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Journal of the Irish Dental Association

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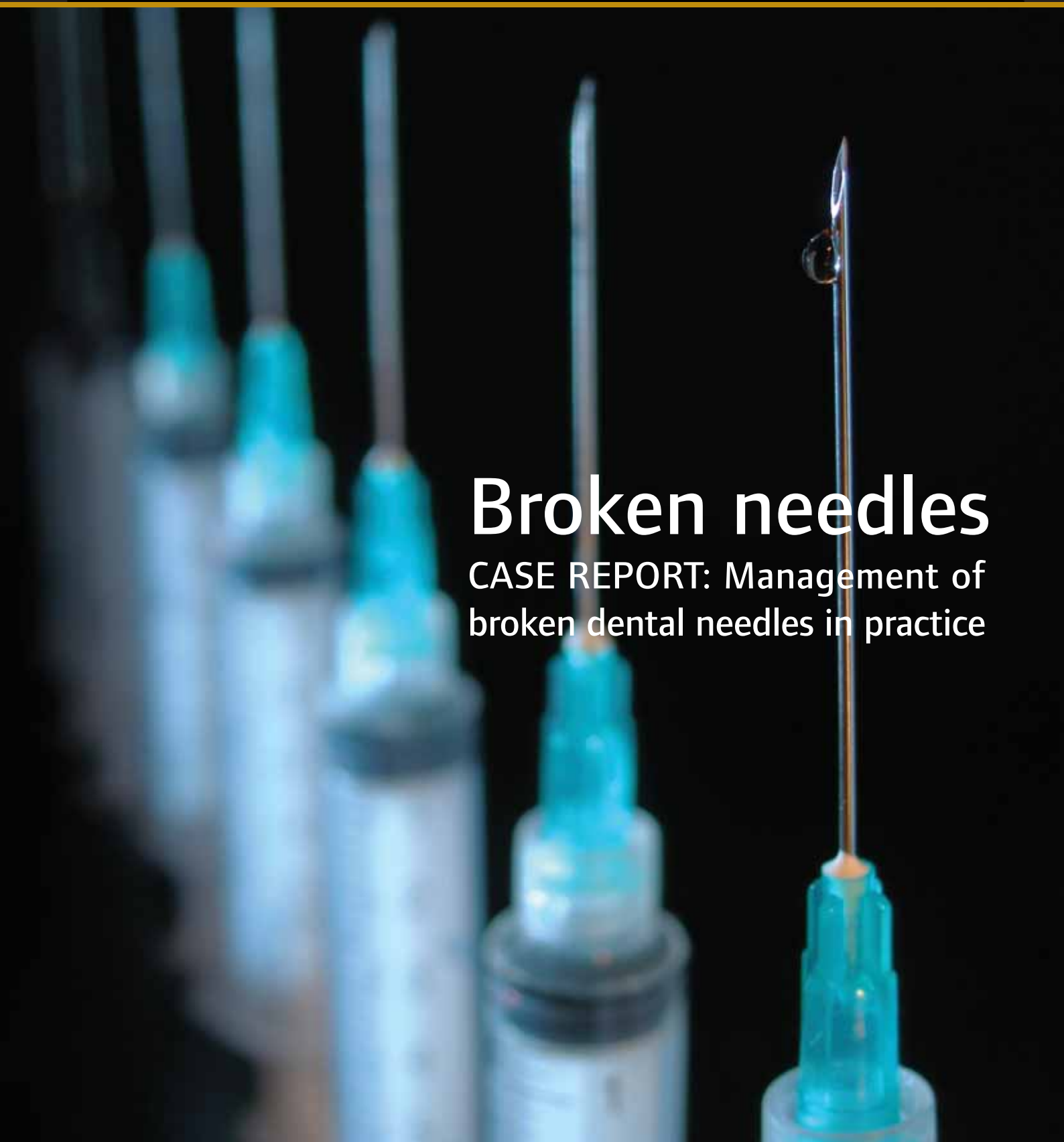

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EDITORIAL
Ann-Marie Hardiman, Paul O'Grady

DESIGN AND LAYOUT
Tony Byrne, Tom Cullen, Ruth O'Sullivan

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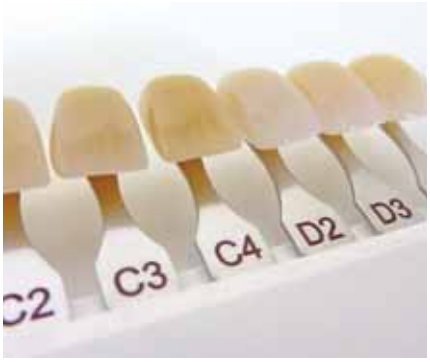
ICD meeting in wonderful, wonderful Copenhagen



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Replacing extracted anterior teeth

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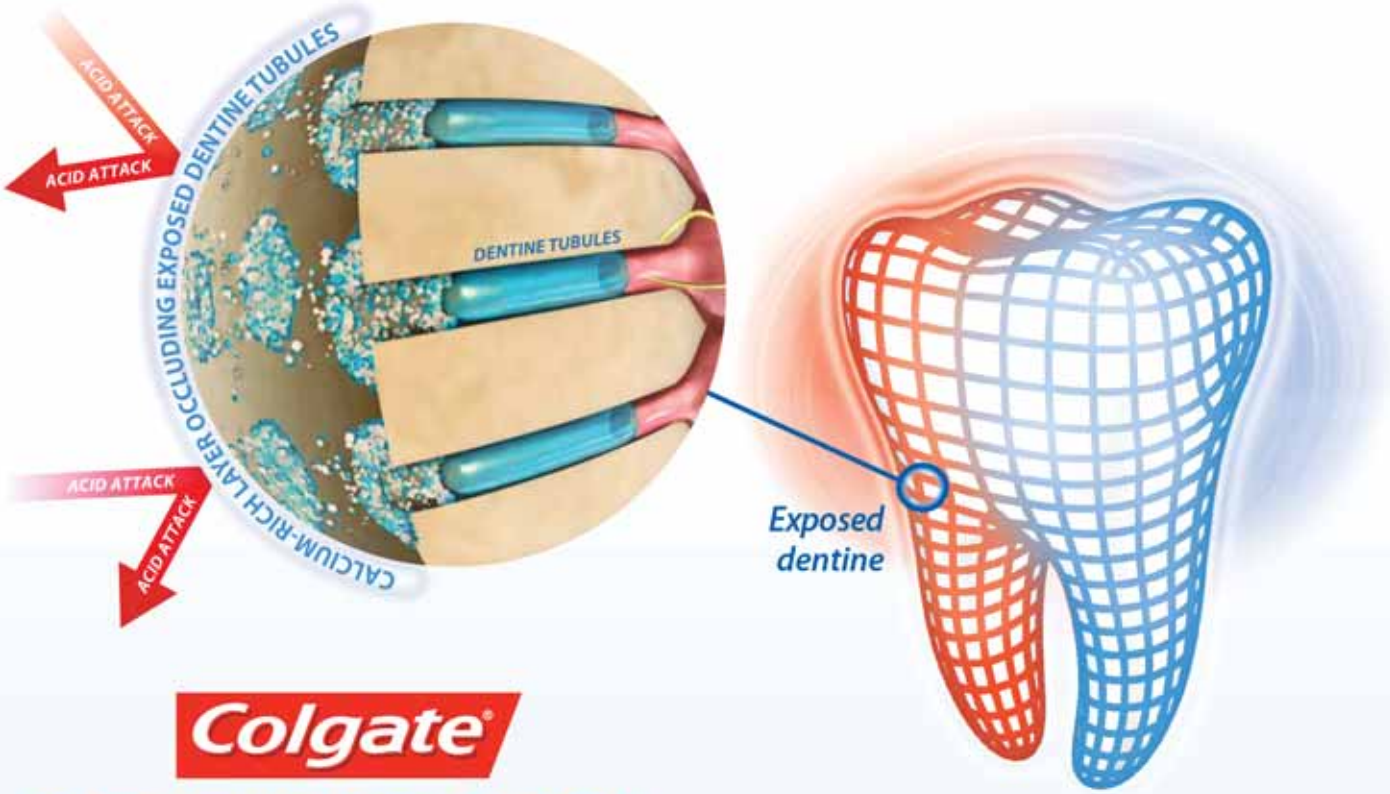

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1. Cummins D. J Clin Dent 2009; 20 (Spec Iss): 1-9. 2. Petrou I et al. J Clin Dent 2009; 20 (Spec Iss): 23-31.

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Time to convene?

Honorary Editor LEO STASSEN commends the work of the Association's Quality and Patient Safety Committee; proposes the establishment of a symposium in 2014 on oral/dental health issues, and strongly supports the development of a National Health Forum.

The commendable and prescient work of the Quality and Patient Safety Committee of the Association is highlighted in this edition of the *Journal*. Chairman of the Committee Dr Eamon Croke describes, with an ease that belies the difficulty involved, the manner in which the members of the Committee have produced a series of documents that assist members to comply with the burden of new regulations. It is a high-value project: to turn complex and demanding regulations into a series of easy-to-use documents for members. These documents allow the general dental practitioner to implement the regulations in the way that is most appropriate for their surgeries. It is the essence of the Association's work: assisting members to carry on their profession to the highest possible standards. We are grateful to Dr Croke and the Committee for their work – and for taking the time to explain that work through the pages of the *Journal*. You can read the interview with Dr Croke on pp227-228 and members can access these practical documents on the Association's website www.dentist.ie.

A symposium in 2014 on oral/dental health?

Speaking of working on behalf of the members of the profession, once again Mouth Cancer Awareness Day (MCAD) in September has proven to be a success. During MCAD last year, in the region of 8-10,000 members of the public availed of the opportunity to have a free examination for mouth cancer. Various constituents of the profession co-operate highly effectively for the purposes of MCAD – the dental hospitals, general dental practitioners, specialists, the Irish Dental Association, the Irish Cancer Society, the Dental Health Foundation and others are all involved. Sincere thanks to all involved for this *pro bono* work and for some patients it has already worked. MCAD really reflects what dentists and their teams can do to improve the health of a nation. MCAD and the team supporting mouth cancer care with money raised by the Molar Rollers, have written a very important book, *Word of Mouth – coping with and surviving mouth, head and neck cancer*, under the editorships of Dr Denise McCarthy and Lia Mills. It is available from www.amazon.com or www.dentalhospital.ie. The launch in September was well attended by patients and clinicians. The words of the survivors were so moving and heartfelt. Hopefully successes like MCAD will only serve to strengthen the resolve of key dental leaders, the IDA, the HSE, politicians and the public to demand a 'Symposium on Oral Health' (involving the public) on an open, inclusive, preventive, non-institutional basis to advocate collectively for the oral and general health of the public and patients. The dental profession has shown itself through MCAD to be willing to support these educational ventures.

By the time you are reading this, Minister of State with responsibility for Primary Care, Alex White, will have addressed the members of the Public Dental Surgeons group of the Association at their Annual Seminar in Mullingar. We are hopeful that Minister White will announce the development of a new Oral Health Strategy for the country. This will, of course, tie in very logically with the recent appointment of a Chief Dental Officer (unfortunately only on a part-time basis). This development will help the Minister for Health and Children progress the new Dental Act, which is under his consideration at present and is needed urgently to help support the full dental team.

So now we have a potentially vital piece of oral health planning coming before the profession – is this not an ideal time to develop a National Oral Health Forum on oral health, its effect on the general well being of the public and possibly convene a non-aligned, transparent, open coalition of all stakeholders interested and involved in Irish dentistry? Watch this space. I am pleased to hear that this is beginning to happen.

Peer-reviewed papers

Readers will notice that we are publishing additional peer-reviewed papers in this edition of the *Journal*. We have had such a supply of high quality, approved peer-reviewed papers that there is something of a backlog. This edition will help to clear that backlog, and we intend to do this at least once more. In the meantime, we are grateful to all authors for submitting papers to the *Journal* and apologise for the delay in publishing some of them. That delay notwithstanding, can I encourage any dentist with an interesting case study, review of papers on a special topic, or an original piece of research to submit their work to the *Journal* for publication? We learn much from each other when we publish our work, and it is central to the mission of the *Journal.*

Prof. Leo F. A. Stassen
Honorary Editor

Listening to members

Dr SEÁN MALONE reflects on a busy couple of months which included Mouth Cancer Awareness Day and meetings with the Quality and Patient Safety, and GDP Committees.

Well done to all those who took part in Mouth Cancer Awareness Day 2013. Over 600 dentists volunteered to take part this year. The detection of 21 patients with the disease during previous Awareness Days has confirmed the initiative as a success for the patients and also for dentists in Ireland. The HSE's refusal to participate in the day remains a cause of concern. No doubt, a few more diagnoses will unfortunately be added to this year's figures. However, this only goes to prove how worthwhile the initiative is. I was delighted to attend the launch of a new book, *Word of Mouth*, in Dublin Dental Hospital recently. The book is a collection of thoughts and advice from mouth, head and neck cancer survivors and professionals involved in their care. It is available free to download from the DDH's website – www.dentalhospital.ie/alumni/events/word-of-mouth/.

Strategy and promotion

I recently attended a meeting of the GP Committee of the Irish Dental Union and share the keenness of its members for a national campaign promoting dental attendance. The Association has engaged a market research company, which is currently carrying out a survey of the public to ascertain the relationship of the public with dentists and the reasons for attending the dentist, or not, as the case may be. The results of this survey will be valuable data and will inform the campaign, which I hope will happen sooner rather than later.

The Association is also undertaking a strategic review of its operation and services. Thanks to the members who took part in the survey, which was carried out over the summer to ascertain your needs. I hope the review will ensure members continue to receive relevant benefits and value for money.

Use our service

I would like to mention the IDA's Quality and Patient Safety Committee and encourage members to avail of its advice. I attended a recent meeting of this Committee and witnessed the huge amount of work it carries out in preparing advice for members on various topics such as: decontamination in dentistry, hand hygiene, emergency drugs and equipment, amalgam separation, waste management and complaints procedures for a dental practice. The the advice is prepared to be as accessible as possible to the average dental practitioner, and includes easy to use audit tools for self-assessment. This advice is available to view in the Best Practice section of the members' area of the website (www.dentist.ie). The Association plans to post a hard copy of this advice to members shortly.

Public Dental Surgeons

Please note the Irish Dental Association's Annual Seminar for HSE Dental Surgeons takes place from October 16-18 in Mullingar, Co. Westmeath. This is a great opportunity for our HSE members to fulfil their CPD requirements and catch up with their colleagues from around the country, which is particularly important at present when morale is low for those working in the HSE. I would encourage all our members who work in the HSE to attend. Also just to mention, the seminar is not restricted to those working in the HSE and private practitioner colleagues are welcome to attend. The Minister for Primary Care, Alex White, is also expected to announce a review of oral health policy at the event.

Captain's Prize winner

Congratulations to Dr Fergus Duddy who won Dr John Pierse's Captain's Prize in Carlow and thanks to Drs Marielle Blake and Lynda Elliott who played in the outing. I would encourage more ladies to play in the Christmas Golf Hamper, which takes place on Friday December 6.

Dr Seán Malone
IDA President

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President Elect nominated

Council recently endorsed the nomination by the Munster Branch of Dr Anne Twomey as President Elect to succeed Dr Peter Gannon as President of the Association in 2015. Dr Twomey's nomination will be formally considered at next year's Annual General Meeting. A full report will follow.

ICD Annual Meeting

From left: Mrs Pat Corcoran; Dr Claudette Christie; and, Dr Declan Corcoran in the magnificent opera house.

The 58th Annual Meeting of the International College of Dentists took place in Copenhagen from June 13-15, 2013. Back in 1996 Copenhagen was selected as European City of Culture, and the last 16 years have brought considerable development, among other things giving the city a new playhouse and one of the most advanced opera houses in the world. ICD Fellows and partners, as far as time allowed, were shown many of the city's highlights by President Henrik Harmsen and his support team. The induction ceremony, at which Dr Declan Corcoran and Dr Johnny Fearon became ICD Fellows, was followed by a Gala Dinner in the splendid Moltke's Palais.

Dr Johnny Fearon, inductee; Dr Seán Malone, IDA President; Ms Fiona O'Shaughnessy; and, Dr Donal Tully at the induction ceremony.

Waterford-based orthodontist Dr Con O'Keeffe with Professor Schwestka-Polly of Hannover University at Dr O'Keeffe's recent graduation with an MSc in Lingual Orthodontics.

Irish orthodontist graduates in Germany

Waterford-based orthodontist Dr Con O'Keeffe recently graduated with an MSc in Lingual Orthodontics at Hannover University. This part-time programme, based at the orthodontic department of Hannover Dental School for two days per month over two years, involves both a research and clinical component under the guidance of Dr Dirk Wiechmann (developer of the Incognito and Win lingual systems) and Professor Rainer Schwestka-Polly.

United Nations of dentistry

Association Honorary Treasurer, DR NUALA CARNEY, reports from the FDI Congress in Istanbul.

Dr Nuala Carney addresses the Open Forum at the FDI World Congress.

Dr Saoirse O'Toole (left) and Dr Nuala Carney with Dr Bob Faiello, President, American Dental Association.

The Federation Dentaire International (FDI) World Dental Congress is unusual in that it is both the world dental parliament for the first four days (essentially the UN of dentistry), followed by a huge international scientific conference. The delegates representing their national associations attend the sessions from Sunday to Wednesday, with a final session on Friday afternoon to finalise statements, policies, budgets, and voting for the various committee elections. It is an intense few days, including lunches and receptions most evenings hosted by the larger member associations. Dr Saoirse O'Toole joined me during the week, and we covered as much of the Congress as was humanly possible.

Having confirmed in advance with FDI that Ireland would be represented this year, we received an invitation from them to make a short presentation to the Open Forum regarding the current situation of dentistry in Ireland.

Integrating oral health

Being the international voice of dental associations, there is considerable focus placed on oral health as an integral part of general health – and at the conference, the Istanbul Declaration was adopted, which sets this view out in detail. Policy statements regarding the current issues of oral health with regard to: non communicable diseases; oral health as a risk factor for systemic disease; social determinants of health; Bisphenol A in restorative materials; and, salivary diagnostics, were finalised. The World Oral Health forum looked at how the Minimata convention on mercury might affect dentistry, and oral health within the global NCD initiative. The topic of amalgam was also much discussed, and there is significant relief all round that difficult but effective lobbying has resulted in a phase down, rather than radical phase out of amalgam.

I made my presentation to the Assembly on the Wednesday morning, along with presentations from Costa Rica on 'Green initiatives in Dentistry'; 'Public policy for the care, protection and promotion of oral health in Costa Rica'; and, from Portugal on 'Dental vouchers – a public health program in Portugal'. Mine was entitled 'Challenge and change in Ireland'. I explained what has happened to dentistry in Ireland over the past seven years, and then focused on the initiatives of the Mouth Cancer Awareness Day, the Dental Complaints Resolution Service and fluoridation policy as three ways in which we are trying to continue to promote oral health and good service to patients. I explained that these approaches share the common theme of prevention – prevention of oral cancer through awareness raising and early detection, prevention of caries, and prevention of litigation through early and effective mediation. It was well received and I got very positive feedback.

Dentists can sign the Istanbul Declaration supporting oral health as a fundamental human right at: http://www.fdiworldental.org/publications/declarations/istanbul-declaration.aspx.

Six Month Smiles offers hands-on course

According to the company, the Six Month Smiles Short Term Ortho System is a conservative and cosmetic approach to treating adult patients with crooked teeth. The system is designed for GDPs, and does not require previous orthodontic experience.

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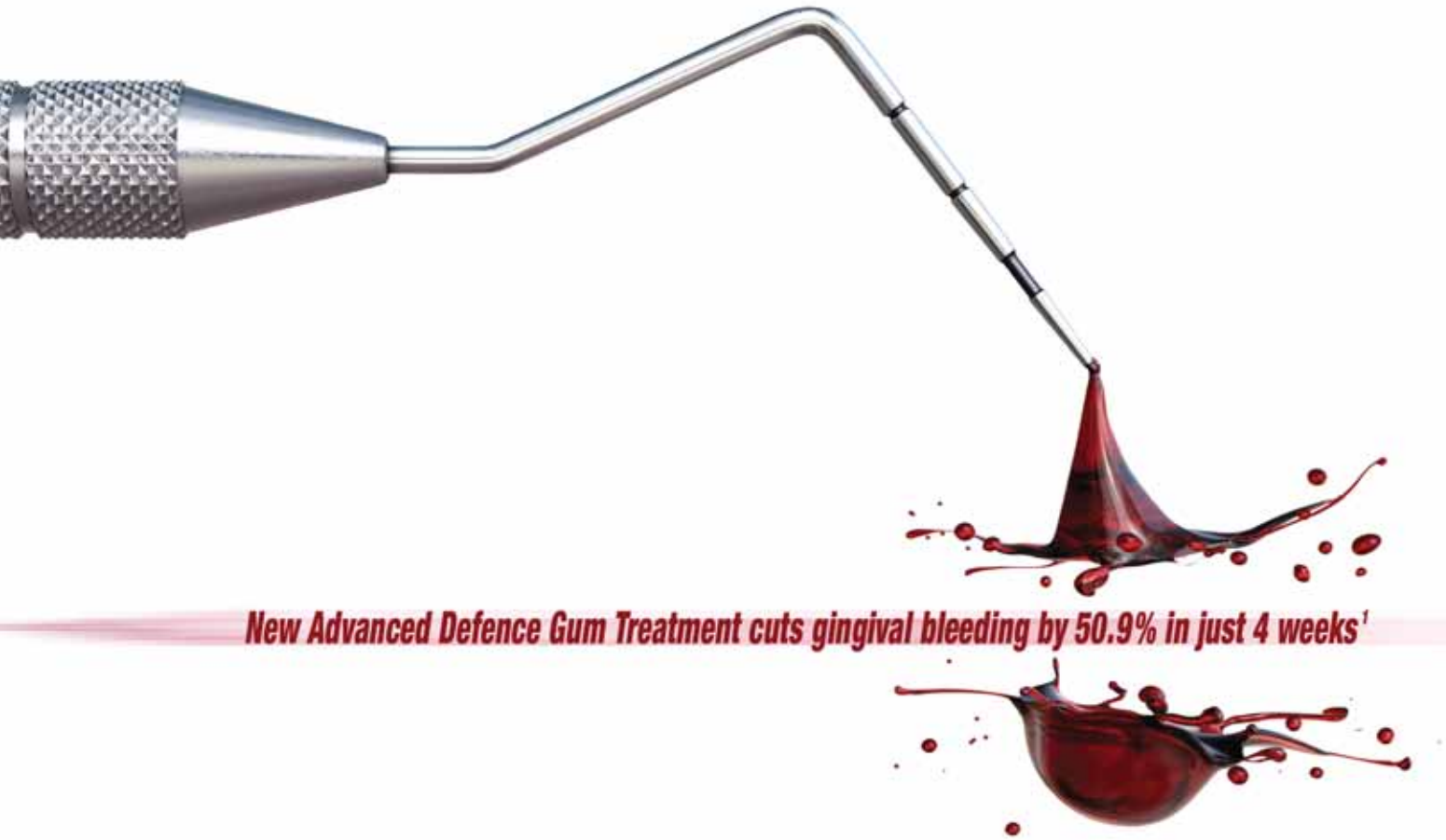
Dublin course dates: January 31 to February 1, 2014
November 7-8, 2014



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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 (LINKPLT0006).

NEC/LI/13-0240b

Advanced Defence against gum disease


Drs Gerard Hall and Gerry Owens.


Drs John Barry and Sue Boynton.


Drs Tom Boyce, Paddy Malone and Vincent Delahunt.

Retirement seminar

Over 50 retired or retiring dentists attended a very successful day long retirement seminar in September in Dublin. The seminar focused on issues relevant to dentists who are near retiring age or who indeed have already retired, and how it will affect their lives.

The event was chaired very successfully by Dr Andrew Bolas, Vice President, and contributions were made by Pauline Murray, Retirement Council of Ireland, who spoke about the four main changes in a person's life when they retire: health, money, relationships and time; and, Dr Ide DeLargy, a medical GP, who spoke about keeping mentally and physically well in retirement.

Presentations were given by Fiona Murphy and Breda O'Malley from Hayes Solicitors who spoke on legal matters relevant to moving into retirement and there was particular interest in employment issues for staff. John O'Connor, Omega Financial Management, presented on income levels and gave a very interesting insight into pensions and stock markets. David McCaffery, MedAccount, gave some very practical advice on selling a dental practice and worthwhile suggestions on getting the most from your dental assets.

Lifetime member of IDA, Dr David Ryan, gave a very entertaining and insightful account of his life two years after retiring and how he has coped with making many changes in his life.

Sue Boynton concluded the day's presentations with a lecture on dentists' medical legal responsibilities on retiring.

It was great to see so many members of the IDA in attendance and also those who are preparing well in advance of retiring for what's ahead. Feedback on all presentations was very positive and it certainly is a seminar the Association will present again. The Association is grateful to all contributors to the programme and to those who attended.

UCC to host Irish Division of IADR ASM

The Annual Scientific Meeting (ASM) of the Irish Division of the International Association for Dental Research (IADR) will be held in University College Cork from November 14-15. The IADR is the foremost dental research organisation worldwide. While headquartered in Virginia in the US, the Association has more than 13,000 members worldwide organised into national divisions. The Irish Division was first established in 1983 following an informal meeting attended by John Clarkson, Seamus O'Hickey, Denis O'Mullane and Joe Lemasney. The first Annual Scientific Meeting was held in Dublin in November 1984 with 45 founder members in attendance. The 2013 meeting will take place over two days, with abstracts for oral and poster presentations encouraged from all members of the dental team. A conference dinner will be held in the River Lee Hotel on November 14.

A number of prizes will be presented at the Meeting, including the Irish Division Undergraduate Award, sponsored by Ivoclar Vivadent, the Irish Division Postgraduate Award, the Irish Division Public Dental Health and Health Promotion Prize, sponsored by the Dental Health Foundation, and the Irish Division/Royal College of Surgeons Ireland Postgraduate Clinical Prize.

The Division is delighted to have two keynote speakers attending the meeting: Professor Mark Ferguson and Professor Helen Whelton. Mark is the Director General of Science Foundation Ireland and the

Dr Mary Crossling, Johnson and Johnson, with members of the IADR Irish Division local organising committee: Dr Martina Hayes; Dr Christine DeMata; and, Dr Frank Burke.

Government's Chief Scientific Advisor. Helen is the current president of IADR and will host the 2014 General Session meeting in Capetown, South Africa. She is Vice Head of the College of Medicine and Health in University College Cork and Director of the Oral Health Research Centre, UCC.

The 2013 ASM is sponsored by Johnson and Johnson and is being co-ordinated by a local organising committee comprised of Mairead Harding (Irish Division President 2013), Gerry McKenna (Irish Division Treasurer), Frank Burke, Martina Hayes, Antonios Theocharopoulus, Carmel Parnell, Paul Brady and Eimear Hurley.

Further information about the Irish Division and the upcoming Annual Scientific Meeting can be found at: www.iadr.ie.

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

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* Based on % hydraulic conductance reduction

References:
1. Dentine Tubule Occlusion, DOF 1 – 2012.
2. Tubule Occlusion Stability, DOF 3 – 2012.
3. Relief of Hypersensitivity, DOF 4 – 2012.
4. TNS – Sensitivity Market Research 1 – 2012.
5. Combination Tubule Occlusion, DOF 2 – 2012.

UK/LI/12-0494m

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

Help is at hand from IDU member services

The IDA recently launched a number of exclusive helpline services for members, which deal with a range of issues, including business assistance, tax audit, legal advice, and health and counselling. The helplines can be accessed 24/7, 365 days a year, and are available free of charge to members and their immediate family. Here are some examples of calls received since the helplines opened.

Legal advice: 1850 670 747

Calls to the legal helpline cover a broad range of issues but assistance has been given on:

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

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

Business assistance: 1850 670 747

This service has dealt with calls regarding a broken heating unit, and a call seeking a locksmith. If you ring this service, the person answering will track down a suitable company, make the appointment on your behalf, advise you of the estimated cost, ring to ensure timely arrival and, after the emergency has been dealt with, ring again to ask for your views, to ensure that only the very best service is offered to future callers.

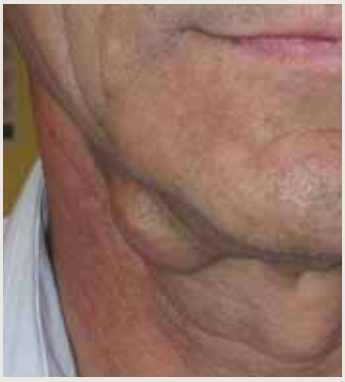
Counselling: 1850 670 407

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

Health and medical information: 1890 254 164

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

ALSO: Read the latest developments in our Member Update ezine. Members: make sure we have your email address.



Quiz

Submitted by Dr Andrew Bolas.

A 64-year-old man presented at last year's Mouth Cancer Awareness Day clinic. He was concerned about a swelling that had appeared on the right side of his neck about two months previously, and which had slowly got bigger. It was not sore, so he had left it, hoping it would resolve itself. Clinical examination revealed a hard, fixed swelling in the right submandibular region. Intra-orally the patient was edentulous, and no suspicious areas were seen on oral mucosa. He reported that he smoked 10-15 cigarettes a day and drank alcohol socially.

Questions

1. What clinical features in this case would raise your concerns?
2. What other investigations should be carried out?

Answers on page 262

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DeCare to expand business

DeCare Dental Insurance Ireland, the country's only dedicated dental insurer, has announced plans to expand its business significantly over the next two years. DeCare entered the market in Ireland ten years ago, offering the country's first dental insurance products through Vhi DeCare and subsequently Dentalcover.ie, an exclusive contract with Vhi Healthcare. This contract is due to end in November 2013 and Maureen Walsh, CEO, DeCare said the company believes there is a significant growth opportunity in selling policies directly to consumers and corporate customers, rather than solely through the VHI: "Over 48,000 people currently have a dental insurance policy through dentalcover.ie and there is growing demand from both individual customers and corporate customers and that is where our focus for future growth is. We believe that DeCare has a stronger opportunity by embarking on a new business model, which will allow us to sell directly to customers as well as through the more traditional insurance channels such as through brokers and other insurance companies. The signs are that more and more people are interested in this type of insurance because of the immediate benefits they can access, such as claiming for regular visits to the dentist and treatment. We've enjoyed a very strong relationship with Vhi over the last ten years, with DeCare providing the customer service support, claims processing, benefit design, financial underwriting services, and oral health and awareness programmes for the market here in Ireland. During that time we have also worked closely with Ireland's dentists to help raise awareness of the importance of oral health. DeCare's specialist team led by Chief Dental Officer Dr Ger Gavin will continue to invest in this important activity and in providing support for our customers."

To support its expansion here in Ireland, DeCare has already begun to expand its sales and support team, expecting to add a further 10 employees to the existing team of 250 between now and the end of 2014. These roles will be based both at DeCare's headquarters in Claremorris, Co. Mayo and in Dublin.

At the Dublin Dental Hospital on September 18 to mark Mouth Cancer Awareness Day were DeCare Dental staff (from left): Edel Jordan, Communications Manager; David Casey, Dental Professional Services Executive; Dr Ger Gavin, Chief Dental Officer; and, Maureen Walsh, CEO.

DeCare's plans will be available to the general public and details of the new products will be available from November 21 at www.decaredental.ie. Existing dentalcover.ie policyholders are still covered under their current policy until the next renewal date, when they will receive advance information to help them choose from a wider range of products.

DeCare is a subsidiary of DeCare Dental LLC, a global benefits management group with over 40 years of proven success and more than four million customers worldwide. DeCare is owned by WellPoint, one of the largest health benefit companies in the United States.

Sampling unit from Wrigley

According to the Wrigley company, dental professionals know that chewing sugarfree gum after eating and drinking is clinically proven to maintain healthy pH levels and defend against plaque acid attacks, but do patients?

The Wrigley Oral Healthcare Programme (WOHP) is making it as simple as possible for dentists to communicate the oral care benefits of chewing sugarfree gum to patients with a new sampling unit, which is designed with strong benefit messages and an invitation to 'take a free sample'.

Available for dental practices to order free from wrigleyoralhealthcare.ie, the new Extra® sampling unit is filled with 300 two-piece samples. Post-it notes on the unit function as simple hand-outs for patients to take with their samples and also make handy wrappers for gum disposal.

To order samples of Extra for your practice via the Wrigley Oral Healthcare Programme please visit the dedicated site for dental professionals in Ireland: www.wrigleyoralhealthcare.ie.

Awards on offer

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1 Adult Dental Health Survey 2009, NHS Information Centre for Health and Social Care.

Are you ready for the sheriff?

The Quality and Patient Safety Committee of the Association has been busy developing easy-to-use advice for general dentists. Its Chairman, Dr Eamon Croke, explains why to PAUL O'GRADY.

Dr Eamon Croke's advice to dentists about the audit tools for general dental practitioners in the Best Practice section of the Association's website is clear: "Get involved with them. Use them now. Don't wait for the sheriff to ride into town". And the sheriff is coming in the form of the new Dental Act. Nobody knows exactly what will be in the Act, but the Madden Report (the Report of the Commission on Patient Safety and Quality Assurance, 2008) and legislation for other healthcare professions gave pretty good indicators that dentists can expect to see practice licensing and practice inspections.

It was following the publication of the Madden Report that the Association established the Quality and Patient Safety Committee to provide advice that is practical, reasonable and based on best evidence. Eamon was appointed to chair the Committee and he says: "Dentists are good at dentistry. We know the standard of dentistry is high in Ireland, but it can be difficult to keep on top of all the guidelines for dental practices. Our remit is to provide advice that is usable in a standard dental practice and which can generally be implemented without a huge amount of money, time or staff."

Easy to use

To date the Committee has produced advice on decontamination; hand hygiene; emergency drugs and equipment; amalgam separators and waste management; complaints procedures; sharps injuries; and, risk assessments and safety statements. The structure of the advice is based on the legal and ethical requirements for dentists in the area being examined. It comes at three levels: the essential requirements; the recommended actions; and, future proofing. Eamon states: "Every piece of advice we give comes with an audit tool, which allows any dentist to self-assess his or her own practice without anyone looking over their shoulder. It allows them to carry out a risk assessment and then to implement good risk management. Remember, we don't create these regulations: what we are doing is bringing them into an easy-to-use format for our colleagues – the general dental practitioners."

Eamon believes that all dentists should prepare for the forthcoming Dental Act. He points to the extensive inspection regime that has been imposed on pharmacists and says it is not unreasonable for dentists to speculate that such an inspection regime might apply to them in the relatively near future. "As an Association, we have a responsibility to prepare our members for that. We don't know exactly what will be in the new Act, but we do know that since the Madden Report, HIQA has been recommended to undertake the process of licensing and inspecting all healthcare facilities."

Reassuring patients

One of the areas that can cause dentists blood pressure to rise is the issue of complaints – and handling complaints. "The reality here is the opposite of what some dentists may have expected. Since 2012, dentists have been obliged to have a complaints procedure in place and on display. There has not been a dramatic increase in the number of complaints received generally about dentists and Dental Protection has stated that there has been a leveling off in cases being taken against dentists." Dr Croke says that putting a complaints procedure in place in a practice generally has the effect of reassuring patients – rather than instigating complaints as some dentists feared.

Active involvement

The members of the Quality and Patient Safety Committee in addition to Dr Croke are:

Dr John Adye Curran, General Dentist
Dr Nick Armstrong, Retired HSE Principal Dental Surgeon
Dr Barry Harrington, Retired General Dentist and Lecturer at DDUH
Dr Niall Jennings, General Dentist
Dr Ray McCarthy, General Dentist
Dr Daniel McIlgorm, DDH Tutor
Dr Barney Murphy, HSE Principal Dental Surgeon
Dr Saoirse O'Toole, General Dentist
Dr Jane Renehan, HSE Principal Dental Surgeon
Dr James Tarpey, General Dentist

Easy access www.dentist.ie.

Members can access all of the easy to use and follow documents developed by the Quality and Patient Safety Committee of the Association on the Best Practice section of the Members' Only area of the Association's website – www.dentist.ie. These include: decontamination; waste management; hand hygiene; emergencies; sharps; and, safety statements.

Future work

The Committee is working hard to provide a safety statement for general dentists. Although the Health and Safety Authority's website Besmart is currently referenced on the Association website, the Committee wants to try to make a generic statement for dentists available so that members could then take that template and personalise it to their own practice.

Committee member Dr Barry Harrington is working on a potentially very helpful document that has the working title: "General facilities to be considered when setting up as a general dental practitioner". Work is also underway in preparation of a Practice Inspection document and this will be a major undertaking for the Committee.

Separating the good from the bad

Within the area of waste management, the issue of amalgam separators is clear to the Quality and Patient Safety Committee. While it is not a legal requirement to have an amalgam separator, the Association recommends its members to have proper waste disposal and amalgam separation procedures in place. Eamon says: "Dentists are obliged not to dispose of amalgam waste through the water system, so they must have an amalgam separator. This is a great opportunity for Irish dentists to show leadership on an environmentally sensitive issue."

A good lesson

The experience in recent years of the clinical audit of radiology in dental surgeries has, Eamon believes, provided a very good lesson for all the participants. "The first round was a failure. The second round was a success because the Association was involved. It was able to help with the development of the process for the audit; and it was then able to inform and train dentists in advance of the audits. This led to an unprecedented outcome. The Association's involvement was the key factor. It calmed and reassured dentists. It is a very important lesson for future audits and inspections. Dentists have to be informed and trained and the involvement of the Association is a critical ingredient for success."

"Remember, we don't create these regulations: what we are doing is bringing them into an easy-to-use format for the general dental practitioner."

And that's one of key drivers of the work of the Quality and Patient Safety Committee – the knowledge that change is coming in the shape of new legislation and if it is to be successful, the Association has to be involved. By providing this level of guidance and leadership now, dentists have a chance to be as prepared as possible and therefore to reduce the challenges of the coming changes. "We need clear programmes to train and inform dentists. The Association is doing the groundwork in advance of the changes likely to come in with the new Act."

"This is a great opportunity for Irish dentists to show leadership on an environmentally sensitive issue."

Get involved

He goes on to say to members: "I hope that members will see the benefit of the work of the Quality and Patient Safety Committee and of tackling audits now, in their own time – not after legislation arrives. The radiology audit proved that collectively, we can do these processes well. It would be naïve to think that there won't be difficulties with the new legislation. Dentists need to plan now while there is still time to do it at a reasonable pace."

Eamon says: "Our work gives every member the chance to be in control and gives them the ability to deal with new developments. So I implore all general practitioners: get involved now and don't wait for the sheriff to ride into town"

No hurler on the ditch

Eamon Croke advises dentists to get involved with the best practice advice from the Association. It's advice he follows through his own involvement in the Association, not to mention his Presidency of the Dental Council. Born in Rhodesia, brought up in Clare, secondary school and university educated in Dublin, he worked in the UK from graduation in 1979 to 1992 when he completed a Masters in Prosthetic Dentistry at the Eastman.

A father to a happy band of young adults and grandfather to Mia, he enjoys sports, cooking and especially hill walking. A quirk of his early years is that he follows Munster in the rugby, Cork in the hurling, and Kerry in the football – despite the fact that his Ballyboden St Enda's club captain was the Dublin full back, Sean Doherty. Interestingly, one of the reasons he returned to Ireland from the UK was that he felt – strongly – that the Leaving Certificate is a better process to go through than A Levels in the UK.

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[1]Alcantara E, Leveille G, McMahon K, Zibell S. Benefits of Chewing Gum: Oral Health and Beyond. Nutrition Today, Volume 43, Number 2, March/April 2008.

Show me the money

Continuing our series of articles on business essentials for dentists, DAVID McCAFFREY lists the critical financial information necessary for the successful management of a dental practice.

In MedAccount we are often asked by dental practice owners and dental associates to advise them on what information is required to run a dental practice, how to organise record keeping and how long records should be kept. As self-employed individuals, it is essential that dentists educate themselves on the basics of financial management, or at the very least know the key figures to watch in the successful operation of their business. Revenue require that financial records must be sufficient to enable a taxpayer to make a proper return of income for tax purposes, and those records must be kept for a minimum of six years. A surprising number of dentists view how their practice has performed solely by reference to the balance in the practice bank account at the end of a month.

Set out below is a crash course in the basic financial records required to run a dental practice.

Income

Practice turnover

Practice turnover is the actual gross revenue, or total income, generated by the dental practice. It should include all private, social insurance, GMS medical card and, where appropriate, insurance company income. Turnover reported in financial accounts will include not only income received but also the amount owed to the dental practice at the end of a period or financial year. In MedAccount we have come across several cases where a dentist's income has been understated in their financial accounts due to errors in accounting for withholding taxation. Withholding taxation is the amount withheld by the Government on GMS and PRSI payments made at a rate of 20%. The net amounts received from Government schemes should be grossed up for withholding taxation. It is very important that any F45 forms arising from GMS and PRSI income are retained and filed safely. An F45 form confirms payment made under a Government scheme and states the income received, tax withheld, and the name and PPS number of the dentist to be credited with the tax withheld. Tax is also withheld and F45 forms issued for any payments made by insurance companies.

Fees

Fees can be recorded in a number of different ways, but the simplest and most effective method is to have a basic daily cash sheet for each dentist. The daily sheet records the patients seen, which patient has paid and by what means, i.e., cheque, cash or credit/debit card. The bottom of e ach sheet should record the total cash, cheque and credit card payments received for the day. Particular attention should be paid to the use to which the cash is put, e.g., is cash deposited in the bank, put towards petty cash or taken home as drawings? Dental software packages record income and prepare daily cash sheets, but they do not indicate where income has gone after it has been received. It is recommended that manual cash sheets are run in parallel with computer-generated sheets until confidence can be gained in the reliability of the computer-generated reports. It is also good practice to issue receipts to all patients for any income received. The daily cash sheets should be summarised into a weekly sheet and reconciled to bank lodgements. The maintenance and upkeep of this schedule is a simple daily task, which should be completed by a trustworthy and competent member of staff. Weekly reconciliations should be performed by the dentist to ensure that all monies received are correctly accounted for and lodged to the practice bank account. Where associates are engaged under the new IDA agreement, focus will have to be given to the calculation of the income-sharing agreement, and the impact on the practice's cash flow of patient income going directly to the associate.
Lodgements should be made frequently (at least weekly) to avoid unnecessary risks.

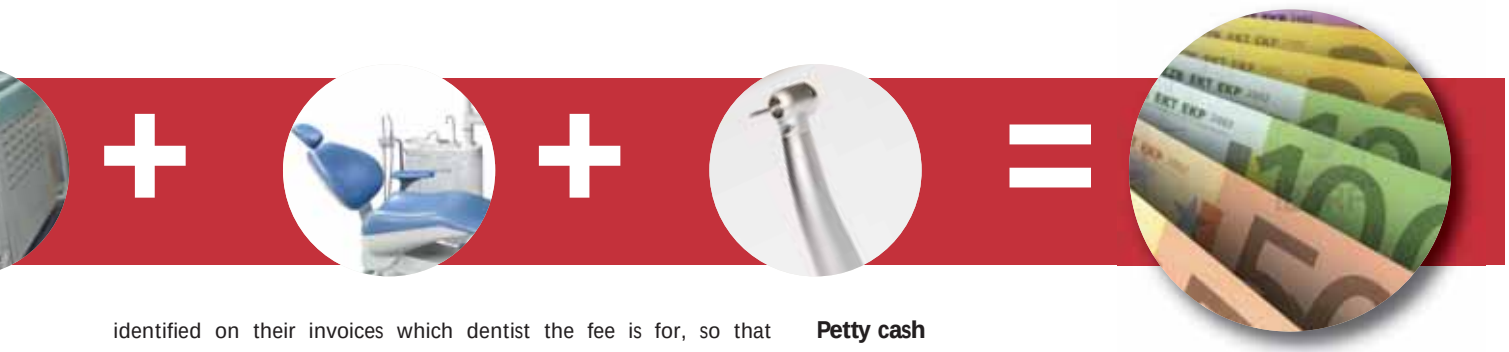
Expenses

Practice overheads

The overheads of a dental practice can be broken down into what are termed variable and fixed costs. Variable costs are those that change with the number of patients seen by the dentists, whereas fixed costs tend to be more structural and usually change when there is a large change in the activity of the practice. Fixed and variable costs in a dental practice can generally be categorised into three broad groups: direct costs; wages and salaries; and, other overheads.

Direct costs

These are costs directly associated with the provision of dental treatment. In this category one can include payments to associates and hygienists, as well as laboratory and dental materials costs. Proper recording of laboratory fees is essential, particularly if associates are present in the practice. Ensure that your dental laboratory has clearly



identified on their invoices which dentist the fee is for, so that payments to associates can quickly be calculated. On average, dental practices incur laboratory fees of 8% of gross income, but this will vary according to the type of dentistry conducted in the practice. All other dental material invoices should be stored in a suitable manner and allow an easy audit trail for future reference.

Wages and salaries

Ensure that you are maintaining proper payroll records and submitting the relevant PAYE and PRSI contributions to the Collector General. Payroll and human resource management is becoming increasing complex. It is a good idea to outsource your payroll function, as this is normally inexpensive and enables you to spend your time more efficiently. Where you are using your accountant to calculate employee wages it is very important that payslips are reviewed to ensure that the wages you are actually paying correspond to the amount calculated on payslips. It is not recommended that wages be paid using cash. To assist in cash flow management, payments to the Collector General can be made by standing order rather than through monthly or bimonthly returns. You should also be aware of your legal obligations as an employer, particularly in relation to providing and maintaining employment contracts, payslips and P60s, in addition to offering a PRSA scheme. If you have not previously offered a PRSA scheme to your employees you should offer to facilitate PRSA payments and contact your financial adviser.

Other overheads

Included in other overheads are expenses such as rent and rates, training, office supplies, periodicals, light and heat, telephone, repairs and renewals, etc. Dentists often ask what expenses are allowable as deductible expenses. Only those expenses incurred wholly and exclusively for business purposes are allowable as deductions against income.

Another question we are often asked is: How should I file my invoices and statements? The most logical way is to file the paperwork in alphabetical order or by grouping the invoices and statements by month. Whichever method is used, the cheque number should be written on the statement, and the date the payment is made. The details of to whom the payment is made should be written on the cheque stub in a legible manner. It is very helpful to have a cheque journal and record the details of payments made. A periodic review of standing orders on practice, and personal, bank accounts is also recommended to ensure that those payments that should have been cancelled have been cancelled. Payments should only be paid on the statement and not the invoice!

Petty cash

There are many petty cash systems that can be applied to a dental practice but the simpler the system the more likely that it will be effective, and stand the test of time. Often more complicated petty cash systems start as well-intentioned ideas but end up being dropped by office managers as being too complicated and taking too much time to maintain. The easiest method of recording petty cash is to maintain a petty cash box and record cash being put into and taken out of the box by date and description. The cash balance in the cash box should correspond to the running total on the cash record sheet. It is important that a regular reconciliation (at least weekly) is performed for petty cash items and, where possible, that this task is performed by someone other than the person responsible for recording the petty cash items.

Fixed assets

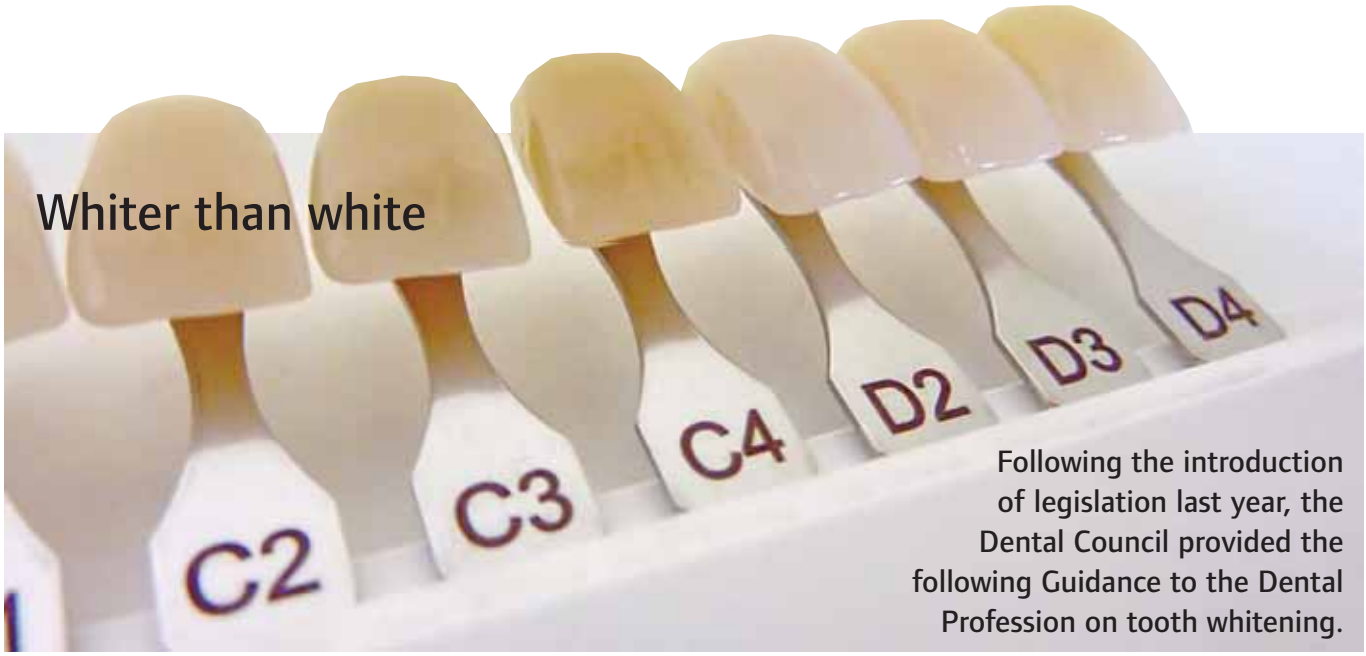
Any invoices that relate to qualifying capital expenditure incurred should be held safely, as capital allowances can be claimed and set against taxable income over a period of eight years, i.e., 12.5% per annum. When purchasing capital equipment consideration should be given to lease finance, not hire purchase, as the monthly repayments are tax deductible and can have the effect of accelerating the length of time over which the cost of equipment is reclaimed against practice income.

Net profits

The practice's net profit is income less expenditure, and with a few adjustments this is the Case II taxable income on which you will be assessed for income taxation. It is best practice to keep on top of your accounts by reviewing your income and expenditure account on a monthly or quarterly basis. Remember that prompt review can help to solve underlying problems in your business, which otherwise would go unnoticed until the following year.

Making sure that you have timely information is by far the best way of planning for your business tax affairs. Leaving everything until the last quarter of the financial year also offers you little opportunity for effective tax planning. Ensure that you know exactly how your practice is performing each month so that you are aware of how much you will need to set aside or what you can invest in to reduce your tax liability. This is particularly important where cash is hard to come by and banks are applying higher tests for loan finance.

David McCaffrey
MBS CGMA AITI (CTA) is a partner with MedAccount Services.



Whiter than white

Following the introduction of legislation last year, the Dental Council provided the following Guidance to the Dental Profession on tooth whitening.

The Regulations regarding tooth whitening changed on October 31, 2012 and dentists received the joint statement issued by the Dental Council and the Irish Medicines Board regarding the implementation of the new Regulations. The Regulations increase the percentage of hydrogen peroxide allowed in tooth whitening or bleaching products to 6%, subject to conditions that include first use by a dental practitioner.

The Regulations allow the use, for tooth whitening, of hydrogen peroxide and other compounds or mixtures that release hydrogen peroxide, including carbamide peroxide and zinc peroxide. The maximum concentration that may be used for tooth whitening under the Regulations is 6% present or released. This is the equivalent of 16.62% carbamide peroxide, which, in Ireland, has been rounded up to 17%. If using a compound or mixture other than hydrogen peroxide, the dentist should check the levels of hydrogen peroxide released from the product with the supplier.

The Regulations stipulate that products containing or releasing up to 6% hydrogen peroxide can be used, subject to conditions:

- to only be sold to dental practitioners;
- for each cycle of use, first use by a dental practitioner;
- afterwards to be provided to the consumer to complete the cycle of use; and,
- not to be used on a person under 18 years of age.

Responsibility of the dentist

The dentist must examine the patient to determine whether tooth whitening is a suitable treatment option and as a result products should only be supplied to patients under the dentist's care. As with any treatment, the dentist must ensure that tooth whitening is an appropriate treatment and that the oral examination and the consent process is thorough and carefully documented.

The requirement that the first use of each cycle is by the dentist means that tooth whitening products containing or releasing more than 0.1% hydrogen peroxide cannot be sold to patients at reception or by post. It is important that, during this first use appointment, every effort is made by the dentist to ensure that the use by the patient of the bleaching agent is as efficient and effective as possible, and that the risk of swallowing of the bleaching agent by the patient has been minimised. The dentist should therefore check to ensure:

- the proper size and fit of the tray in the patient's mouth;
- the ability of the patient to seat the tray properly in the mouth;
- proper loading of bleaching agent, in the correct amount, by the patient, into the tray; and,
- that the patient is avoiding swallowing of any bleaching material.

The dentist should also ensure that a note of all instructions given to the patient at this first appointment is included in the patient record. After the first in-surgery application, the patient can be provided with the product for home use. If any additional product is required to complete that course of treatment, the product should be dispensed by the dentist only.

The Dental Council believes that some manufacturers in Europe are marketing tooth whitening products containing or releasing more than 6% hydrogen peroxide as medical devices. It should be noted that even if a tooth whitening product is marketed as a medical device, it falls within the Regulations. This means that it is not possible to circumvent the Regulations by using a product that has a CE mark. Concentrations of greater than 6% of hydrogen peroxide present or released in oral products, including tooth whitening or bleaching products, will continue to be prohibited.

The EU as part of the agreement to change the Directive requires that there should be reporting of adverse effects. All serious undesirable events must be reported to the Irish Medicines Board.

Dentists can advertise tooth whitening procedures using products containing or releasing up to 6% hydrogen peroxide. However, dentists who advertise bleaching techniques using products containing or releasing greater than 6% hydrogen peroxide (or its equivalent) leave themselves exposed to possible IMB/Dental Council proceedings.

In Ireland, tooth whitening can only be carried out by a registered dentist. As the regulatory framework currently stands, dental

Summary of Guidelines

- The new legislation came into force in Ireland on November 1, 2012.
- Consumers may only be directly sold products containing a limit of 0.1% hydrogen peroxide.
- Products containing more than 0.1% and up to 6% hydrogen peroxide should only be administered by a dentist.
- Such products should not be used on persons under 18 years of age.
- Products which contain more than 6% hydrogen peroxide will be illegal.
- According to the guidance values provided by the European Commission's Scientific Committee on Consumer Safety, the rounded conversion value of 6% hydrogen peroxide is 16.62% carbamide peroxide.
- There is certain information that should be present on the label of tooth-whitening products (i.e., name and address of the responsible person, weight/volume, best before date, precautions for use, batch number, etc.). Please check the Dental Council/IMB notice for the exact requirements.
- If you directly import a tooth whitening product from outside the EU, you may be considered to be the Responsible Person and therefore legally accountable for ensuring the product is in compliance with the legislation.
- The IMB and the HSE co-ordinate activities in this area, focusing on products sold directly to consumers and illegal products that contain in excess of 6% hydrogen peroxide.

hygienists or orthodontic therapists are not allowed to perform tooth whitening. If you are importing or manufacturing tooth whitening products you should check with the Irish Medicines Board to ensure that you are in compliance with the relevant Regulations.

Guidance regarding treating patients under 18 years of age

In the case of a child presenting with a specific condition or trauma and a clinical assessment concludes the most appropriate course of treatment is to use a tooth whitening product containing hydrogen peroxide up to 6%, consideration should be given firstly to appropriately licensed alternatives. Other than this, providing tooth whitening treatments to patients under 18 should only considered where there is no appropriately licensed alternative available or you are satisfied, on the basis of authoritative clinical guidance, that a tooth whitening product is as safe and effective as an appropriately licensed alternative.

The treatment of a patient is the dentist's direct personal responsibility and it must accord with the principles of good clinical governance and the Dental Council's Code of Practice regarding Professional Behaviour and Ethical Conduct.

The dentist may be responsible for any liability associated with any adverse effect experienced by the patient due to the off-label use of such products as the product is not being used in accordance with the intended use. A dentist should in such cases record a justification for using the tooth whitening product as well as obtaining written consent from the parent prior to use. A limitation on the amount to be used should also be recorded and communicated to the patient and parent.

Perfect Bleach® – Gel for whitening discoloured teeth

The aesthetic appearance of teeth is becoming more important for a continuously increasing number of people. Tooth discolouration not only compromises a person's look, but it also has an influence on the entire appearance. Thus it creates a desire in patients to seek a suitable treatment for tooth whitening. With proper use, whitening the teeth with whitening gel offers an effective and gentle means of restoring the appearance of teeth.

Safe and effective tooth whitening

Safe and effective – with Perfect Bleach, VOCO offers a whitening system that meets all of the requirements of modern tooth whitening and thus the highest aesthetic demands in an equally simple and cost-effective way. The whitening of vital teeth that are discoloured from ageing or diet-related accretion can be whitened with Perfect Bleach. The whitening can be achieved quickly and effectively. The treatment of tetracycline discolouration, superficial enamel discolouration from fluorosis and discolouration caused by trauma due to bleeding are all possible. Perfect Bleach is a carbamide peroxide-based whitening material. Depending on the extent of the discolouration, either a 3.5 % H_2O_2 (10 % carbamide peroxide) or a 6 % H_2O_2 (16 % carbamide peroxide) concentration can be selected. The gentle and at once effective whitening material can be used in the dental office and also at home as instructed and under the supervision of a dentist.

Gentle and effective with carbamide peroxide

Distinct whitening success can be achieved with whitening gels containing low concentrations and with a simultaneous gentler treatment of the tooth substance. The carbamide peroxide concentration in Perfect Bleach is high enough to provide the patient with both an effective and gentle treatment of the discolouration. The sodium fluoride and potassium contained in Perfect Bleach with 6 % H_2O_2 (16 % carbamide peroxide) likewise ensure that hypersensitivity is prevented during and

after the treatment. Perfect Bleach provides a thorough oxidation of the accumulated pigments without attacking the tooth substance or existing restorations.

Simple and user-friendly handling

The handling of Perfect Bleach is uncomplicated and user-friendly: Following instruction by the dentist, the patient simply has to fill the custom-made, optimally fitting trays with the high-viscosity gel and then place them on his teeth and wear them as directed. Wearing the trays for a short duration of two hours is sufficient for the gel to reach its full effect. The first treatment success can be seen already after the second application. The consistency of the gel prevents gingival irritation, since it does not run out of the tray. The fresh mint aroma is also pleasant for the patients.

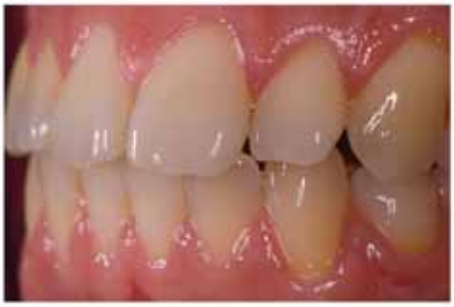


Figure 1: Initial situation: discoloured teeth

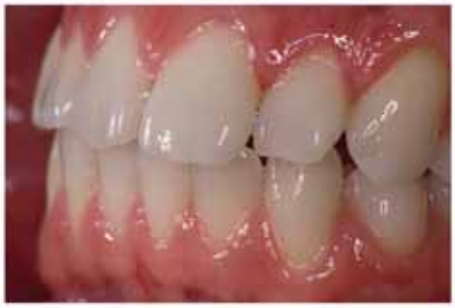


Figure 2: Visibly whitened with Perfect Bleach

Source: Prof Dr Andreas Braun, University of Marburg (Germany)

Complete Set and Mini Set

The Perfect Bleach Complete Set contains all the components needed for the successful application of two jaws: 6 × 2.4 ml syringes of whitening gel, 2 deep-drawing films and 1 × 1.2 ml syringe of Block Out Gel LC for the fabrication of the trays, application pictogram card, shade guide for verifying treatment success, storage case for the trays and a cosmetic bag. The Mini Set for continuation of the application contains 4 × 2.4 ml of whitening gel, application pictogram card, shade guide for verifying treatment success, storage case for the trays and a cosmetic bag.

Perfect Bleach®

The handling of Perfect Bleach is very simple and user-friendly. We additionally support the patient in this by providing illustrated instructions for use. The gel's consistency prevents leakage from the tray, so there is no gingiva irritation. Another advantage is that it is sufficient to wear the tray with the gel for a short period of time. Wearing the tray overnight is not necessary. The gel achieves its full effect within the first two hours after inserting the tray. The first treatment success can be seen after only the second application.

Advantages

- Safe, gentle and effective
- Two different concentrations: 3.5 % H_2O_2 (10 % carbamide peroxide) and 6 % H_2O_2 (16 % carbamide peroxide)
- Simple and user-friendly handling
- All materials are contained in the complete set
- Pleasant mint aroma

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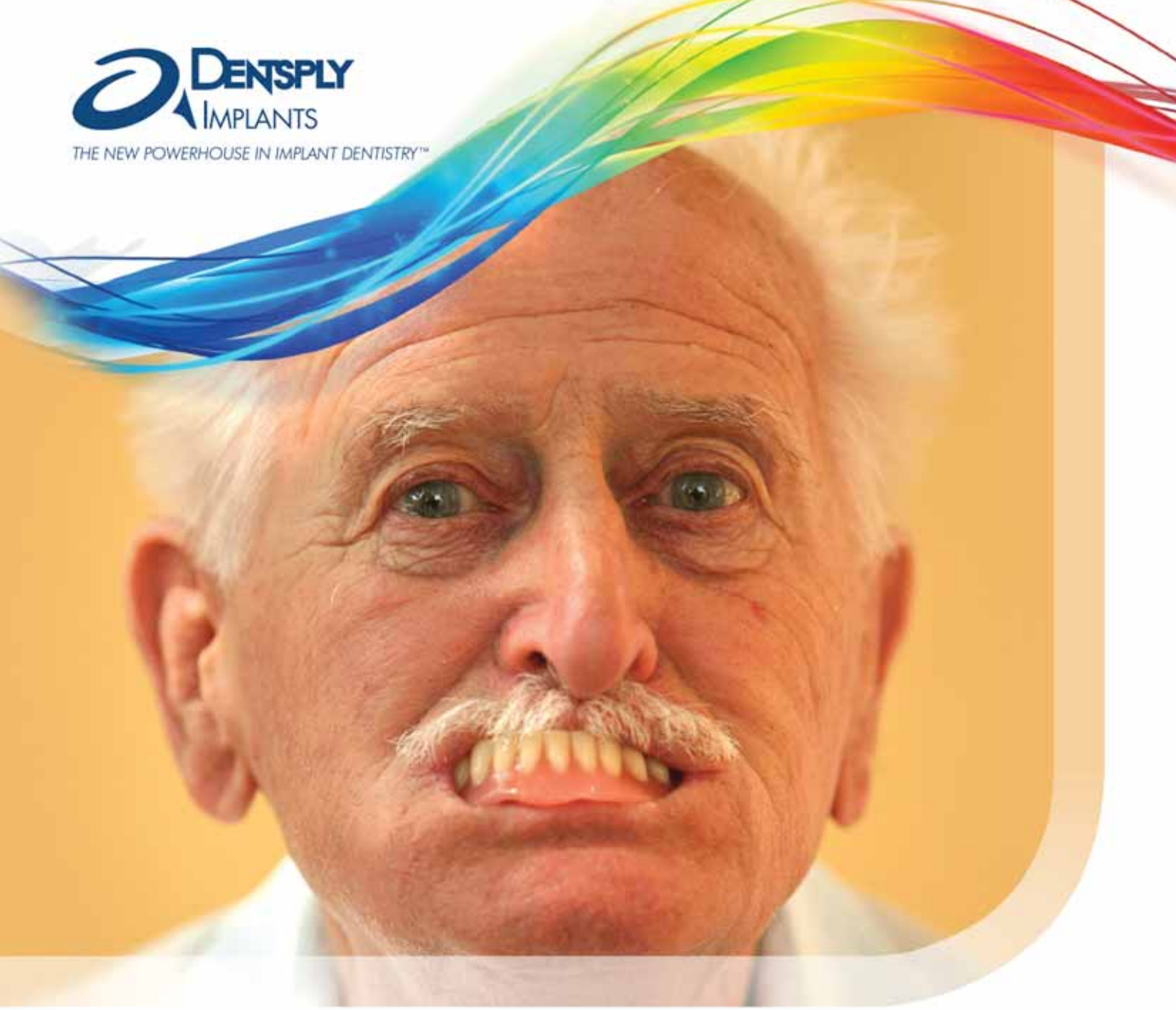

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Case report: management of broken dental needles in practice

Breakage of a dental needle is a rare but significant complication of local anaesthetic injections, which causes great anxiety for the patient and dental surgeon, and necessitates investigations and further treatment. It may have important medico-legal considerations. We describe a case where a dental needle broke during the routine administration of an inferior alveolar nerve block for a dental procedure. This broken needle subsequently migrated to the lateral aspect of the neck, confirming that these 'migrations' do occur. We discuss the various causes, and clinical and dento-legal implications, as well as methods of treatment.

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Dr Naomi Rahman
BA BDentSc FFD RCSI DCh Dent (OS)
Specialist Oral Surgeon
c/o Department of Oral and Maxillofacial Surgery and Oral Medicine
Dublin Dental School and Hospital
Trinity College Dublin

Dr Mary Clarke
FDS RCPS FFD RCSI MDentCh (OS)
Oral Surgeon/Lecturer in Conscious Sedation
Department of Oral and Maxillofacial Surgery and Oral Medicine
Dublin Dental School and Hospital
Trinity College Dublin

Professor Leo FA Stassen
FRCS FDSRCS MA FTCD FFSEM (UK) FFDRCSI
Professor/Consultant in Oral and Maxillofacial Surgery
Department of Oral and Maxillofacial Surgery and Oral Medicine
Dublin Dental School and Hospital
Trinity College Dublin
National Maxillofacial Unit
St James's Hospital
Dublin

Address for correspondence:
Professor Leo FA Stassen
Professor/Consultant in Oral and Maxillofacial Surgery
Department of Oral and Maxillofacial Surgery and Oral Medicine
Dublin Dental School and Hospital
Trinity College Dublin
National Maxillofacial Unit
St James's Hospital
Dublin

No funding, or pharmaceutical or industry support is involved with this case report.

Introduction

It is estimated that 60,000 cartridges of local anaesthetic are used weekly in the USA for dental anaesthesia by infiltration or block injections.[1] The complication of needle breakage after an inferior alveolar nerve block is relatively rare in dental practice.[2] One of the first ever case series on dental needle breakage was published in 1928 by Blum, who reported 65 broken needles over a ten-year period.[3] The routine use of single-use, disposable stainless steel needles made from stronger alloys has decreased this complication.[4] Today, needle breakage during local anaesthesia may be attributed to a faulty needle, an incorrect anaesthetic injection technique or sudden movement by the patient in a direction opposite to the needle.[5] It is important to caution the patient against sudden movement during administration of the injection. The needle should not be redirected against tissue resistance while it is embedded in tissue, as this can cause breakage to occur.[6]

In the past, many practitioners have used shorter dental needles (25mm 30-gauge) for a block injection, but this practice should not continue as the needle must inevitably be inserted up to the hub and is not visible in these cases. Needles are manufactured with the weakest point at the hub. Therefore, any needle chosen for any particular injection should be long enough that insertion to its full length is not required. Bedrock *et al.* recommended that a 27-gauge 35mm needle be used for all inferior alveolar nerve block injections.[7] The needle should be carefully inspected before use to look for any defects or bends in the metal, and should never be bent before use as is unfortunately commonly recommended.[7] Needle deflection upon injection has been studied extensively, and it has been found that smaller gauge needles are more easily deflected as they pass through the tissues.[8] Many dentists are also worried about pain with the use of larger needles, but it has been shown that there is no significant difference in pain perception produced by 25-, 27- or 30-gauge needles penetrating the tissues.[9]

Case report

A 65-year-old patient was referred to the Department of Oral and Maxillofacial Surgery, Dublin Dental School and Hospital, with a history of atrial fibrillation, hypertension, asthma and an allergy to penicillin. Medications included warfarin (2mg od), a Ventolin inhaler and a beta-blocker (Cardicor 10mg od). The patient had

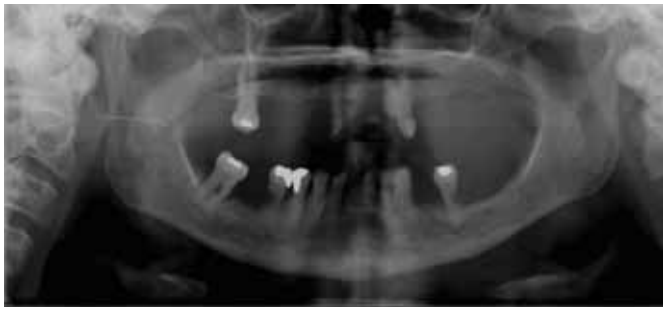

FIGURE 1: Orthopantomogram showing the fractured needle sitting high up on the ramus of the mandible on the right hand side.

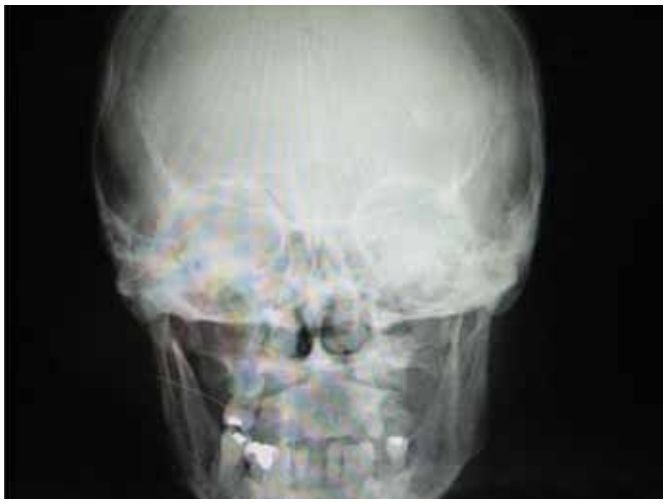

FIGURE 2: Postero-anterior mandible view.

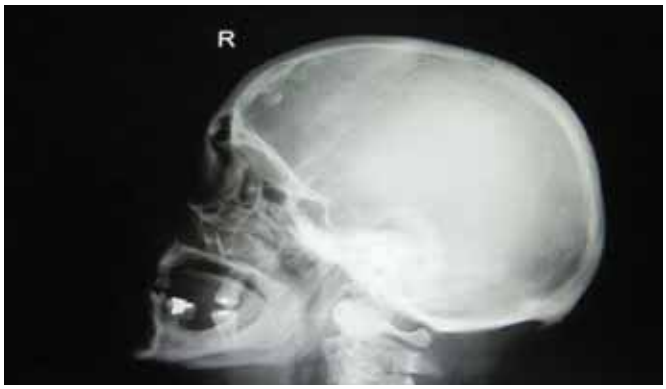

FIGURE 3: Lateral skull view.

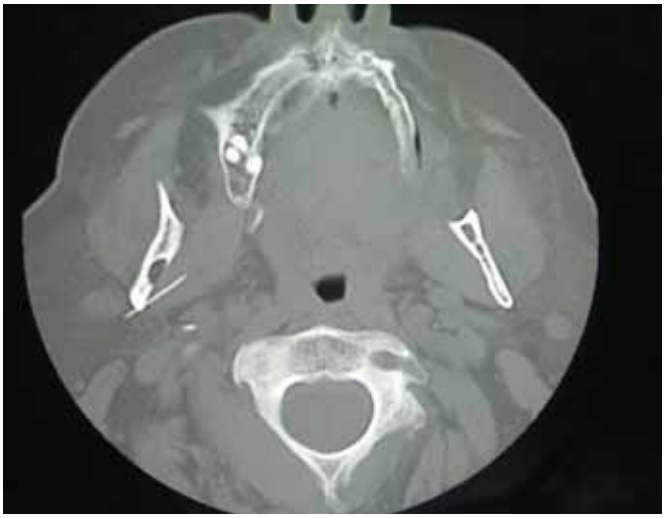

FIGURE 4: Computer tomography view.

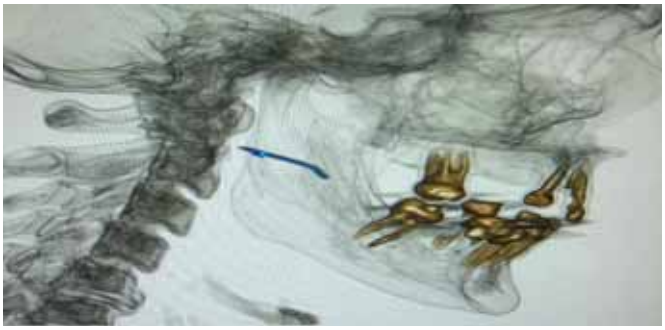

FIGURE 5: Three-dimensional computer tomography reconstruction view.

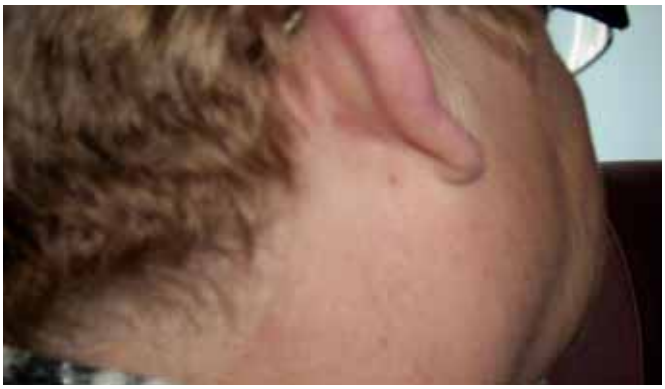

FIGURE 6: Posterior left hand side post auricular and neck area showing erythematous point where needle was lying under the skin.

been attending a private dental practitioner for treatment of a carious lower right second premolar. The dentist had administered one inferior alveolar nerve block injection and was in the process of administering a second when the needle broke at the level of the hub. A standard 35mm 27-gauge needle was used at the time. The needle end was not visible. The dentist contacted the Accident and Emergency Department of the Dublin Dental School and Hospital, and the patient was transferred to the Department by taxi. The patient was assessed on arrival and was stable. An orthopantomogram and a lateral oblique radiograph were taken, and the needle was visualised on the right side of the ascending ramus (**Figure 1**). A postero-anterior view of the mandible was not taken, as the patient was distressed. The patient was cautioned against excessive jaw movements at the time to avoid the needle moving deeper into the tissue spaces. Intra-oral

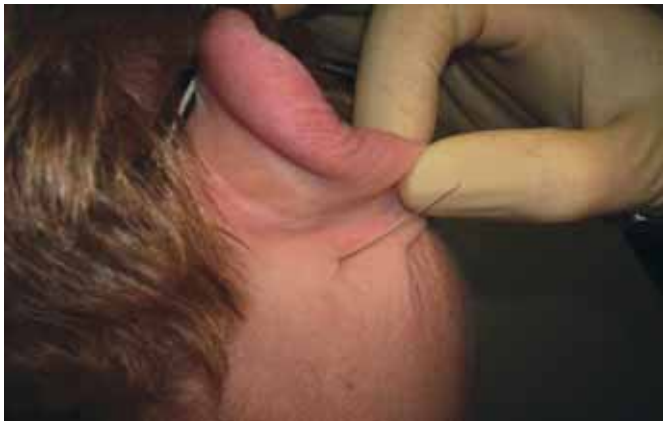

FIGURE 7: Needle being removed.

FIGURE 9: Dental needle position for inferior alveolar block injection.

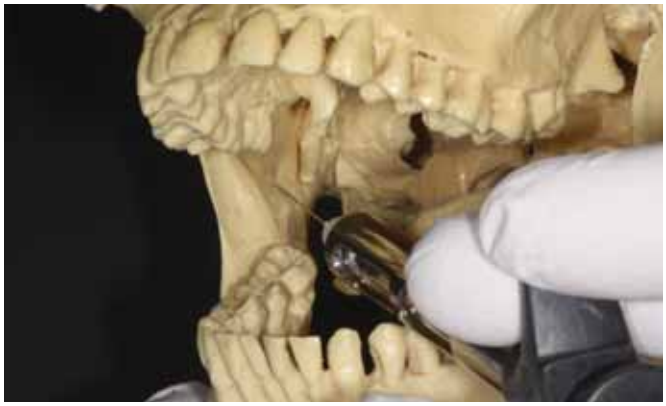

FIGURE 8: Location of inferior alveolar block injection showing direction of the needle.

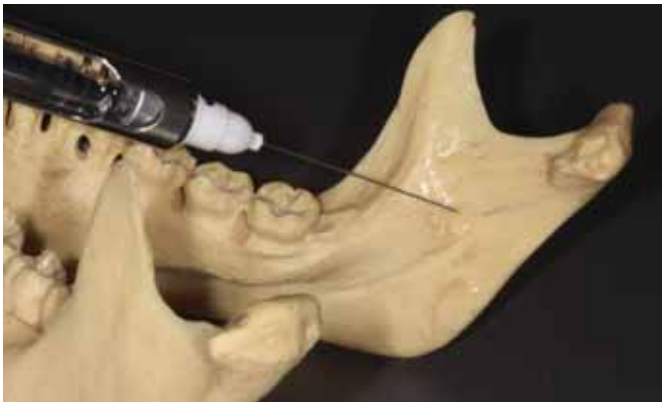

FIGURE 10: Location of needle penetration for inferior alveolar block injection (lateral view).

examination did not reveal an obvious puncture wound and mouth opening was within normal limits. No pain or dysphagia was reported on examination. A decision was made to refer the patient to the National Maxillofacial Unit in St James's Hospital, Dublin, for further imaging including computed tomography (CT; axial and coronal views) with 3D reconstruction (**Figures 2**, **3**, **4** and **5**). This imaging localised the needle in the vicinity of the lingula (medial aspect of the mandible) deep to the medial pterygoid. The patient was admitted, and placed on 150mg clindamycin IV four times daily, 5mg dexamethasone IV, and chlorhexidine mouthwash twice daily. The patient remained in the hospital for two days. A decision was made to review the patient in two weeks when some scarring and fibrosis had occurred to stabilise the needle and facilitate its retrieval. Review was two weeks later in the outpatient department. The patient was complaining of pain behind the right ear. On examination, the needle had obviously migrated and was palpable just under the skin on the lateral aspect of the neck in the post auricular area (**Figures 6** and **7**). The needle spontaneously extruded on pressure and was removed using a fine haemostat. The patient was asymptomatic at the two-week review and mouth opening was within normal limits. The patient was discharged with no further complications.

Discussion

Correct technique for administration of an inferior alveolar nerve block

The correct technique involves a detailed knowledge of relevant anatomy. The landmarks for injection are the pterygomandibular raphe and the anterior ramus of the mandible 1cm above the occlusal line. The mandibular foramen usually lies at a point midway between the maximum concavity of the mandible on the anterior surface of the mandibular ramus and the maximum concavity of the posterior border of the ramus. These areas should be palpated with the index finger and thumb of one hand, while aiming to place the needle half way between the thumb and fingertip.[10] The needle should be level with the occlusal plane (1cm above) and half way posterior form the anterior ramus to the pterygomandibular raphe (**Figures 8**, **9** and **10**). The needle should be advanced to just contact bone (20-25mm) but this should not be too forceful, because this in itself could cause needle breakage. Aspiration should be carried out before injecting slowly. If sited correctly, this injection should anaesthetise the inferior alveolar and lingual nerves. If bone contact cannot be felt the needle is sited too far back; it should be withdrawn slightly and angled more laterally towards the ramus. Possible reasons for failure include a bifid inferior alveolar nerve emerging from accessory foramina, or other

accessory innervation, which may arise from a sensory component of the mylohyoid nerve or the first cervical branches.

Localisation of the needle

Plain radiographs taken at right angles to each other are used as a first method of localisation of a broken needle, but 3D CT images are the gold standard to accurately establish needle position.[4] Many other methods of location have been described, including use of stereotactic devices and image intensifiers.[11] C-arm digital fluoroscopes involve placing a spinal needle through the tissues and taking multiple fluoroscopic images to accurately locate the needle.[12] Mima described an earlier version of this by monitoring and successfully removing the needle using x-ray TV.[13] Other operators have successfully used metal detectors but this would be a more unusual method.[14] Real time ultrasonography has also been described to locate a small metallic foreign body in the oral cavity.[15]

Is intervention necessary?

Patients may describe symptoms including dysphagia, pain and trismus, but others may be completely asymptomatic.[14] Some authors have advocated postponing the removal of the foreign body from the soft tissue space if there are no symptoms.[16] The boundaries of the triangular pterygomandibular space are laterally the mandibular ramus, medially the medial pterygoid muscle and the lateral pterygoid muscle superiorly. It communicates with the lateral pharyngeal, retromandibular and infratemporal spaces. The inferior alveolar nerve, artery and vein, and the lingual nerve, all lie in this space. Complications such as the needle migrating towards vital structures, including blood vessels or nerves, can occur.[17] There have been very few reports that document this occurrence in detail, although in McDonogh's paper the needle did migrate significantly into deeper tissue spaces.[14] Possible sites that could be affected by migration include the lateral pharyngeal space, where the styloglossus muscle, the ascending pharyngeal artery and the external carotid artery all lie.[18] Therefore, most authors recommend removal of the needle, to alleviate patient anxiety and decrease the possibility of further complications.[19,20] In this case the needle migrated, avoiding vital structures nearby.

Management

If a needle is broken during administration of an inferior alveolar nerve block:

If it is still visible:

- accurately define where the needle entry point is, e.g., 1cm above the last molar and 0.5cm medial to the ramus of the mandible; and,
- attempt retrieval with a fine artery forceps.

If it is not visible:

- again, accurately define the needle entry point with the mouth open (see above);
- reassure the patient;
- caution against excessive jaw movements, which may cause the needle to move deeper into the tissues;
- mark the site where needle penetration occurred with an indelible marker;
- arrange referral to a local maxillofacial unit by telephone and give the patient a brief referral letter;
- send the remainder of the needle and hub, and a fresh needle with the patient so an estimate of the length remaining can be made, and ask the hospital to photograph and return the fractured needle to the dentist if possible;
- write accurate and contemporaneous notes relating to the incident;
- retain the needle box and the invoice from the needle suppliers, and take a photo of the fractured needle if possible (as the fracture may be due to a manufacturing fault);
- follow up care of the patient by telephoning the consultant to see what his/her treatment included;
- arrange to review the patient by telephone;
- inform your dental defence company; and,
- discuss the management with your dental team (debrief).

Conclusion

Needle breakage in modern dental practice is a rare but stressful complication, which can be minimised by using adequate preventive measures as outlined above. Practitioners should routinely inspect dental needles before administering injections and minimise the number of repeated injections using the same needle. Migration of a needle deeper into the tissue spaces is a potential complication and we recommend removal of broken needles if at all possible.

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An audit of orthodontic treatment eligibility among new patients referred to a Health Service Executive orthodontic referral centre

Maurice J Meade
BDS MFDSRCSEd MJDFRCSEng
Postgraduate Orthodontic Student
Cork University Dental School and Hospital
Wilton
Cork

Declan T Millett
BDSc DDS FDS(RCPSGlasg) FDSRCSEng DOrthRCSEng MOrthRCSEng
Professor of Orthodontics/Consultant
Cork University Dental School and Hospital
Wilton
Cork

For correspondence:
T: 021-490 1139
E: d.millett@ucc.ie

Précis

An audit of new patient orthodontic referrals showed that 29% were eligible for orthodontic treatment under HSE guidelines introduced in 2007.

Abstract

Aim: The aim of this audit was to evaluate orthodontic treatment eligibility among new patients referred for assessment from primary dental care clinics in the Health Service Executive (HSE) South region to a HSE orthodontic referral centre.

Method: A data collection form was designed and applied prospectively to consecutive new patient referrals who attended diagnostic clinics at the Orthodontic Unit, Cork University Dental School and Hospital, between October 2011 and February 2012. Orthodontic treatment eligibility was based on guidelines introduced by the HSE in 2007.

Results: Data on 291 patients (147 males and 144 females) with a mean age of 11.6 years (SD ± 2.4 years; range 8-19 years) were evaluated. Of the 83 (29%) patients eligible for orthodontic treatment under the guidelines, the most commonly diagnosed malocclusion traits were a crossbite with greater than 2mm discrepancy between retruded contact position and intercuspal position (24 patients), followed by an overjet greater than 9mm (21 patients).

Conclusions: A total of 29% of new patient referrals were deemed eligible for orthodontic treatment under HSE eligibility guidelines introduced in 2007. Reduction of new patient referrals not eligible for treatment, under these guidelines, is required to enable more efficient use of resources.

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Introduction

The Index of Orthodontic Treatment Need (IOTN) was developed to provide an objective measure of orthodontic treatment need and has been used to prioritise limited resources in publically funded healthcare systems.[1,2] It attempts to identify individuals whose orthodontic need is greatest and who

Table 1: The dental health component of the Index of Orthodontic Treatment Need (IOTN).

Grade 5 (need treatment)	
5i	Impeded eruption of teeth (except for third molars) due to crowding, displacement, the presence of supernumerary teeth, retained deciduous teeth and any pathological cause.
5h	Extensive hypodontia with restorative implications (more than one tooth missing in any quadrant) requiring pre-restorative orthodontics.
5a	Increased overjet >9mm.
5m	Reverse overjet >3.5mm with reported masticatory and speech difficulties.
5p	Defects of cleft lip and palate and other craniofacial anomalies.
5s	Submerged deciduous teeth.
Grade 4 (need treatment)	
4h	Less extensive hypodontia requiring pre-restorative orthodontics or orthodontic space closure to obviate the need for a prosthesis.
4a	Increased overiet >6mm but ≤9mm.
4b	Reverse overiet >3.5mm with no masticatory or speech difficulties.
4m	Reverse overiet >1mm but <3.5mm with recorded masticatory and speech difficulties.
4c	Anterior or posterior crossbites with >2mm discrepancy between retruded contact position and intercuspal position.
4l	Posterior lingual crossbite with no functional occlusal contact in one or more buccal segments.
4d	Severe contact point displacements greater than 4mm.
4e	Extreme lateral or anterior open bites >4mm.
4f	Increased and complete overbite with gingival or palatal trauma.
4t	Partially erupted teeth, tipped and impacted against adjacent teeth.
4x	Presence of supernumerary teeth.
Grade 3 (borderline/moderate need)	
3a	Increased overjet >3.5mm but ≤6mm with incompetent lips.
3b	Reverse overjet >1mm but ≤3.5mm.
3c	Anterior or posterior crossbites with >1mm but ≤2mm discrepancy between retruded contact position and intercuspal position.
3d	Contact point displacements >2mm but ≤4mm.
3e	Lateral or anterior open bite >2mm but ≤4mm.
3f	Deep overbite complete on gingival or palatal tissues but no trauma.
Grade 2 (little need)	
2a	Increased overjet >3.5mm but ≤6mm with competent lips.
2b	Reverse overjet >0mm but ≤1mm.
2c	Anterior or posterior crossbite with ≤1mm discrepancy between retruded contact position and intercuspal position.
2d	Contact point displacements >1mm but ≤2mm.
2e	Anterior or posterior open bite >1mm but ≤2mm.
2f	Increased overbite ≥3.5mm without gingival contact.
2g	Pre-normal or post-normal occlusions with no other anomalies (includes up to half a unit discrepancy).
Grade 1 (none)	
1.	Extremely minor malocclusions including contact point displacements <1mm.

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would benefit most from orthodontic treatment. It is graded on two component scales: the dental health component (DHC) and the aesthetic component (AC). The DHC records the single worst occlusal feature of the malocclusion that impacts on dental health.[1] A hierarchical scale is used to identify the worst feature of the malocclusion. In order of reducing dental health impact, these are:

- missing teeth;
- overjet;
- crossbites;
- displacement of the contact points; and,
- overbite.[2]

A letter notation is added to indicate the malocclusion trait. Having determined the worst trait, the malocclusion can be categorised into one of five grades, which determine the orthodontic treatment need (**Table 1**). Grades 4 and 5 indicate a need for orthodontic treatment, whereas grade 3 indicates a borderline/moderate need. For example, a patient with no missing or impacted teeth, presenting with an overjet of 10mm, is categorised as grade 5a.

The AC assesses the aesthetic handicap posed by a malocclusion and the consequent potential psychosocial impact on the patient.[1,2] It consists of 10 standard photographs, showing malocclusions with increasing levels of aesthetic impairment. The photographs are scored

Table 2: HSE Orthodontic Eligibility Guidelines

Grade 5	Treatment required
5a	Increased overjet >9mm
5h	Extensive hypodontia (two or more teeth missing in any quadrant excluding third molars) requiring pre-restorative orthodontics. Amelogenesis imperfecta and other dental anomalies that require pre-prosthetic orthodontic care. Incisors lost due to trauma assessed on a case-by-case basis
5i	Impeded eruption of teeth (apart from third molars and second premolars) due to crowding, displacement, the presence of supernumerary teeth, retained deciduous teeth, and any pathological cause
5m	Reverse overjet >3.5mm with reported masticatory and speech difficulties
5p	Defects of cleft lip and palate
5s	Submerged deciduous teeth – arrange removal of teeth but orthodontic treatment not necessarily provided
Grade 4	**Treatment required**
4b	Reverse overjet >3.5mm with no masticatory or speech difficulties
4c	Anterior or posterior crossbites with >2mm discrepancy between the retruded contact position and intercuspal position
4d	Severe displacements of teeth >4mm but only with Aesthetic Component of 8 to 10.
4e	Extreme lateral or anterior open bites >4mm
4f	Increased and complete overbite with gingival or palatal trauma
4l	Posterior lingual crossbite with no functional occlusal contact in an entire buccal segment
4m	Reverse overjet >1mm but <3.5mm with recorded masticatory and speech difficulties

Additional Eligibility Criteria – assessed on a case-by-case basis:

- Children who are in the care of the HSE and do not fall under any of the other eligibility criteria.
- Children with special needs who are referred by the primary dental care special needs service or a paediatric dental consultant.

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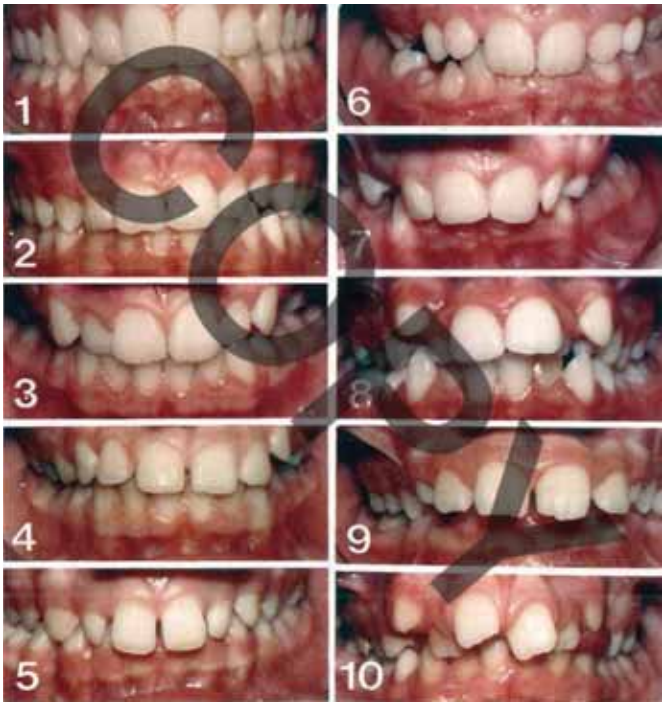

FIGURE 1: The Aesthetic Component (AC) of the Index of Orthodontic Treatment Need (IOTN). The SCAN scale was first published in 1987 by the European Orthodontic Society (Ruth Evans and William Shaw, for rating dental attractiveness. European Journal of Orthodontics *9: 314-318). IOTN AC and DHC reproduced courtesy of Orthocare (© Victoria University of Manchester). Only AC grades 8, 9 and 10 are eligible for orthodontic treatment under HSE guidelines when the malocclusion trait is grade 4d.*

from 1 (most aesthetically pleasing) to 10 (least aesthetically pleasing). (**Figure 1**). The patient's teeth are viewed in occlusion from the anterior aspect and the patient's AC score is determined by choosing the photograph that most closely represents the aesthetic handicap of the patient's malocclusion.[3] The scores are categorised according to the required orthodontic treatment need:

- score 1 or 2 – no need for orthodontic treatment;
- score 3 or 4 – slight need for orthodontic treatment;
- score 5, 6 or 7 – moderate/borderline need for orthodontic treatment; and,
- score 8, 9 or 10 – definite need for orthodontic treatment.

In the Republic of Ireland (RoI), orthodontic treatment is not provided for all who seek it within the public Health Service Executive (HSE) orthodontic service.[4] A modified IOTN was developed in the RoI to determine the eligibility of HSE patients for orthodontic treatment (HSE orthodontic eligibility guidelines (**Table 2**)) and has been used for screening of new patient referrals within the HSE since July 2007.[4] Similar orthodontic treatment priority systems operate in the UK and Sweden.[5,6] The HSE guidelines are intended to prioritise public funds

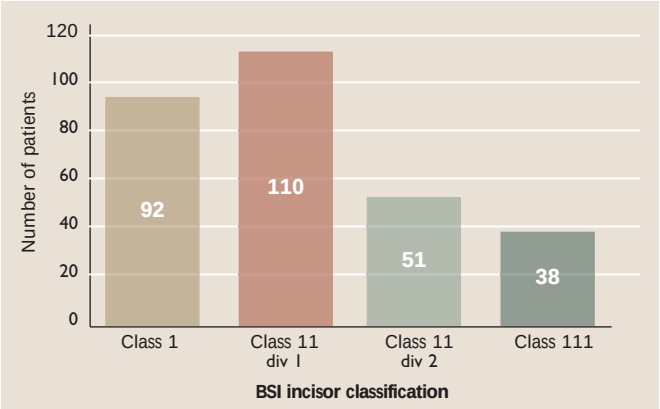

FIGURE 2: Distribution of new patient orthodontic referrals by malocclusion type (n=291).

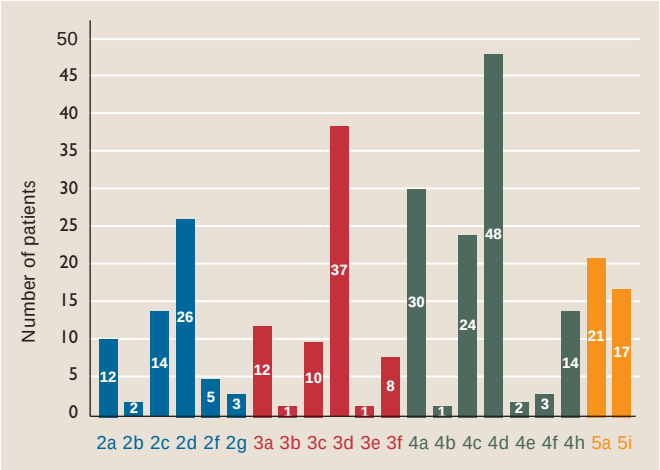

FIGURE 3: Distribution of IOTN (DC) grades among new patient orthodontic referrals (n=291).

for those most in need of orthodontic treatment and to ensure equity of access for all patients deemed eligible.[4] The 'modified' IOTN uses the same alpha-numeric descriptors as the corresponding IOTN DHC malocclusion traits, but differs in the 'definitions' of several of the descriptors. With the IOTN, for example, grade 5i includes impeded eruption of all teeth (apart from third molars) due to crowding, displacement, the presence of supernumerary teeth, retained deciduous teeth and any pathological cause. According to HSE guidelines, grade 5i also excludes impeded eruption of second premolars. In addition, several other malocclusion traits considered to be in need of treatment according to the IOTN are not included in the guidelines (e.g., grade 4a – increased overjet >6mm but ≤9mm).

Previous RoI studies have shown that between 30 and 35%[7,8] of new patient referrals were not eligible for orthodontic treatment based on Department of Health guidelines in use at those time points.[9] Reducing the number of new patient orthodontic referrals not eligible for orthodontic treatment may shorten waiting times for new patient assessment and enable more efficient use of resources.[10-13]

Since their introduction, there appears to be no published prospective evaluation of the outcome of referrals based on the 'modified' IOTN. The aim of this audit was to evaluate orthodontic treatment eligibility among new patients referred for assessment from primary dental care clinics in the HSE South region to a HSE orthodontic referral centre.

Materials and methods

All patients from the North Cork area of HSE South requiring orthodontic assessment are referred from HSE primary dental care clinics to the Orthodontic Unit, Cork University Dental School and Hospital (CUDSH). At diagnostic clinics, referred patients are assessed by one of two consultant orthodontists, one specialist orthodontist or by postgraduate orthodontic/undergraduate students (with supervision). Those who are eligible[4] and willing to undergo treatment are placed on the orthodontic treatment waiting list; the referring primary care dentist is informed of the assessment outcome and requested to carry out any necessary primary dental care. Patients are advised that failure to maintain adequate oral hygiene and dental health will preclude them from receiving orthodontic treatment.

The new patient referrals for this prospective audit were assessed in the Postgraduate Orthodontic Unit by one of four postgraduate orthodontic students and a supervisor (consultant orthodontist or specialist orthodontist) calibrated in the use of the IOTN. The following information was recorded for consecutive new patients attending diagnostic clinics from October 2011 to February 2012:

- patient hospital number;
- gender;
- age;
- BSI incisor classification;[14]
- length of time since referral;
- IOTN (DHC)[1] (**Table 1**);
- IOTN (AC) [only if DHC grade 4d][3] (**Figure 1**); and,
- whether eligible for orthodontic treatment under HSE criteria[4] (**Table 1**).

The information recorded for every twentieth patient was compared with the original patient records at the end of the audit in order to assess examiner reliability in data recording.

Results

No errors were noted with regard to data entry. In total, 305 patients were assessed. Fourteen were excluded from analysis as a decision on likely eligibility for orthodontic treatment could not be made until after further dental development and re-assessment at review. Data on 291 patients (147 males and 144 females) with a mean age of 11.6 years (SD ± 2.4 years; range 8-19 years) were therefore assessed. All patients were referred after the introduction of the HSE guidelines in 2007.

The mean waiting time since referral was 18.6 months. **Figure 2** illustrates the distribution of patients by malocclusion type and shows that Class II division 1 was the most common malocclusion referred (38%). According to the IOTN, 55% of new patient referrals had a need for orthodontic treatment (DHC grades 4 and 5) (**Figure 3**). The most common malocclusion trait diagnosed was a severe contact

point displacement >4mm (grade 4d; 48 patients), but only 18 had an additional AC score of 8, 9 or 10 required for HSE orthodontic treatment eligibility. Of the 83 (29%) patients eligible for orthodontic treatment under the guidelines, the most commonly diagnosed malocclusion traits were a crossbite with >2mm discrepancy between retruded contact position and intercuspal position (24 patients), followed by an overjet >9mm (21 patients). Three patients were eligible under the HSE's 'Additional Eligibility Criteria'.

Discussion

The mean age of new patient referrals was 11.6 years, which is less than the 13-14.6 years reported previously in the RoI,[7,8,15,16] but consistent with the assessment age recommended elsewhere.[10,17] Class II division 1 was the most common malocclusion type (38%), which compares with 32-46% found previously in the RoI.[7,8] The greater demand for treatment of Class II division 1 may have been due to parental perception and concern for this malocclusion type.[7]

This audit found that 55% of referrals fell into IOTN DHC grade 4 or 5, which indicates a need for orthodontic treatment on dental health grounds. This is less than the 76-82% categorised with IOTN DHC grade 4 or 5 among new patient orthodontic referrals in the UK.[10,13,18] It is, however, greater than the 28-31% of 12- and 15-year-olds recorded in the most recent Irish dental health survey,[19] who had "a definite orthodontic treatment need" in the Southern Health Board region (the Health Board region that covered the North Cork area).

Some 29% of patients in this audit were eligible for orthodontic treatment,[4] which is less than the 65-70% who qualified under the 1985 screening guidelines[9] in operation at the time of previous RoI studies.[7,8] Further research is required to investigate whether the discrepancy found in the cohort reported here, between "treatment need" (DHC grade 4 and 5) according to the IOTN and "treatment required" according to HSE eligibility guidelines, is reflected elsewhere in the HSE Orthodontic Service.

The most common malocclusion trait diagnosed was grade 4d; this trait indicates at least one area of crowding with a contact point displacement of 4mm or more. According to the HSE guidelines, grade 4d applies to crowding in anterior teeth only, whereas with the IOTN, it applies to all teeth. This may explain why only 38% of these patients fulfilled HSE criteria. In addition, the AC is used in the HSE assessment of eligibility of grade 4d and orthodontic treatment need is less when assessed by the AC.[19] Reducing the high number of referrals in the DHC 4d category not eligible for treatment[4] may require further training of primary care dentists in the appropriate use of AC photographs for patients with crowding of anterior teeth.

Grade 4c was the most common malocclusion trait eligible for orthodontic treatment through the HSE. This trait involves an anterior or posterior crossbite >2mm discrepancy between the retruded contact position and intercuspal position. Orthodontic correction for this malocclusion trait is required to remove the possibility of temporomandibular joint dysfunction in a susceptible patient (although the evidence for this is weak),[20] eliminate attrition at the site of premature contact and prevent exacerbation of plaque-related recession.[17]

The present audit only looked at one aspect of treatment eligibility. The decision to provide orthodontic treatment depends on additional factors such as caries, oral hygiene status, patients' awareness of an orthodontic problem and motivation for treatment; it cannot be made solely on the basis of indices of treatment need.[4,7,11-13,17]

The number of patients in this cohort not eligible for orthodontic treatment, under HSE guidelines, may indicate some shortcomings in the current referral process. Financial and manpower pressure within the HSE means that schoolchildren may only be seen twice (at approximately eight and 12 years of age) for dental examination and required primary dental care in the North Cork region of HSE South. Primary care dentists do not routinely screen patients between those time points and may decide to make a judgement on earlier referral as referral at the later time point may not afford optimal timing to address any orthodontic treatment requirement. Referring primary care dentists may also want the reassurance of specialist orthodontic advice to adequately assess treatment need.[12] Parental concern and pressure, in addition, may influence the decision to refer. Studies, however, have shown that parental orthodontic concern may not be consistent with their children's normative orthodontic treatment need.[21]

This audit provides baseline data for the North Cork area only of HSE South with regard to orthodontic treatment eligibility under HSE guidelines introduced in 2007. Preliminary education and training of HSE primary care dentists with regard to eligibility for orthodontic treatment referrals has been carried out once by staff at CUDSH and subsequently by HSE consultant orthodontists. Guidelines for orthodontic referrals, however, have been found to have little influence on the behaviour of primary care dentists.[22] Research is required into the optimum methods of dissemination and implementation of referral guidelines in order to encourage the most appropriate use of the referral service.[21,22] In the meantime, it is recommended that the Orthodontic Unit and referring primary care dentists work closely to minimise the number of new patient referrals not eligible for orthodontic treatment. This should shorten waiting times for new patient assessment and enable more efficient use of resources.[10-13]

Conclusions

- A total of 29% of new patient referrals were deemed eligible for orthodontic treatment under HSE eligibility guidelines introduced in 2007.
- Reduction of new patient referrals not eligible for treatment under these guidelines is required to enable more efficient use of resources.

Recommendations

- Continuing education for referring primary care dentists including provision of proforma for orthodontic referrals.
- Re-audit during the next postgraduate training cycle to evaluate the effect of the changes introduced.

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Audit of the Health Service Executive orthodontic referral pathway between 2009 and 2011 in the Dublin Mid-Leinster region

An audit was undertaken in 2009 to determine the success of the new national orthodontic referral protocol introduced to the Health Service Executive (HSE) in 2007 and operated in the Dublin Mid-Leinster HSE region. It was repeated in 2011 to determine if the HSE austerity measures have had a bearing on the orthodontic service performance in the Dublin Mid-Leinster HSE region. The audit also measured the success of referring practitioners in identifying the correct Index of Orthodontic Treatment Need (IOTN) classification of the patient. In the 2011 audit, the figures were broken down to identify the occlusal variables that caused dental practitioners most difficulties in identification.

The audit demonstrates a good referral to assessment timeframe in 2009 (85-80% compliance for IOTN 5 and 4 within three to six months, respectively), which deteriorates significantly in 2011 (26-4% for IOTN 5 and 4 within three to six months, respectively). The ability of dentists to identify the correct IOTN classification was better in 2009 (60% correct) compared to 2011 (51% correct), but both figures fell below the audit standard of 75% of referrals with correct IOTN classifications. The IOTN occlusal dental health components most readily identified by referring practitioners and meeting audit standards were 5a (overjet >9mm), 5i (impacted teeth) and 5h (extensive hypodontia). The remaining occlusal dental health components in the HSE IOTN fell below the audit standard. The audit clearly identifies a requirement for a continued educational effort to maintain the HSE IOTN skill base in primary care, and a need for additional resources to manage the demand for orthodontic assessments.

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

Dr Allah Dad Khosa
BDS MFDSRCS FFDRCSI
Senior Dental Surgeon
National Oral and Maxillofacial Unit
St James's Hospital
Dublin 8

For correspondence:
Dr Simon Wolstencroft
T: 01-420 1100

Introduction

Orthodontics is a dental specialty that concerns itself with genetic variations and developmental aberrations in the dento-facial area. Its aim is to improve oral function, create resistance to dental disease, improve dento-facial appearance and enhance psychosocial bearing. The public perception of orthodontics, while encompassing the above, is highly focused on cosmetics and the correction of crooked teeth, which falls in line with the growing trend for beautification in developed countries. This phenomenon has produced a high demand for orthodontic

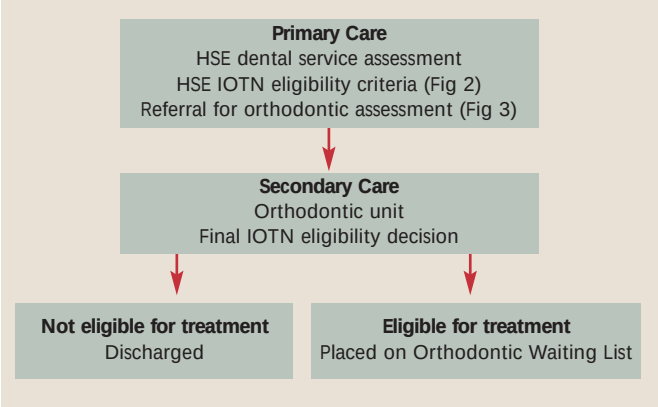


FIGURE 1. The referral process.

treatment, and many families consider treatment as a rite of passage for their children and expect the State to have a role in delivering the service.

In this Ireland is not alone; many state-funded health services find it difficult to cope with the demand for orthodontic treatment and long waiting lists are not uncommon. The dilemma of course for public health providers and politicians is where to draw the line: who should receive state-funded orthodontic treatment, especially considering the other paediatric public health demands that fall on the state?

Treatment eligibility guidelines and indices are useful to resolve this dilemma, but only if they are applied universally across the country and by appropriately trained clinicians to ensure consistency. In 2006 the Health Service Executive (HSE) Orthodontic Review Group report[1] recommended the introduction of a modified version of the internationally validated Index of Orthodontic Treatment Need (IOTN).[2] The Index aims to quantify specific malocclusion traits and seeks to distinguish those orthodontic patients who have a significant dental need and will obtain health gain from the intervention, from those with a low dental health need, who, on the whole, receive only cosmetic benefits. Prioritisation of care in this way ensures that limited public funds are diverted to patients with the greatest need, and that the resource-limited orthodontic workforce is able to function within its HSE service contract.

The IOTN can be difficult to use and requires a period of training and a calibration exercise to ensure that it is being used correctly. Following the introduction of the IOTN in 2007, staff training was undertaken and educational lectures were delivered to dentists in the region to reinforce the initial training exercise. Following staff training, referrals from primary care to the orthodontic service under the new arrangements began.

In 2009, based on feedback from clinicians using the service, an audit was undertaken to determine the success of the new referral protocol implementation. In 2011 a second audit cycle was undertaken to re-evaluate the process, to identify which aspects of the IOTN were proving most problematic for referring dentists, and to determine if the public sector recruitment embargo had an effect on orthodontic service performance.

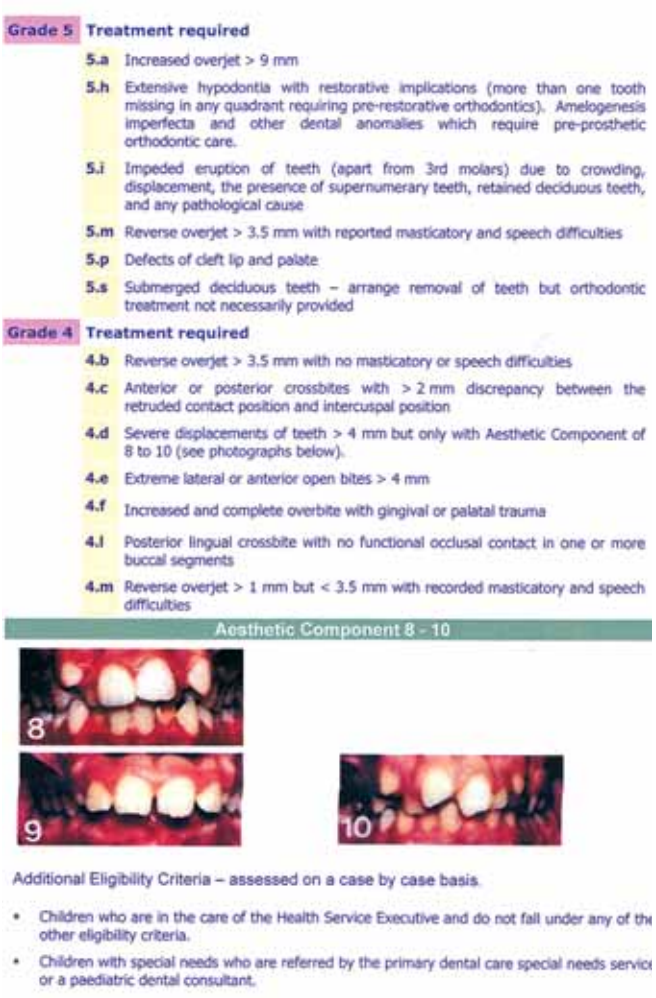
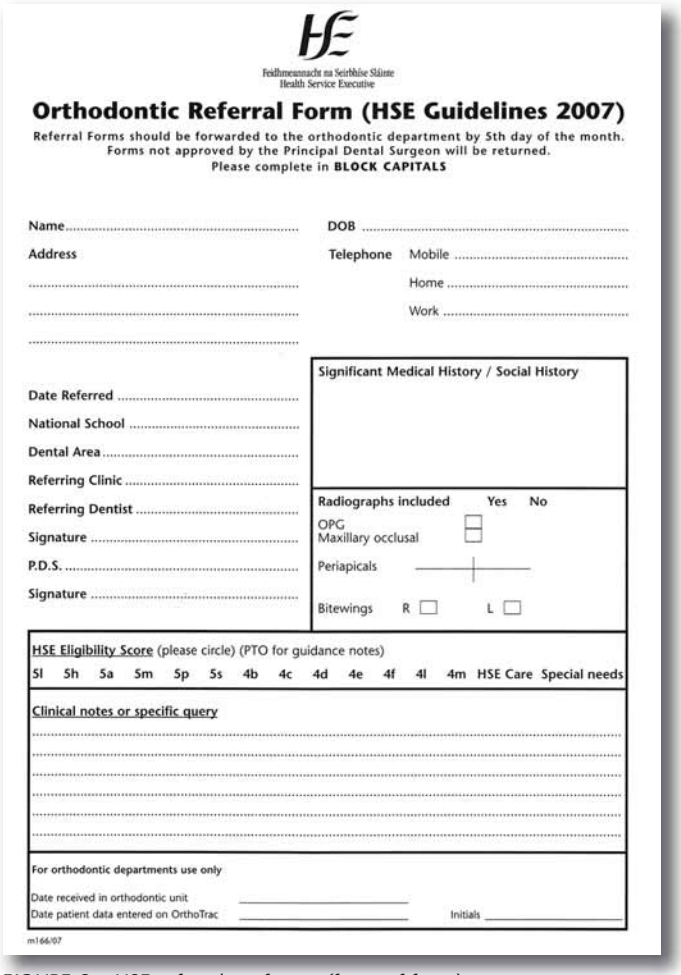


FIGURE 2: HSE modified IOTN eligibility criteria.

Materials and methods

Referral process (Figure 1)

Children in the HSE Dublin Mid-Leinster region are seen at their periodic HSE dental screening by primary care dentists and the orthodontic status of a child is first assessed using the HSE modified IOTN protocol (**Figure 2**). If the dentist believes the child to be potentially eligible for treatment a referral is made to the orthodontic service using a referral proforma specifically designed to facilitate the assessment (**Figure 3**). The referring clinician is asked only to refer those patients who they deem eligible and to indicate the IOTN classification. The final eligibility status of the patient is, however, only determined after the orthodontic examination conducted within the orthodontic department. This is important, as sometimes the initial IOTN categorisation indicated by primary care is inaccurate, and the examination carried out in the orthodontic department allows the department to accurately determine eligibility and 'priority manage' the orthodontic waiting list. This is a form of clinical governance and introduces fairness to the process.



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Orthodontic Referral Form (HSE Guidelines 2007)

Referral Forms should be forwarded to the orthodontic department by 5th day of the month.
Forms not approved by the Principal Dental Surgeon will be returned.
Please complete in **BLOCK CAPITALS**

Name ..... DOB .....

Address ..... Telephone Mobile .....

..... Home .....

..... Work .....

.....

Date Referred .....

National School .....

Dental Area .....

Referring Clinic .....

Referring Dentist .....

Signature .....

P.D.S. .....

Signature .....

Significant Medical History / Social History

Radiographs included Yes No

OPG ☐

Maxillary occlusal ☐

Periapicals ——|——

Bitewings R ☐ L ☐

HSE Eligibility Score (please circle) (PTO for guidance notes)

5l 5h 5a 5m 5p 5s 4b 4c 4d 4e 4f 4l 4m HSE Care Special needs

Clinical notes or specific query

.....

.....

.....

.....

.....

.....

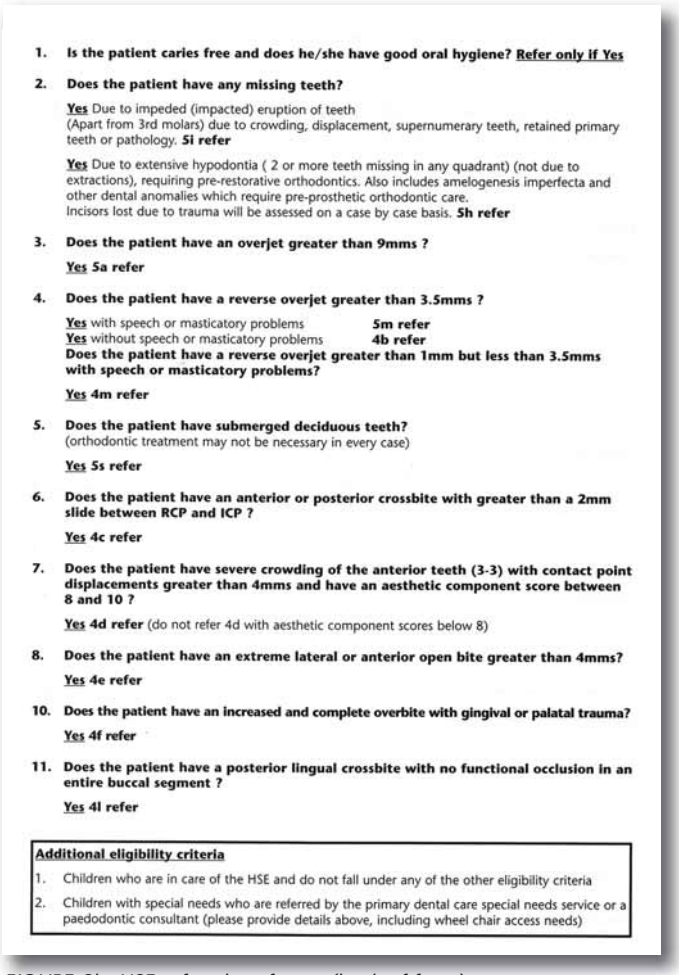
For orthodontic departments use only

Date received in orthodontic unit _____

Date patient data entered on OrthoTrac _____ Initials _____

m166/07

FIGURE 3a: HSE referral proforma (front of form).



1. **Is the patient caries free and does he/she have good oral hygiene? Refer only if Yes**
2. **Does the patient have any missing teeth?**

   Yes Due to impeded (impacted) eruption of teeth (Apart from 3rd molars) due to crowding, displacement, supernumerary teeth, retained primary teeth or pathology. **5i refer**

   Yes Due to extensive hypodontia (2 or more teeth missing in any quadrant) (not due to extractions), requiring pre-restorative orthodontics. Also includes amelogenesis imperfecta and other dental anomalies which require pre-prosthetic orthodontic care. Incisors lost due to trauma will be assessed on a case by case basis. **5h refer**
3. **Does the patient have an overjet greater than 9mms ?**

   Yes 5a refer
4. **Does the patient have a reverse overjet greater than 3.5mms ?**

   Yes with speech or masticatory problems **5m refer**
   Yes without speech or masticatory problems **4b refer**
   Does the patient have a reverse overjet greater than 1mm but less than 3.5mms with speech or masticatory problems?

   Yes 4m refer
5. **Does the patient have submerged deciduous teeth?** (orthodontic treatment may not be necessary in every case)

   Yes 5s refer
6. **Does the patient have an anterior or posterior crossbite with greater than a 2mm slide between RCP and ICP ?**

   Yes 4c refer
7. **Does the patient have severe crowding of the anterior teeth (3-3) with contact point displacements greater than 4mms and have an aesthetic component score between 8 and 10 ?**

   Yes 4d refer (do not refer 4d with aesthetic component scores below 8)
8. **Does the patient have an extreme lateral or anterior open bite greater than 4mms?**

   Yes 4e refer
10. **Does the patient have an increased and complete overbite with gingival or palatal trauma?**

    Yes 4f refer
11. **Does the patient have a posterior lingual crossbite with no functional occlusion in an entire buccal segment ?**

    Yes 4l refer

Additional eligibility criteria

1. Children who are in care of the HSE and do not fall under any of the other eligibility criteria
2. Children with special needs who are referred by the primary dental care special needs service or a paedodontic consultant (please provide details above, including wheel chair access needs)

FIGURE 3b: HSE referral proforma (back of form).

The audit started in 2009, and initially the majority of clinics were audited. An audit data collection sheet, similar to that in **Figure 4**, was used to gather information during orthodontic assessment clinics held in the St James's Hospital HSE orthodontic unit. The data collected were entered by the orthodontist during the assessment clinic and later evaluated by the authors. The first audit period covered assessments conducted in the department over 12 months in 2009. The second audit was a smaller sample of orthodontic assessments over the first 10 months of 2011.

Audit objectives

The initial objectives of the audit undertaken in 2009 were to determine the following:

1. The ability of the orthodontic department to meet self-imposed referral to assessment time standards.
2. The percentage success rate that primary care dentists had when using the HSE modified IOTN (to successfully identify if a patient is eligible for treatment or not).

A second audit was undertaken in 2011 to re-evaluate the process with the following objectives:

1. The ability of the orthodontic department to meet self-imposed referral to assessment time standards. To compare the 2009 data with the 2011 data to determine if the public service recruitment embargo (public service austerity measures) had an effect on the performance of the orthodontic unit.
2. To determine the percentage success rate that primary care dentists had when using the HSE modified IOTN (to identify successfully if a patient is eligible for treatment or not). To compare the 2009 data with the 2011 data to evaluate if there was an improvement or deterioration in primary care success rates using the HSE IOTN referral system.
3. To determine which particular dental health components of the HSE modified IOTN caused referring practitioners most difficulty.

Standards for the 2009 and 2011 audits

1. *Referral to orthodontic assessment timeframes*

   There are no published national performance indicators for referral to assessment time for orthodontics in the Republic of Ireland. The performance indicators outlined by the HSE HealthStat[3] for hospitals and local health offices were therefore

Time	Name	Admin region	Ref Dentist	Refer for opinion only	Date of referral	Date we rec'd ref	Ref in as Grade	Months since referral	IOTN Y/N.R.
9:00	XXX	Crumlin	XXX		28/09/09	16/10/09	5a	1	
9:15	XXX	Crumlin	XXX		06/10/09	16/10/09	5i	1	
9:30	XXX	DW	XXX		22/12/08	29/07/09	5a	4	
9:45	XXX	DW	XXX		10/03/08	29/07/09	5a	4	
10:00	XXX	DW	XXX	Yes					
10:15	XXX	DW	XXX		12/05/09	25/08/09	5a	3	
10:30	XXX	DW	XXX		23/10/08	03/02/09	4d	9	
10:45	XXX	DW	XXX		24/03/09	25/08/09	5a	3	
11:20	XXX	DW	XXX		29/05/09	18/08/09	5i	3	
11:40	XXX	DW	XXX		24/03/09	18/08/09	5i	3	

FIGURE 4: Audit data collection sheet.

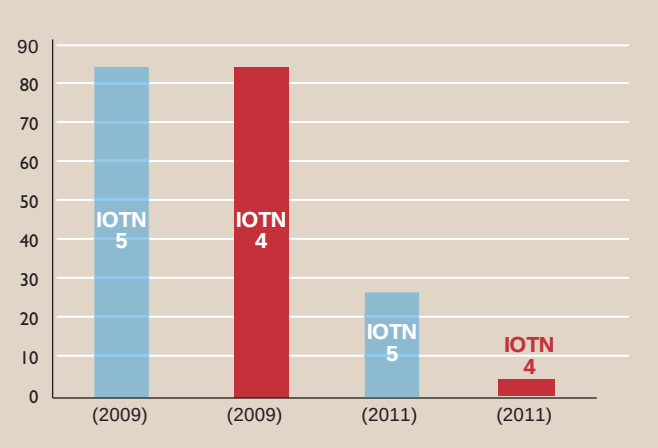


FIGURE 5: Percentage compliance with referral to assessment timeframe gold standards 2009 and 2011.

used as a benchmark. The two following gold standards were derived to assess performance:

A. For patients with IOTN classification 5 (highest treatment need), 100% of patients seen within three months from referral to orthodontic assessment.

B. For patients with IOTN classification 4 (high treatment need), 100% of patients seen within six months from referral to orthodontic assessment.

2. *Success of each referral area in the use of the HSE modified IOTN*

The IOTN classification indicated by the referring dentist was compared to the final classification given by the assessing orthodontist. As a gold standard, we set a performance indicator that 75% of referrals correctly identified the patient as eligible for orthodontic treatment.

For the 2011 data, when specific IOTN dental health component (DHC) data were analysed, a 75% success rate for the referring dentist correctly identifying the IOTN DHC category was set as the gold standard.

The figure of 75% was chosen as a desirable performance target by the authors and is not based on previous audit activity within the Republic of Ireland. A higher desirable performance was felt to be unreasonable by the authors, who accept that the HSE modified IOTN can be difficult to use, especially the aesthetic component.

Results

2009 audit

Data from 1,587 orthodontic assessments were included in the data analysis for the 2009 audit, covering a time span from January to December 2009.

First objective: referral to assessment timeframe in 2009

(The gold standard was set at 100% for IOTN 5 and IOTN 4.)

Patients referred as IOTN grade 5 were seen within the gold standard of three months for 85% of orthodontic assessments undertaken within 2009. Patients referred as IOTN grade 4 were seen within the gold standard of six months for 80% of orthodontic assessments undertaken within 2009 (**Figure 5**).

Second objective: success of use of IOTN by primary care dentists in 2009

(As a gold standard we set a performance indicator that 75% of referrals correctly identified the patient as eligible for orthodontic treatment.)

A total of 60% of patients were eligible for treatment and the dentists in primary care had correctly identified the HSE modified IOTN classification. Some 26% of the referred population were not eligible for orthodontic treatment and 14% were kept under review pending further development, or were prescribed an interceptive orthodontic treatment and no immediate decision was made about eligibility (**Figure 6**).

2011 audit

Data from 453 orthodontic assessments were included in the data analysis for the 2011 audit, covering a time span from January to October 2011.

First objective: referral to assessment timeframe in 2011

(The gold standard was set at 100% for IOTN 5 and IOTN 4.)

Patients referred as IOTN grade 5 were seen within the gold standard of three months for 26% of orthodontic assessments audited within 2011. Patients referred as IOTN grade 4 were seen within the gold standard of six months for 4% of orthodontic assessments audited within 2011 (**Figure 5**).

Second objective: success of use of IOTN by primary care dentists in 2011

(As a gold standard we set a performance indicator that 75% of referrals correctly identified the patient as eligible for orthodontic treatment.)

A total of 51% of the sample were eligible for treatment and the dentists in primary care had correctly identified the HSE modified IOTN classification. Some 43% of the sample were not eligible for orthodontic treatment and 6% were kept under review pending further development, or were prescribed an interceptive orthodontic treatment and no immediate decision was made

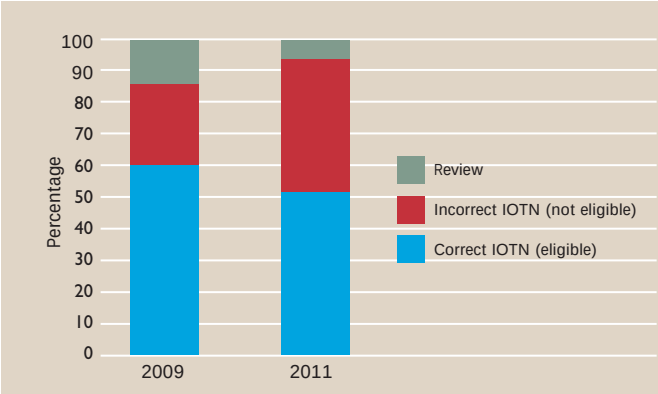


FIGURE 6: Percentage success rate of primary care dentists in the use of HSE IOTN in 2009 and 2011.

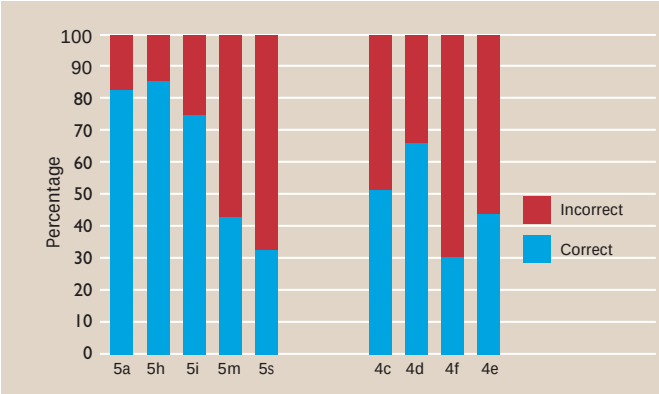


FIGURE 7: Percentage success rate that primary care dentists accurately identified the correct dental health component of HSE IOTN.

about eligibility (**Figure 6**).

*Third objective: to determine which aspects of the HSE modified IOTN index caused referring practitioners most difficulty (**Figure 7**)*

For the 2011 audit, when specific IOTN DHC data were analysed, a 75% success rate for the referring dentist to correctly identify the IOTN DHC category was set as the gold standard. The DHCs that were most readily identified correctly by dentists were 5a (overjet >9mm), 5h (extensive hypodontia) and 5i (impacted teeth). The audit gold standard of 75% was achieved for these dental health components.

The referring dentists had mixed success in identifying 5m, 5s, 4c, 4d, 4f and 4e, but fell below the audit gold standard of 75%.

There were no referrals sent in scoring 4l (posterior lingual crossbite), 4m (reverse overjet >1mm but <3.5mm with speech and masticatory difficulties) and 4b (reverse overjet >3.5mm without speech and masticatory difficulties). The cleft lip and palate aspect of the HSE IOTN (5p) was not scored in the audit, as all cleft patients are referred separately to a tertiary specialist cleft service.

Discussion

This audit essentially looks at the performance of the orthodontic department and primary care clinicians in the referral process of new patients. The results of the audit indicate a trend of declining performance between 2009 and 2011 in two key areas. Firstly, the ability of the orthodontic service to undertake orthodontic assessments in a timely fashion, and secondly the difficulty our referring practitioners have in correctly identifying the IOTN classification and eligibility status of the referred population.

The position in 2009 with regard to meeting our predetermined criteria for referral to assessment time was relatively good. We set a gold standard that 100% of referred patients should be seen within three months if assigned an IOTN 5 grading by the referring dentist and six months if grade 4 was scored. We achieved a compliance rate of 85% and 80%, respectively. This figure dropped quite significantly in the 2011 audit to 26% and 4%, respectively, and represents a number of difficulties imposed on the department due to funding curtailment in the HSE. The main concerns related to the flow of resources into the department. A key member of orthodontic department clerical staff who had responsibility for organising new patient referrals and appointments left the HSE and was not replaced. A number of clinical and clerical staff undertook maternity leave during the second audit period and no funding was made available for locum cover. These unfilled positions placed an extra burden on the remaining staff and created difficulty in administering new patient assessments. Additionally, the remaining orthodontists had to absorb additional existing in-treatment orthodontic patients from their departed colleagues, and in doing so reduced their capacity to see new referred patients. Furthermore, in the first audit period, waiting list initiatives were carried out (outside of normal working hours) to reduce the time taken from referral to orthodontic assessment and this without doubt helped the audit figures in 2009. The position in 2011 did not have the benefit of waiting list initiatives, which were stopped as part of the national austerity programme.

The performance of the dentists in the use of the modified HSE IOTN, who refer to the department, was also evaluated in the audit.

We set as a standard that 75% of referrals received to the department had the correct IOTN classification assigned by the dentist. This standard was not achieved in 2009 or in 2011. In the first audit period, 60% of patients who were referred to the department were eligible for HSE orthodontic treatment and the dentist had correctly identified the occlusal deviation that warranted referral. In the second audit period the figure dropped to 51%. So, in effect, in 2011, almost half of the referred patients were ineligible for treatment or inappropriately referred.

The use of the IOTN can be difficult for non-orthodontists and the audit demonstrates deterioration in the referring dental population's ability to correctly identify the IOTN classification. Possibly our audit standard of 75% for correctly identified IOTN classification was set too high. When the HSE modified IOTN was first introduced into the service in late 2007, calibration training exercises and education days were organised to upskill our referring population. The deterioration in performance seen in the second audit cycle may represent an educational drift and it certainly identifies a need for continued educational activities to ensure that IOTN skills are maintained. In the second audit period especially, the time on the assessment waiting list

may also have had a bearing on the dentist's deterioration in IOTN skills. It could be that there has been some spontaneous resolution of the problem that the patient was originally referred for, for example, a potentially impacted canine that correctly erupted, or a traumatic bite that resolved with favourable growth and development of the child. A further pressure is also placed on referring practitioners due to the declining economic climate within the country. Anecdotally it has been reported that parents place pressure on the referring practitioner to ensure that their child is referred to the orthodontic department for a second opinion assessment, even though the practitioner has informed the parent that the child does not qualify for treatment.

In the second audit cycle in 2011, the data were broken down further to identify the IOTN occlusal traits that caused the referring dentists most difficulty in correct identification. Our audit standard suggested that dentists should correctly identify the occlusal anomaly for 75% of referrals. This was achieved for overjet >9mm (5a), severe hypodontia (5h) and impacted teeth (5i). This is a positive finding and is possibly explained by the ease of identification and lack of subjectivity of 5a and 5h, and the enhanced clinical significance, educational investment and interceptive management of impacted canines.

The remaining occlusal discrepancies within the IOTN framework were less well identified and fell below the audit target of 75%. This finding reflects the difficulty of interpreting the IOTN dental health component descriptors. Measuring contact point displacement in the assessment of 4d is relatively straightforward with a ruler. However, subjectivity may lead to difficulty, especially when using the aesthetic component of the index for the severe crowding category 4d. Some 64% of 4d cases were correctly identified, but 36% of the 4d cases referred were found to be ineligible for treatment and indicated that dentists overestimated the severity of the aesthetic condition of the malocclusion.

IOTN occlusal discrepancy 4c, which relates to a crossbite and mandibular shift from centric relation to maximum intercuspation >2mm, was correctly identified in 52% of the referred group and incorrectly identified in 48% of patients. In the 48% who were not eligible, the mandibular shift was either not evident at all, or was below the threshold of 2mm. This is a high figure and may reflect a difficulty in measuring clinically a significant functional shift of the mandible, as many of the dentists overestimated or incorrectly measured the shift due to the crossbite presentation. This is a clinical educational issue and indicates a training requirement.

The occlusal discrepancy 4f, which relates to increased and complete overbite with gingival or palatal trauma, was correctly identified in only 30% of referrals. Some 70% of referrals were deemed not eligible when assessed by the orthodontist. The most common fault was in the interpretation of the trauma element of the overbite. Many referrals had an overbite that was in contact with the gingival soft tissue without being traumatic; this scores 3f in the IOTN classification and is not eligible in the HSE. In addition, the oral hygiene of the patient needs to be good to make an accurate assessment of trauma associated with overbite. Patients who have a marginal gingivitis with swollen gingivae are more likely to suffer trauma from the bite; however, this often resolves when gingival cleaning regimes are improved. In essence, the diagnosis and classification of a traumatic bite (4f) needs to be made only when oral hygiene is optimal.

The occlusal discrepancy 4e – extreme lateral or anterior open bites >4mm – was only correctly identified in 44% of referrals. The larger numbers of inaccurately diagnosed 4e either indicate inaccuracy in the measurement process or represent a spontaneous improvement in open bite reductions while the patient is on the assessment waiting list. Both possibilities could account for these figures, especially if a child has a digit habit that, under the instruction of the referring dentist, is eliminated as the child matures psychosocially.

Infra-occluded primary teeth, which score 5s in the IOTN classification, were only correctly identified in 33% of cases when it came to the assessment undertaken by the orthodontist. This figure is low but probably reflects the time on the waiting list and the likely natural exfoliation of the tooth when there is a succedaneous unit below.

IOTN classifications 5m, 4m and 4b relate to reverse overjet. On the whole, 5m was poorly identified, and 4m and 4b were not scored by the dentists referring to the department. Possibly, when a practitioner observes a severe reverse overjet they automatically think the extreme presentation should score the worst IOTN classification. This could account for the greater number of 5m referrals and the absence of 4m and 4b referrals. Often there were no speech and masticatory issues associated with the 5m referrals and these should have been recorded as a 4b.

Grade 4l, posterior lingual crossbite with no functional occlusal contact in one or both buccal segments, was not used by referring dentists at all in this audit and probably reflects the limited occurrence of this occlusal anomaly in a referred population or a difficulty in diagnosing this occlusal anomaly.

IOTN classification 5p, which relates to cleft lip and palate for the purposes of the audit, can be ignored because all cleft cases are referred to the national cleft centre.

Conclusions

The audit demonstrates a number of worrying concerns relating to the performance of the orthodontic assessment referral process. The audit clearly shows deterioration in service performance that parallels the austerity measures imposed on the HSE.

The audit also demonstrates the need for periodical re-training of dentists in the use of the HSE IOTN. This educational requirement has been made difficult of late due to funding curtailment in continuing professional development (CPD) budgets across the HSE dental service. The audit demonstrates that IOTN classification 4, especially 4d (AC 8-10), 4c, 4f and 4e, require additional emphasis during education events.

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A simple technique for replacing extracted anterior teeth using a vacuum formed retainer

Précis

This article outlines the technique for providing an aesthetic replacement for anterior teeth immediately following extraction using a vacuum formed retainer filled with tooth coloured acrylic resin.

Journal of the Irish Dental Association 2013; 59 (5): 258-260.

This technique was presented as a table demonstration at the annual conference of the Irish Dental Association in 2011 for which it received the Moloney Award.

Una Lally
BA BDentSc MFD DChDent FFD
Practice Limited to Prosthodontics and Part Time Clinical Tutor
The Northumberland Institute of Dental Medicine,
58 Northumberland Road,
Ballsbridge,
Dublin 4.
T: 01-668 8441
Email: una.lally@hotmail.com

Introduction

Providing an immediate, aesthetic, retentive and comfortable replacement for extracted anterior teeth can be challenging in a limited time frame. Ensuring a replacement is available immediately after extraction requires planning and liaison with laboratory support. This restoration is generally an interim restoration so is ideally inexpensive. This technique provides a biological advantage during healing as well providing almost immediate and inexpensive replacement of the extracted tooth. The restoration is independent of the soft tissues and entirely tooth borne therefore the retainer may be worn during the healing phase when the bone and soft tissues are remodelling, without loading the area. This device is also easily removed thus facilitating hygiene. There is no reduction in retention as the supporting tissues remodel, negating the need for relining the prosthesis.

Sheridan *et al.*[1] was the first to describe the Essix orthodontic retainer in 1993 and subsequently its use to provide a provisional restoration. Some concern was raised regarding the original design, which only covered from canine to canine as a slight increase in open bite (2.3%) was observed. Extending the retainer to cover all occlusal surfaces has been recommended to prevent this.

Technique

1. Make an alginate impression (Hydragum®, Zhermack Spa, Italy; Solo Plus®, Claudius Ash, Hertfordshire, Britain, Fix Adhesive, DENTSPLY DeTrey GmbH, Konstanz, Germany) of the entire arch from which the tooth is to be extracted. With this technique the tooth to be extracted acts as its own mould; therefore, its shape and form should be as ideal as possible prior to impression making. If the tooth is broken or its form could be improved, a quick intraoral mock-up with composite that is cured will suffice prior to the impression.
2. Pour a cast from the impression. Quick setting gypsum (Elite Model Fast®, Zhermack Spa, Italy) is advantageous in

FIGURE 1: Maxillary cast with hole drilled in centre of the palatal region.

FIGURE 2: Thermoplastic material adapted to the cast.

FIGURE 3: Vacuum formed retainer sectioned from the cast.

FIGURE 4: Retention holes in the retainer on the palatal aspect of where the tooth is to be replaced.

FIGURE 5: Acrylic placed in the retainer to simulate the missing tooth (facial aspect).

FIGURE 6: Acrylic placed in the retainer to simulate the missing tooth (occlusal aspect).

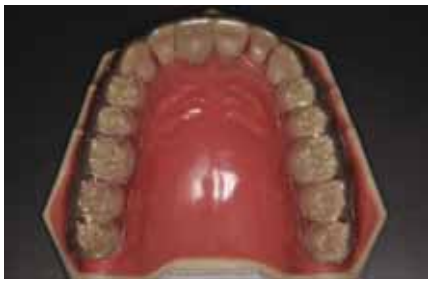

FIGURE 7: Completed vacuum formed retainer with replacement tooth in situ *(occlusal aspect).*

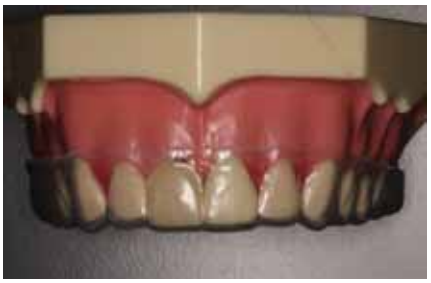

FIGURE 8: Completed vacuum formed retainer with replacement tooth in situ *(facial aspect).*

general practice due to the speed of setting of the mixture.

3. Make a hole in the palate of maxillary casts (**Figure 1**) to allow a more even vacuum to be generated around the tooth areas of the cast. The land portion of the cast should be kept to a minimum for the same reason. The hole can be made in the wet gypsum before it has set which avoids generating excessive dust when the hole is drilled out of a fully set cast. Alternatively the hole can be drilled following the completed setting of the cast.
4. Anaesthetise the tooth, extract it and achieve haemostasis.
5. Place a sheet of polypropylene (0.75mm thick[1]) in the frame of the vacuum forming machine (Essix Vacuum Thermoforming Machine, Dentsply Raintree Essix, Florida, USA) and heat it. If bubbles appear, the material has been overheated. Polypropylene (Essix C+® Plastic, Dentsply, The Hague, The Netherlands) is the material of choice as it provides adequate rigidity without excessive bulk of material.[3]
6. Once the polypropylene is adequately heated, turn off the heater and turn on the vacuum. Simultaneously lower the heated polypropylene sheet over the cast. Allow it to cool completely under vacuum for maximum adaptation of the material to the tooth portion of the cast (**Figure 2**). Due to the rigidity of the set polypropylene, it needs to be sectioned from the cast, which means the cast is not salvageable (**Figure 3**).
7. Cut small retention holes in the palatal surface of the retainer where the tooth is to be replaced (**Figure 4**).
8. Fill the space of the extracted tooth with acrylic resin (SNAP® Provisional Crown and Bridge Resin, Parkell Inc, New York, USA) to match the shade of the adjacent teeth (**Figures 5 and 6**).
9. The vacumn formed retainer is returned to the mouth to allow the acrylic resin set, taking care that the setting acrylic resin does not engage any adjacent undercuts.
10. Smooth the tissue surface of the set acrylic to ensure no tissue contact.
11. Trim the retainer and acrylic to eliminate any sharp edges. It is not recommended to scallop the retainer to follow the gingival margins (**Figures 7 and 8**).[1]
12. Use an abrasive stone to give the final polish. The tissue surface of the retainer should be as smooth as possible and ideally convex to make it cleansable. The patient should be made fully aware of the

Table 1: Indications and contraindication for use of a vacuum formed retainer to restore an edentulous space

Indications	Contraindications
▸ Emergency extraction (where modification of an existing or fabrication of a new prosthesis is not feasible in an acceptable time-frame) ▸ Following anterior implant insertion ▸ Following hard/soft tissue grafting ▸ Short term use	▸ To restore occlusal function ▸ Long term use ▸ Inadequate oral hygiene ▸ High lip line (where aesthetics paramount)

Table 2: Advantages and disadvantages of using a vacuum formed retainer to restore an edentulous space

Advantages	Disadvantages
▸ Immediate replacement of an extracted tooth possible ▸ Conservative of abutment teeth ▸ Inexpensive ▸ Quick ▸ Retentive ▸ Does not impede healing, can be relieved of tissue/socket contact ▸ Removable	▸ Slight compromise in aesthetics ▸ Poor wear properties-not a suitable long term solution ▸ Poor colour stability long term

short-term nature of this restoration and the need for meticulous oral hygiene emphasised.

Discussion

This technique can be modified to accommodate a patient who presents with an edentulous space.[2] In this instance a denture tooth of the correct shape and colour can be placed in the space, a retentive groove (4mm wide by 3mm deep)[2] should be placed in the lingual surface of the tooth. **Table 1** summarises the indications and contraindications for use of a vacuum formed retainer to restore an edentulous space. Thermoplastic vacuum-formed material has proven quite versatile in prosthodontics including use as a matrix form to fabricate provisional restorations, guiding tooth preparation, radiographic/surgical guides, whitening/fluoride trays et cetera. **Table 2** outlines the advantages and disadvantages of using a vacuum formed retainer to restore an edentulous space.

Summary

This technique can be used as an immediate short-term solution after extraction, implant placement or grafting procedures. Long-term use is not appropriate and it is not suitable where there is poor hygiene or a high smile line where the junction of the flange and soft tissue would be conspicuous. This device is easily removed to facilitate hygiene, it is available almost immediately, is inexpensive, comfortable to wear, conservative of abutment teeth and can be relieved of soft tissue contact. It is not appropriate in situations where occlusal units are required, where multiple teeth are to be extracted, where there are high aesthetic demands or when a long-term solution is required.

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Immediate placement and restoration of implants in the aesthetic zone with a trimodal approach: soft tissue alteration and its relation to gingival biotype

Cabello, G., Rioboo, M., Fábrega. J.G.

Purpose

The aim of this prospective study was to evaluate the soft tissue changes around implants in the aesthetic zone, placed under a trimodal approach (immediate post-extraction placement, flapless, and immediate provisional restoration) and its relationship to gingival/periodontal biotype of the patient.

Materials and methods

The sample consisted of 14 patients from two private practices that were in need of a tooth extraction in the anterior maxillary region (cuspid to cuspid) and were candidates for replacement with a dental implant. An initial measurement (baseline) of the position of the mesial and distal papillae and gingival zenith was made at this time, with a rigid dental-supported stent and an electronic precision caliper, able to the second tenth of a millimeter; and, after careful tooth extraction, the periodontal thickness, at a point 5mm apical to the gingival buccal margin, with an analogical thickness gauge, able to one tenth of a millimeter. Once the implant was inserted, an immediate provisional restoration was delivered. To evaluate the soft tissue changes, measurements were repeated at three, six, and 12 months. A statistical analysis was performed to evaluate the changes in the gingival margin around the implant restorations and to identify a possible correlation to the patient's periodontal thickness.

Results

All 14 patients received Straumann® implants (nine tissue level [TL] regular neck [RN], two TL narrow neck [NN], two bone level [BL] narrow crossfit [NC], and one BL regular crossfit [RC]). All implants integrated and none had any biological complications. Three provisional restorations presented with screw loosening and were retightened once, and one presented with loss retention and was re-cemented once. In one patient, with a severe bruxing habit, the final restoration suffered screw loosening and was retightened. Of the final restorations, 12 were screw retained and two cemented on custom-made Zirconia abutments.

A mean recession of the buccal margin of 0.45mm was recorded at 12 months (± 0.25mm). An acceptable papilla level was present in all cases at one year, with mean changes of 0.38mm (± 0.60) for the mesial and 0.80mm (± 0.90) for the distal papilla, respectively. No correlation could be established between the soft tissue changes and the periodontal biotype of the patient.

Conclusions

Within the limitations of this study, the good aesthetic outcome and minimal complications seem to validate the trimodal approach protocol as a reliable and simple protocol to place and restore immediate implants in the aesthetic zone. No correlation between the patient's gingival biotype and the soft tissue alterations could be established. Additional studies are needed to verify long-term aesthetic results with this approach and to better define and quantify biotypes.

Clinical Oral Implants Research 2013; 24 (10): 1094-1100.

Restoration of endodontically treated teeth with major hard tissue loss – bond strength of conventionally and adhesively luted fiber-reinforced composite posts

Binus, S., Koch, A., Petschelt, A., Berthold, C.

Aim

To evaluate the influence of the luting system on the pull-out bond strength of conventionally and adhesively luted fiber-reinforced composite posts (FRCPs).

Material and methods

One hundred extracted bovine teeth (Di 3) were endodontically treated and randomly assigned to nine test groups and one control group (n=10) according to luting system. After preparing the post cavities (8mm), the custom-made FRCPs were inserted using conventional glass-ionomer cement (Ketac Cem), resin-reinforced glass-ionomer cement (Meron Plus and Fuji Plus), self-adhesive resin cement (RelyX Unicem and BisCem), self-conditioning adhesive and resin cement (Multilink Primer + Multilink and AdheSE + DC Activator + MultiCore Flow), or etch-and-rinse adhesive and resin cement (SealBond Ultima + CoreCem, and LuxaBond + LuxaCore Z). As a control, custom-made titanium posts were inserted with Ketac Cem. After water storage (37°C, 24h, dark), the pull-out test was performed, followed by failure mode evaluation. The data were statistically analysed (=0.05) using analysis of variance and the Dunnett T3 post hoc test.

Results

Luting system type and identity significantly influenced bond strength (P<0.001); the bond strengths of all luting systems except Ketac Cem, MeronPlus and BisCem were significantly higher than the control (4.4 ± 1.1MPa). RelyX Unicem (12.0 ± 3.0MPa) and LB + LCZ (14.8 ± 2.3MPa) generated the highest bond strengths. The clinical application was demonstrated by restoring a traumatised tooth with extensive coronal destruction and thin root canal walls, using an FRCP combined with direct composite build-up.

Conclusion

Luting system selection significantly influenced the bond strength of conventionally and adhesively luted FRCPs to bovine root canal dentin.

Dental Traumatology 2013; 29 (5): 339-354.

Can the intra-examiner variability of Little's Irregularity Index be improved using 3D digital models of study casts?

Dowling, A.H., Burns, A., Macauley, D., Garvey, T.M., Fleming, G.J.

Objectives
To compare contact point displacement measurements used to determine the Little's Irregularity Index (LII) score on study casts and digital models of study casts by an independent examiner.

Methods
The contact point displacement measurements of the six maxillary anterior labial teeth were measured on ten study casts, using digital callipers and their associated digital models, and using Creo Parametric software on five occasions following scanning using a LAVA chairside oral scanner (LCOS) three-dimensional (3D) intra-oral scanner. Means, standard deviations and co-efficients of variation (CoV) were determined, and data analyses (Pearson's correlation coefficients [PCCs] and Intraclass correlation coefficients [ICCs]) and statistical analyses (three and two-way analyses of variance [ANOVAs] and Independent Sample Student's t-tests) were carried out ($p<0.05$).

Results
Significant positive correlations for the contact point displacement measurements were evident between all measurement time points for the study casts ($r>0.978$; $p<0.0001$, and $ICC>0.910$; $p<0.0001$) and the digital models ($r>0.963$; $p<0.0001$, and $ICC>0.986$; $p<0.0001$). The CoV results showed that the contact point displacement measurement data from the digital models was more reproducible than the study casts. Of the 50 Independent Sample Student's t-tests, 21 significant increases ($p<0.042$) were reported in contact point displacement measurements <2.9mm for the digital models compared with the study casts.

Conclusion
The use of 3D digital models can improve the reliability of LII measurements by reducing the subjectivity associated with choosing the anatomic tooth contact points, and the awkwardness of measuring the contact point displacements on study casts using a cumbersome calliper technique.

Clinical significance
Intra-examiner variability in the measurement of LII is still evident, with digital models suggesting that either improved software specifically aimed at the orthodontic community be identified or a new method for measuring anterior incisor crowding be sought.

Journal of Dentistry 2013, September 3. [Epub ahead of print]

Effects of quaternary ammonium chain length on antibacterial bonding agents

Li, F., Weir, M.D., Xu, H.H.K.

The objectives of this study were to synthesise new quaternary ammonium methacrylates (QAMs) with systematically varied alkyl chain lengths (CL), and to investigate, for the first time, the CL effects on antibacterial efficacy, cytotoxicity, and dentin bond strength of bonding agents. QAMs were synthesised with CL of 3 to 18and incorporated into Scotchbond Multi-Purpose (SBMP) bonding agent. The cured resins were inoculated with Streptococcus mutans. Bacterial early attachment was investigated at four hours. Biofilm colony-forming units (CFU) were measured after two days. With CL increasing from 3 to 16, the minimum inhibitory concentration and minimum bactericidal concentration were decreased by five orders of magnitude. Incorporating QAMs into SBMP reduced bacterial early attachment, with the least colonisation at CL = 16. Biofilm CFU for CL = 16 was 4 log lower than SBMP control ($p<0.05$). All groups had similar dentin bond strengths ($p>0.1$). The new antibacterial materials had fibroblast/odontoblast viability similar to that of commercial controls. In conclusion, increasing the chain length of new QAMs in bonding agents greatly increased the antibacterial efficacy. A reduction in Streptococcus mutans biofilm CFU by 4 log could be achieved, without compromising bond strength and cytotoxicity. New QAM-containing bonding agents are promising for a wide range of restorations to inhibit biofilms.

Journal of Dental Research 2013; 92 (10): 932-938.

Quiz

Quiz answers (questions on page 222)

1. **What clinical features in this case would raise your concerns?**
   Any swelling that has been present for a prolonged period of time (two weeks) should raise concerns. Of note is the fact that the swelling is hard, painless and fixed, meaning that it cannot be moved within the tissues. Inflammatory lymph nodes tend to be enlarged, tender and mobile. Nodes affected by malignancy are hard and may fix to surrounding tissues.

2. **What other investigations should be carried out?**
   Given the suspicions raised by the clinical examination, and the fact that this may be a metastasis, a referral to a maxillofacial surgeon for an assessment and biopsy of the node should be arranged. Other investigations to locate the primary would also be required, for example examination of the nasal passages, nasopharynx and oropharynx. 3D imaging such as CT or MRI may be required. The dentist can, however, assist by taking a panoramic radiograph to exclude any retained root or buried teeth. In this case, a primary lesion was found on the posterior wall of the nasopharynx.

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Use: Symptomatic treatment of mild to moderate pain.
Dosage: Adults: 25mg every 8 hours or 12.5mg every 4-6 hours. Maximum daily dose 75mg. Use lowest effective dose for the shortest duration necessary to control symptoms. In the elderly or those with mild-moderate hepatic dysfunction or mild renal dysfunction, initial maximum daily dose of 50mg. Not recommended for children or adolescents.
Contra-indications: Hypersensitivity to dexketoprofen, the excipients or other NSAIDs, NSAID induced attacks of asthma, bronchospasm, acute rhinitis, or nasal polyps, urticaria or angioneurotic oedema. History of or active peptic ulcer/haemorrhage, chronic dyspepsia, history of gastrointestinal bleeding or perforation related to previous NSAIDs therapy, gastrointestinal bleeding, active bleeding or bleeding disorders. Crohn's disease or ulcerative colitis, asthma, severe heart failure, moderate-severe renal dysfunction, severe hepatic dysfunction, haemorrhagic diathesis and other coagulation disorders, during the third trimester of pregnancy and lactation.
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 haematopoietic disorders, connective tissue disorders, impairment of hepatic and/or renal functions, history of hypertension and/or heart failure, diuretic therapy, the elderly. Special caution in patients with cardiac disease, especially episodes of previous heart failure. May mask symptoms of infectious diseases. Can increase parameters of renal and hepatic function. 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. Do not use in women attempting to conceive. Do not use during the first or second trimester of pregnancy unless clearly necessary. 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).
Interactions: Other NSAIDs, anti-coagulants, heparins, corticosteroids, lithium, methotrexate, hydantoines and sulphonamides, diruretics, 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.
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%) laryngeal oedema, anorexia, paraesthesia, syncope, hypertension, bradypnoea, peptic ulcer, peptic ulcer perforation, hepatitis, urticaria, acne, increased sweating, back pain, acute renal failure, 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. As with other NSAIDs, the following may occur: melaena, haematemesis, ulcerative stomatitis, exacerbation of colitis and Crohn's disease, cardiac failure, aseptic meningitis haematological reactions, agranulocytosis and medullar hypoplasia. Bullous reactions. Some NSAIDs (particularly at high doses and in long term treatment) may be associated with a small increased risk of arterial thrombotic events (e.g. myocardial infarction or stroke).
Pack size: 50 tablets. **Legal category:** POM
Marketing authorisation number: PA 865/2/2
Marketing authorisation holder: Menarini International Operations Luxembourg S.A., 1 Avenue de la Gare, L-1611 Luxembourg.
Marketed by: A.Menarini Pharmaceuticals Ireland Ltd
Further information is available on request to A Menarini Pharmaceuticals Ireland Ltd, 2nd Floor, Castlecourt, Monkstown Farm, Monkstown, Co. Dublin, Ireland or may be found in the SPC.
Date of preparation: August 2011

References:
1. Barbanoj Rodriguez, M.J., et al. Expert Review of Neurotherapeutics. 2008; 8(11):1625-1640

A.MENARINI
PHARMACEUTICALS IRELAND LTD
Healthcare for Life

Date of Item: June 2013
13Keral004

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 Monday November 4, 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

Please note that all classified adverts MUST come under one of the following headings:

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

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

POSITIONS WANTED

Experienced female dentist relocated to west seeks associate position in the west of Ireland – Mayo/Galway area. Please Email: emermonfarrell@yahoo.co.uk.

POSITIONS VACANT

Dental associate required for busy dental practice in Tipperary. Initially three days/week with potential for full-time. Please send CV to: dentistrequired151@gmail.com.

Full-time, conscientious, hard-working associate required for a busy dental surgery in Galway City. Huge earning potential. Tel: 085-142 8270, or Email: fissureseal@yahoo.ie.

Associate required for a busy, family-friendly practice in the north east. Initially one day a week with the possibility of further work. Excellent support and remuneration. Reply to: dentalwinestreet@gmail.com.

Galway city centre: excellent opportunity for an associate dentist with one or more years' experience to join a modern, computerised, private practice with skilled support staff. Please send your applications to: associategalwaycity@gmail.com.

Associate required for our three-surgery practice in Drogheda. Great opportunity for enthusiastic and experienced dentist. Immediate start. Contact us at: jobs@smiles.ie.

Full/part-time associate required for busy Dublin city centre clinic. Ideal for motivated and experienced associate. September start. Email: jobs@smiles.ie.

Opportunity for motivated and experienced associate to join our busy Dublin 17 practice. Immediate start. Great conditions. Contact Susie, Email: jobs@smiles.ie.

Opportunity for full-time associate to join our dental clinic in Waterford. Great potential for enthusiastic and experienced dentist. November start. Email: jobs@smiles.ie.

West of Ireland. Associate needed to join busy periodontal practice. Excellent income. High-profile location. Practice expansion possible. Fully computerised. Excellent equipment/staff. Flexible options, including self-employed. Tel: 086-807 5273, or Email: niall@innovativedental.com.

Experienced associate required in Bray. Four days per week with view to partnership. Special interest in endodontics/oral surgery/orthodontics/periodontics advantageous. Send CV to: drsmvd@gmail.com.

Experienced, motivated part-time associate required for busy Navan practice. Saturdays initially. Excellent equipment and staff. Periodontist and hygienist. Email: gh@bridgeviewdental.ie.

Enthusiastic, experienced associate required for busy Dublin 8 dental practice, three to four days a week. Tel: 085-784 4873, or Email: diamondsmiledental@gmail.com.

Associate wanted for part-time postion, including Saturdays. Bright, modern surgery in the south east. Computerised, digital, rotary, hygienist, excellent support staff. Ideal job for an outgoing, enthusiastic individual looking to join a fun team. Scope to increase days. Email: cazzakeogh@gmail.com.

Enthusiastic dentist required for a part/full-time position to take over an existing book at a modern practice with digital imaging in Dublin 16. Tel: 01-495 7844, or Email your CV to: kbmdental.grange@gmail.com.

Part-time/full-time position available for an enthusiastic Polish-speaking dentist at a modern Dublin 24 practice. Fully computerised and digital imaging. Tel: 01-414 0616, or Email: kbmmedics@gmail.com.

Part-time position for dentist in busy dental practice in Dublin 12. One session initially. Computerised, hygienist, busy location. Email CVs to: cromey1@hotmail.com. Post starts mid-late October.

Locum required east Meath August 19-28. Accommodation available, if necessary. Tel: 041-988 6545, or Email: bettystowndental@gmail.com.

Orthodontist required for busy dental practice in north east, two days per month. Established orthodontic service (orthodontist departing). Contact Dr B. Fee, Tel: 086-823 7145, or Email: bfeedental@hotmail.com.

Visiting orthodontist required for sessional work on a fee-sharing basis in a busy multiple practice in Newbridge. Apply with CV to: dentalcolleagues@gmail.com.

Orthodontist required one to two days per month in long-established family practice in south Dublin, replacing retiring orthodontist who is finishing treatments. Good potential to increase sessions with new patients from in-house referrals and practice website Tel: 280 9753, or Email: info@dentalclinic.ie.

Qualified dental nurse available with further qualifications in implant surgery and sedation. Experience in chairside and reception. Full/part-time. Locum sessions also considered. Tel: 087-678 1908.

Part-time qualified dental nurse wanted for busy southside Dublin practice. Reception and chairside. Modern, friendly practice. Fully computerised. Email: mayberrydentalcare@gmail.com.

Part-time dental nurse position to cover maternity leave, October to March. Modern practice, fully computerised. Wicklow Town. Email: info@delahuntandfoley.com.

Orthodontic nurse required full-time, based in Kilkenny. Orthodontic nursing experience required. Lovely friendly practice, very attractive package. Email for an immediate interview: kilkennydentist@gmail.com.

Limerick. Experienced dental nurse required for temp role in busy private clinic. Immediate start. Email: info@crescentdental.ie.

Enthusiastic, experienced dental nurse required for a specialist practice in Booterstown. Applicant must be friendly, caring and well motivated. Computer skills desirable but not essential. Enquiries please Email CV to: dorndenendo@gmail.com.

Qualified, Dental Council-registered hygienist required in Rathfarnham to take over from departing colleague. Bright outgoing attitude, and good interpersonal and motivational skills, essential. Position will end up being four days per week in six months. Please Email CV and full references to: hygienistjob151@gmail.com.

Dublin city centre practice requires experienced part-time associate. Two days per week. Fluent English essential. Digital imaging and OPG. Practice manager. Email or phone 086 2608551. Email donal@finance2suit.com.

Experienced dental nurse required for general practice in Galway city centre. E-mail CV to info@galwaydentist.com.

Part time dental nurse position general practice Douglas, Cork. Applicant should be enthusiastic, friendly and experience/qualification preferred. Email dentalnursejob@outlook.ie.

Experienced and highly organised Practice Receptionist/Administrator required. Minimum five years' experience working in a dental practice essential. Send CV and cover letter to aidan@kinnegaddental.ie by October 7th.

Experienced and conscientious dentist required Stillorgan area. Please send CVs with references to stilldentcare@hotmail.com.

Associate wanted. Modern busy Cavan Town dental practice. We do orthodontics, sedation, dental implants and antiwrinkle procedures. Invaluable experience to be gained. Please email churchstreetdental@eircom.net

EQUIPMENT FOR SALE

For sale. Second hand Heka Dental chair+Satelec x-ray. Bought in 2009, never used. Priced for quick sale. Email: drenzlova30@yahoo.com.

Star Titan scaler for sale – €200. Dental stool for sale – €100. New Belmont light for sale – €500. Please Tel: 085-235 1608.

PREMISES FOR SALE/TO LET

West of Ireland. Galway city 40 minutes. Great location – large footfall. Very low start-up costs. Eight medical GPs in surrounding area. Very busy pharmacy on site. Area wide open. Low rent. Tel: 086-807 5273, or Email: niall@innovativedental.com.

Surgery location to rent in Ballsbridge, Dublin 4. Three surgeries, reception, waiting room, bathroom, staffroom and office. No dental equipment included. Ideal for dentist looking to establish long-term set-up. Location of successful practice 30+ years. Tel: 087-688 4094, or Email: farronmahon@hotmail.com.

For sale – south Dublin. Very busy practice. Single surgery. Serviced rooms. Expansion possible. Good visibility. Plentiful free parking. Fully computerised. Very high new patient numbers. Flexible lease options. Medical Card – nil. Very low overheads. Good turnover. Quick sale. Tel: 086-807 5273, or Email: niall@innovativedental.com.

For sale – south Dublin City. Very busy practice. Prestigious location. Two surgeries – flexible options. Excellently equipped. Expansion possible. High visibility. Large footfall. Flexible lease options. Medical Card – nil. Good turnover. Speedy sale required. Tel: 086-807 5273, or Email: niall@innovativedental.com.

For sale – south west Ireland. Top-class specialist practice. Excellent income. High profile location. Very busy. No medical card. Low overheads. Significant room to expand hours. Fully computerised. Excellent equipment. Great support staff. Competitively priced. Tel: 086-807 5273, or Email: niall@innovativedental.com.

For sale – Dublin city centre. Superb opportunity. Premises, high-profile dental clinic. Fully kitted out. Modern equipment: digital intra-oral/OPG. Ideally located to start general practice with flexible outlay. Hugh potential – area under-serviced. Low overheads. Tel: 086-807 5273, or Email: niall@innovativedental.com.

Dental practice for sale in Co. Tipperary. Retirement sale. Opportunity to purchase this busy, long-established, town centre practice. Finance available. Email: charles@irishdentist.com.

Practice for sale – Dublin Southwest. High profile. Very busy. Three surgeries. Modern, excellently equipped. Fully computerised. Hygienist. OPG. Property – flexible options. High new patient numbers. Free parking. Highly profitable. Competitively priced. Tel: 086-807 5273, or Email: niall@innovativedental.com.

Practice for sale – south Dublin. Beside busy shopping centre. Long-established, two surgeries. Tel: 087-234 9767 (evenings), or Email: medardt12@gmail.com.

Dental surgery for sale. Long-established, modern three-chair surgery. Busy town 30 minutess from Galway City. Computerised, OPG, full renovation four years ago. Minimal medical card. Profitable business, full book for principal and associate, and three days of hygiene. Excellent opportunity. Email: cogalwaydentalsurgery@hotmail.com.

West Mayo coastal town. Practice for sale. Long-established (1968) leasehold. Full book. Price very reasonable for quick sale. Email: lights.harbour@gmail.com.

Busy dental practice for sale – Cork City, southside suburbs. Contact Liam, Tel: 087-232 7557, or Email: lindaryan001@gmail.com.

New dental/specialist practice opening in Cork. Are you interested in a profit-sharing partnership? GDP should have an interest in paedo/ortho, although not essential. Ideal for someone with own list or looking for a new start. Email: aherndavet@gmail.com.

Busy dental practice for sale – 45 minutes south from Dublin. Cost sharing. Senior partner retiring. Fully equipped surgeries and computerised. Replies to: cswdental@gmail.com.

OCTOBER

HSE Dental Surgeons Group Annual Seminar
October 16-18 *Mullingar Park Hotel*

CPD Roadshow – Kilkenny IDA MEMBERS ONLY
October 19 *Lyrath House Hotel, 10.00am to 1.00pm*

CPD Roadshow – Galway IDA MEMBERS ONLY
October 19 *Clayton Hotel, 10.00am to 1.00pm.*

AHEKON, the 4th Annual International Family Practice Congress
October 23-27 *Susei Luxury Resort, Antalya, Turkey*

Faculty of Dentistry RCSI Annual Scientific Meeting 2013 – Surgical Aspects of Dental Practice
October 24-25 *RCSI, Dublin*
To register and for further information, contact the Faculty Office at facdentistry@rcsi.ie.

North Munster IDA – Branch meeting IDA MEMBERS ONLY
October 29 *The Strand Hotel, Limerick, 8.00pm*
Speaker is Dr Joe Callanan.

Irish Endodontic Society Meeting
October 31 *Small Lecture Theatre, Dublin Dental Hospital 7.30pm*
Speakers: Seamus Sharkey and Conor Durack on Implantology/Endodontic – The Great Debate

NOVEMBER

CPD Roadshow – Dublin IDA MEMBERS ONLY
November 2 *Radisson Dublin Airport Hotel, 10.00am to 1.00pm*

Dental Protection 'Horizons' Workshop – Cork
November 4 *Maryborough Hotel and Spa*

Dental Protection 'Horizons' Workshop – Limerick
November 5 *Radisson Blue Hotel and Spa*

Dental Protection 'Horizons' Workshop – Kilkenny
November 6 *Ormonde Hotel*

Dental Protection 'Horizons' Workshop – Dublin
November 7 *Hilton Hotel, Charlemont Place*

CPD Roadshow – Sligo IDA MEMBERS ONLY
November 9 *Radisson Hotel, 10.00am to 1.00pm*

CPD Roadshow – Limerick IDA MEMBERS ONLY
November 9 *Strand Hotel, 10.00am to 1.00pm*

Metropolitan Branch IDA – Branch meeting IDA MEMBERS ONLY
November 14 *Hilton Hotel, Charlemont Place, Dublin 2*
Speakers are Drs Mark Kelly, Paul Quinlan and Emma Corrigan.

CPD Roadshow – Cork IDA MEMBERS ONLY
November 23 *Rochestown Park Hotel, 10.00am to 1.00pm*

North Munster Branch IDA – Branch meeting IDA MEMBERS ONLY
November 26 *The Strand Hotel, Limerick, 8.00pm.*
Speaker is Sean McGowan – the first Irishman to row solo across the Atlantic Ocean. This talk will inspire and will have you asking yourself: if he can do that, what's stopping me from fulfilling my potential?

JANUARY 2014

Joint Irish Endodontic Society/Metropolitan Branch IDA meeting
January 30 *Hilton Hotel, Charlemont Place, Dublin 2*
Speakers are Drs Willy Pertot and Luc van der Sluis.

Irish Endodontic Society – Annual Scientific Meeting
January 30 and 31 *Hilton Hotel, Charlemont Place, Dublin 2*
Thursday evening in conjunction with IDA Metro Branch
Friday morning – The Future of Endodontics

FEBRUARY 2014

Practice Management Seminar IDA MEMBERS ONLY
Saturday February 1 *Croke Park*

Metropolitan Branch IDA – Annual Scientific Meeting
February 7 *Hilton Hotel, Charlemont Place, Dublin 2*

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

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

North Munster Branch IDA – Branch meeting IDA MEMBERS ONLY
February 25 *The Strand Hotel, Limerick, 8.00pm*
Speaker is Dr Christine McCreary, Consultant in Oral Medicine, UCC.

Irish Endodontic Society Meeting
February 27 *Small Lecture Theatre, Dublin Dental Hospital 7.30pm*
Case Presentation Night

MARCH 2014

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

Dental insurance at its best

DeCare Dental

Here's some good news

From November 20th, DeCare Dental will be offering its specialist dental insurance service directly to customers, as well as providing plans and information through additional consumer channels.

This means greater choice and more access to dental insurance for customers and increased attendance at your dental practice.

We'll keep you posted!

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