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Journal of the Irish Dental Association

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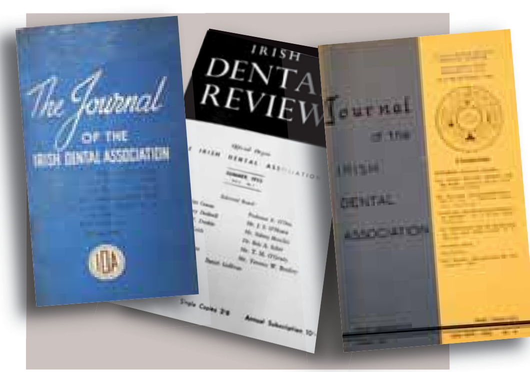

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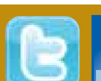

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1. Cummins D. J Clin Dent 2009; 20 (Spec Iss): 1-9. 2. Petrou I et al. J Clin Dent 2009; 20 (Spec Iss): 23-31.

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A milestone

Honorary Editor PROFESSOR LEO F.A. STASSEN reflects on the contribution of the *Journal* to the Irish dental profession, and congratulates the winners of the Sensodyne Sensitive Dentist Awards.

Sixty volumes is a milestone for any publication. It marks 60 years of Irish dentists working to disseminate scientific developments and important dental news to colleagues throughout the country. These colleagues are often working in the isolation of single seat surgeries. We should celebrate that level of collegiality. It is a matter of pride for the Irish dental profession that such co-operation has been the progenitor of a publication that is rated so highly by its readers. Our journalist, Róisín Treacy, went into the Dublin Dental University Hospital, where the library staff allowed her to examine the archive of *Journals*, and she reports some of the matters that were being covered over the years. Interestingly, the *Journal* is about a decade older than the first volume – as the volumes only started to be marked in 1955. The first issue of the *Journal* is not marked with a volume or number but dates from 1946. It is excellent that the library has the archive and that we were allowed access to it.

New series on clinical practice

In the spirit of sharing knowledge and expertise that is at the core of the *Journal's raison d'etre* the Editorial Board, at its recent meeting, decided to commission a series of articles in which dentists would set out the process and sequence for common clinical procedures. We have commenced the work of commissioning and are hoping that we will have the first such article by the June/July edition at least. If we are successful, we will award a prize to the author of the best such article each year at the Annual Conference. These articles will be heavily pictorial and the assistance of our publishers will be available to any author that wishes to avail of it. Any dentist that wishes to submit an article – or the idea for such an article – should contact Journal Co-ordinator Fionnuala O'Brien at the IDA office.

Winning dentists

When the *Journal* first proposed the idea of inviting patients to nominate their dentists for the oral healthcare they had received, we were not sure what level of response we would receive. We were delighted that Sensodyne came on board as our sponsor, and overwhelmed when we received hundreds of nominations in the first staging of the competition. For the last two years of the competition, we have received thousands of nominations. That's thousands of patients taking the time to say: "My dentist is great". At the suggestion of the judges (Drs Barry Harrington, Seton Menton and Anne O'Neill) we are going to make the entries available to the Dublin Dental University Hospital, as it gives, for the first time, the patients' views of what they appreciate in the care they receive from their dentists.

We congratulate this year's winners: Dr Rosemary Smith; Dr Kevin O'Brien; Dr Aoife O'Connor; Dr Joanne O'Riordan; and, Dr Helen Walsh. None of these dentists had any idea they were being nominated by their patients – in stark contrast to awards where dentists nominate themselves and actually pay to enter.

Peer-reviewed

As always, we are fortunate to have a series of important scientific papers. These include a study of drug–drug interactions relating to midazolam, which is of interest because of the increasing use of midazolam in clinical practice.

Dr Sharon Curtin and colleagues have provided a paper on motivational interviewing for dental clinicians. This is a technique which has been used to promote oral health behaviour, facilitate smoking cessation, and alter health behaviours.

Paul Brady and colleagues at Cork University Dental School and Hospital report a case of *Aggregatibacter actinomycetemcomitans* bacteraemia and secondary brain abscess in a patient where periodontal disease was implicated as the probable source.

Place of the *Journal*

Recent readership surveys have all indicated the place the *Journal* occupies in the profession in Ireland – and the high regard in which it is held. If you have memories of a particular article, or how the *Journal* might have helped you, please let us know by writing to us at the IDA office throughout the course of 2014, as we publish the six editions of our sixtieth volume.

Leo F. A. Stassen

Prof. Leo F. A. Stassen
Honorary Editor

Reasons to be cheerful

Association President DR SEÁN MALONE is delighted with developments for the profession in Ireland.

As President of the Association, I am always reminded that optimism is essential to good leadership. It is, therefore, particularly gratifying to report that I have witnessed so many grounds for optimism in the past number of months.

I was delighted to see such boundless optimism and energy at the recent IDA Practice Management Seminar. I was particularly struck by the impressive contributions from three young dentists who have shown that it is entirely possible, with energy, determination and hard work, to build successful dental practices. The buzz created by the presentations from Doctors Neysan Chah, Nicola Zammit and James Hiney was palpable. Many colleagues commented that it was the most uplifting session of what was undoubtedly a positive meeting.

The same sense of optimism and pride in the profession was reinforced when I attended the recent presentation to the winners of the Sensodyne Sensitive Dentist of the Year Awards 2014. The stories behind the presentations from the nominees are reported elsewhere in the *Journal*.

Advertising campaign

Many will have heard our radio advertising campaign in recent weeks, which I hope has been a great boost to the profession. We can only wish that the public begins to learn the immense value of regular dental attendance and the disparity between the perception of oral health held by so many people and the actual fact of significant amounts of gum disease in the community. Hopefully members can capitalise on the undoubted impact of this campaign.

I was gratified to be invited to join a meeting attended by the Deans of the various dental schools and our Chief Executive, Fintan Hourihan, in the Department of Health recently. The purpose of the meeting with the Secretary General of the Department, Dr Ambrose McLoughlin, and the Chief Dental Officer, Dr Dympna Kavanagh, was to discuss the consensus that emerged at the meeting of the Oral Health Forum in November. The preliminary recommendations of this group show a significant consensus within the profession on the essential steps necessary to arrest the decline in oral health in recent years. It is with particular pleasure that I have witnessed the emerging collaboration between the Association and dental academe in particular.

It has been very evident in my travels and in my discussions with members that there is significant concern about recommended changes to the Dental Council's Code of Conduct on Infection, Prevention and Control. I am very grateful to all those who contributed to our comprehensive submission to the Dental Council. Our submission makes plain that the Association remains committed to high standards of infection prevention and control, but also emphasises the need for viable and evidence-based recommendations.

Finally, I am delighted to welcome a new colleague to IDA House with the arrival of Sarah Gill as our new Employment/Communications Officer. As Officers we are mindful of the huge value afforded by the outstanding secretariat in IDA House and I am delighted therefore that members will be able to avail of the usual high standard of professional and friendly advice from Sarah and all in IDA House.

Seán Malone

Dr Seán Malone
IDA President

Dear Sir,

I refer to the article in the October/November 2013 edition of your journal (252: Volume 59 (5)): Audit of the Health Service Executive orthodontic referral pathway between 2009 and 2011 in the Dublin Mid-Leinster Region (Wolstencroft, S., Khosa, A.D.).

I would like to clarify that this audit, and the data considered in the article, refer to the St James's HSE Orthodontic Unit only. While that department is referred to by name once under materials and methods, the reader might mistakenly presume that the data and conclusions reported were from the entire Dublin Mid-Leinster HSE Orthodontic Service, rather than from only one (St James's HSE Orthodontic Unit) of its three constituent hubs.

This article is not a reflection, and I am sure is not intended to be by the authors despite the title of the article, of the activity and performance in the orthodontic unit in St Columcille's Hospital, Loughlinstown from where I write, or its referring dentists in primary care, and I wish this clarification to be noted.

Yours faithfully,

Mr Brian Bourke
Consultant Orthodontist
HSE South Dublin Mid-Leinster,
St Columcille's Hospital, Loughlinstown, Co. Dublin

Response from the author:

Dear Brian,

Thank you for your response to the article. I think your comments are reasonable. The article does make it clear in the main body of the text that the audit was conducted in St James's Hospital, which falls within the Dublin Mid-Leinster HSE region. However, I accept that the title could be interpreted as being a reflection of the whole of the Dublin Mid-Leinster region, and this was not the intention.

Regards

Simon Wolstencroft
BDS FDSRCS MScD MOrth FOrth
Consultant Orthodontist
HSE Orthodontic Department,
St James's Hospital,
Dublin 8.

DIPLOMA OF PRIMARY CARE DENTISTRY

Free Intensive Revision Course

The Faculty will run an Intensive Revision Course day for the Diploma on March 22 in the Albert Lecture Theatre, RCSI. The course will be examination focused and free of charge but you must register your intention to attend with the Faculty office by contacting Mary Brennan at marybrennan@rcsi.ie or phone +353 1 402 2256. Alternatively you can email facdentistry@rcsi.ie. Following this revision course, there will be another opportunity to register for the April diet of the examination. CPD points will be awarded to attendees of this Revision Course.

Diploma Requirements

Candidates for the Diploma examination are required to have graduated in dentistry for at least SIX months. In addition it will be necessary to provide evidence of 50 CPD points over the previous 12 months, although candidates in Dental Foundation or Vocational Training or recognised hospital posts are exempt from the CPD requirements. There will be a strong clinical emphasis within both components of this examination.

Full Programme details will be available shortly on the Faculty website http:/dentistry.rcsi.ie

The next sitting of the Diploma of Primary Care Dentistry Examination will be held at RCSI in Dublin on April 7, 2014. Closing date for applications: March 2, 2014. Fee: €850

The Diploma has been approved by the Dental Council and the examination has been developed in collaboration with the Irish Dental Association and the Irish Faculty of Primary Dental Care.

Any queries can be directed to Emma Scally at escally@rcsi.ie or phone +353 1 402 8617. Candidates are free to apply through the following weblink – https://postgradexams.rcsi.ie.

Radio campaign reaches huge number of listeners, promotes dental visits

By now, many members will have heard the IDA radio advertising campaign.

Just over one million people are expected to hear the ads at least once on the 15 local radio stations within the Ireland FM Network (including Clare FM, East Coast FM, KFM, KCLR, Highland Radio, Midlands 103, Ocean FM, Radio Kerry, MWR, Shannonside/Northern Sound, South East, Tipp FM and WLR), while 21% of adults will have heard it at least three times. Of these adults reached, they will hear the ad an average of 6.2 times.

Similarly, 22% of adults (just under 800,000) will hear the ad at least once in the UTV Urban Access network of radio stations (FM104, Q102, 96FM, Galway Bay FM, Limerick live, LMFM and East Coast 102-103), with 16% hearing the ad at least three times and, of the adults reached, they will hear the ad an average of 6.4 times.

Just over 500,000 adults (14% of the adult population) are expected to hear the ad at least once on Today FM, while 8% of adults are expected to hear it three times – in total there are 42 30-second advertisements to be broadcast on Today FM over two weeks. The ad will be heard at least three times by 8% of the adult population and, of these adults reached on Today FM, they will hear the ad an average of four times.

It is important to note that a radio commercial in isolation is only ever part of a communication, and is not designed to be the main driver of change in behaviour. It needs to form part of a more cohesive communications plan. If a radical change in behaviour has been brought on by the recession (e.g., a change in behaviour among audiences going to the dentist), then in order to re-establish a norm, i.e., getting people to return to dental visits as a must in overall healthcare, it is important to develop and repeat consistent messaging to re-enforce this need and not rely on a single communication over a finite period of time, irrespective of the frequency of the commercial.

Dentists might find it useful to track responses to this campaign and other actions with their patients over a period of time. Subtle questions and messaging with patients could start to reinforce the campaign message and encourage patients to return to their dentist.

Most Irish adults believe their teeth and gums are healthy, says survey

Four out of five Irish people believe their teeth and gums are healthy and look good according to a new dental health survey.

However, the survey also found that 23% of people are visiting the dentist less often since 2010, while 58% said they would only consider visiting the dentist in an emergency.

According to the survey of 750 adults, which was carried out by Behaviour and Attitudes on behalf of the Irish Dental Association, 46% of Irish people are spending less on dental health while 41% rarely if ever think of visiting the dentist.

IDA Chief Executive Fintan Hourihan said the survey shows the impact the recession is having on dental health, and a disconnect between what people think and how they act.

"One in four Irish people are attending the dentist less often. In population terms this equates to 760,000 adults. It's clear that this is having a hugely negative impact on the dental health of the population. While over 80% believe their gums are healthy, according to the most recent national oral health survey, 80% of Irish people have some form of gum disease.

"While 94% of respondents said they thought dental health is important, almost 60% said they would only attend a dentist when they really need to or in an emergency. Financial pressures are definitely a factor here but so also is the lack of information from the HSE. The survey shows that only half of Irish adults are aware of their State dental entitlement to a free check-up and only one in three have availed of it," he said.

Mr Hourihan said the survey showed the need to reach out to non-attenders and for a restoration of the benefits that were previously available under the Medical Card and PRSI schemes.

"The Department of Health needs to reach out to the people who are not attending and encourage them to do so. The cost of preventive treatment will be much less than the cost of the current neglect," he warned.

The survey also found that dentists continue to enjoy the confidence of the general public, with over 95% of respondents saying they trust the care they receive from them and 94% saying they trust their advice.

Irish Dental Council bench test

A three-day preparatory, hands-on programme will be held in the Dublin Dental University Hospital from April 14-16, 2014, inclusive. Interested persons should contact Agnes Hagan or Catherine Creagh, Tel: 01-612 7214, or Email: agnes.hagan@dental.tcd.ie, for further details.

Closing date for applications is Friday, February 21, at 5.00pm. Programme fee: €2,000 per participant.

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When used after brushing it treats gum disease by reducing bleeding; 50.9% ($p<0.001$) in only 4 weeks.[1]

In addition, Advanced Defence Gum Treatment is **designed to not cause staining**.[2]

References:

1. Bleeding Index Reduction DOF 1 – 2013 (LAEBBA0001). 50.9% reduction in whole-mouth mean Bleeding Index at 4 weeks.
2. DOF 2 – 2013 (UNKPLT0006).

NEC/LI/13-0240b

Advanced Defence against gum disease

Complaints system handles 130 complaints in 2013

The IDA Dental Complaints Resolution Service handled 130 complaints in 2013, according to Michael Kilcoyne, mediator with the Service. Michael received over 1,230 emails and letters, and just over 260 phone calls last year.

Ultimately, this resulted in 130 complaints being submitted, of which 28 cases have been resolved in full and 102 are still being processed. The majority of complaints related to disagreements or misunderstandings in relation to professional fees, followed by adverse clinical outcomes and communications difficulties.

Dentists are encouraged to seek advice from their medical defence organisation and are strongly encouraged to avail of this voluntary service, which is proving very effective in resolving disputes that might otherwise have been referred to the Dental Council or the law courts.

Michael says he is very satisfied with the engagement of dentists and certainly the feedback we receive from members is that this is a very welcome and successful initiative, which helps to resolve disputes in an informal and less time-consuming manner, and which ultimately enhances confidence in the high standards of care and treatment provided by Irish dentists. An annual report for 2013 will be published by the Dental Complaints Resolution Service shortly.

IADR Irish Division hosts successful scientific meeting in Cork

Pictured at the IADR Irish Division meeting in Cork were (from left): Dr Mairead Harding; keynote speaker Professor Helen Whelton; and, winner of the Irish Division postgraduate competition, Rebecca Clarke.

Also pictured at the meeting were prizewinners Dr Una MacAuliffe (left) and Dr Emma Warren.

More than 100 delegates from Ireland and across the world gathered in UCC recently for the Irish Division annual scientific meeting of the International Association for Dental Research (IADR). International visitors travelled from the Netherlands, the United States, Hong Kong, India and Japan, including IADR CEO Christopher Fox and Pan European President Jukka Meurman.

Professors Mark Ferguson and Helen Whelton were the two keynote speakers on the day, with Dr Seamus O'Hickey delivering his inaugaral lecture, which will continue as a biannual event hosted by the Irish Division.

The meeting encouraged oral and poster presentations from all delegates and approximately 50 abstracts were accepted for presentation. A number of prizes were awarded to undergraduate and postgraduate presenters. Rebecca Clarke from Queen's University Belfast was awarded first place in the Irish Division postgraduate competition for her presentation 'An *in vitro* model of nociceptors in human trigeminal nerves', while the undergraduate prize, sponsored by Ivoclar Vivadent, went to Rebecca Eves, also from Queen's, for her presentation 'The role of myofibroblasts in head and neck cancer'. Both will travel to the next IADR general session in Cape Town to represent the Irish Division.

The Irish Division Public Dental Health and Health Promotion prize, sponsored by the Dental Health Foundation, was awarded to Dr Una McAuliffe from UCC for her presentation, 'A retrospective study of dental general anaesthesia and financial considerations'. Dr Emma Warren from UCC took home the Irish Division/Royal College of Surgeons Postgraduate Clinical Prize for her presentation on 'Comparison of anaesthetic regime in patients undergoing third molar extraction'.

A centenary poster prize was sponsored by Kin Panex for the best poster presentation at the meeting, and this was awarded to Yu Lao, Queen's University Belfast, for his poster on 'Evaluating the antifungal activity of a novel truncated antimicrobial peptide'.

More information about the IADR Irish Division can be found at www.iadr.ie, including details of membership, future meetings, contact details and prize competitions.

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Warnings and precautions: Caution in allergic conditions. Avoid use with concomitant other NSAIDs including COX-2 selective inhibitors. Use lowest effective dose for the shortest duration necessary to control symptoms. Gastrointestinal bleeding, ulceration or perforation which can be fatal, have been reported with all NSAIDs at anytime during treatment, with or without warning symptoms or a previous history of serious gastrointestinal events. When gastrointestinal bleeding or ulceration occurs withdraw treatment. The risk of gastrointestinal bleeding, ulceration or perforation is higher with increasing NSAID doses, in patients with a history of ulcer, particularly if complicated with haemorrhage or perforation, and in the elderly. The elderly have an increased frequency of adverse reactions to NSAIDs especially gastrointestinal bleeding and perforation which may be fatal. Commence treatment in these patients on the lowest dose available. Ensure cure of oesophagitis, gastritis and/or peptic ulcer before starting treatment. Monitor 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 bleeding) 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 urea nitrogen and creatinine. Caution in patients with impaired hepatic function. May increase some liver parameters. Monitor and advise patients with hypertension and/or mild to moderate heart failure. Special caution in patients with cardiac disease, especially episodes of previous heart failure. Monitor and advise patients with a history of hypertension and/or mild to moderate congestive heart failure as fluid retention and oedema have been reported. Some NSAIDs (particularly at high doses and long term 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 risk factors for cardiovascular disease (e.g. hypertension, hyperlipidaemia, diabetes mellitus, smoking). Serious skin reactions (some of them fatal), including exfoliative dermatitis, Stevens-Johnson syndrome, and toxic epidermal necrolysis reported very rarely. Discontinue treatment at the first appearance of skin rash, mucosal lesions, or any other sign of hypersensitivity. Particular caution in patients with congenital disorder of porphyrin metabolism, dehydration, directly after major surgery. If long term use necessary, monitor hepatic and renal function and blood count. Stop treatment at first signs of severe hypersensitivity reactions. Avoid use with varicella. Caution in patients with haematopoietic disorders, systemic lupus erythematosus or mixed connective tissue disease. As other NSAIDs, dexketoprofen can mask the symptoms of infectious diseases. Contains sucrose.
Interactions: Other NSAIDs, anti-coagulants, heparins, corticosteroids, lithium, methotrexate, hydantoines and sulphonamides, diuretics, ACE inhibitors, antibacterial aminoglycosides and angiotensin II receptor 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 attempting to conceive.
Undesirable effects: As with other NSAIDs, the most commonly observed adverse events are gastrointestinal. Peptic ulcers, perforation or gastrointestinal bleeding, sometimes fatal, particularly in the elderly may occur. Common (1-10%): Nausea and/or vomiting, abdominal pain, diarrhoea, dyspepsia. Uncommon (0.1-1%): insomnia, anxiety, headache, dizziness, somnolence, vertigo, palpitations, 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 haemorrhage 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, hepatocellular injury, Stevens Johnson syndrome, toxic epidermal necrolysis (Lyell's syndrome), angioedema, facial oedema, photosensitivity reactions, pruritus, nephritis or nephrotic syndrome. Not known: laryngeal oedema, hepatitis, acute renal failure. As with other 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 haemolytic anaemia, and rarely agranulocytosis and medullar hypoplasia).
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References:
1. MIMS edition, November 2013
2. Keral 25 mg granules for oral solution Summary of Product Characteristics, last updated September 2013

December 2013 / 13Keral014

Irish dentist wins prestigious award

Dr Gerry McKenna, Lecturer in Prosthodontics and Oral Rehabilitation in Cork University Dental School and Hospital, was recently awarded the Gary Pollock Memorial Award by the British Society of Restorative Dentistry (BSRD). Gerry presented his work, entitled 'Oral rehabilitation of a head and neck cancer patient using a two-piece magnet retained obturator', at the BSRD's annual scientific meeting in the Royal College of Physicians, London. This was a very challenging case, which was managed surgically in the South Infirmary/Victoria University Hospital and in Cork University Dental School and Hospital. The case necessitated a multidisciplinary approach with input from restorative dentistry, ear, nose and throat (ENT), radiotherapy, speech therapy and dedicated cancer support services.

Gaelic football is sport with most dental injuries for children

Gaelic football is the sport dentists believe results in the most dental injuries among children, according to a new survey.

Some 45% of respondents said they believed football caused the most dental injuries, with hurling and rugby in joint second on 33%.

IDA figures indicate that Ireland has one of the highest rates of sport-related oral injuries in the EU, with one-third of all adult dental injuries being sports related. Gum shields became mandatory for juveniles playing Gaelic football last year and became compulsory for adult players on January 1. In something of a surprise, cycling was in third place ahead of both soccer and hockey.

Over 130 dentists from all over the country took part in the survey. IDA President Dr Seán Malone said the findings showed the importance of wearing a gum shield or helmet when participating in sports.

"We welcomed the GAA's gum shield rule when it was introduced, but it's important that it is now strictly enforced. The rule in every club for juveniles and adults should be the same – 'no gum shield, no game'. Given these figures, the IDA believes the gum shield rule should also apply to hurling, and we hope the GAA will introduce a similar measure for that sport in the near future," he said.

IDA representatives visit Department

A delegation from the IDA recently met with Chief Dental Officer Dr Dympna Kavanagh at the Department of Health to discuss issues of importance to Irish dentistry. From left: Dr Iseult Bouarroudj; Dr Rose-Marie Daly; IDA President Dr Seán Malone; Association CEO Fintan Hourihan; and, Vice-President Dr Peter Gannon.

Dermot W Canavan
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Date: Friday February 28th 2014

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Telephone: 01 269 4022 / 01 269 4047
Facsimile: 01 269 4004
Email: drcanavan@eircom.net

Quiz

Submitted by Dr Seán Malone.

Questions

This 26-year-old patient has type 1 diabetes. She is concerned about the appearance of her upper right central incisor (see **Figures 1 and 2**).

1. What can you see on the periapical radiograph?
2. What is unusual? What are the possible causes for the unusual pathology?

Answers on page 45.

Figure 1 (above): and, Figure 2 (right).

Board adopts new three-year strategy plan

The IDA Board of Directors has adopted an ambitious new strategy, which sets out a map for the next three years. The plan was adopted following an extensive consultation and strategy planning exercise undertaken over the past three months.

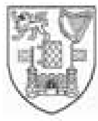
Members were surveyed, key external stakeholders were interviewed and a working group of dentists was formed to develop the plan with the assistance of strategy experts Prospectus Consulting.

The vision for the IDA is to become the authoritative voice of Irish dentistry, focused on realising the full potential of our members. We aim to be recognised as innovative and progressive in achieving excellent oral health for Ireland. Therefore, our mission is to be dedicated to the advancement of the profession and its members, the promotion of oral health and the provision of a quality service to the public.

The plan identifies six key strategic objectives for the Association/Union. These are:

1. to review and enhance services to support the evolving needs of members;
2. to position the IDA as the leading authority on dentistry and oral health;
3. to consolidate the IDA's position as the primary provider of CPD and education;
4. to facilitate the development of successful practices;
5. to provide appropriate professional representation and advice; and,
6. to promote quality and patient safety among our members and the public.

A comprehensive plan of actions under these headings has been developed and an oversight committee is to be established to monitor progress in implementing the plan. Further information will be circulated to members shortly.



Diploma in Dental Nursing

Cork University Dental School & Hospital and Dublin Dental University Hospital are now accepting applications for the Diploma in Dental Nursing. This is a sixteen month evening programme commencing August of each year.

Successful students will be awarded a Diploma in Dental Nursing (level 7) by the University College Cork or Trinity College Dublin – depending on which governing centre the student is registered.

Application forms are available from **f.grant@ucc.ie** for the Cork, Waterford, Limerick and Tralee centres and from **www.dentalhospital.ie/education/under graduate-students/dental-nursing/national-dental-nurse-training-programme-of-ireland/** for the Dublin and Galway centres.

For further information please contact Siobhán Shakeshaft on 021 4901160 or Karen Dinneen on 01 6127341 (Dental Nurse Tutors).

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IDA makes its case on infection control to Dental Council

The IDA has lodged an extensive submission with the Dental Council on proposed new infection control standards.

With regard to washer-disinfector units, the Association suggests alternative levels of acceptable standards, which do not assume universal use of washer-disinfectors. The submission also takes issue with the recommendation for a dedicated decontamination room and suggests that, as there is no compelling reason for such a recommendation, this should be set aside.

The Association suggests that any recommendations with regard to blood-borne diseases should await the publication of revised Department of Health guidance, while also taking account of revised guidance from the GDC with regard to HIV positive dentists.

The IDA and its members are supportive of and committed to promoting the highest standards of infection prevention and control.

The Association supports guidelines that are appropriate, clear, concise, enforceable, practical, financially viable and evidence based. The Association is seriously concerned at the absence of any compelling evidence to demonstrate any level of risk necessitating such radical changes, or evidence that supports the thrust of the changes being proposed. It is the belief of members that the only sure result of implementing the changes proposed will be to further jeopardise the viability of dental practices, to force ensuing costs to be passed on to patients and to seriously diminish the oral health of the nation as attendance dwindles.

The Association has therefore called on the Dental Council to set aside the draft as published and to engage in a proper and meaningful fashion with all stakeholders to review policy in a manner that can be justified according to risk and viability, and with the aim of ultimately enhancing the oral health of the nation, guided by appropriate quality and patient safety standards.

Given the potential impact of what is being proposed, there is an onus on the Dental Council to produce evidence to support changes in existing policy rather than on stakeholders to show evidence to refute propositions unsupported by evidence. There is a profound responsibility on policy makers, including the Dental Council, to be fully cognisant of the impact on patient attendance and oral health caused by an increasing regulatory burden and the consequent onus on dental practices to pass on the costs of such extra operating requirements to patients and the inevitable impact on dental attendance and oral health.

The Association suggests that a full patient impact assessment (PIA) should be undertaken by the Dental Council before proceeding further. This should set any perceived risks (i.e., evidence-based risks) against the consequences of extra regulatory burden on attendance and oral health gain.

A copy of the IDA submission is available to view on the IDA website.

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From left: Ms Fiona O'Shaughnessy; Mr Cliff Beirne; Dr Adrian Loomes, President of the Metropolitan Branch of the Association; and, Professor Robbie McConnell.

From left: Dr Una Lally, Blackrock Clinic; and, Dr Emer Walsh, Belmullet, also attended the meeting.

Metro gets emergency advice

The Annual Scientific Meeting of the Metropolitan Branch took place in the Hilton Hotel Dublin on Friday, February 7. RÓISÍN TREACY reports.

It was a day of two halves for the Annual Scientific Meeting of the Metropolitan Branch. The morning was made up of hands-on content from both Dr Lynda Elliot, who gave a workshop on rotary endodontics, and Professor Robbie McConnell, who presented a seminar on posterior composites. The afternoon consisted of lectures from Dr Alison Dougall, Dr Edward Cotter, Ms Fiona O'Shaughnessy, Mr Cliff Beirne, and Professor Robbie McConnell.

A theme throughout the well-attended lectures was the importance of taking a comprehensive and clear medical history for each patient. This was most prevalent in Dr Alison Dougall's presentation on dealing with medical emergencies. Dr Dougall, a consultant in medically compromised patients at the Dublin Dental University Hospital, spoke about how it is critical to take a detailed medical history, and to ask the right questions about medication, patient's current health, etc.

The audience was presented with a number of different scenarios of medical emergencies that can occur during a visit to the dentist. These included: losing consciousness as a result of a faint, diabetes, or epilepsy; breathing difficulties caused by asthma; and, allergic reactions. In each case, Dr Dougall described the causes, symptoms, treatment and prevention, and explained how the most important thing to do in such a situation is not to panic.

Despite being the final lecture of the day, Professor Robbie McConnell's presentation on treatment planning for patients was well received by the audience. Professor McConnell said that although treatment planning is not something that many dentists undertake, doing so makes life easier in the long term.

The subjects of the other lectures on the day included: dealing with loose dentures; putting together safety statements for your dental practice; and, avoiding litigation.

Dentsply says: "Goodbye Gaps"

A new campaign by Dentsply Implants aims to draw one million people in the UK and Ireland into dental practices to discuss replacing lost natural teeth with implant-supported replacements.

According to Dentsply Implants, the 'Goodbye Gaps' campaign is an unprecedented initiative to help clinicians and dental technicians treat more people. Under the campaign, more information about dental implants will be made available to people with missing teeth, while access to clinicians who provide the treatment will also be improved.

The company says that the campaign will build on their current programmes, which are helping general dental practitioners to become more confident when discussing dental implant treatments with patients; providing more case referrals and enquiries to implant dentists; and helping dental technicians to undertake more advanced crown and bridge work.

For more information on the campaign, visit www.dentists4implants.com.

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Dentists receive high praise from patients

Judges in the Sensodyne Sensitive Dentist of the Year Award trawled through 1,300 nominations to choose five worthy winners.

Dr Rosemary Smith holds the trophy for Sensodyne Sensitive Dentist of the Year for which she was nominated by her patient Noëline Haylett.

Dr Anne O'Neill gives the citations on behalf of the judges.

Dr Seton Menton was also a judge.

Dr Dermot Canavan, Deputy Editor of the Journal.

Going above and beyond the call of duty was the resounding theme among the nominations for the Sensodyne Sensitive Dentist of the Year Awards for 2013.

With 1,300 nominations submitted, the judging panel, made up of Dr Barry Harrington, Dr Seton Menton and Dr Anne O'Neill, had the challenging task of narrowing it down to one overall winner and four other entries whom they felt deserved special recognition.

The importance of the dentist-patient relationship was echoed in the opening remarks of judge Dr Anne O'Neill: "To be one of five dentists chosen out of 1,300 nominations, your patients have valued something exceptional that you have done. Interestingly from the dental perspective, few of the stories spoke of technical brilliance. All of the patient testimony was about how their dentist understood them and related their care to them personally, in many ways providing life-changing support to them."

The awards have proven that Irish dentists are tuned in to the needs and anxieties of their patients, which in turn encourages regular visits and good oral care.

Overall winner:

Dr Rosemary Smith

Dr Rosemary Smith is a dentist based in Westport, Co. Mayo. Her patient Noëline Haylett believed that Dr Smith not only got her through her dental treatment, but also a serious illness. In her comments, Noëline said: "Rosemary not only treated me, but her patient care continued outside the confines of the surgery walls by popping in to me at home, dropping in meals and making sure my pets were looked after while I was in hospital". The judges' citation read: "As the title suggests, the 'Sensitive Dentist' programme looks for the dentist who provides an extra level of care to their patient. This story is not just about clinical care. This patient praised her dentist for helping her personally beyond measure. Not only does Noëline appreciate the ability to contact her dentist at any time, but her dentist also supported her through an illness by helping her maintain her home, her animals, and her dignity while in hospital. It was this exceptional sensitivity to a patient's needs, which provided the judges with the winning entry".

Overall winner Dr Rosemary Smith, centre, is presented with her award by Association President, Dr Seán Malone, and Eilís Tobin of Sensodyne.

Elaine Hughes, Assistant Chief Executive of the Association.

Fintan Hourihan, Chief Executive of the Association.

Claudia Long (left) of Sensodyne and Dr Anne O'Neill, judge, present Dr Joanne O'Riordan with her award.

Dr Helen Walsh (left) receives her award from Dr Anne O'Neill, judge, and Eilís Tobin of Sensodyne.

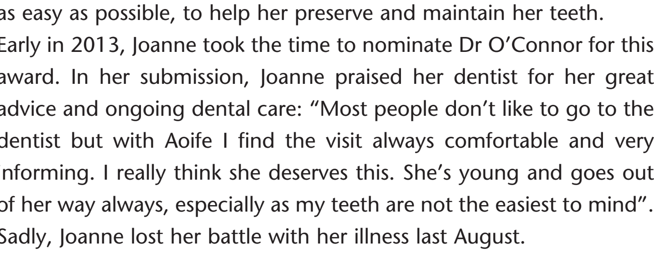
Highly commended

Dr Joanne O'Riordan – Highly Commended

Cavan-based dentist Dr Joanne O'Riordan owes her nomination to the life-changing diagnosis she provided for one of her patients. Breege Fay of Crosskeys, Co. Cavan believes her brother Berty Fay owes his life to Dr O'Riordan.

In her nomination, Breege wrote: "Joanne spotted some tiny lesions under his [Berty's] tongue, however, on further examination by another local healthcare professional, Berty was told there was no cause for concern. Joanne then insisted that Berty get a third opinion and sent him to the Dublin Dental Hospital – two days later he was admitted for 14-hour oral surgery to tackle oral cancer".

Dr Aoife O'Connor
Highly Commended



Dr Aoife O'Connor from Bandon, Co. Cork was nominated by the late Joanne Gilmartin. Joanne suffered from chronic renal failure. Her illness meant that she suffered from dental problems, and much of the enamel was gone from her teeth. Dr O'Connor made her patient's regime as easy as possible, to help her preserve and maintain her teeth. Early in 2013, Joanne took the time to nominate Dr O'Connor for this award. In her submission, Joanne praised her dentist for her great advice and ongoing dental care: "Most people don't like to go to the dentist but with Aoife I find the visit always comfortable and very informing. I really think she deserves this. She's young and goes out of her way always, especially as my teeth are not the easiest to mind". Sadly, Joanne lost her battle with her illness last August.

Anne Marie Duffy, Practice Administrator, with Dr Rosemary Smith and Noëline Haylett.

Dr O'Neill and Claudia Long of Sensodyne.

Paul O'Grady of the Journal *acted as master of ceremonies at the presentation.*

Dr Seán Malone, Association President, with Paul Hatton and Eilís Tobin of GSK, makers of Sensodyne.

Dr Helen Walsh – Highly Commended

A patient who suffered from anorexia nominated Dr Helen Walsh, who is based in Portobello, Dublin. The dental needs of an anorexic or bulimic patient can be intensive, and the patient's oral care needs to be handled with extreme sensitivity. Dr Helen Walsh's patient wrote: "Dental problems are an embarrassing result of my illness – I was very sensitive about it and found visits to the dentist difficult. Dr Walsh was so good with me, made me feel at ease and totally understood any complications associated with the medications I was on. She was such a pillar to me and helped me get through this period of my life".

The judges said: "This patient stayed with the practice due to the quality of the clinical care provided. However it was the holistic understanding and care provided by Dr Walsh and her team, which stood out in this nomination".

Dr Kevin O'Brien – Highly Commended

Dr Kevin O'Brien practices in Carrigaline, Co. Cork and was nominated by Carol Lyons. Carol, who was six months pregnant at the time, was working a 12-hour shift on a Friday evening when she got an agonising pain in her tooth. She rang several dental practices but was told none would be open until Saturday morning. Carol was fortunate enough to meet Dr O'Brien and his wife at midnight in a late-night pharmacy, while trying to find some relief for her pain. Dr O'Brien opened his surgery and worked on Carol's tooth until 2.15am.

In her submission, Carol wrote: "I was in horrendous pain and panicked at the thought of having to wait for a dental appointment. Dr Kevin O'Brien was just brilliant … he wasn't even my regular dentist and he came to my aid … needless to say, he's my regular dentist now".

Professor Leo Stassen, Honorary Editor of the Journal*, with award recipient, Dr Helen Walsh.*

Highly Commended Dr Kevin O'Brien, pictured in his surgery.

Dr Aoife O'Connor with her newborn son, Jack McNamara. The birth of Jack prevented Aoife from attending the presentation!

A humanitarian mission

Noëline Haylett, who nominated winning dentist Dr Rosemary Smith, is herself an extraordinary woman. Besides founding and running Mayo Animal Welfare from her home outside Westport, for almost 20 years she has worked tirelessly on behalf of disadvantaged communities in Ghana.

Originally from South Africa, Noëline left for political reasons and came to Ireland, where she worked with people with learning disabilities. Unbeknownst to her, a magazine article about an organic gardening project she was running found its way to the Rev. Sylvanus Botsyoe, who desperately needed help for his community. He wrote to Noëline asking for her help training workers to teach gardening to people with disabilities. Noëline sent her EEC-approved gardening programme, a box of seeds and £100 of her own money, and that was how it all began.

Noëline has since sent 16 containers to Ghana. Contents have included tractors, ambulances and a bus, as well as dozens of sewing machines, which are used to train young women rescued from street prostitution (over 300 to date). There are no administration costs as she does all the work herself, and every penny raised goes to Ghana.

Container number 17 leaves on March 1 including, among other things, buckets containing non-perishable foodstuffs for members of the leper community. Noëline is also on the lookout for motorbikes ("Good strong ones to get through the bush!").

Noëline's €5,000 prize has already been put to good use. One thousand Euro went to Catholic Welfare and Development in Cape Town, where a series of fires have caused terrible damage, €2,000 paid for life-saving surgery for a little girl in Ghana, and the remaining €2,000 has helped to fill container 17.

Recent ill health has meant that Noëline cannot work, so she depends more than ever on fundraising.

If you'd like to donate, you can contact Noëline at 098-41484.

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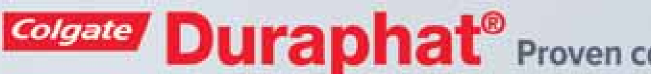

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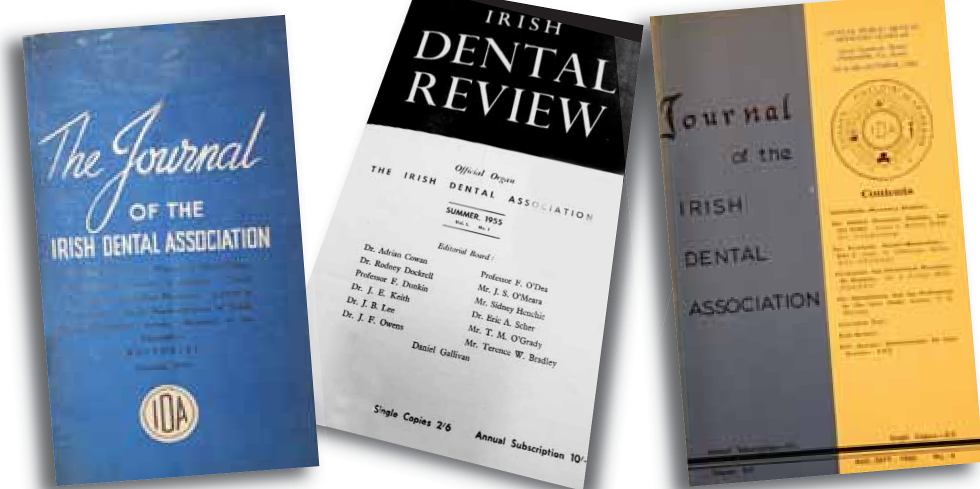
Reference: 1. Baysan A, Lynch E, Ellwood R et al. Caries Res 2001;35:41-46.

Sixty volumes of the *Journal*

RÓISÍN TREACY took a look through the volumes of the *Journal* in the library of the Dublin Dental University Hospital.



Evolution of a professional journal (from left):
– The first known copy of the Journal of the Irish Dental Association *dates from 1946 and is held in the archives in the Dublin Dental University Hospital. It was not published at that time with volume and number indexing.*

– Volume 1, Number 1, from which the current Journal *is counted, published in Summer 1955 as the* Irish Dental Review*.*

– The Irish Dental Review *returned to the title* Journal of the Irish Dental Association *in the 1960s.*

This issue is the first of the sixtieth volume of the *Journal of the Irish Dental Association*, a landmark achievement for any publication. The idea for the *Journal* arose in the 1940s, when the Irish Dental Association (IDA) wished to improve communication with its members. Poor road conditions and public transport services meant that often members in rural Ireland could not travel to their general meetings. The *Journal* was seen as an opportunity for dentists to share their experiences, in order to give an interchange of views on problems concerning the profession. It also allowed dentists to share any unusual cases they may have come across in their practice, which could benefit their colleagues in the IDA. Past issues of the *Journal* also provide an incomparable documentation of changes in the profession over the last seven decades.

The *Journal* began in earnest in January of 1946 as a monthly publication, under the presidency of Dr J.B. Moorhead. Its publication was widely welcomed, particularly by dentists living in rural Ireland, who had little or no access to news from the IDA up until this point.

The 1940s

At the time, the dental profession was marred by problems. One of the biggest challenges was the necessity to raise the status of the profession, which was held in poor regard at the time. An early issue encouraged dentists to "strive to attain the highest standard of dentistry. Be it the most expensive form of restoration, or the most moderate, he or she should never deviate from the highest idea, and give their best".

With World War II having only ended the previous year, many Irish dentists were involved in the Army Dental Service in the 1940s. The salary received by these dental surgeons had fallen considerably between 1938 and 1946. The *Journal* reported that the terms and conditions offered to young dentists in the Irish army were "a disgrace to any army in any country". Through the publication, the IDA urged all young graduates to boycott the Army Dental Service. By their November issue in 1946, the IDA had received a promise from the Minister for Defence, Oscar Traynor, that the Government would put new, improved conditions of pay and promotion for army dental surgeons in place.

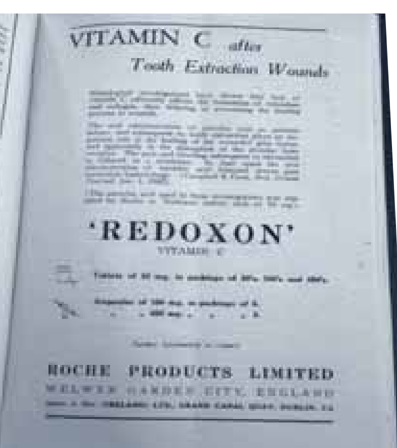
The National Health Insurance Society (NHIS) Scheme also proved to be a huge bone of contention in the 1940s, as dentists complained that the scheme was inequitable. In an article, dental surgeon Dr J. McCloskey criticised the scheme for not supplying a reasonable fee for the various dental treatments required: "To say the least of it, the attitude of the Society [NHIS], to my mind at any rate, is most unfair. When one considers the benefits to health derived from dental treatment, it causes one to pause and think. What are the benefits that arise as a consequence of such treatment?"

"Insured members are more healthy, there is less loss of time to an employer through illness, with a subsequent improvement to the industry of the state… Yet the NHIS quibble about granting decent fees to the dentists for performing this wonderful work."

The 1950s

With the 1950s came a change of focus in the dental profession. The onus began to move from dental treatment to preventive dentistry, which had not held much of the spotlight up until this point.

The *Journal* itself went through extensive change during the early 1950s. In 1952, it became a bi-monthly publication, coming out six times a year, instead of 12 times as it had for the previous five years. In 1953, the editor Dr S. MacNeill announced his retirement due to illness. The publication did not last long without him, and by mid-1954, it had ceased publication.



Advertising in the early days (from left):
- *1950s: an advertisement for Redoxon;*
- *1960s: an advertisement for Emoform; and,*
- *1980s: an advertisement for Bank of Ireland.*

After 12 months without any type of medium to communicate with its members, the IDA established the *Irish Dental Review*, a quarterly journal, which would incorporate the same principles as the *Journal.* The editorial board was made up of 13 people, several of whom had been involved in the original publication. The *Irish Dental Review* continued for 10 years, until in January 1965, the *Journal* returned.

During the life of the *Irish Dental Review*, fluoridation became a recurring subject. Studies on the fluoridation of water in the United States were fielding positive results in terms of reducing the number of caries in residents. One report said: "Fluoridation is an awkward-sounding word, but in places where it has been introduced, dental decay has been cut down by about two-thirds among young people. The whole idea is to start protecting the children's teeth when they are young".

As the 1950s wore on, dentists increased their call for fluoridated water to be introduced in Ireland. In 1956, the Irish Government agreed to introduce the scheme, and it finally came into effect in 1964.

The 1960s and '70s

The promotion of preventive dentistry continued in the 1960s. A 1966 issue of the *Journal* contained a feature from Chief of the Dental Corps in the US army, Dr Joseph L. Bernier, which gave advice on the importance of preventive dentistry. In this article he said: "Among the greatest difficulties experienced in attempting to promote preventive practice, of the type and to the extent now possible, have been those of revising deep-seated attitudes and of over-coming skepticism of members of the profession conscientiously committed to the concepts of repair and cure".

By 1970, Dr Walter C. Allwright was editor of the *Journal.* A number of studies had been carried out on how the fluoridation scheme was progressing in Ireland, with the Naas-Athy six-year molar fluoridation study at the forefront. The study was carried out by F.M. O'Carroll, B. Flanigan and J. Kehoe, and intended to track and report any benefits shown in first permanent molar teeth due to the fluoridation of water supplies. During the course of the study, the following results were observed: "It is rather evident that fluoridation exerts its most striking benefits in instances where amelogenesis is in progress. The age seven group were exposed to fluorine at two years of age, which was prior to completion of amelogenesis".

However, although people were already reaping the benefits of fluoridation, problems began to arise with the scheme. In 1974, the availability of fluoride supplies became an issue, which took the Department of Health two years to rectify. Dentists were also unhappy with fluorine concentrations, with many tests showing that the levels in water were too low. In a report published in the *Journal* in 1976, a call was made for the establishment of an official agency to monitor and direct the fluoridation of piped water supplies in the country. Fluoridation remained a hotly discussed topic in the *Journal* throughout the rest of the 20th century, and even to this day.

The 1980s

Under the editorship of Dr Seamus O'Hickey, in the 1980s, the *Journal* began to make a move towards more technical content such as case studies, and it also grew in size significantly.

The Social Welfare Dental Benefit Scheme was causing the most concern in the dentistry profession in 1980. The IDA felt that the fees being paid to dentists under the scheme were too low. In 1974, the limits for eligibility for social welfare benefits were removed, meaning all employees were now entitled to the scheme. As a result, an entirely new category of patients was created. The IDA demanded that the Department of Health reform the scheme. The Government eventually gave in to two of their requests. These were: the introduction of a fee for examination and general consultation; and changes in the scale of fees for extraction.

Alterations were later made to the Public Dental Service, which in a letter to the *Journal* in 1990, Dr Dermot Healy said amounted to "one of the most serious challenges" to face the dental profession to date. The challenge to which he was referring, was the introduction of a scheme of relative value units to measure dental clinical output. Dr Healy criticised this change, saying: "The scheme fails to take into account the quality of care being provided. It ignores health promotion and prevention. It will encourage referral to secondary care. It fails to recognise the fact that for many of our patients, it is their first attendance at a dental surgery. Thus, there are many incentives and disincentives within the scheme, which would not be conducive to the delivery of a caring and effective Public Dental Service".

The 1990s and 2000s

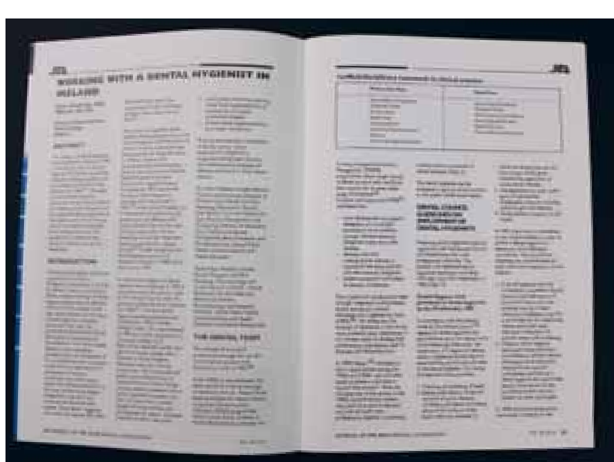
The role of the dental hygienist in Ireland did not emerge until the '90s, when the Dental Council recommended to the Minister for Health that dental hygienists be allowed to train and be registered in Ireland. An editorial in a 1990 edition of the *Journal* was entitled "The

Left to right: Dr. Pat Cleary, Dr. John Walsh, Dr. Michael Galvin.

Left to right: Dr. Paudie Barrett, Mrs. Maeve O'Connor, Mrs. Ann Carr.

Left to right: Dr. John Clarkson, Mrs. Marie Clarkson, Dr. Tony O'Connor, President Elect, Irish Dental Association.

Left to right: Dr. John McAlister, Mrs. Claire Healy, Dr. Cathal Owens.



Some social event coverage from a 1988 Journal *(left) and right, a scientific article from the year 2000.*

dental hygienist – friend or foe?", which highlighted how many members of the profession were distrustful of dental hygienists at the time. However, the editorial wrote in favour of the position of the dental hygienists, saying: "Rather than seeing them [dental hygienists] as some kind of alien threat, we should see them rather as allies in our work, and see how best they can fulfill a useful role in dentistry, while at the same time, ensuring that this role is well defined and adhered to at all times".

By 2000, the role of the dental hygienist became more widely accepted in the dental profession. The *Journal* ran a piece in its July/August issue, which described the employment of a dental hygienist as a means of increasing productivity. The feature, written by Dr Denise MacCarthy from the School of Dental Science in Trinity College, outlined the instructions of the Dental Council for employing a dental hygienist, and what work they could or could not carry out.

The *Journal* today

While much has changed and improved since the first edition of the *Journal* was published in 1946, the profession still faces many challenges in 2014. The poor economic climate in Ireland over the past six years has seen a drop in the number of people visiting the dentist for their annual examination. The PRSI Dental Scheme was also hit with huge cuts, with the 2009 Budget curtailing the benefits available to workers under the scheme, while the Medical Card Dental Scheme was capped at the 2008 level in the Budget for 2010. The IDA has been vigorously campaigning for the restoration of the scheme ever since.

Despite the litany of challenges that still face the profession today, the *Journal* has proven, throughout its 60 volumes, to be a fundamental resource to IDA members. The contribution of case reviews and papers from members across the profession has provided a vital reference for dentists to widen their knowledge. The news and editorial sections have allowed all members to be kept up to date about any matters of interest within the Association. With the support of members, the *Journal* hopes to continue to provide this valuable outlet for dentists, long into the future.

60 volumes – 68 years

The *Journal* commenced publication in 1946. While it is possible that a predecessor may have existed in the Association (there is some reference to one in 1946 editions), no record of such a publication exists. The *Journal* ceased publishing in 1954, before reappearing in 1955 under the guise of the *Irish Dental Review*. The *Review* continued for 10 years, until in 1965, it styled itself once again as the *Journal of the Irish Dental Association*. The volume numbers began with the *Irish Dental Review* in 1955; hence 2014 is Volume 60. However, the *Journal* will mark 70 years of publication in 2016.

Intracranial abscess secondary to dental infection

We report a case of *Aggregatibacter actinomycetemcomitans (A. actinomycetemcomitans)* bacteraemia and secondary brain abscess in a patient where periodontal disease was implicated as the probable source.

Keywords
Brain abscess; periodontal disease; *Aggregatibacter actinomycetemcomitans.*

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Introduction

The oral cavity is considered as being home to a rich and abundant microflora, including *Aggregatibacter actinomycetemcomitans (A. actinomycetemcomitans),* which is recognised as one of the major pathogens in destructive periodontal disease.[1] A cerebral abscess linked to a dental source is a rare occurrence, since in most individuals the blood-brain barrier, along with the immune response, will exclude bacteria. In this age of antibiotics and with modern living conditions, pyogenic brain infections of odontogenic origin are uncommon in western society. It has been postulated that oral microorganisms may enter the cranium by several pathways: 1) by direct extension, 2) by haematogenous spread, 3) by local lymphatics, and 4) indirectly, by extraoral odontogenic infection. Brain abscesses thought to be of dental origin have been reported to have a lethal outcome.[2]

Clinical relevance

The majority of brain abscesses secondary to odontogenic infection occur following dental treatment.[3] This report documents an abscess prior to dental treatment, signifying the dangers of untreated dental infection. In this case, and as described previously, molecular identification techniques, i.e., partial sequencing of 16S rDNA of clinical samples, may be helpful for detection and identification of pathogens.[4] *A. actinomycetemcomitans* is an important pathogen to consider as a causative agent of brain abscess in those with poor dental health.

Case report

A 68-year-old man was admitted to Cork University Hospital (CUH) following general medical practitioner (GP) referral with a two-day history of sudden onset slurred speech, left-sided facial droop, and left upper limb weakness. He had no relevant past medical history. He did not smoke or drink alcohol. He was not taking any medications. He lived alone in poor social circumstances.

On examination he was alert and orientated. He was dysarthric, his Glasgow Coma Scale was 15/15, blood pressure was 143/75mmHg (BP was 170/111 in the GP surgery), pulse rate was 86 beats per minute regular, temperature 36.8°C. A left-sided VII nerve palsy was noted. He had reduced power, reflexes and tone in both his upper and lower left limbs. A pan-systolic murmur radiating to the axilla was noted. He was noted to have very poor dentition by the admitting staff. The rest of his examination was within normal limits.

Laboratory investigations revealed a normal white cell count, and his C-reactive protein was 78mg/L. A provisional diagnosis of cerebral vascular accident, possibly secondary to hypertensive disease, was made. However, CT brain revealed a ring enhancing lesion in the right frontal lobe, in keeping with a brain abscess (**Figure 1**).

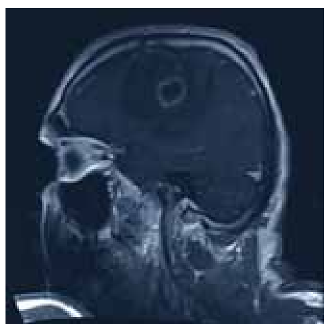
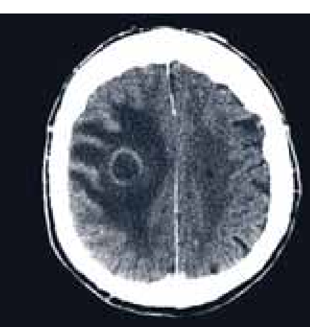

FIGURE 1: Post-contrast CT brain. The lesion shows rim enhancement in keeping with an abscess.

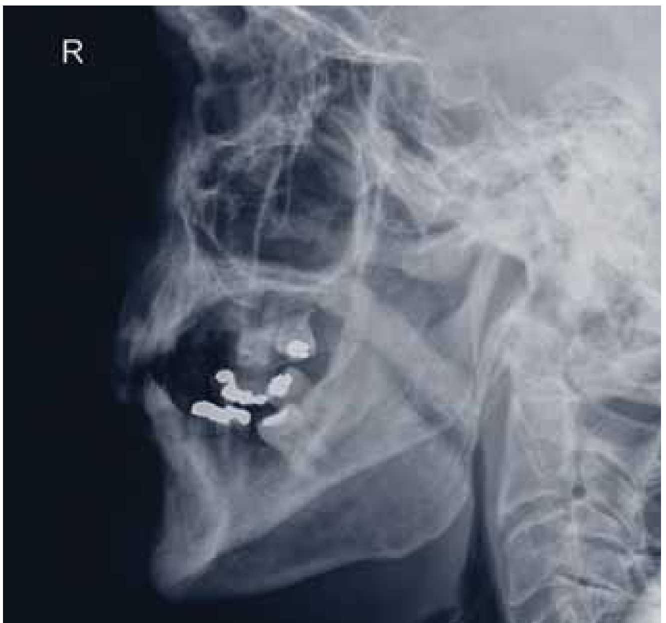

FIGURE 2: Lateral mandible at presentation. Note the poor upper and lower dentition.

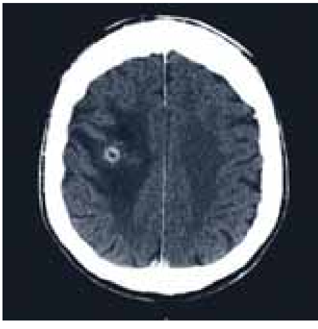

FIGURE 4: CT brain post contrast one month post debulking of brain abscess. Note decrease in size of ring enhancing lesion.

In view of this diagnosis and the presence of the murmur, multiple blood cultures were taken to rule out endocarditis as a source of infection. On further questioning, the patient described left-sided facial swelling and non-traumatic loss of a tooth one week prior to admission.

Empiric therapy with meropenem, vancomycin and IV dexamethasone was commenced. The patient underwent craniotomy and ultrasound-guided drainage of the brain abscess on day three after admission. The organisms from the blood culture and brain abscess aspirate failed to identify satisfactorily using Analytical Profile Index (for quick identification of clinically relevant bacteria), and so were sent for molecular testing. *A. actinomycetemcomitans* was identified from both blood cultures and the fluid from the brain abscess by partial sequencing of 16S rDNA by the Molecular Identification Service at the HPA Colindale, London. Transoesophageal echocardiogram revealed moderate to severe mitral regurgitation but no vegetations. A dental review was requested by the neurosurgical team. A clinical examination revealed multiple carious and periodontal involved teeth in the maxilla. An OPG radiograph was requested; however, the patient was unable to maintain an upright position to facilitate this. Therefore, lateral and oblique views were taken. The radiographs showed the presence of what appeared to be destructive periodontal disease and dental caries, particularly in the maxillary posterior teeth (**Figure 2**).

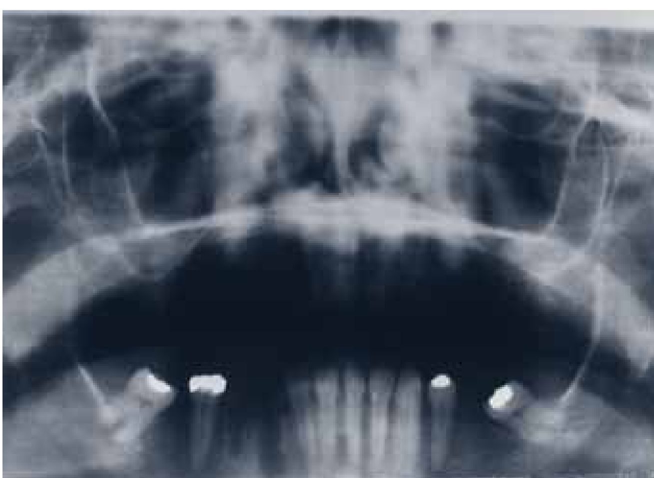

FIGURE 3: OPG post extraction showing healing sockets.

On day four following admission the patient was brought to theatre and had a dental clearance in the maxilla and two left mandibular teeth removed under general anaesthetic. The teeth extracted were mostly periodontally infected with extensive dental caries. Therefore, it is postulated that periodontal disease was the original source of infection in this patient (**Figure 3**).

Antibiotic therapy with meropenem was continued for six weeks. Repeat CT scans showed gradual resolution of the brain lesion (**Figure 4**). The patient underwent intensive rehabilitation with physiotherapy and occupational therapy. At discharge he still had some left-sided weakness and was not well enough for independent living, and therefore went to sheltered housing. He will be followed up with the neurosurgery and cardiology services in CUH.

Discussion

A. actinomycetemcomitans is a member of the *Haemophilus*, *Actinobacillus*, *Cardiobacterium*, *Eikenella*, and *Kingella* (HACEK) group of microorganisms. This group of organisms has a predilection

for causing infective endocarditis.[5] It was first described as a human pathogen in 1912. It is a facultative anaerobic, non motile, coccoid to coccobacillary Gram-negative rod and may look like Morse code on the Gram stain. The organism is fastidious and slow growing, which makes it difficult to culture. Material should be incubated on blood and chocolate agar in an enhanced (5-10%) CO_2 atmosphere for at least 48 hours. On a blood agar plate, the small colonies may stick to the medium and may form a star structure at the centre of a mature colony. In blood cultures, the organism often grows slowly in small 'granules' adherent to the sides of the bottles, with the rest of the medium remaining clear. Prolonged incubation of blood cultures up to 21 days is recommended if endocarditis caused by fastidious organisms is suspected.

A. actinomycetemcomitans has been described as a cause of meningitis, brain abscess, endophthalmitis (with and without concomitant endocarditis), soft tissue infections, septic arthritis, osteomyelitis, and endocarditis. It may be part of the endogenous flora of the mouth and can be recovered from about 20% of healthy teenagers and adults.[5] It is normally found in dental plaque, periodontal pockets and gingival sulcus, and is one of the major pathogens in adult and juvenile forms of periodontitis. It is present in more than 50% of adults with refractory periodontitis and 90% of patients with localised aggressive periodontitis.[5,6] This organism produces a number of virulence factors that contribute to periodontal disease. Leukotoxin modulates host inflammatory responses, which leads to local tissue destruction and *A. actinomycetemcomitans* lipopolysaccharides stimulate macrophages to release interleukins and tumour necrosis factor, which stimulate bone resorption.[6] In a recent review of the literature by Rahamat-Langendoen *et al.,* there were 12 reported cases of brain abscesses due to *A. actinomycetemcomitans,* and in six patients, the most probable source of infection was poor dentition or recent dental therapy.[4]

The optimal treatment of brain abscesses consists of surgical drainage of the collection combined with antimicrobial therapy.[6] *A. actinomycetemcomitans* displays variable susceptibility to penicillin. It is usually susceptible to cephalosporins, aminoglycosides, fluoroquinolones, tetracyclines and chloramphenicol; however, third generation cephalosporins are considered the drug of choice for serious infection. Susceptibility testing is recommended; however, this may be difficult due to the slow growing and fastidious nature of the organism. Severe *A. actinomycetemcomitans*-associated periodontitis is usually treated with mechanical debridement in combination with oral tetracycline therapy.[5]

In conclusion, *A. actinomycetemcomitans* is an important pathogen in cases of brain abscess associated with poor dentition. This case highlights the importance of performing a detailed examination of the oral cavity in patients presenting with intracranial infections. Maintenance of good periodontal health through oral hygiene measures and professional dental care will assist in focusing on a positive association from preventing and treating periodontal disease as a means of ameliorating serious systemic infection. Hence, researchers must continue not only to uncover more information about the correlations between periodontal and systemic diseases, but also to focus on positive associations that may result from treating periodontal disease as a means of ameliorating systemic diseases.

Simple oral healthcare tasks, such as brushing and flossing, and limiting other risk factors, such as smoking, may assist in initially decreasing periodontal pockets and periodontal bacterial flora, consequently decreasing the likelihood of the progression of periodontal disease in causing detrimental systemic disease.

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Motivational interviewing for dental clinicians

Motivational interviewing (MI) is a patient-centred, directive, therapeutic approach that supports patients' readiness to change by exploring their ambivalence about doing so. This increases the patients' motivation and helps them to commit to the process of change. In relation to dentistry, MI has been effectively used to: promote oral health behaviour; facilitate smoking cessation; and, alter health behaviours.

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MI relevant for health professionals

Motivational interviewing (MI) is a client-centred therapeutic approach, which has been found to be an effective intervention for healthcare change, as it helps to enhance clients' commitment to the process of change and enables them to resolve their ambivalence to it.[1] It is also highly effective when used as a prelude to treatment, for example cognitive behavioural therapy, and its effects appear to endure over time.[2] This endurance is attributed to its effects on retention of what is learned and on adherence to the treatment. MI is relevant for healthcare professionals, especially those working in the medical setting where, as Miller and Rollnick[3] point out, "motivational issues in patient behaviour change are quite common" (p.35). Furthermore, research has shown that clients working with MI-trained healthcare practitioners were more highly motivated to change.

Application to dentistry

MI developed from working with addictions, and more recently has spread to other healthcare areas such as eating disorders, chronic illness, pain management, health behaviour change, and health promotion. The latter two areas are very relevant for dental clinicians. More recently, some significant applications of the MI approach in dentistry have included the general area of avoidance behaviour,[4] with a particular focus on the prevention of childhood caries.[5,6] MI has also been used to encourage behavioural change;[4-7] for example, it has been found that smoking cessation improves the outcome of periodontal therapy[8] and reduces the risk of oral cancer.[9] Behavioural risk factors are common in several oral diseases, such as oral cancer, dental caries, gingivitis and periodontitis.[4] Therefore, it is important for dental clinicians to have the clinical competencies to deal with these behavioural risk factors and be able to promote good oral health practices.

What is MI?

MI is a client-centred, directive, therapeutic approach that supports clients' readiness to change – first, by exploring their ambivalence about doing so, thus increasing their motivation to change, and second, by helping them to commit to the process of change.[3] This approach fits well with health promotion, which is the process of enabling people to increase control over and to improve their health, one key objective of which is to improve quality of life.[10] Enabling is one of the key basic strategies for health promotion as identified by the Ottawa Charter.[11] Crucial to this enabling process is that there is a supportive environment, access to information, life skills, and opportunities to make healthy choices.

Research indicates that MI is particularly effective in the case of clients who had

traditionally been seen as 'resistant', 'angry' or 'oppositional'.[3,12] With the MI approach, the healthcare clinician views 'resistance' as a process of interpersonal interaction, and not as a client trait or a character fault. MI is a skillful clinical method and is not just a set of techniques; it is more than a *doing*, it is a way of *being*. An understanding of the core beliefs of MI, or its 'spirit' in Miller and Rollnick's term, is essential for healthcare clinicians who wish to follow the MI approach.[3]

Importance of 'spirit'

'Spirit' encapsulates the client's intrinsic motivation to change rather than the change being imposed. Therefore, the clinician's task is to support the client in examining and resolving conflicting ideas, emotions and attitudes, whereas the client's task is to resolve his/her ambivalence. At the core of 'spirit', and drawing on the Rogerian[13] humanistic approach, is an understanding of the human condition – the need for empathy, positive regard, and genuineness in order to provide a safe and secure environment in which to explore ambivalence and resistance. 'Spirit' involves the integration of core principles of partnership, evocation and autonomy.[3] If these principles are lacking, the clinician's role can become merely one of conducting an intellectual exercise.

Aligning MI to training

'Spirit' is a guiding philosophy for training clinicians in MI. The guiding principles form a core part of the training. Evoking spirit in practice can only be achieved by learning from the interactions with the client. Therefore, most MI training has been focused on practising clinicians who have regular client contact. However, it could be introduced to trainee dental clinicians at an earlier stage in their professional development, as they have patient contact generally from year three of the Bachelors in Dental Surgery programme. This is an opportune time to improve their communication skills, by integrating them with MI practice and so provide the necessary skills to support behavioural change. This process will move clinicians and trainee clinicians beyond the skills of 'ask, advise and refer'.[14]

Setting up the MI Training Programme in the School of Dentistry, UCC

A crucial first step in this endeavour was the reviewing of the philosophical underpinnings, or 'spirit', of MI and its alignment with the philosophy of the existing programme, in this case Behavioural Science Applied to Dentistry, University College Cork.[15] The next step was to carry out MI Level-1 Pilot Training with advanced dental clinicians and dental hygiene tutors. The relevance for dental clinicians is that by participating in the MI programme, they will have the skills necessary to engage with and support patients; trainee dental clinicians increase personal skills, so as to bring about the necessary healthcare behavioural changes and, lastly, bring about a reorientation of perspective regarding healthcare change. To support the introduction of the MI pilot training programme we sought, and were granted, an Oral Health Promotion Research Group Bursary, sponsored by the Dental Health Foundation, Ireland.

MI Level-1 intensive training

The Level-1, two-day intensive workshop provides a meaningful overview of MI. This approach helps dental clinicians to encourage the patient to talk, to generate self-motivational statements, to deal with resistance, to develop readiness to change, to negotiate a plan, and to develop determination and action. The key learning outcomes were: to introduce dental clinicians to MI and the Stages of Change or Transtheoretical Model (TTM)[16] in order to assist the dental clinician to determine the appropriate stage for the patient; to develop and enhance basic communication skills; and, to introduce the basic principles of MI, which include the expression of empathy, the development of discrepancy, the avoidance of arguing, the rolling with resistance, and the supporting of self-efficacy. By participating in the MI programme, clinicians have the skills necessary to engage with and support the patient developing personal skills to bring about the necessary healthcare behavioural change. In addition, it brings about a reorientation of perspective regarding healthcare change, such as seen with Mouth Cancer Awareness Day.[17]

Conclusion

The MI approach has a lot to offer the dental clinician, in terms of addressing both dental behavioural change and health promotion. MI is an approach that can enhance the dental clinicians' interpersonal communication skills at any stage of professional development. Fundamentally, the MI training has been implemented for dental clinicians at a postgraduate or professional level. We would suggest that there are positive outcomes in terms of learning potential for trainee dental clinicians at an undergraduate level.

Alongside this there is a changing zeitgeist in Irish dental healthcare practice and training involving a more client/patient-centred approach. The changing ideals are reflected in the importance given in the clinical competencies to patient-centred care.[18] There is now a reorientation in dental education, reflected by the delivery of MI training in the School of Dentistry in Cork, to enhance and support dental clinicians in their role as healthcare providers.

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Midazolam and drug–drug interactions in dental conscious sedation

Careful prescribing is paramount in clinical practice. Potential drug–drug interactions need to be considered. Midazolam is the drug of choice for the purpose of IV sedation. To ensure safe clinical practice, the patient's current medications need to be recorded.

Clinical relevance: An update on the drug interactions relating to midazolam are worthy of scrutiny as its use becomes more commonplace in clinical practice.

Objective: The dentist should understand the possible implications for drug interactions when sedating patients using midazolam.

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Introduction

Midazolam is an imidazobenzodiazepine, which was first synthesised in 1976 by Fryer and Walser. Its favourable properties include a reduced half life, high lipophilicity and a pH of 3.5, which enables it to be water soluble in the preparatory ampoule. This subsequently allowed for painless intravenous administration, in contrast with diazepam, where thrombophlebitis had been commonly reported at the site of administration. Midazolam soon became an alternative to diazepam and soon superseded it as the mainstay pharmacological agent for intravenous sedation. It has a therapeutic range of between 2mg and 7mg when administered intravenously.[1] Within this range, the well recognised and desirable effects of the agent are observed – namely anxiolysis, sedation, amnesia and muscle relaxation. It does not have an analgesic effect. While the exact dosage utilised will vary between patients, the margin of safety is wide enough, when administered using a careful and controlled titration technique, to render unintended deep sedation/anaesthesia or loss of consciousness unlikely.

Midazolam is predominately metabolised by the liver, facilitated by microsomal oxidation. Each hepatocyte contains an extensive network of membrane structures, and an important enzyme located within these membranes is cytochrome P450 (CYP450). This represents a large family of enzymes that have an affinity for an array of drugs. The oxidation pathway involves binding of the CYP450 enzyme to a specific drug, carrying it through an electron transport chain, and releasing at the end of the process an oxidised form of the drug, H_2O and the CYP450 enzyme. The oxidised drug is generally hydrophilic, therefore less likely to penetrate cells or be active, and is more easily excreted. These enzymes are also located in the upper gastrointestinal tract and need to be considered if oral midazolam is administered, as some of the drug is immediately deactivated. CYP3A4 is a member of the CYP450 family and is the mainstay enzyme involved in midazolam metabolism. It forms the basis for many of midazolam's interactions.[2]

Before considering the reported interactions between midazolam and various other drugs

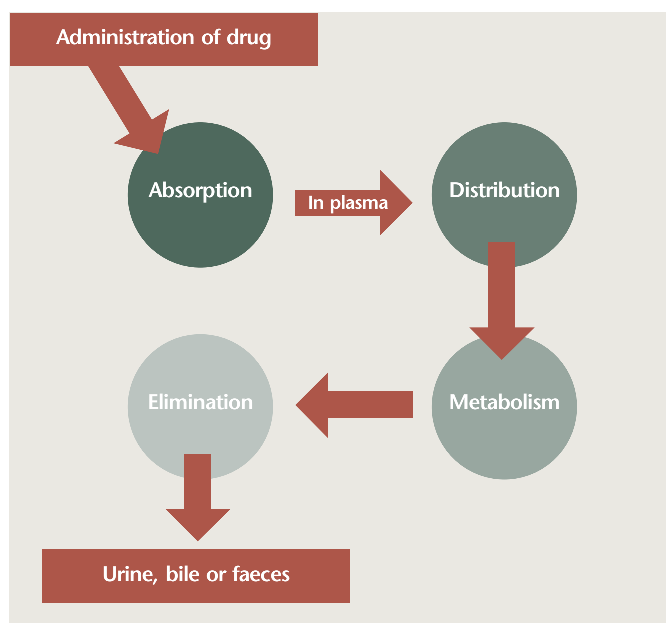

FIGURE 1: Pharmacokinetics of a drug. Following administration, each drug undergoes a pathway, which is predictable for most drugs. Following absorption and distribution, the drug is metabolised and excreted.

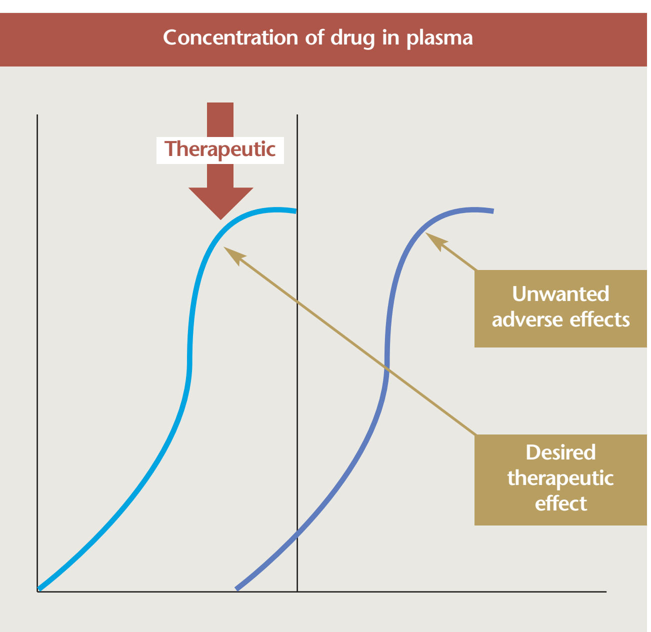

FIGURE 2: Therapeutic range of warfarin. Warfarin has a very narrow therapeutic range. For a very small change in concentration of warfarin, the therapeutic effect of the drug can be radically altered. This could create significant problems for a patient.

a patient may be prescribed, it is important to consider some important pharmacological concepts. Interactions are broadly classified into two categories, namely pharmacokinetic and pharmacodynamic interactions. Using a simple example of a person taking two drugs – drug A and drug B – the following explanations can be used:

1. **Pharmacokinetic interactions:** The administration of drug A alters the concentration of drug B that reaches its site of action. Within this interaction, one of the four major pharmacological processes of the drug can be affected, namely absorption, distribution, metabolism and elimination (**Figure 1**).
2. **Pharmacodynamic interactions:** The administration of drug A modifies the pharmacological effect of drug B, without altering its concentration.[2]

Two other concepts remain important, namely the therapeutic range and the concentration response curve, and these need to be considered:

1. **Therapeutic range:** This concept examines the concentration at which the therapeutic response is achieved compared to the concentration at which no effect is seen or a toxic effect is seen. A good example is warfarin, which has a narrow therapeutic range and is a common drug that dental patients take for medical reasons (**Figure 2**).
2. **Concentration-response curve:** This graph generally displays the response achieved for a given concentration. The steeper the curve, the greater the response for a smaller change in concentration (**Figure 3**).

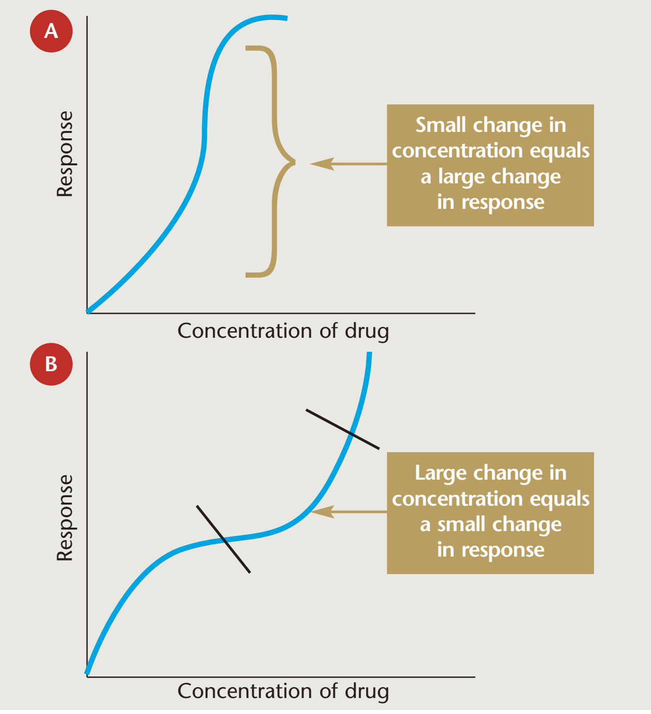

FIGURE 3: Concentration response curve for two drugs, A and B. Drug A displays how small changes in concentration lead to a large change in clinical effect of the drug; it has a steep concentration response curve. Drug B displays how a large change in concentration of a drug has a small effect on the clinical effect of the drug.

Pharmacokinetic interactions

Pharmacokinetic interactions can be broadly classified into two categories:

1. Enzyme inhibition – drugs or their metabolites react covalently or strongly with cytochrome (CYP), thus reducing the metabolism of the drug and therefore increasing its effect.
2. Enzyme induction – activation of genes, which leads to an increase of CYP, thus increasing the metabolism of the drug and therefore decreasing the effect of the drug.

Interactions

Inhibition of the CYP450 enzymes (more importantly CYP3A4) by any agent will result in a decrease in the rate of metabolism of a drug that is metabolised by it, i.e., the rate of metabolism of midazolam will be reduced. Put simply, more of the drug will remain actively available in the system for longer. Numerous drugs have been studied in relation to midazolam, namely groups such as the azoles (antifungals), macrolides (antibiotic), calcium channel blockers (blood pressure tablets) such as diltiazem, and human immunodeficiency virus (HIV) protease inhibitors such as saquinivir.[3,4,5,6] Interestingly, many studies exist, not as a direct investigation of midazolam metabolism and its clinical effect, but using midazolam as a marker of CYP3A4 disruption by various other drugs. Midazolam is thus considered a "probe" agent. Many investigators attempt to quantify the level of CYP changes by an agent by co-administering midazolam and measuring its plasma concentrations at various intervals. The clinical impact of such interactions is often overlooked.

Antifungals/antibiotics

Ketoconazole, fluconazole and itraconozole, all azole antifungals, have displayed CYP450 inhibition.[3,7,8] Ketoconazole has been shown in both *in vivo* and *in vitro* settings to be a potent CYP450 inhibitor.[7,9] As previously mentioned, CYP enzymes are also located in the gastrointestinal lining, and therefore when a drug such as midazolam is administered orally, a certain proportion of it will be metabolised, invariably leaving a reasonably predictable bioavailability of the drug for sedation. Any drug that affects the activity of the CYP enzymes will greatly alter this first pass metabolism. Ketoconazole is a useful example of this.

In one controlled study, the pharmacokinetics of midazolam was assessed in nine healthy subjects after single 2mg intravenous and 6mg oral doses of midazolam were administered. These values were then compared with those after single doses of 2mg intravenous and 6mg oral midazolam and three doses of 200mg oral ketoconazole. A key measurement parameter was the area under the concentration curve versus time of midazolam. It increased five-fold after intravenous midazolam and 16-fold after oral midazolam administration (as compared with midazolam administration without ketoconazole). Total bioavailability increased from 25% to 80%. Unfortunately, the clinical effect of the increased concentrations were not measured, so while highlighting a potential clinical facet to this interaction, the study fails to offer a secure insight into clinical practice.[7] *In vitro* and *in vivo* studies using rats have displayed a significant decrease in clearance of midazolam, both orally and intravenously, when administered with ketoconazole ($p<0.005$).[9] Patients in the intensive care unit (ICU) will commonly be sedated with infusions of midazolam that are regular, timed and of fixed concentration. The effects of ketoconazole in this setting have been examined in 10 mechanically ventilated patients. Concentrations of midazolam were significantly increased up to four-fold after the start of fluconazole treatment. Unfortunately, given the high level of sedation required for the patients (10-30mg midazolam/hour), and indeed the presence of mechanical ventilation, any clinical effects were potentially masked. The authors concede that any decrease in clearance/elimination of midazolam could potentially lead to longer-lasting sedation, with a subsequent longer stay in ICU. The need for dose adjustment of midazolam is recognised.[3]

The need for caution with midazolam in the presence of potent enzyme inhibitors is also recognised. In one randomised, controlled study, 40 healthy subjects received either ketoconazole, fluoxetine, fluvoxamine and nefazodone for a set period of time followed by an oral dose of midazolam at the end of that pre-defined period. The area under the curve of midazolam was increased by 771% as compared with measurements taken pre-administration of ketoconazole. Significant midazolam-related cognition impairment was also recorded.[10] Posaconazole examined in a randomised, open-label crossover study in healthy volunteers (n=12) has also displayed potent CYP3A4 inhibition; however, not to the same extent as ketoconazole. Doses of 2mg oral midazolam with 0.4mg IV midazolam were administered. Bloods were checked at 24 hours following administration. It is prudent to note that the concentrations administered in subjects of a mean age of 42 years were not administered for sedative purposes. The area under the concentration curve increased to 6.2 times expected normal, and when administered with ketoconazole an 8.2-fold increase was recorded within the same study.[11]

Macrolides are a useful group of antibiotics, and are often the first-line choice in penicillin-sensitive individuals. It is not uncommon to prescribe a macrolide for dental infections (erythromycin) for penicillin-allergic patients. Erythromycin was the first macrolide with any clinical significance; however, clarithromycin and roxithromycin are newer members of the family. They are known to be CYP450 inhibitors. It has been recommended that the the dose of midazolam should be reduced by between 50% and 75% in patients concurrently taking erythromycin.[4]

Investigation of the potential interactions between midazolam and erythromycin involving 12 subjects highlighted a 54% reduction in clearance of intravenous midazolam and a four-fold increase in the area under the concentration curve when oral midazolam was administered. Both results were statistically significant ($p<0.05$). The subjects were given a standard dose of 15mg orally following a five-day course of erythromycin 500mg tds. Six of the subjects repeated the five-day course of erythromycin, at the end of which intravenous midazolam was administered at, once again, a standard dose of

Table 1: Drug–drug interactions. The list is quite expansive and needs careful attention.

Pharmacokinetic interactions		Pharmacodynamic interactions
CYP Inhibitors	CYP inducers	
Ketoconazole	Phenytoin	Opiates
Fluconazole	Carbamazepine	Antipsychotics
Itraconazole	Rifampicin	Other benzodiazepines
Diltiazem	St John's wort	Barbiturates
Verapamil		Alcohol
Erythromycin		Propofol
Clarithromycin		Ketamine
Roxithromycin		Etomidate
Saquinavir		Sedative antidepressants
Atorvastatin		H_1 antihistamines
Grapefruit juice		Centrally acting antihypertensive drugs

0.05mg/kg. Psychomotor analysis was undertaken. The authors reported that the interaction between oral midazolam and erythromycin was statistically significant, with a time interval of between 15 minutes and six hours.[4] These results have been supported by other investigators, who have studied the interaction between various doses of oral midazolam (namely 5mg, 10mg and 15mg) with a single dose of erythromycin or roxithromycin, both of which displayed similar interactions – erythromycin more so than roxithromycin.[12] Clarithromycin has also been investigated, interestingly in an elderly study population, differing hugely from the typical study groups of young healthy individuals. Sixteen volunteers received clarithromycin 500mg for seven days. Two hours after finishing clarithromycin, subjects received 0.05mg/kg intravenous midazolam and 3.5mg orally. Clinical effects were not assessed. The area under the concentration curve of intravenous midazolam increased 3.2-fold and, following oral midazolam, eight-fold. Caution was advised when considering administering midazolam to a patient on clarithromycin.[13]

Blood pressure medication

Diltiazem is a calcium channel blocker, often used for the treatment of arrhythmias and hypertension, and for the control of angina. It is a CYP3A4 inhibitor and, therefore, similarly to ketoconazole and erythromycin, increases the area under the concentration curve of midazolam. In one randomised controlled trial, 30 patients undergoing coronary bypass grafting under general anaesthesia were randomly assigned to receive either diltiazem or a placebo 60 minutes preoperatively. All patients were induced with 0.1mg/kg midazolam, 50mcg/kg alfentanil and 20-80mg propofol. Anaesthesia was maintained with alfentanil, midazolam and isoflurane. The mean half-life of midazolam was 43% longer in patients receiving diltiazem. Tracheal extubation was performed on average 2.5 hours longer in patients given diltiazem. It is important to note, however, that alfentanil metabolism is also decreased in the presence of CYP450 inhibitors, and that has to be taken into consideration when explaining the clinical effects recorded.[5]

Anti-retroviral medication

The oral administration of midazolam, as mentioned, can be unpredictable in the presence of an enzyme inhibitor. HIV is not an uncommon condition among dental patients today. Saquinavir, a protease inhibitor used in patients with HIV, has displayed potent inhibition of CYP3A4 enzymes. Bioavailability of oral midazolam has been shown to increase from 41% to 90% in its presence, with clinically increased sedative effects being displayed. Saquinavir also decreased the clearance of intravenous midazolam by 56%.[6]

Cholesterol-reducing agents/herbal remedies

Atorvastatin, used in the treatment of hypercholesterolaemia, has also been reported as reducing the clearance of midazolam in both an *in vivo* and *in vitro* setting.[14,15] These drugs are almost routine in patients over 50 years of age.

While prescribed drugs often dominate the major studies, it is interesting to note interactions with various herbal remedies and, interestingly, grapefruit juice. Grapefruit juice inhibits the CYP3A4 activity in the intestinal wall, an effect that can last for 24 hours. This will invariably lead to an increase in the bioavailability of a drug such as midazolam, which undergoes pre-systemic metabolism. Oral midazolam administered following patient intake of grapefruit juice increased the area under the curve and maximum concentration by an estimated 41%, psychometric tests showing greater patient impairment in this situation.[16] St John's wort has been one of the most commonly used herbal remedies for mood disorders. It is recognised as a potent CYP450 enzyme inducer. It accelerates the metabolism of substrates of the CYP system, such as midazolam. While not examined in the clinical setting, a significant decrease in the area under the concentration curve was noted for oral midazolam. One can assume that decreased sedation will be a clinical outcome.[17]

Anti-tuberculosis medication/anti-epileptic medications

Rifampicin, an antibiotic frequently used in the treatment of tuberculosis, and carbamazepine, a well recognised anti-epileptic drug, are both well-recognised inducers of the CYP450 enzymes.[18] Tuberculosis is on the increase in Ireland. Trigeminal neuralgia and epilepsy are also not uncommon. In one study, carbamazepine reduced the peak concentration of midazolam to 7.4% of its value in control subjects, while reducing the area under the concentration curve to 5.7% of its normal value. Midazolam was administered orally, thus highlighting the effect of pre-systemic reduction in the bioavailability of midazolam as orchestrated through the intestinal CYP3A4 enzyme.[19]

Pharmacodynamic interactions

Pharmacodynamic interactions have been reported with a considerable number of drugs, namely: opiates, antipsychotics, other benzodiazepines, barbiturates, alcohol, propofol, ketamine, etomidate, sedative antidepressants, H_1 antihistamines and centrally acting antihypertensive drugs. The co-administration of midazolam with other sedatives and CNS depressants will invariably lead to an increase in the risk of over-sedation and respiratory depression. For instance, one should refrain from the consumption of alcohol for at least 12 hours post receiving midazolam. Careful consideration needs to be exercised in the presence of the above medications/drugs (see **Table 1**).

Conclusion

Midazolam itself does not affect the pharmacokinetics of any other drug. Midazoam's metabolism and bioavailability are invariably altered by other drugs to varying extents. Given the pharmacological basis to the majority of studies, and the theoretical basis on which they are performed, the clinical effects of such interactions are not always considered.

The desired effects of midazolam are ubiquitously reported as being anxiolysis, anti-convulsion, sedation and amnesia; however, these desired clinical end points occur on a spectrum with a generally wide therapeutic range (i.e., 2mg-7mg) for a 72kg healthy individual. Towards the latter end of the spectrum, it has to be recognised that respiratory depression and anaesthesia are clinical end points that are undesirable for routine dental treatment. No study, however, even when clinical effects were noted in conscious patients, reported any adverse end points such as those mentioned, although caution has been strongly advised with the use of oral midazolam and potent CYP3A4 inhibitors such as ketoconazole. To begin with, one can only make gross theoretical extrapolations from the body of literature available, to assume that certain negative interactions could lead to over-sedation of the patient leading to an un-manageable patient. The patient may remain sedated for longer as a result of the decreased clearance, or indeed develop fatal respiratory depression.

The predominant method utilised for conscious sedation is titration, which is the administration of a drug, in this case midazolam, towards a defined conscious sedation patient response. This is one potential safety net offered to sedationists, as over-sedation should not occur and dose adjustments can easily be made. The only factor that cannot be controlled is the length of sedation, as a result of decreased clearance. This may have both a staffing and a financial implication for the sedationist. It is a mandatory requirement to have a pulse-oximeter present and working for all patients who are sedated, in tandem with good clinical observation. Any drop in oxygen saturation should be quickly noted. Interactions with oral midazolam, in particular in the presence of a potent CYP450 inhibitor, is an area where extreme caution and dose adjustment need to be implemented. Following administration of oral midazolam, usually only about 40% becomes bioavailable; the remainder is either non-absorbed or metabolised by the pre-systemic CYP450 enzymes located in the intestinal cells of the small intestine. Bioavailability has been increased to as much as 80% in the presence of potent inhibitors of midazolam; that is, essentially a doubling in the serum concentration. This might have clinical effects that are detrimental. The manufacturers of midazolam give strong warning regarding such combinations. If the true clinical implications are to be discovered, more randomised controlled trials with subjects of all ages need to be performed, coupling pharmacokinetic parameters with definite sedative clinical parameters. This will remove theoretical assumptions from the equation and will give greater guidance on such interactions. What remains static, at present, is that a thorough medical and drug history needs to be taken from each and every patient, even questioning about non-prescription medication. This will highlight any potential interaction, even if not offering an insight into clinical relevance. Grapefruit juice is an interesting addition to the interaction list. Should we change preoperative instructions to advise patients to avoid grapefruit juice? It remains true that midazolam fortunately has a relatively wide therapeutic range; however, this should not be considered in isolation as good clinical practice, i.e., clinical monitoring, titration and the presence of the reversal agent flumazanil, needs to be implemented on a permanent basis.

Unfortunately, oral sedation does not allow the same degree of titration as intravenous methods allow; therefore, caution needs to be exercised if an interaction is anticipated.

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Evaluation of a novel device for measuring patient compliance with oral appliances in the treatment of obstructive sleep apnea

Smith, Y.K., Verrett, R.G.

Purpose

The purpose of this study was to evaluate a novel intraoral monitor for measuring patient compliance with oral appliances for the treatment of obstructive sleep apnoea.

Materials and methods

A clinical trial was conducted to compare objective recording by an intraoral compliance monitor and self-reporting by participants using a mandibular repositioning device (MRD). A total of 10 participants were fitted with a Thornton Adjustable Positioner (TAP III) with an embedded compliance monitor. The participants were asked to wear the test appliance for seven nights and to record their usage of the appliance and any adverse effects in a treatment journal. The data was downloaded to a dedicated computer using radio-frequency identification (RFID) technology, and the information was compared to the data in the participant's journal.

Results

The mean objective wearing time, as detected by the compliance monitor, was found to be 6.6 ± 1.6 hours/night. The mean subjective wearing time, as recorded by the participants, was 6.5 ± 1.5 hours/night. The correlation between subjective and objective times was 0.9985. The use of the test appliance by this sample population was 68.7% with a range of 24% to 100%. Participants reported a range of adverse outcomes related to the MRD consistent with those reported in the literature and these were found to be transient in nature.

Conclusions

This study supports previously reported usage times and adverse outcomes. The compliance monitor showed a very high linear correlation between subjective and objective data, validating its use in future compliance studies.

Journal of Prosthodontics 2014; 23 (1): 31-38.

Is dental caries experience associated with adiposity status in preschool children?

Peng, S.M., Wong, H.M., King, N.M., McGrath, C.

Aim

To determine associations between dental caries experience and adiposity status among a community sample of preschool children in Hong Kong.

Design

Among a random sample of five-year-old children, clinical assessment for dental caries was conducted using World Health Organisation (WHO) criteria. Anthropometric measurements for body weight, body height, waist circumference (WC), hip circumference, and triceps skinfold thickness (TRSKF) were performed to assess general adiposity, central adiposity, and peripheral adiposity. Associations between adiposity status and caries were examined in regression analyses.

Results

The response rate was 83.1% (324/390). Regression analyses (adjusted for tooth brushing habits, snacking habits, and socio-demographic factors) identified that weight/height ratio *z*-score was associated with caries experience: prevalence of dental caries experience (dmft >0), OR 1.41 (95% CI 1.04, 1.91), and 'very high' caries experience (dmft ≥SiC[10] Index value), OR 1.62, (95% CI 1.05, 2.50). In addition, WC *z*-score was associated with 'very high' caries experience (dmft ≥SiC[10] Index value), OR 1.72, 95% CI 1.06, 2.81.

Conclusion

In a Hong Kong community sample of preschool children, dental caries experience was associated with general adiposity (as assessed by weight/height ratio) and central adiposity (as assessed by WC).

International Journal of Paediatric Dentistry 2014; 24 (2): 122-130.

Implants placed in fresh extraction sockets in the maxilla: clinical and radiographic outcomes from a three-year follow-up examination

Sanz, M., Cecchinato, D., Ferrus, J., Salvi, G.E., Ramseier, C., Lang, N.P., et al.

Aim

The aim of this prospective, randomised, controlled multicentre study was to determine the three-year efficacy and stability of the soft and hard tissues at implants with a different geometry that were placed in fresh extraction sockets.

Material and methods

Implants with two different configurations, cylindrical (group A) or conical/cylindrical (group B) were installed, and healing abutments were attached. Subjects returned for a re-entry procedure, 16 weeks after implant placement. Prosthetic restorations were delivered 22 weeks after implant placement. Each subject was placed in a three-year follow-up programme, including examinations at yearly visits including various soft tissue and bone level parameters.

Results

The percentage of sites that were considered inflamed during the follow-up period was stable, and varied between 8.8% and 10.2%.

The radiographic examinations documented improved bone levels at the final examination and the mean improvement from baseline (placement of permanent restoration; PR) amounted to 0.17 ± 0.67mm. More than 70% (54 of 76) of the implants monitored in this study suffered no bone loss during the maintenance period. Moreover, there was an obvious 'gain' of interproximal soft tissue volume and at the three-year examination, around 25% of all embrasure gaps were completely filled with 'papillae'.

Conclusions

Both conical/cylindrical and cylindrical implants placed in fresh extraction sockets allowed proper soft and hard tissue healing to occur. At both types of implants, mucosal inflammation was infrequent, marginal bone levels were maintained, and soft tissue volume increased gradually after the placement of the permanent restoration.

Clinical Oral Implants Research 2014; 25 (3): 321-327.

A randomised controlled trial on immediate surgery versus root planing in patients with advanced periodontal disease: a cost-effectiveness analysis

Miremadi, S.R., De Bruyn, H., Steyaert, H., Princen, K., Sabzevar, M.M., Cosyn, J.

Aim

To compare immediate surgery to scaling and root planing (SRP) in the treatment of advanced periodontal disease focusing on the prevalence of residual sites and cost-effectiveness (1); to evaluate the adjunctive effects of azithromycin in a second treatment phase (2).

Materials and methods

A total of 39 patients (18 males, 21 females; mean age: 54.6) received oral hygiene instructions and were randomly allocated to surgery (n = 19) or SRP (n = 20). Patients with residual pockets (≥6mm) at six months received re-debridement of these sites and systemic azithromycin. Treatment groups were followed for up to 12 months and evaluated in terms of clinical response parameters and cost-effectiveness. Chair time was used to assess the financial impact of treatment.

Results

Both treatment arms were equally effective in terms of clinical outcome demonstrating less than 1% residual pockets at 12 months. Surgery imposed an extra €746 on the patient up to six months when compared to SRP. At 12 months, €46 of this amount could be offset as a result of a reduced need for supportive care. Only six patients in the surgery group needed systemic antibiotics, whereas 14 patients in the SRP needed such additional treatment.

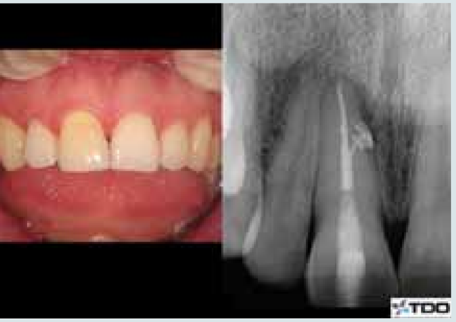
Conclusions

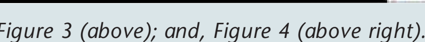
Although €700 could be saved on average by performing SRP instead of surgery, the latter significantly reduced the need for supportive care and systemic antibiotics.

Journal of Clinical Periodontology 2014; 41 (2): 164-171.

Quiz answers

(questions on page 14)





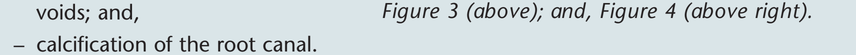


Figure 3 (above); and, Figure 4 (above right).

1. What can you see on the periapical radiograph?
   The radiograph shows:
   – an apical radiolucency extending to the mesial third of the root surface;
   – an incomplete root filling with a radio-opaque dressing that has voids; and,
   – calcification of the root canal.

2. What is unusual?
   It is unusual for the apical area to extend so far up the mesial aspect of the root. Possible causes include:
   – Trauma: the discolouration of UR1 and the calcification of the canal suggest a history of trauma. There could be an oblique fracture in the apical third (UR1). The history of diabetes means that abscess formation is more likely.
   – A lateral canal: the completed radiograph shows a mesial lateral canal. If this had not been identified, cleaned and filled, the area would not have resolved.

As can be seen in **Figure 4**, clinical assessment of this patient indicated progressive periodontitis. The patient had been aware of this. Her oral hygiene was good. She complained that her gums bleed on brushing, but had no pain. This brought home to me how important it is to do a complete assessment for every case.

The author wishes to thank Dr Pat Cleary, who carried out the endodontic treatment discussed.

Stressed?

Workplace stress is something more of us are experiencing, and professions such as dentistry are no different, says LINDA RYAN.

Stress is everywhere now. The recession means that we all have less money and fewer resources than in previous years. This, by extension, impacts on those who work in the service and professional industries. Dentists are no different; indeed, there are specific areas where dentists demonstrate the amount of stress that their work and lifestyle can bring.

As an employee wellness specialist, I work one on one with those who experience stress and want to highlight the benefits of effective stress management. This article highlights the common themes that are present for dentists in relation to stress, and gives some guidelines on what can help in rebalancing the work–life conundrum.

Stress and dentistry

The physical aspects of stress are widely documented in research, which highlights dentists being challenged with lower back pain, shoulder pain and headaches due to the nature of how they spend their day physically (Palliser *et al.*, 2005). Dentists have reported that it is difficult to heal existing or new injuries due to the physical requirements that go with being a working professional who is generally on his or her feet standing over patients (Wunderlich *et al.*, 2010).

Rates of burnout have also been found to be high in dentistry, and a number of reasons have been suggested for this. These range from the stress of being the perceived 'inflictor of pain' to the difficulty of dealing with anxious patients and children. Dentists have reported that time scheduling demands, having to maintain high levels of concentration, and constant time pressure are high on their list of stressors (Murtomaa *et al.*, 1990).

Some research has suggested that dentists report psychological fatigue, loss of enjoyment for the job and hardening as factors in burnout and stress in the workplace. Others have reported that they are exhausted at the end of the day (Gorter *et al.*, 1998). Still others report that the fragility of the relationship they have with patients is challenging, while many report being anxious, nervy or indeed

depressed at times. Professionals have also underlined that job dissatisfaction, problems with staff and technical difficulties have led them to feel overwhelmed and tired. Difficulties with sleeping and headaches were reported in one particular piece of research.

Research on student dentists has found that examination pressure, clinical requirements and dental supervision contribute to some of their stress and anxiety (Alzahen *et al.*, 2011). Factors that add to the stress dentists experience include trying to build and maintain a practice and having too little work (Myers & Myers, 2004).

Stress in the wider working world

Dentists are not alone in this last point. Many employers and staff members are struggling with similar issues, ranging from lack of opportunity to taking on others' tasks and work due to lower numbers of colleagues.

In recent Irish research conducted by the trade unions on employees in general, time constraints scored highly as a cause of workplace stress, with lack of recognition for work well done and hazardous working conditions coming in behind. Having nowhere to voice complaints, and little or no prospects for advancement, were also highlighted. Readers might be familiar with recent reports in the media that 60% of those leaving Ireland are in fact employed but view lack of future prospects and low pay as motivation for moving.

Managing your stress

Every profession has its own specific areas where stress is created, or is more likely to occur, and in this respect dentistry is no different. Working out what can be done to reduce or manage your stress is the important thing. One paper cited how career perspective was a factor with professionals, and stressed that an important point for every profession is the issue of work life–balance. Lots of people find themselves working harder and longer for fewer rewards. Being able to take time out can be difficult if money worries are at the forefront of your mind.

However, there are ways to keep and maintain some balance. A study in New Zealand highlighted that the best way for dentists to cope with the feelings stress brought them was to talk to someone about what is going on, whether that is a friend, colleague or a stranger; this provided a sounding board and space to find a different and more favourable perspective (Ayers *et al.*, 2008).

Other techniques include keeping fit and regular exercise. Research from the UK highlighted the rate of obesity now creeping into the dental profession, so a daily walk in the fresh air or a visit to the local pool will do wonders for your spirit and waistline. It doesn't cost much to slip on some running shoes and take a walk around the block or stroll outside during your lunch break. Regular sleep and good healthy food are all basics of stress management and are easily incorporated into our daily schedules.

It is nice to sit back and enjoy a beer or a glass of wine but some research indicates that this can be a coping mechanism that can potentially cause more problems than it attempts to solve.

When working with professionals trying to cope with stress, we can highlight the benefits of all of these approaches, as well as the importance of knowing what makes us personally stressed. What will stress one person out might be a release for another, so it is worth knowing this about yourself. Other areas that are relevant in managing stress are issues like clarity, control and overall satisfaction with one's choices.

How do you cope with control in your life or are you attempting to control everything without realising that we really only have influence over specific things? Areas outside that may take up your energy and attention might also be wasting your time and efforts. How clear are you about what you want and where you are going? Do you have a plan to get there and if not why not? If you would benefit from having such a plan, engage someone who can facilitate this and support you in your questions and challenges. Clarity of mind counts for so much when stress management is being discussed. Many of those suffering with stress will talk about confusion and fogginess, so clarity of thought is very desirable.

There is no denying that the situation in Ireland right now is very conducive to high stress levels. Taking time out to reflect on how you are and what you can do about it will go a long way to deciding whether you are coping with or avoiding the stress in your life.

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Linda Ryan is a coach and wellness consultant.

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 March 14, 2014, 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.

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

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- Practices for Sale/To Let
- Practices Wanted
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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.

POSITIONS WANTED

Enthusiastic, hardworking Dublin graduate with 10 years' experience, available for part/full-time work in Leinster area. Tel: 086-040 0677, or Email: associateposn@outlook.com.

Dublin – ambitious, enthusiastic, experienced Dublin graduate looking to join established practice with a view to purchase. Dentist is flexible regarding options. Strong financial position. Apply in strictest confidence to: surgeriesavailable@yahoo.ie.

Locum or part-time associate position sought within Cork commuting area. 25 years' experience in private practice and HSE. Flexible regarding days/hours required. Tel: 083-107 7001.

Experienced Belgian general dentist, registered in UK and Ireland, with long-term special interest in endodontics, Master's degree programme implantology. Looking to work with colleagues interested in doing excellent dentistry as a team. Email: augustoroots@ymail.com.

Locum available immediately to cover any days/period of days/period of time in any part of the country. Tel: 087-682 3882 or 062-57393, or Email: vincentreardon@hotmail.com.

POSITIONS VACANT

Associate required in South Dublin. Must be experienced in private practice, enthusiastic about dentistry, keen on postgrad/CDE and good with people. Apply by emailing CV and references to: assocdent100@gmail.com.

Enthusiastic, caring associate dentist required to develop list. Two days per week initially. Modern computerised Midlands practice. Starting Jan/Feb 2014. CVs to: midlandsdentaljob@outlook.com.

Associate required in Co. Cavan in a well-established practice. Minimum of three years' experience required. Email CV to: rmccorry1@hotmail.com.

Associate required County Mayo. Busy practice. Well-equipped, fully computerised, digital x-rays/OPG. Hygienist. Wide range of treatments. Large client base. Experienced staff. Email: jdentalcvs@gmail.com.

Associate dentist required in busy city centre practice to replace departing colleague. Modern facility and full support staff. Email: assoposition@outlook.ie.

Enthusiastic, friendly, experienced associate wanted for part-time position in south County Dublin modern practice. Full support staff. Initially two days a week. Email: tmpoconnor@gmail.com.

Associate required in south west Dublin. Full-time position in modern, computerised, digital practice. Candidate should be experienced, enthusiastic, hard working. Please apply to: tullyhouse@gmail.com.

Full-time associate required for Eyre Square Dental Clinic, Galway City, to replace departing colleague. Excellent opportunity for an enthusiastic and dedicated candidate. Modern facilities and experienced support staff. Applications in the form of CV and cover letter to: paula@eyresquaredental.ie.

Dental associate required to join our long-established, highly-regarded dental practice in south County Dublin. Stunning, newly refurbished interiors with the latest of cutting edge technologies: OPG, Cerec, intra-oral camera, digital x-rays, fully computerised. Email: dublindentist18@gmail.com.

Associate wanted two days a week for busy private practice in Co. Kildare. Modern equipment, digital x-rays. Email: sarahlawler01@gmail.com.

Associate dentist required for modern, expanding practice in South Dublin. Candidate should be experienced, enthusiastic and hard-working. Email: jobs@ballybrackdental.ie.

Galway city centre. Associate dentist required for well-established expanding practice. Excellent opportunity for an enthusiastic, experienced candidate with long-term ambitions with a view to ownership. Email CV to: info@forstercourtdentistsurgery.ie.

Dentist required to join expanding, modern, computerised practice. Part-time with a view to full-time employment. West Dublin area. Reply with CV to: westdublindental@gmail.com.

Part-time dentist required for modern, computerised, city centre practice. Private/PRSI. Excellent support staff. Candidate should have minimum five years' experience, and be friendly, caring and enthusiastic. Please apply with CV and references to: marycreddy@gmail.com.

Dentists required full-time/part-time to provide dental care to nursing home residents. Must have good communication skills, and be able to adapt to different work conditions and locations. May suit retired/former HSE or army dentist. Email: mobidental@gmail.com.

Motivated dentist required for a busy and expanding fully private practice in Navan, Co. Meath. The ideal person will have a proven track record of providing successful dentistry. Building existing part-time list to full-time by summer 2014. Email: boynedental@gmail.com.

Part-time position available for dentist in the south-east from March in busy, friendly, family practice. Fully computerised and full support staff. Email: catriona7339@gmail.com.

Midlands – dentist required for busy, computerised digital practice. Full book, replacing a long-established associate. Email: midlanddentist2014@gmail.com.

Hygienist required for one day a week (Tuesday preferably) in a busy Carlow practice. Maternity cover initially, but may become permanent due to expansion. Applicant must have a positive attitude and be very patient focused. CVs to: montgomeryhousedc@gmail.com.

3.5 days' existing hygienist work split between two practices in the Midlands area. Start January 2014. Email: nicolalennon25@gmail.com.

Qualified dental nurse needed for modern north County Dublin practice. Full-time or part-time positions available. For further details, please Tel: 087-274 9471, or 01-690 3464. Apply with CV to: colinpatricklynam@hotmail.com.

Qualified dental nurse required for busy Dublin city centre practice. Full-time position, available to start in February. Email CVs to: dentaldublin@gmail.com.

Experienced nurse with a great team attitude who thrives on high standards and working in a busy environment required for a full-time position in established, expanding practice in D14. Part-time considered for excellent candidate. Email: dentalnurse@outlook.ie.

Qualified dental nurse required for new Kilkenny practice. Full-time position to start in March. Excellent remuneration package for right candidate. Please send CV to: thomastownjob@gmail.com.

Busy northside dental practice requires temporary dental assistant to cover leave for one month, three days per week. Please Email CV to: smile@oneilldentalcare.ie.

PRACTICES FOR SALE/TO LET

Practice for sale – west of Ireland. Very busy, long-established, modern, well-equipped, large practice. Digitalised/OPG. Hygienist. Excellent loyal staff. Immediate profits. Large potential for growth. Genuine reason for fast sale. Suits ambitious associate. Tel: 086-807 5273, or Email: niall@innovativedental.com.

For sale – Letterkenny. Private practice with excellent potential to expand in busy county town with list of carefully maintained patients. Principal leaving to pursue postgraduate study. Modern stylish surgery with digital systems in place. Tel: 0044 7788 441330, or Email: dentalbore@aol.com.

Practice for sale – Cork City. Top-class, very busy. Single-handed. Two surgeries. Superb location. OPG. Well equipped. Reasonable rent. Expansion possible. Excellent figures. Realistic price. Tel: 086-807 5273, or Email: niall@innovativedental.com.

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Surgery wanted. Nationwide. Dentist with eight years' experience looking for established surgery to take over, buy or rent. Ideally would prefer to buy after a few months of rent or working as associate. Email: DentalSurgery2014@gmail.com.

EQUIPMENT FOR SALE

Velopex extra X developer for sale. Develops OPGs and PAs. As new; only used for six months. Tel: 091-871 512. Email: info@loughreadental.com.

FEBRUARY

IDA MEMBERS ONLY

South Eastern Branch – Annual Scientific Meeting
February 21 *Tower Hotel, Waterford*

CPD Roadshow IDA MEMBERS ONLY
February 22 *Rochestown Park Hotel, Cork, 10.00am to 1.00pm.*

North Munster Branch Meeting IDA MEMBERS ONLY
February 25 *The Strand Hotel, Limerick, 8.00pm.*

Topic is: 'Facial and Cranial Pain Conditions – Difficult Management Dilemmas'. Speaker is Dr Christine McCreary, Consultant, Oral Medicine, UCC.

Irish Endodontic Society Meeting
February 27 *Small Lecture Theatre, Dublin Dental Hospital, 7.30pm.*
Case presentation night.

MARCH

CPD Roadshow IDA MEMBERS ONLY
March 1 *Clayton Hotel, Galway, 10.00am to 1.00pm.*

Metropolitan Branch Meeting IDA MEMBERS ONLY
March 6 *Hilton Hotel, Charlemont Place, Dublin 2*
Speakers are Dr John Hogan and Dr Katherine Condren.

CPD Roadshow IDA MEMBERS ONLY
March 8 *Strand Hotel, Limerick, 10.00am to 1.00pm*

North Munster Branch Meeting IDA MEMBERS ONLY
March 13 *The Strand Hotel, Limerick, 8.00pm*
Speaker is Professor Robert McConnell, Consultant Restorative Dentistry, Queens University, Belfast.

Irish Academy of Aesthetic Dentistry (IAAD) Meeting
March 14 *Radisson Royal Blu Hotel, Golden Lane, Dublin*
Speaker is Dr Palo Malo, on 'Total rehabilitation of the edentulous jaw: surgical and prosthetic protocols using the All-On-4 Malo Clinic treatment concept'.

Irish Endodontic Society Meeting – Recent Graduates Night
March 27 *Small Lecture Theatre, Dublin Dental Hospital, 7.30pm*

CPD Roadshow IDA MEMBERS ONLY
March 29 *Radisson Hotel, Sligo, 10.00am to 1.00pm*

APRIL

CPD Roadshow IDA MEMBERS ONLY
April 5 *Radisson Dublin Airport Hotel, 10.00am to 1.00pm*

Irish Society of Dentistry for Children (ISDC) Meeting
April 10 *Louis Fitzgerald Hotel, Newlands Cross, Dublin*
Title: 'Essentials of dental radiology and local anaesthesia'

CPD Roadshow – Kilkenny IDA MEMBERS ONLY
April 12 *Lyrath House Hotel, Kilkenny, 10.00am to 1.00pm*

North Munster Branch AGM and Meeting IDA MEMBERS ONLY
April 22 *The Strand Hotel, Limerick, 8.00pm*
AGM followed by Dr Eoin Mullane BDS MS Cert Endo, on 'Endodontics: Use and Abuse of Antibiotics'.

MAY

2nd Scientific Conference of Faculty of Dentistry
May 7-8 *Jordan University of Science and Technology*
For further information, abstract submission and registration, please visit the conference website at www.just.edu.jo/jidc or contact Dr Ziad AL-Dwairi at ziadd@just.edu.jo.

IDA Annual Conference 2014
May 15-18 *Lyrath House Hotel, Kilkenny*

SEPTEMBER

3rd World Congress of Clinical Safety (3WCCS)
September 10-12 *University of Cantabria, Spain*
Main theme: Clinical Risk Management. For further information see http://www.iarmm.org/3WCCS/.

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