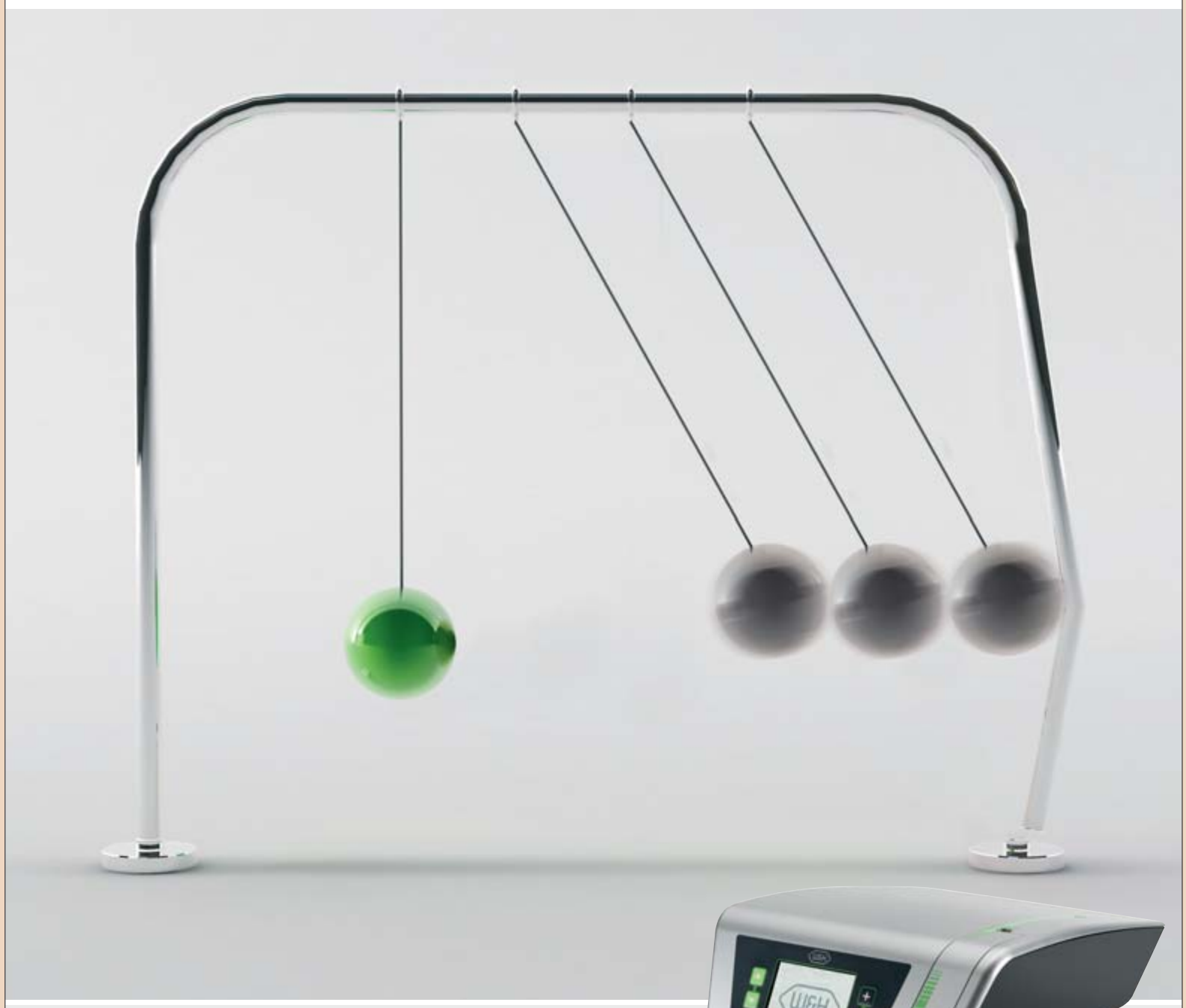

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A leap for endodontics

Prof. Beena Rani Goel
India

The single most important development that was a giant leap for endodontics is micro-computed tomography, by giving us a 3-D view of the area in which we have to work. Without this technology, the basis for many endodontic procedures was just empirical. For example, enlarging the root canal three sizes beyond the first file that binds, or arbitrarily deciding the final apical size with tapered rotary use during hand instrumentation does not have any scientific basis at all.

The work of Prof. Marco A. Versiani on the root-canal anatomy project has provided us with a micro-CT study guide that has demystified many old concepts. Now we know that all root canals are curved, apical diameters are not as small as perceived, and root canals do not have large tapers.

Regenerative endodontics, though in the infant stage, can hold significant implications for the management of necrotic immature teeth. This applies to the advances in tissue engineering and the regeneration of the pulp–dentine complex.

Multiple studies have shown that continued root development can be accomplished after disinfection of the root-canal system, evoked bleeding inside the root canal, and adequate coronal seal. These treatment protocols can result in radiographic and clinical evidence of healing and subsequent root development that has been attributed to regeneration of tissue.

Until recently, the clinical presence of stem cells in the canal space after this procedure had not been proven. New findings by Tyler W. Lovelace *et al.* demonstrated that the evoked-bleeding step in regenerative procedures triggers the significant accumulation of undifferentiated stem cells in the canal space, where these cells might contribute to the regeneration of pulpal tissues. Future developments may see wider application of these tissue-engineering principles, which have the potential to revolutionise the field of endodontics.

The use of lasers in endodontics may be common procedure soon with a number of applications in access preparation, root-canal shaping, and decontamination of the root-canal system. The improved technology has introduced endodontic fibres and tips of a calibre and flexibility that permit insertion up to 1 mm from the apex. Laterally emitting conical fibre tips were found to be safe under defined conditions for intra-canal irradiation without harmful thermal effects on the periodontal apparatus.

The EndoVac irrigation system (Discus Dental) is one of the best things that has happened to endodontics in recent years. While sodium hypochlorite is the only endodontic irrigant capable of significantly eliminating the biofilm associated with endodontic infections, it has the tendency to cause catastrophic tissue damage when extruded.

With EndoVac, fortunately, it can now be safely delivered to full working length. A SEM image taken at 0.75 mm from the apical termination demonstrates completely clean walls at this level, which has not been achievable with other irrigation systems. Research has also shown that the use of EndoVac can result in a significant reduction of post-operative pain levels in comparison with conventional needle irrigation.

According to the latest micro-CT studies, the apical thirds are not cleaned with tapered systems of small tip size. In addition, they showed that instruments with a flat widened tip determine apical cross-sectional diameter better than round tapered instruments. The coming years are bound to see an increased acceptance of LightSpeed LSX instruments (Discus Dental) to obtain biologically optimal preparations.

At a time when dental professionals have a choice between root-canal treatment and implant placement after extraction, it is heart-warming to see that recent developments in endodontics can maintain the tooth in a functional state for many years, if incorporated into the surgery. DT

> **"...it is heart-warming to see that recent developments in endodontics can maintain the tooth in a functional state."**

Contact Info

Prof. Beena Rani Goel is President of the International Academy for Rotary Endodontics and a well-known endodontist from India. She can be contacted at profgoel@gmail.com.

A specialty cemented in biology

Dr Young-Guk Park
South Korea

The ultimate goal of any orthodontic treatment is to obtain better aesthetics of the dentition and the face, and the health of the periodontium, TMJ and longevity of the dentition throughout life by means of accurate diagnosis and mechanotherapy upon malocclusion and dento-facial disharmonies. Bringing all these propositions together requires discarding empirical and conceptual orthodontic planning by adopting 3-D movement algorithms for each tooth and, accordingly, design of corresponding biomechanics.

Orthodontic tooth movement results from forces that evoke cellular responses in the teeth and their surrounding tissues, including the periodontal ligament, alveolar bone and gingiva. It is advantageous for the orthodontist to control the details of the biological events that unfold during tooth movement, as some of these details may differ from one person to another owing to variables such as sex, age, psychological status, nutritional habits or drug consumption. Biological variations may be the foundation of the differences that are frequently observed in the outcomes of orthodontic treatment between patients with similar malocclusions but identical treatment.

Principles of orthodontic biomechanics are usually taught with the help of a typodont, consisting of artificial teeth embedded in wax. This set-up ignores entirely the biological aspect of tooth movement. However, in the clinical setting, living patients are encountered, and mechanical forces mobilise their teeth. These movements result from the development of strains in dental and para-dental tissues, followed by modelling and remodelling of these tissues.

In some patients, systemic conditions may exist, evoking complications such as root resorption, dehiscences and fenestrations of the alveolar bone. Hence, clinical orthodontics must be viewed as a specialty cemented in biology, all the way down to the molecular level. As a clinical profession, it must be based also on profound knowledge of mechanics, biology, physiology, and pathology.

The usual rate of tooth movement by conventional protocols of mechanotherapy is approximately 1 mm per month. The suggested minimal intervention, surgically assisted orthodontics is a minimally invasive peri-orthodontic procedure without flap elevation, which accelerates tooth movement with an enhanced turnover rate of surrounding structures. This milieu is clinically expedient with sound biological foundation, and makes the orthodontic outcome more stable and less prone to complications. It has elucidated the evidence that minor surgical procedures by orthodontists obtained accelerated rates of tooth movement with impunity, and enhanced the rate of bony and periodontal response, thereby shortening the duration of treatment.

Clinical orthodontics has seen innovative change with the rise of digital dentistry as these applications have brought cutting-edge technology to diagnosis and treatment. Laser scanning, structure photo-imaging, and surface image analysis have almost superseded the stone model in the clinical environment. In addition, these technologies enable clinicians to achieve an intended treatment result through individual custom appliances made possible by robotics that allow sophisticated individual tooth positioning, a procedure that was not possible with conventional preformed appliances.

These diverse technologies bring the prospective adjustment in fundamental framework of the conventional treatment, and consequently improve the accuracy of the orthodontic correction. DT

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Harmonic teeth, muscles and joints

Dr Sushil Koirala
Nepal

Since I have been involved in cosmetic dentistry, the field has been dominated by the Hollywood concept of wide and symmetrical white smiles regardless of age, sex and ethnicity. Cosmetic orientation has also been influenced for many years by fashion and the media that have been encouraging clinicians to compromise biological function in favour of the cosmetic desires of the patients.

Fortunately, public taste in smile aesthetics is moving towards the naturo-mimetic concept and the one-fit-for-all smile design concept is slowly fading. Nowadays, an increasing number of clinicians are adopting a customised smile design approach that respects patients' actual needs, age, sex, ethicality and financial resources.

With an increased advocacy of ethical cosmetic dentistry on a global scale, clinicians are becoming much more aware about the loss of biological function in the treatment they are providing. It has been very encouraging to see that during the recent IFED meeting in Brazil, many of the speakers discussed concepts like minimally invasive cosmetic dentistry (MICD), which they are applying in their practices. With this in mind, I can clearly foresee that in the years to come cosmetic dentistry will fully embrace the MICD concept and treatment protocols that promote healthy, functionally balanced and aesthetic smiles.

With new digital diagnostic and restorative tools, accuracy and the period necessary for treatment are becoming important factors in cosmetic dentistry. Treatment using high magnification and good illumination combined with digital case documentation could become mandatory clinical protocol in the years to come.

Another area of change will be case finishing. Currently, the field focuses primarily on micro-aesthetic components such as colour, optical properties, shape, proportion, texture, and surface and margin finish, while neglecting biological factors like individual tooth contact forces and timing, which are key to achieving a functionally balanced bite. This lack of force finishing in cosmetic dentistry can result in frequent restoration fractures or myofascial pain dysfunction syndrome, a condition that often occurs after treatment. Cosmetic dentists will most likely adopt the force finishing concept in their finishing protocol.

Harmonic teeth, muscles and joints (TMJ) will become major criteria by which to evaluate clinical success in cosmetic dentistry. The value of function will be much better understood by cosmetic dentists and the concept of TMJ harmony will be implemented to promote naturally pleasing and functionally balanced smiles.

As far as restorative materials are concerned, the field will see a rising demand for healing effects, for example, to prevent hard and soft tissue loss. Restorative technologies will also more likely move towards direct restorative processes.

It is difficult to predict what technologies will shape the field of cosmetic dentistry in the future, but in my view, technology in general will be more focused on decreasing the loss of biological function, while minimising financial costs and time spent on treatment. It will be more focused on the holistic goal to achieve overall health, function, aesthetics and positive psychological impact after treatment. DT

Contact Info

Dr Sushil Koirala is the Founding President of the Vedic Institute of Smile Aesthetics and maintains a private practice that focuses primarily on MICD in Kathmandu, Nepal. He can be contacted at skoirala@wlink.com.np.

Ban on HIV dentists in the UK could be lifted

From news reports

LONDON, UK: HIV-positive dentists and doctors in the UK could soon be allowed to practise again, provided they are taking antiretroviral drugs and are being monitored, British media report. According to newspaper *The Independent*, the UK Department of Health is to announce that the automatic ban on dentists and doctors with HIV carrying out procedures that might potentially lead to blood contamination could soon be lifted.

The newspaper has learnt that ministers are planning to hold a consultation before Christmas to obtain views from across the medical and dentistry professions, as well as from experts and members of the public. A final decision will probably be made in 2012.

The possible regulation change comes after a study of the evidence presented to the Chief Medical Officer Dame Sally Davies, which concluded that the risk of transfer during any medical procedure is now negligible and the likelihood of any infection to be as low as one case every 2,400 years.

The prohibition, which has been in place for 20 years, forbids health workers in the UK who are infected with HIV to perform exposure-prone procedures. Hospitals and dental surgeries have long followed a "don't ask, don't tell" policy with regard to HIV positive practitioners, sources in the medical profession told the newspaper. They believe that—regardless of the emotive nature of HIV—the policy can no longer be justified on public health grounds and that it is therefore clearly discriminatory. DT

According to latest news reports, HIV-positive dentists and doctors in the UK could soon be allowed to practise again. (DTI/Photo lenetstan)

To the Editor

Re: "Editorial: Use of botox is a medical procedure" (*Dental Tribune Asia Pacific* Vol. 9, No. 11, page 4)

Pretty well everything about dentistry was covered at a basic level to enable graduation, just as medical practitioners graduate with very basic information. The test for medical and dental practitioners is how conscientiously they pursue CPD throughout their careers. If the dental or medical practitioner has attended approved courses in botox therapy, and has taken the subject seriously, there should be no problem with him/her administering botox. I'm a dental practitioner, and choose not to administer botox for cosmetic purposes. Currently, I would regard myself as requiring further information and training before using it in any form. However, I feel confident that under the right tutors I would acquire the skills required quickly. My colleague is very experienced and is "only a general dentist", but he has spent considerable time and money to acquire the necessary education, training and competence. Use of botox is a medical procedure. Dentistry is a medical specialty. Dentists are more than competent to administer botox if trained properly. ■

Dr Martin Edwards, 01 Dec. 2011

"Secondly, the detailed anatomy of the mid-face, orbit, upper face and neck is not covered in dental training at a level sufficient for the safe use of botox"—I don't know where you went to dental school but I was trained A LOT on head and neck anatomy. I completed a dermatology rotation in my residency. The pharmacology coursework taught me to evaluate new drugs, not just memorise the properties of existing drugs. Cosmetic dentistry and cosmetic medicine don't overlap? Get a grip; your arguments are very weak. ■

Dan, 01 Dec. 2011

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[1] Ganeles et al. Clin. Oral Impl. Res. 2008;19:1119-1128
[2] Bornstein et al. J Periodontol. 2010 Jun;81(6):809-819
[3] Oates et al. The International Journal of Oral & Maxillofacial Implants. 2007;22(5):755-760
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Warriors of oral health

DTI's Group Editor Daniel Zimmermann recently gained an exclusive insight into the European Headquarters of the US Army Dental Corps.

LEIPZIG/HEIDELBERG, Germany: The spirit of General Patton is greeting patients at the door. Only a few metres away from the hospital room where one of America's most famous war heroes regrettably died in 1945, Lieutenant Colonel Cathleen Labate has just begun her daily shift. The dental provider from New Hampshire is one of almost 100 army dentists currently serving in the Europe Regional Dental Command (ERDC) at the Nachrichten Kaserne in Heidelberg, a small German town idyllically situated along the edge of the Odenwald forest. There she is jointly responsible for the oral health of several hundred soldiers and their family members in the surrounding Army communities.

Labate was recently assigned to another Army dental clinic in Vicenza in Italy. Prior to that, the descendant of German-Italian immigrants worked in private practice in the US for almost 20 years. The oral health of soldiers she sees at the base on a daily basis is often better that those of the patients she treated during her career as a dentist in rural America. Consequently, the most common procedures here are regular dental exams and emergency work like the removal of the periodontal abscess of a retired army officer who has just left her office. "Generally speaking, the oral health of people in the military is good," she says. "Although I have to admit that missions like those in Iraq and Afghanistan can seriously take their toll on soldiers' teeth."

Colonel William R. Bachand could not agree more. The 58-year-old Commander of the ERDC has been with the Army Dental Corps for more than 32 years. In stressful situations like armed conflicts, he says, oral hygiene quickly declines with every single soldier. Along with the high in-take of acid and sugar-rich fluids, especially in hot climates like Afghanistan, this negligence often leads to major dental problems, a phenomenon that Army dentists experienced in earlier conflicts like Korea or Vietnam. At the beginning of the last two US engagements in Iraq, for example, statistics showed a 30 per cent increase in returning soldiers with signs of rampant caries or gingivitis.

Bachand currently commands over 20 army dental clinics, spread over US bases in Germany, Italy and Belgium. Worldwide, the military employs over a thousand dental officers in three major regions—the US, Europe and the Pacific. Before he took command of the ERDC from Colonel Randall Ball last year, Bachand served as the commander of the Pacific Regional Dental Command in Hawaii, a post very different in many aspects to that in Europe.

"In the Pacific you have a smaller population but huge distances to cross between each base and clinic," he says. "In Europe, everything is conveniently reachable at a driving distance."

Bachand's scope of duty could soon become even smaller, as the US Army is in the process of significantly pulling back troops from Europe. According to the latest plans of the US Department of Defense, over 4,000 soldiers are to be relocated to the US mainland over the next two years. For the ERDC, this would mean the closure of several clinics and the relocation of dental personnel. In Germany, the clinics in Heidelberg and nearby Mannheim in particular will be closed by 2013, a process that comes with numerous challenges, says Bachand.

"This transformation will be complex because owing to the closure of Army bases, large numbers of soldiers are moving within Europe. In addition, we'll try to minimise job losses of our civilian

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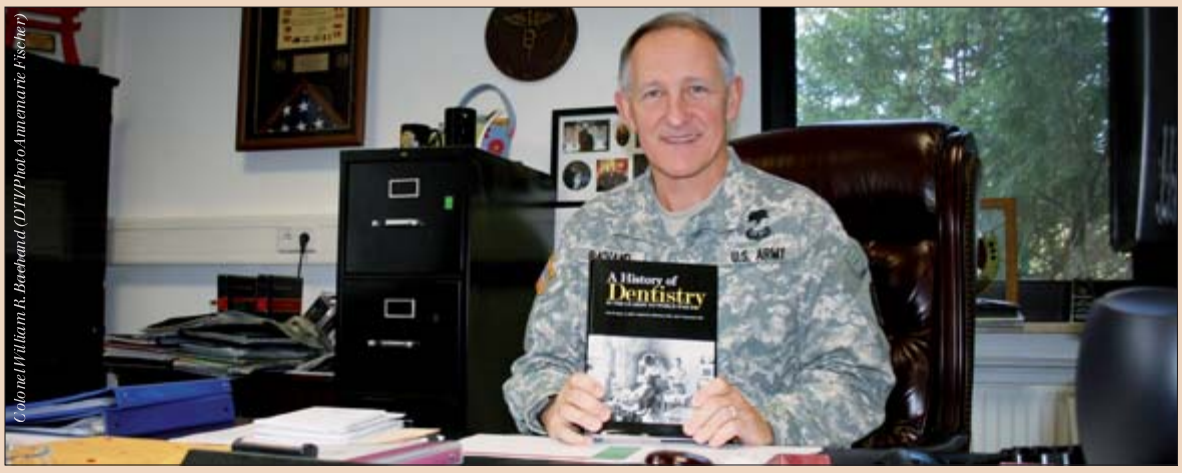

Colonel William R. Beebeard (DT/Photo Annemarie Fischer)

contractors like German dental technicians we usually hire from the nearby areas," he tells *Dental Tribune*.

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Dentists have always been part of US military forces. Before Congress signed the bill for the establishment of a commissioned Dental Corps in 1911, dentists and other health care professionals had been working for the Army on a contract basis since the Revolutionary Wars of the 18th century. Full financial and operating autonomy, however, was not achieved until 1977 when the dental command was finally separated from the medical service, a command structure that had previously led to low morale and retention rates amongst dental officers.

Nowadays, the dental service in Europe alone has an annual budget of US$18 million, of which the most part is spent on personnel and dental equipment. In terms of dental supplies, the Army rides the patriotic train, with all chairs being provided solely by US manufacturers like A-dec and Pelton & Crane. Long-term contractor Henry Schein also just closed another exclusive US$172 million contract with the service for 2012.

Most army dentists enter the service through the Health Professions Scholarship Program, a competitive one- to four-year paid educational programme available for several medical-related posts throughout the military forces. Others are directly recruited by the Army, including many older dentists who often want to do a last service for their country.

According to Bachand, the Corps is currently short a few hundred officers worldwide, despite the fact that Army dentists are much on par with their civilian counterparts and enjoy several advantages like paid education or a concise career development plan. Each year, for example, the Army provides them with 30 hours of continued education and even sends specialists back to the States for conferences like the recent annual congress of the American Dental Association in Las Vegas.

Most CE courses in Europe, however, are organised with local providers such as the Kopf clinic at the Heidelberg University's Faculty of Medicine, which has collaborated with the ERDC for many years.

"Even more like our civilian colleagues, Army dentists have to stay in touch with the latest technology-driven changes like CAD/CAM or cone-beam computed tomography," Bachand comments. "Compared to when I started in the service over 30 years ago, almost every aspect of our field has now become computerised, beginning from the workload reporting to the scheduling system, diagnosis or treatment."

Despite the more stable lifestyle, switching places with dentists in the civil world does not seem to be an option for Bachand anymore.

"What I like especially about military dentistry is the group practice approach and the possibilities to really focus on the clinical needs of every individual patient. Even though we have to be responsible financial stewards, we do not have to worry so much about the business aspects in regard to specific treatment for patients," he concludes. "I would never trade that experience." DT

AD

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2012

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