Volume 52 Number 1 Summer 2006

Journal of the Irish Dental Association
Iris Cumainn Déadach na hÉireann

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The Journal of the Irish Dental Association
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A busy agenda

The Irish Dental Association has just held its Annual Meeting in the RDS, Ballsbridge. It was a very successful event, giving dentistry a much needed public relations boost. Educating the public about dentistry and the conditions that the dentist sees is a very important part of what we do. Welcoming the public to join us for some lectures should remain part of our conference. Education, understanding and appreciation of the professional and public aspects of dentistry can only be good for us. Our President, Dr Gerry Cleary and his team must be complimented on the high standard attained. I learned about areas I rarely see. I heard about clinical and management developments and had the opportunity to meet companies and suppliers and see how 'far advanced technology' is being incorporated into dentistry. The Pre-Conference Courses with live surgery showed the power of video-technology as a teaching aid for undergraduate, postgraduates and the general dental practitioner.

The increased number of articles being submitted to the Journal is welcome and to be encouraged. It is hoped that colleagues feel that their articles are being fairly reviewed. The Editorial Board is grateful to all those referees, without which the Journal could not function. We have been trying to ask a wide group of people to referee and if anybody is particularly keen, please contact the Editorial Office (fionnuala@irishdentalassoc.ie). We are also open to suggestions on management issues that you would like to hear about.

Recently the Government set up a HSE Committee looking at orthodontics, following questions in the Dáil. Orthodontists are to be congratulated on highlighting the problems in their area. It is essential that the committee look at the wider view, and should include a wide group of clinicians. It is unfortunate that the wider spectrum of dentistry/surgery is not included in this review. The development of orthodontics requires the support of their colleagues and, in particular, the maxillofacial surgeon. We have seen a vast increase in the need for orthognathic (jaw) and orthodontic surgery, without any development in the numbers of maxillofacial surgeons. The waiting list in these areas gets longer and longer. There is a considerable deficiency in special needs dentistry, paedodontics, sedation and general dental practice. These needs must be highlighted. This is an opportunity for dentistry and maxillofacial surgery to put a national strategic plan forward.

Recently in a paper by Lynch *et al* published in the *European Journal of Dental Education* 2006, 10, 73-79, the difficulty in choosing people to study dentistry was highlighted. Lynch showed that in his cohort of Cork students that the Leaving Certificate results bore some significance with the basic science results but did not bear any significance with regard to the results in Final BDS. He concluded that the current selection process for dental students in Ireland seems to be of limited value. How do we choose? Achievements in the Leaving Certificate examination, an interview, a test of dexterity, aptitude tests or a mixture of all of them. It is often said that 'I can teach a monkey to operate but not to think' and whatever assessment is introduced it must not denigrate the need for the dentist to be able to think, maintain a wide knowledge base and use common sense. Basic manual dexterity is essential and some form of simple manual dexterity tests could easily be applied to the assessment criteria.

Two very interesting papers, reviewing the literature, and setting guidelines have come to my notice. These are due for an update in the near future but will be of interest to most of us. A) The Surgical Management of the Primary Care Dental Patient on Warfarin (www.dundee.ac.uk/tuith/Static/info/warfarin.pdf) and b) Surgical Management of the Primary Care Dental Patient on Antiplatelet Medication (www.dundee.ac.uk/tuith/Static/info/antiplatelet.pdf). These are well worth reviewing as they give us relatively simple guidelines and algorithms on what to do in these situations. The most important aspects are that the risks of stopping the medication (with an INR of < 4) are greater than the risk of continuing them and having a bleed. Good pre- and post-op instructions with gentle surgery and the use of a haemostatic agent (oxidised cellulose) and suturing is all that is required.

This Journal is our first published by ThinkMedia under Paul O'Grady and Tom Cullen and it highlights some of the changes envisaged for the Journal. The Editorial Board welcome their input, enthusiasm and support.

Leo F. A. Stassen

Prof. Leo F A Stassen

Change is being implemented

The Pre-Conference Course at the Dublin Dental Hospital was a great success.

We have just concluded our Annual Scientific Conference which is our show case event every year. What a Conference we have had! In my opinion, our Association, has made a statement about ourselves during the conference week. And I think it was a significant statement: we are proud of who we are and what we do and are now prepared to let people know about that.

As your President I felt great pride walking into the RDS each morning and seeing on 8' by 8' signs that the dental profession of Ireland was at its Annual Scientific Conference. As an Irish dentist this made me feel very proud.

We had several interesting features at the Conference, none more so than the Scientific Programmes which included so many of our own talented individuals. For the first time ever we had an Irish dental nurse, an Irish dental technician and an Irish dental hygienist speak to their respective programmes. This is a terrific testament to our colleagues and friends in the allied dental professions. Each of their presentations was outstanding and very well received on each of the programmes. Those who participated in the pre-conference courses in the DDH and School will agree that we had a wonderful welcome from the School and a terrific day of learning with hands-on and live surgery, and demonstrations. Certainly, this is an area we need to explore more with our friends in the School and the other schools. Thanks to the DDH for their hospitality.

Our first information evening for the general public was a great success. We estimate that 90 members of the general public attended to hear the presentations. The feed back from the audience afterwards was extremely positive, welcoming the information given to them and looking forward to the next opportunity to have a similar session. In my opinion this was a resounding success for our Association and it is my hope to see further such information evenings carried out on a regional basis and we are also looking at the possibility of having the proceedings prepared in DVD format. Thank you to our information evening presenters and this certainly is something that our Association should look at developing and moving on with.

The information evening also provided our public relations company with a vehicle to promote our Association. In the week of the Conference we had national press, television and extensive radio coverage. During the week of May 8, we had three members of our Association on the afternoon show on RTE. This is as a direct result of the profession going out there and promoting itself.

John Barry, our President-elect, and his team have worked extremely hard at putting next year's Conference together. I hope you all found out about it during the ASC and that you are already making plans to be in the Rochestown Park Hotel in Cork in April next year.

Appointments

Change continues in our Association. This was our first Conference with Ciara Murphy as our CEO and Council acknowledges her commitment to the Association over the very busy last two years. We are also pleased to announce that our new Membership Services Development Manager, Elaine Hughes, took up her appointment on May 8. She spent the Thursday of the conference with us so hopefully nobody frightened her away.

A new junior administrative appointee, Karen Kinsella, started with us the following week. As we work our way back to a full complement of staff within IDA House, it is our hope that the work load will be spread in a more uniform manner and that our new Membership Services Development Manager will be looking at new ideas and services for our members.

Report is map for work

As I said at our AGM, the map for the work of this Council - and probably the next couple of Councils - is the PWC report into our Association. Under the direction of our very able and hardworking Hon. Sec., Bernard Murphy, and your Executive, the process of implementing the change is off to great start. We are focusing on corporate governance and a finance and audit committee is being formed and put in place. The most significant part of this process (which you will hear a lot about in the coming months) is a complete overhaul and streamlining of our Articles and Bye-Laws. We will work on this with Council and when the preparatory work is complete, then send them to each member of the Association in anticipation of our AGM.

Gerry Cleary,
President.

New Manager

Elaine Hughes has been appointed Membership Services Development Manager of the Irish Dental Association. A native of Co Wexford, Elaine joins the Association from CREST Ireland – a business development programme promoting excellence in the retail sector. Prior to her role with CREST, Elaine was Business Development Manager with Waterford Chamber of Commerce and Secretary to the Board of Directors. She brings strong experience in the area of membership services, business development and communication skills. Elaine holds an honours degree in Business from Dublin Business School.

Membership Services Development Manager, Elaine Hughes.

Letter

From: **Peter Cowan**
To: **Walter Allwright**
Subject: **JIDA article on third molar teeth**

Dear Walter,
Thank you very much for taking the time to comment on my article on the 'Treatment of third molar teeth' in the most recent edition of the Journal of the Irish Dental Association. I am glad that you enjoyed it in general and I take note of your concerns regarding some of the assessment criteria for removal.
Twenty to 30 years ago, we would all have agreed that impacted third molar teeth should be removed because of the potential for pathology at some later stage. This tended to include even unerupted teeth with a full bony covering in some instances. More recent evidence suggests that in many of these cases, followed over a number of years, no symptoms develop at all. Furthermore, in a number of situations, particularly partially erupted teeth, the teeth tended to erupt successfully. This, coupled with the enormous increase in litigation over the last 10 years, has altered the thought process considerably and hence the birth of a new set of recommendations and the current NICE guidelines. Accordingly, I would fully support the concept that prophylactic removal of third molars teeth should be discontinued where it can be shown that there is no likely benefit to the patient. I believe these teeth should be treated on a symptomatic basis. There will of course be borderline cases, when the clinician will have to make a judgement call based on experience, but in the main, I must say this format has served me well.
While I accept that tissue healing will progress more smoothly when it is possible to completely close a keratinised flap over an unerupted or buried tooth, I would not agree that healing will often be painful and difficult following the extraction of partially erupted teeth. With good hygiene awareness and resorbable sutures, most of these will heal well and without complication. Walter, I am most appreciative that you took the time to write and also for your courtesy of passing on a copy to me.

Kindest personal regards.
Yours sincerely, **Peter Cowan.**

Recently, Dr John Lee was presented with a lifetime recognition award by the Metropolitan Branch. Below is an edited version of the citation.

A lifetime's service

Dr John Lee

John was born in 1915, the year before the Easter Rising, in Kilfinane, Co. Limerick. His father was the district dispensary doctor and John was the second youngest of ten children.
He went to school at St. Munchin's in Limerick and made his first visit to Dublin in 1933 to sit the entrance examination for the Royal College of Surgeons. Despite contracting pulmonary tuberculosis in 1937, he managed to qualify as a dentist in 1939.Along with his great friend, Jim Keith, he commenced medical studies during the war and qualified in medicine in 1945.

Close association

John opened a private practice in Rathmines in 1941. During his many years in practice, he was closely associated with the Dublin Dental Hospital and the College of Surgeons. He was on the visiting staff at the Dental Hospital from 1952 until 1980, working mainly in the Prosthetic Department. He was a lecturer in the College of Surgeons from 1953 until it closed in 1976.
John joined the Irish Dental Association in 1941 and served in many capacities, including as President in 1969. He represented the Association on the international advisory committee that led to the promulgation of the Dental Directives of the European Community. John served on this committee for 14 years and was international president from 1978 to 1982.
He was a member of the Dental Council for eight years and was involved in the foundation of the Irish Dental Benevolent Society in 1949. He was a trustee of this society for 25 years.
In addition to all of this, John found the time to marry Gene in 1950 and they have four children, none of them dentists! He also found time to write two books: 'A History of the Irish Dental Association' and 'The Evolution of a Profession and its Dental School in Dublin'. This award recognises his lifetime of distinguished service to dentistry in Ireland.

ASC in focus

A look back at the recent Annual Scientific Conference in pictures.

The standard of speaker, the level of organisation and the innovation of a session for the public at the recent Annual Scientific Conference of the IDA have all been praised by delegates. And while the number of delegates was the second-highest ever, there was some regret that more general practitioners didn't avail of the opportunity to attend.

IDA President Gerry Cleary was on hand to welcome exhibitors and delegates alike.

Liz Rowen; Damien McCormack; Lorna Spillane, and Sinéad Bailey on the GlaxoSmithKline stand.

Jacqueline Costello presents Siobhan Lucey with the Costello Medal. Siobhan won the Medal for her paper 'Pins are passé'. The competition is for final year students of dentistry in Ireland.

On the Nobel Biocare stand were: Ciaran Likely; Mary-Paula Walsh; Eamonn Farrell, and Aled J. Llewelyn.

Dr Abigail Moore (right) receives the Moloney Award from Irene Moloney. Sponsored by the Dental Health Foundation, the Moloney Award is made to the presenter of the best demonstration at the ASC.

Denis Kelly; Oral Surgeon Mark Diamond, and Bill Pemberton chatting on the Dentsply Friadent stand.

On the 3i stand were: Simon Bird; Marilyn Course; Dr George Priest; and Olivia Kirwan.

The presentations were of a very high standard.

Victoria Burton; Darren Pasley, and Valerie Kiernan on the Colgate stand.

The assembled golfers pictured with the President.

Gemma Clayton and Maria Devereaux were with Wrigley at the ASC.

On the Kodak stand were: Daniel O'Mahony; Emma Fitzgerald, and Phil Mullin.

IDA President, Dr Gerry Cleary presents Dr John Lawlor of the Northbrook Clinic, Ranelagh, Dublin, with his prize for winning the ASC Golf Outing.

Past Presidents at the Conference. Front row - left to right: Paddy King; Gerry McCarthy; Norman Butler; Art McGann; Vincent O'Connor; Pat Cleary; Theo Hanley; and, Cathal Carr.
Back row: President elect, John Barry; Michael Galvin; Tom Feeney; Charles O'Malley; President Gerry Cleary; Garry Heavey; Martin Holohan; Joe O'Byrne; and, Barry Harrington.

Dr Seton Menton with President-elect Dr John Barry and Dr Paddy Crotty, presenter of the Pre-Conference Course.

Colgate Oral Health Month

Colgate, in partnership with the Irish Dental Association, announced details of Colgate Oral Health Month 2006 at the IDA's Annual Scientific Conference. It will, once again, take place during the month of September. According to the company, Colgate Oral Health Month 2006 promises a new, exciting and activity-filled campaign, which aims to improve the oral health of Irish people.

Making the announcement were (from left to right): Valerie Kiernan, Professional Relations Manager, Colgate; James Holahan, Managing Director, Colgate-Palmolive Ireland; Gerry Cleary, President, Irish Dental Association; and, Ciara Murphy, CEO, Irish Dental Association.

UCC prizewinners

This year's prizewinner at the UCC Dental School and Hospital, Catherine Lambe, receiving her prize from Professor Gerard T. Wrixon, President, UCC.

The Dental Hygiene prize winners (from left) Esmarie Husemayer, Carol Bergin, Eilish Ryna, Siobhan Gargan, and Ciara Finlay pictured with the past President of the IDA, Dr Gerry McCarthy.

Sligo conference

The Irish Dental Association, in conjunction with the North West Postgraduate Committee, is holding a two-day conference on October 6 and 7, in the Clarion Hotel, Sligo. The lecturers will be Dr Frank Houston, Dr Frank Quinn, Dr Terry Gregg, Dr Janice Fearn, Dr Linda Elliot and Paul Overy. Topics covered will include dento-alveolar trauma, hypomineralisation defects, recent developments in ceramic crowns, cad-cam restorations, endodontics and financial engineering.

A fantastic social programme incorporating golf and a poker classic while for the kids a magician has been arranged for the Saturday afternoon. To make it even easier for delegates to attend, very good accommodation rates have been negotiated with the Clarion Hotel.

Disability and Oral Health

The Society of Disability and Oral Health is organising a conference on June 23 in the Alexander Hotel, Dublin. It is the fifth annual conference and it is a instructive and interesting day for those involved in the provision of care for those with a disability.

Further details are available from the Secretary of the Society, Dr Mark Henry who is at the Dental Department, Health Centre, Arden Road, Tullamore, County Offaly.

Honour for past President

Past President of the Irish Dental Association, Dr Patrick Cleary, has been awarded Fellowship of the American College of Dentists. The College was founded in 1920 to promote excellence, ethics, professionalism and leadership in dentistry. It recognises dentists who have made a significant contribution to their profession by awarding Fellowships. The award is by invitation only.

Dr Patrick Cleary.

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Celebrating twenty years

3i, which offers oral reconstructive products and restorative components, is approaching its 20th birthday. According to the company, it pioneered the development of biologically driven implants, winning worldwide acclaim for the microtextured surface and superior clinical success rates of the Osseotite Implant.

Co-founded by a periodontist and an engineer, the company was acquired by Biomet in 1999, a leading manufacturer of orthopaedic components. This take-over greatly enhanced the company's research and development resources, allowing 3i to further develop its product range.

According to Olivia Kirwan, left, Sales Manager for Ireland: "3i brings the same innovation, high standards and comprehensive approach to customer service, technical support and continuing education. The sales representatives and customer service staff are trained to an extremely high standard in technical and clinical dental issues, to further enhance your experience with 3i."

New faces at NobelBiocare Ireland

NobelBiocare Ireland has appointed two new executives to its sales team: Ciaran Likely, right, based in Limerick, will represent the company in the south, and Mary-Paula Walsh, far right, based in Galway, will cover the west. As a result, Fionnuala Colgan now represents NobelBiocare in Northern Ireland only, while Eamonn Farrell will cover Dublin. At the head office in Greystones, Elaine Willis has joined the team.

Meanwhile the company has developed a patient-oriented website, www.nobelsmile.com with the message: 'Your journey to beautiful teeth starts here.'

Listerine campaign

Listerine has launched a 'Love Your Whole Mouth' campaign to educate and inform Irish people of the importance of whole mouth hygiene. Consumers were offered samples and a free t-shirt for logging on to www.loveyourwholemouth.com.

The Listerine range of essential oil mouthwashes is the only mouthwash range to be accredited by the Irish Dental Association. According to the company, they are clinically proven to produce a reduction of up to 48% in recoverable plaque bacteria between the teeth and reduce the accumulation of plaque by up to 52% when compared to brushing and flossing alone.

Listerine is using survey results saying that less than half of Irish consumers are actually using a mouth wash, and

highlighting that mouthwash is drastically needed, as it reaches parts of the mouth that brushing misses and therefore cleanses your whole mouth.

Dentist Paul O'Dwyer is assisting Listerine with the campaign and states in the company's promotional material: "We know that around 90% of the adult population experience gum disease and that only a small percentage of the population remove plaque from between their teeth. Despite our very best efforts on the flossing technique, even those who can get the hang of it often miss areas. Patients ask me on a regular basis how much will treatment cost and just how badly diseased their gums are. This is why I encourage everyone to treat their teeth respectfully on a daily basis, rinsing with a mouthwash twice a day to reach almost 100% of bacteria in your whole mouth."

Business climate

John O'Connor, Managing Director of Omega Financial Management, says that all the fundamentals are in place for continued growth in the housing market, notwithstanding the unparalleled growth that has occurred over the past decade. The demand will be driven by the growth in population, changes in Ireland's demographic profile, high employment growth and improved standards of living. Mortgage lenders will need to keep pace with the market by offering customers increasingly flexible and innovative products to meet customers' needs.

On interest rates, John says that variable rates will increase by a further 0.75% in 2006 with a further increase of 0.5% projected for 2007.

Irish consider themselves healthy

Despite illness, Irish people consider themselves healthy. That's the basic finding of the Pfizer Health Index which revealed that 61% of Irish people rate their health as 8 (or more) out of ten and 80% as 7 (or more) out of ten.

European law making

Bureaucracy is a necessary evil and it affects all our lives. Below is a blow-by-blow account of the steps a proposal has to take before it is written into law in Europe. In the light of the power of Europe to influence our profession, it is worth taking the time to read it. To ensure the dental profession's voice is heard in EU policy and decision-making processes one needs, first of all, both institutional and procedural understanding of how the EU institutions actually work. The IDA is a member of the EU Dental Liaison Committee and is represented by Dr Tom Feeney, Dr Barney Murphy, Dr Tom Houlihan and Ms Ciara Murphy.

Phase 1

An idea is born in the European Commission as the legislative EU body – on its own initiative or following the mandate of the EU Member States (Council of Ministers or European Council).

Phase 2

When further developing its initiative and examining possibilities for action, the European Commission often consults via procedures such as Green Papers, questionnaires published on the internet, or through individual contacts such as:

- national governments;
- academic and other experts from the Member States;
- the social partners;
- economic and social activists, including professional organisations; and, activists from civil society etc.

These are invited to present their viewpoints, which are subsequently analysed by the European Commission officials in charge of the dossier.

Action by the Dental Liaison Committee (DLC)

At this stage, the Brussels office of the DLC is already in contact with the Commission services responsible for drafting the proposal. Generally, the European organisations of health/liberal professions established in Brussels hold joint meetings with the civil servants in charge of the dossier. The aim is to channel information on the contents of the proposal to the national member organisations, and to devise a joint strategy if deemed appropriate.

Phase 3

The European Commission finalises its draft proposal in an inter-service procedure involving all Directorates-General (DGs) concerned under the lead of one particular Directorate-General responsible for drafting the proposal.

Phase 4

The Commissioners adopt the legislative proposal. In the framework of the co-decision procedure (art. 251) it is then submitted to the Council and the European Parliament in their capacity as co-legislators.

Phase 5

The European Parliament will designate one of its Committees to prepare the draft for a European Parliament's opinion, to be adopted in the plenary. There will usually be one leading Committee, which also has to take into account the opinions on the legislative proposal given by other Committees concerned.

Action by the Brussels office

The Brussels office will inform DLC members as soon as this is known:

- which Committee is drafting the European Parliament's report, and who the rapporteur and shadow rapporteur on the Committee are;
- which other EP committees have been appointed to give their opinion as well, to be taken into account by the leading Committee, and who the rapporteurs and shadow rapporteurs on those Committees are; and,
- the Brussels office regularly attends the meetings of the Committees, open to the public, and reports on them to the DLC membership.

Phase 6

Whilst the EP Committees are preparing their opinion, the DLC and other European organisations usually draft amendments they would like the European Parliament to include in its opinion. Once the amendments have been approved by the DLC, the Brussels office will talk to MEPs asking them to table them. DLC members should do the same when talking to their MEPs in their home constituency.

At the end of this phase, the leading Committee will adopt its opinion by voting on all amendments. Subsequently, the opinion will be put to vote by the plenary in first reading.

Phase 7

Once the European Parliament has adopted its opinion in first reading the Council of Ministers has to adopt its Common position, based on the amendments proposed by the European Parliament in its report. The Council can either approve all of the amendments proposed by the European Parliament, or reject part (or all) of them, proposing their own amendments to the legislative proposal.

The decisions of the Council of Ministers, who come to Brussels only a couple of times per year, are being prepared in negotiations of the so-called permanent representations of the Member States in Brussels with the EU institutions. (The permanent representations are embassies in the way that there are embassies with the NATO). The body comprising the ambassadors of the 25 permanent representations is called Committee of the Permanent Representatives (CoRePer).

For the Services directive, it is the Council working party "Competitiveness and growth", i.e. the working party preparing all Competition Council meetings, that is in charge. With regard to health and the preparation of Health Councils of Ministers, the Council working party "Health", composed of civil servants specialised in health issues, is responsible.

Action by the Brussels office

The Brussels office is in contact with the civil servants in the "Health" and "Competitiveness and growth" working parties in some of the permanent representations. As the meetings of the Council working parties and the CoRePer are not open to the public, the Brussels office will seek to access information on the negotiations of a position in the Council via personal contacts with the civil servants.

Call for restrictions on dental amalgam

Contrary to expectations, the European Parliament asked the Commission to propose restrictions, by the end of 2007, on the use of dental amalgam. The Parliament, on March 14, surprisingly overturned the ENVI (Environment and Public Health) committee's decision that the way forward was to ask the Medical Devices Expert Group to consider the safety of amalgam.

The EU Dental Liaison Committee has criticised the European Parliament's request.

"There is long-standing worldwide consensus that dental amalgam is safe", reflected DLC President, Dr Wolfgang Doneus after the vote, "and this consensus is shared by the WHO and the FDI (World Dental Federation)."

Evidence supports safety

The EU DLC had been informing MEPs since July 2005 of the overwhelming evidence supporting the safety of dental amalgam and of the consequences of restricting its use. "It is simply not in the interests of patients to stop using amalgam", said Dr Doneus. "Existing alternatives are not as durable as amalgam fillings and are much more expensive, which mean that restricting dental amalgam would put a heavy financial burden on public dental services and patients. And there is a worrying lack of research into alternatives' safety for patients."

The Parliament called for these restrictions in its Resolution on the Community strategy concerning mercury (T6-78/2006) despite the considered advice of the ENVI committee, which in its report of February 22 supported the Commission's proposal to refer the question of the safety of dental amalgam to the Medical Devices Expert Group. "The EU DLC is entirely supportive of research into the potential risks of products used in dental practices. If there were risks, dentists themselves would be the first to call for a ban, because we use these substances every day", remarked Dr Doneus. "To propose restrictions before there is scientific justification is putting the cart before the horse."

Dental waste

The Parliament also called on the Commission to ensure Community requirements on the treatment of dental waste were being properly applied. The DLC President pointed out that the requirements on handling dental waste were strict, and that the law in almost all Member States required that dental practices be fitted with an amalgam separator, ensuring that amalgam waste is properly taken care of. "These laws must be properly applied, but there is no need to restrict the use of amalgam to ensure this", he added.

The EU DLC will remain in contact with the Commission and continue to support research into the safety of dental amalgam and the development of alternatives.

Phase 8

The Council, acting by qualified majority, may approve all amendments to the legislative proposal proposed in the European Parliament's opinion adopted in first reading. The legislative proposal will thus be considered as approved with amendments.

If the opinion of the European Parliament and the Common Position are not identical, as generally is the case, there will be a second reading in European Parliament. The European Parliament will reformulate a set of amendments based on the Council Common position. In this case, the Brussels office will again turn to Members of the European Parliament, suggesting that they table amendments the dental profession would like to see included in the final legislative text. Similarly, DLC members can again address their MEPs with the same request.

If there are still differences, there will be a third reading based on a conciliation procedure (with a special committee designed to mediate between the Council and the European Parliament). This is usually avoided. The European Parliament, when preparing its opinion for the second reading, tends to hold informal so-called "trilogue" meetings with the Council and the Commission to make sure a compromise is found.

Services Directive – healthcare excluded

The forthcoming Service Directive will exclude healthcare, but a Directive on healthcare is now expected from the EU Commission.

The Commission adopted its amended proposal for the Services Directive on April 4, 2006 and stated that it "accepts the exclusion of healthcare services from the scope of application". Both public and private healthcare services have been excluded from the scope. The Commission also accepted the definition, adopted by the Parliament, of exactly what the exclusion of health care covers:

"The exclusion of healthcare covers healthcare and pharmaceutical services provided by health professionals to patients to assess, maintain or restore their state of health where those activities are reserved to a regulated health profession in the Member State in which the services are provided."

Along with healthcare services, provisions on the reimbursement of healthcare costs for treatment received abroad ("patient mobility" – originally Article 23) have also been excluded from the Directive.

Specific initiative on health services

In the amended proposal, the Commission also "confirms its commitment to come forward with a specific initiative on health services". It is understood that the Commission will set out its plans for dealing with the internal market issues relating to health services in a 'Communication on social and health services', which may be published as early as this month.

This document was actually announced almost two years ago, in the White Paper on services of general interest. The Commission did not want to publish it, however, until the Parliament had decided to exclude health services from the Services Directive.

The Communication, and the eventual health-specific Directive which it is thought the Communication will announce, will look at the issue of patient mobility, but it is very likely that it will cover other aspects of health services in the internal market. It is not yet clear, however, what it might cover.

Bologna process a threat to dental safety

The EU-Dental Liaison Committee welcomes the agreement signed by the Ministers for Education of 44 European countries to establish a European Higher Education Area by 2010 and believes that the general principles of the Bologna Declaration are, on the whole, appropriate and reasonable. They improve the impact of EU mobility actions and they facilitate at the same time the recognition of qualifications and free movement of people in EU.

Not appropriate

However the adoption of a system essentially based on the splitting of the curriculum into two main cycles – undergraduate (Bachelor) and graduate (Master) – would have negative consequences for the dental profession and it is inappropriate for dentistry.

The implementation of a two-cycle structure in dental education, whereby a degree giving access to the labour market is awarded after the first cycle (3 years, would create an artificial qualification without a defined role in the dental profession.

The introduction of the first cycle is guided by economic reasons (as quick and large-scale production of ready-to-use degrees), and could lead to serious problems in primary oral health care. This is because the bachelor-graduates with a purely theoretical and inadequate clinical training might compromise patient safety.

The EU–DLC therefore:

- calls for the unity of the dental training cycle to be maintained. The principles and the guarantees set by Directives 78/686 and 78/687/EEC (to be replaced as of 20 October 2007 by Annex 5.3.2 of Directive 2005/36/EC), ensuring a high quality of training and free movement of dentists, should not in any way be jeopardised nor weakened.
- strongly opposes the implementation of the two-cycle structure (Bachelor/Master) for the dental profession. It calls on academics and politicians responsible for education and health, and for the protection of the dental profession and the public, to exclude dentistry from the two cycles completely; and so refuse to transform their curricula into the two-tier degree system.

Power play

What's in store for dentistry if there is a change of Government? We asked each of the opposition spokespeople on health what they would do for the profession if they were in power. To be completely fair, we asked each of them exactly the same questions.

1 **What is your view of the provision of dental care in Ireland?**
2 **What are the main points of your policy or approach to dental care in Ireland?**
3 **If in power, what policies would you implement that would change and improve dental care in Ireland?**
4 **Are you aware of the vacancies in the Chief Dental and Assistant Chief Dental Officer posts and, if so, what is your view of this situation?**
5 **Do you have any message you would like to communicate to dentists about your party or your health policy?**

Fine Gael

Dr Liam Twomey TD, Fine Gael;

1 At present, we have a high standard in the provision of dental care in this country but access can be a problem.

2 The priority is to maintain the standard we have and deal with access problems. Orthodontics and dental care for special needs patients are the most frequent source of complaints and would therefore receive priority.

3 Fine Gael is examining public dental services at present. There is concern that value for money is not being achieved and this must be examined in detail. Equally there are problems with the DTSS and an urgent review is needed to prevent dentists pulling out of the scheme and leaving the most vulnerable patients without a dental service.

4 Dental services are not a priority for this Government and efficiency is not their strong suit. There was no chief pharmacist for years and the Government spend over €1.2 billion on prescribed drugs annually. If dental services are to be re-organised it will be vital that Government has access to a professional opinion that helps in these deliberations.

5 Fine Gael has concerns about access to dental services for patients that are the responsibility of the State. Patients' satisfaction with dentists is good but, like many parts of the health service, access is a problem.
We expect the review of the DTSS should be completed by the present Government in a way that reflects the realities of modern dental practices. We are examining the present system of how the State's dental services work and what improvement can be achieved.

Green Party

John Gormley TD, Green Party;

1 **General Dental Practice** Currently general dental practice is over subscribed and failing to keep pace with the growing population in this country. I know a dentist, for example, who has been looking for an associate to replace a departing colleague for the last three months and has received only two applications, both Polish dentists. I am trying to establish at the moment if Polish/Eastern European dentists can work in this country without further qualifications. But they ought to be – given the huge increase in the number of people in this country from this part of Europe. If we don't deal with this problem, practices will continue to be placed under unnecessary pressure. Also, the prices of dental services in Ireland have been rising beyond the rate of health inflation. It is now quite common for people to travel to Northern Ireland or other countries for certain dental services.
The public dental health service There are major problems in this area that need to be addressed. Problems in relation to orthodontics have been well aired and it is hugely over subscribed and poorly funded. Most orthodontists head straight for private practice as there is more money in it. Public orthodontists have way too many patients and therefore only treat those with severe problems. The rest cannot be treated or flood into private practice for further exorbitant cost to parents. There is also a problem with wisdom teeth surgical extraction. Until twelve months ago the only PDHS available wisdom teeth extraction was at the Dublin Dental Hospital and its waiting list was up to twenty-four months. I understand the medical card system is funding a clinic in Newry to carry out surgery on patients from the south.

2 Stop water fluoridation. This will result in a decrease in the level of dental fluorosis in Ireland and there will be no real increase in tooth decay as a consequence.

3 Re-organise and increase funding for the PDHS. Create a service actively focused in education and prevention. Bring in more Eastern European dentists, who are extremely capable and hard-working. Reduce the bureaucracy. Have more regional orthodontic and surgical clinics. Implement the recommendations of the Competition Authority Report entitled "Competition in Professional Service Dentists" published in 2005.

4 Yes. I have had differences of opinion with Gerry Gavin in the past. They have been mouth-pieces for the policy of water fluoridation. Before we reappoint people to these positions we need root and branch reform of the PDHS.

5 The emphasis of Green Party policy is on prevention. We need more joined-up thinking in the Department for Health. The same sort of dietary habits which give rise to childhood obesity are also resulting in tooth decay. Huge emphasis must be placed on reducing the amount of confectionery and sweet drinks children consume. Allowing these habits to continue while simultaneously fluoridating the water is madness. While there may have been solid arguments for introducing fluoridation back it the 1950s, Ireland has changed radically since then. It was thought then that fluoride acted systemically. We now know that it works topically and does not have to be ingested. An increasing number of dentists with whom I speak now recognise that we need to re-examine the question of water fluoridation.

Labour Party

Ms Liz McManus TD, Labour Party;

1 At present the provision of dental care in Ireland is patchy and fragmented with difficulties around access due to cost.

2 Labour's recent health policy document entitled Healthcare - A New Direction, Towards Primary Care calls for a comprehensive review into public funded dental services to examine critically value for money, coverage, accessibility and equity.

3 We will await the results of this review (see answer to question 2) before drawing up detailed proposals for dentistry in general. However, Labour is committed to ensuring that all clinical professional services to the public represent both value for money and high standards of care.

4 Labour is aware of the value of the professional adviser posts within the Department of Health and is concerned that several have been vacant for some time. In government Labour will seek to ensure the filling of any vacant adviser posts within the Department and that professional advisers have direct access to ministers where appropriate.

5 Labour believes that the dental profession has provided valuable services to the Irish public and we would seek to ensure the continuance of those services. We would, of course, seek the involvement of the dental representative organisations in any review of dental services. In particular we will examine the possibility of one, unified state-funded scheme, with one standard of care, so that patients can easily understand their eligibility. We would make it a clear priority to ensure that those with physical or mental disease or disability are not denied appropriate and comprehensive dental services.

Sinn Féin

Caoimhghin Ó Caoláin TD, Sinn Féin.

1 We see dental care as a key element of primary healthcare. Like much of our primary care infrastructure it is underdeveloped and often inequitably delivered. For example, many children who need essential orthodontic treatment are currently denied it. There is a huge problem of affordability of care for very many people.

2 In our recently launched policy Healthcare in an Ireland of Equals, we call for a new emphasis on primary care. We are proposing a system of universal provision focussed on a network of Primary Care Treatment Centres and Primary Care Teams which would be multi-disciplinary and would include dentists. This would be part of a new universal public health system for Ireland that would provide care, free at the point of delivery, on the basis of need alone, and funded from general taxation that is both fair and progressive.

3 We would consult with all those involved in the dental healthcare sector with a view to implementing our policy. This includes a Health Funding Commission which would report on the diverse ways in which healthcare is funded at present and plan the transition to a new, more equitable system. In the shorter term we would strive to meet the most immediate needs in order to deliver real improvements in dental healthcare services and in the dental health of the population.

4 The non-filling of these posts demonstrates the lack of priority that has been given to dental health by successive governments. It demonstrates a failure to recognise this sector as a core part of our healthcare system.

5 We would welcome the comments of people in the dental healthcare sector on our policy. We seek a process of co-operation and partnership with and between all those working in healthcare, with the common purpose of delivering services on an equitable and efficient basis. We must also address the fundamental causes of ill-health, including dental ill-health, and these include poverty and inequality.

PEER REVIEWED

HIV, HAART and dentistry: what you need to know

Précis: Following a call for more education in this area and radical changes in the management of the condition, this paper presents an update on HIV disease, treatment and the practical implications of this condition for general dental practitioners.

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Introduction

In June 2005 the Health Protection Surveillance Centre, (formerly the National Disease Surveillance Centre) published the 2004 human immunodeficiency virus and acquired immunodeficiency syndrome (HIV/AIDS) surveillance figures for Ireland.1 They make salutary reading. A 10.8% increase in new infections compared with 2003 comprising 356 new cases, over half acquired heterosexually, approximately half of all patients were female, a cumulative total since the beginning of surveillance of 3,764 HIV and AIDS cases, 813 with full-blown AIDS and 388 deaths. In Ireland, HIV/AIDS is no longer a disease of intra-venous drug users and homosexuals. The fastest growing category of new HIV/AIDS cases is now heterosexuals, particularly women, and this trend has been continuing since 1998. On average there have been only 12 deaths annually since the introduction of anti-retroviral treatment in 1996. Since AIDS was first recognised in 1981, there has been a global pandemic with the most devastating consequences, particularly in the third world. Early in the pandemic, patients with a full-blown AIDS diagnosis, along with its dreadful stigma, were unlikely to live longer than two years, and this is still the case in those areas of the world where drug treatment is unavailable.[2] Untreated HIV infection causes a deterioration of the immune system, with predominantly $CD4^+$ T (otherwise known as T-helper) cells being disabled or killed. This lymphocyte, regarded as the "conductor of the immune system orchestra", is central to the entire immune response, and as the numbers and functionality diminish, patients become particularly vulnerable to the opportunistic infections and cancers that typify AIDS, the end stage of HIV disease. People with AIDS will go on to suffer opportunistic infections of the lungs, intestinal tract, brain, eyes and other organs, as well as debilitating weight loss, diarrhoea, neurological disturbance and cancers such as Kaposi's sarcoma and lymphomas. Orofacial manifestations of HIV are well documented and were summarised in 1993 by Axell et al.[3] See also **Figures 1, 2** and **3**.

In 1995 an American AIDS physician Dr David Ho, introduced the concept of *highly active antiretroviral therapy* (HAART)[4] and this treatment has transformed HIV infection from a death sentence to a chronic disease. HAART, "triple therapy" or "potent combination antiretroviral therapy" as it has recently been called, aims to disrupt viral replication, using a combination of three drugs, acting at different points in the virus' replication cycle. Systematic reviews using meta-analysis have shown that HAART has undoubtedly been a huge success in both halting AIDS progression[5] and suppressing viral load[6] (amount of virus in the blood stream), and increasing CD4+ counts, relative to antiretroviral therapies only using one or two drugs. Within 18 months the death rate from HIV disease in the USA was cut from a consistent average of over 40,000 victims per year in 1990s to just over 15,000 and for this Dr Ho was named the Time Magazine "Man of the Year" in 1996.

Recently, a paper in this journal called for more education in the area of HIV/AIDS and this paper was produced in response to that call.[7] Of the 3,764 individuals in Ireland known to have the virus, only a few hundred will qualify for referral to a specialist centre because of complex mucosal disease, which is outside the normal competence of a general dental practitioner to treat. The Dental Council's Guidelines on the Control of Cross-Infection in Dentistry[8] (amended 1996 and about to be re-published) state that: "A

dentist has the general obligation to provide care to those in need. A decision not to provide treatment to an individual because the individual has AIDS or is HIV seropositive, or is hepatitis B virus or hepatitis C virus seropositive, based solely on that fact is unethical". In Ireland, use of HAART has always been widespread within the HIV/AIDS population, because of the early establishment of dedicated HIV-treatment centres within Genitourinary Medicine units. Patients who are otherwise well, but are HIV carriers taking HAART, will therefore present for routine treatment to general dental practitioners. In these patients, dental treatment should no longer focus merely on the palliative care of HIV-related opportunistic infections and pain relief. Infected patients can now expect near normal life spans and dental treatment planning should reflect this. So successful can HAART therapy be, that in most patients after only a few months of treatment, the viral load in the blood reduces to undetectable levels. Lack of opportunistic infections in treated patients also attests to functional reconstruction of their immune systems.

In terms of general dental treatment, HIV status impacts very little on treatment planning. Standard precautions should be practised at all times (regardless of HIV status). Each practice should already have a needlestick (percutaneous) injury protocol, in case of accidental injury. In the unlikely event of a percutaneous injury occurring when treating a known HIV seropositive patient, the practitioner should immediately wash the area and make the injury bleed as much as possible. This should be followed by an appropriately dressing the wound. A clinical report should be made including the degree of HIV progression in the source patient and, if known, their viral load and the antiviral drugs that the patient may be taking. Immediate contact must be made with the senior staff of an infectious disease unit in a general hospital for guidance, counselling, investigations and follow-up. Advice on the use of post exposure prophylaxis (PEP) will be given and, if deemed necessary, PEP must be started within six hours to be effective.

The full range of simple and complex restorative procedures may be undertaken in these individuals. High-volume aspiration, with or without rubber dam, is recommended. There are no recorded cases of a dental care worker acquiring HIV via the aerosol route in the 30 years of the epidemic. Occasional patients with profound immunodeficiency may require antibiotic cover, before surgery or following maxillofacial injury. HIV infection itself and HAART drugs can both cause thrombocytopenia, although it is usually not profound (platelet count <60 10^9/L), but needs consideration if surgical procedures, or intramuscular injections are being planned. Post-operative haemorrhage may also be complicated by concomitant liver disease due to co-infection with hepatotrophic viruses.

TABLE 1: ANTIRETROVIRAL DRUG CLASSES

Nucleoside reverse transcriptase inhibitors (NRTIs)
False nucleosides which, when incorporated by viral reverse transcriptase, prevent the addition of further nucleosides and block viral replication

Non-nucleoside reverse transcriptase inhibitors (NNRTIs)
Bind to reverse transcriptase and inhibit its activity

Protease inhibitors (PIs)
Bind to active site on the viral protease enzyme, preventing processing of viral proteins into complete functional forms

Fusion inhibitors (FIs)
Inhibit fusion of virus with host cell membrane, blocking entry and subsequent viral replication

What do general dental practitioners need to know about HAART?

There are two things: firstly some of the adverse reactions associated with HAART therapy affect the oro-facial regions and secondly, some drugs which dentists might prescribe can interact dangerously with the HAART itself.

HAART is complex: there are over 20 different HAART drugs and they may be used in multiple and different combinations, in an attempt to avoid the acquisition of drug resistance by the virus, similar to the treatment strategy for tuberculosis. All of these drugs are toxic. There are four classes of drugs that act at different stages of the replicative cycle of the retrovirus (**Table 1**), and these are listed in **Table 2**. These drugs are used in combinations, for example: 3 nucleoside reverse transcriptase inhibitors (NRTIs), 2NRTIs + 1 non-nucleoside reverse transcriptase inhibitor (NNRTI), 1 or 2NRTIs + 1 or 2 protease inhibitors (PIs) to make up the components of triple therapy. There is

TABLE 2: HAART Drugs

BRAND NAME:	GENERIC NAME	ABBREVIATION
NRTIs		
Combivir	zidovudine + lamivudine	AZT + 3TC
Emtriva	emtricitabine	FTC
Epivir/Zeffix	lamivudine	3TC
Hivid	zalcitabine	ddc
Retrovir	zidovudine	AZT or ZDV
Reverset	alovudine	
	amdoxovir	DAPD
	elvucitabine	
Trizivir	abacavir + zidovudine + lamivudine	ABC + AZT + 3TC
Videx	didanosine: buffered versions	ddl
Videx EC	didanosine: delayed release capsules ddl	
Viread	tenofovir disoproxil fumarate (DF)	TDF or Vis (POC) PMPA
Zerit	stavudine	d4T
Ziagen	abacavir	ABC
NNRTIs		
Rescriptor	delavirdine	DLV
Sustiva	efavirenz	EFV
Viramune	nevirapine	NVP
	(+) – calanolide A	
	capravirine	CPV
PIs		
Agenerase	amprenavir	APV
Crixivan	indinavir	IDV
Fortovase	saquinavir (Soft Gel Cap)	SQV (SGC)
Invirase	saquinavir (Hard Gel Cap)	SQV (HGC)
Kaletra	lopinavir + ritonavir	LPV
Lexiva	fosamprenavir	FPV
Norvir	ritonavir	RTV
Reyataz	atazanavir	ATZ
Viracept	nelfinavir	NFV
	tipranavir	TPV
FIs		
Fuzeon	enfuvirtide	T-20

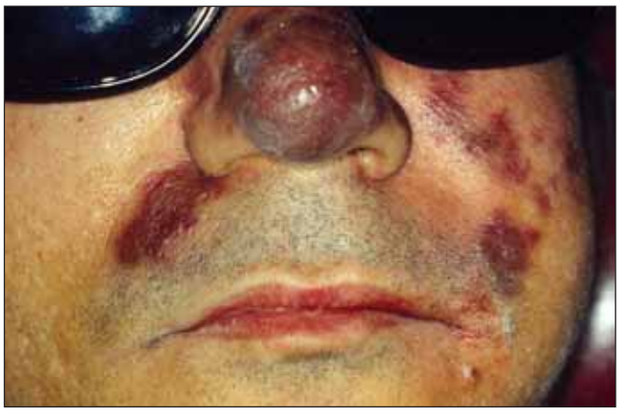

Figure 1: *Kaposi's sarcoma and seborrheic dermatitis.*

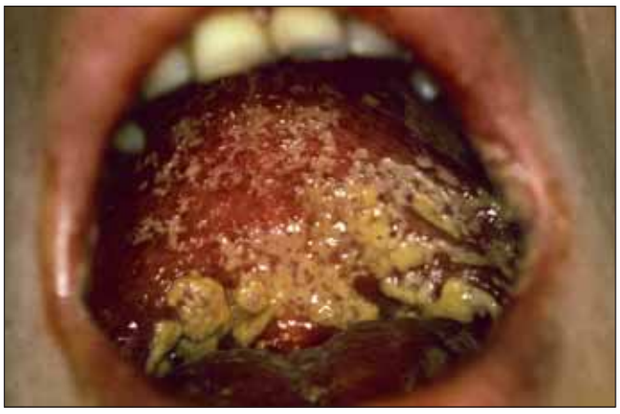

Figure 2: *Acute pseudomembranous candidosis (thrush).*

only one drug in the fusion inhibitor class, enfuvertide, which is given by injection and is used as an add-on therapy in HAART failure (quadruple therapy).

Adverse Effects of HAART

The adverse effects of HAART may be serious, life threatening or even fatal. There is also a long list of minor side effects, and all cause diarrhoea and nausea. The more serious adverse effects may be idiosyncratic but are more commonly related to high plasma levels of the drug. Serious side effects include: lactic acidosis, liver and renal failure, hepatomegaly with steatosis, pancreatitis, blood dyscrasias, metabolic upset, hyperglycaemia, neuropathies, cardiac dysrhythmias and acute hypotension. Fatal pancreatitis and hepatitis have also been reported.[9,10,11,12,13,14] Erythema multiforme is a particular orofacial adverse reaction to NNRTIs and in its severe form, the Stevens-Johnson syndrome, may be life-threatening.[11]

Blood disorders including anaemia, leukopenia, neutropenia and thrombocytopenia are seen in HIV-positive drug-naive patients and those taking HAART.[15,16] Of particular importance the PIs, especially ritonavir, have been linked to an increased bleeding tendency in haemophiliacs.[17] Evatt et al.[18] have suggested that the benefits of temporarily discontinuing PI therapy for dental extractions should be

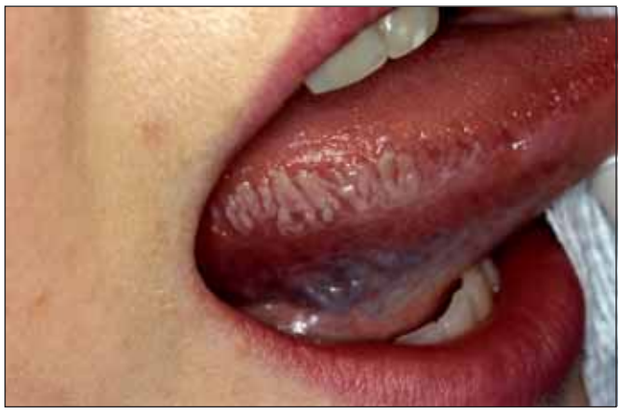

Figure 3: *Oral hairy leukoplakia.*

weighed against the considerable risk of rebound viremia and the development of drug resistance. Diz Dios et al.[19] suggested that dental patients receiving HAART would experience less delayed wound healing, alveolitis and surgical wound infection following extractions, relative to untreated HIV positive patients, and this appears to be the case.

NRTIs and PIs are both strongly linked with xerostomia, which was seen in up to one-third of patients taking didanosine. Up to 7% of patients on PIs have reported xerostomia and/or oral ulceration.[20] In particular PIs have been linked to severe caries[21] and it was found that caries experience is higher in HIV disease.[22,23] Also, PIs are increasingly being seen as the cause of parotid lipomatosis[12,13] and generalised HAART-induced lipodystrophy has been found in 50-60% of patients after one year of treatment, which may affect the face.[24] This is a significant contributing factor to regimen non-adherence, even though early diagnosis and management may help.[13]

Patients may present complaining of facial numbness or tingling which may even have resulted in accidental traumatic injury. Circumoral paraesthesia was reported in 25-27% of patients on PI-HAART,[10,12,25] but in only 2% of patients interviewed by Schmidt-Westhausen et al.[26] who proposed that the large difference was because their patients didn't report this symptom due to its short period and spontaneous resolution. Reported taste abnormalities are mainly linked to the use of PIs.[10,13] Scully and Dis Dioz[12] found the prevalence of this adverse effect as being between 10-20%.

Important Drug Interactions

Most anti-retroviral drugs are metabolised by the cytochrome P450 enzyme system in the liver. Therefore when HAART is administered along with other drugs that compete with this enzyme system, interactions can occur in either direction, leading to increased or decreased concentrations of the retroviral drug or the competing drug because of either induction or competitive blocking of these enzymes. This may cause either HAART toxicity or sub-optimal blood levels with a rise in HIV viremia and a decrease in CD4+ cell count. Equally, the competing drug blood levels may rise dangerously and produce toxicity. Everyday drugs used in dentistry do not escape these interactions and some are contraindicated, or should be used with

caution and dose manipulation. These include common antibacterial and antifungal, antiviral and analgesic drugs as well as those used for conscious sedation and in the treatment of neuralgias and are listed in **Table 3**.

Herpes simplex and varicella-zoster infections are treated by acyclovir and reactivation episodes are common in the immunosuppressed. However, administration of either aciclovir or ganciclovir (a similar drug more active against cytomegalovirus, which commonly causes opportunistic infections in immunosupressed patients) leads to an increase in HAART blood levels and dose-related toxicities. This requires a reduction in the daily dosage of HAART if co-administered. This dilemma is complicated by the fact that ganciclovir is the treatment of choice for cytomegalovirus infections which may be severely debilitating in HIV disease. As in all areas of medicine, clinical judgment and balancing risk against benefit, is the key to successful treatment.

There is a potential for life-threatening cardiac toxicity (due to an unusual dysrhythmia called "torsade de pointes") with co-administration of the anti-histamines astemizole and terfenadine, as well as, theoretically, with macrolide antibiotics (erythromycin, clarithromycin, azithromycin) and the azole antifungals, with PIs. Co-administration leads to an increase in the serum levels of both drugs due to competition for metabolism in the liver.[10]

With local anesthesia, current thinking suggests that the absolute requirement and lack of an alternative, outweighs the risk of liver or cardiac toxicity when lidocaine is given to patients on PI regimens but the principle should be followed that the absolute minimum dose required should be given.[10,27]

When prescribing necessary prescription medications it may be warranted for general dental practitioners to liaise with the consultant in charge of the HAART regimen in situations where there is a potential for serious drug interactions.

Conclusions

HAART has changed both the expectations and management of HIV-infected patients. In an ever-evolving clinical setting it is important that dental practitioners be familiar with the current treatment methods for this expanding subset of patients and the challenges that they present. Regular oral examination may alert the clinician to a change in status of HIV-infection by the appearance of oral manifestations of HIV disease. However changes in oral markers of HIV-disease with HAART may not be straightforward. For instance, PIs are linked to suppression of oral candidosis (due to a direct antifungal effect of the drug on the micro-organism) regardless of immunologic or virologic markers of HAART success or failure. Nevertheless, lack of oral manifestations of HIV suggests functional immune reconstruction.

TABLE 3: Drugs Interactions between HAART and Drugs Used in Dentistry.

HAART	Other drug	Potential effect on other drug
PIs +/- Atazanavir	Macrolides *erythromycin, clarithromycin azithromycin*	Potential of toxicity
PIs NNRTIs	Azoles *miconazole*	Potential of toxicity
PIs Lamivudine Zidovudine	Opiates and Aspirin	Increased plasma levels and effect
Ritonavir NNTRIs	Benzodiazepines	Risk of enhanced sedation and respiratory depression
PIs	Corticosteroids *dexamethasone, prednisolone*	Increased plasma levels and effect
PIs	Carbamazepine	Increased plasma levels and effect
PIs	Lidocaine	Increased plasma levels and effect
Ritonavir 43% alcohol soln.	Metronidazole	Disulfiram reaction
All classes	Aciclovir, Ganciclovir	Increased HAART blood levels

Low-grade candidosis, however, is still seen frequently in these patients. HAART related xerostomia and its inherent problems often require dental intervention and expertise and complicate long-term treatment planning. Drug interactions are particularly important as HAART may interfere with commonly prescribed drugs such as metronidazole, macrolide antibiotics, anaesthetics and many antifungal agents and they may cause enhanced sedation and respiratory depression when combined with commonly used sedative agents, such as benzodiazepines. Failure of HAART is all too often due to compliance problems which may be secondary to oral adverse effects and dentists are in a unique position to provide appropriate advice and treatment to help with these compliance issues.

Similarly, these patients require routine dental care. Unlike the situation at the beginning of the epidemic, when AIDS was a death sentence, these patients may now, perhaps, live a normal life span. Treatment planning should now reflect this.

With modern infection control procedures, and routine use of "Standard Precautions" in dental practice, the provision of dental treatment poses minimal risk to the operator.[28] With successful HAART therapy, the viral load in many patients is reduced to "undetectable" levels, posing the question of whether, in fact, they present an infectious risk at all.

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PEER REVIEWED

The practice of conscious sedation by Senior Dental Surgeons in the Health Board Dental Service in the Republic of Ireland

Precis: This questionnaire survey showed that conscious sedation techniques are used to a very limited extent in the Health Board Dental Services. The main barrier to their use is the lack of training opportunities.

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Abstract

Objective: To establish the nature and extent of the practice of conscious sedation by Senior Dental Surgeons in the Health Board Dental Service (HBDS) in the Republic of Ireland and to determine the barriers to the use of conscious sedation.

Design: Postal questionnaire survey.

Setting: The Health Board Dental Service in the Republic of Ireland in 2002. Subjects and Materials: Questionnaires were sent to fifty-five Senior Dental Surgeons working in the HBDS.

Results: Fifty questionnaires (90.9%) were returned. Less than a quarter of Senior Dental Surgeons reported current sedation use in their area. Oral sedation was the most commonly used method with few using relative analgesia and less using intravenous sedation. Forty percent of Senior Dental Surgeons surveyed reported receiving training in conscious sedation as an undergraduate. Nearly 60% of those surveyed reported using conscious sedation in a previous employment. All respondents said the main barrier to the use of conscious sedation in the HBDS was the lack of training opportunities on the subject in Ireland.

Conclusions: Conscious sedation techniques other than oral, are used to a very limited extent in the HBDS in Ireland. There is great interest amongst Senior Dental Surgeons in the increased use of conscious sedation techniques. A lack of training opportunities is the main barrier to the expansion of their use.

Key words:
inhalation sedation, health boards, senior dental surgeons.

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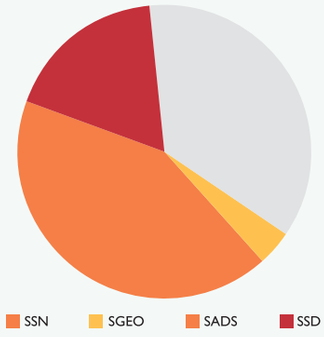
Introduction

The Health Board Dental Services (HBDS) in the Republic of Ireland are responsible for the provision of dental care for children up to the age of sixteen and for people with special needs, both adults and children. Some of the latter group, due to dental anxiety/phobia or the severity of their disability may be unable to cooperate for dental treatment using local anaesthesia alone. The provision of dental care for those in the HBDS has traditionally relied upon the behaviour management skills of the dentists or the use of general anaesthesia.[1]

The guidelines on conscious sedation issued by the Dental Council in 1996 and recently revised in 2003, state that "general anaesthesia, a procedure which is never without risk, should be avoided in the practice of dentistry if at all possible. Patients seeking general anaesthesia, where it is not clinically appropriate should be advised of, and encouraged to, accept alternative methods of anxiety control".[2,3].

In 2000, an expert group from the Department of Health in the United Kingdom completed a review of the use of general anaesthesia and conscious sedation in primary dental care. One of the main recommendations of this expert group was that "The use of general anaesthesia to reduce the pain and anxiety associated with dentistry should be discouraged. General anaesthesia should be undertaken only when absolutely necessary".[4]

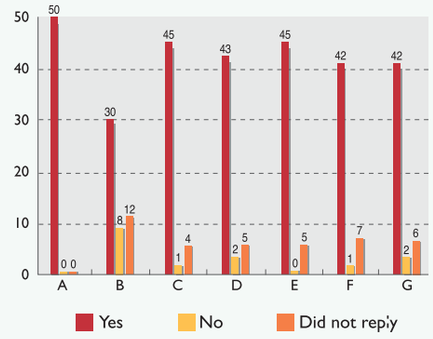
As the guidelines in both Ireland and the United Kingdom recommend the avoidance of general anaesthesia and advocate the use of



Category and Number of Senior Dental Surgeons responding to the questionnaire

SSN: Senior Special Needs
SGEO: Senior Geographic
(To work in a specific geographic area)
SADS: Senior Administrative Dental Surgeon
SSD: Senior Specific Duties
(Allocated by the Principal Dental Surgeon as local needs determine)

Figure 1: *Category and Number of Senior Dental Surgeons responding to the questionnaire*



Categories of patients treated by the Senior Dental Surgeons

A. Children
B. Adult medical card holders
C. Learning disabled
D. Physically disabled
E. Medically compromised
F. Nervous patients
G. Patients with a mental health problem

Figure 2: *Categories of patients treated by the Senior Dental Surgeons*

alternatives such as local anaesthesia with or without conscious sedation techniques, it is important to establish to what extent conscious sedation techniques are currently practised by the HBDS in Ireland.

Review of the literature

In the UK in 1990, Crawford[5] showed that children deemed to require tooth extraction under general anaesthesia could be successfully treated using an alternative technique of nitrous oxide inhalation sedation with local anaesthesia. In 1996, Shaw *et al.*[6] carried out a prospective study to assess the viability of operating a regular inhalation sedation service for extractions and minor oral surgery in children. The authors concluded that the use of inhalation sedation was not only more cost-effective than dental general anaesthesia but was also more acceptable to patients. In 1998 Blain and Hill[7] also investigated the use of inhalation sedation as an alternative to dental general anaesthesia. They found that in the group having treatment using inhalation sedation, 84% completed treatment successfully. They concluded that greater use of this technique in the primary sector is needed to reduce the number of child referrals for general anaesthesia.

In Ireland there are few published data on the use of conscious sedation techniques in dentistry. In 2001, a working group reported on dental general anaesthetic services at St. James Hospital in Dublin. In its introduction, the report states that, for children who require dental extractions, dentists in the ERHA area have just two options: local or general anaesthesia. It states that no alternatives are available at present. This unpublished report recommended that training in inhalation sedation techniques be arranged for dentists and dental nurses.

There are no published data on the use of conscious sedation techniques in private dental practice in Ireland.

The aim of the present study was to establish the nature and extent of the practice of conscious sedation techniques amongst senior dental surgeons working in the HBDS in Ireland in 2002.

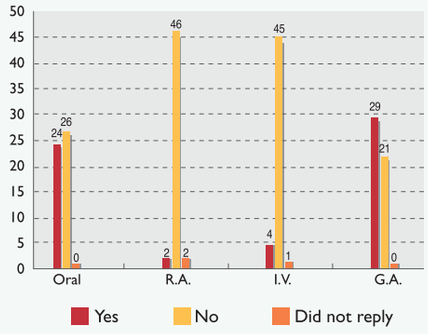
The objectives were to develop a questionnaire to:

- determine the current practice of conscious sedation techniques amongst senior dental surgeons in the HBDS;
- establish training experience in conscious sedation techniques at both undergraduate and postgraduate level amongst senior dental surgeons working in the HBDS;
- determine levels of previous practical experience in conscious sedation techniques amongst senior dental surgeons in the HBDS; and,
- identify the barriers to the development of conscious sedation techniques in the HBDS.

Materials and methods

The design of the study was a questionnaire-based postal survey. The population surveyed were those senior dental surgeons (SDSs) working in the HBDS at the start of 2002. These senior dental surgeons were identified following telephone enquiries to the Principal Dental Surgeons in each health board. The number of SDSs identified was 55. This number was less than the potential total number of SDSs as the study was conducted during a period of HBDS restructuring when active recruitment was occurring and many of the available posts had not been filled. This population of 55 individuals identified by telephone contact with the Principal Dental Surgeons formed the study population.

The questionnaire was designed with the help of the Health Services Research Unit in Newcastle University and was piloted with the assistance of colleagues working in the author's Health Board. The questionnaire, a



Number of Senior Dental Surgeons using the different adjuncts to dental care

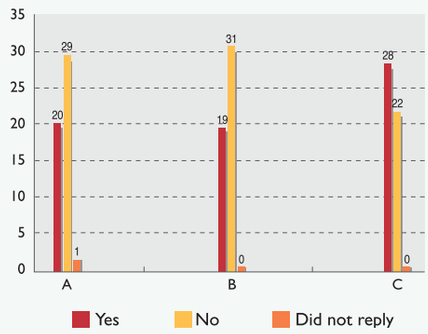
Oral: Oral Sedation (OS)

I.S: Inhalation Sedation (IS)

I.V.: Intravenous sedation (IV)

G.A.: General anaesthesia (GA)

Figure 3: *Number of Senior Dental Surgeons using the different adjuncts to dental care*



Training and experience in use of conscious sedation techniques

A. Undergraduate training in conscious sedation techniques

B. Postgraduate training in conscious sedation techniques

C. Practical experience in conscious sedation techniques

Figure 4: *Training and experience in use of conscious sedation techniques*

covering letter and a stamped addressed envelope were posted to each of the SDSs identified as part of the study population. The covering letter included a return-by date. After three weeks, a reminder letter and a second questionnaire was posted to each of the non-respondents.

The results were entered on an Excel spreadsheet, which was used to generate a descriptive charts and graphs.

Results

Fifty (91%) of the 55 SDSs surveyed responded to the questionnaire. The categories and numbers of SDSs responding to the questionnaire is shown in **Figure 1.**

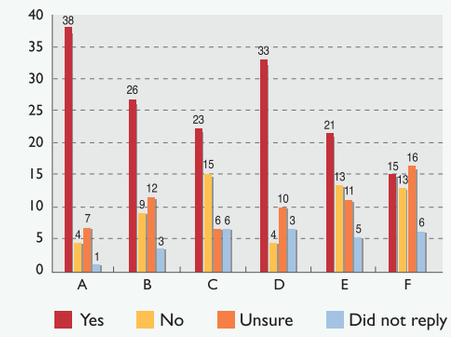
The Senior Dental Surgeons were questioned about what types of patients they treated in the course of their work in the HBDS. The results to this question are shown in **Figure 2.**

SDSs were asked whether they provided dental treatment under general anaesthesia (GA) and whether and what types of conscious sedation they used **(Figure 3)**. General anaesthesia, followed by oral sedation, were the adjuncts to dental care most commonly used by most the SDSs.

The Senior Dental Surgeons were asked what training, either postgraduate or undergraduate that they had received in conscious sedation techniques and whether they had had any previous practical experience in the use of conscious sedation techniques **(Figure 4)**.

Of the 50 dental surgeons surveyed, 31 expressed the opinion that they would be interested in undertaking a course in conscious sedation techniques, whereas eight said that they had no interest. The remainder were unsure or did not reply.

Of the 50 SDSs responding to the survey, 38 (76%) agreed that inhalation sedation and local anaesthesia was a viable alternative to general anaesthesia for dental extractions in some children. Six dental



Barriers to the development of conscious sedation in the HBDS

Lack of a postgraduate course in sedation in Ireland

B. Lack of knowledge and interest in conscious sedation techniques

C. Over-reliance on general anaesthesia by the HBDS

D. Lack of undergraduate training in conscious sedation in Ireland

E. Lack of adequate resources in the HBDS to develop a conscious sedation service

Lack of patient knowledge and acceptance of conscious sedation techniques

Figure 5: *Barriers to the development of conscious sedation in the HBDS*

surgeons disagreed with this statement and six were unsure.

SDSs identified a number of barriers to the development of the use of conscious sedation techniques in the HBDS. **(Figure 5)** Lack of training at

both the undergraduate and postgraduate level were identified as the biggest barriers to more widespread use of conscious sedation techniques including a lack of knowledge in conscious sedation.

Discussion

This survey was limited by the small population surveyed. It did not include the population of Principal or General Dental Surgeons working in the HBDS; neither did it reach the full population of SDS because it was conducted at a time when the recruitment process was incomplete. The full national complement of Senior Dental Surgeons at the end of 2002 was 97 posts, whereas only 55 individuals were available to take part in this study. No attempt was made to discover the level of practice of conscious sedation in private dental practice in Ireland.

However, the response rate of 91% to the questionnaire was high, which reflected the interest of the respondents in the subject. The breakdown of the respondents by category of Senior Dental Surgeon reflects the national composition of this grade of dentist working in the HBDS. Most of those responding were either in the administrative or special needs category.

The SDSs treated a variety of different people in the course of their work. All treated children and most of them treated different special needs groups. Two thirds of those surveyed said that they treated adult medical card-holders. This reflects the evolution of the Dental Treatment Services Scheme and the gradual re-orientation of the HBDS towards the provision of dental care for special needs groups[8,9].

The adjuncts to care used by the SDSs included the use of various forms of conscious sedation and general anaesthesia. Nearly 50% (24/50) of the SDSs said that they use oral sedation and only two used inhalation sedation in the course of their work. The use of intravenous sedation was similarly low (4/50). Intravenous sedation was carried out with the assistance of a consultant anaesthetist in an operating theatre in one particular Health Board. The limited use of these methods of conscious sedation by the SDSs was in contrast to the significant use of general anaesthesia with nearly 60% (n = 29) of the SDSs used general anaesthesia as an adjunct to the provision of dental care. By contrast, although the HBDS is responsible for the dental care of children and clients with special needs, the use of inhalation sedation is severely limited, despite this being the sedation technique of choice in paediatric dentistry[10,11].

The use of intravenous sedation by the Senior Dental Surgeons was similarly of a very limited extent again, despite its acknowledged benefit in treating some special needs groups such as nervous/phobic adults and some adults with a learning disability[12,13].

Just under half of the SDSs said that they had received some undergraduate and postgraduate training in conscious sedation. When asked to specify the nature of this course, most replied that it was of short duration, no longer than two to three days. Most referred to SAAD courses in the United Kingdom. Three said that they had received training in relative analgesia in their own Health Board. Again these courses were of a short duration.

More than 50% of the respondents said that they had some practical experience in the use of conscious sedation. When asked about the nature of this experience, some referred to the use of intravenous sedation in NHS practice in the U.K. Others referred to the use of intravenous sedation while working in the oral surgery departments of dental hospitals. Some had experience of the use of relative analgesia while working in other Health Boards. Others said that they used oral sedation occasionally in the course of their work. Over 60% of those in the sample expressed an interest in undertaking a course in conscious sedation.

The SDSs identified a number of different barriers to the development of the use of conscious sedation in the HBDS. Most agreed that the lack of undergraduate and postgraduate training was a major barrier to the development of the use of conscious sedation. Other barriers, which were seen as important, were a lack of knowledge and interest by HBDS dentists in the use of conscious sedation and an over-reliance on the use of general anaesthesia.

Attitude of, and resistance by anaesthetists, dentists and theatre staff to developing alternative services, as well as the lack of adequate facilities were highlighted as significant considerations to progress in implementing the use of conscious sedation in the HBDS.

The results compare less favourably with the results from other surveys of the use of sedation in dental practice. Two surveys of sedation in general dental practice show considerably higher usage of sedation than in the HBDS. One survey, conducted in Glasgow in 1992 reported usage of inhalation sedation by 14% of respondents and usage of intravenous sedation by 42% of respondents. This survey was conducted in general dental practice.[14]

Another dental practice-based survey in Glasgow reported usage of inhalation sedation by 9% of respondents and usage of intravenous sedation by 27% of respondents. The authors concluded that the lack of appropriate undergraduate and postgraduate training opportunities was a major contributor to the low usage of sedation.[15]

Another survey of sedation in two districts of northern England showed substantial variations in sedation provision between the two districts, which seemed to be associated with the teaching at the two nearest dental schools. Forty two percent of the respondents reported current sedation use which again was substantially higher than that reported by the senior dental surgeons in the HBDS.[16]

In 1999, a survey of the teaching of conscious sedation in dental schools of the United Kingdom and Ireland concluded that the quantity and quality of undergraduate sedation teaching varies considerably across the UK and Irish dental schools.

This survey found that students at most dental schools are failing to receive adequate hands-on sedation experience, especially in intravenous techniques. The survey concluded that undergraduate sedation training must improve if conscious sedation is to become the principal alternative to general anaesthesia in dental practice.[17]

In conclusion, whilst the SDSs were interested in the use of conscious sedation, the actual practice of most techniques was very low. The absence of training opportunities was identified as the main barrier to the development of the use of conscious sedation. To advance the use of conscious sedation in the HBDS, it will be necessary to make available suitable training opportunities at both the undergraduate and postgraduate level.

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PEER REVIEWED

Endodontic diagnosis: clinical aspects

Precis: This paper highlights the difficulties associated with obtaining an accurate diagnosis of pain of tooth origin and knowing what is going on in the tooth pulp.

Abstract:
The objectives of this article are to review classic and current concepts on endodontic diagnosis, to describe the current classification of the pulp and periradicular diseases and to present and discuss the diagnostic tools available for endodontic diagnosis. The "SOAP" approach to endodontic diagnosis is a very efficient and simple method to accomplish accurate diagnosis. SOAP serves as a mnemonic to guide the clinician in data collection and stands for: *Subjective*, *Objective*, *Assessment*, *and Plan.*

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Introduction

The pulp and dentine are intimately related and are considered as a unit called the pulp-dentine complex[1] **(Figure 1)**. Due to this intimate relationship, all restorative procedures will directly or indirectly influence the pulp and in turn will evoke a response[2-11]. The pulp is a highly differentiated tissue and under normal conditions, it is protected by enamel, dentine and cementum. The dentine initially has a formative function, but following root formation, its main function is protection of the pulp from insult.

The pulp has a remarkable capacity for recovery. It is exposed to many forms of insults including caries, trauma, restorative or periodontal procedures and occlusal damage. More often than not, the pulp responds favorably to these insults by mounting an inflammatory response. Dental caries is by far the most common cause of pulpal disease. If the caries insult is not so intense as to damage the odontoblasts, the pulp can usually form 'reactionary' tertiary dentine[12,13]. If the insult is overpowering then the existing post-mitotic odontoblasts will die and mesenchymal cells may be mobilised from the pulp core to differentiate into odontoblast-like cells in an attempt at forming new dentine-like material called 'reparative' tertiary dentine[13]. Care and diligence on the part of the operator while performing dental procedures will minimise the insult to the pulp[14]. This is achieved by limiting heat production and by preventing desiccation of the tooth. Prevention of the generation of excessive heat can be achieved by the use of copious, well-directed water spray during all aspects of tooth preparation and the application of light brush-strokes by the operator when using rotary instruments.

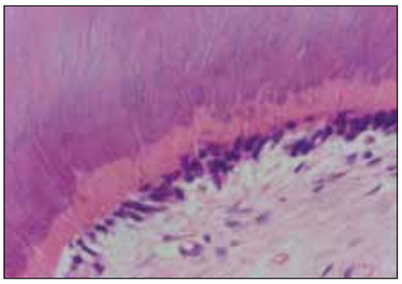

Figure 1: *The pulp and dentine are intimately related and should be considered as a 'unit' referred to as the dentine-pulp complex.*

However, if the etiologic factor leading to pulpal inflammation, is infection (marginal leakage, caries, biofilms, etc.) then the damage to the pulp tissue may often be severe, frequently culminating in an irreversible inflammation. Due to poor collateral circulation and the low compliance environment with minimum space for swelling, the inflammatory response of the pulp is unpredictable[8]. In addition, diagnosis may be extremely difficult because there is poor correlation between clinical symptoms and the histopathologic status of the pulp[15-17]. Seltzer et al. showed that a tooth with a small carious lesion that is asymptomatic might demonstrate acute inflammation[18]; conversely (and ironically) a tooth with extensive caries, breaking into the pulp chamber, may show only mild inflammatory infiltrates when examined histologically. While intuition and clinical experience are of utmost importance

during establishment of a diagnosis, nothing can compensate for a detailed and comprehensive examination leading to collation of all pertinent information. Diagnosis of pulp and periradicular diseases is not a simple task and can often be a challenge even to the most experienced clinician.

A systematic approach to data collection is critical. Like an airplane pilot following a pre-flight checklist to ensure a safe and uneventful flight, the clinician should have a methodical approach to lead him or her to an accurate diagnosis. The "SOAP" approach to endodontic diagnosis is a very efficient and simple method to accomplish accurate diagnosis. SOAP serves as a mnemonic to guide the clinician in data collection and stands for: ***Subjective, Objective, Assessment, and Plan.*** This article will present some of the important aspects of this approach to diagnosis.

S: Subjective Information

- Chief complaint
- Location/source of pain
- Frequency of pain
- Severity of pain
- Stimulus/relief of pain
- Current status of the disease
- History of pain/problem
- Duration of pain
- Spontaneity of pain

O: Objective Information

Clinical / Visual Examination

- Sinus tracts
- Restorations
- Intra / extra-oral swelling
- Caries
- Fractures

Clinical Testing

- Percussion
- Periodontal probing
- Thermal response
- Other tests
- Palpation
- Mobility
- Electrical response

Radiographic Evaluation

- Evaluation of periradicular status
- Extent of caries
- Evaluation of crown margins
- Number, size, and shape of roots
- Size of pulp chamber and canal space(s)
- Several radiographic angulations may be necessary

A: Assessment of the Diagnosis

- Pulpal diagnosis
- Periradicular diagnosis

P: Plan of treatment

- No treatment
- Conservative treatment
- Non-surgical endodontic treatment
- Surgical endodontic treatment
- Extraction
- Restorative plan after endodontic therapy

Listen first!

The patient's chief complaint is probably the single most important piece of information in the diagnosis puzzle. In most instances, the pain comes from where the patient thinks it comes from! In many cases, a diagnosis can be made by listening carefully to the patient. Sir William Osler (1849-1919) said: *"Listen to the patient; he is giving you the diagnosis".*

The objectives of this article are to review classic and current concepts on endodontic diagnosis, to describe the current classification of the pulp and periradicular diseases and to present and discuss the diagnostic tools available for endodontic diagnosis.

Classification of the pulpal and periradicular diseases

No ideal classification for pulp and periradicular diseases is currently available. Any useful classification must be based on clinical and radiographic findings since histological data is rarely available; hence, terms like "hyperaemia", "hyperplastic pulpitis", and "pulposis" have no place in contemporary clinical endodontics. Moreover, the ideal classification should at least lead the clinician to a correct treatment plan. The diagnostic terms discussed here are those used in the current edition of the American Association of Endodontists Glossary of Terms[19, 20]. Every endodontic diagnosis is a "dual" diagnosis, that is, one diagnosis for the pulpal status, and one for the periradicular status **(Tables 1 and 2).**

Special endodontic diagnostic tests

Endodontic diagnostic tests are carried out in an attempt to assess the present condition of the pulp and periradicular tissues. Results from these tests, along with all the other information collected (i.e. history of pain/problem) will lead to a "working diagnosis". An astute clinician should keep an open mind. The final diagnosis may differ from the provisional diagnosis established before treatment began.

In the process of investigating the disease process, an important step is to try to reproduce the patient's chief complaint. The instruments and techniques available for this task are limited, unsophisticated, and possibly outdated. Due to these limitations, the individual diagnostic tests are of supreme importance; the maximum amount of information must be obtained from each test[21].

Diagnosis and treatment planning in endodontics frequently represent a challenge. It is of utmost importance to differentiate between lesions of odontogenic and non-odontogenic origin[22-25]. The lack of an obvious reason for the pain, such as caries or a fractured tooth, should immediately cause concern. Although toothache is the most common type of oro-facial pain, many other types of pain can occur in this area[22, 26-29]. The following list of signs and symptoms should serve as an alert for the clinician to think about the possibility of a non-odontogenic lesion.

- No local dental cause consistent with symptoms
- Burning pain, non-pulsatile pain
- Constant pain, non-variable pain
- Persistent signs and/or symptoms – months to years
- Bilateral or multiple lesions; spontaneous; no apparent cause

- Failure to relieve pain with anesthetic block of suspected tooth
- Failure to respond to reasonable therapy
- Pain that occurs with a headache
- Increased pain associated with emotional stress, head position, palpation of trigger points or muscle

Lesions of non-odontogenic origin occur fairly frequently and therefore should always be considered as part of the clinician's differential diagnostic protocol[23, 30, 31]. The most common are listed below:

- Toothache of maxillary sinus origin
- Toothache of myofascial origin
- Toothache of cardiac origin
- Psychogenic origin
- Episodic neuropathic origin (V neuralgia)
- Infectious: herpes zoster (shingles), otitis media

Establishing an accurate pulpal and periradicular diagnosis depends on the assimilation of information from the history, intra and extra-oral examination, radiographic survey and special endodontic tests. Radiographs are essential but their limitations must be appreciated. It must be remembered that they are in fact two-dimensional shadows of three-dimensional objects.

Most special endodontic diagnostic tests are comparative tests. A contra-lateral tooth, and/or adjacent or opposing teeth should be tested prior to the suspected tooth in order to establish what is "normal" for that particular patient at that particular moment. In addition, patients must understand, in advance, what to expect from the tests. Explaining to the patient what the purpose of the test is, as well as what to expect from it, will maximise the value of the information obtained. Endodontic diagnostic tests include sensibility testing of the pulp (thermal and electrical), percussion and palpation tests, periodontal probing, radiographs, sinus tract tracing and biting tests.

Table 1
PULPAL DIAGNOSIS

Pulpal diagnosis	Clinical findings	Radiographic findings	Endodontic treatment assuming tooth is restorable
normal pulp	■ pulp is vital ■ patient is asymptomatic ■ gingival retraction: may cause symptoms due to fluid movement inside dentinal tubules ■ responds to thermal	■ normal pdl space	■ no endodontic treatment ■ non-surgical root canal treatment for prosthetic or periodontal reasons
reversible pulpitis	■ pulp is vital with some degree of inflammation ■ symptoms: from none to intense ■ pain: mainly cold ■ pain subsides after stimulus is removed; SHORT DURATION ■ no carious pulp exposure	■ normal pdl space ■ MAY BE WIDENED IN TRAUMA FROM OCCLUSION CASES	■ removal of the etiologic factor, normally caries, and placement of restoration or sedative filling; adjust occlusion ■ non-surgical root canal treatment for prosthetic or periodontal reasons ■ emergency treatment may be required
irreversible pulpitis	■ pulp is vital with SEVERE DEGREE of inflammation ■ symptoms: from none to intense ■ pain: may be spontaneous, poorly localized ■ pain to hot and/or cold ■ in some cases, cold relieves pain ■ pain lingers for several seconds after stimulus is removed ■ may BE carious pulp exposure	■ normal pdl space ■ some cases may present with "thickened" pdl space ■ may present with condensing osteitis visible on radiograph	■ non-surgical root canal treatment ■ emergency treatment is required
necrotic pulp	■ pulp is non-vital ■ symptoms: from none to intense ■ pain: present when inducing periradicular disease	■ may or may not present with periradicular lesion	■ non-surgical root canal treatment ■ extraction ■ emergency treatment may be required
previously treated	■ previous endodontic treatment detectable radiographically ■ symptoms: from none to intense ■ normally, no sensitivity to thermal stimuli ■ pain: present when inducing periradicular disease	■ may or may not present bone resorption	■ non-surgical root canal retreatment ■ surgical root canal treatment ■ extraction ■ emergency treatment may be required

Sensibility testing

The human dental pulp is richly innervated by neural fibres from the trigeminal nerve[32,33]. These fibres are mainly sensory in nature and can be loosely grouped into fast conducting myelinated Ab and Ad fibres and unmyelinated slow conducting C-fibres. These fibres are supported in the pulp canal space by an extracellular matrix. The Ab and Ad fibres respond to thermal and electrical stimuli rapidly and recover as soon as the stimulus is removed. On the other hand, the C-fibers located towards the center of the pulp react more slowly but continue to fire impulses to higher centers even after removal of the stimulus. A positive response to pulp testing, thermal or electric, only confirms the existence of functional neural fibers[34]. Conventional pulp testing does not indicate the presence of pulp vitality; in other words, a positive response cannot be assumed to indicate that the pulp contains normal healthy pulpal tissue with a normal blood flow. Furthermore, pulp tests are even less likely able to indicate the degree

Table 2
PERIRADICULAR DIAGNOSIS

Periradicular diagnosis	Clinical findings	Radiographic findings	Endodontic treatment assuming tooth is restorable
■ normal periradicular tissues	■ patient is asymptomatic	■ pdl space of uniform width around entire root ■ intact lamina dura	■ no treatment, if pulp is vital and normal ■ non-surgical root canal treatment, if pulp is necrotic
acute periradicular periodontitis	■ acute inflammation of the periodontal ligament ■ pain to touch/percussion/palpation	■ minimal or no radiographic changes	■ non-surgical root canal treatment ■ retreatment ■ surgical root canal treatment ■ emergency treatment may be required
subacute periradicular periodontitis	■ subacute inflammation of the periodontal ligament ■ some degree of pain to percussion ■ often patient reports tooth "feels different"	■ minimal or no radiographic changes	■ non-surgical root canal treatment ■ retreatment ■ surgical root canal treatment ■ emergency treatment may be required
chronic periradicular periodontitis	■ chronic inflammation of the periodontal ligament ■ asymptomatic ■ often: no history of pain ■ acute flare-up may occur	■ lesion visible radiographically	■ non-surgical root canal treatment ■ retreatment ■ surgical root canal treatment
chronic suppurative periradicular periodontitis	■ chronic inflammation of the periodontal ligament ■ asymptomatic ■ often: no history of pain ■ presence of a sinus tract ■ often patient's chief complaint is "a bubble in my gums"	■ lesion visible radiographically ■ sinus tract traces to involved tooth	■ non-surgical root canal treatment ■ retreatment ■ surgical root canal treatment
acute alveolar abscess	■ accumulation of pus in periradicular tissues ■ rapid onset ■ pain: may be severe ■ percussion/palpation/touch ■ may present swelling ■ tooth may be mobile and elevated in socket	■ lesion may be seen radiographically	■ non-surgical root canal treatment ■ retreatment ■ surgical root canal treatment ■ emergency treatment is required ■ antibiotics may be required
cellulitis	■ diffuse spread edematous inflammatory process ■ spreads through connective tissue and fascia planes ■ pain: may be severe ■ patient may present with fever	■ lesion may be seen radiographically	■ non-surgical root canal treatment ■ retreatment ■ surgical root canal treatment ■ emergency treatment is required; special attention to lingual/mandibular tissue spaces ■ antibiotics may be required
condensing osteitis	■ asymptomatic; usually related to long standing low grade pulpal or periradicular inflammation	■ radiopaque lesion surrounding apical area	■ no endodontic treatment if associated with reversible pulpitis ■ non-surgical endodontic treatment if pulpal symptoms or prior to restoration of tooth ■ non-surgical root canal retreatment if associated with irreversible pulpitis

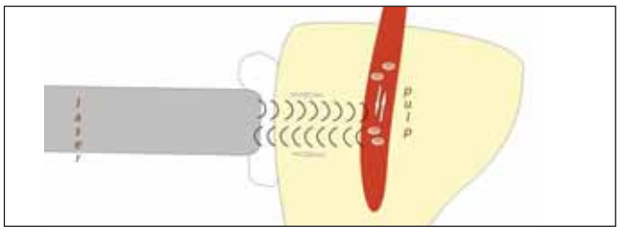

Figure 2: *Laser Doppler Flowmeter. A laser beam is projected onto to the pulp chamber. The signal from the reflected beam is registered by a sensor. The signal detected will vary depending on whether blood cells are flowing in vessels in the pulp or not.*

Figure 3: *Application of an ice-stick to the buccal face of a tooth.*

Figure 4: *Ethyl Chloride (-5 oC).*

Figure 5: *Frigi-Dent refrigerant spray (-26 oC). Many thanks to Brassler USA for permission to reprint tables 1-5.*

Table 3

Test	Natural teeth testing site	Prosthetic crown/ heavily restored teeth testing site	Technique
cold	■ ant: buccal, incisal 1/3 ■ post: mb cusp, buccal side, and ml cusp, lingual side	■ ant: mid-buccal surface ■ post: mb cusp, buccal side, and ml cusp, lingual side ■ test an area with sound enamel, whenever available ■ avoid applying cold on metal surfaces	■ first test the tooth selected for comparison ■ isolate the area to be tested with cotton rolls ■ dry teeth to be tested ■ apply cold spray to a small cotton pellet ■ apply cold for 2-3 seconds ■ wait 5 seconds before testing another tooth
heat	■ ant: buccal, incisal 1/3	■ ant: mid-buccal surface	■ first test the tooth selected for comparison
	■ post: mb cusp, buccal side, and ml cusp, lingual side	■ post: mb cusp, buccal side, and ml cusp, lingual side ■ test an area with sound enamel, whenever available ■ avoid applying heat on metal surfaces	■ isolate the area to be tested with cotton rolls ■ apply vaseline on the surfaces to be tested ■ apply heated gutta percha for 5 seconds wait 10-15 seconds before testing another tooth
EPT	■ ant: buccal, incisal 1/3 (figure 1) ■ post: mb cusp, buccal side, and ml cusp, lingual side	■ ant: mid-buccal surface ■ post: mb cusp, buccal side, and ml cusp, lingual side ■ test an area with sound enamel, whenever available ■ do not apply ept on metal surfaces	■ first test the tooth selected for comparison ■ isolate the area to be tested with cotton rolls ■ when metallic restorations are in contact, place a piece of rubber dam in between teeth ■ apply a small amount of tooth paste on the surfaces to be tested ■ apply ept with slow increase of electric stimulus ■ wait 5 seconds before testing another tooth

Figure 6: *Carbon Dioxide snow stick. The temperature of the stick is in the region of –75oC. It elicits a definite response from the pulp even in teeth with full coverage porcelain restorations. Evidence suggests that the snow stick has no detrimental effect on the pulp, the enamel or porcelain.*

Figure 7: *A small cotton pellet soaked in tetrafluoroethane refrigerant at approximately -26 oC.*

of health of the pulp. Thus, most pulp tests are only assessing the pulp sensitivity, rather than pulp vitality or, more importantly from a clinical perspective, pulp viability. It has been shown by histological studies that the neural component of the pulp is the last component of the pulp to undergo necrosis[34]. All pulp tests have limitations and these must be recognised. False positive and false negative responses occur. A recent study evaluated the reliability of heat, cold and electric tests to assess the status of the pulp and found that cold and electric tests were significantly more reliable tests than heat[35].

True pulp vitality tests are available today, but they are of limited application in the routine practice of dentistry. These tests have been used successfully in young patients following traumatic dental injuries when there is a period of time in which the pulp is non-responsive to sensibility testing even though it is viable[36, 37]. The laser-doppler flow-meter **(Figure 2)** has proven to be efficient and accurate in assessing pulp vitality[38-42]. It projects a laser beam into the pulp chamber and "reads back" red blood cells movement. Other researchers measured the temperature change in the crown by placing a probe in the facial enamel; by comparing the temperature readings of a healthy tooth to that of the suspected tooth, an assessment of pulp vitality could be made. It has also been suggested that the intensity of a magnetic resonance imaging (MRI) signal might be useful in determining pulp vitality[43]. However, these and other devices are not suitable in teeth with prosthetic crowns or in teeth with large restorations, which really represent the majority of diagnostic challenges. Thus, more "traditional" tests are still

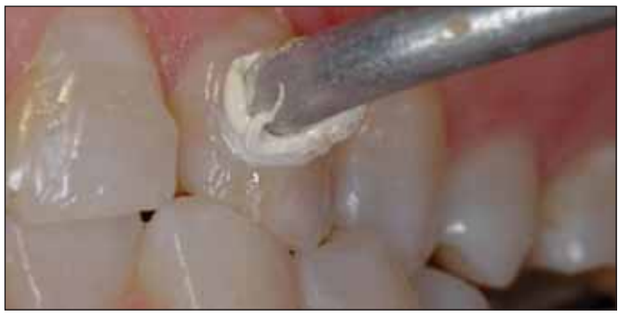

Figure 8: *Application of heated gutta percha to the tooth. It is important to cover the tooth surface with vaseline before applying the heat.*

necessary and preferred for endodontic diagnosis. **Table 3** summarises the technique for sensitivity testing using thermal (cold and heat), and electric pulp testing in teeth with natural crowns, heavily restored teeth, and in teeth with prosthetic crowns.

Thermal testing

Thermal stimuli cause contraction or expansion of fluids inside the dentinal tubules. The hydrodynamic forces generated act on the Aδ nerve mechanoreceptors of the pulp, causing pain[44]. The results obtained with the use of thermal stimulation (heat or cold) are particularly important because of its ability to reproduce the patient's chief complaint. When applied to a healthy pulp, a positive response is expected, and this sensation lasts for the duration of the stimulus. Cold tests are probably the easiest and most reliable pulp sensitivity tests. Several techniques have been described and include the use of ice sticks (approximately 0˚C) (**Figure 3**), ethyl chloride (approximately -5˚C) (**Figure 4**), pressurised refrigerant (approximately -26˚C) (**Figure 5**) or the application of CO_2 snow (approximately -75˚C) (**Figure 6**). Studies have shown that the application of CO_2 snow to vital pulps results in a rapid response which causes no long term damage to the pulp tissue[45-47]. However, the use of CO_2 snow requires a large 'space consuming' CO_2 tank and a device for forming the CO_2 stick and this is not considered very practical by many practitioners especially if a practice is not limited to endodontics. Recent data proves that the most reliable and practical means for cold testing is the application of a spray of 1,1,1,2 Tetrafluoroethane (-26˚C)[48]. The spray should be applied to a small dry cotton pellet and taken to the test site (**Figure 7**). The spray test is significantly more effective than either an ice stick or ethyl chloride[46].

Heat testing is a valuable test, especially when the patient's chief complaint is "pain to hot". As with the cold tests, several sources of heat have been proposed for sensitivity testing. When the patient's chief complaint is pain to heat, normally the patient refers to the act of drinking a hot soup, tea, or coffee. The temperature of a hot cup of coffee is about 65˚C, which is approximately the same temperature at which gutta-percha starts to soften. Thus, a simple and practical way to perform the heat test is to use gutta-percha softened in a flame or with an electric heat carrier **(Figure 8)**. It is important to notice that the pain response to heat may be delayed because the stimulus is

Figure 9a: *Analytic pulp tester.*

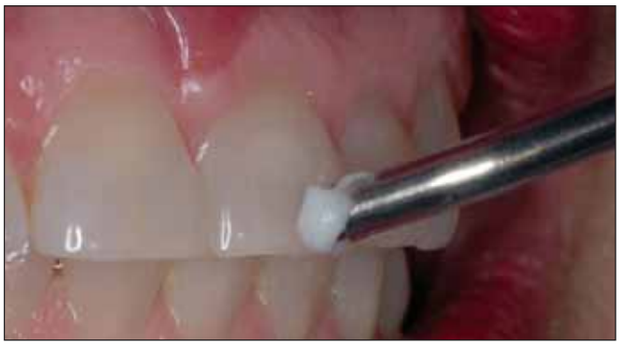

Figure 9b: *Application of the electric pulp tester to an incisor using tooth paste as a conducting medium.*

targeted to more centrally located C nerve fibers of the pulp.
As a note of warning; application of heat should not last for more than five seconds in order to prevent permanent pulp tissue damage.

Electric pulp testing (EPT)

Thermal tests may not be reliable in teeth with obliterated coronal pulp as excessive secondary dentine deposition may act as an insulator. Even though the EPT **(Figure 9a, 9b)** does not address the patient's chief complaint, it may be the only possible alternative for testing pulp sensitivity. **Figure 10** shows a case of a patient who presented with severe pain, palatal swelling, and a radiographically detectable lesion that involved several anterior teeth. Cold testing demonstrated normal response on the upper right central incisor (#8), negative response on the upper left central incisor (#9) and negative response on tooth the upper left lateral incisor (#10). However, EPT testing revealed no response on the upper left central incisor tooth (#9), yet a positive response for the upper left lateral incisor (#10). Tooth #9 was found to be the only offending tooth, with a diagnosis of necrotic pulp and an acute alveolar abscess. Tooth #9 was treated endodontically and the acute alveolar abscess resolved. In 1963 Seltzer, Bender, and Ziontz concluded that EPT was more useful in the diagnosis of pulpal necrosis and this case illustrates this point[18]. Pulp sensitivity tests frequently need to be repeated. In order to improve objectivity, these tests should only be repeated after a "recovery period" of approximately one minute between tests.
Periodically, pulp sensitivity tests will render false negatives and/or false positive responses. For example, pulp testing up to two months

Figure 10: *Diagnostic case. See text.*

after orthodontic appliance activation may result in a negative response[49], or lack of sensitivity, due to reduction of blood flow and possibly anoxia of Aδ nerve fibers. Patients taking medication such as anti-inflammatory drugs or antibiotics can also represent extra difficulties in endodontic diagnosis. In some cases, it is necessary to ask the patient to return following cessation of medication for further examination. Teeth with extensive restorations or full crowns also represent a challenge when attempting to establish the status of the pulp. In addition, young immature teeth with open apices which have not yet been fully innervated frequently provide false negative responses to thermal and electrical tests.

False positive response: possible causes

- Vital tissue still present in partially necrotic RC system
- Liquefaction necrosis is present in the pulp chamber (electrolytes: false positive to EPT)
- There is contact with metallic restorations (place rubber dam in between teeth to prevent)
- Anxious patients (especially children)
- Patients with psychotic disorders

False negative response: possible causes

Incomplete root development (incomplete formation and positioning of Aδ nerve fibers)
Recently traumatised teeth (reduction of blood flow and possibly anoxia of Aδ nerve fibers)
Sclerosed/obliterated canals (dentine serves as insulation)
Patients with psychotic disorders

Analysis of the periodontal ligament and the attachment apparatus status

The longevity of a tooth is intimately related to the health of the periodontal tissues. Careful examination of the probing depths, tooth mobility, and radiographic data are imperative before carrying out the endodontic diagnosis, treatment planning, and assessment of the prognosis of a tooth.

Percussion test

Percussion tests provide information for the clinician about the periodontal ligament status. Teeth with severe pulpal inflammation (i.e. irreversible pulpitis) or pulpal necrosis and bacterial contamination may

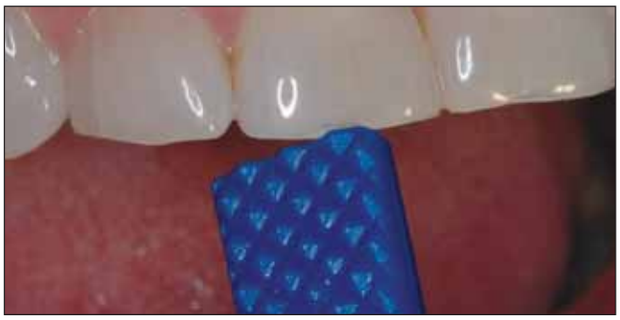

Figure 11: *The use of gentle finger pressure followed by the use of a plastic instrument are the most effective means of eliciting a valid response from teeth. Avoid using excessive force during percussion testing.*

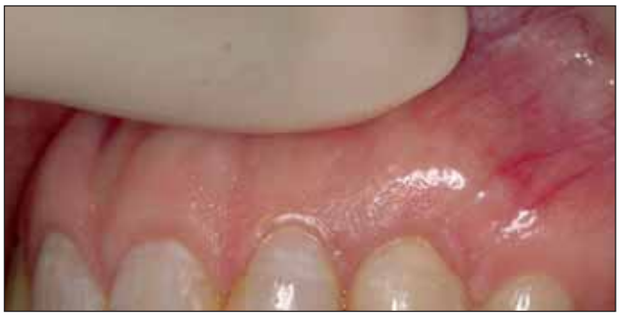

Figure 12: *Palpation of the periradicular tissues.*

Figure 13: *Sinus tract tracing. See text.*

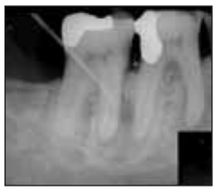

Figure 14: *See text.*

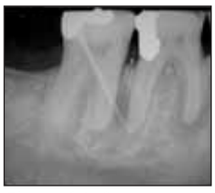

Figure 14: *See text.*

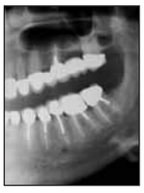

Figure 15: *See text.*

cause inflammation of the PDL. Other etiologic factors may cause pain to percussion, such as occlusal trauma. Differential diagnosis is dependent on pulp sensitivity tests and radiographic examination. When performing percussion tests, a gloved fingernail can be used first, followed by finger pressure, and gentle tapping with a plastic instrument **(Figure 11)**. Avoid excessive force such as that applied by a metal instrument handle. Several teeth should be tested in a variable sequence and should include adjacent teeth, opposing teeth and corresponding teeth on the opposite side of the mouth. Tenderness to percussion indicates the existence of periapical inflammation.

Palpation

Patients frequently present whose chief complaint is related to pain when finger pressure is applied to the apical area of a tooth or teeth **(Figure 12)**. Palpation is a reliable method used to reproduce the patient's chief complaint in these cases. Palpation is the use of the sense of touch to examine tissue for diagnostic reasons.

The palpation exam is performed with digital pressure to check for tenderness in oral tissues intra and extra-orally. Apical palpation tenderness may reveal an area where inflammation of the periodontal ligament has broken through the periosteum. An important clinical note is that once an area of apical inflammation is located by palpation, anesthesia should be delivered away from this area.

Sinus tract tracing

Whenever present, a sinus tract must be traced. The most common material for sinus tract tracing is gutta-percha points which may be coated with topical anaesthetic and introduced into the sinus tract opening or stoma. A large gutta-percha point is preferred as this resists bending or wrinkling which could lead to an inaccurate tracing. **Figure 13** shows a case where the first attempt to trace the sinus tract leads to an area where a tooth had been recently extracted. A second attempt with a larger size gutta-percha point leads to the correct origin of the sinus tract. Sometimes it is necessary to anaesthetise the patient for this exam. **Figure 14** shows a case where the patient needed anaesthesia to have the exam performed adequately. In the first image (tracing to the second molar), the tracing had stopped where the patient was feeling pain. In the second image, after the patient was numb, the tracing leads to the first molar, which had necrotic pulp and chronic suppurative periradicular periodontitis.

Other comparative tests

When conventional tests are inconclusive other tests may be necessary. **Figure 15** shows a case of a patient who was in severe pain on the left side of his face, but he could not say if it was from the lower or upper jaw. After all applicable tests were performed, and the diagnosis was still inconclusive; a mandibular anesthetic block (selective anesthesia test) helped the patient locate the pain in the maxillary molar area: tooth #15 had irreversible pulpitis.

Another helpful test is the "test cavity"; a test of last resort in cases where pulp sensitivity testing fails. In some cases, the test cavity is the only way to determine pulp sensitivity; for example, in cases where there is complete calcification of the pulp chamber. It consists of drilling through enamel and dentin without anaesthesia.

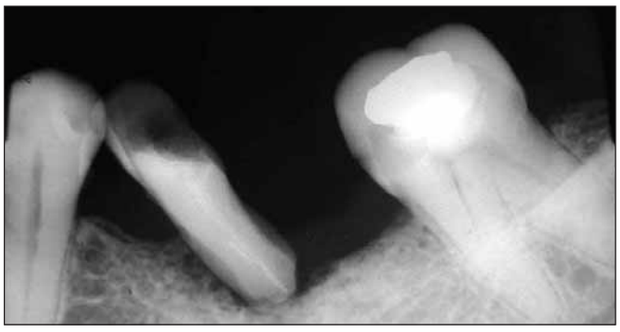

Figure 16: See text.

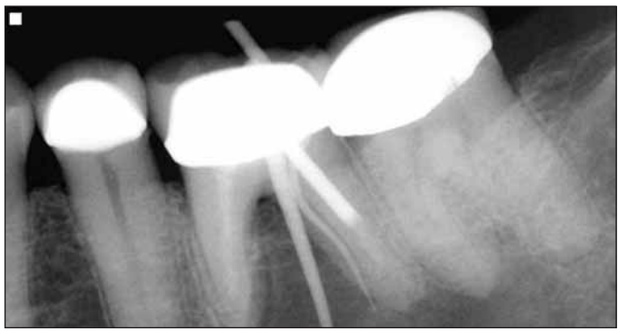

Figure 17: See text.

Treatment planning

Many patients expect a prescription for drugs when they visit their medical doctors. When they visit their dentist they have come to expect some form of treatment at every visit. However, knowing when to treat is probably as important as knowing when not to treat! An important rule to follow (remember, first do no harm) is to perform no treatment when there is no definitive diagnosis. No treatment should actually be considered a form of treatment. It is more prudent to wait for a day or more, and ask the patient to return for further examination until symptoms become more localised, or wait until the patient's chief complaint can be reproduced. Other conditions where no endodontic treatment should be rendered include:

Remember!
No Diagnosis - No Treatment!

- No pulpal or periradicular disease detected
- Tooth is non-restorable, or non-strategic for the overall treatment plan
- Tooth cannot be maintained periodontally

Figure 16 shows a tooth referred for endodontic retreatment (separated file in the canal). The radiographic image clearly shows that the attachment apparatus is compromised beyond the "saving point".

Very often, an asymptomatic tooth with a less than acceptable endodontic treatment is detected during routine radiographic exam. The dilemma that presents itself here in treatment planning is deciding if this tooth should be retreated. Several factors play a part in this decision-making process. Clinical and radiographic findings as well as restorative planning are important factors to consider. **Table 4** presents general guidelines for endodontic retreatment.

Figure 17 shows a radiograph from a patient who presented with the chief complaint being "I have a bad taste in my mouth". The pulpal diagnosis established was 'previously treated', and the periradicular diagnosis was 'chronic suppurative periradicular periodontitis' (notice

Table 4
PREVIOUSLY TREATED TEETH: WHEN TO RETREAT

Clinical & radiographic findings	Radiographic findings	Restorative treatment planning	Endodontic treatment planning options
pain of endodontic origin	regardless	regardless	non-surgical root canal retreatment surgical root canal treatment
sinus tract of endodontic origin	■ regardless ■ always trace sinus tract	regardless	■ non-surgical root canal retreatment ■ surgical root canal treatment
patient asymptomatic radiographically	■ lesion seen	regardless canal retreatment,	■ non-surgical root if conclusion is that previous treatment is not healing ■ surgical root canal treatment
patient asymptomatic	■ lesion not seen radiographically	■ full crown ■ complex restoration ■ tooth is an abutment for prosthesis	■ non-surgical root canal retreatment, if conclusion is that previous treatment is not healing ■ surgical root canal treatment
patient asymptomatic	■ lesion not seen radiographically	■ simple restoration, amalgam or composite ■ not an abutment for prosthesis	■ follow-up

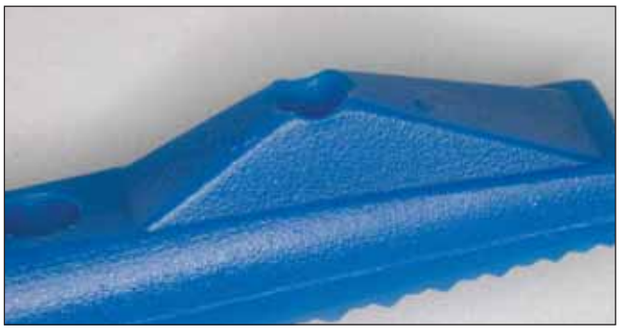

Figure 18a: *See caption below*

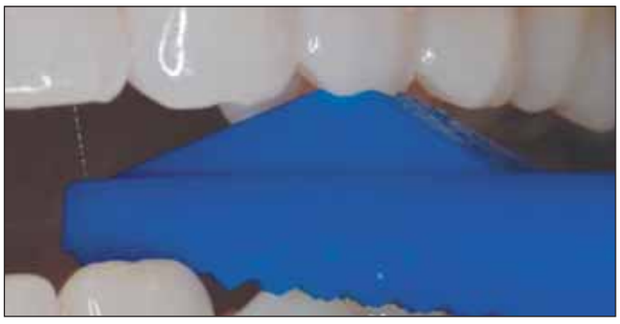

Figure 18a and 18b: *The 'tooth slooth'. This inexpensive instrument is invaluable in diagnosing cracked teeth.*

the presence of a sinus tract). The crown is in good clinical conditions and the treatment plan was non-surgical root canal retreatment with the proviso that a surgical treatment may be necessary also.

Cracked teeth

With the use of magnification and excellent illumination in dentistry, clinicians are diagnosing cracked teeth more often. Hiatt in 1973 called this clinical scenario a "dilemma"[50]. Cameron[51] coined the phrase "cracked tooth syndrome" to describe the signs and symptoms associated with a cracked tooth, such as erratic pain when chewing, possibly with release of biting pressure, and pain when your tooth is exposed to temperature extremes. Much has been written on this subject in recent years52-66. Using a tooth slooth **(Figures 18a and 18b)** these cracked teeth are frequently diagnosed. The 'tooth slooth' allows bite testing of each individual cusp and cause the cusps to be deflected. Should the tooth be cracked, saliva and bacteria permeate into the crack and as pressure is released, the deflected cusps return to normal. This then causes the fluids to be forced into the dentinal tubules thereby stimulating the neural tissues in the pulp via the

Figure 19: *Transillumination. The crack in the tooth causes an interruption in the passage of incident light through the tooth.*

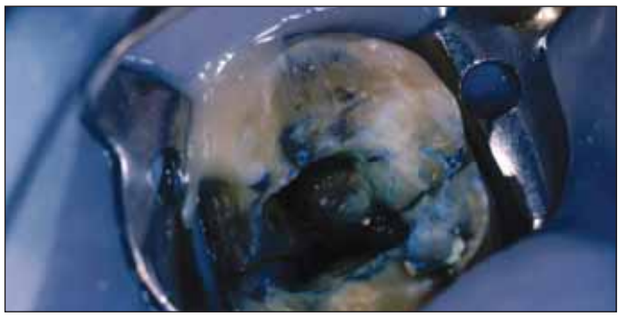

Figure 20: *Staining of a crack using a 1% methylene blue solution.*

Brannstrom Hydrodynamic theory[44]. It must be pointed out that this happens only in teeth with vital pulps.

The decision to save teeth or not relies on the extension of the crack. If the crack line extends beyond the cementum-enamel junction, the prognosis is poor. To help diagnose cracks, transillumination may be used. Light will diffuse through the crack line **(Figure 19)**. In cases where there is doubt, staining the cavity with methylene blue **(Figure 20)** or other dyes helps detect a crack and assess its extension.

In conclusion, diagnosis in endodontics is a complex and demanding process that demands the collection and assimilation of information from a variety of sources including patient history and examination, comparative testing and radiographs. It is a two-part diagnosis requiring both pulpal and periradicular components. Pulpal testing in particular is fraught with difficulty. It must be appreciated that despite all this, the correlation between the clinical findings and the histological status of the pulp remains poor.

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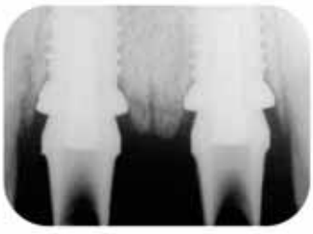

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ABSTRACTS

Dental school admissions in Ireland: can current selection criteria predict success?

Lynch, C. D., *et al.*

Abstract

Entry into university education in Ireland, including dental school, is based solely on academic performance in the Leaving Certificate Examination, held at the end of formal school education. The aim of this investigation was to examine the suitability of this process for the selection of dental students in Ireland.

Methods and materials

Information for all dental students who entered the dental degree programme immediately following completion of the Leaving Certificate Examination at the National University of Ireland, Cork, during the years 1997-1999 was retrieved. Information was collected relating to gender, the number of times the student had attempted the Leaving Certificate Examination, their performance in this examination, the total number of marks awarded to each student at the end of the First and Final Dental Examinations, and their performance in individual modules.

Results

Whilst there was a significant relationship between performance in the Leaving Certificate Examination and the First Dental Examination (correlation coefficient = 0.22, $P < 0.05$), this relationship could only explain 12% of the variation within the performance of students in this examination.

There was no relationship between performance in the Leaving Certificate and the Final Dental Examination (correlation coefficient = 0.09, $P > 0.05$).

There was a significant correlation between performance in the Leaving Certificate Examination and performance in seven of the 55 programme modules, all of which were pre-clinical modules, and of which five were related to basic sciences.

Conclusions

Based on the limitations of this study, the current selection process for dental students in Ireland seems to be of limited value.

European Journal of Dental Education, Volume 10, Issue 2, Page 73.

Dentist communication with the dental laboratory for prosthodontic treatment using implants

Afsharzand, Zahra, *et al.*

Abstract

Purpose: A questionnaire was sent to U.S. dental laboratories to evaluate the level of communication between dentists and laboratory technicians and to determine trends in procedures and materials used in fixed and removable implant restorations.

Methods and materials

Dental laboratories were randomly chosen from the National Association of Dental Laboratories for each of the 50 states. The questionnaire was mailed to the laboratory directors for 199 dental laboratories. One hundred and fourteen dental laboratories returned the survey, yielding a response rate of 57%. Of those laboratories, 37 indicated that they did not participate in the fabrication of fixed implant restorations, yielding a response rate of 39%. Forty-two dental laboratories indicated that they did not participate in the fabrication of implant-retained overdenture prostheses, yielding a response rate of 36%.

Results

Results from this survey show inadequate communication by dentists in completing work authorisation forms. Custom trays are used more frequently for implant-retained overdenture impressions and stock trays for impressions of fixed implant prostheses. Poly (vinyl siloxane) is the material most commonly used for both fixed and removable implant-supported prostheses. Two implants with stud attachments are used more widely than those with bar attachments for implant-retained overdentures.

Conclusions

Most laboratories working on implant prosthodontic cases report inadequate communication between the laboratory and dentists related to materials and techniques used in fabrication of implant restorations.

Journal of Prosthodontics, Volume 15, Issue 3, Page 202.

Patterns of care and service use amongst children in the UK 2003

Morris, A. J., *et al.*

Abstract

Background: The 2003 Children's Dental Health Survey is the fourth of the 10-yearly surveys of children's oral health in the United Kingdom.

Aim

To detail the reported experience of dental services and dental treatment amongst children in the UK.

Method

A self-completion questionnaire was distributed to a 50% sub-sample of parents or carers of the children who were clinically examined in the 2003 UK Child Dental Health Survey. This included questions relating to parental and child experience of dental services and dental treatment.

Results

The proportion of UK five-year-olds reported as not having visited the dentist fell from 14% in 1983 to 6% in 2003 and the proportion reported as having visited the dentist before the age of two rose from 7% in 1983 to 31% in 2003. Over 80% of all children were reported to seek regular dental check-ups. Around 10% were reported to have had some difficulty in accessing NHS dental care while 5% of five-year-olds were reported to have experienced a general anaesthetic for dental procedures in 2003. Dental attendance was associated with social class and mothers' reported attendance patterns.

Conclusions

In line with previously reported trends, the 2003 survey of children in the United Kingdom shows improvements in several areas but some aspects of attendance pattern continue to be associated with social class and mothers' attendance pattern. It is of concern that 10% of five-year-olds reported having experienced extractions and 5% general anaesthesia for dental treatment.

British Dental Journal Volume 200: Issue 8, 429-434.

Social acceptance and facial behaviour in children with oral clefts

Slifer, K.J., *et al.*

Objective

To examine and compare social acceptance, social behaviour, and facial movements of children with and without oral clefts in an experimental setting.

Design

Two groups of children (with and without oral clefts) were videotaped in a structured social interaction with a peer confederate, when listening to emotional stories, and when told to pose specific facial expressions.

Participants

Twenty-four children and adolescents ages 7 to 16(1)/(2) years with oral clefts were group matched for gender, grade, and socioeconomic status with 25 noncleft controls.

Main outcome measures

Specific social and facial behaviours coded from videotapes; Harter Self-Perception Profile, Social Acceptance subscale.

Results

Significant between-group differences were obtained. Children in the cleft group more often displayed 'Tongue Out', 'Eye Contact', 'Mimicry', and 'Initiates Conversation'. For the cleft group, 'Gaze Avoidance' was significantly negatively correlated with social acceptance scores. The groups were comparable in their ability to pose and spontaneously express facial emotion.

Conclusions

When comparing children with and without oral clefts in an experimental setting, with a relatively small sample size, behavior analysis identified some significant differences in patterns of social behavior but not in the ability to express facial emotion. Results suggest that many children with oral clefts may have relatively typical social development. However, for those who do have social competence deficits, systematic behavioural observation of atypical social responses may help individualise social skills interventions.

Cleft Palate Craniofac J. 2006 Mar; 43(2):226-36.

Conference papers

The following abstracts are from clinical papers presented to the recent Annual Scientific Conference of the Irish Dental Association and were prepared by Maire Brennan, Tom Canning, Maurice Fitzgerald, and Abigail Moore.

Catch it early

Dr Marielle Blake
Consultant Orthodontist,
HSE SWA, St. James's Hospital.

Dr Blake's lecture highlighted some situations in which early orthodontic intervention by general dentists can decrease the complexity and need for future orthodontic therapy.

The main areas addressed were abnormal numbers of teeth, infraocclusion, cross-bites, oral habits, functional appliances and impacted upper canines.

The most common teeth we see missing as dentists are maxillary central incisors due to trauma and congenitally missing lateral incisors. Supernumerary teeth can delay incisor eruption, if an incisor is erupted for more than six months with no sign of the contralateral, a radiograph is necessary. Retained deciduous teeth can lead to 'stacking' or 'winging out'. As a rule of thumb, if the permanent tooth root is two-thirds formed the retained primary tooth should be removed.

Thumb sucking can lead to increased overjet, anterior open bites, cross bites and tongue thrust. It is important for dentists to try and discourage bad oral habits early.

Submergence occurs in 8-14% of 6-11 year-olds. Dr Blake recommends monitoring the situation up to a point but advises timely extraction of the primary tooth to avoid difficult surgical removal.

Cross bites with displacement require early intervention due to the difficulty for dentition to develop on an unstable bite. Cross bites without displacement can be treated at a later date.

The unwanted effects of habits were discussed. Thumb sucking can lead to increased overjet, anterior open bites, cross bites and tongue thrust. It is important for dentists to try and discourage bad oral habits early.

Functional appliances are an excellent method of avoiding orthognathic surgery. Suitable children should be referred to an orthodontist. It is not necessary to wait until the primary teeth have been lost, time is of the essence.

Impacted maxillary incisors occur in 1-2% of the population, 8% bilaterally. Dentists should palpate the buccal sulcus for canines from 8-years-old, if canines are not palpable by 10-years-old a radiograph is needed. Parallax should be used to locate the canines.

The winning mind: practical tips on achieving peak performance

Prof. Aidan Moran
School of Psychology, University College Dublin

Everyone wants to be a winner – but what are the mental skills required to achieve excellence in any field? In addressing this question, Prof. Moran's lecture had two main objectives. Firstly, it explained how the minds of winners differ from those of less successful counterparts. In addition, it provided some practical tips on achieving peak performance in everyday life. In summary, drawing on his research findings and consultancy experience, Prof. Moran showed you how to do your best when it matters most.

Full dentures in general practice; Acrylics then and now; and, What's in a face?

Dr Gerry Andres
Director, Graduate Prosthodontics and Maxillofacial Prosthetics,
Indiana University, USA.

Do you make plain old dentures or personalised customised prosthesis? Good knowledge of the basic principles and lab procedures will lead to optimal results within complete denture construction. It is most important is to educate the patient about the advantages and limitations of the final prosthesis. Once the expectations are realistic, the construction can commence.

There are about 50 stages, both clinical and laboratory-based, in constructing a set of complete dentures. It is a series of steps, each building on the last. Errors at any stage will be amplified in the final prosthesis and affect the support, stability, retention and aesthetics.

The hypoplastic molar tooth

Dr Michael O'Sullivan
Senior Lecturer/Consultant in Restorative Dentistry,
Dublin Dental School and Hospital.

This review of hypoplastic molar teeth included aspects of aetiology, prevalence, histology, treatment approach and treatment success rates.

Molar hypoplasia is described to patients as 'a condition where enamel formation is interrupted resulting in a weaker structure more prone to fracture'. This insult to the developing tooth occurs from birth to approximately two years. Hypoplastic molars have a prevalence of 5.8%-18.4% and may be localised or generalised. Whilst the precise aetiology of molar hypoplasia is unknown and rarely identifiable, the literature reports association with medical problems such as pneumonia, otitis media and high fevers occurring before the age of three.

Histological analysis of these teeth has revealed a reduced mineral content with lower hardness and modulus of elasticity. Based on the histological evidence, complete removal of the lesion is advised as a distinct junction with normal enamel can be identified.

Early identification, diagnosis and treatment are fundamentally important in treatment. Early treatment is vital to prevent hypersensitivity and loss of occlusal space due to rapid wear of the defective enamel. While composite resin and glass ionomer restorations are adequate for mild/moderate defects, more severely affected teeth often require indirect restorations or extraction. The advantages/disadvantages of restorative options were discussed and the roles of crown lengthening and the Dahl appliance therapy described. Early consultation with an orthodontist is frequently advised, particularly if extractions are necessary or there are other orthodontic issues that may be addressed simultaneously, including the lack of interproximal space.

Finally, success rates of restorations placed on hypoplastic teeth were reported. The median survival of restorations was estimated at five years. Also patients with hypoplastic molars have been reported to have received up to 10 times as much dental care up to 18 years as controls.

Problem solving in paediatric dentistry

Dr Dympna Daly
Practice limited to Paediatric Dentistry, Galway.

Dr Daly gave an excellent overview of the most commonly seen problems in the primary dentition including enamel defects, trauma, discoloured teeth and early childhood caries (ECC).

Enamel defects can be acquired or inherited. Many disturbances before, during or after birth can cause acquired disruption of enamel formation. These are normally localised defects managed by restoration to improve aesthetics and prevent plaque build up. Amelogenisis Imperfecta is the most common inherited enamel defect. This causes generalised enamel defects. Management involves restoring the posterior teeth to maintain vertical height before anterior restorations. Molar Incisor Hypoplasia (MIH) is another condition of which we are seeing more. Posterior restorations are placed prior to anterior, ranging from fissure sealants to extraction depending on the severity. The main management points are: assess early, appropriate treatment planning, referral as necessary to orthodontist/endodontist and frequent review.

Trauma in primary teeth has a prevalence of 10-30%, maxillary incisors are the most commonly affected. Management includes full history, full exam and special tests e.g. occlusal radiograph. Extraction is indicated for crown fractures, vertical fractures and very mobile teeth.

Discoloured primary teeth can be monitored if asymptomatic. Root therapy may be indicated if the tooth has a life span of more than two years and the patient is compliant. Parents are often reluctant to extract.

ECC is unfortunately still very prevalent in Irish children. Management of ECC includes, eliminating the cause, OHI, diet advice, restorations/extractions, advise water ONLY in bottle at night, no eating/drinking after evening brush. Posterior teeth are restored first.

In conclusion, the importance of parental co-operation and regular review is paramount to successful paediatric dental treatment.

Dr Andres' clinical steps for denture construction are: assessment, primary impression, secondary impression, occlusal registration, aesthetic try in and delivery. The meticulous checking and rechecking of each step will ensure the best chance of success in the next. Excellent understanding and communication of laboratory stages is as important as the clinical components.

As well as some clinical tricks for correct border moulding, occlusal registration and try-in, the positive effect of highly customised and stained gum work on a denture was demonstrated.

At the lecture 'Acrylics then and now' Dr Andres discussed how little the materials we use have changed chemically. However the handling and mechanical properties have improved immensely. He further discussed the laboratory procedures involved in creating the highly aesthetic and functional complete dentures.

In the lecture 'What's in a face?' some startling examples of maxillofacial prosthesis were shown. Most from before the days of implant dentistry. Using both anatomic, dental and artistic knowledge some startling transformations were shown. While many of the cases shown would now be treated surgically, it showed how good a result could be obtained with acrylic and silicone prosthesis.

CLINICAL ABSTRACTS

Contemporary fixed prosthodontics

Prof Steve Rosenstiel
Professor and Chairman of Restorative Dentistry, Ohio State University.

Program outline

Treatment planning

Managing extensively damaged dentitions in a predictable manner is the goal of prosthodontic treatment. This presentation discusses a rational approach to treatment planning for complex prosthodontic patients and also reviews the needs and concepts of digital photography as an adjunct to treatment planning for optimum aesthetics.

Restoration of endodontically treated teeth

Restorative failure of endodontically treated teeth is unfortunate and relatively common. This presentation reviews the principles of treatment planning and focuses on the most appropriate technique selection to minimise restoration failure and achieve optimum aesthetics.

Dentists' and the Public's Perception of Dental Aesthetics

Modern aesthetic dentistry enables dentists to change the appearance of anterior teeth in a conservative manner. However, there is little to guide the dentist as to the anterior tooth size, shape and orientation for optimum aesthetics. This presentation summarises recent research into dentists' and the public's perception of dental aesthetics focusing on anterior tooth proportion, angulation and height-to-width ratio. The presentation provides practical data on optimising anterior aesthetics.

Post-treatment Sensitivity

Many patients report sensitivity after a cast restoration has been cemented. Modern techniques and materials has reduced but not eliminated this problem. This presentation is based on dentists' opinions obtained via an Internet survey as to the prevalence, causes and prevention of post-cementation sensitivity. We concluded that the incidence of post-cementation sensitivity appears to be underestimated. There is little published evidence to support antimicrobials, desensitising or bonding agents, though considered effective by some dentists. Many dentists considered luting agent an important variable.

The new dilemma
Model-based or computer-based implant dentistry

Dr Jaime Lozada Professor and Director, Graduate Programme, Implant Dentistry, Loma Linda University, USA.

Dental implants have had a major impact on the treatment of edentulous patients. Presurgical assessment, however, is critical to avoid problems related to inadequate bone volume, axial alignment relative to occlusal loads, or location of critical structures such as the mandibular canal.

Three-dimensional imaging techniques such as computerised tomography (CT) and linear tomography (LT) and more recently, cone beam volumetric tomography, can provide the presurgical information needed. However many implants are still placed without the benefit of 3D imaging because of the increased cost to the patient or lack of availability. The presentation exposed the comparative benefits of a commonly used clinical method for assessing edentulous ridges transversely, known as ridge mapping, versus a new treatment modality which utilises immediately loaded implants placed with a CAD/CAM surgical template using a flapless surgical technique, then loaded with a prefabricated restorative prosthesis.

Intra-coronal restorations for posterior teeth

Dr Tim Carlson

Dr Carlson gave a comprehensive presentation on the various techniques, materials and choices for direct and indirect restoration of intra-coronal lesions in posterior teeth. It was recommended that one should not be limited and all restoration types should be considered. The chosen method used to restore a particular tooth should be made between the dentist and an informed patient on the basis of cavity size, position, occlusal demands and aesthetic considerations. The opposing dentition should also be considered.

Different cavity designs and preparation techniques were addressed including preventive resin restorations with the aid of airborne particle abrasion, lasers or fissureotomy burs. The internal aproximal (tunnel preparation) and mini-box preparation were described as conservative options for the class II lesion. Dr Carlson spoke about the safety of amalgam as a restorative material and commented that resin-bonded amalgam restorations have not been shown to be more retentive than those utilising conventional auxiliary retentive features. In his discussion on composite as a posterior restorative material, Dr Carlson strongly advocated the use of rubber dam and suggested the following tips for successful bonding: adequate isolation, take care not to over-condition, avoid collagen collapse of conditioned dentine, optimise the hybrid layer, use Glass Ionomer lining materials, and, consider the "C Factor" and stresses when placing increments. A brief overview of the materials available for the indirect restoration of intra-coronal lesions was given. Cast gold inlays and onlays, indirect composite, fibre-reinforced indirect composites, castable ceramics, pressed ceramics, reinforced ceramics and CAD/CAM technology were all given mention.

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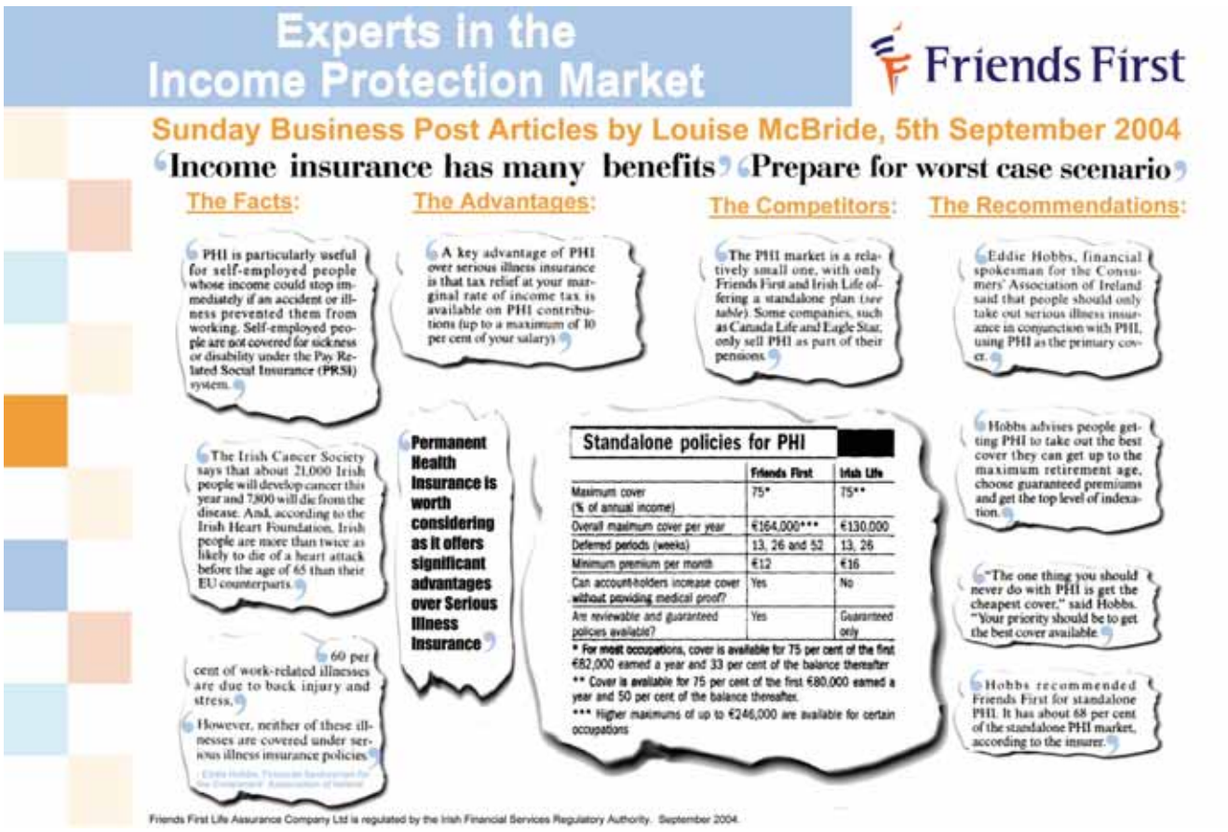

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Conference abstracts

The following are abstracts from some of the presentations made in the Practice Check-Up section of the recent Annual Scientific Conference.

Licensing requirements for dental radiology

Dr Stephen Fennell. Radiological Protection Institute of Ireland.

In order to carry out the practice of dental radiology in Ireland, dentists must meet the requirements of both the Radiological Protection Act, 1991 (Ionising Radiation) Order, 2000 (S.I. No. 125 of 2000) and the European Communities (Medical Ionising Radiation Protection) Regulations 2002 (S.I. No. 478 of 2002). The Radiological Protection Institute of Ireland is the competent authority for the purposes of enforcing the requirements of S.I. No. 125, which deals with the protection of workers and members of the public – the protection of the patient falls under the scope of S.I. 478 of 2002 for which the Department of Health and Children is the competent authority. In accordance with S.I. No. 125 of 2000, all users of sources of ionising radiation, including dentists, are required to hold a valid licence from the Institute and to adhere to the requirements of the conditions of the licence and, in the case of dental radiology, the provisions of the Institute's Code of Practice for Radiological Protection in Dentistry.

The Institute has recently carried out a review of its dental licensing system and will shortly be introducing some new requirements for dental practices. These include the requirement to appoint a Radiation Protection Adviser and the enforcement of biennial QA testing of X-ray units. The presentation will outline the legal framework for the protection of the worker and members of the public, the Institute's licensing requirements and their implications for dentists and the modifications which will be introduced shortly.

Workplace ergonomics

Karl O'Higgins. A-Dec UK and Ireland.

In the mid-'sixties, dentistry saw the dawn of a change so significant that it would necessitate greater attention to the design of dental treatment rooms: low-seated, close support dentistry. Although it is commonly accepted that sit-down dentistry is preferable to the previous options, it is also accepted that this style, if allowed, can become a right pain in the neck – literally.

Reach, access and process flow are of greater importance when seated than when standing, especially when the "target area" is so small, as reach is easier when you have the flexibility of legs. Therefore, in order to minimise awkward reaching and movements, thereby mitigating workplace strains and injuries, it is essential to pay close attention to the layout of your dental treatment room.

The sales of modern dental equipment have more recently become a sophisticated process. This is partly driven by the need to integrate complex technology solutions like digital radiography, and partly by the customer demand for a more comfortable working environment. The 21st Century dental equipment specialist will be armed with a good knowledge of workplace ergonomics, which will have been honed from the experience of many new installations each year, rather than the 10-15 year cycle that most dentists experience.

Human resources and employment law

David Bell. Solicitor, Dublin.

The presentation focused primarily on the top 10 areas of legislation that an employer needs to comply with to avoid costly litigation or prosecution. There was a brief summary of some of the current legislation and recent statistics from the regulatory bodies enforcing the legislation, in particular how the legislation has impacted the employer/employee relationship from recruitment of an employee, the rights of an employee during their employment through to termination whether by retirement, resignation, redundancy or dismissal from the employers point of view.

The top 10 employees' rights and employers obligations that have been the cause of prosecutions and fines or significant awards of compensation were highlighted and details of a number of recent cases were explained to illustrate in a practical way how the legislation is being implemented and interpreted.

At the end of the presentation the audience was more aware of their obligations as employers and in a position to avoid some of the potential pitfalls they would otherwise fall into in dealing with all types of employees and potential employees.

IT'S DYNAMITE AGAINST PLAQUE.

IRISH DENTAL APPROVED ASSOCIATION

REMOVES 56% MORE PLAQUE THAN BRUSHING ALONE.*
REDUCES INTERPROXIMAL PLAQUE BY UP TO 52%.*

Pfizer Consumer Healthcare

*Sharma N.Charles CH Lynch MC, et al.Adjunctive benefit of an essential oil-containing mouthrinse in reducing plaque and gingivitis in patients who brush and floss regularly: a six month study. J AM Dent Assoc. 2004;135:496-504.

Retirement planning with a difference - 'A cocktail approach'

Clive Reynolds. Financial Engineering Network Ltd.

'Why do today what you can put off till tomorrow' is, to most people, the favoured approach to retirement planning. In reality it is easy to see why this very real need slips down the list of things to do. Most people concentrate on the immediate needs of the family, a home (and then a new home a few years later), the practice, with retirement planning coming in a distant fourth.

Traditional approach

The most favoured strategy is to build up the practice, and make some investments along the way. The retirement funding portion typically accounts for a small part of an individual's portfolio and is usually left until your accountant hands a pension form on the run up to the October 31 filing deadline. You assess your cash flow need and send on the cheque. After that date you file the paperwork under 'Not to be touched for 20 years'.

Then usually in your mid- to late-40s you finally get around to assessing how your portfolio is doing. It is usually at this stage that you begin to fret and make a determined decision to take remedial action or else you resign yourself to the single option of selling on your practice at retirement.

Efficient financial and tax planning

Whilst we can all empathise with this approach, which could in theory work out. It is now based on factors largely outside of your control, i.e., a willing buyer. In order to ensure that you are not placing your golden years to chance, it is important to take control of your future and to put in place a structured approach. This involves what I term 'The Cocktail Approach', which is a concoction of retirement funding, personal assets and the practice.

By investing tax-free money into retirement, a fund with the returns being in a income and capital gains tax-free environment, ensures you maximise your returns when times are good or when you get it wrong, you are minimising your losses. As this area of wealth creation has expanded, so too have the investment options. It is now possible for you to pick a property and share portfolio of your choice.

Adopting 'The Cocktail Approach' which takes account of the various tax reliefs available will not only give you more control over your retirement fund but increases the likelihood of retiring earlier.

Expense sharing relationships

Dr Liam Tuohy. Dentist in general practice.

Expense sharing relationships in dentistry are becoming increasingly popular in Ireland. Although easily arranged and administered, they are not without pitfalls. However, if they are organised correctly, they can be very beneficial to all the principals.

Background

Traditionally in Ireland, private practice usually consisted of sole practitioners practicing single-handedly in isolation from other practitioners, and other practices. Competition between practices often led to very little contact between dentists and their peers in the locality. If a practice was busy enough to expand, the traditional route was to have an associate who often left after a while to pursue their own ownership aspirations thus requiring recruitment of a new associate and all the attendant hassles. Expense sharing arrangements have evolved where practice owners would prefer to keep a good associate and avoid the revolving door of associates or where practices join together for their mutual benefit.

What are the advantages?

Financial:

a) The ability to share certain common overheads leads to immediate ongoing financial benefits.

b) The sale of part of the goodwill of the Practice for somebody under the age of 55 attracts CGT tax rates rather than income tax rates as associate income does. This is particularly advantageous as it allows part of the value of the practice to be unlocked and used for investment.

c) Increased financial "muscle" makes the purchase of expensive items such as OPG, digital radiography, etc., more viable.

d) The presence of an expense sharing arrangement can often make a practice more attractive to potential purchasers.

Practice development:

The presence of two or more dentists makes the employment of a part/time fulltime hygienist a more viable option. This has benefits for the practice in terms of attracting new patients as well as boosting the practice income.

The increased ability to cover holidays/on call or do weekends or late evenings etc allows the practice to attract in more new patients.

Dentistry in general practice covers many different areas, e.g., endodontics, orthodontics, restorative, etc. The presence of extra expertise in the practice can mean less referral out to the specialist. The vast majority of patients are happier to stay within the practice and the same premises they have become used to (comfort factor).

In the case of illness or death of either of the principals, the practice as a whole remains open and viable as there is an exit strategy/buy out built-in, unlike in the scenario where in a single-handed practice, there is no dentist available and patients drift to other practices. After six months of the practice being either half open or closed the value of this type of practice is virtually nil.

Waste management in dental practice

Brian Rodgers. Healthcare Waste Management Services Ltd.

Waste streams as generated from a dental practice:

- Domestic waste.
- Clinical waste (now described as risk waste). Consists of sharps and contaminated soft materials such as swabs, wipes etc.
- Controlled waste consists of amalgam, capsules, lead foil and out-of-date pharmaceuticals.
- Chemical waste consists of liquid fixer/developer.

Packaging of wastes

Domestic waste should be segregated in to black refuse sacks/wheelie bins.
UN-approved packaging for general clinical wastes to include yellow sacks and ties and sharps bins in various sizes.
Specialist UN approved containers for waste amalgam, amalgam capsules, amalgam sludge. All containers with tear strip lids, inner seals and include mercury vapour suppressant.
Lead foil containers.
Pharma-box for out-of-date medicines.
Liquid drums, 25 litre for X-ray fixer/developer.
We will shortly supply/service amalgam separators to ISO 11143 to meet EU legislation.

Controlled documentation must be completed and applies to all wastes produced other than domestic wastes for each collection and disposal. Only engage a contractor who can demonstrate various items of compliance.

Storage and Collections

Healthcare waste should be segregated from domestic waste and stored appropriately. Marked wheelie bins (domestic and commercial size) are available from your contractor for use and exchange.
Collections should be scheduled with your contractor. Community Care large clinics have weekly service available. Health centres and private clinics should have a monthly rota or on request depending on volumes.

Summary

The packaging, segregation, transport and disposal of healthcare wastes from dental practices, is a controlled and regulated process and procedures should be incorporated in your health and safety manual and each site should have a competent person in control to implement the procedures as outlined above.

DIARY OF EVENTS

JUNE 2006

The World Aesthetic Congress (WAC) 2006
Date: June 9 and 10, 2006
Venue: Queen Elizabeth II Conference Centre, London
The World Aesthetic Congress (WAC) is one of the UK's largest aesthetic dentistry events, promoting excellence in aesthetic dentistry for the whole dental team.
For further information call 00 44 1923 851777 or visit www.independentseminars.com/wac

2nd International Congress of Odontology and Maxillofacial Surgery
Date: June 9 and 10, 2006
Venue: Oulu, Kaunas, Lithuania
All information on website www.balticcompass.com

Irish Dental Association, Midland Branch – Annual Golf Outing
Date: June 16, 2006
Venue: Glasson Golf & Country Club
Tee off is as 12.45pm, dinner is at 8.00pm
For further information contact Clem Sullivan, 2 Church Street, Longford.

Irish Society and Disability and Oral Health, Fifth Annual Conference
Date: June 23, 2006
Venue: Alexander Hotel, Dublin
Topics of concern for dentists treating patients with a disability.
For further information contact Dr Mark Henry, Dental Department, Health Centre, Arden Road, Tullamore, County Offaly.

PARN Annual Conference
Date: June 27, 2006
Venue: London
The Professional Associations Research Network (PARN) Annual Conference is on from 9.30am to 4.30pm
For further information contact Julia@parn.org.uk

Advanced Rotary Hands On Course
Date: June 28, 2006
Venue: Hayfield Manor, Cork
Speaker: Dr Patrick O'Driscoll
This one-day, hands-on course gives delegates the opportunity to successfully shape and fill root canals in extracted teeth using rotary NiTi endodontic instruments, magnification, apex locators, digital radiography and ultrasonic.
In addition, delegates will be given information on dismantling crown and bridges, core and post removal and effective removal of GP, including carrier-based systems. The role of root repair material will also be discussed.

SEPTEMBER 2006

American Dental Association – New Hampshire Dental Society
Date: September 15, 2006
Venue: Concord, New Hampshire
"Everything you wanted to know about street drugs but were afraid to ask"
For further information contact Mr James Williamson, tel: (603) 225 5961.

FDI World Dental Congress – Shenzhen 2006
Date: September 22-25, 2006
For further details contact www.fdiworldental.org

Metropolitan Branch, IDA – Current Status of Endodontics
Date: September 28, 2006
Venue: Hilton Hotel, Charlemont Place, Dublin 2
Speaker is Dr Ciaran O'Driscoll.
Further information will follow when available.

Joint Endodontic/Metropolitan Branch, IDA Meeting – Gadgets and Gizmos
Date: September 28, 2006
Venue: Hilton Hotel, Charlemont Place, Dublin 2
Speaker is Dr Teresa Lynn. Further information will follow when available.

Advanced Rotary Hands On Course
Date: September 28, 2006
Venue: The Conrad Hotel, Dublin
Speaker: Dr Patrick O'Driscoll
This one-day, hands-on course gives delegates the opportunity to successfully shape and fill root canals in extracted teeth using rotary NiTi endodontic instruments, magnification, apex locators, digital radiography and ultrasonic. In addition, delegates will be given information on dismantling crown and bridges, core and post removal and effective removal of GP, including carrier-based systems. The role of root repair material will also be discussed.

The Irish Academy of American Graduate Dental Specialists (IAAGDS) Annual Scientific Meeting
Date: September 30, 2006
Venue: To be confirmed.
For further information contact John Lordan, IAAGDS, tel: 01 4970491.

OCTOBER 2006

American Dental Association – 3 Rivers Dental Conference. "Blood, Sweat and Tears: Frontline Management of Dental Trauma"
Date: October 3, 2006
Venue: Monroeville, Pennsylvania
Speaker : Dr Edward J Barrett. For further information contact Dr Jef Mertens, tel (724) 941 4990.

NWPGDC and IDA Sligo Confernce
Date: October 6 and 7, 2006
Venue: Clarion Hotel, Dublin
Speakers: wide range of high quality speakers
An excellent conference has been arranged as well as a strong social programme. For further information contact: Dr Brendan Flanagan, 3 Wine Street, Sligo.

147th American Dental Association Annual Scientific Session and Marketplace Exhibition
Date: October 16-19, 2006
Venue: Las Vegas, USA
Scientific Sessions, October 16-19.
Marketplace Exhibition, October 17-19.
The ADA Annual Session offers a comprehensive scientific program featuring the state-of-the-art courses in dental research, evidence-based dentistry, art of dentistry, practice of dentistry, dental technology and patient care. Visit www.ada.org/goto/international for more information.

Irish Dental Association, Public Dental Surgeons Seminar
Date: October 18, 19, 20 2006
Venue: The Dunraven Arms Hotel, Adare, Co Limerick
Further details will follow when available.

Metropolitan Branch, IDA – Oral Surgery
Date: October 19, 2006
Venue: Hilton Hotel, Charlemont Place, Dublin 2
Tips in minor oral surgery, flap design and bone preservation.
Speaker is Professor Leo Stassen.
Further information will follow when available.

Metropolitan Branch, IDA
– Medical Emergencies for the Team
Date: October 19, 2006
Venue: Hilton Hotel, Charlemont Place, Dublin 2
Speaker is Dr Stephen Flint.
Further information will follow when available.

NOVEMBER 2006

Advanced Rotary Hands On Course
Date: November 8, 2006
Venue: Culloden Hotel, Belfast
Speaker: Dr Patrick O'Driscoll
This one-day, hands-on course gives delegates the opportunity to successfully shape and fill root canals in extracted teeth using rotary NiTi endodontic instruments, magnification, apex locators, digital radiography and ultrasonic.
In addition, delegates will be given information on dismantling crown and bridges, core and post removal and effective removal of GP, including carrier-based systems. The role of root repair material will also be discussed.

Metropolitan Branch, IDA – Adult Orthodontics
Date: November 16, 2006
Venue: Hilton Hotel, Charlemont Place, Dublin 2
Speaker is Dr Marielle Blake.
Further information will follow when available.

Metropolitan Branch, IDA - Restorative
Date: November 16, 2006
Venue: Hilton Hotel, Charlemont Place, Dublin 2
Review of materials used in practice (what works).
Speaker is Dr Edward Lynch.

American Dental Association – Springfield Dental Society.
Paediatric Dentistry: Are we having fun yet?
Date: November 17, 2006
Venue: Springfield, Missouri
Speaker : Dr Marvin H Berman.
For information contact Dr Brad Burks, tel: 00 1 417 882 4460.

DECEMBER 2006

Metropolitan Branch, IDA – Christmas Party
Date: December 2, 2006
Venue: RDS, Ballsbridge, Dublin 4
Further information will follow when available.

JANUARY 2007

Metropolitan Branch, IDA – Non Accidental Injury
Date: January 18, 2007
Venue: Hilton Hotel, Charlemont Place, Dublin 2
Speaker is Dr Sabine Maguire, Paediatrician from the UK.
Further information will follow when available.

Metropolitan Branch, IDA - Trauma
Date: January 18, 2007
Venue: Hilton Hotel, Charlemont Place, Dublin 2
Traumatised incisors in adults/older kids.
Case review/decision making. Speaker is Dr Anne O'Connell.

FEBRUARY 2007

Metropolitan Branch, IDA
– Dental Evening and Award Ceremony
Date: February 15, 2007
Venue: Hilton Hotel, Charlemont Place, Dublin 2
Speaker is Dr Caroline Casey.
Further information will follow when available.

Metropolitan Branch, IDA – Annual Scientific Day
Date: February 16, 2007
Venue: Hilton Hotel, Charlemont Place, Dublin 2
Further information will follow when available.

MARCH 2007

Metropolitan Branch, IDA - Restorative
Date: March 15, 2007
Venue: Hilton Hotel, Charlemont Place, Dublin 2
Speaker is Dr Billy Davis.
Further information will follow when available.

Metropolitan Branch, IDA – Annual General Meeting
Date: March 15, 2007
Venue: Hilton Hotel, Charlemont Place, Dublin 2

MAY 2007

3rd Asia Pacific Congress on Craniofacial Surgery
and Distraction Osteogenesis
Date: May 1-4, 2007
Venue: Republic of Maldives
There will be four live surgical demonstrations and four hands-on workshops using state of the art distractors and other craniomaxillofacial surgical equipment. A good number of eminent surgeons have consented to participate as faculty and around two hundred surgeons have expressed interest in participating in the congress.
(The faculty list can be viewed online at www.distraction2007.com).
For further queries about the conference write to smbalaji@eth.net.

Classifieds advert procedure

Please read these instructions prior to sending an advertisement. On right are the charges for placing an advertisement for both members and non-members. Advertisements will only be accepted in writing via fax, letter or e-mail (fionnula@irishdentalassoc.ie). Non-members must pre-pay for advertisements, which must arrive no later than July 7, 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). Classifieds ads placed in the Journal are also published on our website www.dentist.ie within 48 hours, for 12 weeks.

Advert size	Members	Non-members
up to 25 words	€75	€95
26 to 40 words	€90	€110

Non-members must send in a cheque in advance with their advert.

The maximum number of words for classified ads in 40. 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 E-mail: Studio@thinkmedia.ie

FULL-TIME POSITIONS VACANT

Challenging Practice Manager role for experienced dental nurse as part of friendly team in city centre. Please email your CV to info@fitzwilliamdental.com or call Gaizkane on 01 6614659.

Full-time trainee dental nurse required for modern friendly city centre practice. Excellent professional training provided. Please forward your CV to info@fitzwilliamdental.com or call Gaizkane on 01 6614659.

Dentist required for busy South West Dublin practice to replace departing Associate. Telephone Alan on 087 6889394 for interview

Galway City Centre. Experienced Associate required to replace retiring colleague. Fully computerised modern facility, Digital XRay, Cerec 3D. Good private/social welfare mix. Email fleetwood@ireland.com

Galway, Ireland. Associate dentist required for modern busy city centre practice in Galway. Computerised, digital radiograph, OPG, Hygienist. For further information tel: 00 353 91 531531 or email asta@galwaydentist.com

Full/part-time Associate required for modern multiple practice in Ballinasloe, Co Galway. Locum also considered. For more information email rothwellauct@eircom.net

Letterkenny, Donegal. Full-time Associate required Letterkenny area. Immediate start. Computerised, paperless practice. Digital radiography, OPG. Good mix private, PRSI, medical card patients. Huge growth potential. Stylish, ultra modern, thriving practice. More information tel Dara on 353 86 8539966, Rachel 353 74 9152728 or email darareynolds@mail2ireland.com

Associate required to replace departing colleague after six years full time service. Four surgery practice, one hour from Cork city, 30 minutes from Waterford. OPG, Hygienist, acrylic technician on site. Tel: 087 9334357 (evenings).

Full-time experienced DSA required for friendly city centre practice. May consider part-time job sharing. Contact paddygowen@mac.com for details.

Full-time dentist required to replace departing colleague. Full book assured. OPG, Hygienist. 50 minutes on M4. Call 087 1397646.

Associate wanted to replace departing colleague in busy dental practice in Cavan town (Ireland). Newly equipped state-of-the-art practice, rotary endodontics, computerised, digital radiography, friendly support staff, hygienist, visiting Orthodontist. Please contact Joanne O'Riordan on 049 4332488 / 087 8641990 or churchstreetdental@eircom.net

Dentist required - full time Associate position for busy dental practice Cork City Area. Please send CV to The Practice Manager, 8 Kinsale Cottages, Evergreen Road, Cork, Ireland. Tel: 353 21 4961776/353 85 8303509.

Full/part-time Dentist required for busy Cork City practice. Please contact Maria at Haly Dental Care. Telephone 021-4323610.

Dentist required to join colleague in modern practice OPG, Healazone. Etc. Pleasant location on River Shannon, nice patients, full book assured. Immediate start full or part-time considered. For details email rothwellauct@eircom.net

Locum required July 2006 to cover maternity leave in busy general dental practice. Well-established two dentist, one hygienist practice Drogheda. Tel: 086 8075389 evenings.

Experienced Dental Surgeon required to replace departing colleague. Excellent opportunity to join long established modern practice in Galway City centre. Fax CV to 091 565781.

Locum required: Ratoath, Co Meath (15 miles from Dublin City Centre). Month of July but especially last week. Full or part-time option. Excellent working conditions and remuneration. Email conor.irwin@ratoathdental.ie

Experienced enthusiastic Associate required to replace very successful colleague. Superb opportunity to work in a vibrant, progressive, South Dublin practice with excellent facilities. Tel: 087 2239743.

Dental Associate required for full-time position in busy dental practice in the North East (Ireland), to replace departing colleague. Start date July 2006. Located approximately 1 hour from Dublin/Belfast. Multi-surgery practice, OPG, computerised, Hygienist. Britesmile approved. Tel: 086 8237145.

Dental Associate required to replace departing colleague in busy dental and implant centre in Co. Fermanagh. Excellent support staff and hygienist service. Tel: 048 67748069.

Full/part-time Associate required for Kilkenny City practice. Contact 087 6489006 or olgaprendergast@yahoo.com.

Experienced Locum dentist required for busy Limerick City practice. Duration from August 2006 until end of December 2006. Please phone 087 9977763 or 061 335226 (W).

Full-time Associate to join two very busy dentists in Bray. Computerised, digital radiology, central sterilisation, broad spectrum of specialisation in a new facility. Tel: 01 2866394 or email drmurphyjohnj@yahoo.co.uk.

Dental Associate required for busy practice in West Cork. Full book. Reply to 086 1727064 after 6pm

Full/part-time dental practitioner required for Dublin City Centre. Experience preferable. Tel 00 44 7796012616 or 087 6423775.

Full time/part time Associate required for busy general practice in South East to replace departing colleague. Available from June 1. Contact 087 2507830.

Locum dentist required in long established busy, modern dental practice – Midleton, Co Cork. Position available July/August for maternity leave. Please phone 086 1733861 or 021 4631836.

Wanted. Experienced, conscientious and ethical dentist to replace departed colleague in two centre Associate position. Full time. Immediate start. Fully equipped and staffed surgeries. OPG, hygienist, computerised, South East. Tel: 086 8586673 after 6pm.

Full-time/part-time Associate required for busy private practice in Navan, Co Meath. Only 30 miles from Dublin, Ireland. Fully equipped modern surgery with 2006 Kavo chair/fibre-optics and experienced staff. Position to replace departing colleague. Tel: 046 9072520 or email dentist@esatclear.ie

Locum dentist required, modern dental practice in Kerry, 3 weeks June/July. Enjoy a paid holiday in beautiful tourist town! Tel: 087 2356197.

Edenderry, Co Offaly. Full time Associate required to replace departing colleague. Purpose built modern practice, computerised digital OPG, rotary endodontics, friendly support staff. PRSI/GMS/Private. Tel: Ronan 046 9731304.

PART-TIME POSITIONS VACANT

Ballsbridge dental practice requires a qualified nurse, four-and-a-half day week, top remuneration. Please ring Sandra or Karen on 01 6683242 or email dentalsurgeon@ireland.com Dr Peter McGonigal BDS NUI, Dip.Clin.Dent. (U.Dub.), MGDS RCSI, FFGDP RCS Eng.

Part-time dental Associate wanted for a busy modern Dublin Southside practice. Fully computerised, digital x-rays and OPG, intra oral camera, Hygienist etc. Phone 087 2402288.

PART-TIME POSITIONS SOUGHT

Experienced practitioner seeks part time position. Available two days per week. Cork, Waterford, South Tipperary area. Tel: 087 7523404.

FOR SALE

Practice for Sale – Limerick. Single handed long established. Strictly Private/PRSI. Huge potential. Room to expand. Dentist retiring. Tel: 061 319809 after 6pm

Drogheda, Co Louth. Practice for Sale. Two surgeries. Good equipment. OPG. Computerised. Enquiries to 01 8226074 or email casta@indigo.ie

For Sale – Galway. Single handed. Excellent equipment/staff. OPG, Hygienist. 2 surgeries. Long established. Half hour from city. Superb location. Flexible options. Freehold/leasehold. Superb figures. Tel: 086 8198887.

Midlands (Carlow Region). One man practice for sale. Well established, large potential for expansion in rapidly growing area. Excellent opportunity. Finance can be arranged. Tel: 087 6226840.

Co Limerick. One man two surgeries. Great equipment/facilities. Total revamp. Loyal staff. Excellent figures. High profit margin. Flexible options. Freehold/leasehold. Tel: 086 8075273.

For Sale. Carlow. Very busy, two surgeries, excellent equipment, OPG. City Centre. Leasehold/freehold options. High profits. Ripe for expansion. Principal retiring. Giveaway price. Tel: 086 8075273.

For Sale. Dublin South. Superb prime location Dart line. Single-handed busy. Well equipped. Top class dentistry. Huge expansion potential. Leasehold large area. Competitively priced. Tel: 086 8075273.

For Sale. Wicklow/Carlow Border. Two surgeries. Expanding town, one hour Dublin. Very busy. Excellent equipment. Leasehold/freehold flexible options. Large new patient numbers. Realistically priced. Tel: 086 8075273.

Established Dental Practice for Sale, Cork City area. Owner retiring. Apply in writing MacSweeney & Co., Registered Auditors and Accountants, Bridge House, Skehard Road, Blackrock, Cork. Tel: 021 4356062.

For Sale. Entire house 1550 sq ft approx. with established dental/medical use. Tel: 01 6606589.

EQUIPMENT FOR SALE:

OPG machine (DCX 2.5). Good working order. Incl Velopex developer €3,400. Two Durr single surgery suction motors (VS 300) €900 the pair. Polaroid instamatic Macro 5 camera as new, with case €500. Tel: 086 8519707 or email conor.irwin@ratoathdental.ie

Contents Orthodontic practice including little used Ardet Orix/90 OPG/Ceph, almost new Phillips Oralix, Durr Automatic Developer, Slee Portable Welder, Arch Mate, Vulcan Welder, Compressor, chairs, lab equipment etc. Buyer collects. Full service histories available. Tel: 01 6606589.

FOR RENT/LEASE

Bandon, West Cork. Available to lease, town centre. Two newly built consultation rooms – 1297 sq. ft. (120.6 sq. mtrs.). 95 adjacent car park spaces (2hrs). Great location, fast expanding town. Enquiries to Con O'Leary, 087 6016806 or email mcfoleary@eircom.net

Dental surgery in Portlaoise to let. Long established practice, recently closed due to illness. Genuine replies only to 087 2586247.

Consulting rooms available in the city centre private medial clinic, Dublin 2. Suitable for physiotherapist/dentist. Contact 01 4005708.

Available to lease. 750 sq/ft 2nd floor space above a computerised dental practice in Midleton, Cork. Separate access. Ample car parking. No orthodontic practice in the area. Option of renting a surgery whilst arranging fit of space. Tel: 086 6026786.

Fully equipped dental surgery for rent on a sessional basis in well established busy practice S.E. Ireland. Would suit General Dental practitioner or specialist, especially Prosthodontist. Replies to Box Number J206.002.

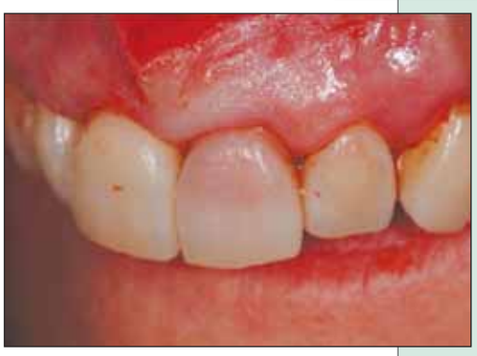
Sessions available in modern 3 surgery practice in The Blanchardstown Centre. Suit specialist. Tel: 086 2245017.

De Paor House, Main Street, Kilcolgan, Galway/Limerick Road. Proposed development with full P.P. for medical centre 100 sq metres approx. Reception, waiting room, toilets, kitchen, store, 2 consulting rooms. Ground floor. Car park. Ph. Frank 091 796044 or 086 6862039.

QUIZ

Presentation

A 33-year-old married lady was referred to the Dept. of Oral and Maxillofacial Surgery because of recently developing loose upper anterior teeth. Radiographs (Periapical) showed loss of bone around the four central incisors. This was an acute change from radiographs taken six weeks previously, which were normal.



- What dental problem(s) does the photograph show?
- What is the likely clinical diagnosis for the dental problem(s)?
- What is the differential diagnosis for the loose teeth and the dental problem displayed?
- What investigations are required?

What dental problem(s) does the photograph show?

What is the likely clinical diagnosis for the dental problem(s)?

What is the differential diagnosis for the loose teeth and the dental problem displayed?

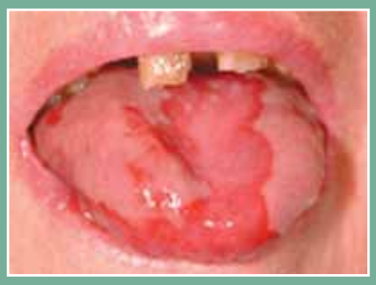
What investigations are required?

Name

Address

Please return this completed form by fax to 01 – 295 0092 or post, by June 30, to:
JIDA Quiz, IDA House, Unit 2 Leopardstown Office Park, Sandyford, Dublin 18.
Winner will be announced in the Autumn edition of the Journal.

Last edition



This 69 year old lady presented with continual severe painful oral ulceration of two years duration. She has no associated skin lesions. She is otherwise fit and well and on no medication.

Q1 *What is your differential diagnosis?*
Erosive lichen planus
Pemphigus vulgaris
Pemphigoid
Linear IgA disease
Dermatitis herpetiformis
Epidermolysa bullosa acquista
Lupus erythematosus

Q2 *What single test is diagnostically most useful?*
Direct immunofluorescence on perilesional oral mucosa

Q3 *What treatment will the patient require?*
High dose systemic steroid therapy will be required to get initial control of lesions. It is advisable to give a proton pump inhibitor, e.g. omeprazole, for gastric protection when steroids are given. As the lesions start to heal the dose is gradually reduced and topical steroids are added. If longterm systemic steroids are necessary, other immunosuppressants, e.g. azathioprine, mycophenolate mofetil, are added and can facilitate reduction of the steroid dose.

Submitted by **Clare Healy** *Sp R Oral Medicine Dublin Dental School and Hosp*

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*Szöke J, Bánóczy J, Proskin HM (2001) Effect of after-meal sucrose-free gum-chewing on clinical caries. *Journal of Dental Research* **80(8)**: 1725-29.

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