

The BDJ News section accepts items that include general news, latest research and diary events that interest our readers. Press releases or articles may be edited, and should include a colour photograph if possible. Please direct your correspondence to the News Editor, Arveen Bajaj at the BDJ, The Macmillan Building, 4 Crinan Street, London N1 9XW or by email to bdj@bda.org

NHS Direct enhances local dental care

As specialists in telephone and web-based health advice and information, NHS Direct has developed a new and expanded range of services for 2006/2007, to better support other NHS organisations in providing improved health care for their patients. NHS Direct currently provides dental health information, self-care advice and details of local dental services over the telephone and on the NHS Direct Online website (www.nhsdirect.nhs.uk). In addition, they have now developed a range of enhanced dental services which Primary Care Trusts (PCTs) can choose to commission to meet their local dental service requirements. These include out of hours dental nurse assessment, advice on pain management and the prioritisation of dental calls with referral to urgent dental health services where appropriate.

NHS Direct Director of Service Development Paul Jenkins said, 'We recognise that PCTs face a challenging agenda with the introduction of the new dental contract. A key aspect of this is the new responsibility for out of hours and emergency dental provision.' To enable PCTs, Hospital Trusts and other NHS health professionals to find out more, NHS Direct has organised a number of events to be held across the country in January and February 2006, to explain the new services in more detail.

Dental schools' new relationship

King's College London (KCL) and University College London (UCL) are involved in discussions concerning a formal relationship between KCL and UCL Eastman, Dental Institutes. The two dental schools represent unique strengths in undergraduate and postgraduate teaching and training, and in research. The formal links may ultimately lead to full integration of the two dental schools, which would result in a leading internationally recognised centre of dental education and research.

Start the year by aiming high



Supporters of the dental charity Bridge2Aid will be climbing Kilimanjaro, Africa's highest mountain, in September 2007, and invite readers to join them. Volunteers will climb as part of a team. In the three years since starting work, B2A have helped thousands of people thanks to the generosity of members of the dental profession. B2A says: 'Through fundraising for Bridge2Aid's dental and social care work, your climb will make a lasting difference in the lives of hundreds of thousands more people in Tanzania.' Readers can take part in the challenge by paying a £250 registration fee and raising a minimum sponsorship of £2,499. B2A have a lot of experience helping people to reach their targets. To find out more, visit www.bridge2aid.org or call 01243 771653.

New university initiative to tackle shortage of dentists

The University of Sheffield's Dental School together with Wheata Place Dental Clinic have developed a new student outreach programme aimed at fixing the critical national and local shortage of dental staff. The initiative will mean that several weeks of each student's training will now take place in local NHS dental clinics, freeing up space to enrol more students at the Dental School and Charles Clifford Dental Hospital. The extra students generated by the scheme will start to qualify in 2006 and many are expected to stay in the area and serve local communities. Student Cheryl Jackson welcomes the opportunity to put all her training into. 'Nothing' beats getting into the real world and finding out what it's like working in a busy practice,' said Cheryl. 'It's a very positive experience, it builds confidence and gives you space to grow into your new role.' Supervising dentist Amit Vora at Wheata Place Dental Clinic said: 'Giving students a positive experience in the NHS early in their training is vitally important to future NHS services and is creating interest in these services as a career option.' The outreach programme has enabled the school to triple the number of hygiene and therapy students on the course and substantially increase the number of dental students they take in each year.

New Year honours



Appointed MBE:
Miss Mabel Slater Hygienist, Director of Dental Care Professionals at GKT Institute Member of GDC



Appointed MBE:
Dr Khalid Anis Head of Rochdale Dental Access Centre

An engineer, a dentist and a veterinarian build bone tissue

Oral and pharyngeal cancers rank among the most prevalent worldwide. Unfortunately, most oral cancers are detected at advanced stages when combinations of surgery and radiation are required, and the most recent studies show the five-year survival rate of 53% has not changed in the past 30 years. If two Virginia Tech researchers, collaborating with the American Dental Association (ADA), are able to successfully construct a tissue engineered composite material for oral reconstructions, these dismal statistics might yield a better outcome. The repair of the diseased tissue in these cancers often requires reconstruction of the bone. Brian Love, Virginia Tech professor of materials science and engineering, and principal investigator, believes that substantially better clinical outcomes for all oral constructions could result if a more viable scaffold material were used that was capable of faster and higher quality bone formation.



Love and the team are looking at amorphous calcium phosphates (ACPs) as inorganic host materials in the rebuilding of tissue. ACPs, in the presence of cells that make bone (called osteoblasts), are believed to more readily provide the host material for new bone formation in tissue engineering than other choices. By constructing tissue engineered composites containing ACPs, living osteoblasts, and donor materials, Love believes the result could be faster and higher quality bone formation. Aaron Goldstein of Virginia Tech's chemical engineering department is a co-principal investigator, Drago Skrtic of the ADA Paffenbarger Research Center and Peter Shires of Virginia-Maryland College of Veterinary Medicine are collaborating with Love and Goldstein. As the interdisciplinary research team better understands how bone-making cells respond to ACP, their next challenge will be to assess these re-growth characteristics *in vivo*.

Dental teamwork

New guidance from the General Dental Council (GDC) on how the dental team can best work together in the interests of patients comes into effect on 1 February 2006.

The new guidance, *Principles of dental team working*, is the fourth in the GDC's *Standards for dental professionals* series. It explains what the dental team is; the individual responsibilities of dental professionals within the team; and how to work effectively as a team, whether or not all the team members are based on the same site. *Principles of dental team working* provides a framework for the whole dental team, including dental nurses and dental technicians and the other groups of dental care professionals who will begin to register with the GDC for the first time later this year.

The GDC will send a copy of *Principles of dental team working* to all the dentists, dental hygienists and dental therapists on their register later this month. New registrants, including the new groups of dental care professionals, will receive a copy when they join the GDC's registers. Two more pieces of GDC guidance are planned for publication in the spring – one covering *Raising matters of concern*, and the other on *Complaints handling*.

Registrants who have not received their copy of *Principles of dental team working* by 1 February, should contact the GDC (email: professionalstandards@gdc-uk.org, phone: 020 7887 3800).



General Dental Council

Gum disease interferes with heart pills

Researchers in Finland have found that periodontitis may impact on the effectiveness of antibiotics that are used to prevent repeat heart attacks. A three-month course of treatment with antibiotics lowered recurrence of heart attacks in patients without periodontitis, while the medication was found to have no effect in patients with periodontitis, according to researchers at the Institute of Dentistry, University of Helsinki. This is the first time dental infections have been linked to the effectiveness of treatment with antibiotics designed to prevent heart attacks.

According to the results, long-term antibiotic medication would prevent myocardial infarcts in patients that do not have periodontitis, or related signs of inflammation such as disease-causing bacteria or antibodies to those bacteria. Periodontitis appears to be such a significant chronic infection that the effect of antibiotic treatment in preventing cardiovascular events is lost in patients that suffer from it. During one year of observation, patients with no signs of periodontitis were more likely to avoid new cardiovascular events. A total of 79% survived without a new cardiovascular event compared with 74% of patients without teeth and 66% of those with periodontitis.

The differences in patients under the age of 65 were even more noticeable: 90% of non-periodontitis subjects completed the year without a new cardiovascular event, compared with only 64% of those with periodontitis and 50% of those without teeth. In patients under the age of 65, periodontitis may cause a fivefold increase in the risk of recurrent, acute cardiovascular events in comparison with healthy people.

The researchers examined 141 patients that were hospitalised for acute cardiovascular events (myocardial infarct or unstable angina pectoris). The double-blind trial involved registering the recurrence of new cardiovascular events over one year of observation following the administration of a three-month course of clarithromycin (or placebo). Radiographs were used to evaluate the status of teeth and tooth-supporting tissues. The presence of *Actinobacillus actinomycetemcomitans* and *Porphyromonas gingivalis*, the two most important periodontal pathogens, was studied in the saliva, and the serum antibodies for these bacteria were measured using a method developed and used only at the Institute of Dentistry, University of Helsinki. The findings are published in the January issue of the journal *Atherosclerosis*.



Removing gaps depends on overall health

Implants have become a treatment of choice for some patients to eliminate the need for removable partial or complete dentures. Other patients choose implants for aesthetic purposes or to conserve tooth structure in an otherwise cavity-free mouth. However, according to a recent report in the November/December issue of *General Dentistry*, the success or failure of an implant relies on a number of factors, including the quality of the patient's overall health. The success rate for implants decreases in patients that suffer from chronic problems, such as tooth grinding and clenching or systemic diseases, such as uncontrolled diabetes. Also, individuals who smoke heavily or abuse alcohol may not be ideal candidates for the procedure. 'You must have good bone quality and a lack of chronic periodontal disease for the implant to stay in place,' said the lead author of the report, Judith A. Porter. 'Patients are unaware that bone loss in their jaw will often follow the loss of a tooth. When that happens, over time, bone loss can cause facial changes and diet changes.'



Correction: The correct spelling of the name of the second author of the paper: *Teledentistry for screening new patient orthodontic referrals. Part 2: GDP perception of the referral system. Br Dent J* 2005; 199: 727-729. doi: 10.1038/sj.bdj.4812969, should be U. Qureshi. We apologise for any consequences that may have arisen due to this error.

February

BDA Careers Day 2006

Logan Hall

Venue: Institute of Education, London

Date: Friday 10 February 2006

Young Dentists' Conference

London

Date: Saturday 11 February 2006

Tel. 08700 10 20 43

March

Carriere Distalizer Barcelona Seminar

Barcelona, Spain

Date: 17-18 March 2006

DB Orthodontics Limited

Tel. 0800 783 3552

email sales@dbortho.com

Bollard MiniPlate Implant & Distraction Study Day

Professor Hugo De Clerck & Dr Zvi Laster

Venue: Royal Surrey County Hospital

Date: 21 March 2006

8.30am to 5.00pm

Freephone 0800 783 3552

email sales@dbortho.com

Freefax 0800 783 3363

April

British Society for the Study of Prosthetic Dentistry Annual Conference

Venue: Carlton Hotel, Edinburgh

Date: 9-11 April 2006

Email: bookings@bsspd.org

www.bsspd.org

May

2006 British Dental Conference & Exhibition

Venue: International Convention Centre Birmingham

Date: 18-20 May 2006

www.bda.org

July

82nd Congress of the European Orthodontic Society

Venue: Hofburg Congress Center

Vienna, Austria

Date: 4-8th July 2006

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Accusations over dental implant

The Swiss-Swedish dental implant maker, Nobel Biocare, has rejected claims by Swedish professors Tomas Albrektsson and Lars Sennerby that one of its dental implants could lead to bone loss. Nobel Biocare formally requested papers and other data such as public and official documents, according to the Swedish law principle of public access to official records.

Nobel Biocare say that the documents and data received so far from Göteborg University only covers 27 patients instead of the much larger number initially referred to. The company also claims that the information is anecdotal. A press release issued by Nobel Biocare said the data 'contain no scientifically or statistically relevant evidence supporting the allegations.'

A Swedish dentist, Dr P.O. Oestman, has also recently made claims that Biocare's implant could lead to bone loss. According to Nobel Biocare, the dentist is 'closely related' to the Swedish professors who made the initial accusation.

Medications and cough syrups may cause cavities

Some children's medicines (even sugar-free ones) may cause cavities while they're fighting other health issues, according to a report in the January/February issue of *General Dentistry*.

Antihistamine syrups are frequently purchased over-the-counter or prescribed to deal with problems such as chronic allergies or the 'flu. However, many of these syrups have low pH levels and high acidity which can be a dangerous combination for a child's teeth. The sugar in the medication combined with the acids dissolve dental enamel, causing erosion.

The report revealed that placing children's teeth in contact with syrupy medications could cause erosion to the outer layers of the teeth. However, when teeth were treated with a topical fluoride treatment, the decay was minimal. 'Although some medications are necessary for general health they can be extremely harmful to the teeth if the medicine is given at bedtime or without following proper oral health habits,' said Carolina Covolo da Costa, author of the study. Since the flow of saliva decreases during the night, medicines given before bedtime can do a great deal of damage if a child does not brush away sugar and acids.



Bacteria that cause tooth decay able to survive without important biochemical pathway

The bacteria that cause tooth decay are able to live without something all cells were thought to require. Scientists have long believed a certain biochemical pathway involved in the folding and delivery of proteins to cell membranes is essential for survival. Now University of Florida researchers have discovered that *Streptococcus mutans*, the decay-causing pathogen, can do without it. The findings, reported this month in the *Proceedings of the National Academy of Sciences*, have surprised the cellular biology scientific community, which has long considered the pathway to be crucial. The report may also explain why strains of the bacteria can survive in the harsh acidic environment they create in the mouth. 'As far as we know, this is the first example of any bacteria that can cope without this pathway,' said study investigator Jeanine Brady, PhD., an associate professor of oral biology at the UF College of Dentistry. 'All of the existing literature indicated it is vital.'



The signal recognition particle (SRP) pathway is a primary mechanism by which proteins are chaperoned from cellular assembly lines, where they are made, to the protective outer surface of the cells, where they are inserted. Without a steady infusion of proteins, the membrane weakens and the cell – in this case, a bacterium – becomes unable to protect itself from harsh environmental conditions. In the human mouth, its natural environment, it is typically *S. mutans* that goes on the attack. When sugary foods are eaten, the *S. mutans* population explodes, excreting lactic acid as it digests sugar. The acid makes life difficult for other helpful bacteria and demineralises tooth enamel, causing decay.

In an effort to understand how best to combat the tooth-decaying properties of *S. mutans*, Brady and her team set out to learn how the organism was able to survive its own acid. To find out, the researchers tinkered with systematically turning off several genes, individually and in combination, to see how the bacteria responded. The researchers found that *S. mutans* can survive, with normal growth, without the SRP pathway.

The big question now is discovering how these proteins are targeted in the absence of the SRP pathway.