

Journal of the Irish Dental Association

Iris Cumainn Déadach na hÉireann

Maintaining quality of life for oral cancer patients The GP's role within the team





COMPARE OUR PRICES ON DENTAL RESTORATIONS GREAT VALUE



PFM£79£68E-MAX£99£85ZIRCONIUM£115£99

15 days delivery from date of your impression 10 year waranty an all fixed restorations Free pick-up (door to door) service all over Ireland

CALL OR MAIL US FOR A FREE VALUE-PACK WITH ALL YOU NEED TO TRY US OUT

PHONE: + 353-(0)65-67-9-70-70 • EMAIL: INFOIRELAND@TEETHRUS.US



TEETH : US IRELAND LIMITED "Sonas" Shanaway Road • Ennis , Co.Clare , Ireland Phone: + 353 - (0) 65-67-9-70-70 infoireland@teethrus.us • www.teethrus.us

IDA CHIEF EXECUTIVE Fintan Hourihan JOURNAL CO-ORDINATOR Fionnuala O'Brien

Dr Seán Malone

EDITOR Professor Leo F.A. Stassen FRCS(Ed), FDSRCS, MA, FTCD, FFSEM(UK) FFDRCSI

DEPUTY EDITOR Dr Dermot Canavan BDentSc, MGDS(Edin), MS(UCalif)

EDITORIAL BOARD **Professor Finbarr Allen**

BDS PhD MSc FDS FDS(Rest Dent) RCPS FEDRCSI

Dr Michael Crowe BSc BDentSc DPDS (Bristol)

Dr Mark Kellv BA BDentSc

IDA PRESIDENT

Dr Christopher D. Lynch BDS PhD MFDRCSI FDS (RestDent)RCSI FACD FHEA

Jennifer O'Rourke RDN, IDNA Executive Committee Member

Dr Ioannis Polyzois DMD, PhD, MDentCh, MMedSc

Dr Ciara Scott BDS MFD MDentCh MOrth FFD (RCSI)

Dr Seamus Sharkey BDS NUI FRACDS (Syd) MFDSRCS DChDent (Prosthodontics) FFDRCSI

Dr Simon Wolstencroft BDS FDSRCS MScD MOrth FDSOrth

The Journal of the Irish Dental Association is the official publication of the Irish Dental Association. The opinions expressed in the Journal are, however, those of the authors and cannot be construed as reflecting the Association's views. The editor reserves the right to edit all copy submitted to the Journal. Publication of an advertisement does not necessarily imply that the IDA agrees with or supports the claims therein.

For advice to authors, please see: www.dentist.ie/resources/jida/authors.jsp

Published on behalf of the IDA by Think Media, 537 NCR, Dublin 1

T: 01-856 1166 www.thinkmedia.ie

EDITORIAL Ann-Marie Hardiman, Paul O'Grady DESIGN AND LAYOUT

Tony Byrne, Tom Cullen, Ruth O'Sullivan

ADVERTISING Paul O'Grady

The Journal of the Irish Dental Association: • is the only dental publication produced in Ireland; is Irish dentists' own Journal of record.

- 109 FDITORIAL Dental Act and insults to oral health
- PRESIDENT'S NEWS 110 A pleasure and an honour
- 112 NEWS
- QUIZ 116
- 118 NEWS FEATURE Understanding head and neck cancers
- 120 CONFERENCE REPORT Successful together
- 126 **BUSINESS NEWS**
- 129 **IDA NEWS**
- 133 EUROPEAN REPORT IDA welcomes European colleagues
- 137 PEER-REVIEWED
- The dentist's role within the 137 multidisciplinary team maintaining quality of life for oral cancer patients in light of recent advances in radiotherapy S Brody, O Omer, J McLoughlin, L Stassen
- 147 ABSTRACTS
- PRACTICE MANAGEMENT 149 Business and finance – planning for success
- CLASSIFIED 152
- 154 **DIARY OF EVENTS**



Conference 2013

120

The dental team gathers in Galway



Free poster

Tell your patients about tooth whitening



European Report

Europe comes to Dublin

Irish Dental Association Unit 2 Leopardstown Office Park, Sandyford, Dublin 18. Tel: +353 1 295 0072 Fax: +353 1 295 0092 www.dentist.ie





Total average net circulation 01/01/12 to 31/12/12: **3,366 copies** per issue. *Circulated to all registered dentists* in the Republic of Ireland and Northern Ireland.

> June/July 2013 VOLUME 59 (3) : 107



9 OUT OF 10 DENTIONSTORY WHO TRIED COLGATE® SENSITIVE PRO-RELIEF™ TOOTHPASTE WOULD RECOMMEND IT FOR SENSITIVE TEETH

WHAT ARE YOU RECOMMENDING?



ALSO AVAILABLE: Colgate[®] Sensitive Pro-Relief[™] Desensitising Polishing Paste Clinically proven to give instant and lasting sensitivity relief in the dental chair^{2,3}







1 Independent survey of dentists who recommend toothpastes, April 2011. 2 Schiff T et al Am J Dent 2009; 22 (Spec Iss A): 8A-15A. 3 Hamlin D et al Am J Dent 2009; 22 (Spec Iss A): 16A-20A.

www.colgateprofessional.ie

Dental Act and insults to oral health

PROFESSOR LEO F.A. STASSEN outlines dentists' concerns about the appointment of the Chief Dental Officer and welcomes the announcement of consultation on a new Dental Bill.

In this edition, the Chief Executive of the Association, Fintan Hourihan, advises us that the consultation process on a new Dental Bill is likely to commence shortly. The Department of Health has flagged this for some time, and it is likely that changes which were made to the regulation of the medical profession will be proposed for the dental profession. As the recognised representative body for the dental profession in Ireland, the Association expects to take a leading role in the consultation process. The Journal also pledges to fully inform the dentists of Ireland of the proposed contents of the Bill and to engage in the discussion and debate process as it evolves. Central to this process will be the demands for stronger legal powers and sanctions for the Dental Council to act against those who fail to adhere to the highest standards - the standards expected of all of the profession. The IDA looks forward to working closely with the Dental Council in making any proposed Act work well for patients and the whole dental team. It is important that those involved in proposing legislation learn from the positives of the Medical Practitioners Act and avoid the errors that were not seen.

Dentists throughout Ireland will be able to express their views directly to the Association and to each other through the pages of the *Journal* – a process wholly supported by the Editorial Board.

Part-time CDO an insult to oral health of the nation

Having editorialised very strongly in the past in favour of the appointment of a Chief Dental Officer, it may seem odd that the *Journal* should be critical of such an appointment. However several aspects of the appointment have alarmed the profession and the *Journal* shares those serious concerns. The lack of a competition for the post is, alone, a grave cause for concern. All of the analogous posts (Chief Medical Officer, Chief Nursing Officer, etc.) have, to our knowledge, been filled after serious competition. The part-time (two days a week) element is a serious insult to the profession and to the public. It says, by implication, that the oral health of the nation is not worthy of the full-time attention of the State. And, additionally, there is a deeply complex relationship between the State and the Health Service Executive. To ask an individual, no matter how well qualified and highly regarded, to serve both masters is to place that individual in a deeply invidious position.

The Minister should act swiftly to prevent this position becoming impossible for the individual and meaningless for the public and the profession, by staging a competition for the full-time appointment of a Chief Dental Officer.

The missing modules

A significant development in this *Journal* is the commencement of a series of practice management articles designed to aid dentists in their business lives. Future articles in what we might term a series of 'missing modules' from dentists' education will include information on basic requirements of accounting and a look at the differences in business education for dentists between here and the USA.

Our first contribution is from one of our banks and it explains what a financial institution needs from a dentist seeking finance to commence a practice of their own. It is practical and helpful.

Packed Journal

This is a packed *Journal* with a report of the excellent Annual Conference and Trade Show in Galway, as well as several references to head and neck cancers. These include a paper on maintaining quality of life of oral cancer patients which reports a need for increased communication between members of the care team, and greater involvement for the patient's GDP.



Prof. Leo F. A. Stassen Honorary Editor

leo F.A. Stassen.

A pleasure and an honour

Dr SEÁN MALONE looks forward to his year as IDA President.

It is with great honour that I write my first President's news for the *Journal of the Irish Dental Association*.

A great conference

Firstly, I would like to thank all the delegates who turned up in such great numbers to the Annual Conference in Galway. It was a great success and enjoyed by all. Our speakers were, as always, of excellent calibre, which proves the integrity of the event. Special thanks to our trade sponsors whose support, as ever, we are grateful for. Thanks and congratulations on a job well done to the members of the conference organising committee – Ms Elaine Hughes and Drs PJ Byrne, Mark Condon, Garry Heavey, Saoirse O'Toole and Jane Renehan – who have

worked tirelessly in the past year preparing for the event and whose support during the conference I am grateful for.

Current issues

Turning to the year ahead, I will endeavour to serve you as best I can as President of the Association.

One of the first issues to be tackled since my appointment was the vacant Chief Dental Officer (CDO) post in the Department of Health. The Association met recently with the Deans of the Cork and Dublin Dental Schools and the RCSI in order to agree a joint approach to the vacant post. Our agreed stance was sent in writing to the Department. It was therefore extremely disappointing to learn that the Department has moved to second a post-holder from the HSE to discharge the CDO position on a two day per week basis. It is very difficult to see how both posts can now be discharged successfully.

While we have to welcome any long overdue move to address the vacant CDO position, we intend to continue to campaign for its filling on a full-time basis. This will not stop us engaging with the CDO post and we wish Dr Dympna Kavanagh well as we prepare to forcefully represent the interests of the profession and our patients with a new Dental Bill when all the evidence shows the State's continued neglect of oral health.

Anniversary celebrations

On a positive note, this year marks the 90th anniversary of the AGM of the Irish Dental Association. The Association has published an online version of the history of its first 50 years – *The History of the Irish Dental Association 1922-1972* – which is available to view on www.dentist.ie. Both the Irish Dental Association and the Northern Irish Branch of the British Dental Association, which celebrates a similar anniversary, are planning to mark the event. Further details will be announced shortly! We are now appealing to members for your help. We are asking any member who might have photographs of IDA members and events over the years to send them to IDA House. Our plan is to digitise them and display them at the anniversary celebration. The originals will be returned to you.

Many thanks for appointing me as President of the IDA. It is indeed a pleasure and an honour for me. I look forward to meeting as many of you as possible over the next 12 months.

ean Malore

Dr Seán Malone IDA President

June/July 2013 110 : VOLUME 59 (3)



Advanced Defence Sensitive blocks 92% of dentine tubules in just 6 rinses in vitro*1

Introducing the first in a new expert range from LISTERINE[®] – a twice-daily mouthwash built on potassium oxalate crystal technology that blocks dentine tubules deeply for lasting protection from sensitivity.^{2,3}

In just six rinses Advanced Defence Sensitive blocks **92%** of dentine tubules; twice as many as the leading recommended pastes.^{1,4}

It can be used alone for lasting protection,³ or in combination with the most recommended paste from the leading sensitivity brand, to significantly increase the number of tubules the paste blocks *in vitro*.^{4,5}

* Based on % hydraulic conductance reduction





References

- 1. Dentine Tubule Occlusion, DOF 1 201 2. Tubule Occlusion Stability, DOF 2 – 201
- Iubule Occlusion Stability, DUF 3 2012.
 Relief of Hypersensitivity. DOF 4 2012.
- 4. TNS Sensitivity Market Research 1 2012
- Combination Tubule Occlusion, DOF 2 2012 UK/11/12-0494m

Recommend Advanced Defence Sensitive for expert care when you're not there

Do not recommend this product if patients have a history of kidney disease, hyperoxaluria, kidney stones or malabsorption syndrome, or take high doses of vitamin C (1000mg or more per day

Dental Association urges HSE to give dentists key role in tobacco control

The Irish Dental Association (IDA) has called on the HSE to give dentists a key role in the country's tobacco control strategy.

Dr Peter Gannon, Chair of the IDA's General Practitioner Committee, told delegates at the Association's Annual Conference in Galway that contrary to popular perception smoking remains the biggest killer of Irish people.

"Smoking is the single biggest cause of cancer and in Ireland one in three adults smoke. That's one million people.



Sweden is the only country in Europe that has reached the World Health Organisation target of reducing the number of adults smoking to one in five. It is no coincidence that Swedish dentists played a key role in that country's tobacco control strategy. Dentists are ideally placed to advise and encourage patients on the dangers of smoking and I would urge the HSE to work with the IDA so we can devise a fully effective tobacco control strategy," Dr Gannon said.

Anyone for tennis?

The Association is delighted to announce its first social tennis tournament, to take place on Friday, July 5, in Dublin's Fitzwilliam Lawn Tennis Club.

Places for this American tournament are open to members who play at club level or league standard. The day begins at 2.00pm and a barbeque steak dinner and prize giving will follow the tennis. The admission fee of \in 50 will cover tennis, refreshments, dinner and prizes (a reduced fee of \in 35 will apply for Fitzwilliam members). It promises to be great fun, and a chance to catch up with colleagues in very pleasant surroundings, so if you're interested in attending, don't delay.

To apply for a place, please contact IDA House for further information.

Three out of four people do not avail of free check ups

New figures from the Irish Dental Association (IDA) show that 75% of people who are entitled to a free dental examination do not avail of the service. The IDA said cutbacks to the two main dental health schemes and ongoing confusion over people's entitlements have led to an alarming deterioration in the dental health of the population. It said the HSE's failure to explain to people what their entitlements were amounted to a dereliction of duty.

The IDA pointed out that a study on perceptions of dental health in seven European countries found that Ireland had the lowest number of adults attending the dentist for routine examinations. Ireland also had the highest number of patients citing cost as a factor preventing attendance at the dentist.

IDA Chief Executive Fintan Hourihan told delegates at the Association's Annual Conference in Galway that the short sightedness of withdrawing several modest benefits from three million patients was already becoming apparent.



"These simple preventive treatments were key to maintaining good dental health for the general population. In their absence dentists are seeing a huge increase in dental decay and gum disease."

The IDA believes that if the Government was to take a number of timely and cost-effective measures – including the introduction of a voucher system for the annual oral examination – it could arrest the shocking decline in the dental health of the nation.

"Everyone would have an entitlement to a voucher and would physically receive one. We think it would be seen as a service they have paid for in the case of PRSI employees and one to which they are entitled by medical card holders. It would also be easier to administer from the State's point of view and more cost effective."

Visual thinking at UCC

Visual thinking strategies (VTS) are about the connection between visual perception and thought. VTS is a novel teaching and learning strategy using visual art to teach critical thinking. It has been widely used in education, but was more recently introduced into medical education in the US and UK. VTS aims to develop enhanced observation and reasoning skills in the clinician, using the multiple perspectives gained from group sessions in aesthetic development. Cork University Dental School and Hospital has been employing VTS

in its first-year undergraduate dental and dental hygiene programmes since 2012. Using two classroom teaching lessons, students are

Avoid the term 'lesion' when referring

During her comprehensive presentation to this year's Annual Conference in Galway, Dr Claire Healy, Senior Lecturer/Consultant in Oral Medicine, Dublin Dental University Hospital, made a call for better referral information and backed it up with a clear message for GDPs on what the Hospital needs:

- If you identify an ulcer or a white or a red patch, remove obvious causes and review it two weeks later.
- If it fails to resolve, refer it.
- > If you suspect squamous cell carcinoma (SCC) at the outset, send

Dental Complaints Resolution Service issues first annual report

The Dental Complaints Resolution Service has issued its first annual report, in which it gives details of the 115 complaints it has handled so far.

Most complaints concerned the standard of work, after-care service, cost, the attitude of the dentist, access to records, and delays in treatment.

The report states that 18 complaints have been resolved to the satisfaction of both parties, while 23 are nearing completion and should be resolved satisfactorily. Some of the results have involved a refund of fees paid, additional work to be carried out at no extra cost and/or an apology.

In over 20 other cases the mediator has received verbal complaints but is awaiting written complaints, while in a further 18 cases he is awaiting detailed responses from dentists. Five cases are being referred to the Complaints Panel.

Michael Kilcoyne, mediator of the DCRS, said that overall he would expect a settlement rate of around 75% where complaints are formally submitted.

"In Irish culture we haven't been very good at complaining and consequently we haven't been very good at handling complaints either. The DCRS offers patients the opportunity to resolve complaints about their dental treatment for free and in a fair and exposed to structured viewing of art work and photography designed to stimulate discussion, sharing of views, and awareness of multiple observations, inferences and interpretation of a shared object. The reflection on the artwork is facilitated by structured questioning, pointing to the elements seen, paraphrasing and non-judgmental group discussion, leading to evidence-supported observations. The lessons are followed by a visit to the Crawford Gallery in Cork to explore VTS in an alternative context.

As part of the introduction to VTS in the dental curriculum, a qualitative assessment was conducted to assess the writing samples collected before commencement of VTS and after completion, to evaluate the advancement of students' critical thinking.

an urgent referral by fax and phone.

- > Otherwise send us a letter.
- Avoid the term 'lesion'! It is overused and inadequate.
- We need you to describe what you see is it a white patch, a red patch, an ulcer, a lump, etc.? Is it hard or soft?
- Carry out a neck exam.
- If at all possible, please include a photograph.
- Give details of medical history and lifestyle risk factors.

She said this information is important in prioritising the many referrals that they receive.



timely manner. On average complaints are being resolved in about two months," Mr Kilcoyne said.

The mediator also had some advice for dentists. "The key point from dentists' perspective is the importance of clear communications. Dentists will suffer if they do not train themselves to listen closely to their patients. In a number of cases the issue was not the quality of the work done but misunderstanding or poor communication between the dentist and the patient. But overall I have been very impressed with the

Michael Kilcoyne.

positive approach adopted by dentists to the Service and I commend them for that," he said.

IDA Chief Executive Fintan Hourihan welcomed the report and thanked Mr Kilcoyne for the excellent work he had carried out on behalf of the DCRS: "The Service has dealt with a significant number of complaints in its first eight months of operation. Our objective in setting it up was to enhance confidence in the quality of care and treatment provided by Irish dentists, and we believe it has succeeded in doing this in a relatively short time frame."

For further information on the DCRS, or to see the full report and four case studies, go to www.dentalcomplaints.ie.

Associates confirm self-employed status

Specialist dental accounting firm MedAccount Services has reported that a number of dental associates have had their self-employed status confirmed by a number of local tax inspectors/districts. Principally this involved the dental associates writing to their local tax districts outlining the circumstances in which they provide dental services to their patients. "Obviously circumstances will vary from dentist to dentist, but provided all items that were raised at the IDA meetings are addressed and strictly adhered to, there appears to be a willingness to recognise the legitimacy of many dentists' claims to selfemployment status by Revenue," said Steven Lynch of MedAccount Services. "We have seen almost a dozen cases where Revenue has confirmed self-employed status," he said.

Lynch cautioned that some dentists continue to ignore the IDA's recommended guidelines, and that these dentists are at risk of increased tax liabilities in the event of a Revenue audit.

It is strongly advised that any dental associate contemplating an approach to Revenue should seek professional advice from their accountant and should ensure that the guideines circulated by the IDA are adhered to.

Minister praises IDA – says dental health a priority

Minister of State for Primary Care Alex White TD has praised the dedication of Irish dentists and the "extremely engaged" Irish Dental Association (IDA) in pursuing improvements in dental services. The Minister was responding to questions from Caoimhghín Ó Caoláin TD of Sinn Féin about the "crisis in dental treatment services", at a recent meeting of the Oireachtas Joint Committee on Health and Children.

Deputy Ó Caoláin referred to the significant advances in dental health and treatment made in the early 2000s, which have been steadily eroded by cutbacks, according to reports he had received from the IDA. Deputy Ó Caoláin challenged the Government to restore treatments to the PRSI and medical card schemes as sought by the IDA in view of the "quite alarming" deterioration in oral health. In response, the Minister pointed to improved numbers of patients receiving treatment. He said that up to April 2013, over 170,000 eligible people had received some treatment, an increase of 10,000 on the same period in 2012.

Help is at hand from IDU member services

The IDA recently launched a number of exclusive helpline services for members, which deal with a range of issues, including business assistance, tax audit, legal advice, and health and counselling. The helplines can be accessed 24/7, 365 days a year, and are available free of charge to members and their immediate family. Here are some examples of calls received since the helplines opened. **Legal advice: 1850 670 747** – Calls to the legal helpline cover a broad range of issues but assistance has been given on:

- a dispute regarding an expensive purchased item, which turned out to be faulty;
- information regarding marital breakdown; and,
 understanding the complexities of the probate process.

A number of calls were also received to access the tax protection policy following receipt of a tax audit notice.

Business assistance: 1850 670 747 – This service has dealt with calls regarding a broken heating unit, and a call seeking a locksmith. If you ring this service, the person answering will track down a suitable company, make the appointment on The Minister agreed that primary and preventive dental care are "vital", and admitted that dentistry had been affected by the financial constraints on the Department as a whole. He stated that he had met with the IDA, describing the Association as "very dedicated professionals who are extremely engaged in this". Dentistry is one area where the impact of financial cuts can be seen, admitted the Minster.

The Minister continued: "I am very well aware of the importance of dentistry and well-developed, proper dental services". He was "well convinced" of the vital role dentists play and the contribution they can make not just to better oral health but to better general health.

He mentioned the review of services commissioned by the HSE, which will advise on the best model of care. He assured the Committee that, within the constraints of the resources available, dental treatment will remain a priority of Government, and that he would continue to engage with the IDA on an ongoing basis.

your behalf, advise you of the estimated cost, ring to ensure timely arrival and, after the emergency has been dealt with, ring again to ask for your views, to ensure that only the very best service is offered to future callers.

Counselling: 1850 670 407 – Unfortunately in these difficult economic times this helpline receives many calls regarding personal or business debts. Very often just one balanced conversation can help; however, if more regular support is required sequential counselling over a period of six weeks is agreed on the basis of weekly one-hour calls with the same counsellor. It is worth remembering that this service can be accessed free of charge by both IDU members and their immediate family. The average call lasts approximately 45 minutes and while anything can be discussed the most common issues are relationships (27.2% of calls), anxiety (8.9%) and depression (6.4%).

Health and medical information: 1890 254 164 – While this helpline is not able to provide any form of diagnostic advice, it can give information regarding all aspects of health and fitness. For example, one caller had recently attended a health check and called to fully understand the significance, or otherwise, of his test results.





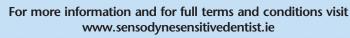


WILL YOU BE IRELAND'S MOST SENSITIVE DENTIST IN 2013?

The search for the 2013 Sensodyne Sensitive Dentist of the Year has commenced.

This awards programme showcases the marvellous work of Irish dentists – and all through the words that mean most: those of your patients.

There was a record number of entries in 2012. We hope for an even greater entry this year. Send back the postcard from the wrap around this Journal and you will receive your Sensodyne Sensitive Dentist of the Year nomination pack.





ADDE Dublin AGM hears the Irish story

The AGM of the Association of Dental Dealers in Europe (ADDE) took place recently in Dublin.



Delegates from around Europe attended the meeting.





Gerry Lavery, incoming President of the IDTA.

Dominique Deschietere, President of the ADDE (left), with IDTA President Pat Bolger.

Representatives from throughout Europe attended the meeting in the Merrion Hotel, including President of the Irish Dental Trade Association (IDTA) Pat Bolger of Henry Schein (Ireland) Ltd. Delegates welcomed speakers on how using technology can improve the way we do business, as well as a look at the dental business in Ireland, from boom to bust.

ADDE President Dominique Deschietere first introduced Marco Pacini of Keystone, who presented on the Dental Monitor research system and its role in market research. Marco described the Dental Monitor methodology, which uses data from manufacturers, dealers, dentists and technicians throughout Europe to identify and analyse market trends.

Josif Dishliev of MediCloud introduced their "comprehensive ecosystem of software apps", which connects all players – dentists, dealers, labs, analytics, patients – in one database, providing unique

opportunities to interact. Using cutting-edge software, MediCloud is intended to help dentists to streamline practice management, help patients to achieve better oral health, and assist dealers to boost sales. Ed Attenborough of Attenborough Dental Labs Ltd presented on how digital technology could offer new routes to market for dental dealers. Some of the issues identified in relation to these developments included: cost-effectiveness; the integration of systems between manufacturer, dentist and technician; and, the need to maintain quality assurance. The consensus was that while a new specialty of 'dental designer' may well develop, there will always be a place for highly skilled technicians.

The final speaker of the afternoon was former ADDE President Aidan McCormack, who gave delegates a detailed overview of dentistry and the dental business in Ireland – past, present and future. Aidan told a sobering story of boom to bust, where massive drops in funding to the two State dental schemes, coupled with falling incomes and rising unemployment, led to significant falls in income for dentists, with a predictable effect on the dental business. However, there are tentative signs of recovery, as consumers adjust to lower incomes and begin to reprioritise healthcare issues.

Quiz

Submitted by Dr Tom Feeney.



A Dublin Corporation worker, not vaccinated against hepatitis B, received a needlestick injury from a discarded needle with visible blood in a public toilet that was known as a location used by intravenous drug users.

Questions:

- 1. Should hepatitis B immunoglobulin (HBIG) be given?
- 2. Should HIV PEP be given?
- 3. What else needs to be done to manage this case?

Answers on page 148.

June/July 2013 116 : VOLUME 59 (3)

Surgeon calls for public awareness campaign on head and neck cancers



NUI Galway's Diarmuid Coughlan; Professor Ivan Keogh, Head of the Academic Department of Otorhinolaryngology at NUI Galway and Consultant Otolaryngologist at Galway University Hospital; and, Tony O'Connor, Consultant Otolaryngologist, Bon Secours Hospital, Galway, and Academic Department of Otorhinolaryngology, NUI Galway.

Lack of public awareness of a new cancer epidemic is causing lasting damage to patients, delegates at a symposium on head and neck cancer in NUI Galway heard recently.

Professor Ivan Keogh, Head of the Academic Department of Otorhinolaryngology at NUI Galway and Consultant Otolaryngologist at Galway University Hospitals, said that head and neck cancers related to the human papilloma virus (HPV) are rising dramatically and are projected to surpass cervical cancer by 2020. "There is a changing nature in the cause of head and neck cancers from traditional heavy smoking and drinking use to HPV. While the survival rate for the latter is very good, these cancers are very disfiguring. Often, treated patients have swallowing and speech problems. We need an awareness campaign so that individuals, as well as their GPs and dentists, become aware of the early symptoms," said Professor Keogh, who has seen the numbers of cases in his clinic rise dramatically.

Dr Linda Sharp PhD, Senior Epidemiologist with the National Cancer Registry Ireland, announced a new project involving the HRB-funded Irish Cervical Screening Research Consortium collaboration, CERVIVA, in partnership with surgeons and pathologists. Commencing in autumn 2013, the project will see a major investigation of HPV in squamous cell carcinomas of the oropharynx, oral cavity and larynx diagnosed since 1994. This will provide the first population-based data on the epidemiology of HPV infection in head and neck cancer in the Republic of Ireland.

In Ireland, head and neck cancers are the sixth most common cancer in men and the 16th most common in women. With HPV-related head and neck cancer more likely to occur in men than women, it raises the debate about vaccinating boys against this sexually transmitted virus, as is now taking place in Australia. "Australia and Canada are already rolling out vaccination programmes for boys. Ireland will need to consider its position on this in the near future and take a reasoned look at all the factors involved," said co-organiser Tony O'Connor, Consultant Otolaryngologist, Bon Secours Hospital, Galway.

The event also heard from internationally renowned keynote speakers from the Johns Hopkins Medical Institution. Dr Sara Pai and Dr William Westra shared their experiences of the cancer, which has now been deemed an 'epidemic' by the American Cancer Society. Dr Brenda Corcoran, HSE National Immunisation Office, concluded the symposium.

Gold medal award for Irish dentist



From left: Mr Russ Ladwa, Dean of Faculty of General Dental Practice (UK) at the Royal College of Surgeons of England 2009-2012; gold medal recipient Dr Jerome P Sullivan; and, Chris Meldrum, Managing Director, Dentsply Implants.

Dr Jerome P Sullivan BDS DipImpDent RCS(Eng) was recently awarded an inaugural gold medal from the Royal College of Surgeons (Eng). Having completed the Diploma in Implant Dentistry through the RCS at the advanced level, Dr Sullivan received the award for the standard of his clinical cases. So far, Dr Sullivan is the only clinician from Ireland who has passed the Diploma at the advanced level. Out of all the candidates who have embarked on the course over the past 10 years, he is also the only one to have received a special gold medal from the RCS.

Understanding head and neck cancers

DRS SARAH BRODY and DENISE MACCARTHY give an account of the recent series of lectures on the care of patients with head and neck cancer held in Dublin.

The well-attended lectures, which were held in the Dublin Dental University Hospital (DDUH), were organised by Dr Sarah Brody, Executive Registrar, and Dr Denise MacCarthy.

The first event was entitled 'Diagnosis and the Journey of the Head and Neck Cancer Patient'. Dr Claire Healy gave a detailed overview of the diagnosis and epidemiology of head and neck cancer. She was followed by Lia Mills, who spoke eloquently about her personal experiences of head and neck cancer. Lia has published a memoir of her experiences entitled *In Your Face*. Margaret McGrath then outlined the physical and personal challenges faced by the patient with head and neck cancer. The chair of this session was Professor Leo Stassen.

In the second series of lectures, Dr Sinead Brennan discussed the role of radiotherapy in the management of head and neck cancer, providing evidence for current therapeutic regimes. Agnella Craig outlined the role of the radiation therapist in managing patients with head and neck cancer, giving an excellent description of preparation for radiotherapy, including fabrication of the mask. This was followed by a presentation on the pre-radiation dental visit by Dr Denise MacCarthy and finally a thorough description of the prosthodontic rehabilitation of the patient with head and neck cancer by Dr Osama Omer, who provides dental prosthetic rehabilitation for patients following surgery. In the third lecture series, Mr Kumara Ekanayake addressed the surgical management of head and neck cancer, showing many of the extensive and complex cases he has treated during his career. The role of the tracheostomy nurse specialist was very clearly explained by Joy Norton, demonstrating her obvious expertise in this area. The evening concluded with Dr Namer Osman presenting an analysis of the literature surrounding chemotherapy in the management of head and neck cancer. This evening was chaired by Professor Stephen Flint.

The final lecture series was opened by Noreen O'Regan, who gave an in-depth presentation on the issues around speech and language therapy for the patient with head and neck cancer. She included several video clips to enhance the audience's understanding of these difficulties. The management of nutrition during and post treatment for head and neck cancer was thoroughly described by Yvonne Lydon. Both of these lectures also addressed the problems faced by individuals who cannot speak or swallow – an understanding of these issues is very important for the dental team. The final speaker was Dr Alison Connolly, who brought us through the psychological impact of cancer for the head and neck patient. She drew on the clinical issues and examples presented by the earlier speakers, demonstrating the interdependence of all the members of the team who provide care for the patient with head and neck cancer patient. This session was chaired by Professor June Nunn.



From left: Agnella Craig, Assistant Professor in Radiation Therapy, TCD; Dr Sinead Brennan, Radiation Oncologist, St Luke's Hospital; Dr Denise MacCarthy, Senior Lecturer-Consultant and Head of Division of Restorative Dentistry & Periodontology, DDUH; Dr Osama Omer, Senior Lecturer/Consultant in Prosthodontics; and, Dr Sarah Brody, Executive Registrar, DDUH.



From left: Dr Claire Healy, Senior Lecturer-Consultant in Oral Medicine, DDUH; Margaret McGrath, Head and Neck Cancer Nurse Specialist, The Mater Hospital; Lia Mills, head and neck cancer survivor and author; and, Professor Leo Stassen, Professor of Oral and Maxillofacial Surgery, DDUH.

June/July 2013 118 : VOLUME 59 (3) We are very grateful to all the speakers who gave so willingly of their time to take part in this series of lectures. The audiences were large each evening, drawing from staff and students of the Dental Hospital, the School of Radiation Therapy, the School of Speech and Language Therapy, the Maxillo Facial Unit in St James's Hospital, St Luke's Hospital, the Mater Hospital, and also members of staff in TCD.



From left: Dr Marie O'Neill; Dr Anna Beaty; and, Dr Eimear McHugh.

Our thanks are also due to the staff in the DDUH who helped with this project – Lena Doherty, Denis Murphy, Frank Keane, Niall McDermott, Christy Kavanagh, Dalva O'Brien, Deborah O'Connor and Dr Rory Boyd (photographs). Finally, our thanks to Professor Leo Stassen, Professor June Nunn and Pat O'Boyle for their support.



From left: Geraldine Clarke; Professor Derry Shanley; and, Wenda Thomas.



From left: Dr Gerry Gavin; Dr Peter Hayden; and, Mr David Reynolds.



From left: Yvonne Lydon, Senior Clinical Nutritionist, St James's Hospital; Dr Alison Connolly, Counselling Psychologist, St Luke's Hospital; Professor June Nunn, Dean, DDUH; Noreen O'Regan, Senior Speech and Language Therapist, St James's Hospital; and, Dr Denise MacCarthy, Senior Lecturer-Consultant and Head of Division of Restorative Dentistry & Periodontology, DDUH.



From left: Jessica Molloy; Claire Parkes; Caoimhe Mulgrew; and, Kirstine Coffey, SALT, from the Mater and St James's Hospitals.



Dr Namer Osman, Consultant Medical Oncologist, St James's Hospital; Joy Norton, Tracheostomy Nurse Specialist, St James's Hospital; Professor Stephen Flint, Professor of Oral Medicine, DDUH; and, Mr Kumara Ekanayake, Senior Lecturer-Consultant in Oral and Maxillofacial Surgery, DDUH.

Successful together

The Association's Annual Conference attracted over 450 delegates for its return to Galway in April, and once again the City of Tribes provided a perfect backdrop for a busy, informative and fun few days.

Four outstanding pre-conference courses got things started on Thursday. Dr John Kanca travelled from the US to give a full-day course on composites, while Dr Hal Duncan offered valuable information on endodontics. This year's half-day courses came to us courtesy of Dr Garry Heavey, who covered componeers, and Trevor McNulty of Survival linX Solutions, who addressed the important issue of medical emergencies in the dental practice.

One for the team

The conference proper got going on Friday morning, with a packed programme for Dental Team Day. Lectures from Dr Hal Duncan on root canal obturation and Dr Claire Healy on oral cancer were followed by the launch of Mouth Cancer Awareness Day (MCAD) 2013, which was attended by Minister of State for Primary Care Alex White TD. This year's event will take place on September 18. Dr Conor McAlister took us thorough the history of MCAD from 2010, when free examinations were carried out on over 3,000 people in the Cork and Dublin dental hospitals and six cancers were detected, to 2012, when over 700 dentists in private practice joined the campaign. Dr McAlister asked delegates to get involved and to devote some of September 18 to offering free mouth cancer examinations in their practice, as early detection is crucial to successful treatment.

In his address, Minister White acknowledged the high standard of professionalism among Irish dentists, and praised Mouth Cancer Awareness Day in particular as a great example of their public-spirited approach. He spoke of the fact that while the Irish Dental Association and the Department of Health have distinct roles and functions, they can and do work together, and share the same goals as regards the oral health of the public.

The Minister offered a strong endorsement of current Government policy regarding water fluoridation. He regretted the appearance of "misinformation" in this regard in recent times, praised the role of the Expert Body on Fluorides and Health, and said that the Government will continue to be guided by science and evidence in this area.



From left: IDA CEO Fintan Hourihan; incoming President Dr Seán Malone; and, Minister of State for Primary Care, Alex White TD.



Kellie O'Shaughnessy was the first hygienist to win the prestigious Moloney Award. Kellie is pictured with Dr Paddy Crotty and Dr Seán Malone.



Four very successful pre-conference courses took place in Galway, including hands-on courses on componeers and endodontics.

S-Max M Series Turbines

Unrivalled cutting performance, slim, ergonomic body and excellent visibility



Optic for NSK, KaVo®, Sirona®, W&H® and Bien-Air®

S-Max M Series Turbines

- NSK Clean Head System and 'ISB' integral shaft bearings
- · Ceramic ball bearings and Quattro Water Spray
- · Solid cellular glass rod optics

www.nsk-uk.com

- · Slim design with stainless steel body
- LED couplings available for NSK, KaVo[®], and Sirona[®]
- Integral LED handpieces available for W&H® and Bien-Air® couplings
- Non-optic versions available for NSK, KaVo[®] and W&H[®] couplings

For more information call your Territory Manager: ROI: Angela Glasgow on +44 (0)7525 911006 or NI: Dominie Curran on +44 (0)7541 864641

Alternatively call NSK: NI: 0800 6341909 ROI: 1800 848959 Non-optic available from €300

NSK

M600L

Call College College



Office 5 Gateway 1000 Arlington Business Park Whittle Way Stevenage Hertfordshire SG1 2FP NSK United Kingdom Ltd Tel: 0800 6341909/1800 848959 +44 (0)1438 310670 Fax: +44 (0)1438 310671

Referring to a new Dentists Act, Minister White said that public consultation will be crucial in the development of legislation and the Department is at an advanced stage in preparing for this process. Meetings will also be held with interested parties, including the IDA. The Minister also praised policy initiatives such as displaying pricing in surgeries, and the Dental Complaints Resolution Service. He congratulated the IDA and all involved in establishing this process, which could "only serve to enhance confidence in quality of care". He also welcomed EU legislation on tooth whitening, and the recent binding agreement on mercury.

He stated that regrettably no additional funding would be made available to the State dental schemes, but it is hoped that the current independent review of orthodontic services will provide guidance on improving services.

He referred to the IDA's proposal for a voucher system to encourage people to avail of treatments to which they are entitled as an "interesting suggestion", and said that his Department would certainly look at ways to improve uptake of these services.

Getting under the skin

Consultant Dermatologist Dr Pat Ormond gave a tour through the spectrum of skin cancer, which will no doubt help delegates to identify possible cancers they encounter in the dental chair.

Professor St John Crean said that dentists need a broad range of

knowledge and skills to assist in history taking and risk assessment, reminding delegates that they need to be aware of underlying conditions and medications that patients are taking. His message for the day was "be nosy", and he posed the question of whether dentists could have a role in general health screening.

Dr Ryan Hennessy gave his perspective on how dentists can use marketing, social media and common sense to engage with consumers, including tips on how to make your web presence more effective, and how to use social media to reinforce your 'brand'. He reminded delegates that dentists are healthcare professionals with responsibilities towards patients, and marketing activity must take account of this.

Leadership and learning

After lunch, Professor Ciaran O'Boyle of the RCSI offered 'Lessons in leadership'. With a message that "leadership can be learned", he spoke about the need for healthcare professionals to take leadership roles in developing services and systems that work for practitioner and patient.

In an entertaining presentation on diagnostic errors, John Tiernan of Dental Protection talked about why we make mistakes and what we might do to avoid them. His strategies to reduce risk included: reducing distractions in the workplace; using checklists to avoid bias; and, training and rehearsing scenarios.



Winner of the Costello Medal Joey Donovan (left), is pictured with Michael Costello and Mrs Jackie Costello.



Dr John Kanca and Dr Martin Holohan enjoy the Galway atmosphere.

Dr Hal Duncan gave a pre-Conference course on endodontics.





Kerrie McGee, Claudia Long and Paul Hatton all of GSK.

NEW REGULATIONS ON NEEDLE INJURIES

GET COVERED-

COMPLIANT WITH NEW REGULATIONS¹

ULTRA SAFETY PLUS THE SAFE INJECTION SYSTEM.

Disposable or Autoclavable Sterile Handle

Sheath has transparent barrel so aspiration is clearly visible.

Reloadable, ideal for extended procedures.

Sliding protective sheath prevents needle sticks.

As the world leader in dental pain control $^{2}\,$, Septodont solves the increased need for safe simple solutions to meet new safety regulations.

Over the years Ultra Safety Plus has proven its efficacy and ease of use becoming the standard for needle stick protection on all dental local anesthetic procedures. In the United Kingdom, Ultra Safety Plus already represents over 45% of the injection systems used in the dental groups and hospitals.³

Ultra Safety Plus is offered in an assortment of needle lengths and you can choose the sterile single-use handle or an autoclavable handle.

Ultra Safety Plus. Get Covered.



Tel: +44 (0)1622 695520 www.septodont.co.uk To arrange a demonstration contact Gerry Lavery on: +44 (0)7836 255274

¹Council Directive 2010/32/EU of 10 May 2010 ²Septodont is the only company producing 500 million dental cartridges per year

³ Source SDM data, YTD Q3 2012

As the afternoon wore on, many delegates might have been feeling a little stiff, but Chartered Physiotherapist Éamonn Ó Muircheartaigh was there to suggest exercises to combat those aches and pains in the back, neck and shoulders that are all too common in the dental team (with help from some willing volunteers).

Team day literally ended on a high note, as David Brophy of the RTÉ Concert Orchestra led us in The Human Symphony. Six groups were each given the task of representing an image in sound, and the final performances showed the enthusiasm and sense of fun that went into each group's contribution. It was a perfect way to finish Team Day, and lead us into the annual Trade Show party.

Saturday

Saturday featured tailored sessions for each member of the dental team – dentist, technician, hygienist and nurse – with parallel sessions taking place for dentists. Among the speakers was Professor Gerard Kearns of the RCSI, who offered an update on bisphosphonate-related osteo-necrosis of the jaws (BRONJ).

Dr Ross Hobson addressed 'Myth-busting orthodontics', asking how realistic it is for general practitioners to offer orthodontic treatment. Research indicates that general practitioners with the correct skill set and experience can achieve excellent results.

Drs Michael McWeeney and Dermot Canavan gave a joint overview of issues around sleep apnoea. Dr McWeeney, a Consultant Respiratory

Physician at NUIG, said that obstructive sleep apnoea can be a marker for more serious illness, and is currently very underdiagnosed. Dr Canavan outlined the role the dental profession can play in assisting patients with this condition, particularly where other treatments have failed.

Dr Michael Martin took on the subject of infection control, describing the changes in regulation in the UK in recent years and their impact on practice. He recommended that the new Irish Dental Act should impose standards; although these will be costly, proper infection control, cleaning and decontamination are essential.

After lunch, Paul Hatton from GlaxoSmithKline launched this year's Sensodyne Sensitive Dentist competition. Last year's competition attracted over 1,300 patient nominations for 800 dentists, which demonstrates the high level of care given by dentists, and the excellent relationships between patients and their dentist. Paul invited delegates to make nomination forms available in their surgeries, and looked forward to congratulating this year's winner and highly commended dentists in January 2014.

Saturday also featured the *Journal of the Irish Dental Association* lecture, which was delivered by distinguished international guest Professor Klaus Lang, who asked 'What is the value of a tooth?' Prof. Lang gave a fascinating and thought-provoking lecture, asking whether modern prosthetic and implant techniques mean that dentists are losing older restoration skills, and removing teeth that could last, with appropriate treatment, for many years.



Dr Ed Cotter, Mrs Biwai Lang and Professor Klaus Lang. Prof. Lang gave the Journal of the Irish Dental Association lecture: 'What is the value of a tooth?'

Regina Brady from DeCare Dental chats with Dr Catherine Vaughan.





Dr Mary Crossling (centre) and Antoinette Moloney of Johnson & Johnson chat on the Listerine stand.



From left: Hygienists Kellie O'Shaughnessy; Susan Johnston, IDHA President; Yvonne O'Sullivan; and, Donna Patton.

Dr Eimear Norton offered an enthusiastic endorsement of stainless steel crown restorations for the carious primary molar, taking delegates through the reasons for choosing stainless steel crowns for this patient group, fitting the crown, and the pros and cons of treatment for dentist, parent and child.

One of the final speakers of the day, Professor Stephen Flint, took delegates on a fascinating journey through the oral manifestations of a wide range of viral diseases.

Trade show

Thirty-six companies joined us for the Conference Trade Show this year, offering the best in products and equipment. As ever, the Conference Committee is extremely grateful for the support of our trade sponsors, without whom the Annual Conference could not take place.

Social

This year's social programme was especially energetic with the return of the 5k fun run on Saturday. A couple of dozen hardy souls turned up for the early morning run in aid of Simon, and were ably assisted by dedicated marshals. Congratulations to Dr Yvonne MacAuley, who was first over the line, and to everyone who ran or donated to the \in 2,000 raised. The annual trade show party on Friday gave everyone the chance to mingle and relax after a busy day, and even to do some

business. Saturday's Annual Dinner was a terrific night, with heartfelt speeches from incoming President Seán Malone, Prof. Gerry Kearns of the RCSI and Chairman of the Conference Organising Committee Dr PJ Byrne, after which we danced the night away.

Saturday featured tailored sessions for each member of the dental team – dentist, technician, hygienist and nurse.

On Sunday morning the President's Prize took place in Oughterard Golf Club. Dr Emlyn Bratton took the honours on the day, with Dr Conor McAlister in second place and Dr Michael Galvin in third.

Awards

For the first time, this year's Moloney Award was won by a dental hygienist – Kellie O'Shaughnessy. Kellie's 'Dental Den' concept, which educated children and families on improving dental care, and provides information on the sugar content in a range of popular foods, impressed the judges, and she was a worthy winner.

UCC took the honours in the Costello medal for the second year running, and Joey Donovan was a proud winner for his presentation entitled 'Clinical Considerations on the Surface Finish of Dental Ceramics'.

All four pre-Conference courses were very well attended.



Dr Marcela Torres Leavy and Iris Aherne, Kinnegad Dental.



Brian Edlin and Sue Boynton of Dental Protection.

From left: Dr Dermot Canavan; Mrs Marie Canavan; Dr Trish Kearns; and, Professor Gerry Kearns.





From left: Dr Tom Feeney; Mrs Joan Feeney; Mrs Finola McGonigle; and, Dr Barry McGonigle, President, BDA.

New BurButler making its mark



Left: Dr Paul Moore shows Dr Declan Corcoran the latest in burr management.

Below: An example of a BurButler.

Well-known Galway-based dentist Dr Paul Moore has brought a new device for holding and organising burs to the market. The BurButler is a dental bur management system that allows dentists to organise, display and

autoclave the myriad of burs needed in a practice.

Dr Moore explains: "The tapered hole design in the flexible silicon allows any bur to fit any hole. There are no moving parts and nowehere for bacteria to hide. It allows you to organise the range of burs you want, in the order that you want them for the procedure you are carrying out. So there is no more messing through part-opened packets. You get easy stock control and easy access to exactly what you want".

There are five sizes and seven different colours of BurButler available. The sizes are 5, 10, 20, 40 and 60-hole blocks, while the colours are orange, pink, green, blue, white, silver and gold.

"Dr David Coleman of the Dublin Dental University Hospital carried out microbiological studies on the BurButler with and without burs loaded. He also conducted electron microscope surface deterioration tests and the system came through with flying colours," says Dr Moore.

The BurButler is available in Ireland from DMI and in the UK from the Dental Directory.

Business supports from Bank of Ireland

During Q1 2013 Bank of Ireland held over 50 free credit clinics in branches and business incubation units around the country. The clinics provide new and early stage businesses with a good insight into the lending process and how a bank assesses repayment capacity as well as a review of financial information and cash flow forecasting. Details of a further 60+ forthcoming clinics and locations are on www.allaboutbusiness.ie. Clinics are free and available to new and existing customers.

Belfast-based course on starting implants



Dr Mark Diamond and Dr Pearse Stinson will present an interactive surgery and prosthetics implantology year-long course commencing in September 2013.

Hands-on training is at the heart of an implantology year-long course starting this September. Presented by Dr Mark Diamond and Dr Pearse Stinson, the course, entitled 'Interactive Surgery and Prosthetics', covers all aspects of placing and restoring dental implants. Training takes place at Fortwilliam Clinic in Belfast and further details can be found on the Dentsply Implants education website, www.courses4implants.com.

The clinically based programme has been running successfully for more than a decade and has trained dozens of dentists from the UK and Ireland. The content is CPD approved, and leads to a Certificate in Implant Dentistry. Dr Paul McKenna of Finaghy Dental Practice, Belfast, believes that this is "an ideal course for anyone looking to get started in implants".

On completion of the course, participants can identify suitable cases to treat safely and manage complications should they arise. "I am now in a much better position to give definitive advice to patients," explains Dr Laura Jones from Ballymena. Dr Natalie Muller of Woodlawn Dental Clinic in Dublin adds: "It was hugely beneficial to carry out implant placement on my own patients during the course, with the guidance and supervision of both Pearse and Mark".

Mark Diamond is a specialist in oral surgery with more than ten years' experience in teaching comprehensive dental implant year programmes. Pearse Stinson has been involved in implantology for more than 15 years and has experience of several systems. Both are well placed to offer clinical support to dentists in Northern Ireland and the Republic of Ireland.

There is a maximum of ten delegates per course and the fee is stg£350 plus VAT per day.



Raising the bar

"ATLANTIS ISUS

enables me to deal with a wider range of complex cases. The state-of-theart system provides guaranteed precision, and the turnaround time is very quick. I can make savings of up to 50 percent, compared to conventional techniques. Everybody wins the technician, the implant dentist and the patient."

Ashley Byrne Managing Director Byrnes Dental Laboratory

ATLANTIS ISUS[™]

Individually fabricated, screw-retained restorative solutions for all major implant systems

The new benchmark for CAD/CAM suprastructures



ONE FUTURABOND FOR ALL CASES!

DUAL-CURING UNIVERSAL ADHESIVE

- One bond for all no other adhesives required in your practice
- Self-etch, selective-etch or total-etch the choice is yours!
- Outstanding versatility of application
 - for direct or indirect restorations
 - fully compatible with all light-curing, dual-curing and self-curing composites without additional activator
 - secure adhesion to various materials such as metal, zirconium and aluminium oxide, as well as silicate ceramics – without additional primer
- Applied in one layer just 35 seconds total working time





NEV



IDA welcomes European colleagues

The Irish Dental Association recently hosted a very successful CED meeting in Dublin's Shelbourne Hotel. Dr TOM FEENEY reports.

Twenty-nine countries were represented at the Council of European Dentists (CED) meeting, which took place over three days, with the Board Meeting on Thursday May 23, and the General Meeting on Friday and Saturday, May 24 and 25. CED meetings follow the EU presidency with a view to maximising access to decision makers and relevant EU events. Special thanks go to Elaine Hughes for her Trojan efforts over the past year to ensure that all the pieces were in place to make the Dublin meeting such a great success.

Address from the Minister

The CED General Meeting began with an address from Alex White TD, Minister of State at the Department of Health. He spoke in detail about the CED's invaluable contribution to progress in the areas of tooth whitening regulation, professional qualifications, oral health and general health, and medical devices.

He continued: "The Council of European Dentists continues to provide an effective voice to its 340,000 members across Europe. The expertise you have provided to the EU institutions has guided policy and continues to promote high standards of oral healthcare and patient safety. Your influence in the shaping of oral health policy throughout Europe has benefited patients and provided clarity to policy makers.

"I would like to thank you all for your ongoing work and your continued dedication to high standards and professional practice. In particular I would like to thank the Irish Dental Association for its part in organising this meeting. I hope that this meeting will be a great success and that you will have the opportunity to engage in stimulating discussion and take away good memories of your time here".

Raising oral cancer awareness Europe wide

Also on the first day, Dr Conor McAlister and Lia Mills addressed the meeting on oral cancer. Lia told her story to the delegates and it was very sympathetically received. Dr McAlister then informed the meeting about the Irish initiative, Mouth Cancer Awareness Day, and suggested that it could become an EU-wide initiative in 2014. Some countries (notably Italy) have a similar awareness day and the signs were positive that other countries would be keen to join in on the idea of a pan-European day.

European Movement International

On the second day, the meeting was addressed by Jo Leinen MEP, President of the European Movement International. The Movement's stated objective is to "contribute to the establishment of a united, federal Europe founded on the principles of peace, democracy, liberty,



From left: Dr Barney Murphy; Minister of State for Primary Care Alex White TD; Dr Wolfgang Doneus, President, CED; and, Dr Tom Feeney.

solidarity and respect for basic human rights. It seeks to provide a structure to encourage and facilitate the active participation of citizens and civil society organisations in the development of a united Europe". Mr Leinen spoke about how real economic and financial union would result in gains in stability, prosperity and competitiveness.

This year, coinciding with the Irish Presidency of the EU, European Movement Ireland hosted the European Movement International Federal Assembly in Dublin Castle. Delegates representing 75 member organisations from over 40 European countries came together for two days of discussion and networking. The CED is very grateful to Mr Leinen for taking time out of his busy schedule to address European dentists.

Education and professional qualifications

On December 19, 2011, the European Commission (EC) adopted its proposal for a Directive of the European Parliament and of the Council amending Directive 2005/36/EC on the Recognition of Professional Qualifications and a Regulation on administrative co-operation through the Internal Market Information System. The Commission's proposal is currently being discussed in the European Parliament (EP) and in the Council. An agreement on the final text is expected in the first semester of 2013 during the Irish Presidency. Discussions are now at a very important stage in the Council and the Parliament.

In the Council discussions are focused mainly on the European Professional Card, the transparency of regulated professions, some other horizontal issues, and aspects relating to individual professions.



Minister of State Alex White addressed the CED meeting.



Twenty-nine countries were represented at the CED's Dublin meeting, which took place in May.

The European Parliament's Internal Market and Consumer Protection (IMCO) Committee adopted the Draft Report on the Professional Qualifications Directive (PQD). The Committee agreed that basic dental training should comprise a total of at least five years of full-time study, which may be expressed with the equivalent ECTS credits, consisting of at least 5,000 hours of theoretical and practical study. In addition, they proposed that partial access should not apply to the professions benefiting from automatic recognition under the Directive, and clarified the provisions on language checks for health professions.

The CED has prepared a lobby package on the PQD, which was sent to CED members in February. Due to the present Council Presidency, the CED Brussels Office has been in regular contact with the Irish Dental Association regarding lobby activities with Government ministries, and indeed is very appreciative of the efforts of IDA CEO Fintan Hourihan in this regard. These lobbying efforts will continue. The vote in the Plenary is expected by September 2013.

Oral health

The CED has decided to give special focus to the theme 'Oral health and tobacco' on the occasion of European Oral Health Day – September 12, 2013 – and to support CED members who wish to draw attention to the topic and to European Oral Health Day.

The CED welcomes the Commission's initiative to review EU legislation on tobacco and the opportunity to comment from the perspective of European dentists on the proposal for a Directive of the European Parliament and of the Council on the approximation of the laws, regulations and administrative provisions of the Member States concerning the manufacture, presentation and sale of tobacco and related products.

European dentists, as health professionals, strongly support any initiative that has as its aim improving the general and oral health of Europeans. As health professionals directly and most immediately concerned with the diseases and conditions of the mouth, we particularly support initiatives related to tobacco use and call for denormalisation of tobacco products, especially of their availability and presence in non-specialised retail outlets where new smokers might be recruited. The CED is concerned that the progressive decline in the number of smokers in the EU appears to have levelled off, and that there appears to be a trend for the tobacco industry to purposefully target young people as potential future smokers by focusing on additives to disguise the taste of tobacco, on visual imagery and on branding. The CED further welcomes the Commission's intention to be guided in the preparation of the Proposal by the need for a high level of health protection, and the decision to focus on provisions that would reduce the prevalence and uptake of smoking, especially among young people. Finally, the CED supports the intention for the Proposal to encourage full implementation of the WHO Framework Convention on Tobacco Control, to which the EU and Member States have signed up.

Scope

The CED believes that any tobacco products or related products containing nicotine should not be exempted from the scope of the Directive, such as e-cigarettes, cigars, cigarillos, water pipes, and chewing and nasal tobacco. Exemption of any of these products cannot be scientifically defended as they still present significant risks to health and a gateway to smoking. For instance, while it has been argued that smoking cigars might not be as harmful to the smoker's lungs as smoking cigarettes, they are just as harmful as cigarettes to the mouth.

Ingredients and emissions

The CED calls for prohibition of all ingredients of tobacco products that increase their addictiveness or toxicity, are cancerogenic or create the appearance of health or vitality benefits, as well as the prohibition of characterising flavours and colour emissions. Flavoured tobacco products that particularly appeal to younger and potential new smokers are especially dangerous since they help to recruit and retain these smokers.



Drs Barney Murphy and Tom Feeney, along with Dr Robin Foyle, represented Irish dentistry and the Irish Dental Association at the meeting.

Tobacco for oral use

The CED is strongly in favour of a ban on tobacco for oral use. Evidence from dentists in Nordic countries where oral tobacco such as snus is currently consumed shows that it not only has important detrimental effects on health, starting with oral health, but that it is also used as an initiation product for young people who eventually start smoking.

Amalgam and other restorative materials

On January 19, 2013, after four years of negotiations, the UNEP International Negotiating Committee (INC5) concluded a new global treaty to tackle mercury (the so-called 'Minamata Convention on Mercury'). The aim of the treaty is to reduce mercury emissions and releases to the air, water and land.

The crucial component of the treaty is an agreement to phase down rather than phase out amalgam use.

Dental amalgam is still placed in Annex C of the treaty, but the wording of the requirements was amended during the week of the INC5 negotiations in Geneva. The main issues regarding dentistry are:

- the requirement to make progress in reducing the use of mercury in dentistry;
- attention to public health and prevention programmes designed to reduce the incidence of dental disease;
- the WHO's phase down approach has been acknowledged as appropriate;
- national governments can pace their actions according to domestic needs;
- best practice measures are to be employed in reducing the environmental load arising from waste dental amalgam products;
- earlier reference to non evidence-based "high risk" groups of children and pregnant women has been removed;
- use of appropriate non mercury-based materials is to be encouraged; and,
- research into non mercury-based restorative materials should be encouraged.

The draft opinions of the Scientific Committees SCHER and SCENIHR are planned to be published and open for comments in June 2013.

Nanomaterials

Increasingly, attention is being given to the use of nanomaterials in dentistry and this issue arises as the CED considers alternative materials that are commonly used or being developed as alternatives to amalgam. Nanomaterials are mainly dealt with by the CED Working Group Medical Devices. The draft opinion of the Scientific Committee SCENIHR on the health effects of nanomaterials used in medical devices is scheduled to be published and open for comments in June 2013.

Medical devices and standardisation issues

On September 26, 2012, the European Commission published a package consisting of legislative proposals for a Regulation on medical devices and a Regulation on *in vitro* diagnostic medical devices, which will replace the current Medical Devices Directives (Directive 90/385/EEC, Directive 93/42/EEC and Directive 98/79/EEC). This package contains issues of very significant interest to dentists and the CED has been extremely busy in lobbying activity and in preparing responses to the proposals.

The CED Working Group Medical Devices met on January 22, 2013, to prepare amendments to the Commission's proposal, based on the resolution adopted at the Budapest General Meeting in May 2011 (CED-DOC-2011-019-E/F/D-FIN) and letter to the Commission dated January 2012 (CED-DOC-2012-010). The proposal was amended in April on the basis of the Parliament's draft report and draft opinions, information received from the Commission, Board discussion and a CED questionnaire on reprocessing of single use devices.

As part of many lobbying activities, Fintan Hourihan of the Irish Dental Association transmitted the CED position to Marian Harkin MEP and the EMPL Committee on April 25.

A lobby package is being sent to all CED members to assist them in encouraging their governments to support the position of European



Dr Tom Feeney; Moira Fitzgerald, Category Director, Wrigleys; and, Dr Barney Murphy.

dentists in drawing attention to a number of issues that directly affect dentistry. The CED believes that the Proposal does not take into account the specificities of dentistry, which could have devastating effects on the cost and availability of dental and oral care for patients. Among these are:

I – Definitions:

Any device placed in the teeth should not be considered an implantable device. The definition proposed by the Commission could be interpreted to include dental fillings, which would, under Article 16 of the Proposal, be required to be accompanied by an implant card; this would significantly increase administration and costs in dental care without a corresponding improvement in patient safety.

Definition of a "health institution" should be clarified to exclude individual healthcare professionals to avoid legal uncertainty and the application of obligations meant for hospitals to individuals.

II – Single use devices

The CED does not support the Commission's suggestions on reprocessing of single use devices. To ensure patient safety and avoid artificial inflation of costs in healthcare, definitions should be clarified and manufacturers should be obliged to provide scientific evidence as to why a device cannot be reprocessed or, alternatively, clear instructions for reprocessing.

III - Implant card

The CED does not support the suggestion that every implantable device should be accompanied by an implant card. To ensure that the information about the implant is not lost and is available to the patient and to the healthcare professional, information should be recorded in the patient's medical records.

IV – Unique Device Identification (UDI) system

While the CED supports exclusion of custom-made devices from the UDI (their inclusion would not improve traceability or patient safety), the UDI system should also be restricted to highest risk (class III) medical devices to avoid excessive administrative and financial burdens in healthcare.

June/July 2013 136 : VOLUME 59 (3)

V - Classification - implementing and delegated acts

Before adopting important implementation and delegated acts, such as those on classification of medical devices, the Commission should consult and take into account suggestions of relevant stakeholders.

VI – Consultation with stakeholders

Organisations representing stakeholders (the medical device industry, healthcare professionals, laboratories, patients and consumers) at EU level should be invited to meetings of the Medical Device Coordination Group (MDCG).

VII – Nanomaterials

Classification of nanomaterials as risk class III medical devices should be restricted to devices incorporating or consisting of nanomaterials intended to be intentionally released in the human body. Under the Proposal, many dental materials such as impression materials, adhesives, prostheses or artificial teeth containing porcelain powder, glass powder, pyrogenic silicas or pigments would be classified as class III medical devices. This has no scientific basis and would result in higher costs for patients and national healthcare systems.

VIII – Occupational safety

The CED opposes the requirements for medical devices arising from Directive 2010/32/EU on the prevention of sharp injuries in the hospital and healthcare sector as suggested in the Draft opinion of the Committee on Employment and Social Affairs. This Directive was adopted via a legislative process that did not allow appropriate scrutiny or stakeholder input, and does not take into account the specificities of non-hospital healthcare settings, including dentistry. Attempts to indiscriminately apply requirements for safety-engineered protection mechanisms in dental settings have already caused problems in some EU countries, without improving occupational safety.

Tooth whitening

The new Cosmetics Directive has now been implemented in all Member States except Greece. Greece has taken the step of banning imports of higher strength hydrogen peroxide but has not as yet transposed the Directive.

The CED has requested an interpretation from the Commission on chlorine dioxide and sodium perborate, and also on the definition of the terms 'sale' and 'supply'.

Next steps

- 1. Encourage CED members to follow up on the reporting mechanism for undesirable side effects.
- 2. Prepare and review the 'Annual Review Summary' to present to the Commission on the desirable effects.
- 3. Request an opinion from the Scientific Committee on Consumer Safety (SCCS) on the use of chlorine dioxide in oral hygiene products and tooth-whitening products.
- 4. Deal with the issue of under 18s with specific conditions.

The dentist's role within the multi-disciplinary team maintaining quality of life for oral cancer patients in light of recent advances in radiotherapy

Précis: Multidisciplinary care of the oral cancer patient, including the role of the general dental practitioner in maintaining the patient's oral health post radiotherapy.

Abstract: Every year in Ireland over 400 people are diagnosed with head and neck cancer. Oral cancer, a specific type of head and neck cancer, is usually treated with surgery and often requires radiotherapy (RT). However, side effects of RT treatment, which include mucositis, xerostomia, radiation caries, trismus and osteoradionecrosis, can seriously compromise a patient's quality of life. Treatment for oral cancer patients is managed in a multidisciplinary team. General dental practitioners (GDPs), consultant/specialist dentists and oral-maxillofacial surgeons play an important role in these patients' care.

Recent advances in the delivery of RT have not only improved locoregional control and survival rates, but have also reduced the incidence and severity of RT-associated side effects; however, no mode of RT delivery has successfully eliminated side effects. The role of dentists is essential in maintaining oral health and all patients should be dentally screened prior to commencing RT.

Recent reports have attempted to standardise the quality of care for the oral cancer patient and have highlighted the significance of the role of the GDP. Despite the advancements in RT delivery, the dental team is still faced with a number of challenges, including the high number of patients lost to follow-up dental care, lack of an effective treatment for xerostomia, poor patient compliance, and a lack of standardised guidelines and funding.

Addressing these challenges will involve increased communication between all members of the multidisciplinary team and increased involvement of the GDP, thereby ensuring that dental care continues to evolve concurrently with new methods of RT delivery.

Journal of the Irish Dental Association 2013; 59 (3): 137-146.

Sarah Brody BDentSc BA BE PhD¹

Osama Omer BDS(Stat) MSc PhD FDS RCSI, FFD RCSI¹

> Jacinta McLoughlin BDentSc MDS FDS FFD¹

> Leo Stassen FRCS FDSRCS MA FTCD FFSEM(UK) FFD RCSI^{1,2}

1. Dublin Dental University Hospital, Lincoln Place, Dublin 2

> 2. St James's Hospital, James's Street, Dublin 8

Address for correspondence: **Prof. Leo Stassen** Oral and Maxillofacial Dept Dublin Dental University Hospital Lincoln Place Dublin 2 T: 01-612 7200 F: 01-612 7296 E: stassenl@tcd.ie

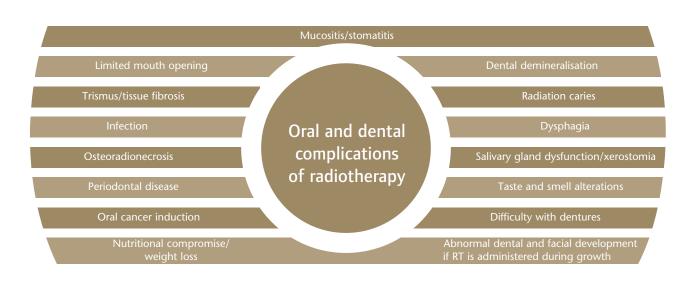


FIGURE 1: Oral and dental complications of radiotherapy (adapted from MacCarthy et al., 2005).⁵

Introduction

Every year in Ireland more than 400 people are diagnosed with head and neck cancer.¹ The term 'intra-oral cancer' or 'oral cavity cancer' refers to particular forms of head and neck cancer, specifically those classified by the International Classification of Disease–O2

TABLE 1: The Radiation Therapy Oncology Group acute radiation morbidity scoring criteria. ²⁷		
Mucous membranes (mucositis)		Salivary gland (salivary hypofunction/xerostomia)
Grade 0	No change over baseline	No change over baseline
Grade 1	Mild pain, may require analgesia	Mild mouth dryness, slightly thickened saliva, slightly altered taste, but changes are not reflected by altered feeding behaviour (e.g., increased use of liquids with meals)
Grade 2	Patchy mucositis that may produce serosanguinous discharge and/or moderate pain requiring analgesics	Moderate to complete dryness, thick, sticky saliva and markedly altered taste.
Grade 3	Confluent fibrinous mucositis that may include severe pain requiring narcotics	_
Grade 4	Ulceration, haemorrhage, necrosis	Acute salivary gland necrosis

classification C01-C06.² Radiotherapy (RT) is used to treat intra-oral cancers as a primary treatment modality or as an adjuvant treatment pre or post surgery.^{3,4} It is the ultimate aim of the RT team to deliver sufficient RT to control the tumour, while sparing as much normal healthy tissue from irradiation as possible.³ Irradiation of susceptible tissues, including the mucosal lining of the mouth, nose and aero-digestive tract, the salivary glands and pharyngeal constrictor muscles, causes acute and late side effects (**Figures 1** and **2**).³ Acute side effects, occurring within 90 days of treatment, include mucositis, trismus, infection and dysphagia. Late side effects include osteoradionecrosis, radiation caries and periodontal disease.

Dental management of the oral cancer patient is multidisciplinary and includes oral-maxillofacial surgeons and specialist/consultant dentists who liaise with general dental practitioners (GDPs) and auxiliary dental team members (**Figure 3**). Dental management should begin pre treatment and continue during and after treatment.⁶⁻⁸ In recent years, significant advancements have been made in the delivery of RT, particularly in the area of sparing tissues surrounding the tumour from radiation. Some of the more significant advances in RT and their effects on the dental care of patients are outlined in this paper.

Oral and dental complications of radiotherapy Mucositis

Mucositis can range in severity from areas of erythema to ulcers exhibiting necrosis and bleeding.^{9,10} It is a serious complication of radiotherapy occurring in almost 100% of irradiated patients.^{9,11} The Radiation Therapy Oncology Group (RTOG) scale is often used to grade mucositis (**Table 1**). Mucositis causes pain, which affects and is aggravated by swallowing. This leads to reduced food intake, weight loss and, in severe cases, can necessitate nasogastric or percutaneous endoscopic gastrostomy (PEG) feeding and interruptions to RT treatment plans.¹¹⁻¹⁴ Areas that readily develop mucositis include the soft palate, tonsillar pillars, buccal mucosa, lateral border of the

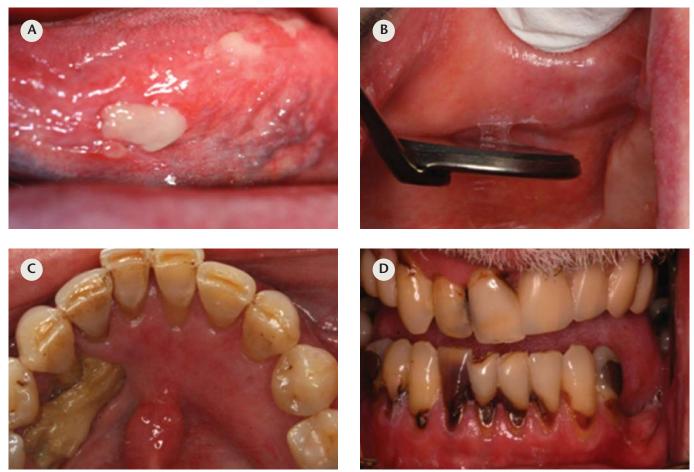


FIGURE 2: Side effects of radiotherapy, including mucositis (a), dry mouth (b), osteoradionecrosis (c) and radiation caries (d).

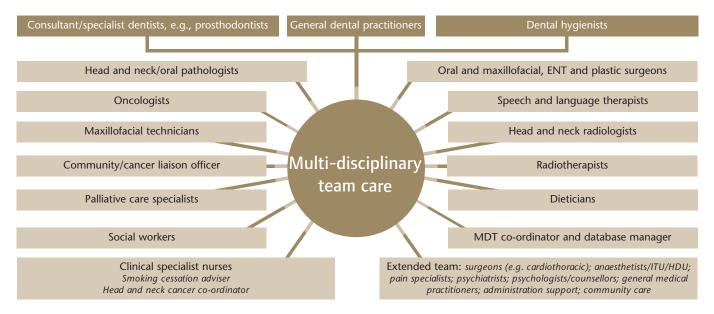


FIGURE 3: Care of the oral cancer patient is multidisciplinary.

tongue, pharyngeal walls and portions of the larynx.¹⁵ It is estimated that 9-19% of RT interruptions are due to severe mucositis.¹² Mucositis commonly remains at peak levels for two weeks after RT; however, in some patients severe mucositis may persist for five to seven weeks.¹⁶

Xerostomia and xerostomia-related side effects

Xerostomia is the most frequent complaint following RT and its sequelae include: caries; infection; impaired masticatory function; nutritional deficiency; challenges with prosthetic rehabilitation; difficulty with speech; and, loss of taste.^{6,8,17-21} Xerostomia may begin after the first week of RT.⁸

Persistent xerostomia can significantly impinge on the quality of life and psychological well-being of the RT patient.²¹ Serous acini of the parotid gland are particularly sensitive to radiation.²² The usual dose for oral cancer treatment is 60-70Gy delivered over six to seven weeks.²³ The mean dose of RT leading to permanent impairment of the parotid is 24Gy for unstimulated flow and 26Gy for stimulated salivary flow.¹⁷ However, when parotid sparing techniques are employed and the dose to the sub-mandibular gland is below 39Gy xerostomia rarely occurs.^{24,25} In some cases gland function can be recovered, particularly where only one parotid gland has been fully irradiated.^{8,17} However, long-term retrospective analysis has shown that 65% of patients experience moderate to severe xerostomia, which requires support, following RT.²⁶ The RTOG scale is also used to grade xerostomia (**Table 1**).

Other oral side effects of RT

Other serious side effects of RT include osteoradionecrosis (ORN),⁸ candidal infection,^{28,29} periodontal disease⁵ and muscle fibrosis³⁰ (**Figures 1** and **2**). The pathogenesis of ORN is not fully understood, although it is thought to occur as a result of irreversible damage to bone vascularisation and impairment of bone remodelling.⁸ ORN more commonly affects mandibular bone⁸ and can range from small asymptomatic bone exposures that remain stable or heal with conservative management, to severe necrosis requiring surgical intervention and reconstruction.³¹

Advancements in the delivery of radiotherapy Advancements in radiotherapy generation

When initial studies on the delivery of RT to treat head and neck cancers began in 1896, neither the quantity nor the quality of radiation could be measured, and side effects included burning of the skin leading to necrosis and sloughing.³² During the 1950s, cobalt-60 became a widely used source of RT. However, compared to modern RT techniques, cobalt-60 emits relatively low-energy photons so ionising radiation is deposited superficially, causing increased mucosal and cutaneous toxicity. Its use is now limited to palliative care and treatment of cancers in the developing world.²³ The development of linear accelerators to generate RT has facilitated increased tissue penetration and tissue sparing.²³ Using linear accelerator-derived RT, multi-leaf collimators and data derived from computed tomography (CT) scans, the RT beam may be shaped to match that of the tumours;

June/July 2013 140 : VOLUME 59 (3) this technique is known as three-dimensional conformal RT (CRT). Intensity-modulated RT (IMRT), a further technological advancement, allows the creation of dose gradients across the beam and the delivery of different doses to different targets simultaneously, further tailoring the delivery of RT to the specific tumour size and sparing surrounding tissues.³³ IMRT may allow further tissue sparing, leading to a reduction in RT-induced side effects.

However, studies comparing IMRT and CRT have shown mixed results. Chen *et al.* (2009)³⁴ studied 49 patients with oral cancer and found no significant difference in acute toxicity (mucositis) between patients treated with CRT and IMRT. Late toxicity could only be measured in 30 of the patients, and while it was shown that patients treated with IMRT had significantly less moderate to severe xerostomia and dysphagia, 100% of patients experienced some degree of both xerostomia and dysphagia. Patients in both groups experienced fibrosis and trismus, but the sample size was too small to derive statistical significance. In a similar study, Chao *et al.* (2001) showed that patients treated with IMRT had higher rates of stimulated salivary flow than those treated with CRT.²¹ However, follow-up times (six months) were short; recovery of the glands can continue for up to 12 months post RT.⁸

Brachytherapy, a method of RT delivery whereby the radioactive source is placed inside or in close proximity to the area being treated, has been investigated for treatment of oral cancers; however, its use is limited to patients presenting with early T1 and T2 cancers.^{23,35}

Advancements in radiotherapy treatment protocols and imaging techniques

Mean dose to the parotid gland is the best predictor of function following RT^{36,37} and RT techniques aimed at sparing the parotid glands include inverse planning RT,³⁸ intra-operative RT,³⁹ RT boost techniques³³ and ipsilateral RT.^{18,40,41} Ipsilateral delivery of RT has previously shown some success in the treatment of tonsilar and oropharyngeal cancers.^{42,43} Vergeer *et al.* (2010) investigated ipsilateral RT in the treatment of well lateralised oral cancers.¹⁸ Promisingly, only 5% of patients had grade 2 or greater xerostomia (RTOG scale) at two to three years post treatment. However, ipsilateral delivery is only suitable for well lateralised early stage cases where the risk of contralateral node metastasis is low.⁴⁰ In Vergeer's study 50% of the oral cancer patients in the study had cancer of the gingivae, which is not representative of the usual distribution of oral cancers.

Inverse planning and RT boost techniques are alternative RT delivery techniques, which aim to spare radiosensitive tissues by delivering higher doses of radiation to the tumour site and conventional fractions to secondary sites.³³ Neither technique has been successful at eliminating RT-associated toxicities. Butler *et al.* (1999) investigated simultaneous modulated accelerated RT boost: 80% of patients reported grade 3 mucositis (RTOG scale) and 45% had grade 2 or higher xerostomia.³³ Parliament *et al.* (2004) showed more promising results using inverse planning; however, 80% of patients in the study were suitable for bilateral parotid sparing.³⁸ Intra-operative RT facilitates treatment of the margins of tumours at the time of excision;



FIGURE 4: Pre radiation therapy radiation, a stent may be made.

however, a high-dose single fraction delivered to normal tissues creates a high risk of late complications and surgery must take place in a dedicated RT suite.³⁹

As techniques for the generation and delivery of RT have advanced, so too have the techniques available for imaging the tumour tissues prior to and during RT.⁴⁴ Sharp dose gradients used with IMRT require accurate tumour imaging.⁴⁴ CT is the standard imaging modality used in RT treatment planning. However, when used in conjunction with magnetic resonance imaging (MRI), detailed definition of soft tissues, representing microscopic tumour extension, can be generated, and artefacts (e.g., amalgam) cause less interference.²³ Recently, the use of positron emission tomography (PET) has made staging and subsequent follow-up more accurate and facilitates improved detection of occult contra-lateral lymph node metastases.⁴⁰ In the future more radio-resistant hypoxic areas of tumours could be identified by PET imaging and targeted with higher doses of radiation; however, investigations regarding acute toxicity would also be required.³

Deriving meaningful results from the many RT delivery studies is difficult due to insufficient follow-up times,⁴⁵ lack of placebo or blinded assessment,^{4,46} failure/inability to take baseline measurements^{40,47} and small study populations.^{11,48} Few studies are limited to oral cancers and therefore results presented are not specific to oral cancer.⁴⁹ In addition to the adjunctive treatment under investigation, subjects are often given concomitant chemotherapy; however, effects of how this additional variable may influence study outcomes are rarely considered.^{28,38,50}

A wide range of grading schemes is used, in particular to grade quality of life (QoL) and xerostomia.^{22,38,45,51} Graff *et al.* (2007) reported higher QoL scores for patients treated with IMRT; however, a statistically significant number of patients treated with CRT were unemployed and a higher number of CRT patients had co-morbidities and lymphatic involvement.⁵¹ Henson *et al.*⁵² (2001) and Parliament *et al.*³⁸ (2004) used different questionnaire instruments to assess patient-reported xerostomia. In contrast to the results of Parliament *et*



al., Henson *et al.* found that patients did not re-establish pretreatment saliva levels, raising the question of whether Henson's questionnaire showed greater responsiveness or whether subjects in Parliament's study had, on average, better salivary function preservation.

Correlations between salivary flow measurements and patientreported xerostomia are often weak. Cerezo *et al.* (2009) using the CTCAE (Common Terminology Criteria for Adverse Events) tool for measuring xerostomia, found that subjective measurements tend to underestimate salivary flow.⁴⁰ Jensen *et al.*⁵³ (2007) also found little correlation between patient-assessed symptoms according to the EORTC (European Organisation for Research and Treatment of Cancer) questionnaires (C30 and H&N35) and objective salivary flow measurements. Eisbruch *et al.*²⁴ (2001) described a low correlation between symptoms and salivary measurements, and concluded that both subjective questionnaires and measurement of the saliva should be included in xerostomia evaluation. The main objective of minimising side effects is to improve QoL; therefore, in clinical practice subjective symptoms may be more relevant.⁴⁰

New methods of RT delivery, volumetric intensity modulated arc therapy^{54,55} and particle therapy,^{56,57} aim to further minimise side effects; however, it is anticipated that the dentist's role will remain critical and that the field of dental oncology will continue to gain more recognition.

Adjunctive treatments used in the delivery of radiotherapy

To minimise side effects, many research groups have investigated the administration of adjunctive therapies concomitantly with RT. Such therapies include laser therapy,¹¹ anti-fungals,^{28,48} pilocarpine,²² zinc supplementation,⁵⁸ amifostine^{4,46} and chemotherapeutic agents.^{47,49} Surgical repositioning of the sub-mandibular gland has also been investigated, although not in the treatment of oral cancer patients.^{59.} ⁶¹ Some success has been shown by the use of adjunctive therapies. Patients on amifostine showed significantly less grade 2 or higher xerostomia and higher unstimulated salivary flow rates.⁴⁶ The

administration of antifungals has been shown to significantly reduce the severity of mucositis and the number of interruptions to the delivery of RT.²⁸ However, to date, no adjunctive treatment has successfully managed to eliminate the side effects of xerostomia, mucositis and ORN.

Dental management of patients receiving radiotherapy

Despite the many advances in the delivery of RT, side effects remain unavoidable, particularly in patients who continue to smoke and/or consume alcohol, and in patients who require concomitant chemotherapy and RT delivery to nodal sites.⁶² Fundamental dental care of oral cancer patients has not changed significantly.⁶³ Thorough oral hygiene (OH) practice, regular fluoride use, conservative treatment plans and management of xerostomia remain the cornerstones of treatment. A flow chart outlining ideal management of the dental patient is shown in Figure 5. Reports published by the National Institute for Clinical Excellence (NICE) (2004) and the Scottish Intercollegiate Guidelines Network (SIGN) (2006) have emphasised the importance of the dentist within the multidisciplinary team (MDT) and have recommended roles for specific members of the dental team.^{64,65} For example, the NICE report suggests that although specialist dentists may form part of the MDT, long-term dental care should be provided by the primary care dental team.⁶⁴ Recent changes in dental management are mainly focused on standardisation of dental care, and defining roles and responsibilities within the dental team.

Dental management pre RT

The most important risk factors for complications following RT for oral cancer are pre-existing oral and dental disease, and poor oral care during and after cancer therapy.⁷ The pre-RT dental visit therefore remains critical; patients are more likely to have their teeth now than in the past⁶⁶ and studies have shown that between 58% and 97% of patients examined prior to RT needed immediate dental care.⁶⁷⁻⁶⁹ Treatment must be carried out promptly to maximise healing time and 'ideal' treatment plans often need to be adapted.⁷ Pre-RT patients must be educated regarding the side effects of RT; trays are made for delivery of fluoride and/or chlorhexidine, and the importance of meticulous OH and long-term regular dental visits is emphasised (**Figures 4** and **5**).

Patient assessment requires decision making and clinical skills, and is best carried out by experienced dentists who can design treatment plans using information provided by other members of the MDT, e.g., tumour size and location, radiation dose and field of therapy.⁶ Such information may influence the decision to extract teeth and the design of radiation stents.

Radiation stents are custom-made devices that displace or shield tissues, and which are used to position patients in repeatable positions, increasing the consistency of RT delivery to the tumour site (**Figure 4**).^{5,70} The stents are usually fabricated by the dental team, and while they do not prevent RT-related side effects, they can reduce the incidence and severity of mucositis and xerostomia.^{5,45} Intra-oral lead

shields, used in the treatment of lip cancers, and positioning masks, for patient immobilisation during RT delivery, are also used as aids for the protection of healthy tissues.^{5,38,71}

A current lack of evidence-based clinical guidelines means that decision making regarding extractions relies heavily on the clinician's experience.⁷² Bruins *et al.* (1999) surveyed hospital-based dentists and oral-maxillofacial surgeons and found a high level of similarity in their decisions on which teeth to extract, despite the lack of guidelines,⁷² contrary to the findings of Hong *et al.*⁷³ (2010). However, there is no evidence for prophylactic dental clearance before RT.^{45,66} In addition to design and fabrication of radiation stents, consultant/specialist maxillofacial prosthodontists are often required to liaise with surgeons in planning dento-facial prosthesis.⁸

Dental management during RT

Treatments available for the management of mucositis are limited. Current management of mucositis is mainly palliative; however, research and development of targeted therapeutic interventions is ongoing.⁶² In mild cases some relief is provided by mucosal coating solutions and anaesthetic agents such as lidocaine lollipops and benzydiamine hydrochloride rinses. More severe cases can be managed with analgesics and systemic antifungals if there is a risk of candidiasis.⁸ Patients should be advised to use a soft toothbrush, gauze or mouth sponges, and chlorhexidine mouth rinses, and to leave dentures out. Jaw stretching exercises should also be encouraged during RT to maintain maximal mouth opening and prevent muscle fibrosis.⁷⁴ Routine dental treatment should be postponed until after RT, and patients requiring emergency dental treatment during RT should be managed in specialist centres.

Dental management post RT

Following RT oral cancer patients remain at high risk of caries, oral infection and oral functional impairment, which can seriously compromise QoL and necessitate life-long regular prophylaxis.⁷⁵ If complex restorative work, including intermediate and definitive prosthesis, are required after surgery, care should continue with a consultant/specialist maxillofacial prosthodontist.⁵ Dental implants can be considered; however, implants placed in irradiated bone have an increased risk of failure compared to those placed in non-irradiated bone.⁷⁶

Existing treatments for xerostomia offer some relief from the symptoms of dry mouth, but fail to restore gland function.⁷⁷ Management of xerostomia may include saliva substitutes, and frequent intake of fluids, and systemic cholinergics (e.g., pilocarpine) can also be prescribed where residual gland function remains.

ORN is a late complication of RT and the risk of developing it increases over time.⁶⁶ Advances in RT have decreased incidence rates from 11.8% pre 1968 to approximately 3% currently.^{13,66,78} Risk of ORN needs to be evaluated by the clinician, but it is now recommended that patients requiring extraction should be managed in a specialist centre.^{66,79-81} Endodontic treatment should be favoured over extraction and, when necessary, extractions should be as atraumatic

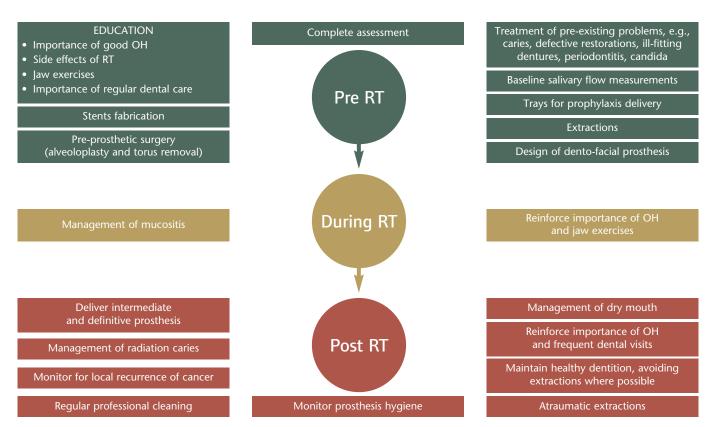


FIGURE 5: Dental management of the oral cancer patient before during and after radiotherapy.

as possible. Chlorhexidine mouthwash and antibiotic cover should be administered prior to extraction, and placement of a splint to prevent trauma during healing should also be considered. There is currently no evidence that hyperbaric oxygen therapy reduces the incidence of ORN.⁸²

The role of the GDP

Compliance with OH routines is often difficult for oral cancer patients.⁸³ However, the importance of basic dental care, including good OH and regular dental assessment, should be emphasised. The GDP is often best placed to provide regular care to the patient.^{5,8}Aspects of oral care that can be carried out by the GDP, in conjunction with the dental hygienist where appropriate, include:^{5,8,64}

- evaluation and reinforcement compliance with OH measures and fluoride use;
- diet analysis and advice;
- advice on prosthesis maintenance;
- reinforcement of advice on lifestyle changes;
- regular professional cleaning;
- Monitoring for signs of second primaries;
- reassurance for patients fearful of recurrence;
- simple/routine restorative procedures; and,
- referral of patients to specialised centres for extractions and complex restorative procedures.

Monitoring for second primaries is particularly important; the

recurrence rate for oral cavity squamous cell carcinoma is approximately 30%.⁸⁴

Discussion and conclusions

New methods of RT delivery have reduced the side effects of RT for oral cancers; however, long-term irreversible damage to the salivary glands, connective tissues, vasculature and bone is still induced, leading to unavoidable side effects. Recent publications have attempted to define roles within the dental team and standardise care of the oral cancer patient, in particular the importance of long-term regular support within the community and specialised care where necessary. However, current recommendations for the dental management of the oral cancer patient tend to be based on expert opinion rather than evidence-based studies.

Many challenges still face the dental team, including the lack of an effective treatment to relieve the symptoms and sequelae of xerostomia,⁷⁷ the high number of patients lost to follow-up,⁸⁵ poor patient compliance⁸³ and the prevention of ORN.⁴⁵ In addition, many oral cancer patients are not provided with specialist dental care; some are referred to their GDPs prior to RT, while others receive no dental care prior to RT.⁸⁶⁻⁸⁹ Scientific evidence has shown that good oral health is directly related to a patient's quality of life and therefore the role of the dental team in the management of the oral cancer patient before, during and after RT remains critical.

It is hoped that in the future these challenges will be addressed by

increased communication between all members of the cancer team, including dentists, and with the formulation of evidence-based guidelines, in particular focusing on highlighting the role of the GDP. It is also hoped that dental care will continue to evolve concurrently with new methods of RT delivery, thereby maximising the inevitably reduced QoL of the oral cancer patient.

References

- National Cancer Registry. Cancer Trends Cancers of the head and neck. Dublin, Ireland; 2011 [updated 2011; cited 2012 September 24]. Available from: www.ncri.ie.
- McCartan, B., Flint, S. Intra-oral cancer. Part 1: epidemiology, aetiology and diagnosis. *Cancerwise* 2005; 4 (4): 3-7.
- Bhide, S.A., Nutting, C.M. Advances in radiotherapy for head and neck cancer. Oral Oncol 2010; 46 (6): 439-441.
- Brizel, D.M., Wasserman, T.H., Henke, M., et al. Phase III randomised trial of amifostine as a radioprotector in head and neck cancer. J Clin Oncol 2000; 18 (19): 3339-3345.
- MacCarthy, D., Omer, O., Nunn, J., Cotter, E. Oral health needs of the head and neck radiotherapy patient: 1. Epidemiology, effects of radiotherapy and role of the GDP in diagnosis. *Dental Update* 2005; 32 (9): 512-514, 6-8, 21-22.
- Omer, O., MacCarthy, D., Nunn, J., Cotter, E. Oral health needs of the head and neck radiotherapy patient: 2. Oral and dental care before, during and after radiotherapy. *Dental Update* 2005; 32 (10): 575-576, 8-80, 82.
- 7. Joshi, V.K. Dental treatment planning and management for the mouth cancer patient. *Oral Oncol* 2010; 46 (6): 475-479.
- Barclay, S.C., Turani, D. Current practice in dental oncology in the UK. Dental Update 2010; 37: 555-561.
- Simoes, A., Eduardo, F.P., Luiz, A.C., et al. Laser phototherapy as topical prophylaxis against head and neck cancer radiotherapy-induced oral mucositis: comparison between low and high/low power lasers. Lasers Surg Med 2009; 41 (4): 264-270.
- World Health Organisation. Handbook for reporting results of cancer treatment. Geneva: WHO; 1979.
- Arora, H., Pai, K.M., Maiya, A., Vidyasagar, M.S., Rajeev, A. Efficacy of He-Ne laser in the prevention and treatment of radiotherapy-induced oral mucositis in oral cancer patients. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2008; 105 (2): 180-186, 6 e1.
- 12. Trotti, A., Bell, L.A., Epstein, J.B., *et al.* Mucositis incidence, severity and associated outcomes in patients with head and neck cancer receiving radiotherapy with or without chemotherapy: a systematic literature review. *Radiother Oncol* 2003; 66 (3): 253-262.
- Chambers, M., Garden, A., Lemon, J., Kies, M., Martin, J. Oral complications of cancer treatment. In: Davies, A., Finlay, I., (eds.). Oral Care in Advanced Disease. Oxford: Oxford University Press; 2005: 171-184.
- Nicolatou-Galitis, O., Dardoufas, K., Markoulatos, P., et al. Oral pseudomembranous candidiasis, herpes simplex virus-1 infection, and oral mucositis in head and neck cancer patients receiving radiotherapy and granulocyte-macrophage colony-stimulating factor (GM-CSF) mouthwash. J Oral Pathol Med 2001; 30 (8): 471-480.

- Parsons, J.T. The effect of radiation on normal tissues of the head and neck. In: Millon, R.R., Cassisi, N.J., (eds.). Management of Head and Neck Cancer: A Multidisciplinary Approach (2nd ed.). Philadelphia: J.B. Lippincott Company; 1994: 245-289.
- 16. Scully, C., Sonis, S., Diz, P.D. Oral mucositis. Oral Dis 2006; 12 (3): 229-241.
- 17. Eisbruch, A., Ten Haken, R.K., Kim, H.M., Marsh, L.H., Ship, J.A. Dose, volume, and function relationships in parotid salivary glands following conformal and intensity-modulated irradiation of head and neck cancer. *Int J Radiat Oncol Biol Phys* 1999; 45 (3): 577-587.
- Vergeer, M.R., Doornaert, P.A., Jonkman, A., et al. Ipsilateral irradiation for oral and oropharyngeal carcinoma treated with primary surgery and postoperative radiotherapy. Int J Radiat Oncol Biol Phys 2010; 78 (3): 682-688.
- Gerlach, N.L., Barkhuysen, R., Kaanders, J.H., et al. The effect of hyperbaric oxygen therapy on quality of life in oral and oropharyngeal cancer patients treated with radiotherapy. Int J Oral Maxillofac Surg 2008; 37 (3): 255-259.
- Anand, A.K., Jain, J., Negi, P.S., *et al.* Can dose reduction to one parotid gland prevent xerostomia? A feasibility study for locally advanced head and neck cancer patients treated with intensity-modulated radiotherapy. *Clin Oncol (R Coll Radiol)* 2006; 18 (6): 497-504.
- Chao, K.S., Deasy, J.O., Markman, J., et al. A prospective study of salivary function sparing in patients with head-and-neck cancers receiving intensitymodulated or three-dimensional radiation therapy: initial results. Int J Radiat Oncol Biol Phys 2001; 49 (4): 907-916.
- 22. Warde, P., O'Sullivan, B., Aslanidis, J., *et al.* A Phase III placebo-controlled trial of oral pilocarpine in patients undergoing radiotherapy for head-and-neck cancer. *Int J Radiat Oncol Biol Phys* 2002; 54 (1): 9-13.
- 23. McArdle, O., O'Mahony, D. Oncology, An Illustrated Colour Text. Philadelphia: Elsevier Ltd; 2008.
- 24. Eisbruch, A., Kim, H.M., Terrell, J.E., *et al.* Xerostomia and its predictors following parotid-sparing irradiation of head-and-neck cancer. *Int J Radiat Oncol Biol Phys* 2001; 50 (3): 695-704.
- 25. Murdoch-Kinch, C.A., Kim, H.M., Vineberg, K.A., Ship, J.A., Eisbruch, A. Dose-effect relationships for the submandibular salivary glands and implications for their sparing by intensity modulated radiotherapy. *Int J Radiat Oncol Biol Phys* 2008; 72 (2): 373-382.
- Wijers, O.B., Levendag, P.C., Braaksma, M.M., *et al.* Patients with head and neck cancer cured by radiation therapy: a survey of the dry mouth syndrome in long-term survivors. *Head Neck* 2002; 24 (8): 737-747.
- Radiation Therapy Oncology Group. Acute radiation morbidity scoring criteria. Philadelphia, 2011 [updated 2011; cited 2011 November 28]. Available from: www.rtog.org/researchassociates/adverseeventreporting/ acuteradiationmorbidityscoringcriteria.aspx.
- Nicolatou-Galitis, O., Velegraki, A., Sotiropoulou-Lontou, A., et al. Effect of fluconazole antifungal prophylaxis on oral mucositis in head and neck cancer patients receiving radiotherapy. Support Care Cancer 2006; 14 (1): 44-51.
- 29. Grotz, K.A., Genitsariotis, S., Vehling, D., Al-Nawas, B. Long-term oral candida colonisation, mucositis and salivary function after head and neck radiotherapy. *Support Care Cancer* 2003; 11 (11): 717-721.
- Garnett, M.J., Nohl, F.S., Barclay, S.C. Management of patients with reduced oral aperture and mandibular hypomobility (trismus) and implications for operative dentistry. *Br Dent J* 2008; 204 (3): 125-131.

- Mendenhall, W.M. Mandibular osteoradionecrosis. J Clin Oncol 2004; 22 (24): 4867-4868.
- McCarty, P.J., Millon, R.R. History of diagnosis and treatment of cancer in the head and neck. In: Millon, R.R., Cassisi, N.J., (eds.). Management of Head and Neck Cancer: A Multidisciplinary Approach (2nd ed.). Philadelphia; J. B. Lippincott, 1994: 1-29.
- 33. Butler, E.B., The, B.S., Grant, W.H. 3rd, et al. Smart (simultaneous modulated accelerated radiation therapy) boost: a new accelerated fractionation schedule for the treatment of head and neck cancer with intensity-modulated radiotherapy. Int J Radiat Oncol Biol Phys 1999; 45 (1): 21-32.
- Chen, W.C., Hwang, T.Z., Wang, W.H., *et al.* Comparison between conventional and intensity-modulated post-operative radiotherapy for stage III and IV oral cavity cancer in terms of treatment results and toxicity. *Oral Oncol* 2009; 45 (6): 505-510.
- Podd, T.J., Carton, A.T., Barrie, R, et al. Treatment of oral cancers using iridium-192 interstitial irradiation. Br J Oral Maxillofac Surg 1994; 32 (4): 207-213.
- Braam, P.M., Terhaard, C.H., Roesink, J.M., Raaijmakers, C.P. Intensitymodulated radiotherapy significantly reduces xerostomia compared with conventional radiotherapy. *Int J Radiat Oncol Biol Phys* 2006; 66 (4): 975-980.
- 37. Jellema, A.P., Doomaert, P., Slotman, B.J., Leemans, C.R., Langendijk, J.A. Does radiation dose to the salivary glands and oral cavity predict patient-rated xerostomia and sticky saliva in head and neck cancer patients treated with curative radiotherapy? *Radiother Oncol* 2005; 77 (2): 164-171.
- Parliament, M.B., Scrimger, R.A., Anderson, S.G., et al. Preservation of oral health-related quality of life and salivary flow rates after inverse-planned intensity-modulated radiotherapy (IMRT) for head-and-neck cancer. Int J Radiat Oncol Biol Phys 2004; 58 (3): 663-673.
- Rutkowski, T., Wygoda, A., Hutnik, M., *et al.* Intra-operative radiotherapy (IORT) with low-energy photons as a boost in patients with early-stage oral cancer with the indications for postoperative radiotherapy: treatment feasibility and preliminary results. *Strahlenther Onkol* 2010; 186 (9): 496-501.
- Cerezo, L., Martin, M., Lopez, M., Marin, A., Gomez, A. Ipsilateral irradiation for well lateralised carcinomas of the oral cavity and oropharynx: results on tumour control and xerostomia. *Radiat Oncol* 2009; 4: 33.
- Jellema, A.P., Slotman, B.J., Doornaert, P., Leemans, C.R., Langendijk, J.A. Unilateral versus bilateral irradiation in squamous cell head and neck cancer in relation to patient-rated xerostomia and sticky saliva. *Radiother Oncol* 2007; 85 (1): 83-89.
- O'Sullivan, B., Warde, P., Grice, B., *et al*. The benefits and pitfalls of ipsilateral radiotherapy in carcinoma of the tonsillar region. *Int J Radiat Oncol Biol Phys* 2001; 51 (2): 332-343.
- Eisbruch, A., Ship, J.A., Martel, M.K., *et al.* Parotid gland sparing in patients undergoing bilateral head and neck irradiation: techniques and early results. *Int J Radiat Oncol Biol Phys* 1996; 36 (2): 469-480.
- Bhide, S.A., Nutting, C.M. Recent advances in radiotherapy. *BMC Med* 2010; 8: 25.
- 45. Ben-David, M.A., Diamante, M., Radawski, J.D., et al. Lack of osteoradionecrosis of the mandible after intensity-modulated radiotherapy for head and neck cancer: likely contributions of both dental care and improved dose distributions. Int J Radiat Oncol Biol Phys 2007; 68 (2): 396-402.

- 46. Wasserman, T.H., Brizel, D.M., Henke, M., et al. Influence of intravenous amifostine on xerostomia, tumour control, and survival after radiotherapy for head-and- neck cancer: 2-year follow-up of a prospective, randomised, phase III trial. Int J Radiat Oncol Biol Phys 2005; 63 (4): 985-990.
- 47. Lazarus, C., Logemann, J.A., Pauloski, B.R., *et al.* Effects of radiotherapy with or without chemotherapy on tongue strength and swallowing in patients with oral cancer. *Head Neck* 2007; 29 (7): 632-637.
- Stokman, M.A., Spijkervet, F.K., Burlage, F.R., *et al.* Oral mucositis and selective elimination of oral flora in head and neck cancer patients receiving radiotherapy: a double-blind randomised clinical trial. *Br J Cancer* 2003; 88 (7): 1012-1016.
- 49. Elting, L.S., Keefe, D.M., Sonis, S.T., *et al.* Patient-reported measurements of oral mucositis in head and neck cancer patients treated with radiotherapy with or without chemotherapy: demonstration of increased frequency, severity, resistance to palliation, and impact on quality of life. *Cancer* 2008; 113 (10): 2704-2713.
- Pauloski, B.R., Rademaker, A.W., Logemann, J.A., *et al.* Relationship between swallow motility disorders on videofluorography and oral intake in patients treated for head and neck cancer with radiotherapy with or without chemotherapy. *Head Neck* 2006; 28 (12): 1069-1076.
- Graff, P., Lapeyre, M., Desandes, E., et al. Impact of intensity-modulated radiotherapy on health-related quality of life for head and neck cancer patients: matched-pair comparison with conventional radiotherapy. Int J Radiat Oncol Biol Phys 2007; 67 (5): 1309-1317.
- Henson, B.S., Inglehart, M.R., Eisbruch, A., Ship, J.A. Preserved salivary output and xerostomia-related quality of life in head and neck cancer patients receiving parotid-sparing radiotherapy. *Oral Oncol* 2001; 37 (1): 84-93.
- Jensen, K., Lambertsen, K., Torkov, P., et al. Patient-assessed symptoms are poor predictors of objective findings. Results from a cross-sectional study in patients treated with radiotherapy for pharyngeal cancer. *Acta Oncol* 2007; 46 (8): 1159-1168.
- Vanetti, E., Clivio, A., Nicolini, G., *et al.* Volumetric modulated arc radiotherapy for carcinomas of the oro-pharynx, hypo-pharynx and larynx: a treatment planning comparison with fixed field IMRT. *Radiother Oncol* 2009; 92 (1): 111-117.
- Verbakel, W.F., Cuijpers, J.P., Hoffmans, D., *et al.* Volumetric intensitymodulated arc therapy vs. conventional IMRT in head-and-neck cancer: a comparative planning and dosimetric study. *Int J Radiat Oncol Biol Phys* 2009; 74 (1): 252-259.
- Chan, A.W., Liebsch, N.J. Proton radiation therapy for head and neck cancer. J Surg Oncol 2008; 97 (8): 697-700.
- Weber, D.C., Chan, A.W., Lessell, S., *et al.* Visual outcome of accelerated fractionated radiation for advanced sinonasal malignancies employing photons/protons. *Radiother Oncol* 2006; 81 (3): 243-249.
- Ertekin, M.V., Uslu, H., Karslioglu, I., Ozbek, E., Ozbek, A. Effect of oral zinc supplementation on agents of oropharyngeal infection in patients receiving radiotherapy for head and neck cancer. *J Int Med Res* 2003; 31 (4): 253-266.
- Rieger, J., Seikaly, H., Jha, N., et al. Submandibular gland transfer for prevention of xerostomia after radiation therapy: swallowing outcomes. Arch Otolaryngol Head Neck Surg 2005; 131 (2): 140-145.

- Jha, N., Seikaly, H., McGaw, T., Coulter, L. Submandibular salivary gland transfer prevents radiation-induced xerostomia. *Int J Radiat Oncol Biol Phys* 2000; 46 (1): 7-11.
- Jha, N., Seikaly, H., Harris, J., et al. Phase III randomised study: oral pilocarpine versus submandibular salivary gland transfer protocol for the management of radiation-induced xerostomia. *Head Neck* 2009; 31 (2): 234-243.
- Lalla, R.V., Sonis, S.T., Peterson, D.E. Management of oral mucositis in patients with cancer. *Dent Clin North Am* 2008; 52 (1): 61-68.
- Dreizen, S., Brown, L.R., Daly, T.E., Drane, J.B. Prevention of xerostomiarelated dental caries in irradiated cancer patients. *J Dent Res* 1977; 56 (2): 99-104.
- 64. National Institute for Clinical Excellence. Improving outcomes in head and neck cancers. London, 2004.
- Scottish Intercollegiate Guidelines Network. Diagnosis and management of head and neck cancer. A national clinical guideline. Edinburgh, 2006.
- Kanatas, A.N., Rogers, S.N., Martin, M.V. A practical guide for patients undergoing exodontia following radiotherapy to the oral cavity. *Dent Update* 2002; 29 (10): 498-503.
- 67. Jham, B.C., Reis, P.M., Miranda, E.L., *et al.* Oral health status of 207 head and neck cancer patients before, during and after radiotherapy. *Clin Oral Investig* 2008; 12 (1): 19-24.
- Lizi, E.C. A case for a dental surgeon at regional radiotherapy centres. Br Dent J 1992; 173 (1): 24-26.
- Lockhart, P.B., Clark, J. Pre-therapy dental status of patients with malignant conditions of the head and neck. *Oral Surg Oral Med Oral Pathol* 1994; 77 (3): 236-241.
- Turner, G.E. Maxillofacial prosthetics. In: Million, R.R., Cassisi, N.J, (eds.). Management of Head and Neck Cancer: A Multidisciplinary Approach (2nd ed.). Philadelphia: J.B. Lippincott Company; 1994: 169-183.
- Bova, F.J. Treatment planning for irradiation of head and neck cancer. In: Million, R.R., Cassisi, N.J., (eds.). Management of Head and Neck Cancer: A Multidisciplinary Approach (2nd ed.). Philadelphia: J.B. Lippincott Company; 1994: 291-309.
- Bruins, H.H., Jolly, D.E., Koole, R. Preradiation dental extraction decisions in patients with head and neck cancer. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 1999; 88 (4): 406-412.
- Hong, C.H., Napenas, J.J., Hodgson, B.D., *et al.* A systematic review of dental disease in patients undergoing cancer therapy. *Support Care Cancer* 2010; 18 (8): 1007-1021.
- MacCarthy, D., Omer, O., Nunn, J. Intra-oral cancer. Part 2: oral and dental care for head and neck cancer patients. *Cancerwise* 2006; 5 (2): 3-11.
- Meurman, J.H., Gronroos, L. Oral and dental health care of oral cancer patients: hyposalivation, caries and infections. *Oral Oncol* 2010; 46 (6): 464-467.
- Ihde, S., Kopp, S., Gundlach, K., Konstanyinovic, V.S. Effects of radiation therapy on craniofacial and dental implants: a review of the literature. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2009; 107: 56-65.
- Brosky, M.E. The role of saliva in oral health: strategies for prevention and management of xerostomia. J Support Oncol 2007; 5 (5): 215-225.
- Wahl, M.J. Osteoradionecrosis prevention myths. Int J Radiat Oncol Biol Phys 2006; 64 (3): 661-669.

- Koga, D.H., Salvajoli, J.V., Alves, F.A. Dental extractions and radiotherapy in head and neck oncology: review of the literature. *Oral Dis* 2008; 14 (1): 40-44.
- McLeod, N.M., Bater, M.C., Brennan, P.A. Management of patients at risk of osteoradionecrosis: results of survey of dentists and oral and maxillofacial surgery units in the United Kingdom, and suggestions for best practice. Br J Oral Maxillofac Surg 2010; 48 (4): 301-304.
- Koga, D.H., Salvajoli, J.V., Kowalski, L.P., Nishimoto, I.N., Alves, F.A. Dental extractions related to head and neck radiotherapy: ten-year experience of a single institution. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2008; 105 (5): e1-6.
- Fritz, G.W., Gunsolley, J.C., Abubaker, O., Laskin, D.M. Efficacy of pre- and post-irradiation hyperbaric oxygen therapy in the prevention of postextraction osteoradionecrosis: a systematic review. *J Oral Maxillofac Surg* 2010; 68 (11): 2653-2660.
- Epstein, J.B., van der Meij, E.H., Lunn, R., Stevenson-Moore, P. Effects of compliance with fluoride gel application on caries and caries risk in patients after radiation therapy for head and neck cancer. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 1996; 82 (3): 268-275.
- Liu, S.A., Wong, Y.K., Lin, J.C., *et al.* Impact of recurrence interval on survival of oral cavity squamous cell carcinoma patients after local relapse. *Otolaryngol Head Neck Surg* 2007; 136 (1): 112-118.
- Toljanic, J.A., Heshmati, R.H., Bedard, J.F. Dental follow-up compliance in a population of irradiated head and neck cancer patients. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2002; 93 (1): 35-38.
- Schiodt, M., Hermund, N.U. Management of oral disease prior to radiation therapy. Support Care Cancer 2002; 10 (1): 40-43.
- Epstein, J.B., Parker, I.R., Epstein, M.S., Stevenson-Moore, P. Cancer-related oral health care services and resources: a survey of oral and dental care in Canadian cancer centres. J Can Dent Assoc 2004; 70 (5): 302-304.
- Epstein, J.B., Parker, I.R., Epstein, M.S., *et al.* A survey of National Cancer Institute-designated comprehensive cancer centers' oral health supportive care practices and resources in the USA. *Support Care Cancer* 2007; 15 (4): 357-362.
- Barker, G.J., Epstein, J.B., Williams, K.B., Gorsky, M., Raber-Durlacher, J.E. Current practice and knowledge of oral care for cancer patients: a survey of supportive health care providers. *Support Care Cancer* 2005; 13 (1): 32-41.

Future prospects of systemic host modulatory agents in periodontal therapy

Gokhale, S.R., Padhye, A.M.

Periodontitis is an inflammatory disease caused by microbial infection that leads to destruction of supporting tissues of the teeth. The periodontal tissue destruction is a result of both microbial activity and host response. The best chance for clinical improvement may come from implementing complementary treatment strategies that target different aspects of the periodontal balance. Host response modulation, in combination with conventional treatment, offers to restore the balance between health and disease progression in the direction of a healing response. Various host modulatory therapies (HMT) have been developed or proposed to block pathways responsible for periodontal tissue breakdown. The newer drugs, like bortezomib, infliximab, etanercept, vasoactive intestinal peptide, nitric oxide synthase inhibitors and denosumab, have been developed as a result of better understanding of the pathogenesis of inflammatory tissue destruction and may represent the future of periodontal therapy. This review article focuses on the potential systemic host modulatory agents that target cell signalling pathways, cytokines and enzymes.

British Dental Journal 2013; 214 (9): 467-471.

Diabetes and tooth loss: an analysis of data from the National Health and Nutrition Examination Survey, 2003-2004

Patel, M.H., Jayanth, J.V., Moss, M.E.

Background: The authors conducted an analysis of data from the National Health and Nutrition Examination Survey (NHANES) to understand the association between diabetes and tooth loss in the United States.

Methods: The authors analysed the oral examination and selfreported diabetes data obtained from the NHANES 2003-2004 cycle and included 2,508 participants representing a civilian, noninstitutionalised US population, 50 years and older. The authors



DeCare Dental Insurance Ireland Ltd is regulated by the Central Bank of Ireland.

calculated the prevalence of edentulism and the number of missing teeth among dentate people, and they used multiple regression analyses to assess the association between diabetes and tooth loss. **Results:** The prevalence of edentulism was 28% and 14% among people with and without diabetes, respectively. The multiple logistic regression analysis revealed that people with diabetes were more likely to be edentulous than were those without diabetes (adjusted odds ratio = 2.25; 95% confidence interval, 1.19-4.21). Among dentate adults, those with diabetes had a higher number of missing teeth than did adults without diabetes (mean [standard error {SE}] = 9.8 [0.67], mean [SE] = 6.7 [0.29]; P<0.01).

Conclusions: These study results revealed that adults with diabetes are at higher risk of experiencing tooth loss and edentulism than are adults without diabetes. One of every five cases of edentulism in the United States is linked to diabetes.

Practical implications: Although the association between diabetes and periodontal disease is well established, healthcare professionals also need to recognise the risk of tooth loss and its effect on quality of life among people with diabetes.

Journal of the American Dental Association 2013; 144 (5): 478-485.

Prevention of root caries: a literature review of primary and secondary preventive agents

Gluzman, R., Katz, R.V., Frey, B.J., McGowan, R.

Purpose: This literature review summarises the effectiveness of the seven leading root caries preventive agents and provides recommendations for use of those agents in clinical practice with older adults and vulnerable elderly.

Method: Studies were eligible if they assessed the effectiveness of fluoride, chlorhexidine, xylitol, amorphous calcium phosphate, sealants, saliva stimulators, or silver diamine fluoride to prevent/control root caries in English language articles between 1979 and 2010.

Results: In the 31 eligible studies, the most effective primary (1°) prevention agents had reductions in RC incidence ranging from 72% to nearly 200% as compared to a placebo, while for secondary (2°)

QUIZ ANSWERS (questions on page 116)

- 1. Should hepatitis B immunoglobulin (HBIG) be given?
 - No. There are only two scenarios where HBIG should be given:(i) where the source is known to be HBV positive and the recipient has not been vaccinated; and,
 - (ii) where the source is high risk and the recipient is a known non-responder to vaccine.

2. Should HIV PEP be given? Yes. Offer HIV PEP. prevention, the best agents demonstrated arrest rates between 67 and 80%.

Conclusion: For 1° prevention of root caries, the recommended "best choice" is a 38% silver diamine fluoride solution professionally applied annually, while for the 2° prevention of root caries, the recommended "best choice" is a 22,500ppm sodium fluoride varnish professionally applied every three months.

Special Care in Dentistry 2013; 33 (3): 133-140.

Periodontal disease and systemic illness: will the evidence ever be enough?

Cullinan, M.P., Seymour, G.J.

The concept of focal infection or systemic disease arising from infection of the teeth was generally accepted until the mid-20th century when it was dismissed because of lack of evidence. Subsequently, a largely silo approach was taken by the dental and medical professions. Over the past 20 years, however, a plethora of epidemiological, mechanistic and treatment studies have highlighted that this silo approach to oral and systemic diseases can no longer be sustained. While a number of systemic diseases have been linked to oral diseases, the weight of evidence from numerous studies conducted over this period, together with several systematic reviews and meta-analyses, supports an association between periodontitis and cardiovascular disease, and between periodontitis and diabetes. The association has also been supported by a number of biologically plausible mechanisms, including direct infection, systemic inflammation and molecular mimicry. Treatment studies have shown that periodontal treatment may have a small, but significant, systemic effect both on endothelial function and on glycaemic control. Despite this, however, there is no direct evidence that periodontal treatment affects either cardiovascular or diabetic events. Nevertheless, over the past 20 years we have learnt that the mouth is an integral part of the body and that the medical and dental professions need to work more closely together in the provision of overall healthcare for all patients.

Periodontology 2000 2013; 62 (1): 271-286.

3. What else needs to be done to manage this case?

- (i) Give HBV vaccine. Even post exposure, HBV vaccine is effective in preventing development of infection in up to 80% of cases.
- (ii) Follow-up by an infectious diseases specialist is needed, to include testing at zero, six and 12 weeks (If HIV PEP is taken by the recipient, the final HIV Ag/Ab test should be at 12 weeks from completion of PEP instead of 12 weeks after the exposure).

The EMI Guidelines are now available in Toolbox form at www.emitoolbox.ie.

Business and finance – planning for success

MARK NAUGHTON of Bank of Ireland Business Banking offers advice on drafting a business plan for a dental practice, and how to put together a loan application.

As a profession, dentists have a high rate of business ownership. However, with little or no business training included in dental education, many find the process of setting up and running a business, particularly obtaining finance, daunting.

The cost involved in setting up a dental practice can vary depending on whether a practice is being acquired or established. Typical costs will include specialist dental equipment, property fit-out costs, professional fees and, in certain cases, goodwill or other considerations. Funding will generally come from a combination of sources such as equity from the dentist and bank finance. A lender will normally expect the dentist to provide cash equity in the region of 25%; however, this may vary depending on the type of assets being acquired, repayment ability and the term requested.

This article aims to provide some guidance on drafting a business plan, and on the lending application process.

The business plan

It is imperative that a robust business plan is prepared prior to approaching a bank for finance. A business plan is an essential tool in helping you to assess the viability of your proposal. It can also be developed to assist with the planning and subsequent performance management of the business. A business plan that is specific to a dental practice should contain the following essential elements:

General background and profile of dentist and key personnel:

- Type of practice general dental practitioner (sole or partnership), or specialist practice that may include an orthodontist, oral surgeon or other specialist.
- Description of the proposed services offered, i.e., routine preventive procedures, restorative work, root canal, advanced restorative work and/or specialist treatment.
- The medium- to long-term strategy of the practice.
- The qualifications of the dentist(s) and their relevant experience (associate, sole practitioner, etc.).
- Details of key practice personnel receptionist, dental nurses, dental hygienist, etc. How many staff will be employed by the practice?
- Details of financial and legal advisers.

Location and market analysis:

Significant market research should be carried out prior to deciding on a location. The dentist should be fully aware of local demographics and competition. Knowledge of the area will help with cash flow forecasting, as the practitioner will be cognisant of the mix of patients and likely fee-paying status, i.e., private/DTSS/DTBS.

- Is the practice located in an urban or rural catchment area? Why does the area appeal from a business perspective?
- Analysis of competitors and potential referral sources.
- Does the practice have a unique selling point; what differentiates the practice from local competitors?
- SWOT (strengths/weaknesses/opportunity/threats) type analysis may be helpful.
- Key risks and mitigants.
- Details of marketing plan and key sources of referrals.

Overview of the practice:

- Size of practice (m²) and car parking (on street/private).
- Is the practice freehold or leasehold? Provide breakdown of costs and lease details (if applicable). Please note, a financial institution is unlikely to extend a loan term past the lease expiry date.
- Number of rooms (reception, consulting rooms, etc.). Are all rooms going to be utilised by the dentist or will some be rented to a third party?
- General overview of fit-out requirements.
- What type of patient management system will be put in place?
- Details of cash management system for taking payments and claiming DTSS/DTBS receipts.

Funding request and table:

- Description of the purpose of the loan(s) and duration required.
- A list of all sources and uses in a funding table (**Table 1**):
- For development/fit-out include pertinent information such as: (i) planning permission; (ii) cost breakdown (fixed price contract or otherwise); (iii) contingencies; (iv) details of contractor (if agreed); and, (v) estimated time to completion.
- Breakdown of specialist equipment requirements (dentist chair, drills, x-ray equipment, etc.) and costs (incl. VAT).

TABLE 1: Sample funding table.

Sources	€	Uses	€	
Equity		Purchase costs		
Bank loan		Development/fit-out costs		
Other		Specialist equipment		
		Goodwill		
		Stamp duty		
		VAT		
		Other		
		Contingency		
Total		Total		

- Is the dentist's equity contribution saved, gifted or borrowed?
- In a practice acquisition, a bank will require the methodology used in the purchase/goodwill calculation or enterprise value of the business, i.e., multiple of sustainable earnings or turnover-based approach.

Financials:

The appendices to a business plan will normally include key financial data drafted by a financial accountant. The level of financial information required will vary depending on whether a practice is being acquired or if it is being established.

Projections/forecasts/budgets:

- While it is difficult to accurately predict the future cash flows of a business, a lender will expect the dentist to forecast key financial performance for the next three years.
- Financial projections should include profit and loss, balance sheet and cash flow statements. Assumptions underpinning projections should be clearly outlined and broken down into sub-headings such as sales mix (private/DTSS/DTBS, etc.), labour cost, establishment expenses, etc.
- A lender will normally carry out a sensitivity analysis on the detail supplied and may benchmark performance against industry data. In addition, it is likely that financial and non-financial covenants will be based off the financial projections provided (Table 2).

Additional financial information will be needed for practice acquisition proposals or indeed where the dentist has an existing practice, including:

- Three years' certified financial accounts, to include trading profit and loss and balance sheet.
- Up-to-date management accounts.

Funding applications

A typical business plan/funding application should also include:

- Statement of affairs for the dentist (details of personal assets and liabilities).
- Confirmation that tax affairs are in order. Typically, a bank will seek either a tax clearance certificate or letter from the dentist's accountant confirming that all taxes are paid and up to date.

TABLE 2: Examples of typical banking covenants.

Covenant	Definition	
Debt service cover ratio	Ratio of cash available to service debt	
	to interest and principal repayments	
	for both term loans and leasing.	
Interest cover service ratio	Ratio of cash available to service debt	
	to interest payments for both term	
	loans and leasing.	
Debt/EBITDA	This metric measures the amount of	
	debt in relation to EBITDA (earnings	
	before interest, taxes, depreciation	
	and amortisation).	

TABLE 3: Typical facilities available from Bank of Ireland.

Facility type	Indicative repayment term	Notes
Overdraft (working capital)	Revolving	The financial requirements may be greater where the practice has a GMS listing and peak usage of the overdraft should coincide with tax payments or annual insurance premiums.
Goodwill loan	3-5 years	A financial institution would consider a loan to fund goodwill as unsecured, as goodwill has no intrinsic value to a bank.
Commercial property loan	Up to 15-year repayment profile	Maximum loan-to-value of 75% – depending on the property attributes and underlying nature of cash flows.
Fit-out loan	3-7 years	Maximum loan-to-cost of 75%.
Preliminary tax payment loan and insurance premium finance	Up to one-year repayment profile	Up to 100% funding available.

Lending criteria and terms and conditions apply. Bank of Ireland is regulated by the Central Bank of Ireland.

Please note: it is important that the dentist's personal financial affairs are satisfactory in order to ensure that no additional risk is posed to the business and the bank. It is also important that the dentist involves appropriate professional advisers at an early stage to assist with the business plan. The following websites maybe helpful:

http://businessbanking.bankofireland.com/business-supports/ https://businessbanking.bankofireland.com/cashflow-planner/

The bank's primary focus when analysing the business plan is to establish the viability of the proposal and, following from that, the repayment capacity of the business, i.e., the level of cash available to meet debt repayments after adjusting for cash and non-cash items such as tax, capital expenditure, working capital and drawings.

A lender will also consider various qualitative factors such as industry characteristics, the experience and track record of the dentist, and the proposed security value (if any) when quantifying the level of risk attaching to a proposal.

A business plan should not be overly complex but it needs to be fit for purpose and tailored to the specific request. We encourage dental undergraduates or existing practitioners who are thinking of setting up a practice to contact Bank of Ireland to discuss the proposal at an early stage and prior to the preparation of a business plan.

Please note, the above advice is intended as an indicative guide and is illustrative of the type of information Bank of Ireland would expect to see in a business plan for a typical dental practice. Other financial institutions may differ in this regard.





Kerat[®] 25 mg granules for oral solution (dexketoprofen). Prescribing Informa Please consult the Summary of Product Characteristics (SPC) for prescribing information.

Presentation: Sachets containing 25 mg Dexketoprofen, as dexketoprofen

presentibing information. Presentibing: Sachets containing 25 mg Dexketoprofen, as dexketoprofen trometamol). Use: Short term symptomatic treatment of acute mild to moderate pain. Dosage: Adults: 25mg every 8 hours or 12.5mg every 4-6 hours. Maximum daily dose 75mg. Use lowest effective dose for the shortest duration necessary to control symptoms. For acute pain administer 15 minutes before meals. For short term use only. In the elderly or those with mild-moderate hepatic dysfunction or mild renal dysfunction, initial maximum daily dose of 50mg. Close monitoring advised in the elderly or those with hepatic dysfunction. Not recommended for children or adolescents. Contra-Indications: Hypersensitivity to dexketoprofen, the excipients or other NSADS, NSAD induced attacks of asthma, bronchospasm, acute rhinitis, or nasal polysp, urticaria or angioneurotic cedema. Known photoallergic or phototoxic reactions during treatment with ketoprofen or fibrates. History of pastrointestinal bleeding or perforation related to previous NSADS therapy History of or active peptic ucler/haemorrhage, chronic dyspepsia or suspected peptic ulcer/haemorrhage, other active bleeding or bleeding disorders, Crohn's disease or ulcerative colitis, severe heart failure, moderate-severe renal dysfunction, severe hepatic dysfunction, haemorrhagic diathesis and other coagulation disorders, severe dehydration, during the third trimester of regnancy and lactation. Warnings and precautions: Caution in allergic conditions. Avoid use with effective dose for the shortest duration necessary to control symptoms. Gastrointestinal bleeding, ulceration or perforation which can be tatal, have bein reported with all NSADs arytime during treatment, with or without warning synothesis and pleeding or ulceration occurs withdraw treatment. The risk of gastrointestinal bleeding or perforation which can be tatal, have being the station the explained or perforation which can be tatal, have being the station the peptic ulcer hoveres treact

patients with history of GI disease. Special care with NSAIDs in patients with a history of gastrointestinal disease (ulcerative colitis, Crohn's disease). Consider combination therapy with protective agents (e.g. misoprostol or proton pump inhibitors), and in patients requiring concomitant low dose aspirin, or other drugs likely to increase gastrointestinal risk. Monitor patients with a history of gastrointestinal toxicity, particularly when elderly, for unusual abdominal symptoms (especially gastrointestinal toxicity, particularly when elderly, for unusual abdominal symptoms (especially gastrointestinal low dose symptoms). Sepecially gastrointestinal beding particularly in the initial stages. Caution in patients receiving oral corticosteroids, anticoagulants, SSRis or anti-platelet agents. Do not use with warfarin, other coumarins or heparin. Caution in patients with impaired renal function, receiving diuretic therapy or those who develop hypovolaemia. Ensure adequate fluid intake, may increase plasma urean introgen and creatinine. Caution in patients with patients and creatine. Caution in patients with cardiac disease, especially episodes of previous heart failure. Monitor and advise patients with hypertension and/or mild to moderate heart failure as fluid retention and oedema have been reported. Some NSAIDs (particularly at high doses and long ferm treatment) may be associated with a small increased risk of arterial thrombotic events (e.g. myocardial infarction or stroke). Careful consideration before treating patients with uncontrolled hypertension, congestive heart failure, established ischaemic heart disease, peripheral arterial disease, and/or cerebrovascular disease. Similar consideration before initiating longer-term treatment of patients with insk factors for cardiovascular disease (e.g., hypertension, hyperlipidaemia, diabetes mellitus, smoking). Serious skin reactions (some of them fatal), including exfoliative dematitis, Steves-Johnson syndrome, and toxic epidermal necrolysis reported very rarely.

antagonists, pentoxyfilline, zidovudine, sulfonylureas, beta-blockers, cyclosporin and tacrolimus, thrombolytics, anti-platelet agents and SSRIs, probenecid, cardiac glycosides, mifepristone, quinolone antibiotics. **Pregnancy and lactation:** Do not use in pregnancy, lactation or in women

Byrobenecif, cardiac glycosides, milepristone, quinolone antibiotics.
 Pregnancy and lactation: Do not use in pregnancy, lactation or in women attempting to conceive.
 Undesirable effects: As with other NSAIDs, the most commonly observed adverse events are gastrointestinal. Peptic ulcers, perforation or gastrointestinal nabledding, sometimes fatal, particularly in the elderly may occur. Common (1-10%): Nausea and/or vomiting, abdominal pain, diarrhoea, dyspepsia. Uncommon (0-1-1%): Insomnia, anxively, headache, dizziness, somolence, vertigo, papitations, flushing, gastritis, constipation, dry mouth, flatulence, rash, fatigue, pain, asthenia, rigors, malaise. Rare (0.01-0.1%) anorexia, paraesthesia, syncope, hypertension, bradypnoea, peptic ulcer, peptic ulcer haemorthage or peptic ulcer perforation, hepatic lesion, urticaria, acne, increased sweating, back pain, polyuria, menstrual disorder, prostatic disorders, peripheral oedema, liver function test abnormal. Very rare (-0.1%) neutropenia, thrombocytopenia, anaphylactic reaction including anaphylactic shock, blurred vision, tinnitus, tachycardia, hypotension, bronchospasm, dyspnoea, pancreatitis, hepatosellulari injury. Stevens Johnson syndrome, toxic epidermal necrolysis (Lyell's syndrome), angloedema, facial oedema, photosensitivity reactions, pruritus, nephritis or nephrotic syndrome. Not known: laryngeal oedema, hepatits, acute renal failure. As with ohrer NSAIDs the following undesirable effects may appear. aseptic meningitis, which might predominantly occur in patients with systemic lupus erythematosus or mixed connective tissue disease; and haematological reactions (purpura, aplastic and haemotylic snaemia, and rarely agranulocytosis and medullar hypoplasia).
 Pack size: 20 sachets. Legal category: POM.
 Marketing authorisation holmer: PA 855/25
 Marketing authorisation holmer and a facial oeder available on request to A Menarini Pharmaceuticals Ireland Ltd. 2nd Floor, Castlecourt,



Classified advert procedure

Please read these instructions prior to sending an advertisement. Below are the charges for placing an advertisement for both members and non-members. Advertisements will only be accepted in writing via fax (01- 295 0092), letter or email (fionnuala@irishdentalassoc.ie). Non-members must pre-pay for advertisements, which must arrive no later than Friday July 19, 2013, by cheque made payable to the Irish Dental Association. If a box number is required, please indicate this at the end of the ad (replies to box number X). Classified ads placed in the *Journal* are also published on our website www.dentist.ie for 12 weeks.

Advert size	Members	Non-members
up to 25 words	€75	€150
26 to 40 words	€90	€180

Non-members must send in a cheque in advance with their advert. The maximum number of words for classified ads is 40.

POSITIONS WANTED

Female Irish graduate seeks full/part-time or locum work in the Dublin area. Qualified in Trinity in 2008 and has since gained experience in Ireland, Scotland and Australia. Email: dentistireland28@gmail.com.

POSITIONS VACANT

- Associate required, County Mayo. Busy practice. Well-equipped, fully computerised, digital x-rays/OPG. Hygienist. Wide range of treatments. Large client base. Experienced staff. Reply to: jdentalcvs@gmail.com.
- Full-time associate required for busy general practice in Co. Galway. Post commencing July/August 2013. General practice experience essential. Email: galwaydent13@gmail.com.
- Dental associate required to join our modern, busy south Dublin dental practice – exclusively private patients with a high income potential. Excellent patient base along with efficient, supportive staff. Fully computerised, OPG, Cerec, digital x-rays and intra-oral cameras. Email CVs to: dublindentist18@gmail.com.
- Full-time experienced associate required for busy modern practice in northwest Donegal to replace departing colleague. June/July start. Email CVs to: jfla34@gmail.com.
- Ethical, productive, motivated associate required for busy established southside practice. Three days per week, potential to become full time. Experience and excellent people skills essential. Email: dentalassociate@outlook.ie.
- Associate required Cavan Town, one hour from Dublin. Modern, wellequipped surgery. Replacing departing colleague. Tel: 049-438 0511, or Email: frances@railwaydentalsurgery.com.
- Part-time associate required for practice in Naas, Co. Kildare. Sedation and/or paedodontic experience essential. Reply with CV to: info@naasdentalcentre.ie.

Midleton, Co. Cork. Part-time dental associate required in busy,

Only if the advert is in excess of 40 words, then please contact: Think Media

The Malthouse, 537 North Circular Road, Dublin 1.

Tel: 01-856 1166 Fax: 01-856 1169 Email: paul@thinkmedia.ie Please note that all classified adverts MUST come under one of the following headings:

- Positions Wanted
- Positions Vacant
- Practices for Sale/To Let
- Practices Wanted
- Unwanted/Second Hand Equipment for Sale

Classified adverts must not be of a commercial nature. All commercial adverts must be display advertisements, and these can be arranged by contacting Paul O'Grady at Think Media, Tel: 01 856 1166.

friendly, family-based dental practice. Please Tel: 086-896 2762.

- Leinster. Full/part-time experienced and enthusiastic associates required for established, modern and expanding practice. Great location, 45 minutes south of Dublin. Immediate start available. Apply by emailing CV along with references to: leinsterdentalpractice@gmail.com.
- Full-/part-time associate required for busy general practice in Celbridge, Co. Kildare. Post commencing end of June 2013. General practice experience essential. Please Email CV to: info@oreillysdentalpractice.ie.
- Experienced dentist required for part-time position (departing colleague) in busy, fully computerised practice in Navan, Co. Meath. Experienced staff, OPT, Kavo chair/fibreoptics. Email: don@navandental.com.
- Experienced dentist wanted in busy, computerised dental practice in the northeast. Initially every Monday and alternate Saturdays. Email CV to dentistnortheast@gmail.com.
- Full-time dentist position available, salaried or associate, in Terenure, Dublin 6. Must have excellent interpersonal skills and be able to work with the elderly. Email CV to jobs@elitedental.ie.
- Dentist required for modern, computerised Dublin northside practice. Part-time with a view to full-time employment. Must be gentle and caring, and experienced in RCT, crowns, etc. Please Email CV in confidence to: chris.ohanlon@hotmail.com.
- Experienced dentist required for an established, computerised practice in south Dublin. Applicants must have an excellent manner and communication skills, and will be part of a service-oriented team. First-class practice facilities. Email CV to: southdublindentists@gmail.com.
- Experienced full-time dentist required in well-established practice in Galway City. Can start part-time during transition of associate departing. Fully computerised, Vistascan and OPG. Please submit applications to: reception@galwaydentist.com.

June/July 2013 152 : VOLUME 59 (3)

- Galway. Dentist required for busy, friendly dental practice. Wellequipped, fully computerised, digital x-rays and hygienist. Please send CV to: info@loughreadental.com.
- Superb opportunity for enthusiastic, experienced dentist to take over existing full book in multiple surgery practice southeast/one hour Dublin. Visiting specialists, hygienists, on-site laboratory. Full clinical back-up. Great working environment. Long-term view and high standards expected. Email: southeastdental46@gmail.com.
- Dentist wanted to work two days a week, with potential for more days. Starting end of July at busy west Dublin practice. Mixed private, PRSI and Medical Card patients. Own panel numbers required. Please email CVs to: ongardental@gmail.com.
- Dentist required in Dublin 15. Tel: 01-811 5873, or Email: dublinsurgery@ yahoo.co.uk.
- Cork City. Excellent opportunity for experienced, friendly and competent dentist to join expanding, modern, family-based practice. Start September. Please Tel: 087-614 0051, or apply with CV to: thelodgedentalpractice@eircom.net.
- A unique opportunity to take over large, mixed list. The awardwinning practice offers comprehensive dental care: implants/orthodontics/sedation/cosmetics/facial aesthetics. Excellent remuneration and postgraduate training, in-house CPD, full management support and unlimited development opportunities. Email: acrawley@wearedentalexcellence.com.
- Full-time locum required for the month of June, Kilkenny City. Tel: 087-230 0379, or Email: johnnymackk@hotmail.com.
- Locum required for two weeks, June 24 to July 5, in busy County Wexford practice. Tel: 087-278 7053, or Email: rollywoods@hotmail.com.
- Locum position available. Four weeks from July 30. South east. Tel: 086-820 4247, or Email: bridcantwelldental@gmail.com.
- Paediatric dentist required to take over an established paediatric book from a departing colleague in an established multi-specialist practice with state-of-the-art facilities, including RA and access to an extensive pool of referring dentists. Email: linda@castleknockorthodontics.ie.
- Periodontist wanted for existing full book, two days per week in busy practice 30 minutes from M50. Please send CV to: abbeydentists@hotmail.com.
- Orthodontist required for Carlow Town. Contact Dick Gillman, Tel: 086-338 8120, or 059-914 1245, or Email: rsgillman1@hotmail.com.
- Orthodontist required for busy dental practice in north east, two days per month. Established orthodontic service (orthodontist departing). Contact Dr B. Fee, Tel: 086-823 7145, or Email: bfeedental@hotmail.com.
- Orthodontist required one day a week for busy practice 30 minutes from Dublin city centre. Modern practice, digital ceph/OPG. Email: dentistcodublin@gmail.com.
- Part-time, experienced dental nurse required for a busy Killaloe-based surgery, two days per week. Email CV to: killaoedental@gmail.com. Part-time hygienist required in a well-established, busy, modern

practice in Dublin northside. Flexible times. Please send CV to: northdentcare@gmail.com.

- Enthusiastic, highly motivated hygienist wanted three days per week. Busy practice. Must be willing to help grow hygiene department. Email CVs please to: dentaljobsouthtipp@gmail.com.
- Enthusiastic dental hygienist required in orthodontic practice, Dublin southside, Wed mornings. Email CV to: sanremo32@yahoo.com.
- Qualified DSA required part-time for a busy dental clinic in Midleton. Must be willing to work Saturdays. Must have experience on reception. Ortho experience an advantage. Please email CV and cover note to: info@corabbeydentalclinic.ie.
- Dental nurse/receptionist required for dental surgery in east Galway. Experience necessary. Send CV to: reginadugganwalshe@ eircom.net.
- Dental assistant/receptionist to cover maternity leave. Position available beginning of August. The role is a mix of reception and chairside assistant. Ideal candidate must have experience. Computer literacy, excellent communication skills and friendly manner essential. Please forward your CV to: maypark dentalpractice@eircom.net.

PRACTICES FOR SALE/TO LET

- Co. Galway. Long-established, busy, modern dental surgery for sale. Excellent location, three surgeries, associate and part-time hygienist. Profitable business, minimal medical card, excellent opportunity to own successful dental practice. Genuine reason for sale. Email: dentalpractice4sale@gmail.com.
- Practice for sale. Respected southeast family practice. Established private list with good scope. Excellent decor, staff, equipment – ready to practise immediately. Priced for quick sale – figures available. Genuine reason for sale. For details, Tel: 087-680 1189, or Email: dentpracticeforsale@gmail.com.
- For lease. Established dental surgery 10 years. Thriving town of Oldcastle, Co. Meath, taking in Ballyjamesduff, Virginia, Collinstown, Ballinlough and Mountnugent. No dentist in town. Surgery closed 2012. Dentist required urgently. Contact Martin Shortt Auctioneers, Tel: 049-854 1888, or Email: martinshortt@eircom.net.
- Practice for sale in north Dublin/Meath. Excellent location. Less than 20 miles from Dublin centre. Two fully equipped, computerised surgeries. Immediate potential to expand with one to three additional surgeries. No medical cards. If interested, Email: pmurphy@getbusy.ie.
- For sale. Long-established freehold dental practice for sale in East Galway. Ultra-modern surgery, good footfall and wheelchair access. First-floor room available for either living accommodation or second surgery. Tel: 087-155 3784, or Email: dentalsurgerysale@mail.com.

Busy dental practice Limerick City Centre for sale. Computerised,

Classified continued on next page >>>

<<< Classified continued from previous page

digital OPG, Cerec, good support staff. Good footfall. Excellent figures. Please Email: dentalpracticelimerick@gmail.com for further information.

- Dental practice in the sun well running and still constantly expanding dental practice is for sale on the Costa Blanca. Mainly Irish/English patients, also increasing number of Scandinavians. For more information or to arrange a visit please Email: gabriella.nemeskeri@yahoo.com.
- Dental practice for sale Donegal Town. Freehold premises with two surgeries and living accommodation available upstairs. OPG, good turnover. Would suit young enthusiastic dentist. Tel: 086-104 2828.

Dental practice for sale, 40 minutes from Dublin City Centre. Single

AUGUST

FDI 2013 Istanbul – Annual World Congress August 28-31 Istanbul, Turkey For further information, see www.fdi2013istanbul.org.

Will you still be smiling at the end of the year?

Make sure your practice is profitable in 2013

As Ireland's only specialist dental accountants we're here to help you control your practice costs



surgery, room for expansion. Digital x-ray, separate sterilisation room. Email: dentalsurgerysale30@gmail.com.

- For sale busy dental practice, Westport Town. Owner retiring. Three well-equipped surgeries, fully trained staff, massive loyal patient base. Computerised digital x-rays, OPG, intra-oral camera, immediate profits. Tel: 086-394 9277, or mcgovernsnewport@gmail.com.
- To let with view to sale. Long-established dental practice in Cork City suburbs. Owner retiring. Very reasonable terms. Email: sylvanbanker@gmail.com.
- Immediate sale practice in south east. Respected practice with established list. Excellent decor, staff, equipment – ready to practice immediately. Priced for quick sale (goodwill and/or freehold) as owner moving abroad. Reasonable offer will secure. Tel: 087-680 1189, or Email: dentpracticeforsale@gmail.com.

SEPTEMBER

Mouth Cancer Awareness Day 2013 September 18

Nationwide

Retirement Seminar - "Getting Too Long in the Tooth"

September 27, 10am – 4pm Bewleys Hotel Leopardstown

Irish Academy of American Graduate Dental Specialists (IAAGDS) – Annual Scientific Conference

September 29Radisson Blu Hotel, Golden Lane, Dublin 2Short lectures from 9.00am to 1.00pm. Free to attend for all dentists.Please contact Dr Traelach Tuohy for more information, Email:traelacht@yahoo.co.uk.

OCTOBER

European Society of Head & Neck Radiology Annual Scientific Meeting October 3-5 Ismir, Turkey

For more information, see www.eshnr.eu.

 Munster Branch IDA – Annual Scientific Meeting

 October 11
 Fota Island Resort Hotel, Cork

HSE Dental Surgeons Group Annual Seminar October 16-18

Mullingar Park Hotel

Faculty of Dentistry RCSI Annual Scientific Meeting 2013 – Surgical Aspects of Dental Practice

October 24-25 RCSI, Dublin To register and for further information, contact the Faculty Office, Email: facdentistry@rcsi.ie.

MAY 2014

Open Wide – IDA Annual Conference *May 15 – 18, 2014*

Lyrath Hotel, Kilkenny



I'll have you _ for breakfast

Pack a punch against plaque acid, with **Wrigley's Extra**[®].

You know plaque acid attacks your teeth whenever you eat or drink. You know that chewing is one of your best defences - the science proves it. Chewing helps to stimulate the flow of saliva, which helps to neutralise plaque acids, remineralise tooth enamel and wash away food debris.' But do your patients know?

If you haven't told your patients about the benefits of chewing as part of their oral care routine, tell them today. And when you do, make sure you recommend the great little way to fight back.

Recommend Wrigley's Extra® to your patients.

And join our community at www.wrigleyoralhealthcare.co.uk





new

1 COMPLETE SENSITIVITY TOOTHPASTE SPECIALLY DESIGNED WITH 7 BENEFITS*



*With twice daily brushing

SENSODYNE, NOVAMIN and the rings device are registered trade marks of the GlaxoSmithKline group of companies.

