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 meeting the need for high quality training and ongoing support in our commendable profession.

I am dedicated to raising and representing the Continuing Medical Education (CME) team for Dental Hygiene Tribune members to ensure that your 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-borne prostheses 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. Hygienists or Dental Care Professionals (DCPs) need to be able to diagnose peri-implantitis and to have the knowledge to treat simple to moderate peri-implantitis. 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, hygienists should be able to assess the inflammation and to plan the further care according to the hygienists diagnosis of the inflammation.

Figure 1: Cumulative Interceptive Supportive Therapy (CIST) Protocol

<table>
<thead>
<tr>
<th>Category of Professionals</th>
<th>CPD points</th>
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<tr>
<td>Physicians and Dentists</td>
<td>10</td>
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<tr>
<td>Pharmacists</td>
<td>15</td>
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<tr>
<td>Nurses</td>
<td>15</td>
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<tr>
<td>Other Healthcare Professionals</td>
<td>10</td>
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<tr>
<td>Traditional Complementary &amp; Alternative Medicine Professionals</td>
<td>10</td>
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Table 1 – Dubai Health Authority (DHA) CPD Requirements (2)

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

By Victoria Wilson

By 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, is 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.

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 an...
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

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**Graph:** Reduced bleeding on probing index after 4 weeks with **parodontax**®

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>4 weeks</th>
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<tr>
<td>Fluoride-containing control toothpaste</td>
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<td><strong>parodontax</strong>®</td>
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22% reduction in bleeding (p<0.01 vs baseline)

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**Parodontax®**

Helps stop bleeding gums

Adapted from Saxer et al 1994. All interdental spaces from 6 to 8 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=sight/ 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 (5.89). After 4 weeks: Control (fluoride-containing toothpaste) group 26.00 (9.14); **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.1−4 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 future acid challenges.5,6

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.5

Pronamel has been clinically tested in situ to...
• Reharden acid-softened enamel6
• Build protection against future acid challenges6

Figure 2: In situ rehardening microindentation study following treatment with dentifrices4

![Graph showing mean percentage surface microhardness recovery](image)

Adapted from Hara AT et al, Bavine enamel specimens were subjected to an erosive challenge. This was followed by fixation to palatal appliances and a 4-hour intra-oral phase in 58 human subjects. This phase included tooth brushing with tested products and a further erosive challenge.

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 vitro4

![Images showing lack of fluoride uptake, fluoride retained at tooth’s surface, increased concentration of fluoride retained at tooth’s surface](image)

Adapted from Edwards MI et al. Dynamic Secondary Ion Mass Spectrometry (DSIMS) of the fluoride content of human enamel exposed to a citric acid challenge followed by treatment for 2 minutes with a range of dentifrice slurries.

Daily protection from the effects of Acid Wear

*Sodium Lauryl Sulphate

New Philips Zoom WhiteSpeed Light-Activated Whitening System.
A better experience for your patients and your practice.

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Unique products for your sensitive patients
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.

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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.

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– 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 researchers at the University 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 damage caused by severe periodontitis, mandibular bone and cancer.

The new material was developed by scientists from the Norwegian University of Science and Technology (NTNU) and the University of Oslo. The researchers explained:

“With the new method, it is sufficient to insert a small piece of synthetic bone-stimulating material into the bone. The artificial scaffolding is as strong as real bone and yet porous enough for bone tissue and blood vessels to grow into it and work as reinforcement for the new bone,” said Prof. Ståle Peter Lyngstad, dean of Research at the University’s Institute of Clinical Dentistry.

The scaffolding can be produced like aerated 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 mixture has solidified, it is heated to a temperature that causes the foam rubber to dissolve into water vapour and carbon dioxide and the nanoparticles to aggregate 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 current materials do not provide.

While current materials are degradable gradually, the new scaffolding remains an integral part of the repaired bone, working as reinforcement, Lyngstadaas explained.

In addition, the generation process could be accelerated by the insertion of bone progenitor cells or bone marrow containing stem cells. Conventionally, damaged bone is repaired by removing tissue from healthy bones, such as the mandible or hip, for implantation. Patients often experience discomfort and complications after the surgery. This can be avoided by using the scaffolding.

Since the scaffolding has shown positive results in preliminary animal studies, the researchers are currently planning to undertake clinical trials on patients with periodontitis and damaged mandibular bone. They also hope that orthopaedists will show interest in the new method.

The new material was developed in collaboration with Cermis, a Norwegian company that specialises in innovative biomaterials. In order to market their invention, the researchers are currently looking for an industry partner.

Table 2 – Health Authority Abu Dhabi (HAAD) CPD Requirements

<table>
<thead>
<tr>
<th>Points for Consideration Prior to Undertaking CPD</th>
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<tbody>
<tr>
<td>1. CPD must achieve outcomes that support practice in accordance with local Standards and Regulations.</td>
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<tr>
<td>2. Proper planning and reflection with a PDP for CPD is advisable.</td>
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<tr>
<td>3. All CPD should be verified or come from a strong reliable publication source in order to emphasise the importance of high quality CPD.</td>
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<tr>
<td>4. Annual CPD declarations should be introduced as a requirement of on-going registration.</td>
</tr>
</tbody>
</table>

References
2. Policy on Continuing Professional Development (CPD) Requirements, Health Regulation Department, Dubai Health Authority, July 2010.
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 superfloss 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 crown, 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 reinforced 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 affect 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.