MONEY saving tips

Minimally Destructive Management of Amelogenesis Imperfecta and Hypodontia with Bleaching and Bonding
CONTENTS

5  Editorial comment
6  Who’s who
7  News
9  News – ASM London report
14 Money saving tips
16 Contracts for therapists
18 DCP research awards
20 Therapists’ success
21 Vision for the future
22 Protecting children’s teeth
24 Minimally Destructive Management of Amelogenesis Imperfecta and Hypodontia with Bleaching and Bonding
30 CPD

October/November 2010
Vol 3 No 4

Please contact our mailing department on 01483 304 944 if you are changing your address or are not receiving Dental Therapy Update regularly.

Dental Therapy Update is now available online for both current and back copies.

The views and opinions of contributors are not necessarily those of Dental Therapy Update, its publishers or advisers, neither can they accept responsibility for any advice given by such contributors.

All articles, comments and opinions in Dental Therapy Update are solicited by the editor and some authors receive payment for their contributions. Any items which are paid for by companies are clearly indicated.

Published by

George Warman Publications Ltd on behalf of the British Association of Dental Therapists
Unit 2, Riverview Business Park
Walnut Tree Close, Guildford
GU1 4UX

Printed by:

Williams Press, Maidenhead
Dear Members

The BADT was pleased to host the 47th annual conference on September 10 and 11, 2010 at the Cumberland Hotel, London, celebrating 50 years of dental therapy training. The conference was a huge success with 180 delegates and over 20 exhibitors attending.

At the AGM I handed over the Chair’s gavel to Kira Stearns, and took on my new position as your President. I must say I was, and still am, overwhelmed by all the floral and champagne gifts and messages I have received by friends, colleagues, guests and members.

No conference is ever complete without a bash. Glamour and Glitz was the theme for my first presidential dinner and there certainly was plenty of that. The drinks reception started with an oral blue cocktail, followed by a three course superb gourmet menu. Guests included Dame Margaret Seward, who never fails to entertain. Following the raffle, for many the evening had just begun, every inch of the dance floor was occupied until the early hours. Everyone was jiving away, having a great time.

The feedback as a whole was positive, with some comments echoing the views of many as being ‘one of the best conferences they have attended’. One of the exhibitors who was slightly concerned to be attending the presidential dinner on her own commented on how welcoming and friendly everybody was.

I would like to thank all the speakers, sponsors and guests that helped to make this event successful. Also a big thank you to BADT council who worked tirelessly over the year. Council’s dedication, efforts and support towards keeping our association active and vibrant is much appreciated. I would also like to thank all those who have supported me within my role as Chair.

I am very honoured to be your new President. As President I hope to maintain and improve on the values that we have achieved so far and I hope to carry out these duties to the best of my ability.

Photographs of the ASM will be posted on the website!

Bal Chana
President
## Council BADT

### Who’s Who

All enquiries to: BADT administration line 07800 728082 (open Monday to Friday 9.30am to 4pm).  
Address: BADT, Providence House, 11 The Broadway, Sandhurst, Berkshire GU47 9AB  
Email: secretary@badt.org.uk

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>Baldeesh Chana</td>
<td><a href="mailto:president@badt.org.uk">president@badt.org.uk</a></td>
</tr>
<tr>
<td>Secretary</td>
<td>Sally Reid</td>
<td><a href="mailto:secretary@badt.org.uk">secretary@badt.org.uk</a></td>
</tr>
<tr>
<td>Education and Training Advisor</td>
<td>Jane Rowbotham</td>
<td><a href="mailto:j.rowbotham@leeds.ac.uk">j.rowbotham@leeds.ac.uk</a></td>
</tr>
<tr>
<td>Trade Liaison</td>
<td>Sandie Kowkabzadeh</td>
<td><a href="mailto:Sandie20002000@hotmail.com">Sandie20002000@hotmail.com</a></td>
</tr>
<tr>
<td>London Regional Rep</td>
<td>Katrina Matthews</td>
<td><a href="mailto:Katrina.Matthews@westminister-pct.nhs.uk">Katrina.Matthews@westminister-pct.nhs.uk</a></td>
</tr>
<tr>
<td>South West Regional Reps</td>
<td>Geraldine McGlynn</td>
<td><a href="mailto:swrep@badt.org.uk">swrep@badt.org.uk</a></td>
</tr>
<tr>
<td>Cheryl Tanner</td>
<td><a href="mailto:cheryl.tanner@uku.co.uk">cheryl.tanner@uku.co.uk</a></td>
<td></td>
</tr>
<tr>
<td>South Wales Regional Rep</td>
<td>Julie Ellis</td>
<td><a href="mailto:Spellis.j@tiscali.co.uk">Spellis.j@tiscali.co.uk</a></td>
</tr>
<tr>
<td>Scotland Regional Rep</td>
<td>Lynne MacKay</td>
<td><a href="mailto:lynnebadt@hotmail.co.uk">lynnebadt@hotmail.co.uk</a></td>
</tr>
<tr>
<td>North West Regional Reps</td>
<td>Debbie McGovern</td>
<td><a href="mailto:deborahmcmgovernbadt@live.co.uk">deborahmcmgovernbadt@live.co.uk</a></td>
</tr>
<tr>
<td>Anne-Marie Yarwood</td>
<td><a href="mailto:annemarieryarwoodbadt@live.co.uk">annemarieryarwoodbadt@live.co.uk</a></td>
<td></td>
</tr>
<tr>
<td>South Wales Regional Rep</td>
<td>Spellis.j</td>
<td><a href="mailto:Spellis.j@tiscali.co.uk">Spellis.j@tiscali.co.uk</a></td>
</tr>
<tr>
<td>Ordinary Members</td>
<td>Sarah Hayward</td>
<td><a href="mailto:srhayward76@yahoo.co.uk">srhayward76@yahoo.co.uk</a></td>
</tr>
<tr>
<td>Chair</td>
<td>Kira Stearns</td>
<td><a href="mailto:chairperson@badt.org.uk">chairperson@badt.org.uk</a></td>
</tr>
<tr>
<td>Treasurer</td>
<td>Denise Creasey</td>
<td><a href="mailto:treasurer@badt.org.uk">treasurer@badt.org.uk</a></td>
</tr>
<tr>
<td>ASM Co-Ordinator</td>
<td>Dave Martin</td>
<td><a href="mailto:dmarthyg@aol.com">dmarthyg@aol.com</a></td>
</tr>
<tr>
<td>Editorial Panel Member</td>
<td>Charlotte Wake</td>
<td><a href="mailto:editorial@badt.org.uk">editorial@badt.org.uk</a></td>
</tr>
<tr>
<td>East Anglia Rep</td>
<td>Position vacant</td>
<td></td>
</tr>
<tr>
<td>Midlands Regional Reps</td>
<td>Karen Hendon</td>
<td><a href="mailto:karenhendon@hotmail.com">karenhendon@hotmail.com</a></td>
</tr>
<tr>
<td>Samantha Webb</td>
<td><a href="mailto:toothfairy2007@btinternet.com">toothfairy2007@btinternet.com</a></td>
<td></td>
</tr>
<tr>
<td>Ireland Regional Rep</td>
<td>Muire Sweeney</td>
<td><a href="mailto:muiresweeney@yahoo.co.uk">muiresweeney@yahoo.co.uk</a></td>
</tr>
<tr>
<td>Yorkshire Regional Reps</td>
<td>Anushka McCann</td>
<td><a href="mailto:a.mccann@leeds.ac.uk">a.mccann@leeds.ac.uk</a></td>
</tr>
<tr>
<td>Helen Watson</td>
<td><a href="mailto:h.r.watson@leeds.ac.uk">h.r.watson@leeds.ac.uk</a></td>
<td></td>
</tr>
<tr>
<td>Membership Secretary/Vacancy Coordinator</td>
<td>Lynda Whelan</td>
<td>60 Lynwood Avenue, Clayton Le Moors Accrington, Lancs BBS 5RR <a href="mailto:membership@badt.org.uk">membership@badt.org.uk</a> <a href="mailto:adverts@badt.org.uk">adverts@badt.org.uk</a></td>
</tr>
</tbody>
</table>
Significant challenges

GDC fees go up
The General Dental Council has increased the annual retention fee for therapists to £120. The fee for dentists has risen to £576.

The GDC says it is facing a number of significant challenges which look set to continue in 2011. A number of these will place additional pressure on its resources such as: a 40 per cent rise in fitness to practise case load overall, an increase in hearings (178 cases were referred to a practice committee in 2009 in comparison to 164 in 2008), the cost of legal and professional services now stands at more than £8m and the GDC is planning for Government-led initiatives like revalidation.

The new ARF for DCPs is due by July 31, 2011. The DCP increase is equivalent to £2 extra per month.

GDC chair Alison Lockyer said: 'We have looked very carefully at what it costs us to regulate dentistry. Costs include keeping our two registers, one for dentists and one for DCPs, up-to-date with people joining and leaving. The online registers are updated daily so people checking can be sure they have the latest information.

'More significantly, fitness to practise caseloads continue to grow and these costs are largely driven by allegations against dentists. Dental care professionals are now beginning to feature in FTP work too. Currently the best information we have is that dentists account for at least 74 per cent of our costs and dental care professionals 26 per cent.'

Whitening success

South West region
Cheryl Tanner and other BADT members attended the first whitening course at the Wessex Dental Centre in Fareham in October. Michael Thomas agreed to run the course, as there had been requests for training in this extended duty from colleagues in this part of the region.

Contact Cheryl Tanner (see contact details in Who’s who on page 6) if you wish to register your interest for the next training day. The spring meeting is likely to be in February. We will email with the details once we have confirmed speakers and venue which will be in Dorset.

Spring date

London region
The next London region spring study day is on Saturday, May 14, 2011 at the Eastman Dental Hospital. Subjects include orthodontic therapy, misdirection as a patient management tool, student project presentation and so on. Further details available in the next edition of Dental Therapy Update and on the BADT website. London Region welcomes all BADT members and student members.

Correction

Sorry!
In Dental Therapy Update July/August 2010 edition we did not credit Lynda Taylor as a contributor to the report of the London Region Spring Study Day 2010. Our sincere apologies.

Leigh Ann Randell
The last item of the agenda of the AGM was the presentation to Leigh Ann Randell (below), immediate past-president who resigned earlier in the year.

The BADT had bought Leigh Ann a beautiful Tiffany pen in recognition of all her work and dedication as president. Leigh Ann had also served on council as chairperson and north west regional representative. Outgoing chair, Bimal Chana, praised and acknowledged all of Leigh Ann’s work over the years.

Leigh Ann was unfortunately not able to be present and Dave Martin, ASM co-ordinator, received the gift on her behalf.

Portsmouth graduates
Graduate dental therapists from Portsmouth in July 2010. Well done to all!
Cleft thanks

The ASM in London celebrated 50 years of dental therapy this year. The BADT chose to support the very worthy charity Cleft with this year’s raffle funds. The BADT regional groups and companies who attended the ASM kindly donated prizes to the raffle that took place during the gala dinner. Dinner guests were extremely generous and dug deep. Thanks also go to our hygiene and therapy students who helped towards the magnificent total of £900 by selling tickets during the day. Cleft were pleased and said ‘thank you so much for this wonderful donation’.

Cleft – Bridging the Gap is a charity set up in 2007 by the North Thames Cleft Lip and Palate Centre, based at Great Ormond Street Hospital and the St Andrew’s Centre at Chelmsford’s Broomfield Hospital. It aims to raise funds for much needed research into improving surgical techniques, thereby relieving suffering for patients and carers and to investigate the underlying reasons for cleft deformities.

Illegal practice

The General Dental Council has successfully completed its tenth prosecution for the illegal practice of dentistry this year.

In August 2010 at Kingston-Upon-Thames Magistrates’ Court, Marina Grgurinovic was found guilty of unlawfully implying she was a registered dental care professional. Mrs Grgurinovic continued to practise under the title of dental nurse at Southfields Dental Centre, despite being suspended, pending her erasure from the GDC’s register. Mrs Grgurinovic also failed to notify her employers of her suspension from the GDC’s register.

District Judge Wiles, when passing sentence said: ‘You made a serious mistake by continuing to practise after you knew you were suspended by the GDC.’

Mrs Grgurinovic was given a conditional discharge for 18 months and ordered to pay £500 towards the GDC’s costs.

Fitness to practise

Huge interest

The General Dental Council is moving onto the next stage in its recruitment campaign for 50 new Fitness to Practise panel members.

The GDC received more than 1,300 applications for these roles, with highly experienced and skilled professionals from both dentistry and other fields coming forward.

Chair Alison Lockyer said: ‘It has been great to see so many people take an active interest in the work of the General Dental Council. I am really pleased and want to thank those who took time out to apply. A special focus on dental care professionals during the recruitment campaign has resulted in more than 250 individuals applying for the roles. With the quality of the applications so high, it’s been very competitive to get through to the next stage. I hope those who have been unsuccessful this time will try again in the future.’

Successful candidates for the Fitness to Practise roles will be expected to: sit on panels in public hearings, hear applications for restoration to the registers, hear appeals against registration decisions.

Corporate strategy

Protecting patients

The General Dental Council Corporate Strategy which defines who it is and how regulation works is now available online.

In the 2010-14 strategy the values and the overall aims of the organisation are described. The document outlines the Council’s objectives for each of the areas in which it works and the ways in which it will measure its successes against these goals.

Find out what the council wants to achieve in: standards, registration, fitness to practise, education and value for money.

Download the GDC Corporate Strategy 2010-14 at www.gdc-uk.org

Ineffective policing

Online tooth whitening danger

New research from the experts at Which? has uncovered widespread selling of illegal and potentially harmful tooth whitening products online.

Amazon, eBay and Google agreed to remove damaging products from their websites after reviewing evidence from Which?

Research from the consumer watchdog also found that almost three in 10 people buying tooth whitening products online were dissatisfied with these; with one in 10 ending up with white spots on their gums or lips, indicating chemical burns, and a similar number reporting brown stains on their teeth, suggesting the enamel had been damaged by the product.

Peter Vicary-Smith, chief executive of consumer watchdog Which?, says: ‘Tooth whitening kits are widely available online, but many contain potentially dangerous levels of chemicals that could actually damage teeth or burn lips and gums.

‘These products are illegal, but ineffective policing means they are still widely available. We have shared our findings with Trading Standards and will continue to urge online retailers to boycott such harmful products being sold in their marketplaces.’
Reports and photos from the ASM in London

**Adhesive dentistry**

Avijit Banerji (left) began his lecture *An update of 'MI' adhesive dentistry – the future is now* describing his approach to caries: maximally invasive disease treated by minimally invasive dentistry (MI). He stressed the importance of good patient selection: motivated individuals prepared to take responsibility for their own oral hygiene, and also a dedicated and motivated team working together to achieve and then maintain success. Essential to the whole process is meticulous record keeping and an MI care plan that each team member could understand. It is based on five steps:

1. identify diseased tooth tissue
2. diagnose caries suitable for restoration by this method
3. prevent and control the advance of caries
4. restore the lesion
5. regular recall to monitor the restoration and modify if margins show wear and leakage.

The normal approach to caries is excision dentistry but Avijit Banerji displayed and discussed evidence that showed we should now be moving towards sealing cavities with caries inside – and not just minimal lesions. His research has taken place over the past 10 years and with radiographic evidence he demonstrated that the pulp dentine complex is repairable when the correct technique and materials are used. This does not eliminate cavity preparation but indicates the removal of minimal diseased tooth tissue and the use of modern adhesive dentistry.

His approach is one that therapists can easily adapt to, but not in isolation. It hinges on teamwork.

Finally, he gave a brief overview of the new 11th edition of *Pickard manual of operative dentistry*. Due for publication in January 2011, Avijit Banerji has been involved in the update of this restorative dentistry ‘bible’ and therapists/hygienists will be delighted to see that throughout the publication it includes DCPs and recognises their clinical role in dentistry. An exciting and welcome step forward for everyone.

**Lynne Mackay**

**Composite: friend or foe?**

The majority of restorations placed in modern dental practice are composite resin restorations. Patients and dentists are driven by the aesthetic advantages of such materials. We are made fully away of the potential risks of mercury in amalgam restorations (very few substantiated) and glancing at the internet makes amalgam seem like a devil in disguise.

Amalgam does, however, have a tried and tested history, and is a restoration with longevity, antibacterial properties, limited microleakage and it is also very forgiving to place.

We have now been using composite resin since the early 1970s, but few of us warn our patients about the toxic effects of some of the constituents, the cytotoxic effects of all the resin components, and the damaging effects of bis-phenol A.

The longevity of composite resin must also be questioned, lasting on average half the time as amalgam (is this cost effective in the NHS?). Many dental composite manufacturers give us product information, in glossy format, showing bonding strength to be high and marginal leakage minimal, all of which may be produced in a test tube not on a true patient? Should we be using such a material?

The answer is yes. However, I feel we do have a duty of care to our patients to inform them of all the potential draw backs of both materials, to give a balanced view, so patients can really make an informed choice.

**Jason Nigli (pictured)**

**Teams with skills**

Sue Gregory OBE (left), the deputy Chief Dental Officer for England began our ASM with a talk entitled *Teams with skills for the future.*

It was an interesting talk on the changing dental needs of the population and increasing the skill mix to meet those needs, describing the role of DCPs in the delivery of dental care. Some research by Cardiff University Dental School shows that dental therapists have the skills to carry out 40 per cent of a dentist’s workload and this figure would rise to 70 per cent with the development and implementation of a diagnostic module.

However, she also pointed out that the pace of change is slow as currently there are 900 registered dental therapists compared to 25,000 dentists!

But we are going in the right direction as expansion of the dental workforce has increased. Sue Gregory pointed us towards a vision for the future quoting research from *Dental therapy in the United Kingdom: part 2.* A survey of reported working practices by JH Godson, SA Williams, JI Csikar, S Bradley and JS Rowbotham published in the *British Dental Journal* 207, 417–423 (2009).

**Helen Watson**
Managing the diseased root surface
Phil Ower (pictured) advised on the advantages of full-mouth, ultrasonic debridement.

Periodontitis is a relatively common condition that, in more susceptible individuals, can lead to significant loss of attachment and alveolar bone loss during life resulting in tooth loss. The bacterial biofilm plays a crucial role in the development of periodontitis in these individuals but bacteria are not, on their own, solely responsible for the disease process.

The individual's host response (via inflammatory and immune system mechanisms) has an equally important role. Indeed, current thinking is that bacteria trigger the host response but it is the host response that is directly responsible for most of the damage seen. This damage can be mediated by either an insufficient or an over-vigorous host response. Periodontitis is not therefore like other infectious diseases (where there are causative organisms) but instead should be thought of as a form of inflammatory disease.

At present nothing can be done to change the host response to the bacterial biofilm. Disease control can therefore only be achieved by bacterial control, both by patient and clinician. Root surface disinfection is the primary objective of periodontal therapy (European Workshop in Periodontology 1993), whether non-surgical or surgical. Optimal self-performed plaque control by the patient is important and disease control can never be achieved without it, due to root surface recolonisation by the bacterial biofilm.

Good plaque control alone can lead to exposure of previously subgingival calculus, the removal of which improves access for cleaning and allows further healing of periodontal lesions.

In the past much emphasis has been placed on the professional removal of calculus and ‘infected’ cementum during treatment in order to permit periodontal lesions to heal. However the evidence base strongly indicates that calculus is an inert material and is a product of the disease process rather than the cause. It has been shown that periodontal lesions can heal in the presence of subgingival calculus providing the calculus surface is biofilm-free. It follows then that calculus only needs to be removed to improve subgingival access for biofilm control and for aesthetics.

Similarly, it used to be thought that root cementum became contaminated with bacteria and their toxins and that such ’infected’ cementum had to be removed during therapy (the goal of traditional root planing).

This has led to lengthy, expensive, painful treatments which, while effective, should now be thought of as ‘over treatment’. Studies have clearly shown that almost all the root surface contaminants are instead superficially located on the root surface and can be readily removed by a much lighter, shorter duration instrumentation procedure which has been termed ‘root surface debridement’.

Such treatment can be carried out by means of ultrasonic instrumentation alone without the need for need for more complex hand instrumentation, anaesthesia is often not necessary and full mouth treatments are achievable. The benefits to both patient and operator are obvious and such an approach is also more cost-effective and suited to a variety of practice settings. Several studies over the past five years have shown that full-mouth, ultrasonic debridement (FMUD) is as effective as traditional quadrant-by-quadrant scaling and root planing.

For more information go to www.periocourses.co.uk
Prevention and care
Following Sue Gregory’s presentation entitled *Teams with skills for the future* in which she outlined the changing dental needs of the population, the need for skill mix and the contribution of therapists to improving oral health, Anousheh Alavi (pictured), scientific affairs manager at Colgate, presented *Evolving dental teams – delivering optimised prevention and care*.

Anousheh thanked Sue Gregory for setting the scene and sharing the health department vision, before introducing the concept of change itself, including change typology, stating that change is a process and it’s our perceptions that dictate our behaviour. Why is this important? Anousheh was referring to the recent change in legislation allowing dental therapists and hygienists to work to a Patient Group Directive (PGD) which applies to a whole group of patients rather than having named individuals on the prescription.

Anousheh introduced the steps of leading change, taking each step in turn and applying them to clinical practice. The first step, ‘Create a sense of urgency’ linked in with the ageing population and their impending oral health needs. The percentage of population within Western Europe aged 80 years plus, will more than double by 2050. The proportion of adults with a functional dentition of 21 teeth or more will increase to 80 per cent within the 65-74 age groups by 2028. The implication of this is that two thirds of adults will have exposed roots and managing root caries will have a greater impact on the future adult population. The challenge is in managing adult caries both now and in the future along with the number of teeth affected by coronal caries – with the emphasis being very much on prevention.

The second step, ‘Pull together a guiding team’, started in 2005 with the publication of *Choosing better oral health* when a guiding team was led by Sue Gregory who chaired a group of experts contributing to what is the evidence base for preventing oral diseases. The result was *Delivering better oral health – an evidence-based toolkit for prevention*. The principles were to keep it consistent, simple and make it evidence based.

Further down the list of steps to change was ‘Empowering others – changing leadership style’. This, in effect, is the latest legislation enabling dental therapists and hygienists to prescribe high fluoride toothpastes and local anaesthetics. Anousheh relayed the latest guidance from the health department to clarify the implications of this new legislation, whilst gauging areas of clarification to be updated and shared. She gave the MHRA definition of Patient Group Directions (PGDs) as ‘written instructions for the supply or administration of medicines to groups of patients who may not be individually identified before presentation for treatment’. Currently, as a dental therapist or hygienist, you can now apply or prescribe local anaesthetic or high fluoride toothpaste if a patient group directive is in place. This PGD can only be used in NHS dental practices but it does not currently apply to private dental practices and does not automatically follow registration with the Care Quality Commission (CQC) in April 2011.

Patients in private practice need a Patient Specific Directive (PSD), effectively a specific prescription for the named patient issued by the dentist.

The final step is to ‘Anchor change in the culture’. Anousheh committed to the group that she would continue to work with the key stakeholders to follow the implications of the new legislation through and communicate updates to the main associations.

**British Association of Dental Therapists**

10 – 11 September 2010

The Cumberland Hotel located in the very heart of London

Reports and photos from the ASM in London

**Prevention and care**

Following Sue Gregory’s presentation entitled *Teams with skills for the future* in which she outlined the changing dental needs of the population, the need for skill mix and the contribution of therapists to improving oral health, Anousheh Alavi (pictured), scientific affairs manager at Colgate, presented *Evolving dental teams – delivering optimised prevention and care*.

Anousheh thanked Sue Gregory for setting the scene and sharing the health department vision, before introducing the concept of change itself, including change typology, stating that change is a process and it’s our perceptions that dictate our behaviour. Why is this important? Anousheh was referring to the recent change in legislation allowing dental therapists and hygienists to work to a Patient Group Directive (PGD) which applies to a whole group of patients rather than having named individuals on the prescription.

Anousheh introduced the steps of leading change, taking each step in turn and applying them to clinical practice. The first step, ‘Create a sense of urgency’ linked in with the ageing population and their impending oral health needs. The percentage of population within Western Europe aged 80 years plus, will more than double by 2050. The proportion of adults with a functional dentition of 21 teeth or more will increase to 80 per cent within the 65-74 age groups by 2028. The implication of this is that two thirds of adults will have exposed roots and managing root caries will have a greater impact on the future adult population. The challenge is in managing adult caries both now and in the future along with the number of teeth affected by coronal caries – with the emphasis being very much on prevention.

The second step, ‘Pull together a guiding team’, started in 2005 with the publication of *Choosing better oral health* when a guiding team was led by Sue Gregory who chaired a group of experts contributing to what is the evidence base for preventing oral diseases. The result was *Delivering better oral health – an evidence-based toolkit for prevention*. The principles were to keep it consistent, simple and make it evidence based.

Further down the list of steps to change was ‘Empowering others – changing leadership style’. This, in effect, is the latest legislation enabling dental therapists and hygienists to prescribe high fluoride toothpastes and local anaesthetics. Anousheh relayed the latest guidance from the health department to clarify the implications of this new legislation, whilst gauging areas of clarification to be updated and shared. She gave the MHRA definition of Patient Group Directions (PGDs) as ‘written instructions for the supply or administration of medicines to groups of patients who may not be individually identified before presentation for treatment’. Currently, as a dental therapist or hygienist, you can now apply or prescribe local anaesthetic or high fluoride toothpaste if a patient group directive is in place. This PGD can only be used in NHS dental practices but it does not currently apply to private dental practices and does not automatically follow registration with the Care Quality Commission (CQC) in April 2011.

Patients in private practice need a Patient Specific Directive (PSD), effectively a specific prescription for the named patient issued by the dentist.

The final step is to ‘Anchor change in the culture’. Anousheh committed to the group that she would continue to work with the key stakeholders to follow the implications of the new legislation through and communicate updates to the main associations.

---

**BRITISH ASSOCIATION OF DENTAL THERAPISTS**

47th ANNUAL SCIENTIFIC MEETING AND AGM

**‘CPD a Golden Opportunity – 50 years of Dental Therapy’**

The Cumberland Hotel, London

Friday 10th - Saturday 11th September 2010

---

**Colgate**
Welcome to our Annual Scientific Conference being held at the Cumberland Hotel, London, 10 & 11 September 2010

We are delighted to be celebrating 50 Years of Dental Therapy in the UK at our annual scientific meeting, when we will be both looking back at the pioneers and forward to the future of our profession.

Please register NOW at www.BADT.org.uk and click on the BLUE event logo. Check out the News Email Archive for programme information, more speakers, trains and the views of previous attendees at our Annual Scientific Meetings.

Delegates come back every year to learn new techniques and procedures and the SUPER PROGRAMME reflects the wide scope of activities within our remit, ensuring that everyone attending gets great value from the conference, in addition to making new friends and contacts.

This great programme has been tailored for all tastes, scientific & practical. Here are just 5% of the speakers!

There is a great programme and we are very pleased that Sue Gregory OBE, Deputy Chief Dental Officer, England, Department of Health, is our Keynote speaker. This session will provide an overall perspective of the role of the skill mix in the dental team, in delivering improvements in oral health, quality of dental care for the future & particular reference to dental therapists.

Dr Phil Ower - Diseased Root Surface
He will discuss the nature of the diseased root surface and examine different treatment protocols for the DRS. You will learn to appreciate different root treatment terminology and to understand how to choose and use appropriate instruments for management of the diseased root surface.

Dr Nicola Innes - The Hall Technique Revisited
This session will provide delegates with an understanding of the technique and provide an overview of how it might form part of the clinical care of a child & present evidence supporting its use (including an update in clinically relevant cariology), plus details on how to fit a preformed metal crown using the Hall Technique & information on indications and contra-indications for its use.

Dr David Gillam - Management of Dentine Hypersensitivity
To discuss the efficacy of products to treat dentine hypersensitivity according to the literature and clinical practice. To update delegates on a common condition of concern to dental professionals. Identify individuals at risk and understand aetiological and predisposing factors. Manage differential diagnosis. Understand the importance of education (Dental Team and Patient) for successful management of dentine hypersensitivity.

Andrea Wraith - Medical Emergencies – A User Friendly Guide
This session will provide the dental team with the knowledge base to enable them to safely and effectively assess and manage a patient who feels ‘unwell’ in the dental surgery. To be able to identify and manage the more common medical emergencies and those that, although rare, pose the greatest risk to the patient if not managed appropriately.

Registering and not a BADT Member? Join for a year and register for the two day conference and still save money over the non member rate!! The Early-Bird rate for Full Members ends on 31st July and the charge is only £150 for two days.

Newly qualified Dental Therapists receive a 50% member discount and pay just £30 in their first year. Students on an approved course can join for free. Other members of the dental team, including dentists, hygienists and nurses can join too.

President's Dinner & Super Low Cost Accommodation at the Cumberland Hotel - Great Fun & Value at the Venue!
Have fun with friends and relax at the President’s Dinner on Friday Night! Enjoy super value room rates for delegates at the stylish 4-star Cumberland Hotel (only £110 for Singles and just £110 for doubles including breakfast!). With the hotel being just 100 metres from Marble Arch and only 500m from Oxford Street, it is perfect for retail therapy on Saturday afternoon!!

Register and View the News Archive at www.BADT.org.uk - Questions? Please email us at BADT@wordsoft.co.uk

Reports and photos from the ASM in London
Welcome to our Annual Scientific Conference being held at the Cumberland Hotel, London, 10 & 11 September 2010

We are delighted to be celebrating 50 Years of Dental Therapy in the UK at our annual scientific meeting, when we will be both looking back at the pioneers and forward to the future of our profession.

Please register NOW at www.BADT.org.uk and click on the BLUE event logo. Check out the News Email Archive for programme information, more speakers, trains and the views of previous attendees at our Annual Scientific Meetings.

Delegates come back every year to learn new techniques and procedures and the SUPER PROGRAMME reflects the wide scope of activities within our remit, ensuring that everyone attending gets great value from the conference, in addition to making new friends and contacts.

This great programme has been tailored for all tastes, scientific & practical. Here are just 50% of the speakers!

Sue Gregory OBE, Deputy Chief Dental Officer, England, Department of Health, is our Keynote speaker. This session will provide an overall perspective of the role of the skill mix in the dental team, in delivering improvements in oral health, quality of dental care for the future & particular reference to dental therapists.

Dr Phil Ower - Diseased Root Surface
He will discuss the nature of the diseased root surface and examine different treatment protocols for the DRS. You will learn to appreciate different root treatment terminology and to understand how to choose and use appropriate instruments for management of the diseased root surface.

Dr Nicola Innes - The Hall Technique Revisited
This session will provide delegates with an understanding of the technique and provide an overview of how it might form part of the clinical care of a child & present evidence supporting its use (including an update in clinically relevant cariology), plus details on how to fit a preformed metal crown using the Hall Technique & information on indications and contra-indications for its use.

Dr David Gillam - Management of Dentine Hypersensitivity
To discuss the efficacy of products to treat dentine hypersensitivity according to the literature and clinical practice. To update delegates on a common condition of concern to dental professionals. Identify individuals at risk and understand aetiological and predisposing factors. Manage differential diagnosis. Understand the importance of education (Dental Team and Patient) for successful management of dentine hypersensitivity.

Andrea Wraith - Medical Emergencies – A User Friendly Guide
This session will provide the dental team with the knowledge base to enable them to safely and effectively assess and manage a patient who feels ‘unwell’ in the dental surgery. To be able to identify and manage the more common medical emergencies and those that, although rare, pose the greatest risk to the patient if not managed appropriately.

Registering and not a BADT Member?
Join for a year and register for the two day conference and still save money over the non member rate!! The Early-Bird rate for Full Members ends on 31st July and the charge is only £150 for two days.

Newly qualified Dental Therapists receive a 50% member discount and pay just £30 in their first year. Students on an approved course can join for free. Other members of the dental team, including dentists, hygienists and nurses can join too.

President’s Dinner & Super Low Cost Accommodation at the Cumberland Hotel - Great Fun & Value at the Venue!
Have fun with friends and relax at the President’s Dinner on Friday Night! Enjoy super value room rates for delegates at the stylish 4-star Cumberland Hotel (only £110 for Singles and just £110 for doubles including breakfast!). With the hotel being just 100 metres from Marble Arch and only 500m from Oxford Street, it is perfect for retail therapy on Saturday afternoon!!

Register and View the News Archive at www.BADT.org.uk - Questions? Please email us at BADT@wordsoft.co.uk

Reports and photos from the ASM in London
Money saving tips
A checklist from Penny Jones to help you maximize your income.

This is a whistle-stop tour of just some of the things you need to consider. Here goes …!

Ask if you are (really) self employed.
If you are self employed:
- you are in business on your own account, have the right to control the work you do and do not have to accept work
- you can send another therapist in to do your work (substitution)
- you bear the financial risk, so you put right work that is not up to standard at your own cost, and don’t get paid if a patient cancels their appointment
- you provide your own (small) equipment and hire surgery space/reception services
- you have a contract for services - watch out for indemnity clauses in it.

If your employment/self employment combination changes, your tax situation will change and the tax payments on account may be reduced.

Allowable expenses
If you are not sure whether an expense is eligible for tax relief, please consult your accountancy and tax advisor. Expenses incurred wholly and exclusively for the purpose of your business are tax allowable, including:
- mobile telephone costs
- postage and stationery
- subscriptions paid to BADT and other relevant organisations
- courses that update existing skills or knowledge (courses intended to give you new expertise, knowledge or skills are not allowable)
- motor expenses (keep a note of the business mileage that you do – travel from home to the practice is not allowable)
- cleaning, laundry and uniforms (only clothes/shoes purchased from specialised companies such as Kent Express can be claimed)
- accountancy and professional fees for the preparation of your accounts
- use of home as office (seek professional advice before installing a dedicated office in your home)
- hire purchase/bank interest on loan to buy dental equipment
- materials and lab fees
- dental or computer equipment that you purchase is eligible for tax relief in the form of capital allowances.

Manage debt
- Save for tax – at least 30 per cent of income if self-employed.
- Offset tax and other savings accounts against your mortgage, if possible.
- Do you know how much debt (loans, credit cards, etc) costs you? Find out and consolidate!

Married couples and civil partners
- Consider business partnerships if you are both GDC registered.
- Make sure both partners first use the 20 per cent basic rate tax band and then the 40 per cent higher rate band before the 50 per cent additional rate band.
- Jointly own assets that are to become liable to capital gains tax (holiday homes, share portfolios).

Manage your tax liabilities
- If you are employed and self-employed, apply to HMRC to defer class 2 and/or 4 NICs.
- If your employment/self employment combination changes, your income falls, you make a pension contribution or buy new equipment your tax situation will change and the tax payments on account may be reduced.

Other tips
- ISA limits - £10,200 per annum of which up to £5,100 can be saved in cash
- Rent a room scheme - gross receipt of £4,250 tax free.

Contact Penny Jones at penny@dbs.org.uk

Penny Jones is a tax manager at Dental Business Solutions.
Management

Contracts for therapists

Sunil Abeyewickreme clarifies employment status.

Do you know if you are employed or self-employed? How do you know? And how do you ensure whether or not you are employed or self-employed?

Whilst self-employed associates are common place in the primary dental care industry and it could therefore be implied that such associates are generally bound by the custom of the industry in which they are in, this is not so clear cut for dental therapists. Generally speaking dental care professionals are subject to employment contracts that define them as being employed by the dental practice and due to the degree of control that the practice has over them will usually be deemed to have ‘employed’ status. Nevertheless, for dental therapists being engaged on a self-employed basis is not unusual. It is important to be clear what the advantages and disadvantages of being self-employed are. The problem with being self-employed is that you do not have the same rights as an employee, however there may be tax advantages and advice should be taken in this regard.

There are clearly advantages and disadvantages to either status. Certain rights (such as the right to claim unfair dismissal or a statutory redundancy payment) are restricted to employees. Other rights such as whistle-blowing protection (which is likely to be important in the dental context due to the extent of the health and safety procedures that must be complied with and confidentiality issues) are given to both employees and other workers. Your status will also affect your income tax and social security status and your liability to third parties.

If you are self-employed you will have to contribute towards the costs of laboratory bills.
are employed or self-employed?

A leading case in 1968 is still used by the Courts to provide guidance as to the basic requirements for a worker to receive employee status:

- personal service – the employee must provide services himself and is not able to substitute contract work;
- mutuality of obligations – there must be an obligation on the employer to provide work and an obligation on the employee to accept work;
- control – the employer must exercise control over the employee.
- other factors consistent with there being an employment contract.

The status distinction received further clarification in July this year in the dental case in which the claimant dentist who had entered into a contract with the respondent dental practice had claimed against the dental practice for unlawful deduction of wages. For this case to be heard in the employment tribunal, the claimant had to first establish whether he was employed by the dental practice as an employee or as a self-employed worker contracted to the dental practice.

The dental practice was responsible for the provision of day-to-day dental services and supplied the premises with basic equipment and support staff. The claimant only had to provide his uniform and some equipment. Although the dental practice introduced the patients to the claimant, the claimant was able to reject the provision of treatment to any individual. The claimant had to work defined hours and was paid on a piecemeal basis. The claimant was responsible for paying his own tax and National Insurance and did not receive any holiday or sick pay.

The key clause in the claimant’s contract was: ‘In the event of your failure (through ill health, maternity leave or other causes excluding up to 30 days’ annual holiday allowance) to utilise the facilities for a continuous period of more than five days you shall make arrangements for the use of the facilities by locum tenens acceptable [to the respondent] and

in the event of your failure to make such arrangements [the respondent] shall have authority to appoint a locum tenens if possible to act on your behalf who should be your servant or agent and shall be paid by you’.

The Employment Appeals Tribunal held that where a person has an unrestricted right to appoint a locum to carry out work in their place, that person cannot receive ‘worker’ status within the meaning of the Employment Rights Act 1996. The claimant was therefore not an employee as there was insufficient mutuality of obligation as the respondent did not guarantee any particular number of patients and the claimant did not have to treat patients he did not want to.

Further, the claimant’s right not to provide dental services was not dependant completely on his ability to do so, but also dependant on his willingness to do so. Therefore it was decided that the contract did not make the claimant provide an undertaking to do work or perform personally any work or service and so he could not be considered to be a worker.

There is much written about what should be included in an employment contract to achieve employee status. However, this case provides a useful illustration of what should be included in a contract if you want to be clear as to your employment status, specifically if you want to be considered as self-employed.

So what terms should you ensure are included in your contract to achieve self employed status? These tips will apply to both dentists and DCPs.

1. Have a contract which accurately mirrors your working practices. You should include:
   - An intention to be engaged as a self-employed contractor;
   - That you are in control of the work and not subject to the control of the dental practice;
   - That you bear the financial risks for your mistakes and are not covered by the insurance of the dental practice.
2. Payment should be per patient/per treatment undertaken. (Employees are usually paid on an hourly/daily or annual rate. Being paid per patient will demonstrate that you bear some financial risk).
3. Include a provision that you can decline treatment to patients should you wish (this will demonstrate that there is no mutuality of obligation as you can pick and choose which patients you see and when you see them).
4. Provide your own uniform.
5. Include a provision dealing with bad debts making either you or you and the practice jointly liable for bad debts.
6. Include a provision that you are able to undertake private work at the premises (with fees shared equally with the dental practice).
7. Include a provision that you are able to accept work elsewhere.
8. Include a provision for the costs of laboratory work generated from treating patients – you should contribute towards these costs.
9. Include an indemnity provision to indemnify the practice against any costs incurred as a result of your negligence.
10. Include a substitution clause. This should be:
   - Not limited to circumstances in which you are unable or unwilling to carry out the services;
   - That it can be validly implemented;
   - That you have some responsibility for the substitute rather than the dental practice providing a replacement for you (as outlined in the substitution clause referred to in the Community Dental Case above).
11. Provide your own insurances.
12. Include a provision that you will not be entitled to holiday or sickness pay.
13. Try to avoid the following provisions:
   - fixed working hours
   - being on the emergency on-call roster
   - a limit on time off
   - monthly targets.
DCP research awards
A preventive care partnership.

Colgate DCP Research Awards, in partnership with the Oral Dental Research Trust (ODRT), support research of clinical relevance, carried out by Dental Care Professionals, with special emphasis on preventive care. Up to four awards, each to a value of £2,500 are presented annually.

The 2010 awardees were presented with their certificates by Prof Angus Walls, chair of the Oral Dental Research Trust, at a reception and luncheon held at the British Dental Conference in Liverpool earlier this year.

The Colgate DCP Research Awards is an important introduction to research methodology for those who have never been involved in research previously.

Prof Walls said: ‘The Colgate DCP Research Awards is recognised as an important forward looking initiative encouraging DCPs to embark on novel research of immediate clinical relevance and help build and strengthen the academic base of the entire dental team.’

The Colgate DCP Research Awards offer all DCPs the opportunity to carry out research, and is an important introduction to research methodology for those who have never been involved in research previously.

A research team can be made up of all members of a general dental practice, including dental nurses, hygienists, technicians and therapists, and may also include a dentist as a mentor or supervisor.

Look out for the call for 2011 applications which will be announced in the dental press before the end of this year.

Cancer triggers
Young adults who smoke, drink and eat low levels of fruit and vegetables are at higher risk of contracting cancers of the mouth, oesophagus and larynx.

New research has revealed these factors remain the major triggers of the diseases which kill over 100,000 people across Europe and 10,000 in the UK alone, each year. The study by researchers from the University of Aberdeen aimed to understand what factors were important in these cancers among the under-50s.

The findings confirmed 88 per cent of these cancers in this age group were caused by smoking tobacco, alcohol consumption and/or a lack of fruit and vegetables in a person’s diet. The five-year pan-Europe study looked at 350 patients under the age of 50 with these cancers, and 400 patients free of these diseases.

Professor of epidemiology at the University of Aberdeen, Gary Macfarlane who led the study said: ‘Cancers of the upper aero-digestive tract are on the increase throughout the world and to date the increases have been greatest in young adults under the age of 50.

‘For example, we have witnessed a doubling of oral cancer rates in 40-49 year old men in the UK over the last 20 years.

‘Our study aimed to determine whether smoking, alcohol consumption and low fruit and vegetable intake remained the most significant risk factors for UADT cancers in this age group, or whether other ‘novel’ factors including genetics and infection could be relatively more important.

The results of the study – which was funded by a European Union grant – indicate the public health message in preventing cancers of the UADT should remain the same for young and old alike.'
Management

Therapists’ success

Judith Traherne and Lynda Taylor have been recognised by a Cabinet Office task force for their work with clients with a learning disability.

Dental therapists, Judith Traherne and Lynda Taylor, who work in the Westminster area of Central London Health Care were invited to a reception at Admiralty House, Whitehall to celebrate the launch of the Government’s new agenda Inclusion health: Improving the way we meet the primary health care needs of the socially excluded.

The study highlights that socially excluded groups experience poor health outcomes and often present with a wide range of complex needs. Those in greatest need of public services often do not get the care they require.

This is of particular importance for dental services for people with learning disabilities. A local baseline audit (Stephan Brusch, 2004) of GP registers of patients with learning disabilities highlighted that only about 10 per cent had a record of their oral health and only four per cent had seen a dentist in the previous year.

In light of all this the Westminster Community Dental Service has been commissioned to carry out an oral health needs assessment of the adults with learning disabilities living in the Westminster area. This has been worked on for more than two years. The rationale for this assessment is two-fold: 1. to determine the oral health of and treatment needs for this population group 2. to improve their oral health, by setting up a service tailored to meet their specific needs.

The project involves a multidisciplinary approach with other health professionals working with this client group. It involves a three-pronged approach to the oral health needs specific to each service user:
1. each service user meets with dental therapists and Judith Traherne or Lynda Taylor set up an oral health action plan. This plan outlines for the service user and their family/carers how to optimise their oral health through oral health instruction and dietary advice and facilitates their uptake of dental services available to them.
2. a comprehensive dental assessment is offered. At this assessment a record is made of their levels of dental disease, that is, decay and gum disease. An individual treatment plan is drawn up and appointments with the Community Dental Service offered.
3. once each service user is made dentally fit they are placed on a recall system for ongoing dental care.

There is a total of 411 adults with learning disabilities on the list and 280 have been contacted. Oral health action plans have been completed for 229 of them.

These action plans show the following:

- there is an extremely low uptake of care from high street dentists - most service users make use of the Community Dental Service. Only 23 of those contacted have their own GDP.
- a high number of service users require dental treatment under sedation/ general anaesthetic.
- the oral hygiene of people in residential care is in need of great improvement

Many service users are not receiving adequate support in their oral hygiene. Twenty-six per cent of patients received no help with oral hygiene. It is recommended that 82 per cent should receive help with OH.
- the DNA rate in this population group is far greater than the general population.

Dental officer John Whelan and dental therapists Judith Traherne and Lynda Taylor were interviewed by a researcher from the Cabinet Office about their work with adults with learning disabilities in the Westminster area.

Their work is mentioned on page 57 of the Evidence Pack Document which says: ‘The role of dental therapists on the team has been invaluable. They have the skills and experience to work with vulnerable people and have proactively built relationships with local organisations and made contact with people with special oral health needs. The dentist had successfully led on similar work elsewhere.’

The full document can be viewed at: www.cabinetoffice.gov.uk/media/346574/inclusion-health-evidencepack.pdf
Vision for the future

Cheryl Tanner reports on the opening of new facilities in Portsmouth.

The new University of Portsmouth Dental Academy marked its successful launch as an innovative centre for dental training by opening its doors to a host of visitors and students in September. Prof Nairn Wilson CBE, Dean and Head of King’s College London Dental Institute, joined colleagues and students from Portsmouth in welcoming the first cohort of fifth-year dental undergraduates from Kings and meeting representatives from the local dental community.

Prof Wilson spoke about future innovations in dentistry which have been predicted by colleagues and include: detecting caries through a simple saliva sample, wearing ‘behavioural change therapy’ to improve our patients’ oral hygiene, immunologically altering the bodily response to periodontal disease, using stem cell technology for guided tissue regeneration which would be able to attach to exposed dentine, prescribing drugs to accelerate bone growth and repair to enable faster healing.

These are all in the realms of possibility. Another interesting thought was the use of progressive therapy for elderly patients. Prof Wilson has lectured extensively on this and calls it ‘Let’s survive on 5 to 5’. With an ageing population should we be selecting a shortened dental arch approach which would enable good oral hygiene as dexterity and skills reduce?

All delegates were then treated to a tour of the educational, treatment and sterilisation facilities. It is impressive what can be achieved when it is purpose built. The staff room even has a veranda!

It is accepted that dentists should train alongside dental therapists to create a blended learning approach for all the dental team in all settings of dentistry. King’s College has now started sending their students to work with student therapists at the Dental Academy in Portsmouth. This will in turn increase knowledge of our skills by these graduating students. This can only be a good thing as they will automatically understand how we fit into their future working environments either as employer or employee.

The new academy will be opened formally in February. Congratulations to all involved with the Academy for their achievements.

Cheryl Tanner is BADT representative for the South West.
Protecting children’s teeth

New product helps fight cavities.

The latest child dental health survey shows 38 per cent of five-year-old children have on average 1.47 teeth that are decayed, missing or filled. The Colgate Smiles range of toothpaste and toothbrushes is designed to protect the differing stages of children’s dentition.

The fluoride content of the Colgate Smiles toothpaste range has been re-formulated to align with the guidance within Delivering better oral health – An evidence-based toolkit for prevention. This evidence-based guidance states the optimum age specific fluoride level for all children to maintain good oral health. Colgate Smiles toothpastes provide clinically proven caries protection for deciduous and mixed dentitions:

- Ages 0-3 toothpaste with sodium fluoride (1000ppm F)
- Ages 4+ toothpaste with sodium fluoride (1450ppm F)

Packaged in attractive stand-up tubes, Colgate Smiles toothpaste is ideal for supervised toothbrushing twice daily.

Colgate Smiles manual toothbrushes are designed to effectively remove plaque whilst protecting soft tissues at every stage of a child’s oral development.

The brushes have a unique dosing dot to help measure the correct amount of toothpaste at each stage along with an ergonomic cushioned handle to allow for an easier grip and better manoeuvring during cleaning.

The 6+ years brush also has a patented tongue cleaner to encourage good oral health habits. The brushes come in a range of fun colours and pictures.

Visit www.colgateprofessional.com and click on ‘patient education’ to view downloadable resources to share with children visiting your practice. These resources include a toothbrushing chart to promote twice daily toothbrushing for a healthy smile at every stage.

References available on request.

For further information on the Colgate Smiles range, please call the Colgate Customer Care Team on 01483 401 901 or visit www.colgateprofessional.co.uk.

Colgate Smiles Toothbrushing Chart.
Gum disease

Periodontitis may be more prevalent than previously thought.

After new research suggesting that more American adults may have gum disease than previously thought, the UK could find itself in a similar position, says chief executive of the British Dental Health Foundation, Nigel Carter.

The US study suggested the prevalence of periodontal disease in the US may have been underestimated by as much as 50 per cent.

Nigel Carter said: ‘The study shows that gum disease is a bigger problem than we previously thought and although this news comes from across the Atlantic it could well apply to us here in the UK as well.

‘In this instance, the best course of action would be one of caution, given what is understood about the links between gum disease and other systemic links such as heart disease, strokes, diabetes and pre-term births. ‘It all means that the relationship between gum disease and other related illnesses now becomes even more critical, in light of these new findings. In order to better understand the full extent and characteristics of periodontal disease in the UK a full and comprehensive study needs to be carried out on our adult population.’

The US research was conducted as part of a National Health and Nutrition Examination Survey which involved a full-mouth and comprehensive periodontal examination. Over 450 American adults over the age of 35 were tested.

Results were then compared against previous studies which used a partial-mouth periodontal examination.

The pilot study found that the original partial-mouth study may have underestimated true disease prevalence by up to 50 percent.

The US research was published in the Journal of Dental Research and carried out by the Centers for Disease Control and Prevention and the American Academy of Periodontology. The lead author of the study was Paul Eke, an epidemiologist at the CDC.
Minimally Destructive Management of Amelogenesis Imperfecta and Hypodontia with Bleaching and Bonding

Abstract: Amelogenesis imperfecta has a prevalence of 1:700 to 1:14,000, according to the populations studied and hypodontia has around 4.6–6.3% prevalence within the permanent dentitions of Caucasian European populations. Traditional treatment methods for these conditions include veneers and conventional bridges, which are invasive and unnecessarily destructive of remaining tooth tissue. The authors describe how, with the non-destructive use of bleaching, bonding and adhesive bridges, it is possible to achieve a reasonable aesthetic result in a practical way.

Clinical Relevance: Amelogenesis imperfecta and missing teeth are common and significant clinical problems. General dental practitioners and specialists should be aware of effective, but minimally destructive, methods of treatment.

Amelogenesis imperfecta

Amelogenesis imperfecta is a hereditary condition which causes various enamel defects. The enamel defects are usually not associated with systemic abnormality or disease. The changes are normally due to single gene mutation. Inheritance can be autosomal dominant, autosomal recessive or X linked.1

Fourteen different types of amelogenesis imperfecta have been described, on the basis of genetic patterns, as well as clinical and radiological features (Table 1). The types can be divided into the following:

- Hypoplasia;
- Hypocalcification;
- Hypomutation; and
- Hypomutation-hypoplasia with taurodontism.2

Hypodontia

Hypodontia is the developmental absence of teeth with a prevalence of 4.6–6.3% within the permanent dentitions of Caucasian European populations. It occurs predominantly in females and the most commonly missing teeth are third molars, mandibular second premolars, maxillary lateral incisors and maxillary second premolars.3 About 2% of the UK population have developmentally absent maxillary lateral incisors.4

Approaches to treatment

Dentists are often encouraged to treat the discoloration and anatomical problems of amelogenesis imperfecta with porcelain veneers and to replace the missing teeth with conventional bridges. Traditional treatments, such as porcelain veneers and conventional bridges, may be destructive of reasonably sound tooth tissue and when they fail the results can be catastrophic.

Evidence has emerged that around 50% of veneers fail within 10 years and require replacement.5 A smaller study with a single operator found that 36% of 87 porcelain veneers followed for 10 years were deemed unacceptable owing to discoloration, fracture of the porcelain...
or large marginal defects. Conventional crowns and bridges, especially if undertaken in young patients, can lead to devitalization of teeth in about 18% of cases. This short report demonstrates how reasonable aesthetic results can be achieved with minimal destruction. This has significant benefits for young patients in the short term, but also, and more importantly, in the long term, as this approach preserves their tooth tissue for future use.

Case report

A 20-year-old girl was referred by her general dental practitioner (GDP) for restorative treatment. She had just completed a course of fixed orthodontic treatment.

The main complaints were the missing maxillary lateral incisors, the colour and shape of the teeth and the appearance of the gums. The patient complained of some sensitivity from her teeth. The patient suffered from mild asthma but otherwise was fit and well. An extra-oral examination revealed a defensive low lip line with competent lips but otherwise was unremarkable (Figure 1).

An intra-oral examination revealed apparent gingival overgrowth, especially on the buccal and interdental surfaces of UL3, UL4, UL5 and UR3, UR4, UR5. There was mild yellow discoloration of her molar teeth with white flecking but this discoloration was more obvious anteriorly. There were minimal restorations present and oral hygiene was moderate. The upper central incisors had minor enamel chips and the canines were very pointed. The patient had a Class I incisor and molar relationship. Group function was apparent on both left and right sides during lateral excursions (Figure 2).

Diagnoses

The diagnoses were made of:
- Congenital missing maxillary laterals;
- Amelogenesis imperfecta;
- Fluorosis (Patient had excessive intake of fluoride from naturally occurring sources in drinking water and as a result of consumption of fluoride toothpaste as a child.);
- Fibrous gingival overgrowth (partly due to susceptibility to her plaque accumulation and to the prolonged previous orthodontic treatment).

Treatment plan

Various treatment possibilities were discussed with the patient.

Replacement options for the lateral incisors included implants, adhesive bridges and dentures. Following this discussion the plan, which was developed with her agreement, included:
- Gingivectomy to improve the appearance of the smile and gingival tissues;
- Improvement in colour, which was to be achieved with nightguard vital bleaching;
- Replacement of the lateral incisors with two adhesive bridges from the canines;
- Improvement of the shape of the teeth, which was to be achieved with composite rather than porcelain.

Gingivectomy

Gingivectomy is the removal
of excess gingival tissue. The clinical problem is illustrated in the UL3, UL4, UL5 and UR3, UR4, UR5 areas (Figure 3). The patient was advised that this might not be a problem owing to the low lip line, but the patient was still concerned about the aesthetic issues of the gingival tissues.

The patient was advised on oral hygiene measures, especially in the use of interdental brushes (Tepe, Molar Ltd. www.tepe.se).

Following further and detailed discussion, which included warnings of pain and requirements for analgesia, consent was obtained. At a subsequent visit, local anaesthesia was given and gingivectomy was performed on the buccal and interdental aspects of the UL3, UL4, UL5 and UR3, UR4, UR5, and also at the palatal aspects of the upper canines. The purpose of the gingivectomy on the palatal of the upper canines was to increase the surface area available for bonding of the adhesive bridges.

The clinical procedure was carried out using routine administration of local anaesthesia (Xylocaine with adrenaline 1:80 000). Buccal and intrapapillary infiltrations were used. The base of the false pockets were identified. An external bevel incision using a knife apical to the pocket at 45 degrees was made. Incision was smooth and residual tags were removed with a curette. No dressing was applied (Figures 4a,b).

The patient was reviewed at 2 weeks post-operatively. She was pleased with the results and reported minimal pain during and after the procedure.

Bleaching

Bleaching is the chemical use of oxidation agents to lighten tooth discolorations. The main benefit is to change the colour of the target teeth while still preserving sound tooth tissue. Bleaching causes minimal damage to teeth and oral tissues.8

Kelleher stated that bleaching works well in cases of fluorosis and amelogenesis imperfecta. It is important to obtain the correct diagnosis of the cause of the discoloration prior to treatment and for the patient to be aware of the time and commitment involved.9

Night-time bleaching

The patient was not allergic to peroxide or plastic. It was explained to the patient again that the colour of her teeth could be gradually improved by night-time bleaching. She was told that this could take longer than usual owing to the combination of fluorosis and amelogenesis imperfecta and bleaching would probably not remove the ‘flecking’ completely. However, while there might be some initial mottling during the initial phase of bleaching, eventually the white flecking (‘secondary flecking’) would probably appear to be less obvious against a whiter background.

External nightguard vital bleaching was carried out with 10% carbamide peroxide (3.6% hydrogen peroxide; Optident, Castlefields, West Yorkshire) in customized upper and lower trays worn overnight.

Prior to bleaching, the shade was agreed with the patient and was recorded as A3.5 using a standard Vita shade guide. The teeth were photographed and also carefully examined for the presence of any residual composite resin cement following her orthodontic treatment. Any such composite resin tags would stop penetration of the hydrogen peroxide released from the carbamide peroxide.

Full arch impressions of the upper and lower teeth were taken in alginate and poured up immediately in hard stone. The technician was instructed to block out the labial aspects of the maxillary and mandibular teeth from UL5 to UR5 and from LL5 to LR5. Thin vacuum-formed scolloped trays (Softray, Optident Castlefields, West Yorkshire) were requested in order to provide reservoirs in the target areas (Figure 5). The patient was advised verbally on how to use the trays and also given written instructions:

- To brush teeth and floss as normal;
- To remove tip of the 10% carbamide gel syringe and to place the appropriate amount of viscous gel into the trays.
- To seat the trays and press firmly.
To apply a soft toothbrush to remove any excess gel that flowed beyond the edges of the tray.

To wear the tray for at least 2 hours or preferably overnight.

Not to eat, drink or smoke while bleaching.

Sensitivity

The patient already suffered from slight dental (thermal) sensitivity and this is a well known risk predictor for sensitivity when bleaching. Up to 70% of patients can suffer from transient but significant sensitivity while bleaching. The patient did experience some sensitivity which was overcome by wearing her bleaching tray every second night and by the use of toothpaste containing 5% potassium nitrate on the alternate nights.

Results after 6 weeks of bleaching

The patient was happy with the results (Figure 6). At this stage a decision was made to take away the tray and bleaching gel from the patient. The patient was reviewed at 3 weeks because the colour would definitely have stabilized by then. This was necessary in order to take a proper reliable shade prior to bridge impressions and placement. If she had continued to bleach after the shade had been taken for these adhesive bridge restorations, there would probably have been a shade mismatch between the replacement pontics and the natural teeth.

Commercially pure titanium implants are often cited as the treatment of choice since implant survival success rates of 90–95% have been reported. However, in many hypodontia patients, the available bone is not ideal in either quantity or quality. Significant indentation of the bone is often present due to lack of buccal bone, which can lead to placing the implant in a more palatal position, ie where the bone is. This can often lead to an angled abutment and cemented crown, which can eventually result in clinical problems with the prosthetic aspects. Aesthetics can be a problem, especially if height of bone is inadequate. The pontic can often appear to be in a dark shadow. More complex treatment, such as bone augmentation and bone expansion, can indeed be carried out prior to implant placement. Some patients, however, do not want to have this painful surgery or protracted multi-stage treatment (Figure 7).

In this particular case, there was a lack of space mesio-distally and a DPT showed the root of the upper right central incisor tilted distally, limiting space for implant placement (Figure 8).

Replacement of missing spaces – adhesive bridges

Developmentally absent permanent maxillary lateral incisors present a specific set of problems to the restorative dentist and orthodontist, as compared to those situations where upper lateral incisors are lost due to caries or trauma.

The developmental absence of permanent maxillary incisors results in a number of aesthetic problems. Ideally, joint treatment planning should be undertaken by the orthodontist and restorative dentist at a suitable appointment when the permanent dentition has established in order to help decide whether to close the gap and modify the canine by bleaching and bonding, or to open and create space for the prosthetic replacement of the lateral incisor. Restorative treatment options can include the use of implants, adhesive bridges or dentures.

Figure 6. Intra-oral photograph after 6 weeks of nightguard bleaching.

Figure 7. (a–e) Diagrams and photo shown to the patient explaining how lack of buccal bone results in placing implant in a more palatal position.
Adhesive bridges

Adhesive bridges are minimally destructive of tooth tissue. The 10-year survival rate for anterior ‘Maryland’ type bridges is around 60%. Djemal, Setchell et al reported a survival rate of around 8 years. A direct cantilever design has been shown to be preferable for this situation and, in this patient’s case, the canines were chosen as the abutment teeth. To increase the surface area of enamel available for bonding conventional crown lengthening, gingivectomy was carried out on the palatal aspects of the upper canines (Figure 9).

The shade chosen was a Vita Lumen shade combination of 70% A1 with 30% A2 at the neck to include hints of brown staining and white flecks from the coronal to the incisal edge. The model was indented to show where the cervical aspect of the pontics were to be positioned and some of the stone was removed in the pontic contact areas in order for the finished pontics to apply pressure to the gingival tissues so that a more aesthetic emergence profile could be created (Figure 10). The bridges were tried in and approved by the patient.

Rubber dam

Topical anaesthetic was applied. Rubber dam with the use of Wedgets (The Hygenic Corporation, Akron Ohio) was used to isolate the teeth in order to avoid contamination of the teeth. It also prevented the patient from swallowing the adhesive bridges.

Sandblasting

Following the final try in of the bridges, the metal wings of the adhesive bridges were blasted with alumina oxide to clean the metal in order to have a clean, dry surface to improve the micromechanical retention of the composite bond (Figure 11). This was carried out immediately prior to cementation.

Cementation

The bridges were cemented with Panavia Ex 21 (Kuraray Japan) under rubber dam. The metal wings were visible on the canines after cementation (Figure 12). As expected and explained to the patient prior to cementation, the central incisors and canines still needed to be modified with direct bonded composite.

Composites

Composite Charisma shade A1 (Heraeus Kulzer, Gruner Weg D634450, Hanau, Germany), together with white fleck composite (Enamel Plus HFO, Optident, Castlefields, West Yorkshire) were used to mimic the flecking in the anterior teeth to help correct the morphology of the canines and to hide...
the metal wings. The central incisors were also shaped to a more pleasing result. Mesial drift of the pontics was prevented by applying composite carefully palatally and labially to the contact zones between the pontics and distal aspects of the central incisors. The patient had been warned of the need for maintenance of the composites in terms of possible minor chippings possibly requiring repair and occasional removal of minor stains. The patient was very pleased with the final outcome (Figure 13).

**Conclusion**

This particular case report has demonstrated that careful planning of the patients with hypodontia and amelogenesis imperfecta is important and ideally should involve a multidisciplinary approach. An aesthetically pleasing result was achieved with minimal destruction of sound tooth tissue. It is important to note how routine restorative dentistry, ie gingivectomy, nightguard vital bleaching, adhesive bridges and directly bonded composites can make a significant difference to the appearance of a young patient.

The paper has highlighted ways to mimic teeth with amelogenesis imperfecta, partly with the help of technicians who can introduce characteristics within the porcelain, but also by the treating clinician using combinations of different types and shades of composite.

With minimal destruction of the defective, but reasonably sound enamel, patients can gain good outcomes in terms of aesthetics and function. This approach does not have anything like the initial destruction involved in preparing young teeth for porcelain veneers. This avoids the danger of fracture of the brittle porcelain and the possible risk of ‘iatrogenic’ pulpal death. Sensible patients and responsible dentists appreciate the necessity for preserving tooth tissue without initiating the traditional restorative cycle which can lead to eventual loss of pulps or teeth in the future. The earlier the dental intervention, the more certain it is that it will need to be redone. Given the increase in life expectancy, the loss of anterior teeth at any stage can be devastating to patients. Patients have ever increasing expectations of dentistry and, as a result, it is important for the dental profession to have a wide range of appropriate skills. It is prudent to use less destructive techniques as a viable alternative to the conventional practice of conventional crown and bridgework, especially for patients with amelogenesis imperfecta and hypodontia. This is one of the many situations in modern dentistry where ‘less is more’. In other words, less destruction of their teeth is perceived by patients to be of greater value to them than more destructive techniques, provided the outcome is satisfactory to them.

**References**

10. Savarrio L, McIntyre GT. To open or close space – that is the missing lateral question. *Dent Update* 2005; **32**: 16–25.
Test your knowledge on the content of the articles published. The following 5 questions relate to the article published in the October/November issue of Dental Therapy Update and reproduced form the April 2010 issue of Dental Update and can be viewed on the website (www.dental-update.co.uk) via (www.dentaltherapy-update.co.uk)

To receive CPD credit answer the questions online at www.dentaltherapy-update.co.uk or alternatively complete the enclosed sheet.

Q1  NATHWANI AND KELLEHER 3: 24–29
Regarding hypodontia:
A. This is the developmental absence of teeth.
B. The prevalence is 6.3–10% in the permanent dentitions of Caucasian European populations.
C. It occurs most frequently in males.
D. Most commonly missing teeth are third molars.

Q2  NATHWANI AND KELLEHER 3: 24–29
Regarding Hereditary Sensory and Autonomic Neuropathies (HSAN):
A. There are five conditions.
B. These conditions are easy to diagnose.
C. These conditions, other than HSAN1, may be noted from early childhood.
D. They are all autosomal dominant.

Q3  NATHWANI AND KELLEHER 3: 24–29
The 14 types of amelogenesis imperfecta can be divided into:
A. Hypoplasia.
B. Hypocalcification.
C. Hypofunction.
D. Hypomutation.

Q4  NATHWANI AND KELLEHER 3: 24–29
Treatment plans for amelogenesis imperfect may include:
A. Improvement of the shape of the teeth.
B. Gingivectomy.
C. Improvement in colour.
D. Auto-transplantation.

Q5  NATHWANI AND KELLEHER 3: 24–29
Regarding amelogenesis imperfecta:
A. It is non hereditary.
B. It causes enamel defects.
C. Any changes are not normally due to single gene mutation.
D. Inheritance can be autosomal dominant, autosomal recessive or X linked.