“The edentulous patient is an amputee, an oral invalid, to whom we should pay total respect and rehabilitation ambitions”. Per-Ingvar Brånemark

By Safa Tahmasebi DDS MS

As a professor of surgery and research, P-I Brånemark is considered the father of modern dental implantology (Figure 1). In the early 50’s he discovered the process of osseointegration, which later was referred to as the direct structural and functional connection between living bone and the surface of a load-bearing artificial implant. (Figure 2)

This discovery was a result of a series of vital microscopic experiments on blood in mobile tissues, bone and bone marrow by placing titanium optic chambers in rabbit’s tibia. Later it was discovered it was extremely difficult to remove these chambers for further use after a period of healing. (Figure 3)

Since then Brånemark and his team conducted numerous research aimed at Orthopedics, joint replacements, plastic surgery and tumor defects. In 1965 Brånemark treated the first human patient Gösta Larsson with titanium dental implants who was missing teeth as a result of jaw deformities. Larsson passed away in 2006 and used his implants for more than 40 years. (Figure 4 - page 34)

The initial reaction of skepticism and doubt was overcome in 1982 in North America at the Toronto conference on osseointegration. Here the biology, clinical research and applications of osseointegration were presented to the world and since then for 32 years millions of people have been able to benefit from the life changing contributions of osseointegration.

Today the rehabilitation of patients with oral, Maxillofacial and orthopedic impairments has been accepted and adopted by the international community and through a worldwide collaboration and ongoing research and advancements we have gained enormous knowledge for treating our patients. These advancements have allowed the clinicians to apply load-bearing implants with teeth the day of the surgery and this has had a remarkable impact into the quality of the patient’s lives.

In 1989 Professor Brånemark founded the first The Brånemark Osseointegration Center (BOC) in Gothenburg, Sweden (www.branemark.com). BOC’s principal task was to offer management for patients with severe oral, maxillo-facial and orthopedic disabilities. There are only 10 such clinics in the world and in the June of 2013 due to its excellence in dental implant treatment the Dubai BOC was founded by Dr. Cotsa Nicolopoulos and Dr. Petros Yuvanoglu at the Dubai Healthcare City and named SameDay Dental Implants (www.Samedayimplants.com). This demonstrates a milestone of progress for the health system in Dubai being able to host a BOC in the Middle East.

*With dental implants & new teeth all in one day my life changed thanks to SAME DAY DENTAL IMPLANTS. I can now...
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With 3-week working life

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1 E. coli, S. mutans and HSV1, HA
**Keeping Hygienists in par with Continuing Education initiatives**

**By Victoria Wilson, Dental Hygiene Therapist, UK**

It is our aim of the Dental Hygiene Tribune MEA to keep you, our valuable members and readers, on par with continuing education initiatives across the region. We will target and focus on the most up-to-date treatment methods available, the emerging scientific research and the current best practice techniques used in dental hygiene.

Hygienists or Dental Care Professionals (DCPs) are ideally positioned to provide comprehensive support to dentists and patients - starting from pre- and post- restorative work through to periodontal treatment, maintenance and long-term continuing care. In order to do this effectively, DCPs need to be continually updating and developing their knowledge and clinical skills, as well as being aware of the new technologies on the market.

I welcome the opportunity to bring my enthusiasm for Dental Hygiene Tribune to Dental Hygienists in the Middle East and offer an earnest commitment to meet the need for high quality training and ongoing support in our commendable profession.

I am dedicated to liaising and representing the Continuing Medical Education (CME) team for Dental Hygiene Tribune members to ensure that their interests are being met. With your support, I look forward to developing new programmes for this publication to further encourage collaboration and clinical excellence in the hygiene field.

I would appreciate hearing your preferences for CME topics and any other suggestions that you would like to offer.

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**Maintenance of dental implants for the hygienist**

**By Biberach/Fiss**

Implant dentistry has become more and more prominent in our everyday practice as patients are keen to have implant-born prostheses rather than a conventional bridge work or removable dentures. One of the most important factors for long term success of dental implants is the maintenance of healthy peri-implant tissues.

Hygienists are now seeing more of their patients with dental implant and this is only going to increase in the future as implant therapy becomes cheaper. The role of the hygienist has increased in many ways with regards to dental implants. It is important for a hygienist to be able to diagnose peri-implantitis and to have the knowledge to treat simple to moderate peri-implantitis and to monitor the health of dental implants in the long term as part of the patients regular maintenance.

How do you know when an implant has problems?

It is essential to be methodical when monitoring the peri-implant tissues at review appointments to spot the early signs of peri-implantitis. The clinical markers that are used to assess the presence and severity of inflammation around the implant are:

- plaque and calculus accumulation;
- inflammation of the peri-implant tissues;
- increase in peri-implant probing depths;
- bleeding on probing;
- suppuration from the peri-implant pocket;
- implant mobility;
- radiographic changes.

When probing peri-implant tissues:

- take note if you can probe deeper.
- verify if the probe bounces off the interface of the alveolar bone or implant.
- check for any blood.
- check for any suppuration.
- examine radiographs for any bone loss.

Why CME (Continuing Medical Education) or CPD (Continuing Professional Development) is Important to Dental Professionals

By Victoria Wilson

Defining Continuing Professional Development (CPD) and outlining the need for it for dental professionals through a series of publications from Governing bodies, it can be seen that with proper planning, goal assessment and verifiable CPD activities, one can not only meet government regulations for CPD but gain insight and skill-set for further professional and personal development.

**Method**

Review an analysis of CPD for dental professionals from online publications related to bodies in the UK, US, Canada, and the Middle East.

**Results**

CPD can be obtained through a wide range of activities. A structured approach when undertaking the CPD projects of choice, in line with key targeted learning objectives, is key to achieving a noteworthy and credible progression in job performance.

**Conclusion**

Not only is a minimal amount of CPD required in most countries by law, it can be determined that CPD will not only enhance one’s performance and the overall operations of the facility/clinic, but will result in valuable public awareness for the safety and regulated practices of dental facilities in general.

**Introduction**

What is CME - CPD?

Continuing Medical Education (CME), otherwise referred as Continuing Professional Development (CPD), is the way in which professionals can enhance their knowledge and skills related through a structured approach.

CPD for dental professionals is an obligation in many countries. A mandatory amount of course-related points must be fulfilled in the form of: lectures, seminars, courses, individual study, peer review, clinical audit or E-learning activities. These hours can be recorded on a personal CPD record providing the courses are designed to advance professional development as a dental professional and is relevant to one’s practice.

Why is CPD in Dentistry so Important?

Education and qualifications are only the first step towards obtaining a professional career. CPD is an obligation to one’s profession - not only for the personal benefits for individuals and clinics, but also for the overall perception and confidence that the public has in the dental industry.

Dentistry is constantly evolving through new methods and technologies to better meet the needs of patients. CPD will ensure that dental professionals continue to be at the forefront of this knowledge. It is important for patient comfort, well-being and safety.

It is also required by law for all registrants working under the local medical authority to undertake a minimum amount of CPD points in order to maintain the license of the practice. If this minimum is not met by all of the professionals, the license cannot be renewed.

**Verifying CPD points**

In some countries, such as the UAE, the governing body acts to verify the CPD provider. Submission of papers for a CPD event must be approved by Dubai Health Authority (DHA), Dubai Health Care City (DHCC) or Health Authority Abu Dhabi (HAAD) prior to an event.

In other countries, such as the UK, parts of US and Canada, verifying the CPD provider is determined by the judgment of the registrant. It is a common requirement to have to keep documentary evidence in these countries for up to 5 years post CPD cycle. (4,5)

There will generally be documentary evidence that the CPD has been undertaken with concise educational aims and objectives and clear and...
In ‘bleeding on probing’ trials over 4 weeks, parodontax® demonstrated significant effects in reducing bleeding gums by 22% (p<0.01)

Bleeding on probing increased after 4 weeks of brushing with the fluoride control toothpaste

Adapted from Saxer et al 1994. All interdental spaces from 6+ to 6- were tested at baseline and 4 weeks for bleeding on probing on the right side (buccal) and left side (lingual). Findings were recorded as: 0=no bleeding; 1=slight/isolated bleeding; 2=marked bleeding. Mean scores were determined. N=22.

Baseline values (Mean SD): Control (fluoride-containing toothpaste) group 24.75 (6.34); parodontax® group 25.40 (6.80). After 4 weeks: Control (fluoride-containing toothpaste) group 26.00 (8.14); parodontax® group 19.80 (7.38). *parodontax® vs control p<0.05.
Every day protection from everyday acids

Modern eating and drinking habits increase the exposure of tooth enamel to dietary acid that can lead to Acid Wear (erosive tooth wear), the biggest contributor to tooth wear. In the early stages of Acid Wear, a patient’s enamel can become translucent, anatomical features can be lost and molar cupping can occur.

GSK collaborated with leading experts in the field to develop Pronamel Daily Toothpaste to help protect patients at risk of Acid Wear. With its optimised formulation, Pronamel is proven in a range of clinical in situ and in vitro studies to reharden acid-softened enamel and protect against acid challenge.

Not all toothpastes are the same

In laboratory experiments Pronamel’s optimised formulation ensures more fluoride is available at the patient’s tooth surface to protect from the effects of Acid Wear compared to other toothpastes with the same marked fluoride levels.

Pronamel has been clinically tested in situ to...

- Reharden acid-softened enamel
- Build protection against future acid challenges

![Figure 2: In situ rehardenring microindentation study following treatment with dentifrices](image)

Pronamel is proven to reharden acid-softened enamel and provide ongoing protection from the effects of Acid Wear:

- **Low abrasivity**
- **Neutral pH (7.1)**
- **SLS*-free**

![Figure 1: DSIMS imagery to show amount of fluoride at the tooth's surface in vitro](image)

![Pronamel](image)

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Each treatment comes with a Patient Post Care and Maintenance kit that includes the Relief ACP Oral Care Gel. This unique formula combines potassium nitrate for sensitivity relief along with Amorphous Calcium Phosphate (ACP) that helps create healthier smiles through advanced enamel protection. To ensure a more comfortable experience all around, instruct patients to use it for 10-30 minutes after treatment.

New Philips Zoom WhiteSpeed LED Accelerator
The advanced Philips blue LED technology provides approximately 50,000 hours of use—reducing operating costs, downtime and is 40% more energy efficient. The light also emits 100% greater light intensity* with no compromise to safety. Redesigned to be easier to position and more ergonomic, your patients and your treatment will be better than ever.

New support for your practice
Philips Zoom is funding a worldwide public relations campaign to drive patients to dental professionals, and new programs to help you quickly and easily integrate Zoom into your practice.

“With this new light the patient’s sensitivity is minimal, making the procedure much more pleasurable.”
– Juban Dental Care - Baton Rouge, LA

Reveal your patients’ most healthy, radiant smile with Philips Zoom WhiteSpeed
Give your patients the immediate white smile they want and the healthy white teeth they need, with the new Philips Zoom WhiteSpeed. The number one patient-requested professional teeth whitening brand* is clinically proven to deliver superior whitening results in just one office visit. WhiteSpeed is shown to whiten teeth up to 8 shades in 45 minutes; that’s 40% better than a comparable non-light activated system.†

The new Whitening LED Accelerator’s variable intensity settings allow you to customize the output to ensure each patient receives a more comfortable treatment. 91% of patients experienced little to no sensitivity with Zoom WhiteSpeed.‡

Now better than ever — Philips Zoom WhiteSpeed.

* In the U.S.
† Compared to Philips Dash
‡ Results based on 500-person study. Data on file.
Scientists from Norway develop scaffolding to repair severe teeth and jawbone defects

By Dental Tribune International

O

SLO, Norway: Dental re-

searchers at the Universi-
ty of Oslo have developed

a new artificial scaffolding

that aids bone regeneration.

Within a few years, they hope to market

their invention to help patients

with serious teeth and jaw dam-

age caused by severe periodon-
tis, mandibular cancer, infection

or trauma.

According to the researchers,

the artificial scaffolding could

be used in particular for cases

in which the gap between two

bone fragments is too wide,

or when large parts of the bone

have been damaged through

surgical removal or radiother-

apy. The scaffolding helps the

body repair such serious defects,

the researchers explained.

“With the new method, it is suf-

ficient to insert a small piece

of synthetic bone-stimulating

material into the bone. The ar-
tificial scaffolding is as strong as

real bone and yet porous enough

for bone tissue and blood ves-
sels to grow into it and work

as a reinforcement for the new

bone,” said Prof. Ståle Petter

Lyngstadlaas, Dean of Research

at the Department of Biomat-

erals at the university’s Institute

of Clinical Dentistry.

The scaffolding can be pro-

duced like cinder blocks and

cut into individual shapes to fit

into specific bone defects. It is

manufactured from a mixture

of water and ceramic powder,

which is poured through foam

rubber that was designed to

look like trabecular bone. The

ceramic powder consists of

medical-grade titanium dioxide

monodisperse nanoparticles,

which are also widely used as

an additive in sweets, toothpaste

and baked goods. Once the mix-

ture has solidified, it is heated to

a temperature that causes the

foam rubber to dissolve into wa-
ter vapour and carbon dioxide

and the nanoparticles to ligate

into one solid structure. It has

an open porosity of 90 per cent,

containing mostly empty space

that can be filled with new bone

and blood vessels, which cur-

rent materials do not provide.

While current materials are de-
graded gradually, the new scaf-

folding remains an integral part

of the repaired bone, working

as reinforcement, Lyngstadlaas

explained.

In addition, the gener-

ation process could be

accelerated by the

insertion of bone pro-
genitor cells or bone marrow

containing stem cells.

Conventionally, dam-

aged bone is repaired by

removing tissue from healthy

bones, such as the mandible

or hip, for implan-

tation. Patients often

experience discomfort

and complications af-
ter the surgery. This can

be avoided by us-

ing the scaffolding.

Since the scaffolding has shown

positive results in preliminary

animal studies, the researchers

are currently planning to un-
dertake clinical trials on patients

with periodontitis and damaged

mandibular bone. They also

hope that orthopaedists will

show interest in the new meth-

od.

The new material was devel-
op in collaboration with Corte-

icals, a Norwegian company

that specialises in innovative bio-

materials. In order to market their

invention, the researchers are

currently looking for an industry

partner.
sues it is essential that a light force is used (0.25 N/cm) to avoid trauma to the tissues. There is a parallel attachment of the junctional epithelium around the implant surface, therefore there is less resistance when probing around the implant. This will result in deeper peri-implant probing depths compared to probing around natural teeth. Peri-implant probing depths of implants placed in sites excluding the aesthetic zone range between 2-4 mm under healthy conditions.

In the aesthetic zone where the implant is usually placed deeper, the probing depths are greater than the normal range. It is important to note that most implant systems show evidence of a small amount of marginal bone loss within the first year of function. Smoking has been shown to be a risk factor to affect the long-term prognosis of dental implants therefore it is essential to assess the health of the peri-implant tissues regularly in smokers.

What to do if there is bone loss?

If there is ongoing bone loss it is important to ascertain the cause. The causes of bone loss are:

- Occlusal overload;
- Bacterial induced inflammation.

Any occlusal overloading needs to be corrected by the implant dentist. Plaque induced inflammation is initially treated non-surgically but depends on the initial clinical presentation. This involves the removal of dental plaque with or without the use of locally delivered or systemic adjuncts. Lesions with probing depth of 5 mm or more and bone loss of greater than 2 mm would need surgical intervention as recommended by the International Team for Implantology (ITI) consensus report Figure 1.

A common cause of plaque induced peri-implantitis is excess cement which has been forced into the tissue when the crown is cemented. If the excess cement is not thoroughly removed by the implant dentist, this will induce inflammation of the tissue and possible bone loss.

How to maintain dental implants?

It is important that good oral hygiene is performed to maintain healthy peri-implant tissues. The use of toothbrushes, either manual or electric, helps to reduce the amount of plaque biofilm. Floss, including super-floss and interdental brushes is essential for access interproximally. It is very important that oral hygiene for the patient is not made too complicated thereby prolonging the time required by using too many oral hygiene aids. In the aesthetic zone, a cross over flossing technique can be used (Figs. 2a-f).

A poor flossing technique or no flossing at all can lead to subgingival inflammation of the peri-implant tissues. It is essential that if a cement retained crown is placed that all the cement is removed as subgingival irritants such as excess cement can provoke an acute peri-implantitis which can cause soreness, swelling, bleeding on probing and eventual bone loss (Figs. 3 & 4).

In premolar and molar areas the use of floss or interdental brushes can be easier for the patient in the case of single unit implant, and in fixed bridgework.

Calculus formation on dental implants is very similar to that found on teeth, the only difference is that the abutment and the porcelain are very highly polished, therefore the calculus is not as tenacious as on a natural tooth. When removing supragingival calculus from the implant crowns, it is very important not to use stainless steel scalers as this will damage the titanium surfaces. Therefore it is recommended that one uses a material that is softer than titanium either gold plated or reinfused plastic instruments (Fig. 5). It is very important that an ultrasonic is never used on an implant as this will heat up the implant and could kill the bone that helps integrate the implant.

When pocketing has been noted then using the CIST protocol will help treat the majority of peri-implantitis cases. Below is an example of an UR2 with 8 mm pocketing, the site was treated non-surgically with local delivery antimicrobials and with the patient using chlorhexidine gel with the largest interdental brush (Figs. 6a-c). At the 2 week review the pocketing associated with the UR2 has reduced to 5 mm with simple non-surgical therapy any further intervention will need to be reviewed by the implant dentist.

Conclusion

Good oral hygiene performed by the patient has a significant effect on the stability of the marginal bone around dental implants. Therefore regular hygiene appointments are necessary to ensure that your patients are maintaining a high standard of oral hygiene around their dental implants.
Complex dental problems and the contribution of adjunctive orthodontics

By Professor Athanasios E. Athanasiadis, DDS

The goal of contemporary dentistry is the maintenance of natural dentition under biologically, functionally and esthetically optimal conditions, for the longest possible period. An increasing number of adult people present a variety of complex dental problems, which concern more than one clinical discipline or specialty. These include caries, periodontal diseases, dental trauma, edentulous sites, malocclusions, or their combination.

This article outlines existing orthodontic therapeutic possibilities for adjunctive dental work and emphasizes the importance of teamwork among the general dentist, the orthodontic specialist, and other dental specialists.

Principles of treatment planning for complex dental problems

The need to formulate problem-oriented treatment plans, which address patients’ chief complaint for complex cases necessitates consensus among the parties involved namely the general dentist, the specialist and the patient. Diagnosis must utilize patient’s data, derived from records interpreted by the clinician using strict scientific criteria. On the other hand, treatment planning constitutes an intellectual process where subjective elements are often involved. It is the path that the well-educated and experienced clinician follows in order to maximize the benefits for the patient, which must be contrasted to the cost and risk involved when certain procedures are adopted (1). An essential requirement for successful interaction is that both general practitioner and specialist are in agreement regarding the advantages and limitations of the treatment chosen.

Adjunctive orthodontics

Adjunctive orthodontic treatment is tooth movement carried out to facilitate other dental procedures necessary to control disease and to restore function. It may be an alternative adjunct to general dentistry by providing (a) rehabilitation following tooth migration due to pre-existing periodontal disease; (b) pre-prosthetic orthodontics; (c) treatment of periodontal defects; and (d) orthodontics as an alternative to prosthetics (2).

Orthodontics and periodontics

It has been documented that orthodontic treatment in patients with severe periodontal destruction is no longer a contraindication (3). On the contrary, such treatment might even enhance the possibilities of saving and restoring a deteriorating dentition. During the orthodontic movement it is the entire periodontal unit (bone, periodontal ligament, and soft tissues), which moves with the tooth (4). This all-embracing movement has been shown to be beneficial when orthodontic uprighting of tipped molars is undertaken since the crestal bone exhibits predictable and considerable changes (5) (Figure 1). Forced eruption has also been reported to decrease the depth of isolated vertical infrabony defects and to expose tooth structure, thus allowing the prosthetic management of subgingival fractures, caries and lateral root perforations (6) (Figure 2).

Orthodontics and missing teeth

In cases where lateral incisors are congenitally missing and other malocclusion co-exist, in most instances the treatment of choice is the orthodontic movement of the canines to:

> Page 33

Figure 1. Extraction of the lower first molars has resulted several years later to a mesial tipping of the second and third molars (A). When orthodontic uprighting of tipped molars was undertaken the crestal bone exhibited considerable changes (B).

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Aesthetics and function: Orthodontic - surgical collaboration as a key to success

By Drs Martin Jaroch & Friedrich Bunz, Germany

Oral surgery is an important cornerstone in orthodontic treatment of malocclusions. Tooth movement is only possible to a limited extent and always depends on the state of development of the jawbone and mandible in relation to each other, as well as on deformities of the jaw in relation to the other facial bones.

Abnormalities may be congenital or acquired and may affect patients in childhood already. If so, the focus of orthodontic treatment is not primarily in the aesthetic correction, but is guided by functional and prophylactic concerns. Efficient occlusion and restoration of masticatory function are decisive factors for tooth preservation and prevention of secondary disorders (Figs. 1a–c). Without a doubt, aesthetic improvement, as well as the associated self-consciousness, is the main concern of post-patients, which can be pursued through surgical correction.

Causes of malocclusion

Generally, patients visit an orthodontic practice only after symptoms or significant abnormality have already presented. Clinically, this results in late mixed dentition or permanent dentition with dental paucity. As a rule, these impair an accurate mapping of the reasons for this malocclusion. In the literature, the causes of malocclusion and the aetiologic structure of the symptoms of malocclusion in orthodontic patients are controversial issues. No explicit information on the percentage of patients with acquired or congenital malocclusions can be found in a study by Schopf (1981) on the exogenous facies development and the development of malocclusion. However, from the assessment of individual patients' symptoms, all symptoms of malocclusion could be associated with various aetiologic factors only in 48% of patients. Brodman and Sorkel (2001) concluded from Schopf's report that only 20% of the anomalies were hereditary and thus could not be affected by prophylactic interventions. Accordingly, 80% of malocclusions could be resolved through prevention and better oral hygiene. This idea is contrary to the results of the German Oral Health Study. In this study, a decrease in childhood caries was observed. However, clinically these results were not associated with a lower rate of need for orthodontic treatment. The study at the University of Greifswald, Germany, found that 20.5% of the symptoms were already present at birth. 44.5% were exogenous and 55.5% were not precisely definable. The assumption that 80% of malocclusions can be resolved by prevention and better oral hygiene is very questionable.

The varying findings and remarks illustrate the difficulty of clear classification of malocclusion. Nonetheless, the demands of the patient have priority and he expects a symptom-free treatment with stable treatment results. This means that in malocclusion cases that cannot be resolved by functional orthodontics solely, orthodontic-surgical planning can be done before any treatment is attempted by pure dentoalveolar compensatory intervention. Compensatory dentoalveolar procedures could prevent a surgical operation. At the same time, patients may run the risk of prorated treatment without any long-lasting benefit. The decision for or against orthodontic surgery requires interdisciplinary agreement and reliable treatment goals must be defined in advance (Figs. 2a & b).

Target group for orthopaedic surgery

Nowadays, adults make up the majority of patients in the orthodontic practice. They are generally motivated by high socio-cultural demands and the desire for perfect teeth. In adults who have an obvious discrepancy between their maxilla and mandible, it must be clarified whether the disfigurement is dentoalveolar or skeletal. Owing to the limitations of conventional orthodontic treatment, skeletal discrepancies can rarely be entirely resolved. In those cases, combined orthodontic-surgical treatment is necessary. During growth, it is mostly possible to treat malocclusions successfully without surgery by purely orthodontic treatment using removable appliances or brackets. Children and young people for whom functional orthodontic treatment has not led to the desired result are treated surgically already after the growth period. Early surgery always carries the risk of unexpected growth pattern or unilateral abnormal hyperplasia and can affect the results of the operation.

Selection of patients

Combined orthodontic-surgical treatment requires not only strong and focused interdisciplinary collaboration, but also absolute acceptance of the treatment plan by patients and parents. The treatment is time-consuming and post-operative corrections cannot be excluded. A detailed medical preoperative discussion should inform patients about the risks of combined treatment and the consequences of untreated malocclusions. Malocclusions can cause numerous side-effects, such as back pain and chronic headaches (Figs. 3a–b). Asymmetry in the facial region during scintigraphy, it can manifest as obstructive sleep apnoea syndrome (Hochban et al. 1997).

Teenagers with mandibular asymmetry that cannot be clearly classified should be treated with special care. Should clinical records be available only from the age of 16 – whether as a result of erroneous dental records or simply owing to late initial assessment in a specialised practice – accurate early diagnosis of potential unilateral hyperplasia with further growth tendency is essential. According to the German Society of Oral and Maxillofacial Surgery guidelines, a nuclear medicine diagnostic is necessary – in addition to inspection, palpation and radiography – to determine the risk of an abnormal growth in time. Through increased uptake in the affected region during scintigraphy, it is possible to draw conclusions about the growth's behaviour. If the jaw continues to change by abnormal displacement of the bone, it is advisable to postpone surgical therapy until the cessation of growth.

Surgical technique

The choice of technique for the osteotomy depends on various factors: the extent of the surgery, the jaw position preoperatively, the jaw bone healing in the new fixed position is accomplished using simulated cast surgery and a fabricated splint. Following surgical modification of the jaw area, it is important to consider the correct position of the jaw and the optimal occlusion. This surgical correction has been performed by the orthodontist as accurately as possible because calculating the degree of displacement of the jaw depend on achievable occlusion. Furthermore, teeth have an influence on access to the surgical field and wisdom teeth must be removed before osteotomy in certain cases.

Osteotomy can be done on both jaws or can be limited to the maxilla or mandible. However, in many cases it is functional to perform binimaxillary osteotomy and to shift both jaws. Today, generally the entire tooth-bearing portion of the jaw is shifted. Segmental osteotomy has not been proven to be very successful in the past and corrections of malocclusions are left to the orthodontic treatment partners. In this field of treatment, the Ohbwegeser-Dal Pont surgical technique is recommended. This procedure describes an intra-oral staged osteotomy at the mandibular ramus (Figs. 4a–c & 5a–e). The most favourable position of the maxilla and mandible is assessed on the basis of simulated cast surgery in which the amount of shift is determined. Using these casts, a splint can be fabricated and placed during surgery to fix the determined physiological condylar position preoperatively (Figs. 6a–c).

Orthodontic correction depends largely on the accessibility to the surgical field. Thus, careful planning is necessary to allow access to the surgical field and wisdom teeth must be removed before osteotomy in certain cases.

Fig. 1a-c: Deep bite, prognathism and lateral-gnathias in 2007 (a) and the beginning of combined orthodontic/surgical treatment in 2011 (b). (19-year-old patient).

Fig. 2a-c: Significant changes between the initial assessment of lateral-gnathia in 2007 (a) and the beginning of combined orthodontic/surgical treatment in 2011 (b).

Fig. 3a-c: Side view of a 19-year-old patient. Lateral-gnathia is visible in the lower lip area.

Fig. 4a-c: Orthodontic, prepared pre-op diagnostic radiography (or thpanographic, cephalometric radiograph and antero-posterior projection) of the now 20-year-old patient.

Fig. 5a-e: Pre-op clinical situation after orthodontic preparatory work.

Fig. 6a-c: View of the casts in the articulator after successful simulation of surgery.

(Figs. 4a–c & 5a–e). The most favourable position of the maxilla and mandible is assessed on the basis of simulated cast surgery in which the amount of shift is determined. Using these casts, a splint can be fabricated and placed during surgery to fix the determined physiological condylar position preoperatively (Figs. 6a–c).
nation of Obwegeser–Dal Pont and Le Fort I osteotomy. The
bimaxillary approach seems reasonable, since the maxilla and
mandible influence each other during growth. However,
it is frequently only possible to obtain a very good and risk-free
result by using Obwegeser–Dal Pont surgery. Fixation in split
osteotomy of the mandible is usually realised by using mini-
mally invasive plate osteosyn-
thesis. In modified techniques of Obwegeser–Dal Pont surgery,
a displaced ramus is fixed using osteosynthesis screws only (Hu-
chban 1997; Figs. 8a & b). This
modification avoids the compli-
cated surgical removal of osteo-
synthesis plates.

Operation risk
Any surgical procedure can lead to
unexpected complications,
which must always be consid-
ered according to the risk-ben-
efit principle. Today, the need
for osteotomy remains contro-
versial because a jaw deformity
is not a serious illness like a tu-
mour, abscess or bone fracture,
which is necessarily treated by
surgery. Since deformities are
often aesthetic corrections and
can be classified as elective
procedures, operation safety is
a chief concern. Isolated oste-
stones of the mandible, which
present a significantly lower
surgery risk, should be the first
choice for orthodontic–surgical
interventions.

The most significant risk of os-
teotomy of the mandible is a
probability of about 5% of dam-
ing the sensory nerve, called
the inferior alveolar nerve. This
can cause sensibility problems
of the lower lip and chin area
(Figs. 9a–c). Additional serious
risks are not expected using Ob-
wegeser–Dal Pont surgery and
post-operative bleeding can be
controlled very safely.

Interdisciplinary collaboration
The literature reviews of work
done in the 1970s makes clear
that today’s conscientious col-
laboration between surgeons
and orthodontists is not a mat-
ter of course. Over the years,
orthognathic surgery was con-
sidered to be the last option for
treating orthodontic cases that
could not be resolved using
standard treatment techniques.
Therefore, operations were car-
rried out based on tolerance of
dentoalveolar compensation
and likely made further correc-
tive surgery more probable.

Today, in almost all cases of
malocclusion, orthodontic
reatment is preceded by sur-
urgical treatment. Nowadays,
the planning of the operation
based on simulated cast surgery
and the creation of a splint is a
very safe method by which to
achieve predictable and stable
long-term results (Figs. 10a &
b). Individual dentoalveolar
discrepancies in occlusion can
be corrected preoperatively or
post-operatively by orthodontic
treatment. Therefore, inter-
derdisciplinary collaboration is
always a benefit for the patient
and treatment team.

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It was a pleasure to interview Dr. Nikhilesh Vaid who could be ranked as one of the key doctors to enrich Orthodontics across the globe. Dr. Vaid was the President of the American Orthodontics Society (APOS) for their support as well as the discipline that kept me on our toes, were actually lessons that have molded me to assume greater responsibilities in life.

As having a lot of scientific publications in the field of orthodontics, can you tell us how you can come to a statistically significant scientific conclusion that needs to be published and the benefit of being published?

I believe documentation of every form of scientific data is paramount. That is creating database, which is critical to any form of research and future reference. As long as any form of information serves to enhance the knowledge bank of orthodontics and encourages scientific content of the highest caliber, I will be President in the Golden Jubilee year (50th Year) of the IOS, which will be a time for us to rejouce and commemorate past, but at the same time, plan to propel ourselves with policies that will enhance our member's lives with the changing global trends in Orthodontics. I was appointed Editor of the APOS Trends in 2011 and the Chief Editor in 2015. Today the Journal is indexed by multiple indexing agencies. I have an excellent young and enthusiastic team which is committed to the cause of achieving excellence in documentation of scientific data from the Asian Pacific region that is available to orthodontists across the globe at no cost. I have to compliment the Past APOS President Dr Loh Kai Woh, for his vision, Dr Kazuo Tanne, President APOS and Dr Reeye Lee, Secretary General APOS, for their support as well as American Orthodontics for being the corporate sponsor of this endeavor for 2015-14.

What golden advice could you provide to orthodontic residents to consider in shaping their future careers as orthodontists?

I don't know if I'm qualified enough to advice, but I am greatly influenced by a quote of ours, "The differences of the 21st century will not be the ones who cannot read or write but the ones who cannot unlearn and relearn new things." Science today is progressing at a pace where the global knowledge bank doubles in just a few years. We have to open minds and the willingness to be students all our lives. If we can attune ourselves to this aspect, success in every sphere of life will follow.

As a 21st century leader in Orthodontics, can you tell us how can we come to a statistically significant scientific conclusion that needs to be published and the benefit of being published?

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The 2nd International Students’ Dental Conference 2014

By University of Sharjah Dental Students Association

April 9-10, 2014, saw over 700 students from ten countries gather together at the University of Sharjah College of Dental Medicine for the 2nd International Students’ Dental Conference. The conference was opened by His Highness Crown Prince Sheikh Sultan bin Mohammed bin Sultan Al Qasimi who toured all the exhibits from eight companies such as Listerine/J&J, Crest Oral B and GlaxoSmithKline, asking many questions along the way, before he oversaw the opening ceremonies.

The conference was a huge success for the students of the University of Sharjah Dental Students Association, who—

"It is quite remarkable that a group of 20-year old young students (mainly ladies by the way!) could pull this off" - Prof. Richard Simonsen, Dean of the University of Sharjah College of Dental Medicine

The main organizer, Rawand Naji, the President of the USDSA was very pleased with the program and participation from countries as far afield as Russia and Poland. “Next year we hope to consolidate this conference into a regular annual event, which will attract many more students from all over the world to the University of Sharjah” said student-doctor Rawand.

Social events such as a desert safari, go karting, and a dinner cruise in Dubai were added attractions for the international students which also included large contingents of students from the Kingdom of Saudi Arabia, Sudan and Malaysia as well as students from all the local schools.

The President of the USDSA was also supported by the rest of her Board of student-doctors, Maya Farsi, Jumana Lisa Irbayc, Abeer Sha'al, Shorouk Mahmoud, Sally Masoud Manla, Sara Alishari, Deena Rasdan and Mohammed Hussein Haider, all from the second-year dental program at CoS. “It is quite remarkable that a group of 20-year old young students (mainly ladies by the way!) could pull this off with such success while still studying hard for upcoming final exams,” said Dean Simonsen.

Faculty support was provided by Dr. Karim Sabahi and Dr. Eman Mustafa, and huge support was provided by former USDSA Presidents, Faraj Edier and Hiba Abdulhadi, who were the first to give the credit to the student association leadership, and all the many other students who helped out with the execution of this remarkable conference.

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Still lots to see and discover at IDEM

By Dental Tribune International

Singapore: In the presence of Singapore’s Health Minister Gan Kim Yong and senior representatives of Koelnmesse, the Singapore Dental Association, and FDI World Dental Federation, the eighth edition of IDEM Singapore was officially opened on 09 April 2014 at the Suntec Singapore International Convention and Exhibition Centre. The Minister, who graced the opening ceremonies outside the Exhibition Hall on Level 4 as Guest of Honour, congratulated the organizers of the show that in his words, “has evolved to be a ‘must-attend’ event for all dental healthcare professionals and related industries in the Asia-Pacific region.”

Praise was also given by Singapore Dental Association’s President Dr. Kuan Chee Kiong, who said that the ongoing support of Gan’s Ministry and other sponsors is a testament that IDEM Singapore has firmly consolidated its status as the focal event for the Asia-Pacific dental community. “Besides the opportunity to interact with friends and dental professionals from around the world, IDEM also offers the opportunity to share knowledge, ideas and practical applications in dentistry,” he said.

IDEM 2014 is poised to be the largest dental show ever to be held in Singapore since it was launched in 2000. According to Koelnmesse’s Vice President of Asia Pacific, Michael Dreyer, 50 per cent more dental manufacturer and distributors have signed up for the event, which being staged for the first time along with group presentations from established markets like Cambodia, Myanmar and Taiwan. "Not just a place where East meets West" IDEM Singapore is also increasingly being considered a gathering point for different parts of the East to meet one another," Dreyer said.

"...IDEM also offers the opportunity to share knowledge, ideas and practical applications in dentistry." Attendance figures are also expected to increase by 12 per cent, with many new visitors coming from nearby countries like Cambodia, Myanmar and Taiwan. "Not just a place where East meets West" IDEM Singapore is also increasingly being considered a gathering point for different parts of the East to meet one another," Dreyer said.

Aside from the trade fair bustle, clinical presentations as part of the scientific programme will continue today at Level 4 with lectures and workshops focusing on fields like prosthodontics and orthodontics. A special presentation by US dentist Dr. Barry Freyberg on 05 April 2014 at 4.30 p.m. focused on the detection and prevention of oral cancer, which is among the few types of cancer which are currently on the rise worldwide. At the Dental Tribune Study Club Symposium at booth 6P-22, Singapore’s own prosthodontic expert, Dr. Stephen Soo of Specialist Dental Group, will provide insight into CAD/CAM and how its use can benefit workflow in dental practices.

New concepts and methods for dental labs will be discussed at the Dental Technicians Forum, one of the new educational formats specifically targeting other members of the dental profession. In addition to these presentations, lectures for dental hygienists/therapists were also held throughout the days.
Dentistry – your dream profession

By Danube Private University

At Danube Private University, students undergo a six-year course in dental medicine, and on completion of the course are awarded the internationally recognized degree Dr. med. dent. This elite course of study at the leading edge of medical and dental science, utilising state-of-the-art medical and dental equipment, practical facilities and our in-house clinic, stresses to both challenge and support its students. We want our graduates to be among the acknowledged leaders of their profession. The dental faculty of the University includes many highly respected scientists who take great pleasure in being a part of a new, innovative project in basic dental studies that is of particular benefit to society – led by our Chancellor, Professor Dr. Dr. Dieter Müssig and our Dean, Professor Dr. Dr. hc. Andrej Kielbassa.

In addition to instruction in medical and dental subjects, the President of the University, Honorary Consul M.B. Wagner-Pischel, is dedicated not only to the achievement of excellence in research, instruction and innovation, but also to the holistic education of the young people, ensuring that they receive a solid grounding in the arts, literature, science journalism and music, as well as training in empathy. The aim is to promote the well-rounded development of the young people, and equip them with positive approaches for their subsequent career that enhance their communicative intelligence. Dental health and personal care and hygiene play a key role in how people are perceived today. Beauty and mindfulness are required more than anywhere else in oral and dental health. A good dentist can be compared to an artist, as she requires an exceptional understanding of form and colour as well as spatial visualisation skills. When combined with the state of the art in medical and dental knowledge, the result is uncompromising excellence in patient treatment.

For President Wagner-Pischel, a life spent in the exercise of a profession about which one is passionate is an important and meaningful life commitment as well as a significant contribution to the welfare of society as a whole.

“Our students at Danube Private University have excellent life and education opportunities. We offer them a top dentistry course equipped with state of the art technology that focuses on students’ needs and values them above all else, while upholding the finest traditional humanistic values. Danube Private University emphasises not only medical and dental science, but also human interaction among students and instructors as well as responsibility to both patients and society,” explains M.B. Wagner-Pischel, President of Danube Private University.

To date, the student body of Danube Private University is made up mostly of the children of dentists and doctors from German-speaking Europe. Young people from all over the world are interested in studying at Danube Private University. In response, we are offering a preparatory course of study for students outside of German-speaking Europe.

Composite Veneers and Masking Discoloration; About Red & White Aesthetics; Direct Veneers Diastema Closure; Virtual Articulator and CAD/CAM Designing Workshop.

The second day of the conference will feature the new Dental Hygiene Seminar focused entirely on the Dental Hygienist providing the latest in Periodontal Instrumentation and Oral Prevention and Management of Dentinal Hypersensitivity.

Additional to the knowledge delegates will exchange, all attendees will benefit from the networking opportunities in the cozy atmosphere provided by Jumeirah Beach Hotel where you can meet your colleagues from across the globe while lunching at Dubai’s best restaurant.

All Dentists, Dental Technicians and Dental Hygienists are welcome to get the most updated scientific exchange and view the latest technology, trends and developments in CAD/CAM & Digital Dentistry. The future is here and all are welcome to join.

Contact Information
http://www.danube-private-university.at/studien.php?id=130&PHPSESSID=um7ngso5ounere80c0ldcu3ae7
When teeth have been lost early, those remaining distal to the edentulous space, usually present with a mesial tipping, displacement and rotation. Individuals with an abnormal mesio-distal inclination or displacement of the posterior teeth were found to have a positive association between mesio-inclination and periodontal destruction. Once periodontal health is established, orthodontic forces are used to reduce mobility, to regain bone lost owing to traumatic occlusal forces, and to correct treatment dilemmas of clinical problems related to occlusal instability and restoration needs. Failure to provide appropriate treatment of occlusal trauma in patients with chronic periodontitis may result in progressive bone loss, adverse change in prognosis thus resulting in tooth loss. Uplifting these teeth by orthodontic means before the conventional restoration of the edentulous areas may corroborate to their periodontal treatment and maintenance in the dental arch. When premolars will be replaced adequate space is necessary not only at the mesio-distal but also at the bucco-lingual direction. Teeth with a negative prognosis can be used to maintain or improve the volume and structure of the alveolar bone at the site where they are located. The forced eruption of a tooth, which is planned to be extracted, alters the architecture of the soft peri-odontal tissues and improves the quality of the available bone (Figure 4). Therefore, the final prosthetic work is associated with a better overall result due to the increase in the gingival height produced by this method (8).

"Failure to provide appropriate treatment of occlusal trauma in patients with chronic periodontitis may result in progressive bone loss."

Subsequent absence from the dental arch of impacted permanent teeth is not an indication for their prosthetic replace- ment but rather a sign for the start of their orthodontic trac- tion, placement and alignment into their natural position in the dentition (9). In cases of extreme anterior overbite, direct trauma to the gingiva from the incisal edges of the mandibular incisors may result in palatal recession of the maxillary incisors (Figure 5). Similarly, in severe Class II, division 2 malocclusions with unilateral occlusion of the maxillary incisors, functional trauma can cause marginal recession of the labial gingiva of the mandibular incisors. This recession, although not the result of peri-odontitis, can result to a significa- nt loss of attachment.

Clinical observation suggests that when crowding causes overlapping of adjacent teeth, the interproximal space may be minimal, root proximity may occur, and the quality and amount of bone support may be compromised (Diedrich, 2000). This is a poor environment for tissue health. The removal of plaque and subgingival calculi in the inaccessible proximal space may fail despite careful application of prophylaxis pro- cedures. Orthodontic interven- tion can improve the anatomic and functional environment and may limit the recession.

Conclusions

Provision of adjunctive ortho- dontic treatment should be characterized by the following preconditions: (a) Knowledge of the clinical boundaries of gen- eral dentistry and of any other dental specialty involved in maintaining natural dentition under biologically, function- ally, and esthetically optimal conditions; (b) establishment of two-way, structured, and continuous communication between general dentists and orthodontists concerning the contribution of specialised care to the oral rehabilitation; (c) assessment of the cost-benefit relationship concerning treat- ment fees and duration, coop- eration, inconvenience, dis- comfort, pain and difficulty; and (d) diagnosis and treat- ment planning relying on strict evidence-based criteria.
bite into my food without pain & with confidence”. Said P.V Shah an elderly man who received his oral rehabilitation in Dubai by Oral Maxillofacial Surgeon Dr. Costa Nicolopoulos at Same-Day Dental Implants. Since 1991 Doctor Nicolopoulos has been practicing as a full time Maxillofacial & Oral Surgery specialist concentrating on immediate loading of dental implants. (Figure 5).

“Less is more, that is our ambition when it comes to dimensions and numbers of anchoring elements” says Per-Ingvar Brånemark. In ordinance with the founding father of modern implants we can now install a full set of teeth on only four implants thanks to the new advancements in implantology. This total rehabilitation technique for the edentulous patient known as the All-on-4® treatment concept, is a well documented surgical and prosthetic medical procedure. Clinics like The SameDay Dental Implants Clinic utilize this treatment protocol allowing patients to have their implants and teeth placed all in the same day as opposed to the conventional technique where dental implants are loaded with teeth usually two or three months later. (Figure 6).

Every year all the BOC clinics from around the globe are invited to the Annual Brånemark Osseointegration Center meeting in Gothenburg Sweden to pay respects and tribute to the man who started it all. (Figure 7) “It is the works of Professor Brånemark sixty years ago that allows us to change our patients lives on a daily basis”, said Dr. Costas Nicolopoulos at the ABOC annual meeting 2014 in February. Here SameDay Dental Implants Clinic was given the Leading Dentists of the World award as a special member at the ABOC meeting 2014. While new advancements in the medical and dental world impact our patient’s lives, one must not forget that the basis of this invention lies within a man who saw a future while living in the past. (Figure 8)