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# SCOTTISH DENTAL

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# CLOSE TO THE EDGE

A new report has lifted the lid on dentists' soaring stress levels



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● People are fearful for the security of their jobs. They fear their jobs, terms or place of employment may be changed without feeling in control of it ●

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A little stress is not a bad thing. It can keep you focused, alert to challenges and able to move into the problem-solving mode that will meet and beat whatever it is that's causing the problem.

But when the stress hits a level where it's constant, overwhelming and pushing you into anxiety, depression and negative ways of easing or suppressing the problem, then it's getting dangerous.

For years, it's been said that dentists are the profession with the highest rates of drug and alcohol abuse. It's even regularly suggested that dentists are more likely to commit suicide than any other profession as a result of the high levels of stress that so often come with the job.

But where is the evidence to support those extremes? Truth is, it's not there. It's anecdotal. Search for detailed, evidence-based statistics on those who have taken their own lives and you won't find it.

Now, however, we do have the first real insight into the levels of stress and anxiety that dentists in the UK are suffering. And it makes worrying reading.

The survey, carried out in 2014 by a team from the BDA, looked into two groups of dentists: those working in the community and a wide selection of GDPs.

Alarmingly, 60 per cent of GDPs said that they were experiencing high levels of anxiety. The figure was not much lower among community dentists of whom 55 per cent said they were suffering similar

## WHEN STRESS CALLS

High levels of stress are being experienced by dentists, but what needs to change?

●So, having carried out the research, the authors who have done their work so diligently now call for something to be done. That is an admirable sentiment. But the real question now is: what can be done?●

anxiety and stress levels. As with community dentists, almost half of the GDPs (47 per cent) reported low levels of life satisfaction, with 44 per cent reporting low levels of happiness.

So, having carried out the research, the authors who have done their work so diligently now call for something to be done. That is an admirable sentiment. But the real question now is: what can be done?

Bobby Broadfoot, who changed careers as a result of high levels of stress, and who for nearly 10 years has been helping dentists suffering from the same affliction, can perhaps at least point us in the right direction.

Broadfoot argues that the dental education system in Scotland may be producing some of the best clinicians in the world, but it's not providing sufficient training on how to deal with difficult patients, colleagues, the GDC, or even giving students an insight into how to run a business. This, he says, needs to change.

In addition, many dentists are working in single-handed practices where they can often grow isolated.

With no appraisal system that allows for stress issues to surface, the necessary support is simply not there. This too needs to be addressed.

And finally, there has to be a concerted effort on the part of the entire profession, but particularly its leaders, to set in place the advice and support services to which its own members can turn for help.

The mental health of the profession is very clearly in a parlous state.

It is high time that the duty of care, which the profession so conscientiously applies to its patients, is now turned inwards to care for its own.

## WE COULDN'T HAVE DONE IT WITHOUT...

# 1

**JULIE KILGARIFF**  
(ON ENDODONTIC TERMINOLOGY)  
A specialist endodontist, Julie Kilgariff works as a locum consultant at Glasgow Dental Hospital and at Blackhills Specialist Dental Referral Clinic.



# 2

**ROBERT BROADFOOT**  
(ON STRESS IN DENTISTRY)  
After taking early retirement due to stress, Robert Broadfoot completed a diploma in stress management and now runs his own consulting service.



# 3


**ANDREW GARDINER**  
(ON VETS STUDYING DENTISTRY)  
Senior vet lecturer Andrew Gardiner has teamed up with the Edinburgh Dental Institute to introduce a pilot project teaching vet students dental techniques.



# 4

**DAVID BALLANTYNE**  
(ON USING A MICROSCOPE)  
Edinburgh GDP David Ballantyne explains how using a microscope has improved his clinical practice, offering patients a better overall service.





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## DENTISTS BECOMING DISATISFIED

List of reasons why professionals in Scotland are unhappy with the BDA continues to grow after 400 per cent increase in conference ticket price

**T**he Scottish National Party has seen a huge increase in popularity partly due to the success of Donald Dewar's vision of a devolved parliament, and partly due to a sense of being ruled by a disinterested body in London. This will sound familiar to those of you who are interested in dental politics.

There has been increasing dissatisfaction with the British Dental Association in Scotland in recent years.

One of the factors has, of course, been the introduction of the tiered membership that resulted in the BDA being a trade union that the majority of members are unable to telephone for advice without paying a higher fee. But why else are many of us unhappy with the BDA in Scotland? The list is now considerable.

For a start, the BDA failed to submit separate research on Scotland to the DDRB, which suggest appropriate uplifts for NHS doctors and dentists.

We have a very different situation here to the rest of the UK; a surplus of dentists and much more NHS work. We would need an uplift of 20 per cent in fees just to bring us back to 2010 levels of remuneration.

We also have had staff redundancies made in Scotland with the loss of the Senior Policy Advisor, Fiona Angus, without reference to the Scottish Committees. This evidently affected the ability of elected members to carry out work.

Then several elections to SDPC from the LDCs, poorly run by the BDA in London, led



to a number of people not receiving ballot papers, or notice of the elections.

The popular and well-respected Scottish Scientific Conference, held in conjunction with Scottish Council, is now run by BDA Events (London) with little input from Scottish Council. The 400 per cent increase in ticket prices has not gone down well.

In recent times, motions which have been carried by the Scottish Conference of Local Dental Committees (SCLDC) have been unable to be carried out by SDPC as "they are not BDA policy" while others, such as the establishment of a separate Scottish Health Regulator/GDC, have been actively suppressed by the BDA.

In 2014, former West of Scotland President of the BDA and former member

of SDPC executive subcommittee Kieran Fallon, and 11 other members of the branch, resigned from the BDA. They regretted the erosion of the independence of SDPC, and that 15 years after devolution, the BDA had taken insufficient account of the divergent needs of its members in the constituent countries.

In 2015, Arabella Yelland, former member of SDPC executive subcommittee, resigned from SDPC complaining of an emerging culture of misrepresentation and in-fighting, and distorted internal communications. Sadly, it would appear that these resignations have achieved nothing.

However, there may now be some hope. Motions at the 2014 Conference of Scottish Local Dental Committees clearly demonstrated the dissatisfaction with London rule of the BDA, and voted to establish a working group to examine the feasibility of resurrecting the Scottish Association of Local Dental Committees

● **Next year, consider who will best represent your voice, and what motions should be presented to conference** ●

(SALDC). This motion initially caused the director of BDA Scotland to withdraw BDA secretarial support from the conference, although this was subsequently reinstated.

This year, the motion was passed to formally establish the SALDC. The constitution was passed round each Scottish LDC, and the objects of the association (among others) are to promote the interests of the dental profession; as well as to obtain, correlate and present to appropriate bodies the opinions of dental practitioners within Scotland.

The Director of the BDA in Scotland was not present while this was debated. Prior to the SCLDC, an important meeting with the CDO had been cancelled due to concern that funding would move from SDPC to SALDC. This motion was defeated this year.

Over the next few months, all Scottish LDCs will be asked to elect members to the SALDC. SALDC will then meet and start its work.

Next year, consider who will best represent your voice, and what motions should be presented to conference. This time round, it really matters!



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# IBBETSON TO TAKE THE HELM AT ABERDEEN

Troubled dental school will be led by highly regarded academic from this summer

One of the country's most respected dental academics, Professor Richard Ibbetson, is to take the helm at the troubled Aberdeen Dental School, it has been announced.

The appointment of the former director of the Edinburgh Postgraduate Dental Institute is regarded as a major boost for a university that has been operating under a cloud since a recent damning GDC report.

Professor Ibbetson is highly regarded throughout the dental community in the UK and it is hoped that his appointment will help to draw other senior clinicians to a school that has been struggling to attract and retain senior staff in recent years. The school recently advertised for four department heads.

At present, Professor Ibbetson is the director of the graduate entry dentistry programme at the University of Central Lancashire. He will join Aberdeen in July.

Professor Ibbetson said: "I am delighted to be taking up the post of director of Aberdeen Dental School, and to be working with NHS Grampian, NHS Education for Scotland and the University to develop its role as a professional centre promoting and supporting the continual improvement of dental health across the north of Scotland.

"I'm keen to get to know the staff and students – and the local dental community. The school is a great resource for the north of Scotland and I very much look forward to working with all the stakeholders. I get a great 'buzz'



from teaching students, and much enjoy practising dentistry. This makes the role particularly appealing, and I look forward to joining my new team later this summer."

Professor Ibbetson faces an uphill battle to restore the reputation of the dental school in Aberdeen. Earlier this year, a second GDC investigation revealed a catalogue of poor teaching performance, injury to patients by senior students, and low pass rates. In addition, the school lost a number of its senior teaching staff who left amid a series of allegations surrounding the way in which they had been treated by management at the school.

Professor Ibbetson graduated from Guy's Hospital Dental School in London, and has an MSc in Conservative Dentistry from the UCL Eastman Dental Institute. After moving to Scotland in 1999 to take up the post as director of the Edinburgh Postgraduate Dental Institute, Professor Ibbetson was elected dean of the Faculty of Dental Surgery of the Royal College of Surgeons of Edinburgh.

**"I GET A GREAT 'BUZZ' FROM TEACHING STUDENTS, AND MUCH ENJOY PRACTISING DENTISTRY."**

PROFESSOR RICHARD IBBETSON



## BDA URGES PRACTICES TO TAKE PART IN PILOT TO IMPROVE PAY PROSPECTS

Scottish practices are being urged to take part in a pilot that could lead to a more accurate formula for working out dentists' pay.

The BDA is arguing that the current formula being used by the DDRB is out of date and needs to be reassessed. As a result, pilots of a Scottish Government-sponsored procurement exercise have been launched and the BDA is hoping that up to 200 practices will come forward and take part. Assessment of the exercise will be based on analysis of anonymised accounts by corporate financial advisory firm, QMPF.

BDA director for Scotland Pat Kilpatrick said: "There has already been a small pilot exercise and a further 20 practices were approached this month [May]."

"The BDA is encouraging practices to participate because we fear that without the robust data on the rising cost of practice expenses the exercise should generate, the DDRB will continue to use the out-of-date formula that resulted in the recent mere 1.61 per cent uplift for Item of Services Fees and Capitation and Continuing Care."

To get involved, practices need to have a 90 per cent NHS commitment and should email [info@gmpf.co.uk](mailto:info@gmpf.co.uk) to express their interest.

See Pat Kilpatrick's column on page 29 for more information.



NOW TRENDING

60%

**FACT**  
The number of dentists in the UK reporting high levels of stress\*

\*

Source: BDA





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## SUSPENSION AND FINE FOR DENTIST

Inverness dentist Andre Basson has been suspended for six months and ordered to pay back grants totaling £175,000.

Basson, who runs The Keep dental practice in the town's Castle Wynd, was found guilty at a GDC hearing of poor hygiene and endangering patients.

Reported to be one of the highest paid NHS dentists in Scotland, earning in the region of £245,000 last year, Basson was found to have repeatedly failed to wash his hands between patients or to wear gloves while carrying out procedures.

The whistle had been blown on Basson by four dental nurses who had worked at the practice and had witnessed his poor hygiene regime.

They told the hearing that his failing to wash his hands was a daily occurrence and that he had even wiped and re-used dental tools without proper sterilisation.

Two nurses said they had

never seen him use an alcohol rub at any stage of his practice and told the hearing that he had been in the habit of not wearing proper medical clothing.

The conclusion to the report said: "The committee considers that you wilfully disregarded the safety of your staff and patients.

"The committee is in no doubt that both fellow professionals and informed members of the public alike would regard your conduct as deplorable. Accordingly, the committee is satisfied that the findings against you are serious and that they amount to misconduct."

A spokesman for NHS Highland said: "Mr Basson received a Scottish Dental Access Initiative (SDAI) grant of £175,000 to assist with setting up The Keep dental practice.

"As he has breached the conditions of his grant, he will be required to repay grant monies."



### FITNESS TO PRACTISE LATEST

• **13 April:** Christopher Reeks (71684)  
Outcome: Deficient Professional Performance found, not currently impaired.

• **20 April:** Philip Friel (77637)  
Outcome: Fitness to practise impaired - reprimand issued.

• **22 April:** Andrew Gow (190887)

**Outcome:** Suspension for nine months with a review and immediate suspension.

• **30 April:** Alison Ross (71647)  
Outcome: Interim Orders committee suspended Ms Ross for 12 months.

For more details on these cases, visit [www.gdc-uk.org](http://www.gdc-uk.org)

#### RAISING AWARENESS

### SAFEGUARDING YOUNG PEOPLE

Safeguarding children and young people and safeguarding vulnerable adults are to be included as recommended continuing professional development topics for dental professionals, the GDC has confirmed.

The regulator's aim is to increase awareness about these important topics so that all dental professionals feel confident and equipped to raise any concerns about abuse or neglect of vulnerable people. The GDC's guidance on CPD requirements for dental professionals has been updated to reflect the additional topics, and can be downloaded from the GDC website.

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● **Animals suffer from the same problems as humans when it comes to dental health, so the principles of treating the diseases are virtually the same** ●

JOANNE MACLEOD

## NEW ASSOCIATION HAS BEEN GIVEN THE GREEN LIGHT

Conference approves formation of Scottish Association of Local Dental Committees and motion calling for resignation of chief executive and chair of GDC is passed

The Scottish Association of Local Dental Committees (LDC) is to be reintroduced after its constitution was approved by the recent Scottish Conference of LDCs.

Formation of the new association was proposed at the 2014 conference and a working group was set up to decide on a constitution and options as to how it might function.

Gerard Boyle from the Greater Glasgow and Clyde LDC presented the group's findings to conference and it was agreed that the new association should be set up to shadow the SDPC rather than replace it, as was suggested by a motion last year.

The working group has now been tasked with formulating a definitive remit and firm proposals on funding, which will be presented to the 2016

conference. The original Scottish Association of LDCs was disbanded after devolution when the SDPC took over as the negotiating body. The 2015 conference also included a motion proposed by the Lanarkshire LDC calling for the resignation of the chief executive and chair of the GDC "in light of its recent poor performance" and a motion calling for the formation of a regulatory body "more relevant to the needs of the dental profession in Scotland", proposed by the Greater Glasgow and Clyde LDC.

Both motions were passed unanimously.

There was also a motion, passed unanimously, calling on Scottish Government to "assess the current level of dental graduate output in Scotland and justify the business case for the



Gerard Boyle from Greater Glasgow and Clyde LDC

continuation of the Aberdeen Dental School".

Outgoing conference chair Jeff Ellis handed over the reins to new chair Jacqueline Fredericks and David McIntyre from Lanarkshire was voted in as chair elect. The conference

also included presentations on domiciliary dental care by Catriona Sweeney, clinical senior lecturer and honorary consultant at Glasgow Dental Hospital, and Andrew Gibson, a GDP with special interest in domiciliary care of the elderly.



### MAD MOLARS HITTING THE ROAD TO RAISE DENTAL SCHOOL FUNDS

Jeremy Bagg, head of the Glasgow Dental School, is hitting the road to help raise funds for a new £300,000 dental technology suite.

As one of three members of the Mad Molars, Jeremy will be competing in the

Monte Carlo or Bust Banger Rally on 17-19 July 2015.

The trip will take them from Saint Quentin to Dijon (Day 1), Dijon to Turin via Geneva (Day 2) and Turin to Monaco (Day 3).

He will be joined by Neil Campbell, director of campus services, and Ronnie Ford, head of transport services.

Details of the Dental Appeal can be found at [www.gla.ac.uk/dentalappeal](http://www.gla.ac.uk/dentalappeal)



# SALARIED DENTISTS' JOB SECURITY FEARS

Uncertain future of PDS has left people worried despite assurances that there won't be redundancies

Salaried dentists in Scotland are living in a state of fear as the Public Dental Service (PDS) is restructured around them, according to the new chair of the BDA's Scottish Salaried Dentists Committee.

Graham Smith, from Portree on the Isle of Skye, believes that although the Scottish Government and the Chief Dental Officer have given them assurances that there will be no redundancies, the current uncertain future of the PDS means that people are still worried.

Graham, who has spent nearly 20 years in the PDS, said: "People are fearful for the security of their jobs. They are fearful that their jobs may be changed or their terms or place of employment may be changed without feeling in control of it."

The salaried dental service in Scotland is being restructured as access throughout the nation improves. The government has asked health boards to reduce the size of the salaried dental workforce. NHS Highland has convened the Primary Dental Care Strategy Review Group and NHS Dumfries and Galloway is reportedly in negotiations to transfer salaried dentists over to the GDS.

Graham said he was worried that the service could be weakened at a time when it may be needed most.

He said: "At the BDA and in the PDS, we realise that there is going to be change and it is happening, whether we like it or not."

"The PDS does some really good work and there is some really good research that shows it reduces inequalities. The kind of people we



IN DEPTH

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Turn to page 36 to read about vets studying at the EDI

treat in the PDS are usually lower on the socio-economic scale and we do help reduce health inequalities.

"With regards to delivering things like Childsmile, the PDS has been central in delivering that and making that a success as well."

A Scottish Government spokesperson said: "The Scottish Government Public Sector Pay Policy for 2015-16 maintained the guarantee of no compulsory redundancies. NHS health boards are currently considering the structure of NHS dental services between independent high street dentists providing NHS services and the Public Dental Service. This is about the balance of provision between alternative models of delivering NHS dental care, and the best way for patients to access it."



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● We have to be careful not to place ourselves at risk of blame and there should always be a chaperone present ●

JODIE MATHERS

## PRIOR APPROVAL SYSTEM IS IN NEED OF SIMPLIFICATION



A major report into orthodontics in Scotland has made a number of key recommendations

The prior approval system for orthodontic patients needs to be simplified according to a new report by the Scottish Dental Needs Assessment Programme (SDNAP).

The Orthodontic Needs Assessment Report is the latest major report published by SDNAP and it makes a number of recommendations on the current state of orthodontic service provision in Scotland.

As well as the recommendation that the prior approval system is simplified, the report also advised that the amount of information requested be standardised. The report also stated that specialist practitioners had raised concerns that the system is currently very slow. However, Practitioner Services Division has said that it is making changes to expedite the process, but delays are often caused by the quality or lack of information provided in letters.

The report also raised the issue of retention, specifically who pays for

a patient's retainer when they are discharged back into their GDP's care.

Jennifer Rodgers, consultant in dental public health at NHS Forth Valley and chair of the working group that produced the report, said: "The prior approval system is problematic at the moment, and needs to be simplified to ensure a favourable patient journey. This may mean communication between primary care and SDPB should improve to avoid time delays over missing/required information.

"Retention is an essential part of orthodontics and the time frames are increasing. As the funding is only available for one retainer, more and more patients are being discharged back to their GDP in retention. The onus is then on the GDP to monitor the retention and the funding for further retainers falls to the patient.

"The report recommends that clear guidance should be given on the remuneration for retention and retainers, and that training and funding will be required for GDPs."

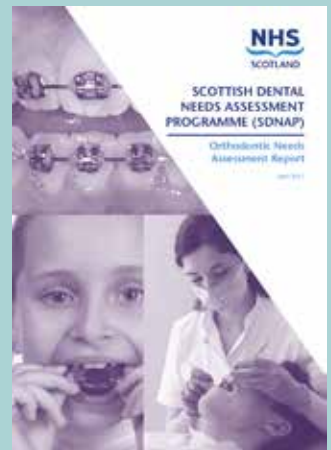
  
NOW  
TRENDING  
1/10

**FACT**  
The number of people with moderate tooth wear, much of which is attributed to soft drink consumption\*

\*  
Source:  
Journal of Public  
Health Dentistry



### 'BURNOUT' WARNING FOR HOSPITAL ORTHODONTISTS



Rigid enforcement of Referral to Treatment (RTT) targets in the hospital orthodontic service could lead to rushed treatment and risk of "burnout" among clinicians.

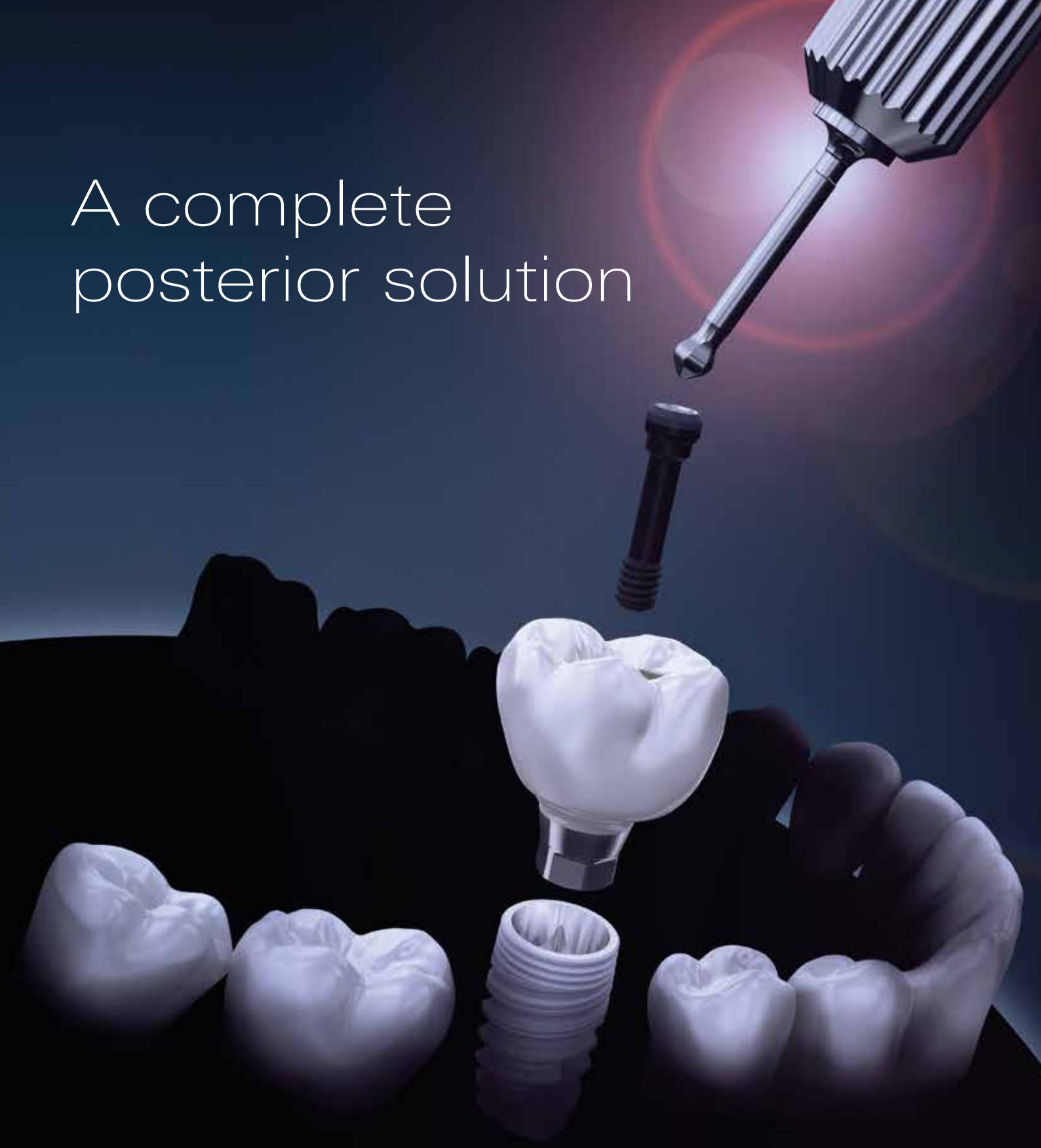
The Orthodontic Needs Assessment Report, published by SDNAP, said that the service in Scottish hospitals is performing well in general and filling an essential "niche" in terms of skill-mix. However, it stated that if the RTT targets are enforced strictly without ensuring adequate resources are in place, then both patients and clinicians are likely to suffer.

The report went on to say that "rushed" treatment episodes would threaten patient-clinician relationships, the quality of treatment and also potentially lead to "operator stress and burnout".

However, increased treatment duration, could lead to harmful iatrogenic side effects such as decalcification, caries and root damage as well as patient burnout and loss of compliance.

The report highlighted that orthodontic therapists could help the situation and be a useful addition to the skill-mix, but that their job descriptions and pay structure would need to be addressed in order to make it an attractive career option.

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# WOODSIDE RECEIVES PRESTIGIOUS AWARD

Double achievement for Glasgow dental practice



**A** Glasgow dental practice has become the first in Scotland to be awarded Investors in People (IiP) and Investors in Young People status. Woodside Dental Practice is run by husband and wife team Andrea and Mark Fowler in Glasgow's West End.

Since taking over the practice from Graham Pender four-and-a-half years ago, Andrea has led the clinical team while Mark manages the nearly 9,000-strong patient practice.

Speaking of the awards, Mark said: "Commitment to the development of our staff has always been at the very heart of our philosophy for running the practice and we always aimed to be an employer of choice.

"During the process of working towards IiP, we discovered that there was a specific award for young people. We focus heavily on bringing young talent through the ranks so we felt that it would be good to go for this at the same time.

"The process for both was fairly arduous and involved several days of extensive interviews with virtually every member of the team. They were very thorough in their inquiries about how we run the practice and support and communicate with our team.

"In the end I'm delighted to say that we were successful in gaining accreditation in both categories. We are very proud of what the team has achieved and this is the first time that

this has been achieved in Scotland in a dental practice.

"Importantly, it gives our team a tremendous boost in knowing that we are getting their training and development right, while it will also give our patients even more confidence in the services that we are providing for them."

The two members of the team who were the focus of the Investors in Young People award are Alana Rae and Danielle Carlin.

Alana said: "In contrast to other dental practices, the support network from induction to becoming part of the Woodside team has been unprecedented. The knowledge I have gained in such a short period of time is thanks to all the team who are on hand to offer support and guidance when required. The organisation of the practice is at such a high standard and is something I have never experienced, which has made my time here more enjoyable."

Danielle went on to say: "I joined the practice on a Commonwealth Apprenticeship Scheme and now I have my dental nurse qualification. In addition, I have been encouraged and given opportunities to attend courses which have included a two-day course in Manchester on Customer Service. I particularly enjoyed the clinical photography course, which I now use routinely in the practice."



NOW  
TRENDING

20

**FACT**  
People with  
20 or more  
teeth at the  
age of 70 are  
likely to live  
longer than  
those with  
fewer\*

\*  
Source:  
British Dental  
Health Foundation



## FORMER DENTIST LOSES SEAT TO SNP

Former dentist Anas Sarwar has lost his seat in the Glasgow Central constituency following the SNP's General Election landslide in Scotland.

Sarwar, who succeeded his father Mohammad Sarwar to become MP in the 2010 election, was beaten by the SNP's Alison Thewliss by 20,658 votes to 12,996.

The former deputy leader of the Labour Party was defending a majority of 10,551 but was just one of many victims of the raising wave of support for the SNP in this year's election.

Sarwar graduated from Glasgow Dental School in 2005 but spent less than two years in general practice before following in his father's footsteps and entering a career in politics. He stood, unsuccessfully, as a regional list candidate in the Glasgow region at the 2007 Scottish Parliament elections before being elected to Westminster in 2010.

During last year's referendum campaign, Sarwar played a prominent role in the Better Together campaign and appeared at a special independence debate during the 2014 Scottish Dental Show.



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# 'THANKS FOR THE ACCOLADE'

Professor Nairn Wilson's 45-year career has led him to his latest lofty position – as the president of the British Dental Association

Professor Nairn Wilson CBE was inaugurated as the BDA's 129th president at the association's annual conference in Manchester.

Currently honorary Professor of Dentistry at King's College London, the Edinburgh graduate's 45-year career includes senior positions in dental education, research and publishing. From 2001 to 2012 he was professor of restorative dentistry and dean and head of King's College London's internationally renowned dental institute.

He was also deputy vice principal of King's College London from 2009 to 2012. Previous honours and awards include a Dentistry Lifetime Contribution Award and the BDA's John Tomes Medal.

Commenting on his inauguration, Professor Wilson said: "I thank the BDA for this accolade, and for the confidence and trust in me to serve as president of the association for 2015/16.

"In the challenging, ever-changing world in which the profession seeks to deliver the best possible oral healthcare, there are many issues and



uncertainties. However, whatever 'time of need' may lie ahead for us, suitably resourced, professionally led prevention of oral and dental disease, along with a fully integrated approach to healthcare will pay great dividends.

"In accepting the office of president of the association, I dedicate myself to serve the association to the best of my ability.

"I very much hope that, following my time in office, I will be judged to have been a worthy president and to have made a meaningful and lasting contribution to the further strengthening and development of our internationally renowned association, the professional body for dentistry in the UK."



## UP TO DATE ON MOUTH CANCER

Professor Mike Lewis was among the speakers at the recent Oral-B Up To Date seminar held at the Westerwood Hotel in Cumbernauld.

Prof Lewis, who is the current dean of the School of Dentistry at Cardiff University, graduated from Dundee in 1979 and has also held positions at Dundee Dental Hospital and Glasgow Dental Hospital.

He gave a talk entitled 'Mouth cancer - size does make a difference', which included a visual quiz that challenged attendees to identify instances of mouth cancer. After his talk, host Stephen Hancocks asked for a show of

hands to indicate who had seen a case of mouth cancer in the last 12 months, to which nearly 20 hands were raised.

Prof Lewis said: "In the past it was generally accepted that you would see one mouth cancer patient every 20 years, now it is more like one every five years."

Prof Avijit Banerjee, honorary consultant in restorative dentistry at King's College London, then spoke on minimally invasive dentistry before Prof Iain Chapple, professor of periodontology at Birmingham, gave a talk entitled: 'Too little, too late: Early diagnosis saves teeth... saves lives'.

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**BDA Conference**  
Manchester Central  
Convention Centre  
To find out more, visit  
[conference.bda.org](http://conference.bda.org)

## 14-16 MAY

**ADI Team Congress**  
SECC, Glasgow  
For more information,  
visit [www.adi.org.uk](http://www.adi.org.uk)

## 14-16 MAY

**ConsEuro 2015**  
QE2 Exhibition Centre,  
London  
For details, visit  
[www.conseuro2015.com](http://www.conseuro2015.com)

## 19 MAY

**SCED seminar: Update  
in oral and maxillofacial  
surgery**  
SCED, Glasgow  
Email secretary@  
[scottishdentistry.com](mailto:scottishdentistry.com) to book

## 29-30 MAY

**Scottish Dental Show**  
Braehead Arena, Glasgow  
For details, visit  
[www.sdshow.co.uk](http://www.sdshow.co.uk)

## 3-6 JUNE

**Europario 8**  
ExCeL, London  
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efp.org/europario](http://www.efp.org/europario)

## 16 JUNE

**SCED seminar:  
Magnification in dentistry**  
Porsche Glasgow  
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[scottishdentistry.com](mailto:scottishdentistry.com) to book

## 25 JUNE

**SCED seminar: Update in  
endodontics**  
SCED, Glasgow  
Email secretary@  
[scottishdentistry.com](mailto:scottishdentistry.com) to book

## 1-4 JULY

**IAPD Congress**  
SECC Glasgow  
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more information.

## 10 SEPTEMBER

**SCED seminar: Refer and  
restore**  
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[scottishdentistry.com](mailto:scottishdentistry.com) to book

## 10-11 SEPTEMBER

**MFDS Part 2 Revision  
Course**  
Royal College of Surgeons  
of Edinburgh  
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[www.rcsed.ac.uk](http://www.rcsed.ac.uk)

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## 22-25 SEPTEMBER

**FDI World Dental  
Congress**  
Bangkok, Thailand  
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## 23 SEPTEMBER

**SCED seminar: Update in  
orthodontics**  
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## 25 SEPTEMBER

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## 27-30 SEPTEMBER

**International Orthodontic  
Conference**  
ExCeL, London  
For details, visit  
[www.wfo2015london.org](http://www.wfo2015london.org)

## 8 OCTOBER

**SCED seminar: Treatment  
planning**  
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## 22 OCTOBER

**SCED implant seminar:  
Extraction techniques for  
dental implants**  
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## 3 NOVEMBER

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Course**  
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## 12 NOVEMBER

**SCED seminar: Update in  
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# SCOTTISH DENTAL SHOW 2015

THE FINAL COUNTDOWN IS NOW ON TO THE 2015 SCOTTISH DENTAL SHOW, WITH THE BRAEHEAD ARENA EVENT OPENING ITS DOORS TO THE DENTAL PROFESSION ON FRIDAY 29 AND SATURDAY 30 MAY

👤 BRUCE OXLEY 📷 MIKE WILKINSON

## THE JUDGES...

**BRUCE OXLEY**  
Editor, Scottish Dental magazine and chair of judging committee

**NICOLA DOCHERTY**  
CPD advisor at NHS Education for Scotland and former president of the British Association of Dental Nurses

**KIERAN FALLON**  
GDP, Royston Dental Practice, Glasgow

**TOM FERRIS**  
Deputy Chief Dental Officer, Scottish Government

**JOHN GLEN**  
GDP, Miller and Glen Dental Surgeons, Cowdenbeath

**TRUDIE IMRIE**  
Clinic Manager, Blackhills Specialist Dental Referral Clinic, Aberuthven

**DAVID MACPHERSON**  
GDP, Whitemoss Dental Practice, East Kilbride

**MARGARET ROSS**  
Senior lecturer for dental care professionals and programme director of the BSc (Hons) oral health sciences degree at the University of Edinburgh.

Dentists and DCPs from all over Scotland and the rest of the UK will descend on Glasgow this month for the fourth Scottish Dental Show. The Braehead Arena showpiece will feature a world-class lecture programme, offering more than eight hours of verifiable CPD, as well as a great programme of workshops and hands-on sessions that are available to pre-book online.

As well as explaining 'How the best get better and how they remain at the top' in the lecture programme on Friday at 3pm, 'The Selling Coach' Ashley Latter will also be hosting a workshop on the secrets to a perfect consultation on Friday at 1.30pm and Saturday at 10am.

Irish dental hygienists Siobhan Kelleher and Kellie O'Shaughnessy will also be following up their talk in the main lecture programme on Friday – entitled 'Walk the talk' – with two workshops on Saturday 30 May. Siobhan will be presenting on 'I am who I am – Communication through DISC personality styles and VAK learning styles' at 10am and Kellie will be introducing 'The Dental Den Programme' at 11.30am.

The sessions will also include a guide to 'Building and growing a profitable practice' with Glasgow-based accountants Martin Aitken and Co, and a session on posterior composites with Arshad Ali from SCED and Gill Callaghan from Kerr.

Lars Clever and Karon Kitchen are set to host a hands-on session on Saturday entitled Air Flow – Perio Flow, and Robbie Lawson from Edinburgh Orthodontics will be presenting two workshops on 'Optimal Orthodontics' on Friday 29 May.

There will also be a session entitled 'Digital Clinical Diagnosis' hosted by hygienist Flora Couper, who will be explaining how to incorporate digital technology with treatment planning at 10am on Saturday 30 May.

### MORE INFO

For details of the full lecture and workshop programme, visit [www.sdshow.co.uk](http://www.sdshow.co.uk). Please note, only places at the workshops are booked in advance – the lecture programme remains first come first served.

### SCOTTISH DENTAL AWARDS

The great and the good of Scottish dentistry will be out in force on Friday 29 May at the Glasgow Thistle Hotel for the 2015 Scottish Dental Awards. This year's awards ceremony and dinner will be hosted by broadcaster Tam Cowan and the black tie event will also feature music from Lost Angels.

The judges, who include Deputy Chief Dental Officer Tom Ferris and former British Association of Dental Nurses president Nicola Docherty, have been meticulously assessing the shortlisted entries, which will be announced in front of an audience of more than 350 people on the night.

The evening's final award will be the prestigious Scottish Dental Lifetime Achievement Award, with the recipient following in the footsteps of Professor William Saunders, Alex Littlejohn and last year's winner, former BDA director for Scotland Andrew Lamb.

### MORE INFO

There are still a few tickets left – to book your place at the awards, contact Ann Craib on 0141 560 3021.

“THE SESSIONS WILL ALSO INCLUDE A GUIDE TO ‘BUILDING AND GROWING A PROFITABLE PRACTICE’ WITH GLASGOW-BASED ACCOUNTANTS MARTIN AITKEN”





## WORKSHOP PROGRAMME

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 Philip Friel

**FRI 29 - SAT 30 MAY, ALL DAY**  
**Facial Aesthetics full-day programme**  
 Andrew Culbard, Peter McQuillan and Neil  
 Taylor

**FRI 29 MAY, 11:00-12:00**  
**Building and growing a profitable practice**  
 Jayne Clifford, Martin Aitken and Co Chartered  
 Accountants

**FRI 29 MAY, 11:00-12:00**  
**FRI 29 MAY, 13:30-14:30**  
**Optimal Orthodontics**  
 Robbie Lawson, Edinburgh Orthodontics



**FRI 29 MAY, 13:30-14:30**  
**SAT 30 MAY, 10:00-11:00**  
**Discover the secrets to a perfect consultation**  
 Ashley Latter, The Selling Coach

**FRI 29 MAY, 15:00-16:00**  
**Posterior composites - fast, easy, reliable  
 placement technique**  
 Arshad Ali and Gill Callaghan, Scottish Centre  
 for Excellence in Dentistry / Kerr

**SAT 30 MAY, 10:00-11:00**  
**I am who I am - Communication through DISC  
 personality styles and VAK learning styles**  
 Siobhan Kelleher, DentalHygienist.ie

**SAT 30 MAY, 10:00-11:00**  
**Digital Clinical Diagnosis**  
 Flora Couper, Connect Coaching

**SAT 30 MAY, 11:30-12:30**  
**The Dental Den Programme**  
 Kellie O'Shaughnessy, The Dental Den

**SAT 30 MAY, 14:00-15:00**  
**Air flow - perio flow  
 - hands-on workshop**  
 Lars Clever and Karon Kitchen, EMS/Optident

**MORE INFO**  
 Places on these workshops are limited, so early booking  
 is advised. Visit [www.sdshow.co.uk/workshop](http://www.sdshow.co.uk/workshop) for  
 booking details.

Unless otherwise stated, all workshops will take place in  
 the Atrium, which is accessed via the stairs in between  
 stands A8 and A10 and D10 and D12.

## THE SCOTTISH DENTAL AWARDS SHORTLIST

### YOUNG DENTIST AWARD

- Andrew Culbard
- Conor O'Byrne
- Jonathan Dougherty
- Kevin O'Farrell
- Peter McQuillen

### EMPLOYER OF THE YEAR

- Andrew Donald Leitch
- Morven Gordon-Duff
- Rhu McKelvey

### DIGITAL STRATEGY

- Dental Studios Scotland
- Glasgow Orthodontics
- IW Technology
- Neo Dental
- Peppermint Group
- Quadrant Dental Practice
- Vita Dental Spa

### PRACTICE OF THE YEAR

- Bearsden Dental Care
- Berkeley Clinic
- G1 dental
- Inchvannie House Dental Practice
- Kalyani Dental Lounge
- United Dental Care

### DENTIST OF THE YEAR

- Greig McLean
- Navin Aziz
- Neeraj Bali
- Robert Kerr
- Samuel Barry Lemon
- Vikram Kavi

### DENTAL TEAM AWARD

- Berkeley Clinic
- Crown Dental Group
- Emergency Dental Treatment Centre, Glasgow Dental Hospital
- S&A Smile Clinic
- Southwest Smile Centre
- Vita Dental Spa

### LABORATORY OF THE YEAR

- C&M Dental Lab
- Core3dcentre

- Leca Dental Lab
- Pearl White
- Porter Boyes

### UNsung HERO

- Donna Morrison
- Dr Jon Victor
- Jean Gibson
- Liz Alexander
- Nadia Chaudhary

### DCP STAR

- Jean Gibson
- Kirsty Rodger
- Nadia Chaudhary
- Sarah Jane Leith

### BUSINESS MANAGER/ ADMINISTRATOR OF THE YEAR

- Caroline Campbell
- Liz Alexander
- Louise Fletcher
- Margaret McMillan
- Valerie Noble

### THE COMMUNITY AWARD

- Bearsden Dental Care
- Family Dental Care
- Linsey Paton
- North Bridge Dental Clinic
- Southwest Smile Centre

### THE STYLE AWARD

- Berkeley Clinic
- Central Orthodontics
- Glasgow Southside Orthodontics
- Inspire Dental
- Kalyani Dental Lounge
- Philip Friel Advanced Dentistry
- S&A Smile Clinic

### SCOTTISH DENTAL REPRESENTATIVE AWARD 2015

- Charlie Cope, A-dec
- Donna Morrison, The Dental Directory
- Gail Cormack, Braemar Finance
- Jan Thompson, J&S Davis
- Louise Bone, DPAS
- Steve Snook, Southern Implants
- Suzanne Casey, Heraeus Kulzer

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## PAY UPLIFTS DON'T MAKE UP FOR DECLINING INCOMES

If dentists' earnings decline any further, the long-term sustainability of practices could be threatened, argues the BDA



**I**ndependent statistics on dentists earnings in Scotland show that GDPs have had a massive drop in taxable income since the bankers crash in 2008.

Taking, for example, the figures supplied by Dental Earnings and Expenses Survey for Scotland in 2012/13, the BDA calculates that the Scottish Government would have to increase the uplift in dentists' fees by 19.1 per cent just to bring the earnings of GDPs back to 2008 figures, never mind compensating them for the intervening years.

The BDA has highlighted this wholly unacceptable drop in earnings in our annual submission of evidence to the Doctors' and Dentists' Review Body (DDR), along with our repeated concerns that if earnings decline further, this would undermine the

long-term sustainability of dental practices.

On the recommendation of the DDR, the Scottish Government agreed to award GDPs one per cent on pay net of expenses from April this year; it had accepted the DDR's recommendation the year before to award dentists an uplift of 1.7 per cent.

Clearly, these uplifts don't make up for the decline in income, notwithstanding the low rate of inflation, nor does it do anything to address the low morale among Scotland's GDPs.

The BDA also argues that it is inappropriate for self-employed dentists to have the same public sector pay constraints imposed on them as NHS staff. The BDA believes there ought to be scope for a substantial increase in the expenses element of any pay uplift, but the DDR is unable to make any such recommendation because

● **The BDA also argues that it is inappropriate for self-employed dentists to have the same public sector pay constraints imposed on them as NHS staff** ●

it lacks confidence in the accuracy of the current formula.

The Scottish Dental Practice Committee (SDPC) also accepts that this formula is inadequate and that it isn't possible to make a robust case for an increase in practice expenses without the evidence from practices to support this. How can this deficiency be addressed?

Last August, the BDA and the SDPC endorsed a decision by the Scottish Government to commission independent specialist accountants to review the accounts of around 100 practices with at least a 90 per cent NHS commitment, using anonymised practice accounts selected at random. The contract was awarded to corporate finance advisers QMPF LLP Limited in November.

Although the exercise is under way, progress has been slow as some practices are reluctant to take part in the initial pilot study. The BDA has been encouraging practices to participate, recently extending the invitation to around 200 practices. If this leads to a significant increase in the uptake, as we hope, this means that the data – on the current timescale – could be included in the evidence to be submitted by Scottish Government to the DDR as part of the 2016/17 review.

So why should practices participate? Essentially, because without the robust data on the rising cost of practice expenses the exercise should generate, the DDR will continue to use the out-of-date formula that resulted in the recent tiny 1.61 per cent uplift for Item of Services Fees and Capitation and Continuing Care.

In the absence of evidence, the Scottish Government will fall back on the DDR formula (which contributes to the ongoing erosion of dentist's earnings) and will continue to be subject to the constraints of the public pay sector pay policy. Participation in this exercise is in every practice's best interests.

**ABOUT THE BDA**  
Visit [www.bda.org](http://www.bda.org) for more information.

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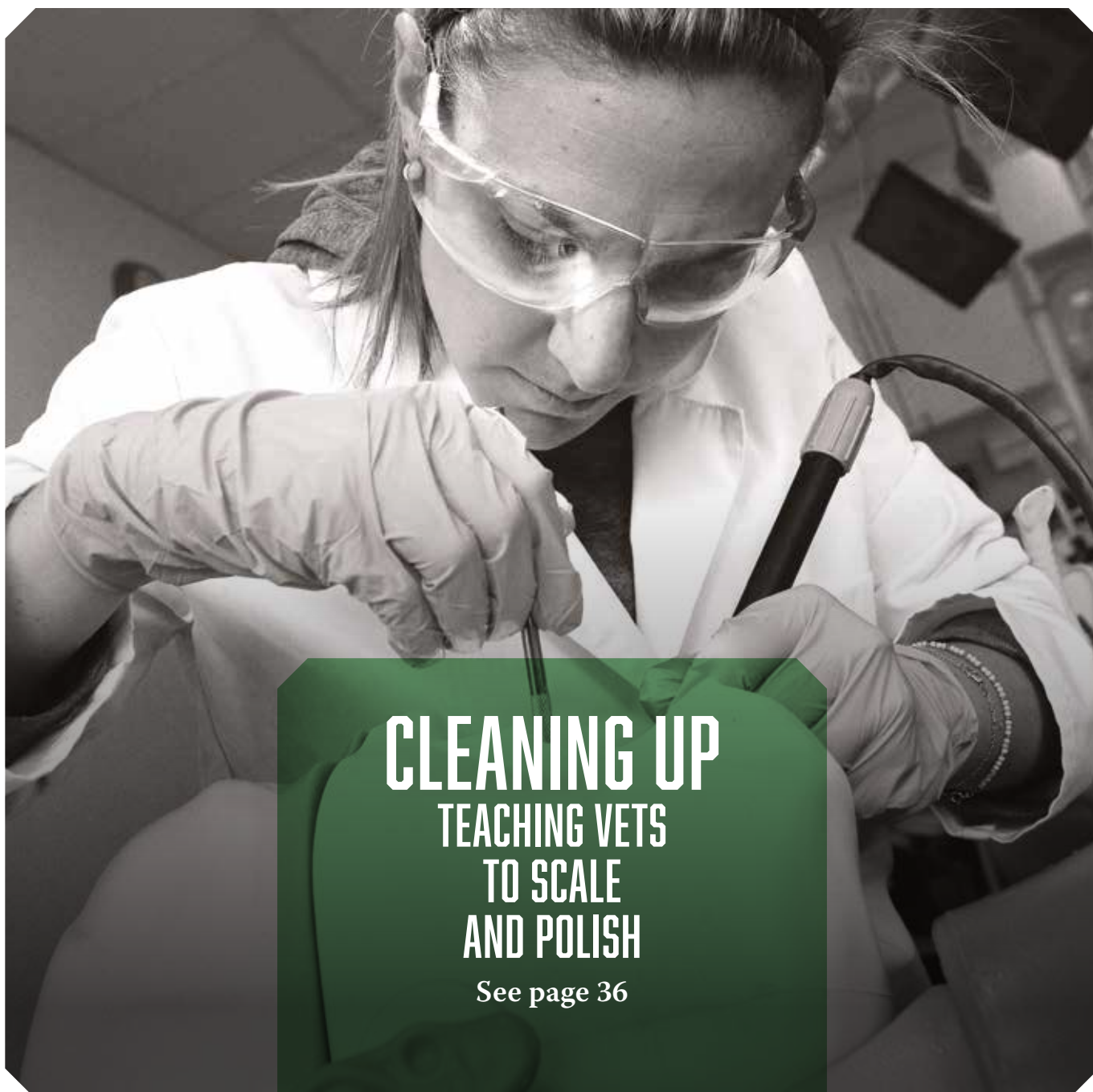
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REQUIRED READING FOR TODAY'S DENTAL PROFESSIONALS



**CLEANING UP  
TEACHING VETS  
TO SCALE  
AND POLISH**

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# UNDER PRESSURE

THE NUMBER OF DENTISTS IN THE COUNTRY SUFFERING FROM ANXIETY AND STRESS IS SOARING ACCORDING TO A NEW REPORT FROM THE BDA. HERE, *SCOTTISH DENTAL* MAGAZINE EXAMINES THE ISSUE AND TALKS TO PROFESSIONALS TACKLING THE PROBLEM

BY RICHARD GOSLAN, DAVID CAMERON

It's 6.45 am and Stuart's day is getting off to its normal start. Or so it appears. He sorts out some clothes and heads for the bathroom, already turning over in his mind the case files he reviewed the previous evening in preparation for the usual stressful day ahead. He begins to think through a particularly challenging procedure that he knows is scheduled for 11.30 am. Not only is the work difficult, the patient is, frankly, a bit of a nightmare. If he's late getting started, she'll create merry hell. He heads for the shower.

Suddenly, under the torrent of hot water that should briefly calm his already anxious thoughts, something in his head says: "I can't take any more of this". Stuart begins to shake. He can't get out the shower and now he is beginning to weep; and he can't stop. Through the sobs, he keeps asking himself: "what's happening to me?"

Concerned about her husband's non-appearance at breakfast, Stuart's wife pushes into the bathroom to find her husband crumpled on the floor of the shower. Frightened, she helps him out the cubicle and into the bedroom. What

on earth has happened to this strong, confident, professional man she has known so long? The answer, as quickly becomes apparent, is that he's having a breakdown; not a word now used by professionals – it's "anxiety and depression" – but it amounts to the same thing. And no-one, not even Stuart, saw it coming.

Stuart's story is far from being an isolated one. There are dozens of others around the country who have either been over, or are standing far too close to the edge. Today, he is back at work. But it took a spell in a clinic and six months out of the practice, thankfully supported by his colleagues, to recover. Now, through

**"I HAD NEVER FELT STRESSED IN MY ENTIRE CAREER, BUT I DIDN'T KNOW HOW TO DEAL WITH THIS"**

DR ROBERT BROADFOOT, STRESS CONSULTANT

*Scottish Dental* and with his name changed – the stigma of mental illness continues to run deep – he is happy to talk about his experiences in order to support others who are in danger of following in his painful footsteps. His story is now particularly apposite in light of the evidence from a new BDA report that has highlighted worryingly high levels of stress and poor wellbeing within the profession throughout the country.

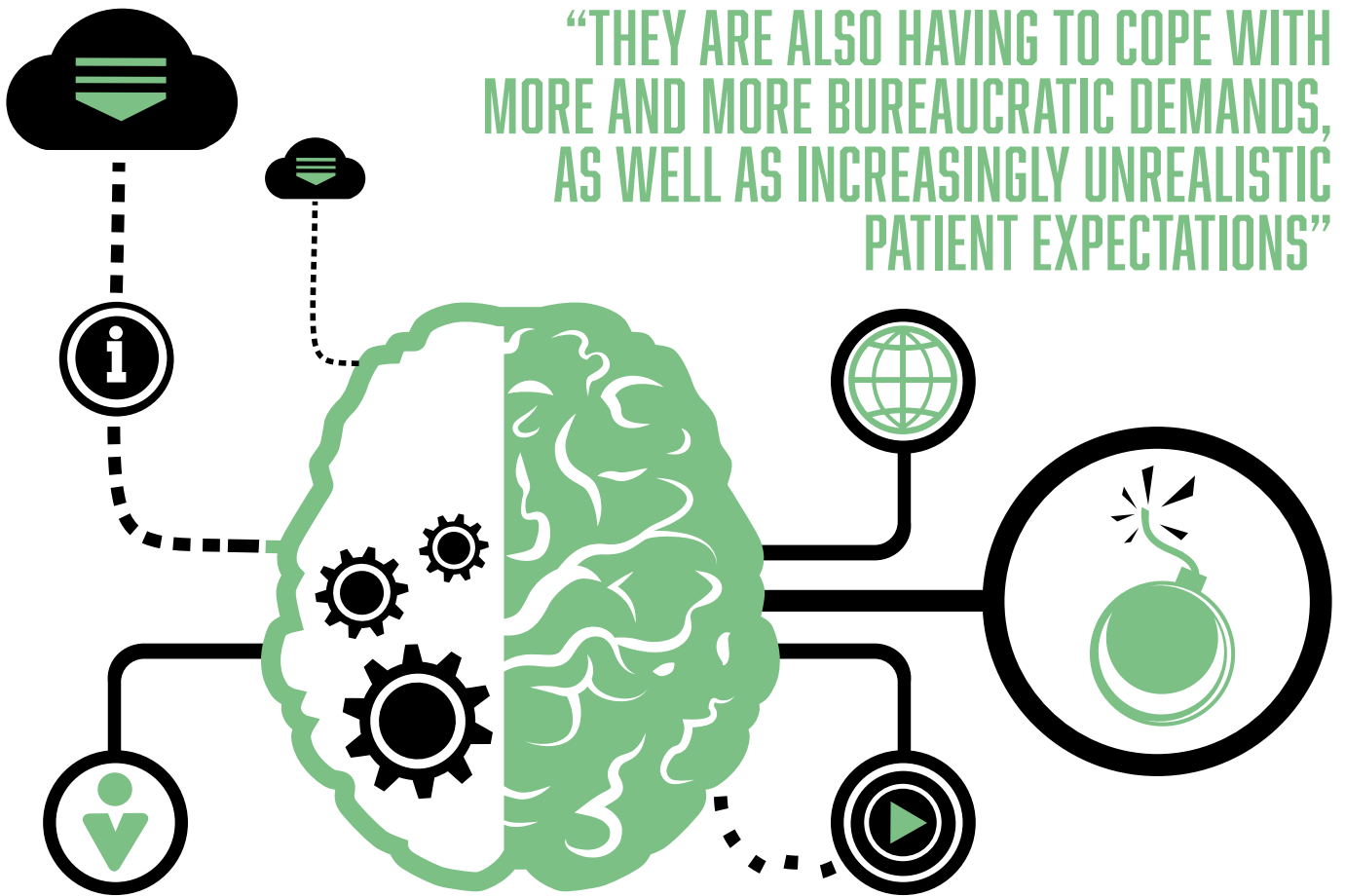
The survey, carried out in 2014 by a team from the BDA, surveyed two groups of dentists, those working in the community and a wide selection of GDPs.

Frighteningly, almost 60 per cent of GDPs said that they were experiencing high levels of anxiety. The figure was not much lower among community dentists of whom 55 per cent said they were suffering similar anxiety and stress levels.

As with community dentists, almost half of the GDPs (47 per cent) reported low levels of life satisfaction, with 44 per cent reporting low levels of happiness.

The problem is not regional specific and it's well known that dentists in Scotland are suffering similar levels of stress and anxiety

“THEY ARE ALSO HAVING TO COPE WITH MORE AND MORE BUREAUCRATIC DEMANDS, AS WELL AS INCREASINGLY UNREALISTIC PATIENT EXPECTATIONS”



to their counterparts south of the border.

If there is one thing Dr Robert Broadfoot understands about stress in the dental profession, it's that it can hit any practitioner, at any time – and that the consequences can be severe.

Dr Broadfoot spent 20 years as a practising dentist in Ayrshire before becoming involved in vocational training (VT) and teaching at the Glasgow Dental School. He then worked with Ayrshire and Arran Health Board as a dental adviser, doing an MBA in Healthcare Management in the process, before becoming Director of the Primary Dental Care Trust at Gartnavel General Hospital in Glasgow in 2001.

“I loved that job, it was a very fulfilling and satisfying role, and we did lots of innovative preventive work with children in Glasgow,” says Dr Broadfoot.

“But then the NHS went through one of its periodic reorganisations, and the Primary Care Trust became the Primary Care Division of NHS Greater Glasgow. My role changed, a new manager came in, and I didn't feel on top of the situation, so I took some time out. I had never felt stressed in my entire career, but I didn't know how

to deal with this, and I ended up taking early retirement at the age of 59.”

That experience, along with the insights he had built up through his VT work with young dentists, motivated Dr Broadfoot to undertake a diploma in stress management, after which he set up his own consulting service aimed primarily at GDPs and VDPs.

“I was already conscious of the implications of stress through my VT work,” says Dr Broadfoot.

“But suddenly this was happening to me. I was a confident dentist, I had run a successful practice, I had my MBA, and I still got stressed. It came home to me that this could happen to anyone, at any point in their careers, and I thought I could do something to help other dentists.”

After gaining his diploma, Dr Broadfoot started lecturing, giving talks and contributing to postgraduate courses on the subject of stress, as well as working as a part-time associate dento-legal adviser with Dental Protection.

“I realised dentists don't get sufficient training in these areas,” he says. “They might have the clinical knowledge, but less experience in dealing with difficult patients,

colleagues, or with the business or human resources sides of running a practice.

“They are also having to cope with more and more bureaucratic demands, as well as increasingly unrealistic patient expectations about achieving the perfect Hollywood smile – and their likelihood of taking legal action when those expectations aren't met. For dentists without adequate support within their practice, this can all be overwhelming and leave them feeling stressed and isolated.”

Dr Broadfoot can laugh now about his own Friday night routine after a demanding week in the practice, sitting by himself at home in a darkened room listening to music to decompress.

“My daughter would say to her pals who were visiting: ‘Don't worry, dad's just having his nervous breakdown, he does it every Friday!’ But it was my way of unwinding. I found during VT that some young dentists were struggling already and weren't able to switch off. I'd say to them: ‘Don't let it all be about dentistry – find what works for you to help you unwind.’”

CONTINUED OVERLEAF>

**“WHETHER THAT’S WITH A FRIEND, PARTNER, COLLEAGUE OR GP, THE CRUCIAL THING IS NOT TO KEEP IT BOTTLED UP – SHARE IT”**

*FROM PREVIOUS PAGE >*

The danger for many stressed dentists, however, is that instead of seeking a healthy outlet for their stress, they start to rely on alcohol or drugs to numb them from their issues. But that can only serve to make the situation even worse.

“Self-medicating or turning to drink is another form of self-denial about the source of the problem, when what stressed dentists need to do is to talk to somebody about the underlying issue,” says Dr Broadfoot. “Whether that’s with a friend, partner, colleague or GP, the crucial thing is not to keep it bottled up – share it.”

Dr Broadfoot also worries about the isolation of many dentists, working in single-handed practices and spending all day every day in that same room. Unlike for doctors, there is no annual appraisal

for dentists in Scotland where potential issues could be flagged up. Even CPD obligations can be completed online, increasing the likelihood of isolation.

“One of the benefits of appraisal is that you’re at least having face-to-face contact, and if you’re struggling it will come out and any issues can be addressed,” says Dr Broadfoot.

“Even in their CPD, dentists can deliberately stay under the radar, tick the right boxes, and nobody can tell if there’s something wrong. We need to move towards a better system where dentists have a regular appraisal. If they keep their problems quiet, the danger is that they snowball and make the issue even worse. It’s time to change that.”

Without any official statistics or surveys about the severity of the problem in Scotland, Dr Broadfoot can only rely on

his own experience to gauge that it’s an issue that is more widespread than we might like to acknowledge.

“Demand for services such as the one I’ve been offering has been going up, but at the age of 67 I’m stepping back,” he says. “Now I’d like to see dental teams, including practice managers, taking on more responsibility in looking after the mental health and wellbeing of their colleagues. I am happy to help any dental practice team interested in developing this role.”

**ABOUT THE AUTHORS**

Richard Goslan is the senior writer on the team at Connect.

David Cameron is managing editor of *Scottish Dental* magazine.



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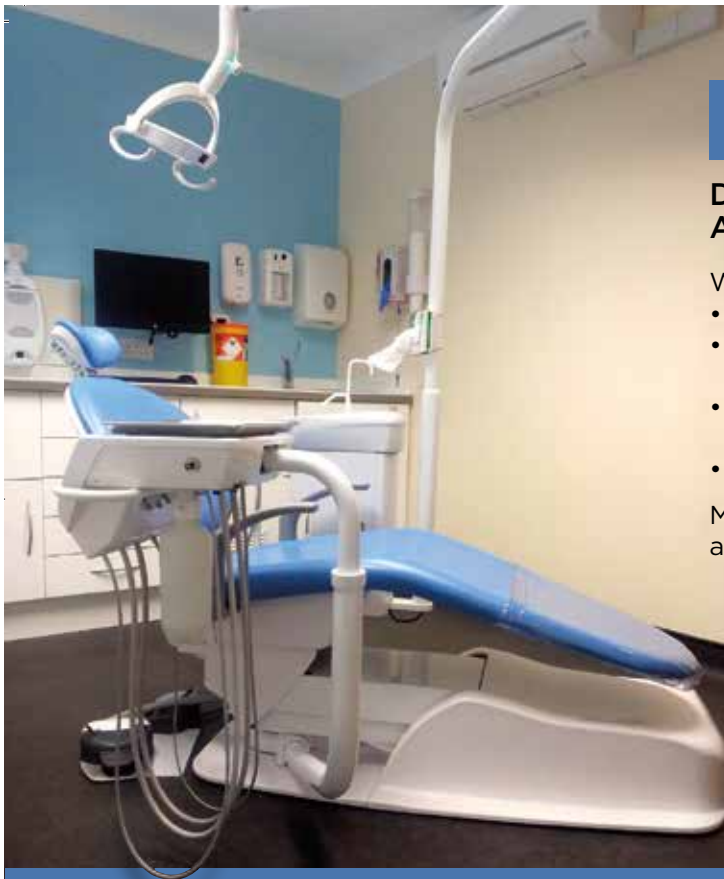
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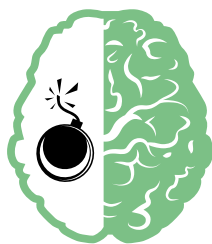
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# STRESS CRISIS UNCOVERED



✉ STEWART McROBERT

## THE REPORT

**N**ow, the challenge for UK dentists is clear: they must tackle the aspects of their work that bring high levels of stress and undermine job satisfaction. That's one of the significant conclusions of the BDA's report on wellbeing and working conditions in the profession.

Compiled by Martin Kemp and Henry Edwards, it sets out results from two surveys undertaken in June-July 2014 to measure dentists' wellbeing and compare it against the UK adult population as a whole.

Two groups were surveyed – dentists working in community dental services, and BDA members who work as associates or practice owners in general dental practices (GDP). Their responses were judged against four indicators of personal wellbeing: life satisfaction, happiness, anxiety levels, and how worthwhile they saw the activities they engage in.

### COMMUNITY DENTISTS

Almost half (47 per cent) of the community dentists reported low levels of life satisfaction. A similar number (45 per cent) expressed low levels of happiness and 55 per cent said they experienced high levels of anxiety.

Between 2013 and 2014 there was a significant fall among community dentists on two indicators – in 2014 they were less likely to say they felt happy or that the things they do in life are worthwhile.

Notably, those who work part-time

saw the things they do as more worthwhile compared with their full-time counterparts. And those who said they were more satisfied with their work reported higher levels of personal wellbeing.

This group illustrated the strong relationship between work-related stress and wellbeing; community dentists who reported high levels of work-related stress also displayed low levels of wellbeing.

As far as health goes, three out of four said they were in good general health, while around one in 20 described themselves as in bad health. Those with high levels of stress at work were significantly less likely to say they were in good health.

Although dentists aged under 35 rated their health most highly, there was no simple decline with age – for example, community dentists aged over 55 were more likely to perceive their health positively than those aged 34 to 54.

### GENERAL DENTAL PRACTITIONERS

As with community dentists, almost half of the GDPs (47 per cent) reported low levels of life satisfaction, with 44 per cent reporting low levels of happiness, and around six out of 10 experiencing high levels of anxiety in the day before the survey. There was a significant reduction in personal wellbeing across all four indicators.

Although there were no marked differences between associates and practice owners, the proportion of NHS or private care that GDPs provide was important; dentists who do mainly NHS work reported



lower levels of wellbeing than those who do mainly private work. Unlike community dentists, there was a strong link between hours of work and wellbeing among associates.

For example, associates who work 30 hours or less a week reported higher levels of wellbeing than those who work full-time.

There was a distinct relationship between feelings of personal wellbeing and work-related stress. Job morale and satisfaction influenced how GDPs rated their wellbeing more generally.

Four out of five GDPs said their general health was good, and almost 40 per cent said they were in very good health. As with community dentists, GDPs under 35 rated their health most highly, but contrary to community dentists, the likelihood of GDPs saying they were in good health gradually diminished with age.

Once again, there was a significant relationship between levels of work-related stress and health perceptions. Those with low levels of stress at work were more likely



## IDENTIFY THE ENEMY WITHIN

STRESS AND STRESS-RELATED ILLNESS HITS DENTISTS AND DOCTORS HARDER THAN ANY OTHER PROFESSION. MENTAL WEALTH OFFERS EXPERT GUIDANCE ON HOW TO LOOK AFTER YOUR MENTAL HEALTH

Just what causes stress? When we identify a situation as a “threat”, we activate the emergency “fight or flight or freeze” response. This is our natural self-preservation in the face of physical attack.

However, there are many other stressful situations, such as abuse, criticism by patients and peers or colleagues, family and friends, too much to do in too little time, juggling work, home and family commitments. The list is long.

When under stress, we notice immediate symptoms such as a racing heart, shortness of breath, sweating, muscle tension and shaking. But there are also long-term responses, including under-eating or over-eating, having difficulty falling asleep, waking early, or interrupted sleep and difficulty getting up in the morning. Then there can be headaches, muscle tension, frequent colds or infections, heartburn, nausea and diarrhoea, as well as being angry or irritable.

As if that were not enough, additional signs include difficulty in making decisions, forgetfulness and constant tiredness. The most dramatic and undesirable manifestations are, of course, stroke, cancer or heart attack.

In the first instance, on the road to dealing with stress it is imperative that you take the following key steps:

- 1) identify the sources and/or cause of your stress
- 2) recognise the unhealthy ways that you may be coping with stress
- 3) learn healthier ways to cope.

If you have recognised any of the symptoms listed above, then it is time to address the problem.

### YOU ARE STRESSED!

#### MORE INFO

Barbara Gerber is a psychologist and founder of the Equilibria Psychotherapy Clinic offering comprehensive mental health and counselling services. [www.equilibriahealth.com](http://www.equilibriahealth.com)

For more information on methods of coping with stress, go to [www.sdmag.co.uk](http://www.sdmag.co.uk) and read the next Mental Wealth self-help column from Barbara Gerber.

**“THE MOST DRAMATIC AND UNDESIRABLE MANIFESTATIONS ARE, OF COURSE, STROKE, CANCER OR HEART ATTACK”**

to say they were in good health.

#### WIDER POPULATION COMPARISONS

The research confirms a ‘wellbeing gap’ between the dental profession and the wider population; all dentists rated their wellbeing at lower levels than the UK population.

As the report speculates, the cause of this gap could be the much higher levels of work-related stress faced by dentists.

On a positive note, they were as likely to perceive their general health as ‘good’ as the wider adult population; 81 per cent of GDPs recorded this response, as did 74 per cent of community dentists. Younger people in the dental and wider populations were most likely to say they were in good health.

#### THE STRESS FACTOR

Kemp and Edwards believe the findings reinforce the view that high levels of stress at work are a crucial factor in dentists’ wellbeing.

Earlier studies revealed that UK dentists face challenging working conditions and

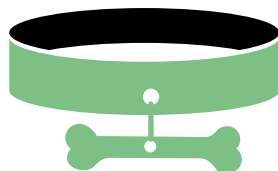
specific conditions that can increase work-related stress. Moreover, there is evidence that high levels of stress at work can affect mental wellbeing, and lead to lower levels of job satisfaction.

The pressures dentists face may help explain why they report lower life satisfaction and higher anxiety compared to other UK adults. The report concludes that rising to the wellbeing challenge means learning more about the factors that promote stress and how they vary across the settings dentists work in and the roles they perform. Kemp and Edwards emphasise the need for more research to understand how exposure to high levels of stress at work impacts upon dentists and their work. And they suggest that the link between NHS commitment and wellbeing should be further investigated.

Now that this stage of research is complete, the BDA says that over the next 18 months it will explore the relationship between working conditions, high job stress, and mental wellbeing. ▽

# TAKING THE LEAD WITH CANINE TEETH

VETERINARY STUDENTS ARE LEARNING VITAL DENTISTRY SKILLS IN AN INNOVATIVE 'HANDS-ON' PROJECT AT THE EDINBURGH DENTAL INSTITUTE



📷 TIM POWER 📷 MIKE WILKINSON

As usual, the 'phantom head' lab of the Edinburgh Dental Institute is full of young students, decked out in pristine white lab coats and protective glasses, studiously cleaning the red paint from the teeth of rows of grinning dental mannequins. The atmosphere is one of quiet concentration with only the gentle background hum of ultrasonic scalers to be heard as the young people get to grips with the techniques of scaling and polishing.

The only thing different on this particular day in late April, compared to others, is that these are not dental students – they are young vets from the Royal (Dick) School of Veterinary Studies. They are here to learn 'human' dental prophylaxis techniques that they will be able to use on the animals they will care for in the future as qualified veterinarians.

While the morphology of animal teeth is different from humans, the diseases that affect the teeth and gums of both species are very similar and, therefore, many of the basic techniques in dealing with them are transferable from dental practitioners to veterinary surgeons.

Dental and gum disease is the most

common clinical condition in dogs and cats presenting to vets. It is estimated that up to 80 per cent of dogs and 70 per cent of cats over three years old are affected to some extent, and that without treatment, this will result in painful conditions and, ultimately, loss of teeth.

It's also a problem for some livestock, particularly horses, so Andrew Gardiner, senior vet lecturer at the Royal (Dick) School of Veterinary Studies, decided it was important that his students get more experience of dealing with these conditions.

He said: "I believe that dentistry could be taught more in veterinary schools today, as I know of no school that has a full-time vet dental specialist on their staff. It is often taught by visiting specialist veterinary dentists, but there is a strong argument for providing more practical training."

One of Andrew's roles at the Vet School

**"I KNOW OF NO SCHOOL THAT HAS A FULL-TIME VET DENTAL SPECIALIST ON THEIR STAFF"**

ANDREW GARDINER, SENIOR VET LECTURER

is to develop the educational content of the courses with respect to 'day one competencies' for general practice, and a fortuitous meeting between Professor Susan Rhind, deputy head of school – teaching, and the Edinburgh Dental Institute's director Angus Walls brought up the idea of collaborating on dental techniques.

This led to a pilot project last year where the Institute provided a two-day course for 23 fourth-year vet students (the veterinary degree is a five-year course), which included theory lectures and practical work in its state-of-the-art 'phantom head' dental teaching lab.

The theory provided the students with an overview of gingivitis and periodontitis, the nature of biofilm and calculus, and periodontal assessment. The practical session in the lab gave them hands-on experience of using the different types of hand scaling equipment, the principals of prophylaxis and the techniques of using the three most common types of mechanical scaling equipment, including sonic and ultrasonics.

Joanne MacLeod, Lecturer in Oral

CONTINUED OVERLEAF>

**DID YOU KNOW?**

The build up of calculus is different between humans and dogs due to the location of the main salivary glands, the saliva mineralising the build up of plaque. The main glands in a dog are at the back, contributing plaque build up on the upper back teeth, while the main saliva glands in humans are under the tongue, creating formation of material on the back of the lower front teeth.



**“YOU HAVE TO BE CAREFUL HOW YOU HOLD THE INSTRUMENTS. IT MAKES ME FEEL VERY CLUMSY, BUT I’VE CERTAINLY GOT A NEW-FOUND RESPECT FOR MY DENTIST”**

FROM PREVIOUS PAGE>

Health Sciences at the Edinburgh Dental Institute, helped organise the pilot programme last May, and said the feedback from students was positive: “A lot of the students appreciated the practical aspect of the course and by the end, all said they had significantly increased their confidence in not only hand and mechanical scaling techniques but also in assessing periodontal health.

“Animals suffer from the same problems as humans when it comes to dental health, so the principals of treating the diseases are virtually the same. So many pets suffer from this condition and often, by the time the owner decides to seek help from a vet, the disease is quite well developed, requiring quite heavy descaling of calculus and even extractions.

“Dealing with dental problems is quite routine for vets – it’s their bread and butter – so it’s important that students learn best practice in these techniques before they start their professional life.”

Following the success of the pilot, another session of teaching was instigated this year for third-year students to give them hands-on experience before they started their job placements in the summer. Joanne provided the theory lesson at the Vet School in February and then invited 151 students to the lab over four afternoons during the week that the Institute’s hygiene and therapy students were on study leave.

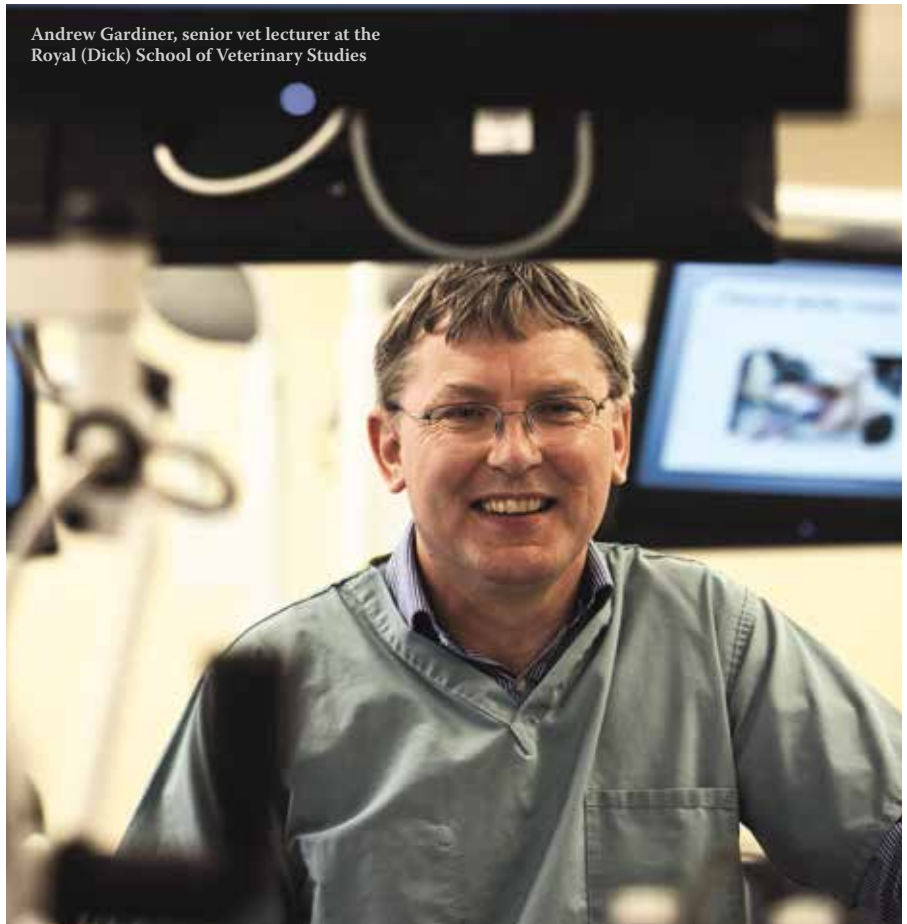
“Of course, this is a short intensive course for them, but the students get valuable practical experience to understand the techniques using the different instruments that they can’t get from just reading about the theory,” added Joanne.

By contrast, undergraduate hygiene and therapy students on the BSc (Hons) Oral Health Sciences degree would have to undertake approximately 110 hours of tutored teaching in the lab before they would be allowed to work on a human patient.

In a veterinary surgery, an animal undergoing dental treatment is placed on an operating table on its side, anaesthetised and intubated, while a throat pack is placed in the back of the mouth to stop any material entering the trachea and oesophagus. Other precautions to protect the airway are taken, such as slightly tilting the operating table to put the animal in a head down position, which improves drainage from the mouth.

If a long procedure is expected, the animal will be placed on an intravenous fluid drip, and steps taken to ensure he or she is kept warm during the procedure, as open mouths and lots of irrigation with fluids can lead to significant heat loss in animal patients, especially very small ones.

Andrew said the use of the Institute’s dental lab provides invaluable practical



Andrew Gardiner, senior vet lecturer at the Royal (Dick) School of Veterinary Studies



Joanne MacLeod (centre), lecturer in Oral Health Sciences at the Edinburgh Dental Institute

CONTINUED OVERLEAF>

**“DEALING WITH DENTAL PROBLEMS IS ROUTINE FOR VETS, SO IT’S IMPORTANT THAT STUDENTS LEARN BEST PRACTICE IN THESE TECHNIQUES”**



FROM PREVIOUS PAGE >

experience for the students. He said: “We have an extensive clinical skills lab at the Vet School, but vet dental mannequins are not generally available. Students practice basic techniques on simple low-fidelity models, such as one developed using a ceramic tile, before coming down to the Dental Institute.

“The opportunity to practise on the Institute’s high-fidelity phantom human heads gives them the appreciation of the techniques and instruments used in prophylaxis and allows them to develop core skills in dental health under professional supervision without endangering a patient.”

Hannah Mason, a student from

England, found the experience very useful. She said: “It takes a while to get used to holding the instruments and what pressure to use, but you pick it up quite quickly. I think the big benefit is the experience of working in three dimensions and getting used to the idea of the space you have to work in within the mouth.”

The application of pressure is very important when cleaning animal teeth, as cats and dogs have thinner enamel than humans. Cats’ teeth are much smaller and more fragile than dogs’ and therefore need even more careful treatment.

Chiew Ng from Malaysia has worked in a few vet surgeries on placements in her home country, but has only used hand

**SIGNS THAT DOGS OR CATS ARE SUFFERING POOR ORAL HEALTH:**

- Bad breath
- ‘Jaw chattering’
- Not eating
- Drooling
- Change in mood
- Bleeding from gums
- Calculus/plaque
- Fractured teeth
- Swellings in gums
- Pawing at the mouth

instruments for scaling. She said: “It’s really good to get to use a selection of the ultrasonic tools that I’ve not used before. This is good experience that will help me become more competent in dental health, and I’m hoping I will be able to practise these techniques in my next placement in the summer.”

Kate Laine, from the US, said she was “pretty excited” about the opportunity to get dental experience in oral health. She



**HANDS ON:** veterinary students gain practical experience of dental work at the ‘phantom head’ lab at the Edinburgh Dental Institute



said: "It's a common issue with pets and it's something vets are now promoting to their clients so they can think about the dental hygiene of their pets and understand the preventative measures they can take."

"It's not something many pet owners think about, but it can have a huge impact on the long-term welfare of their animals. Owners can even use special toothbrushes that go on the end of a finger to clean their animal's teeth – it's a great thing to do and my dog loves it."

Andrew pointed out that providing good dental health for animals is very rewarding for a vet. He explained: "Often the animal will arrive in chronic pain, but this resolves quickly after treatment. Extractions are

common in veterinary dentistry and if the owner then starts brushing using veterinary-specific toothpaste (usually beef or chicken flavoured!), further disease can be prevented."

Dental work on animals is not restricted to scaling, polishing and extractions, as fillings and root canal treatment are also applicable, although these would normally be carried out by a vet dental specialist.

While cats have very sharp cutting teeth, dogs, like humans, have some flatter 'grinding' molars at the back of the mouth and these can be affected by caries as sugars pool on the flattish surfaces – although caries are generally far less common in dogs than in people. When they occur, and

provided they are not too advanced, caries can be drilled and filled in the same way as humans.

This is also the case with root canal treatment, particularly where a dog has chipped or broken an important tooth, such as an canine, in order to keep the tooth in position rather than extract it.

Student Elle McKay, from Germany, said the experience at the Institute gave her greater appreciation of dental health. She said: "The scaling is very fiddly. You have to be careful how you hold the instruments and be aware of the best angle to come into the mouth from. It makes me feel very clumsy, but I've certainly got a new-found respect for my dentist now!" ▽





# UNDER THE MICROSCOPE

IF YOU CAN'T SEE IT, YOU CAN'T TREAT IT, RUNS THE OLD ADAGE. HERE, IAN MACMILLAN TALKS TO LEADING DENTIST JASON SMITHSON AND NUVIEW'S JOHN WOODS TO GET AN INSIGHT ON THE USE OF MICROSCOPES

✎ IAN MACMILLAN

The last decade has seen a huge increase in the use of magnification in dentistry, with most loupe users finding it anathema to now work without their most prized of assets. Furthermore, the operating microscope, once used almost exclusively in teaching facilities and specialist clinics, is now found in an increasing number of general dental practices. *Scottish Dental* magazine discusses this rise in microscopes with Jason Smithson (a member of the influential Bio Emulation – an international group of dentists that aims to establish high aesthetic standards) and John Woods (MD of NuView/Zeiss) and asks what does the future hold?

SDM: Jason, when and why did you make the decision to opt for a scope?

JS: It was about five or six years ago. One of my technicians is based in the USA and of his six or so accounts I was the only one who didn't use a microscope. It got me thinking and a few months later I made the leap. Basically, I felt that if I wanted to practise dentistry at as high a standard as I possibly could, then a scope was essential. The precision, particularly when prepping, makes it invaluable to me. I was a huge fan



Jason Smithson is a member of Bio Emulation

**“WITH A SCOPE YOU BECOME MORE PRECISE AND IT'S A GREAT MARKETING TOOL – YOU BECOME KNOWN LOCALLY AS THE HIGH-TECH DENTIST DOWN THE ROAD”**

of loupes before I switched to a scope. With loupes I could see things I couldn't with the naked eye. The scope simply makes me see things better and clearer.

SDM: John, what do you regard as the main advantages and disadvantages of a scope?

JW: Many practitioners feel that the learning curve required to practise proficiently with a microscope and the time required to master one are major drawbacks, but those who regularly use one will generally say that they actually save time on procedures. Having said that, there is without doubt a period of, shall we say, acclimatisation. This varies with the user, but can take a few months.

JS: I would echo that. It took me two to three months, but it's a lifestyle choice as it were – it does take effort to master. Once you have you won't look back. Without doubt, the advantages outweigh any potential hindrances. With a scope you unquestionably become more precise and it's a great marketing tool – you become known locally as the high-tech dentist down the road. Patient acceptance is generally very good and they are, on the whole, fairly impressed.



**SDM:** The initial outlay is fairly high. Do you see that as a downside?

**JW:** For sure, cost is a factor, but it's rarely the main factor. Most dentists I work with regard it as a long-term investment in their clinical future.

**JS:** The capital write off and high resale makes it a no brainer in my book. I would always recommend not to be fooled into buying really cheap stuff which is not future proofed... this is a 10-20-year investment.

**JW:** Another key advantage is the ability to provide high definition visualisation and the ability to record both still images and video and to integrate these easily into patient notes.

**JS:** Not to mention the fact that you can probably say goodbye to the cursed bad back which affects a good number of dentists these days. It might not seem like a huge advantage, but a few days off work here and there with back ache can prove costly.

**SDM:** Looking forward, what challenges and advances do you envisage?

**JW:** The biggest challenges are going to be around incorporating further innovations in visualisation technology. A lot of people have now seen ultra-high definition televisions (UHD) and the whole arena of



John Woods, managing director of NuView/Zeiss

**“ANOTHER KEY ADVANTAGE IS THE ABILITY TO PROVIDE HIGH DEFINITION VISUALISATION AND THE ABILITY TO RECORD BOTH STILL IMAGES AND VIDEO”**

UHD (or 4K as its currently known) will radically change the ways in which even digital SLR cameras work. Right now there is a differentiation and separation between video cameras and SLR cameras, which I think may well entirely vanish in the near future. Today, people are used to, and even expect, HD quality images, so what will be interesting over the coming years is to see how UHD fits into and becomes the industry norm, and then how the camera technology adapts to incorporate this emerging technology. Although UHD technology, particularly now that it is being incorporated into televisions, is becoming more readily available in the marketplace, it will take potentially two years before technology standards are properly set out and agreed and we will begin to see cameras and microscopes becoming generally available that fully incorporate UHD technology. ▽

**ABOUT THE AUTHOR**

Ian S Macmillan qualified from the University of Glasgow in 1991 and, after a period working in Dundee Dental Hospital, he entered general practice. He currently works in private practice in Balfron, Stirlingshire.

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# MICRO MANAGEMENT

THERE ARE PROS AND CONS TO INVESTING IN A MICROSCOPE BUT DAVID BALLANTYNE OF COMELY BANK IS ALL FOR IT

**A**round five years ago dental practice became a lot clearer for David Ballantyne. That's when he decided to make the investment in a surgical microscope. It's a decision, he believes, that has seen him offer his patients a better overall service.

"In a nutshell, it allows you to see much better and do much more," said Ballantyne, who operates a practice alongside Mark McCutcheon at Comely Bank in Edinburgh.

"I am very keen on endodontics and initially invested in it for that purpose, although it has lots of other uses. When I was considering the purchase, I opted for a model that offered high quality optics and an integrated camera."

He highlighted the basic advantages – as well as offering significant magnification, the light is co-axial, which means that you are able to look through it and don't see any shadows.

In terms of patient care, it allows you to offer more effective diagnosis and treatment. "You can pick up things that you might not spot when you're using loupes," said Ballantyne. "Certainly when it comes to endodontics, I feel that I'm able to cover almost every angle.

"Many people use the microscope for every routine and some believe that it allows them to work more quickly. I don't use it as a matter of course. I tend to use loupes in general work then turn to the microscope when required. However, I do think that it has allowed me to give a better service."

Patients have accepted the technology without question he says, and they respond positively to the images he is able to produce. Having the full picture, as it were, gives them a much better idea of what their dentist is doing, and makes it simpler to explain why they require treatment.

It's not just patients who benefit.

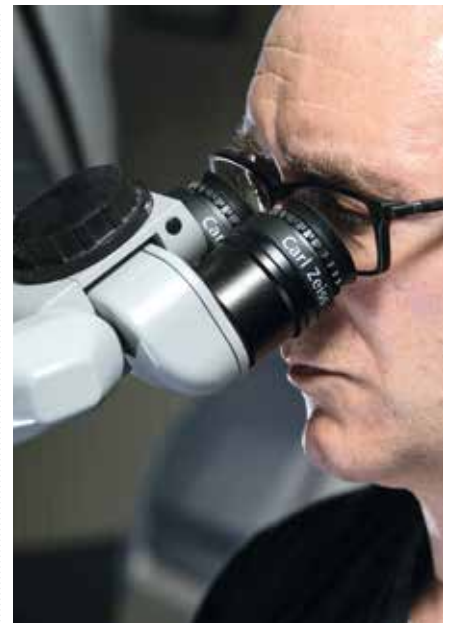
**"YOU'RE ABLE TO SIT UP MUCH STRAIGHTER AND THERE'S LESS PRESSURE ON YOUR BACK AND NECK. IT'S MADE A BIG DIFFERENCE TO ME"**



Often dentists can develop neck and back problems due to the physical nature of their work. However, using a microscope can help alleviate these. "You're able to sit up much straighter and there's less pressure on your back and neck. It's made a big difference to me," said Ballantyne.

Despite the pros, there are some counter-balancing cons, Ballantyne observed. "For some restorative work it can be quite awkward getting the patient positioned just so.

"Similarly, this scope cost about £19,000 and I doubt I will achieve a significant return on investment. Indeed, I think that cost has so far been the biggest factor preventing widespread take up. There are probably other investments you can make that would give a better return. But if it's the sort of thing you appreciate, it offers a world of difference. Even five years on I am finding more and more ways to use it." ▽





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# SMILES ALL ROUND

**ALL 1 SMILE GROUP WELCOMES ORTHODONTIST BACK FROM MATERNITY WHILE AWARD-WINNING COLLEAGUE INCREASES HIS DAYS AT QUEENS PARK**

**A**ll 1 Smile Orthodontic Centres was established in 1999 and currently has seven practices in Glasgow and Lanarkshire.

The practices have five specialist orthodontists, two of which are examiners for the Royal College of Surgeons. There are also five orthodontic therapists whose qualifications include dental nursing, orthodontic nursing and radiology.

All 1 Smile has just welcomed back specialist orthodontist Emma Henley who has returned from maternity leave and will be working at the Jordanhill and East Kilbride practices.

Emma graduated from the University of Dundee in 2002 and achieved a distinction in her

orthodontic training masters at Cardiff University in 2010.

The practice would also like to announce that specialist orthodontist Imran Shafi, whose research has gained him several awards including the TC White Award from Glasgow, will be increasing his days at the Queens Park practice. Imran qualified from Glasgow in 2001, completed his specialist orthodontic training at Glasgow Dental Hospital before being awarded a doctorate in clinical dentistry (orthodontics) from the University of Glasgow in 2011.

All 1 Smile provides NHS orthodontic treatment as well as private treatment and offers both metal and clear braces, Smileign, Invisalign and lingual orthodontics.

The practices treat children and adults and even offer appointments before 9am. There is no waiting list and patients are seen very quickly.

#### AWARDS

Staff training has always been very important to All 1 Smile, having achieved the Investor in People award in 2003, 2005, 2008 and 2011. This award is in recognition of the strong value it places in staff performance, training and their contribution to the business.

The practices also achieved the BDA Good Practice Gold Award in 2014 for its 10 year continued membership. This award is given to Dental practices that have audited their facilities, practices and processes to meet the highest standards.



Imran Shafi (top) and Emma Henley

**MORE INFO**  
To contact All 1 Smile, visit [www.all1smile.co.uk](http://www.all1smile.co.uk)



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# MANAGING ORAL MUCOSAL DISEASE

ORAL MEDICINE

The management of patients with the common oral mucosal conditions of recurrent aphthous stomatitis and lichen planus in primary care dentistry and medicine

✉ JOHN GIBSON AND ALEXANDER CRIGHTON

Oral mucosal conditions are common and can be worrying and troublesome for patients. With demands on waiting lists in secondary care and the desire of some dental practitioners in primary care to take on “special interests”, now is the time to challenge the need to refer so many patients with oral mucosal disease into a secondary care setting?

Perhaps also now is the time to augment the relationship between doctor and dentist in the primary care setting

to ensure that patients receive a first-class, joined-up service with a reduced need for onward referral? With this construct in mind, we offer management regimes for patients with oral mucosal disease in a primary care setting and invite referral of patients with more serious or sinister disease into secondary care, along with those who do not respond promptly to the regimes proposed in this paper.

We hope that this paper will serve as an aide-memoire in your practice or clinic.

## RECURRENT APHTHOUS STOMATITIS (RAS)

RAS is the commonest inflammatory oral mucosal disease, said to affect 20 per cent of the adult population. It comes in three main forms: Minor (85 per cent), Major (10 per cent) and Herpetiform (5 per cent) and may be indicative of underlying systemic disease.

RAS is primarily a disease of exacerbation and remission, commonly occurring in late childhood or adolescence and remaining into adulthood. It is an easy diagnosis to make from the history alone – essentially any recurring ulcers of the oral mucosa are likely to be aphthous in type. Appearance may clinch the diagnosis – ulcers are round or oval in shape, with a red, inflammatory border and a yellow fibrinous base.

We are seeing less cases of RAS due to deficiencies of iron, folate and vitamin B12, but more due to the Koebner effect of mucosal damage due to trauma from tooth clenching/grinding and tongue thrusting. These habits are thought to be part of a person’s outworking of stress and seem to be ever more common in our stressful world.

### Clinical tip

Patients who develop RAS in adulthood should be viewed with some concern as there is almost always an important underlying cause such as deficiency or hypersensitivity.

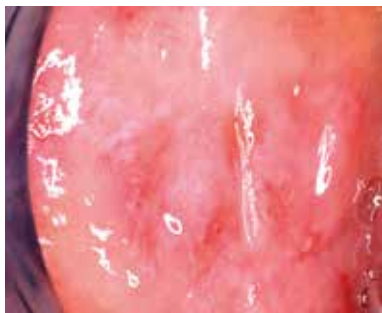
### Case

A 54-year-old man developed RAS with no background of the condition. He was referred promptly by his dentist and blood tests revealed a picture of iron deficiency. Further investigations revealed an early bowel tumour which was readily resected. His iron deficiency resolved and his mouth ulcers settled.

### What to ask

Patients with RAS should be asked about the following:

- What sites are involved?
- Frequency of episodes?
- Number of ulcers in each episode?
- Size of ulcer(s)?
- How long do the ulcer episodes last?
- Other systems involved? (e.g. eyes, genitalia, skin)
- Other symptoms? (e.g. swelling of joints or upset lower gut)
- Related to stress/stressful events?
- Aware of tooth clenching/grinding or tongue thrusting?
- Use of toothpaste containing Sodium Lauryl Sulphate (SLS)?
- Dietary consumption of fizzy drinks (benzoates)?
- Use of prescribed drugs? (e.g. Nicorandil, NSAIDs).



**FIGURE 1**  
Oral lichen planus of mixed reticular/atrophic variant



**FIGURE 2**  
OLP affecting the right buccal mucosa



**FIGURE 3**  
LTR related to the adjacent amalgam restoration



**FIGURE 4**  
OLP on ventro-lateral aspect of the tongue



**FIGURE 5**  
Betamethasone tablets to be dissolved in water and used as a mouthwash



**FIGURE 6**  
Gelclair may be used as a helpful topical therapy for both RAS and OLP

### Examination

- Presence (confirmatory appearance) of ulcer(s)
- Size of ulcer
- Type of ulcer: minor, major, herpetiform
- Any evidence of trauma, cheek biting/chewing, tongue-thrusting?

### Investigations

Liaise with patient's medical practitioner to request the following blood tests:

- FBC (with the inflammatory markers PV or CRP if systemic disease suspected)
- Levels of folate, ferritin, vitamin B12
- Coeliac antibody screen (TTG)
- ANA antibody if any history or suggestion of autoimmune disease.

RAS has both person-specific and environmental factors involved in its aetiology (see table on page 53).

A relatively "new" syndrome associated with RAS is PFAPA which particularly occurs in children, adolescents and young adults. PFAPA is an acronym for: Periodic Fever, Aphthous stomatitis, Pharyngitis and cervical Adenitis.

It is said to respond promptly to high dose oral corticosteroids but also, interestingly, to tonsillectomy. Patients suspected of this condition should be referred to secondary care (oral medicine, paediatrics or ENT) for assessment.

### Clinical tip: remember all the '20s'

- RAS affects up to 20 per cent of the UK population
- Up to 20 per cent of sufferers have an underlying haematinic deficiency (e.g. iron, folate, vitamin B12)
- A further 20 per cent may have an "allergic" (hypersensitivity) basis (e.g. benzoates in fizzy drinks or colophony in chewing gum).

### Management of patients with recurrent aphthous stomatitis

1. Identify and eliminate sources of trauma (consider soft occlusal splint if bruxist or tongue thrusting)
2. Review with blood results
3. If deficiency identified, discuss with GP regarding possible cause and onward referral
4. If coeliac antibody positive, or any possibility of Crohn's disease or OFG, refer to consultant gastroenterologist
5. Once cause of deficiency established, consider replacement therapy via GP: review three months
6. If consumer of fizzy drinks, consider diet advice regarding empirical benzoate avoidance
7. Change to an SLS-free toothpaste
8. If Behcet's Syndrome is possible (in view of skin, eye or genital lesions), or you are concerned about another systemic disease, liaise with GP and refer to appropriate specialist for opinion (e.g. oral medicine, dermatology, ophthalmology or gynaecology)
9. Consider referral for patch testing if you practice in an area where this service is routinely provided
10. Topical therapies:
  - a. Chlorhexidine gluconate (0.2 per cent) mouthwash twice daily for 28 days initially
  - b. Benzylamine hydrochloride mouthwash up to three times daily as required
  - c. Gengigel
  - d. Gelclair or Aloclair
  - e. Topical steroid therapy (see Appendix 1).
11. Should the patient fail to respond to the above regime, then refer to secondary care (oral medicine).

CONTINUED OVERLEAF>

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## LICHEN PLANUS AND LICHENOID TISSUE REACTIONS

Lichen planus (LP) is another common oral mucosal disease, affecting approximately 1-2 per cent of the population. Increasingly, LP is considered to be an autoimmune disease.

Autoimmune diseases arise in part from our genetic make-up and in part from an environmental factor – most of which are yet to be identified. Interestingly, LP is increasingly seen in conjunction with other autoimmune disorders, such as hypothyroidism.

There is often confusion in the literature about terminology – is it lichen planus or a lichenoid tissue reaction? For avoidance of doubt, we suggest that where the condition is deemed to have no obvious cause (and therefore likely to be autoimmune in origin), the term oral lichen planus (OLP) is used.

Where a causative or contributory factor is identified, we suggest that the term lichenoid tissue reaction (LTR) is used. Such factors may be stress, drug reactions and dental materials, such as amalgam and even gold.

### Clinical varieties of OLP and LTRs

- Reticular (striated)
- Erosive
- Plaque
- Atrophic
- Papular
- Bullous
- Desquamative gingivitis.

### Clinical tip

Many drugs have been identified as contributing to LTRs, including: beta-blockers, diuretics, NSAIDs, oral hypoglycaemics, anti-epileptics, lithium, ACE-inhibitors, chloroquine and certain vaccines.

### Case

A 48-year-old woman complained bitterly of discomfort when eating her favourite dish of Indian origin. Her GDP identified striated lesions on a red background on the buccal mucosae bilaterally and on the left ventro-lateral surface of her tongue. She had been started on a beta-blocker for anxiety several months previously.

The GDP discussed with the GP the possible role of this drug and the patient was happy to stop the medication. Her symptoms lessened over the subsequent weeks and the lesions disappeared completely within three months. The patient was delighted to be able to visit her local curry house again.

### Patients with OLP/LTR should be asked:

Do you have any itchy skin lesions (purple papules, red spots or white, lacey lesions) – particularly at the wrists, on the shins; or do you have any white or red areas on the genitals?

### Examination

- Presence (confirmatory appearance) of OLP/LTR?
- Extent of condition – localised or more generalised?
- Relation to old amalgam (or other) restorations?
- Any evidence of trauma, cheek biting/chewing, tongue thrusting (Koebner effect)?
- Record clinical type of OLP/LTR.

Lichen planus is a mucocutaneous disorder which can affect the oral mucosa, genital mucosa and skin. Patients should be asked specifically about the possibility of lesions at sites

outside the mouth. This is particularly important with regard to identifying those patients who might have vulvo-vaginal-gingival syndrome or peno-gingival syndrome, as both appear to have increased risk of genital, and possibly oral, malignancy.

The presence of extra-oral LP will also influence management options and may move the patient more quickly to a secondary care environment for combined oral medicine/dermatology management.

Once again, the Koebner phenomenon is important in OLP (and in LTRs) and mucosal trauma should be reduced by careful assessment of the dentition, restorations and prosthesis. Mucosal trauma due to tooth clenching or grinding should also be sought and eliminated.

SLS-containing toothpastes and mouthwashes tend to irritate the oral mucosa of patients with OLP and LTRs and should be changed to SLS-free variants. Indeed, the question should be asked: are proprietary mouthwashes required at all for anyone?

Smoking is considered to increase the risk of the patient's OLP or LTR transforming to oral squamous cell carcinoma and so patients with OLP/LTR must be encouraged to stop smoking and understand fully the risks in maintaining the habit.

### Clinical tip

What to do?

- Asymptomatic, reticular: review
- Symptomatic, reticular: biopsy, treat and review
- Other types: biopsy, treat and review
- Smokers: biopsy all types
- Local lesion: remove amalgam
- Widespread lesions: consider patch testing.

### Investigations

- If the patient's OLP/LTR is causing symptoms and is of a non-reticular variant, liaise with the GP to exclude contributory systemic factors by way of blood tests: check FBC, folate, ferritin, vitamin B12.
- If the patient also has hypertension (from history), liaise with the GP to check random blood glucose to exclude Grinspan's Syndrome – a triad of OLP, hypertension and Type 2 diabetes mellitus.
- In a secondary care setting if the patient is of mainland European, Middle Eastern or Far Eastern origin, it may also be worth considering checking liver function tests and Hepatitis C serology as there is an apparent link in certain ethnic groups between OLP and Hepatitis C viral infection.
- In a secondary care setting if the patient has the bullous variant, check indirect immunofluorescence serology to exclude other bullous disorders.
- Also, a biopsy should be taken from a representative area (or areas) for routine histopathology, especially if a smoker. Where different variants of the condition co-exist, biopsies should be taken from different sites. Where bullous lesions are evident or reported, peri-lesional biopsy tissue should be sent for direct immunofluorescence.

If a patient has asymptomatic, reticular OLP/LTR and is a non-smoker, then no referral to secondary care is required. Instead, such patients should be advised of the diagnosis, the possibility of skin or genital lesions and the small risk of subsequent oral squamous cell carcinoma. The importance of maintaining a smoke-free status should be emphasised, alongside the advice to ensure that alcohol consumption is within recommended limits. Such patients should be placed on regular six monthly review, but also advised to return for further assessment/advice if any changes within the mouth occur in the interim period.

If a patient has symptomatic OLP/LTR of any variant

(including reticular), then referral to secondary care is advised – with a biopsy likely to exclude any super-added fungal infection or dysplasia. Similarly, a smoker with any variant of OLP/LTR (including reticular) should be referred to secondary care for assessment and consideration of biopsy.

## Management

1. Identify and eliminate sources of trauma
2. Change to an SLS-free toothpaste
3. Maximise oral hygiene to eliminate irritation from plaque
4. Advise to stop smoking, if required. Support quit attempt, via GP or local smoking cessation services
5. If chronology of drug use fits with onset of symptoms/signs, consider liaising with prescribing GMP or hospital specialist to request changing to structurally unrelated drug. This should be pursued where a patient has symptoms
6. If lesions are localised and related to an obvious cause (e.g. old amalgam restoration), consider the replacement of the restoration with a non-mercury containing restoration (e.g. composite, porcelain or gold) or cover the tooth/restoration with an appropriate crown. This should be pursued where a patient has symptoms
7. If the lesions of OLP/LTR are extensive and the patient has symptoms, a trial of a systemic anti-fungal drug (e.g. fluconazole or itraconazole) at conventional dose for two weeks or so may be worthwhile
8. If other systems are involved or, from symptoms, potentially involved, a referral to the appropriate hospital specialist should be instituted (e.g. dermatology, gynaecology)
9. Topical therapies:
  - a. Chlorhexidine gluconate 0.2 per cent mouthwash twice daily for 28 days initially
  - b. Benzylamine hydrochloride mouthwash up to three times daily
  - c. Gingigel
  - d. Gelclair or Aloclair
  - e. Aloe vera mouthwash
  - f. Topical steroid therapy (see Appendix 1).
10. Should the patient fail to respond to the above regime, then refer to secondary care (oral medicine).

### HELPFUL REFERENCES AND RESOURCES:

- The British Society for Oral Medicine [www.bsom.org.uk/clinical-care-chooser/soft-tissue-conditions/](http://www.bsom.org.uk/clinical-care-chooser/soft-tissue-conditions/)
- The Scottish Dental Clinical Effectiveness Programme (SDCEP) [www.sdcep.org.uk/published-guidance/drug-prescribing/](http://www.sdcep.org.uk/published-guidance/drug-prescribing/)
- Oral and Maxillofacial Medicine: the basis of diagnosis and treatment (Third Edition) Scully, C. Churchill Livingstone, 2013

### APPENDIX 1

Topical corticosteroid therapies:

1. Hydrocortisone mucoadhesive buccal tablets: 2.5mg (as sodium succinate) Dissolve one tablet slowly in the mouth up to four times daily.
2. Beclomethasone dipropionate puffer: 50µg: apply two puffs two to three times daily directly to the oral mucosa. NB: Advise patient to shake inhaler prior to use to mix steroid and propellant. Useful for one or two lesions.
3. Betamethasone sodium phosphate: 500µg (0.5mg) tablet. One tablet to be dissolved in water and used as a mouthwash for two minutes, and expectorated, two to three times daily for seven to 10 days initially, and then intermittently as required. NB: Advise patient not to swallow solution. Useful for multiple/widespread lesions.

### NOTES

- Use therapies as soon as lesions appear
- Use therapy for as little time as possible and make steroid-free episodes regular occurrences
- Where therapy is likely (or confirmed) to be long-term and/or involving systemic steroids too, discuss with GP about when to arrange bone density scan and consider osteoporosis prophylaxis.

### ABOUT THE AUTHORS

- John Gibson is professor of medicine in relation to dentistry and honorary consultant in oral medicine at Glasgow Dental Hospital and School
- Alexander Crighton is consultant in oral medicine and honorary senior lecturer in medicine in relation to dentistry at Glasgow Dental Hospital and School

## FACTORS THAT CAUSE RAS

### PERSON SPECIFIC

#### Genetic

Nutritional (e.g. deficiencies in folate, iron or vitamin B12)

Hormonal (e.g. menstrually related)

Associated systemic diseases

### ENVIRONMENTAL

Dietary factors causing hypersensitivity reactions (e.g. benzoates in fizzy drinks)

Trauma (Koebner phenomenon)

Possibly others, yet to be identified (e.g. viral/bacterial)

## VERIFIABLE CPD QUESTIONS

### AIMS & OBJECTIVES:

- To provide the clinician with an update on diagnosing recurrent aphthous stomatitis and oral lichen planus/lichenoid tissue reactions
- To review the clinical signs encountered in patients with these common conditions
- To provide the clinician with an updated understanding of managing patients with these conditions.

### LEARNING OUTCOMES:

Following reading and assimilating this article, the clinician will:

- Be aware of the clinical presentations of recurrent aphthous stomatitis and oral lichen planus/lichenoid tissue reactions
- Be able to discuss with patients the potential aetiological factors in each of these conditions
- Be able to formulate a management plan for patients with these conditions, including when to liaise with the patient's GP for investigations and when to refer the patient on to secondary care.

### EXAMPLE QUESTION

What is the prevalence of recurrent aphthous stomatitis (RAS) in the UK population?

- A. Up to 50 per cent
- B. Up to 40 per cent
- C. Up to 30 per cent
- D. Up to 20 per cent
- E. Up to 10 per cent

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# PLACEMENT FACTORS

— DENTAL MATERIALS —

The second article in Steve Bonsor's series on the use and abuse of dental materials looks at placement factors to get the best results for your patients



— STEVE BONSOR

The first article in this series discussed the potential problems that can arise even before the dental material has been placed in the mouth by inappropriate handling of the product. It stressed that materials must be used in line with the manufacturers' directions to yield predictable clinical results.

This article discusses how materials should and, equally should not, be handled in the mouth to achieve the best clinical outcome.

## Moisture control

Once the material has been mixed by the dental nurse and handed to the dentist, there are various factors with respect to clinical placement that will have a bearing on the success or otherwise of the restoration. The most obvious is the control of moisture.

Placing a material into an inherently wet environment and expecting it to bond must be regarded as something of a tall order. Most dental materials are hydrophobic at worst or are adversely affected by water at best. Suboptimal performance will inevitably result if water contamination occurs during placement and before final setting. Indeed, poor moisture control is a major cause of adhesive failure and leads to inferior mechanical properties<sup>1</sup> so it is critical that a dry environment is gained during material placement.

The ability to achieve and maintain an adequately dry field may well influence material selection, as will be discussed in the next article in this series. Although many aids are available to achieve this (Fig 1), the most predictable and effective method is the placement of rubber dam (Fig 2)<sup>2</sup>.

Moisture contamination may occur in the fluid form and also by water vapour in exhaled air. Intra-oral humidity can adversely affect the quality of the bond gained, particularly with resin-based composite materials. However, this potential problem may be easily overcome by the use of rubber dam<sup>2</sup>. With its application, the operator can control the environment much more precisely, so facilitating technically demanding procedures such as bonding<sup>3</sup>.

To underline this, the American Dental Association does not support the placement of resin composite restorations

without rubber dam placement<sup>4</sup>. Rubber dam also has other merits and these have been widely reported.

## Timeous placement and assessment of set

As soon as the two constituents of a two-paste system are bought together, the setting reaction starts. There is, therefore, a finite amount of time during the mixing and working phases in which placement of the material to the site of use must be completed prior to the commencement of the setting phase. Good teamwork and understanding is essential between operator and dental nurse to achieve this.

With many auto-mixed products, the first dispensed material should not be used clinically as it may not have fully mixed<sup>5</sup>. Figure 3 illustrates that this initial (in this case impression) material should be expressed onto the bracket table.

However, this material may be used to help the operator by gauging the completion of set of the rest of the mix. The ambient temperature in the surgery is lower than the intra-oral temperature, so when the expressed material has set on the bracket table, then the product in the mouth will have definitely completed its set.

## Correct intra-oral handling

The operator must pay particular attention when manipulating the material in the mouth, as failure to do this correctly will result in failure.

As mentioned earlier, the material should be placed into the intended site prior to the commencement of the setting phase. Irrespective of an impression or direct restorative material, once in situ, it should not be disturbed during this phase.

Failure to allow dental cements to go to full set without being disturbed leads to damage to the bulk of the material, leading to a stressed and weakened material<sup>6</sup>. Similarly the operator should provide even support for the impression tray to prevent inadvertent movement of the tray until the impression material has achieved full set (Fig 4).

Movement of the tray during this phase may lead to drags and stresses and strains in the impression material, leading to inaccuracies.



**FIGURE 1**  
Products used to control moisture are available such as (from left to right) cotton wool rolls, saliva ejector, high volume aspiration and dry guards



**FIGURE 2**  
Teeth 36, 35 and 34 isolated by the placement of rubber dam to facilitate the placement of resin based composite restorations in 36 and 35



**FIGURE 3**  
The first mixed material should be expressed and not used clinically. This will ensure full mixing of the components and can also be used as a guide to the set of the rest of the material



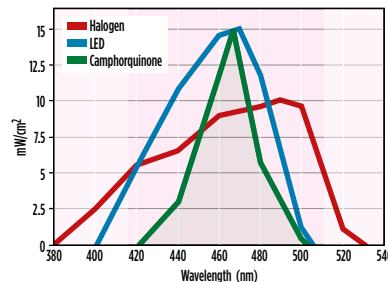
**FIGURE 4**  
The operator holding the impression tray steady with both hands until the material has fully set



**FIGURE 5**  
An example of a sectional matrix system (V-Ring, Triodent) in situ to enable placement of resin composite to restore the DO cavity of 35



**FIGURE 6**  
Note the different in colour between the yellow camphorquinone on top and the white Lucirin TPO below



**FIGURE 7**  
The narrower (blue) profile of the LED corresponds better to the photo-initiator (green) than the (red) halogen lamp. The halogen light is therefore less efficient at the peak wavelength absorption than the LED

## ● Failure to allow dental cements to go to full set without being disturbed leads to damage to the bulk of the material ●

Once placed in the cavity, resin composite should not be excessively manipulated, as this leads to the introduction of air, leading to porosity, areas of stress concentrations and sites of failure<sup>5</sup>.

Furthermore, resin composite shrinks on polymerisation and so it is imperative to use a sectional matrix system when restoring a Class II cavity, as this helps to compensate for the shrinkage (Fig 5) <sup>6</sup>.

When the retaining ring is placed, the teeth are forced apart due to a luxation force. When the resin composite has been cured, the matrix system is removed, allowing the teeth to return to their original position. The creation of a good broad contact area with the approximal surface of the adjacent tooth is considered to be the most challenging aspect of doing a Class II restoration in resin composite.

This cannot be adequately achieved with the use of a matrix band intended for use with dental amalgam such as a Siqveland. This type of matrix band may also bend weakened cusps into

the cavity, causing the resin composite restoration to be bonded in the cavity under stress. This may result in fracture of the tooth or manifest as pain, especially on chewing as the tooth flexes during function.

It goes without saying that the matrix should be correctly applied so that the material is properly contained and with the correct contour.

Dental materials should never be mixed with other materials unless expressly stated by the manufacturer. This is because they may be chemically incompatible. For example, it may be that materials are made of the same generic resins e.g. Bis GMA, but the synthesis of this molecule can vary from manufacturer to manufacturer.

It is, therefore, essential that different products used in one restoration are sourced from the same manufacturer, otherwise a substandard material with inferior mechanical

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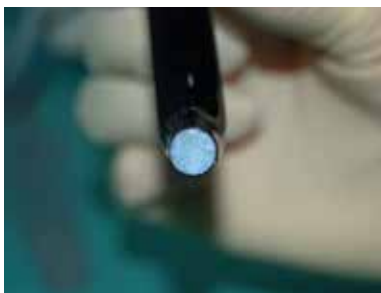
**FIGURE 8A**  
The light curing wand is much closer to the surface on the left than the right, meaning that the intensity of light is much greater as the intensity varies as the inverse square of the distance



**FIGURE 8B**



**FIGURE 9A**  
The examination of two light guides by holding them up to daylight. The blotching of the surface of the guide on the right indicates damaged fibres



**FIGURE 9B**

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FROM PREVIOUS PAGE>

properties will result. This also holds true for the combination of bonding agent and the resin composite restorative material. Consistency is a very important consideration [3](#).

## LIGHT CURING

### Advantages

The problem of disturbing partially set material has been largely overcome by light curing. This permits the operator to cure the material in a matter of seconds by the application of light energy. This is very convenient, as this “command set” provides an extended working time without the commensurate protracted setting time seen with chemical-cured materials.

### Compatibility of systems

Light curing has some hidden pitfalls, however. In recent years, there has been a move away from resin composites that use camphorquinone as its photo-initiator. Examples of these materials are lighter shade resin composites, flowable composites, bulk fills, orthodontic bonding cements and temporary inlay materials.

There are a couple of reasons for this. Firstly, camphorquinone is yellow in colour and this precludes its use in bleaching and lighter shades of resin composite as it adversely influences the shade. To overcome this problem, another photo-initiator must be used which is white in colour. Phenylpropanedion (PPD) or Lucirin TPO are commonly used (Fig 6).

Secondly, these latter photo-initiators are more efficient than camphorquinone and so require less energy to effect the setting reaction. For this reason, they have been used in the bulk fill materials that boast a curing depth of up to 4mm.

The recent scientific work shows great promise for these materials [7](#). These chemicals have a peak absorption wavelength of 380 and 430nm opposed to 470nm for camphorquinone. Their increasing use will have significant consequences, as many clinicians will have to purchase curing lights able to effect cure at these lower wavelengths. It is strongly advised that the dentist ensures that each new material introduced into the clinic is compatible with the surgery curing light able to deliver sufficient energy at the photo-initiator’s peak absorption wavelength, otherwise the material will not fully cure.

### Choice of curing light

The clinician broadly has a choice of a halogen or light emitting diode (LED) curing lamp. The former has a good track record, but its broader spectral range means that it is less efficient (Fig 7).

With time, the filament in the halogen bulb ages by thinning, with the result that the wavelength of light emitted changes. This reduces the amount of energy emitted at the peak absorption wavelength.

This may result in insufficient energy being emitted at this critical wavelength leading to incomplete cure. This is impossible to detect with the naked eye, as the light remains blue. The output of the lamp should therefore be checked regularly, with a radiometer included in the base unit of many models. Halogen bulbs should be changed every three to six months or sooner if the bulb has become darkened.

LED curing lights have, in recent years, become much more commonplace. They are very powerful, emitting in excess of 1W of energy, and produce very effective polymerisation of resin composites, provided their narrow spectral band



corresponds to the peak wavelength of the photo-initiator.

Their long-term performance is good, as the wavelength of light delivered does not change unlike halogen lights. Some manufacturers have overcome the problem of insufficient energy at the optimum wavelength by incorporating a number of LEDs in the lamp head to encompass all the desired peak absorption wavelengths.

### Curing factors

There are many factors which influence the rate of cure. As the intensity varies as the inverse square of the distance, it is imperative that the tip of the curing light is held close to the restoration and perpendicular to ensure an even amount of energy dispensed to the material (Fig 8).

Clearly, this light must transmit through the material to reach the photo-initiator in all of the unset material. Light penetration is affected by a number of factors, namely the particle size of the filler, with material consisting of small particles taken longer for the light to transmit through as it is attenuated by the particles.

More opaque and darker shades will need more time for the light to transmit through. Furthermore, if there is a mismatch between the optical properties of the glass and resin, then this will have a detrimental effect, as will variables in the diketone/amine chemistry that is necessary for set.

### Curing light care and maintenance

In 2001, Mitton and Wilson<sup>8</sup> looked at curing lights in general dental practice that showed some alarming results. They found that 28 per cent of the lights had inadequate light output, 47 per cent were damaged or had been repaired and 35 per cent had varying amounts of material adhering to the light exit portal, which would have the effect of decreasing the amount of light which could be emitted from the light.

They made some useful and practical suggestions that could be easily introduced into surgery protocols. For example, all components of the light should be regularly inspected for damage and the light guide checked for conductance by viewing daylight through the distal end. Black spots or speckling indicates damaged fibres in the fibre bundle (Fig 9).

The light guide should be replaced if more than 10 per cent of the fibres are damaged. There is a useful addendum in the paper and readers would be well advised to incorporate the recommendations into surgery protocols.

During use, the dental team should avoid contamination of the light guide with unset resin composite material or bonding agents during curing. This would lead to set material compromising the light being emitted.

The light guide should be cleaned immediately after

each use and decontaminated between patients. Sheaths are available for use over the light guide, but there is some evidence that this affects the quality of light emitted.

A universal shade composite is packed into the cavity and cured. The wedge is then inverted and if soft material remains on the base the light is not functioning adequately.

### Thermal trauma

Many dental materials undergo an exothermic reaction during setting and the clinician should be aware of the potential problems associated with any temperature changes. These can be marked particularly with any resin systems.

Light guides emit much heat with the higher the intensity, the more energy and therefore the more heat. This may have detrimental effects on the dental pulp with a rise of 12°C, causing irreversible damage leading to pulpal death.

### Finishing

Careless finishing and polishing can also transmit heat to the tooth and the dentist is advised, where possible, to carry out any rotary finishing under water spray to dissipate any heat generated. This prevents localised heating of the resin leading to hot spots in the material above the glass transition temperature leading to melting alterations in resin form.

The correct instruments should be used to finish and polish restorations and this should be done at the appropriate time. For example, glass ionomer cements should be left to fully set before they are polished, a process which can take 24 hours.

The appropriate post-operative instructions should then be given to the patient.

### Conclusions

Placement factors and well as pre-placement factors have a significant bearing on the success or otherwise of the restoration. Attention to detail at each stage is essential.

The next article in this series examines appropriate material selection and its relationship with tooth preparation.

#### ABOUT THE AUTHOR

Steve Bonsor graduated from the University of Edinburgh in 1992 and in 2008 gained an MSc in Postgraduate Dental Studies from the University of Bristol. From 1997 until 2006, Steve was a part-time clinical teacher at Dundee Dental Hospital and School and honorary clinical teacher at the University of Dundee in the sections of operative dentistry, fixed prosthodontics, endodontology and integrated oral care. He currently holds appointments at the University of Edinburgh, as an online tutor on the MSc in Primary Dental Care programme and at the University of Aberdeen as honorary clinical senior lecturer leading the applied dental materials teaching at Aberdeen Dental School. As well as lecturing throughout the UK, Steve is actively involved in research, having published original research articles in peer-reviewed journals. His main research areas are photo-activated disinfection and the clinical performance of dental materials.

## VERIFIABLE CPD QUESTIONS

#### AIMS AND OBJECTIVES:

- To examine the factors that can contribute to failure of a dental material during placement in the mouth
- To discuss the importance of these factors with respect to success and longevity of the clinical procedure
- To give guidance on how these factors may be avoided or mitigated

#### LEARNING OUTCOMES:

- Be aware of the factors which influence clinical success during material placement or use
- Have an appreciation of how these factors may be managed or overcome to give best results
- To translate these theoretical factors into practice in the dental surgery.

#### EXAMPLE QUESTION

Most dental materials should be placed under rubber dam because:

- A. The American Dental Association recommends it
- B. The operator can create the optimum environment
- C. Hydrophilic materials need to be protected from water
- D. This is what is taught in dental schools.

# PIXEL PERFECT PT.2

RADIOGRAPHY

Quality Assurance and the digital image  
– are you getting your 256 shades of grey?



✎ IAN WILSON

**T**he second part of this article explores the issues that need to be considered in producing high-quality digital images in dental practice. The first part, written by Barbara Lamb, looked at the clinical considerations, while this second part deals with the technology, both hardware and software, considerations.

The world of IT is an ever-changing place. We are surrounded by all sorts of gadgets and ever-increasing processing power and operating systems.

TVs are continually changing to bigger and better displays, curved screens and higher HD images. One thing is for sure, technology isn't standing still and we are spoiled by the choices we have to take advantage of it.

This is good news when it comes to digital imaging in dental practices. The technology leads to better sensors, X-ray machines, CT and 3D scanners and, with better displays, this maximises the image we can see once it is taken.

However, with all this technology, there is a wide range to choose from when installing IT in the practice. Various types of PCs, graphics and monitors, all with a wide range of prices, can lead to confusion on what should be installed to suit the needs of any digital image system.

Let's look at the main parts of the IT system and explain the differences. This will allow you to make some informed decisions on what systems to purchase and achieve the best results.

## PCs

There are two main processor manufacturers, Intel and AMD. It is always best to check the minimum requirements of the imaging system as most prefer the Intel processor. With this in mind, we will concentrate on the Intel type ([www.intel.com](http://www.intel.com)).

The processor, or CPU (Central Processing Unit), is the main engine of the computer. This determines how quickly it will load and process what you are doing. Just like a car,

the bigger the engine, the faster it will go. Processors all have models – slowest to fastest is: Dual Core, i3, i5, i7 and Xeon.

In most cases, an i3 or i5 will suffice, but when using an OPG or CBCT, an i7 or Xeon may be required. Lower speed processors are available – Celeron and Pentium. These provide lower-priced PCs, but are suited mainly to 'office'-type work and wouldn't be recommended for imaging work.

RAM (Random Access Memory) is important and a minimum of 4GB should be installed. Where a faster processor is installed, the RAM should be increased to a minimum 8GB. RAM will work alongside the processor to load programs and data quickly, vital when you are working with large images, especially 3D or CBCT.

With Windows XP no longer available, most business PCs will come installed with Microsoft Windows 7 Professional ([www.microsoft.com](http://www.microsoft.com)). Most are now a 64-bit operating system that supports up to 192GB of RAM.

Be careful, however, as some PCs can come with 32-bit Windows – this has a limit of just over 3GB of RAM.

## Graphics

Modern PCs come with graphics integrated into the motherboard. This provides the connection to a monitor. This is convenient and makes the purchase of a PC a complete package. Integrated graphics are useful for most applications run on a PC, but better performance and display can be achieved by installing a graphics card. (See Figure 1)

Graphics cards are an additional expansion card that can be installed onto the PC motherboard.

● We are surrounded by gadgets and ever-increasing processing power and operating systems ●

The differences between integrated and an expansion card are as follows:

- Integrated graphics require the use of the PC processor and RAM to perform the output to the monitor. This reduces the amount of processing power and RAM available to running programs.
- Graphics cards come equipped with their own processor, GPU (Graphics Processing Unit), and their own memory, called VRAM. This means all graphics and imaging work is performed on the card and not via the PC processor and RAM. It also means it will be performed more quickly, an important factor if X-rays are being rendered on the PC.
- Graphics cards can also output at much higher resolutions than integrated graphics. VRAM will enable your computer to load more and higher resolution textures or 3D images onto the GPU, as well as render images at higher resolutions.
- GPU requires enough VRAM. If not, it will load its resources onto the system RAM instead. However, due to the system RAM's distance to the GPU, it is a lot slower than VRAM. This is partly the reason why integrated graphics are much slower than dedicated GPUs, since they have no VRAM and thus have to rely on the slower system RAM.

There are many different types of graphics cards and again, checking the minimum requirements of any imaging system will guide you to the best option. There are two main types used – nVidia ([www.nvidia.com](http://www.nvidia.com)) and AMD Radeon ([www.amd.com](http://www.amd.com)).

Graphics cards also come with different output connectors to suit all types of monitors.

## Monitors

A good monitor will provide the best definition and detail of images. It is vital to realise the importance of a monitor display. Buy a cheap one and the detail, colour mix and ability to display true black are pretty poor. This is a vital part of being able to distinguish and display the 256 shades of grey. A cheap monitor results in a low-quality display of images when you look at them on the screen.

## THERE ARE DIFFERENT TYPES OF MONITORS AVAILABLE:

**TN** The cheapest monitors are based on twisted nematic (TN). While having a fast response time, they have limited colour reproduction, poor black levels and narrow viewing angles. They are fine for word processing, but not for serious work.

**LCD** use cold cathode fluorescent lamps (CCFLs) to provide backlighting. These fluorescent tubes must light the entire screen evenly. There is no way to vary the backlighting intensity in different parts of the screen. Even if you want to show a single white pixel on an all-black screen, the light in the back needs to be blazing away at full brightness.

**LEDs** are LCDs that use LEDs to backlight. This produces better colour. Rather than being on at full brightness all the time, they can be dimmed or turned off entirely. This makes for much better black levels and contrast.

**IPS** panel technology guarantees consistent colour reproduction with wide viewing angles and high contrast and therefore it is especially recommended for graphics design and other applications that require colours to be displayed accurately. The response time of the panel allows for smooth playback while watching films and playing games, making the IPS the best all-round technology suitable for both business and home use.



**FIGURE 1**  
An nVidia GeForce graphics Card



**FIGURE 2**  
Three types of monitor connections – VGA – Analogue output (top), HDMI – Digital HD Output (middle) and DVI – Digital Output (bottom)

### EXAMPLE OF A MEDICAL GRADE MONITOR

- Panel Technology – IPS TFT with W-LED backlight
- Screen Size [inch/cm] – 61.1 / 24.1
- Screen Aspect Ratio – 16:10
- Pixel Pitch [mm] – 0.270 x 0.270
- Brightness (typ.) [cd/m<sup>2</sup>] – 170, (350 max)
- Contrast Ratio (typ.) – 1000:1
- Optimum Resolution – 1920 x 1200 at 60 Hz

### EXAMPLE OF A HIGHER-QUALITY PC MONITOR

- Panel – IPS LED
- Resolution – 1920 x 1080 Full HD 1080p
- Aspect Ratio – 16:9
- Brightness – 250 cd/m<sup>2</sup>
- Static Contrast – 1000:1
- Advanced Contrast – 5,000,000:1
- Response Time – 5ms
- Viewing angle – Horizontal/vertical: 178°/ 178°; right/left: 89°/ 89°; up/down: 89°/ 89°
- Display Colours – 16.7M
- Pixel Pitch – 0.265 x 0.265

## CONSIDERATIONS

### Contrast ratio

The difference in light intensity between white and black on an LCD display is called contrast ratio. The higher the contrast ratio, the easier it is to see details and differences in the shades of grey.

### Luminance

Also known as brightness, it is the level of light emitted by an LCD display. Luminance is measured in nits or candelas per square meter (cd/m<sup>2</sup>). One nit is equal to one cd/m<sup>2</sup>.

### Response time

The speed at which the monitor's pixels can change colours is called response time. It is measured in milliseconds (ms).

### Summary

In conclusion, the investment in a good PC system will provide better results and perform at a higher level. Details in imagery will display in greater detail and let you see far more.

Get the best processor within your budget and consider the amount of RAM in the system. Faster is better when it comes to processors and more RAM is always better in terms of performance.

Adding a graphics card will provide better display results along with better rendering of images. The extra processing power will help with performance, both in the system and in image processing.

A good monitor will give the best output of all the work done on the PC system. The better the monitor, the greater the detail that will be output and seen on the screen. This is important when viewing images and seeing greater detail. Consider an IPS panel for best results.

### ABOUT THE AUTHOR

Ian Wilson is a director at IW Technology Services

# GETTING THE LANGUAGE RIGHT

— ENDODONTICS —

Part two of specialist endodontist Julie Kilgariff's update on diagnostic terminology looks at periradicular diagnoses



✉ JULIE KILGARIFF

**T**he first part of this article described how to arrive at a pulpal diagnosis of a clinically healthy or diseased pulp. Part two will describe the up-to-date terminologies for periradicular health and disease and the clinical findings usually associated with each of these diagnoses.

## How to identify clinically normal periradicular tissues

Clinically 'normal' periradicular tissues are those which have no swellings or sinuses visible or palpable, the tissues are not tender to palpation and the tooth is not tender to percussion. Radiographically, the periodontal ligament space is uniform around the root and the lamina dura intact.

Teeth with normal and reversibly inflamed pulps would be expected to exhibit 'normal' periradicular tissues.

Some teeth with symptoms of symptomatic irreversible pulpitis can be difficult to localise because in the early stages, the periradicular tissues are often not yet affected. At this point, the tooth will not be tender to percussion or palpation and no swelling or sinuses will be present. Conventional radiographs are frequently insufficiently sensitive to show the initial periradicular changes which can hamper localisation and diagnosis of the source of the pain. Thus, teeth diagnosed with symptomatic and asymptomatic irreversible pulpitis will often appear to have normal periradicular tissues radiographically until pulpal necrosis ensues.

Previously initiated and previously treated teeth may also exhibit normal periradicular tissues if treatment has been successful.

## What are the clinical signs and symptoms of symptomatic periradicular periodontitis?

Teeth exhibiting signs and symptoms of symptomatic periradicular periodontitis are most likely to have a pulpal diagnosis of pulpal necrosis; previously initiated endodontics or previous endodontic treatment. Table 1 reviews the range of clinical findings which can be associated with this diagnosis.

When the pulpal diagnosis associated is 'pulpal necrosis', the periradicular changes are caused by microbes gaining access to the root canal system mainly through cracks, caries, dentinal tubules and micro-leakage. This results in an inflammatory reaction in the periradicular tissues because of the egress of toxins through the apical foramina. The source of these toxins is the polymicrobial infection within the root canal system.

Where the pulpal diagnosis associated is 'previously treated' (i.e. a failed previous non-surgical or surgical endodontic treatment), the cause of the periradicular disease in the majority of cases is persistent or new (secondary) microbial infection of the root canal system. For example, where a dental/rubber dam is not used for isolation of the tooth during a root canal treatment, it is extremely likely that microbes will persist within the root canal system throughout and following treatment.



**FIGURES 1A AND B**  
The large size of the periradicular radiolucency associated with this symptomatic 12 made it more likely that this lesion could be cystic in nature. It was removed in 2011 using periradicular microsurgical techniques. Unfortunately the excess cement from the post space which has entered the periradicular tissues through a post perforation was inadvertently not removed during the surgery. Despite this, at two-year review in 2013 (Fig 1b), good evidence of ongoing healing is seen. The histopathology report confirmed a radicular cyst



**FIGURE 2A**  
Tooth 46 was diagnosed with a pulpal necrosis and a chronic apical abscess following sensibility testing and identification of clinically deep periodontal pocketing with drainage



**FIGURE 2B**  
Tooth 46 review (six months after root canal treatment was completed). Clinically: no signs or symptoms of periradicular pathosis and the radiograph shows encouraging bone infill at this early stage



**FIGURE 3**  
Lateral periodontal cyst (picture supplied courtesy of Mr Chris Allan)



**FIGURE 4A**  
Tooth 12 diagnosed as having a clinically normal pulp

## Conventional radiographs can be insufficiently sensitive to show the initial periradicular changes

In a case where a previously successful root canal treatment (i.e. no clinical signs or symptoms of pathosis and no periradicular radiolucency is seen associated with the tooth radiographically) manifests with clinical and/or radiographic signs and/or symptoms of treatment failure, the most likely explanation is that either previously surviving microbes have now flourished within the root canal system to a pathogenic level or that new microbes have gained access, e.g. because of the loss of the coronal seal <sup>2</sup>.

In the minority of cases where a failed root canal treatment is identified, the reason may also be attributable to a foreign body reaction, extra-radicular infection or the presence of a true cyst.

Each of these can also present with the signs and symptoms of symptomatic periradicular periodontitis. Figures 1a and 1b illustrate a case of a radicular cyst.

### What are the clinical signs and symptoms of an asymptomatic periradicular periodontitis?

This particular periradicular diagnosis is often an incidental finding, for example when taking a routine periapical radiograph prior to replacing a failing crown. This finding potentially poses a management dilemma for the patient and clinician alike.

Should we embark on root canal treatment or re-treatment on a tooth which has presented the patient with no problems and risk iatrogenic errors occurring and the monetary costs associated with the endodontic procedures undertaken <sup>2</sup>? Table 2 outlines the range of clinical findings usually associated with this diagnosis.

It has long been recognised in Scotland that a large proportion of the population who have had extensive coronal restorations on vital teeth or teeth with previous endodontic treatment, will have asymptomatic periradicular periodontitis present (identified by radiographic periradicular radiolucencies) <sup>3 4 5</sup>.

This is a disappointing finding and raises questions as to the understanding and management of endodontic pathosis by clinicians, as well as to the techniques used to monitor the endodontic status of teeth.

The literature is relatively sparse in ascertaining the risk of monitoring such asymptomatic lesions rather than embarking on active treatment (root canal re-treatment, surgical endodontic procedures or tooth extraction).

It has, however, been reported that those teeth which already have a root canal treatment in situ and are maintained with a good quality coronal seal, are at little risk of either becoming symptomatic or demonstrating an increase in size of the periradicular radiolucency on radiographs <sup>6</sup>.

### What are the clinical signs and symptoms of a chronic periradicular abscess?

The clinical scenarios frequently encountered with this periradicular diagnosis are outlined in Table 3.

When a chronic periradicular abscess is present, drainage can occur through the periodontal ligament space (Figs 2a and b), forming a narrow, deep periodontal pocket over time or it may drain through the alveolar bone forming a sinus/fistula.

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**FIGURE 4B**  
The dental history of the tooth shown in Fig 4a revealed an impacted canine had recently been removed from the area



**FIGURE 5A**  
Tooth 22 diagnosed as 'previously treated and acute periradicular abscess'



**FIGURE 5B**  
Tooth 22 at 15-month review having had periradicular microsurgery. There are no clinical signs or symptoms of periradicular pathosis and the radiograph shows encouraging signs of bony infill



**FIGURE 6**  
Tooth 24 presented with low grade symptoms of an asymptomatic irreversible pulpitis and the apical diagnosis is that of a condensing osteitis



**FIGURE 7**  
Tooth 36 was assessed for provision of a cuspal coverage restoration. A previous history of vague pulpal symptoms from the tooth had been elicited and an absence of clinical signs and symptoms noted. The radiograph taken prior to the crown preparation revealed findings which lead to a diagnosis of pulpal necrosis and asymptomatic periradicular periodontitis with evidence of condensing osteitis. The tooth was root canal treated prior to the crown preparation

FROM PREVIOUS PAGE>

When present, a sinus can fluctuate between discharging and non-discharging. Once identified as present, two factors should be noted: First, the location of the sinus as those located close to the gingival margin can be associated with vertical root fractures <sup>2</sup>. Testori *et al.*, identified coronally located sinuses in 42 per cent of vertically root fractured teeth <sup>3</sup>. Sinus tracts closer to the apical area are more commonly associated with periradicular pathosis. Secondly, the sinus should be palpated to see if it is discharging. If so, a gutta percha cone can be threaded into the sinus tract until it stops and a periapical radiograph taken of the cone in situ, thus tracking the source of the infection.

Sinuses can occur both intra-orally or extra-orally and can be some distance from the source of the infection and so where possible it is advisable to radiograph with a gutta percha cone in situ to localise the source with some accuracy.

When a sinus is identified as associated with a previously endodontically treated tooth, this is a clear indication that further intervention is required (tooth extraction or further endodontic treatment).

### ●Sinus tracts closer to the apical area are more commonly associated with periradicular pathosis●

#### What are the clinical signs and symptoms of an acute periradicular abscess?

Table 4 summarises the probable clinical findings associated with a periradicular diagnosis of acute periradicular abscess.

When diagnosing the source of an acute abscess it is important to discern between a possible periodontal abscess and a dental abscess. Both periodontal abscesses and blocked periodontal pockets can present a similar clinical picture to that of a dental abscess (e.g. the tooth and associated tissues can exhibit tenderness to percussion and palpation, swelling and the patient reporting pain).

To aid diagnosis, thorough clinical examination in conjunction with a number of tests (cold, hot, electrical pulp tests, test cavities and periapical radiographs) can be useful to deduce which teeth are vital (and therefore likely to have a periodontal abscess) and those which are non-vital (with a pulpal necrosis and likely dental abscess). It is of note however that multi-rooted teeth can present with false positive and negatives to pulpal tests and hence the need for several pulpal investigations and/or tests to increase reliability of the findings.

Figures 3, 4a and b illustrate two cases where pulp testing was invaluable in coming to a diagnosis and for treatment planning. The case in Figure 3 is that of a deep non-healing periodontal pocket in the 13, 12 region. All sensibility tests undertaken revealed 13 and 12 to respond normally and both 13 and 12 were diagnosed with a clinically normal pulp. Excisional biopsy was undertaken and histological processing revealed a lateral periodontal cyst to have been present.

In Figure 4a, a radiograph of tooth 12 is shown. Clinically, 12 had deep periodontal pockets and mobility. If the diagnosis was made based on the radiographic findings alone, tooth 12 may have been thought to have a pulpal necrosis and evidence of an asymptomatic periradicular periodontitis. However, this tooth responded normally to all sensibility tests and was diagnosed with a clinically normal pulp. The history sheds light on this unusual appearance. Figure 4b shows an earlier radiograph which was taken prior to the recent surgical

**TABLE 1**

The Clinical Signs and Symptoms of Symptomatic Periradicular Periodontitis

This is inflammation and destruction of the periradicular periodontium that is of pulpal origin	
<b>ASSOCIATED PULPAL DIAGNOSIS:</b> Pulpal necrosis; previously initiated or previously treated	
<b>Patient history</b>	Pain – often on biting or touching tooth Generally well localised +/- relieved temporarily by cold +/- previous trauma to tooth +/- previous endodontic treatment to tooth
<b>Clinical findings</b>	+/- caries &/or deep restoration +/- previous root canal treatment +/- mobile & extruded from socket +/- discoloured tooth etc.
<b>Pulp tests</b>	Negative NB false positives can occur from multi-rooted teeth
<b>Periradicular tests:</b>	
• Percussion	Positive
• Palpation	Positive or negative
• Swelling / sinus	None
<b>Radiographic findings</b>	Widened periodontal ligament space Loss of lamina dura Periradicular radiolucency

**TABLE 2**

The Clinical Signs and Symptoms of an Asymptomatic Periradicular Periodontitis

This is inflammation and destruction of the periradicular periodontium that is of pulpal origin	
<b>ASSOCIATED PULPAL DIAGNOSIS:</b> Pulpal necrosis; previously initiated or previously treated	
<b>Patient history</b>	Nil of note May be previous history of incidence of acute pain which spontaneously resolved +/- low grade discomfort +/- acute exacerbations
<b>Clinical findings</b>	Caries, heavily restored tooth, previous carious pulp exposure etc +/- discoloured tooth
<b>Pulp tests</b>	Negative NB false positives can occur from multi-rooted teeth
<b>Periradicular tests:</b>	
• Percussion	Negative
• Palpation	Negative
• Swelling / sinus	None
<b>Radiographic findings</b>	Widened PDL space Loss of lamina dura Periradicular radiolucency

**TABLE 3**

The Clinical Signs and Symptoms of a Chronic Periradicular Abscess

An inflammatory reaction to pulpal infection and necrosis characterised by gradual onset, little or no discomfort and an intermittent discharge of pus through an associated sinus tract.	
<b>ASSOCIATED PULPAL DIAGNOSES:</b> Pulpal necrosis, previously initiated or previously treated	
<b>Patient history &amp; clinical findings</b>	Little or no discomfort +/- intermittent discharge of pus through an associated sinus tract Patient might report a 'bad taste' If sinus heals/stops discharging, patient may report pain No systematic involvement
<b>Pulp tests</b>	Negative
<b>Periradicular tests:</b>	
• Percussion	May feel 'different' but not acutely painful
• Palpation	May be slightly tender, but not acutely painful
• Swelling / sinus	<b>Sinus</b> present
<b>Radiographic findings</b>	Periradicular radiolucency seen

removal of an impacted canine. Figures 5a and b show an example of a tooth diagnosed as 'previously treated and acute periradicular abscess' and its management.

**What are the clinical signs and symptoms of a condensing osteitis?**

Condensing osteitis is a relatively commonly occurring radio-opaque lesion in the jaws, seen in 4-7 per cent of the population. Its cause reported as due to pulpal degeneration/inflammation or necrosis which results in the replacement of cancellous bone by dense, compact bone in some individuals<sup>2</sup>. It is frequently found as an incidental discovery

associated with an often asymptomatic tooth (Fig 6) and hence it can be identified as associated with asymptomatic irreversible pulpitis cases amongst other diagnoses.

As illustrated in Figures 6 and 7, its identification is usually radiographically because clinical signs and symptoms (described in Table 5) rarely show that periradicular changes are present. Condensing osteitis indicates pulpal inflammation is present and thus sensibility testing of the tooth in question is warranted. Where the pulp is found to be necrotic, root canal treatment or extraction is the treatment of choice.

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● Condensing osteitis is a relatively commonly occurring radio-opaque lesion in the jaws ●

**TABLE 4**

The Clinical Signs and Symptoms of an Acute Periradicular Abscess

Microbes and their toxic by-products have egressed into periradicular tissues to establish an extraradicular infection and evoke purulent inflammation.

**ASSOCIATED PULPAL DIAGNOSIS:**  
Pulpal necrosis; Previously initiated or Previously treated

<b>Patient history &amp; clinical findings</b>	Pain +/- systemic manifestation (Fever, malaise, lymphadenopathy, headache, nausea) +/- mobility, tooth may be extruded +/- trismus +/- dysphagia
<b>Pulp tests</b>	Negative NB multi-rooted teeth may give a false positive This test can be useful to discern between a periodontal abscess and a periradicular abscess
<b>Periradicular tests:</b>	
• Percussion	Positive
• Palpation	Positive
• Swelling / sinus	<b>Swelling</b> either in vestibule or fascial space
<b>Radiographic findings</b>	Reaction to infection can be very fast. The involved tooth may or may not show radiographic evidence of a widened periodontal ligament space. In time, a periradicular radiolucency seen

**TABLE 5**

The Clinical Signs and Symptoms of Condensing Osteitis

A diffuse radiopaque lesion representing a localised bony reaction to a low-grade inflammatory stimulus

**ASSOCIATED PULPAL DIAGNOSIS:**  
Symptomatic or asymptomatic irreversible pulpitis; Pulpal necrosis or Previously initiated treatment

<b>Patient history &amp; clinical findings</b>	No discomfort although may have a history of pain episodes from tooth Often tooth is heavily restored Unlikely to have had previous root canal treatment on tooth, although can be history of pulp cap and pulpotomy Usually an incidental finding
<b>Pulp tests</b>	<b>Negative or positive</b>
<b>Periradicular tests:</b>	
• Percussion	Negative
• Palpation	Negative
• Swelling / sinus	None
<b>Radiographic findings</b>	A diffuse radiopaque lesion usually at the apex of a tooth

## VERIFIABLE CPD QUESTIONS

**AIMS AND OBJECTIVES**

- To provide the clinician with an update on diagnosing health and disease of the periradicular tissues using clinically-orientated diagnostic terminologies
- To review the clinical signs and symptoms most frequently encountered for each periradicular diagnosis
- To illustrate some of the challenges involved in accurate and timely pulpal and periradicular diagnoses with clinical cases

**LEARNING OUTCOMES**

- Gain knowledge of up-to-date periradicular diagnostic terminologies and their meanings
- Be able to describe the clinical signs and symptoms associated with each diagnosis

**EXAMPLE QUESTION**

The presence of condensing osteitis associated with a heavily restored tooth indicates that the pulpal status is most likely:

- A. Necrotic or reversibly inflamed
- B. Reversibly or irreversibly inflamed
- C. Necrotic or irreversibly inflamed
- D. Healthy or reversibly inflamed
- E. Irreversibly inflamed or normal.

## ● A small number of patients who have had good quality endodontic management will continue to experience post-treatment pain ●

FROM PREVIOUS PAGE >

Alternatively, in cases where the tooth is still vital, a plan of watchful waiting or root canal treatment can be considered.

If further invasive treatment is intended, such as a crown preparation, it may be advisable to consider an elective root canal treatment as evidence of a stressed, irreversibly inflamed pulp is present (Fig 7). Condensing osteitis will usually resolve following appropriate treatment (removal of the irreversibly inflamed or necrotic pulp through root canal treatment or tooth extraction).

### Conclusions

Suggested up-to-date diagnostic terminologies for pulpal and periradicular health and disease are conveniently based on describing the clinical, rather than histological findings. This aims to simplify the diagnosis and aid communication between colleagues and patients alike. It is recommended that both a pulpal and periradicular diagnosis be made for every endodontically-involved tooth and that this be recorded in the dental notes.

Clinicians should be mindful of the dynamic nature of endodontic disease and use a range of investigations and special tests to try to ascertain as accurate information as possible on the status of the pulp and periradicular tissues to allow precise diagnosis and appropriate treatment planning. Following any treatment to the pulp and periradicular tissues (such as

pulp cap, pulpotomy, root canal treatment, re-treatment and surgery), reviewing the pulpal and periradicular status on an annual basis, or more frequently, is recommended.

It is noteworthy that, in cases of odontogenic pain (where the treatment plan involves a root canal treatment or re-treatment), following pulpal extirpation and biomechanical preparation of all root canals to full working length (under a rubber dam and using sodium hypochlorite irrigation in the apical third), but for a transient inflammatory reaction to the endodontic procedure itself, the odontogenic pain experienced should decrease rapidly. Where this does not occur, the original diagnosis should be reviewed.

A small number of patients who have had good quality endodontic management will continue to experience post-treatment pain. Nixdorf and colleagues<sup>10</sup> reported ongoing persistent pain in 5.3 per cent of cases following endodontic treatment, concluding that around 3.4 per cent of these cases were in fact due to pain of non-odontogenic origin which had been misdiagnosed as odontogenic pain at the outset. Accurate diagnosis of pulpal and periradicular tissues will help avoid inappropriate treatment.

**ABOUT THE AUTHOR**

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# DEALING WITH TESTING PATIENTS

CASE FILES

When a treatment plan does not meet the expectations of a client, what are the options? Sometimes, the best solution may be to offer a refund

In 2013, Mr C saw a 35-year-old female patient – Miss P – for the first time when the patient attended seeking an aesthetic solution for her stained upper central incisors. The patient gave Mr C a photograph taken in her teens and asked if he could provide restorations to reproduce the former appearance of the teeth.

On examination, the patient's oral hygiene was fair with a BPE of 001/120. The incisal edges of all incisors showed some signs of acid erosion and attrition and moderately sized composite restorations were present. After taking study casts and radiographs, a treatment plan was drawn up involving the placement of six anterior veneers and some routine periodontal treatment.

The patient then signed her treatment plan to indicate her consent before the treatment commenced. During the wax-up stage, the patient became increasingly demanding and several modifications were required before the dentist felt able to have the veneers finished.

The first time that the veneers were tried in position, the patient was unhappy with the length and she asked for adjustment. At the second appointment, the veneers were cemented, complying with the patient's wishes. Within hours, the patient returned, demanding their replacement because the spacing was incorrect and they looked uneven. Mr C agreed to replace the veneers, but felt there would be insufficient enamel to guarantee good adhesion. He recommended all six be replaced with crowns.

After removing the veneers, he re-prepared the teeth, took impressions and sent these to the laboratory, fitting temporary crowns in the interim.

The patient insisted in overseeing the making of the crowns and wanted to speak to the technician. It was agreed that she could go to the laboratory, which was close by the surgery, to explain what she wanted. After the crowns were made and fitted, the patient seemed quite pleased with them. However, she phoned a week later complaining they had not been made to her specification and they were interfering with her speech and causing discomfort when eating. In addition, her gums were bleeding.

Mr C was determined to refute her complaint. However, within days he received a letter of complaint informing him that she was going to a solicitor to seek compensation. When

Mr C contacted Dental Protection, he was asked if there were any aspects of the treatment about which he would not be confident. After examination of the available clinical photographs, it was apparent that the crowns were a little bulky with signs of inflammation and bleeding at the gingival margins.

Mr C was advised that he still had the option of offering a refund at that stage. Alternatively, he could refer the patient to a restorative consultant at the local hospital for a second opinion. Mr C contacted the patient offering her either a straightforward refund or a referral to the specialist.

The patient wanted to negotiate the offer, saying that she would accept the refund, but wanted the dentist to contact his insurers for £3,500 compensation for pain, suffering and time spent attending the practice for remakes etc.

After several exchanges of letters, there was little option but to suggest that the patient allow Dental Protection to contact her directly. She was made aware that, as part of the process of determining the merits of her claim, she might be asked to attend an independent practitioner for an opinion.

The patient initially agreed to Dental Protection contacting her but, two days later, she phoned to accept the refund as a way of resolving the matter. She refused to confirm this in writing and was simply expecting to pick up a cheque from the dentist. As Miss P was prone to changing her mind, Mr C was reluctant to refund the money until he had a signed document of agreement. Dental Protection agreed to assist him in wording the document and, after a further delay, the patient eventually agreed and signed the document.

## Lessons

- If there are any weaknesses in the consent process or clinical care, consider offering a refund.
- Dental Protection may advise, in some cases, that patients demanding compensation should be dealt with directly by one of the in-house team. This can reduce the involvement of the member and avoids the additional legal expense of a patient contacting a solicitor.
- Dental Protection will not always advise the use of a written agreement as this can sometimes drive the patient to instruct a lawyer. However, agreements can be useful in some circumstances.
- The quickest way for a patient to seek a resolution is to ask a practitioner to refund the appropriate fee.

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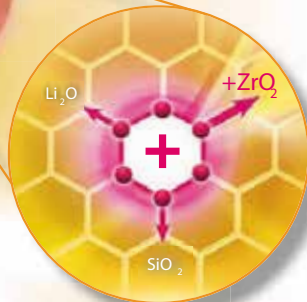
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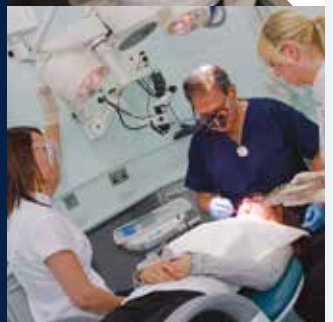
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# DCP focus

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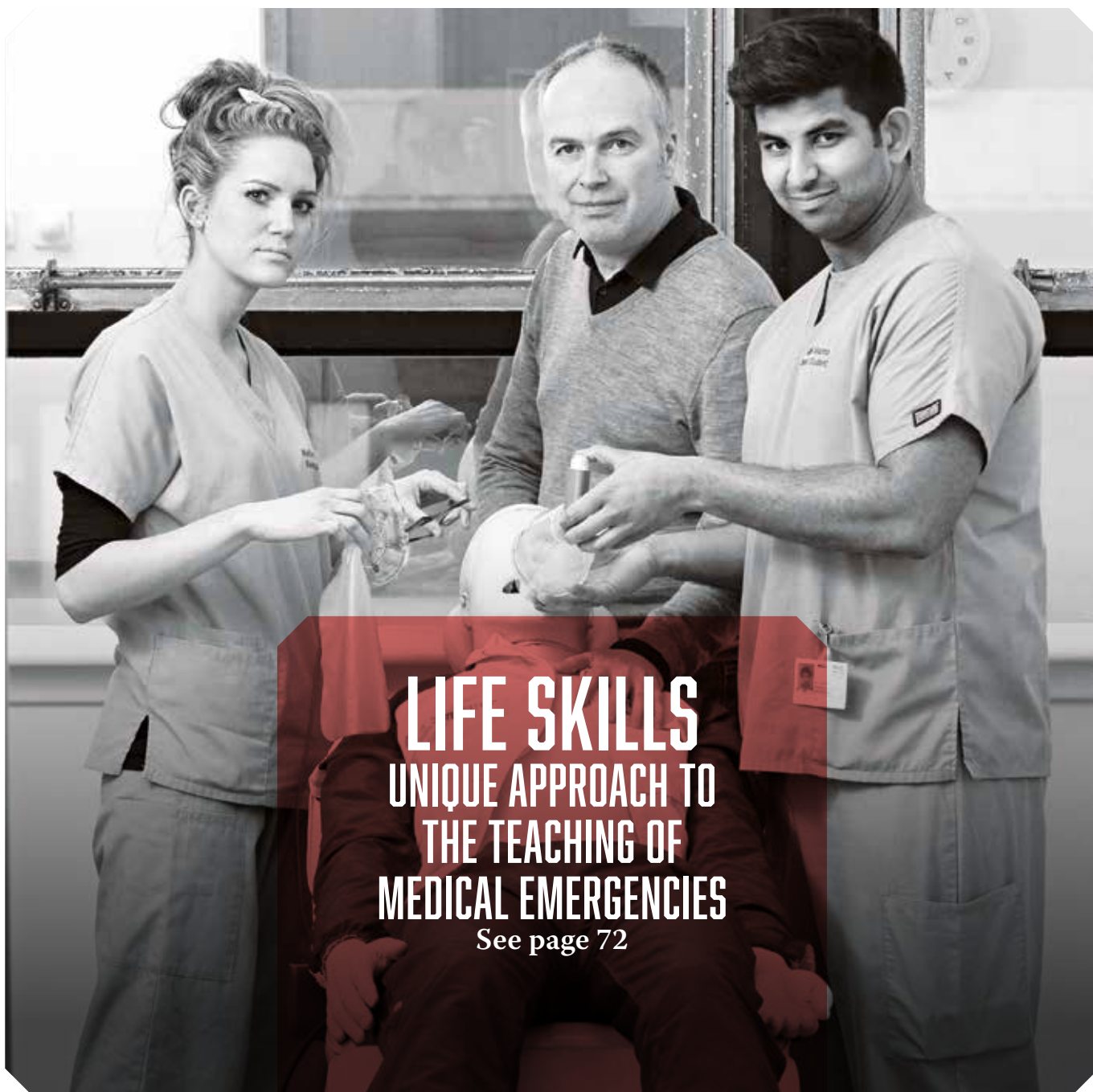
*Jodie Mathers says that DCPs have a vital role to play in the detection of abuse in vulnerable patients*

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SAVING LIVES

*Bruce Oxley hears how a DCP team at Glasgow Dental Hospital are teaching students the art of life saving*

## INTEGRATING DCPs INTO THE DENTAL CARE TEAM



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See page 72

# THE VULNERABLE AND YOU

## EXPLORING THE ROLE OF DCPs IN IDENTIFYING AND DEALING WITH VICTIMS OF ABUSE IN GENERAL DENTAL PRACTICE

✎ JODIE MATHERS



**A**s dental care professionals (DCPs), we should take appropriate action if worried about possible abuse of children or vulnerable adults **1**. However, we must not discriminate against patients or groups of patients **2**. We should look for signs of abuse in all patients and not just those who are easily perceived as vulnerable.

The term vulnerable adult encompasses people over 18 who are at a higher risk of abuse, who may receive community care due to disability, age or illness and are unable to protect themselves from harm. Elderly people who are isolated, have memory problems, don't get along with their carer or have a carer who lives with them and/or has drug/alcohol problems are one example. Other vulnerable groups include those with learning difficulties, physical disabilities or mental illness **2**.

The Protecting Vulnerable Groups (PVG) scheme was introduced in February 2011 in response to the 2002 Soham murders. This was established by the Protection of Vulnerable Groups in (Scotland) Act 2007. The PVG scheme is excellent, but we shouldn't solely rely on it to ensure patient safety. Harold Shipman was a trusted doctor who murdered at least 215 patients. He would probably have been allowed to join this scheme as no one suspected him of his crimes. This shows why we can't link trust with occupation **3**.

**HAROLD SHIPMAN WAS A TRUSTED DOCTOR WHO MURDERED AT LEAST 215 PATIENTS. HE WOULD PROBABLY HAVE BEEN ALLOWED TO JOIN THIS SCHEME AS NO ONE SUSPECTED HIM OF HIS CRIMES**

We will have an increasing role in the prevention of elderly abuse as the geriatric population increases. Neglect is the most common form of elder abuse **4**. It's important to raise a concern about suspected abuse or neglect of vulnerable adults **5**.

Care of people suffering from dementia should be co-ordinated by a multidisciplinary team **4**. As therapists, we should work effectively as part of this team, keep accurate patient records of intra/extra oral findings and obtain valid consent for treatment and release of confidential information **6**.

This may involve collaborating with the dentist and doctor in order to obtain a section 47 certificate of incapacity to ensure that the patient receives treatment

to meet their needs. The *Adult Support and Protection in Highland* guidance details inter-agency procedures for the implementation of the Adult Support and Protection (Scotland) Act 2007 **1,4**.

Two thirds of abused older people are harmed by family members acting as carers. Therefore, many victims are reluctant to report abuse due to a fear of escalation of abuse, embarrassment or worry that nobody will look after them if the abuser is removed **5**.

If we suspect a carer may be the perpetrator of abuse it would be best to talk to the patient individually. We have to be careful not to place ourselves at risk of blame and there should always be a chaperone present when treating patients **1**.

In situations where we are unsure of appropriate action to take, then we should contact our defence union for advice. We may be asked to be a professional witness in court for a victim of abuse and should seek dento-legal advice. As GDC registrants, we are responsible for ensuring that we have professional indemnity cover **6**.

We all recognise the importance of recording positive clinical findings of abuse in patient notes – it's also important to document negative findings **7**. More recently, dental professionals' roles have broadened from recognising and reporting child abuse to include domestic violence



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## OBTAINING VALID CONSENT IS DIFFICULT IF THE PATIENT IS UNDER THE CONTROL OF THEIR ABUSER

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relating to spouse/partner, the disabled and elderly <sup>8</sup>. Kenney's paper provides guidance (RADAR see below) on screening patients for domestic violence:

- Routinely screen
- Ask direct questions
- Document your findings
- Assess patient safety
- Review options and referrals. <sup>8</sup>

It also supports talking to the patient alone, promotes use of bathrooms for the display of helpline numbers and advises literature should not be placed on a victim as it could become a trigger for abuse.

A study of registered hygienists who attended CPD on the recognition and reporting of abuse found that the cohort was more aware of child abuse than elder abuse and CPD increased self-perceived knowledge and likelihood to report abuse.

It identified areas of knowledge deficits such as how to date bruising; reinforced the need for adequate training in dental and hygiene curricula, and for practising hygienists to seek CPD in recognition and reporting of abuse <sup>9</sup>.

Reporting abuse in patients who withhold consent for the release of their records is challenging for the clinician. We should encourage patients to release information and document efforts to obtain consent. If they put their own safety or that of others at risk, we may be justified in releasing confidential information <sup>1</sup>.

Control is emotional abuse <sup>10</sup> and valid consent must be voluntary – not due to pressure from family members <sup>11</sup>. Obtaining valid consent is difficult if the patient is under the control of their abuser. Victims may develop strong emotional ties with abusers, leading to confusion of pain and love interfering with good judgement about relationships allowing longing for attachment to override realistic fears <sup>12</sup>.

Understanding and empathy are required – we can report concerns from a safe place, unlike victims who may be unable to think logically due to fear or misplaced loyalty. We screen for signs of abuse, work as part of a multidisciplinary team treating oral trauma by taking radiographs, clinical photos, repairing broken teeth and providing holistic care by referring to specialists such as oral surgeons or psychologists.

Our role in reporting and prevention is paramount to protect against neglect, exploitation, discrimination, and physical, sexual and emotional abuse.

“Everyone has the right to life, liberty and security of person.” <sup>13</sup> ▶

#### ABOUT THE AUTHOR

Jodie started her career within dentistry as a dental nurse before going on to study the BSc Oral Health Science course at the University of the Highlands and Islands. She graduated as a dental hygienist/therapist in June 2014 and is now employed in both private and NHS practices based in Speyside and Grampian.

# GIVING CONFIDENCE TO SAVE LIVES

A DCP-LED TRAINING PROGRAMME HAS REVOLUTIONISED THE WAY MEDICAL EMERGENCIES ARE TAUGHT TO UNDERGRADUATE DENTAL STUDENTS, DCPS AND NHS STAFF

BY BRUCE OXLEY AND MIKE WILKINSON

Saving lives is not usually in the job description for your average dental professional, but for several past and present students at Glasgow Dental School, that is exactly what they have been doing.

Lezley Ann Walker, dental team tutor at the school, and her colleague Liz Webster who is dental nurse team leader in the restorative department, swell with pride when they recount the story of one current student who came to the aid of a fellow passenger on a busy commuter train at Glasgow Central Station, performing CPR and helping save his life. Liz also describes several other incidences in recent years including a third-year student helping someone at a train station in Manchester, a fourth year who assisted a police officer in attempting to resuscitate a member of the public on Great Western Road and, most recently, a dental nurse in Hamilton who found a man slumped over the wheel of his car and performed CPR.

And, for Lezley Ann and Liz, what sets these students apart are the improvements to the teaching of Basic Life Support (BLS) and medical emergencies at Glasgow which has played a major part in giving these youngsters the confidence to go out and attempt to save lives.

Ever since the publication of the Resuscitation Council's guidance on medical emergencies in dentistry in 2006, the subject has been a key part of every dental professional's annual CPD requirements. However, for Alex Crighton and his colleagues at Glasgow Dental School, they saw this as an opportunity to design a programme of medical emergency training that ran from first year right through to final year, becoming unique in Scotland and one of only a few similar programmes in the whole of the UK. Alex, a consultant in oral medicine and honorary senior lecturer in medicine in relation to dentistry,



**“ONE OF MY COLLEAGUES HAS NOTICED A BIG DIFFERENCE WITH STUDENTS FROM GLASGOW WHO HAVE DONE THIS TRAINING”**

explained that while, in the past, students had been taught CPR as part of their studies, they now graduate being competent managing a whole range of medical emergencies that could be expected to happen in dentistry.

Iain Robertson, who is a trained medical nurse and resuscitation officer with NHS Greater Glasgow and Clyde, came on board seven years ago when the new undergraduate teaching programme was introduced. And he believes that the change in the training has made a real difference. He said: “One of my colleagues works in the Golden Jubilee and does some work with VT dentists. He has said that he has noticed a big difference with students from Glasgow specifically who have done this training. He said that when they come in it is clear that they know what they are doing and, in his words: ‘You can see that they have been well drilled.’”

Students at Glasgow now receive BLS and medical emergencies training from



RIGHT: Lezley Ann and Liz with the mannequin at the brand new Life Support Training Facility

state-of-the-art facilities in the brand new Life Support Training Facility on level 7. The facility is part of the new Jim Rennie Suite which was opened in October last year.

The programme is mapped out from first year through to fifth and, apart from the lectures and theory from Alex, the vast majority of the teaching is carried out by DCPs Iain, Lezley Ann and Liz.

Alex said: "The training is run by the dental team for the dental team which is much better for the students as they really grasp the idea of team working and the importance of DCPs in that team.

"It is also vital that they learn this is a crucial part of their job. It is not just an additional thing that is quite nice to do. It is actually a core part of the skills to being a dental practitioner."

And the fact that the hands-on elements are led by two dental nurses and a medical nurse sends an important message. Iain explained: "It doesn't matter what your job title is, it is about what skills you have

**"IT DOESN'T MATTER WHAT YOUR JOB, ROLE OR TITLE IS, WHEN IT COMES TO THIS, IT IS A SKILL LIKE ANYTHING ELSE"**

and what you can bring to the table.

"When you think about Liz and Lezley Ann, they have become experts because they are teaching this on a regular basis."

Liz and Lezley Ann also teach hygienist/therapist students from Glasgow Caledonian University as well as dentist and DCP staff at Glasgow University itself. Alex said: "It is important that any member of the dental team can do any of the tasks. In the past it was seen as the dentists' job to do the emergency management and everybody would stand back and let them get on with it.

"But now everyone here recognises that it doesn't matter what your job, role or title is, when it comes to this, it is a skill like anything else and the person who knows what to do is the best person."

Alex continued: "Lezley Ann and Liz are both really good role models for their fellow DCPs, because we often hear people say 'I can't do that because I'm a dental nurse'. No, not at all.

"If it is something that you are good at and you have an aptitude for and a desire to do it then there is no reason why a DCP



can't take the lead. Certainly in a hospital setting, but even in a practice setting, there should be someone who is a lead for different areas, and medical emergencies can be one of those and there is no reason why that can't be a non dentist.

"It is important that it is someone who is interested and good at it rather than someone who has a fancy title."

And Alex believes that it is good for the dental students to see dental nurses playing such an important role in teaching the subject. He said: "Hopefully they come through as practitioners and they don't have the attitudes that were prevalent maybe 20 years ago when it wasn't seen as appropriate for the other members to do."

Both Lezley Ann and Liz have worked

in the Dental Hospital for more than 20 years each and in that time they have worked with and taught hundreds of undergraduate dentists and DCPs. Liz said: "There used to be a wee bit of a stigma that clinicians were the only ones doing medical emergencies and we as DCPs couldn't do it. But that has now changed."

Lezley Ann agreed: "When you go back maybe 10 years or so, the older style clinicians probably saw us as the person who sat in the corner with the suction. We were there to fetch and assist.

"But, with the registration, it has made people look at us in a different way. We are valued members of the dental team and,

CONTINUED OVERLEAF >



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TOP: Iain putting a couple of staff members through their paces  
RIGHT: Alex with one of the demonstration mannequins

FROM PREVIOUS PAGE>

without the dental nurse the dentist can't fulfil their role. They can't give the patient everything they need."

Liz explained: "The whole team should be able to do this and that is what we are trying to encourage. I think what makes it easier for DCPs is that they are seeing Lezley Ann and myself doing this and it puts them at ease. So then they feel comfortable – they say 'if Lezley Ann and Liz are doing this then why can't I? So it gives them more confidence to try and attempt it."

"If a patient collapses, you don't just want one person in the practice being able to help them. It might not be the dentist that is there, it might happen in the waiting room or in the corridor."

"A lot of patients also go into the canteen here so it might happen in there."

One of the key aspects for Lezley Ann has been the development of the new Life Support Training Facility, which has given them a dedicated room complete with a dental chair and life-sized mannequin as well as a control room, seminar space and storage for all the equipment. While previously Lezley Ann had to move from room to room to teach, she said: "The new facility has given us a huge opportunity because I used to have to carry all this equipment all over the building. I would be asking 'Where am I today?' and I would be up and down carrying mannequins to various rooms. So the new facility is fantastic."

And, Lezley was at pains to point out that, without their colleagues, they



wouldn't be able to provide the high-quality teaching that has set Glasgow apart over the last seven years. She said: "We probably wouldn't have had as many opportunities if it hadn't been for Alex and Ian, they keep pushing us and making us believe in ourselves and saying 'You can actually do this'."

"Without their encouragement, we just wouldn't be here." ▽

# "WE CAN GIVE STUDENTS A VARIETY OF SCENARIOS OF PATIENTS BECOMING UNWELL AND THEY HAVE TO MANAGE THEM"

## NEW FACILITY

The new Life Support Training Facility forms part of the £225,000 Jim Rennie Suite that was opened in October last year – the other half being made up of the Clinical Research Facility (see SDM March page 41).

The facility consists of a seminar and training room where the equipment is stored. Off this are two rooms, one featuring a robotic mannequin on a dental chair where medical emergency scenarios can be simulated, connected through a one-way mirror to the control room where the mannequin is controlled and students can be monitored.

Alex Crighton and Iain Robertson were involved in the design and are delighted with how it has turned out. Iain said: "I'm thoroughly delighted with the new facility. With the mannequin in this room here we can give the students a whole variety of scenarios of patients becoming unwell and they have to manage them."

Alex said: "It was very helpful being involved with the creation of this facility because before we had just a single dental surgery and a room which was for equipment and debriefing. But we didn't really have the space to actually store all the equipment like we do here."

"The new facility also has a space where we can actually carry out skill training, which needs to be integrated when you are managing an actual emergency."

## BIOGRAPHIES



### LEZLEY ANN WALKER

Dental team tutor at Glasgow Dental Hospital and School. Is responsible for teaching Basic Life Support (BLS) to undergraduate students, university and NHS staff, DCPs and general dental practitioners.



### LIZ WEBSTER

Dental nurse team leader in the restorative department at Glasgow Dental Hospital and School. As well as the daily running of the restorative clinic, Liz teaches BLS and Immediate Life Support (ILS) to students and staff.



### ALEX CRIGHTON

Consultant in oral medicine and honorary senior lecturer in medicine in relation to dentistry. Alex developed the medical emergency teaching for undergraduates and, along with Iain, helped design the new Life Support Training Facility.



### IAIN ROBERTSON

Resuscitation officer at NHS Greater Glasgow and Clyde. Works at the dental hospital teaching medical emergencies to undergraduate students as well as roles at the Western Infirmary and Gartnavel Royal Hospital.

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# Management

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CUSTOMER SERVICE

*Don't underestimate the power of good customer service. When it's good, it wins you long-term patients*

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ADDED VALUE

*Doing the basics right is imperative but add value with more services and watch your business grow*

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PRACTICAL INFORMATION FOR PRACTICE MANAGEMENT PROFESSIONALS



**SATISFACTION  
IS YOUR CUSTOMER  
SERVICE UP TO SCRATCH?**

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# KEEPING THE CUSTOMER SATISFIED

## GOOD CUSTOMER SERVICE CAN MAKE OR BREAK YOUR BUSINESS – BUT HOW DO YOU GO ABOUT IT?

**T**he term ‘customer service’ is often bandied about, misused, abused and misunderstood. But let’s pause for a second and ask: what does customer service actually mean to you and your patients? What does it look like? What does it feel like? How does it leave you feeling?

Good customer service is often invisible; when it is bad it is all too often very obvious and we only need to interact with other businesses as a customer to experience poor levels of customer service. Let’s be clear however, on the one hand, good customer service (from a client’s point of view) is not about satisfying unreasonable demands, and from a business point of view, it is not about doffing your cap to every patient that walks in the door and allowing them to dictate how things are done. This is both dangerous and not in a patient’s best interests. It is, however, about a few characteristics that are easy to adopt and build into your business:

**1) PROFESSIONALISM.** This comes across in the way your team is trained to interact with patients, how they answer the telephone, greet patients, check people in, ask them for money and write to them via email. It pays to examine every area in your practice where you interact with patients (and this includes the treatment room) and script how you want that interaction to go, always keeping an eye on what you want the overall patient experience to feel like. Put simply, it is about being friendly, building rapport, treating others in a way that you would like to be treated, adding value, going the extra mile and letting patients know that you are trying to help them.

**2) PATIENCE.** This characteristic cannot be stressed enough. Having limitless patience will pay dividends, especially when patients are often anxious, scared and consequently, often defensive. Dentistry is hard to sell, so spare a thought for someone handing over cash to have a tooth out.

**3) COMMUNICATION SKILLS.** The ability to talk effectively and efficiently



with patients, build rapport, find out how you can help and provide solutions will all help to not only acknowledge the patient’s problem, concern or query but will allow you to propose solutions that are more likely to be accepted (this works well when dealing with ‘emergencies’ that are anything but, but are nevertheless important to the patient). It would be well worth developing your communication skills to address any deficiencies in this area.

**4) EMPATHY.** The ability to walk around in someone else’s shoes in order to consider their point of view is a valuable skill. This will allow you to present solutions that demonstrate that you have understood a patient’s needs. In the bigger picture, good customer service will reduce the number of complaints that come your way, and if a complaint does come into the practice, your customer service skills can be put to good use to handle the complaint. So how might this all work in practice? Outlined below is a well-trying recipe for handling or processing a patient request or enquiry:

**1) ACKNOWLEDGE** your patient’s concern, query, question or request. A simple, ‘how can I help today?’ can go a long way to raising your standards.

**2) REFLECT** back to them what they are saying. This is a simple technique

for letting someone know that you have understood them. This works wonderfully when handling a difficult situation or when a patient has given you their life history into which is slotted the real reason for their telephone call.

**3) SOLUTION** refers to what you are going to do to help them or how you are going to respond to their query: Mr Patient: “I have been waiting ages for that referral to the orthodontist and I am really not happy, I saw you about three weeks ago and I still haven’t had a letter.” Reception: “I am really sorry that your referral does not seem to have reached you.

“What I can do for you today is speak to the dentist, ask them to resend the referral and I will advise the orthodontist that the referral is on its way.

“Once this is done I can give you a call to follow up. Would that be OK with you? What is the best number to call you on? Once again I can only apologise for this oversight.”

**4) EVALUATE** the impact and success of all your approaches and techniques for dealing with enquiries and improve on them if they do not work. Once you have become aware of your standards of customer service you will begin to notice it in others, specifically when it is bad.



# SNOOZE AND YOU LOSE

IT'S A COMPETITIVE WORLD OUT THERE, EVEN IN DENTISTRY. AND, SAYS MARK FOWLER, IF YOU DON'T ADD VALUE TO THE SERVICES YOU PROVIDE YOUR PATIENTS, SOMEONE ELSE WILL

MARK FOWLER

Let me begin with a personal story of good and bad service and added value that occurred in the same week. There are lessons for us all in both these experiences.

The first was on a trip to London. In the hotel bar, we requested a smaller meal for our daughter, only to be told this was not possible. How then had this been available the previous night? We asked to speak with a manager, who sent his bar staff scuttling back and forward before we insisted on taking the matter further. We were told we could only speak to a duty manager the following day.

When we presented to follow up our discussion, we were kept waiting for 35 minutes. Only when we pressed the matter did we speak to someone, who asked us how much compensation we wanted. We politely declined and pointed out that we had only wanted a smaller meal and the price to be reflective of this (we were charged full price on both occasions) and that we did not want the situation to be repeated for others. It was the ability of the hotel to accommodate a simple request that would have added value to our stay rather than making us feel like an inconvenience.

The second experience occurred in a large supermarket. Searching for some

cardigans, I was unable to find the sizes I needed. An assistant scuttled off to see if any additional sizes could be found. They could not. However, rather than leave it there, she rang another store to see if they had some and I was encouraged to finish my shopping so as not to waste my time and to return to see the outcome. I duly did, to find not only had two more cardigans been located in the size I wanted, but they had also been put aside for me.

When I visited the new store the following day, the assistant accompanied me to the sale rail, where a further two cardigans were located. My problem or need had been solved: I didn't just need cardigans, I needed a particular image to be fulfilled. Total cost of the purchase: £16.

So, the question is, what do you do for your patients when they spend £16 with you (potentially half the cost of what a six-monthly exam, clean and continuing care cost works out to in an NHS practice, much less for a private practice)?

#### HOW DO YOU ADD VALUE TO YOUR SERVICES TO DIFFERENTIATE THEM FROM THE 'AVERAGE'?

- Do you send your patients an SMS to remind them of their appointments?
- Do you follow up with patients who have

- not attended their six-monthly check?
- Do you call your patients the day after an extraction or on completion of a treatment to see how they are getting on?
- Do you give away a few 'free' items to new patients that join the practice?
- Do you follow through on your promises and keep patients informed when they make enquiries?
- Do you acknowledge patients who have completed a course of treatment?
- Do you create a 'wow moment' at the end of a large treatment plan (flowers or a voucher)?
- Do you answer your email regularly?
- Do you answer your phone at lunchtime?
- Can you take payments over the phone?
- Do you use online booking?
- Do you use online payments (PayPal)?
- Can clients charge their mobile devices while having their teeth cleaned?

#### CONCLUSION

The consumer benchmark is constantly being raised as services seek to gain an edge to improve customer retention. If a hairdresser or garage can text clients, so can you. Do you remember when the first bathrooms appeared in supermarkets?

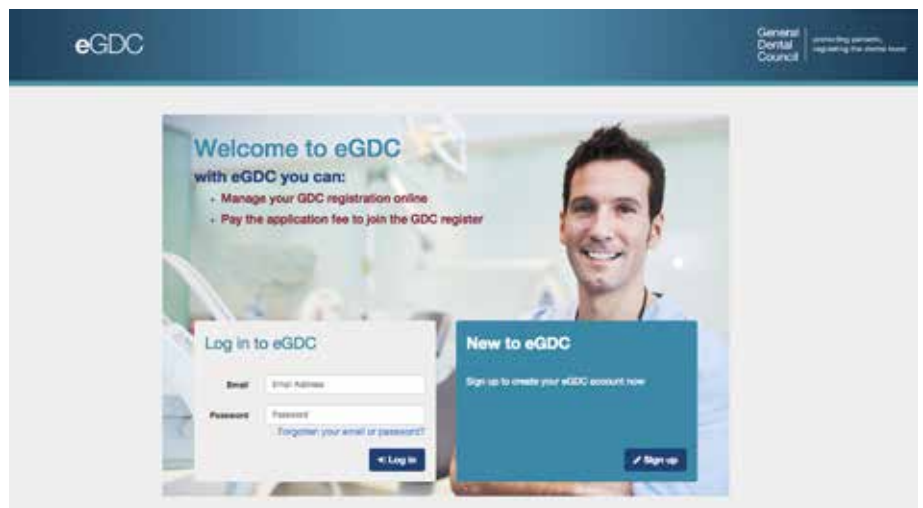
What a wow moment that was. Now we expect a café, pharmacy and much more, all to accompany buying a box of cereal. Have a look round at things that impress you. Could they be integrated into your practice? The take home message? Be brave and try. If you don't, someone else will.

**"IT WAS THE ABILITY OF THE HOTEL TO ACCOMMODATE A SIMPLE REQUEST THAT WOULD HAVE ADDED VALUE TO OUR STAY"**

# GDC GUIDANCE

IAN JACKSON, DIRECTOR FOR SCOTLAND AT THE GENERAL DENTAL COUNCIL, EXPLAINS HOW TO KEEP TRACK OF YOUR REGISTRATION WITH THE REGULATOR

✉ IAN JACKSON



**K**eeping track of all the things we need to do can be time-consuming when we have so many other things competing for our time and attention.

With an eGDC account, dental professionals can quickly and easily keep track of their registration.

eGDC has evolved over the years from its first launch. At the start, you could only use it to change basic details and log CPD hours. These days, eGDC has been redesigned to bring an improved user experience and has been adapted for mobile technology, making it easier for dental professionals to update their details through smart phones or tablets.

The dedicated, secure site allows registrants to amend their registered address, contact details, update CPD hours, pay the Annual Retention Fee and set up a direct debit, and recently we have introduced the first phase of some new features.

eGDC now enables you to print replacement Annual Practising Certificates or temporary registration directions, saving time if you change your registered address or

**“EGDC NOW ENABLES YOU TO PRINT REPLACEMENT ANNUAL PRACTISING CERTIFICATES OR TEMPORARY REGISTRATION DIRECTIONS”**

require multiple copies for other locations. Along with this, we have introduced a new Equality and Diversity section, which you can use securely and confidentially to update your details, helping us build a more accurate equality and diversity profile of our registrants, applicants and candidates.

The GDC will continue to make improvements to the site and bring more features online. One of these – in the near future – will be the requirement for dental professionals to submit an annual indemnity declaration. All registrants will be asked to make their declarations through eGDC. More information on indemnity is available on our website.

The end of the CPD cycle for more than 3,000 dental care professionals is fast approaching on 31 July 2015, and with an

eGDC account, any dental professional can easily log their CPD hours at any time throughout the year, and submit end of cycle CPD declarations directly through their eGDC account.

Dental professionals can access eGDC at [www.egdc-uk.org](http://www.egdc-uk.org). For those who haven't used their account for a while and have forgotten their log in details, they can reset their account by visiting [www.egdc-uk.org](http://www.egdc-uk.org) and clicking on the 'Forgotten your email or password?' link and providing the necessary security information.

An ID verification code is required when setting up or resetting an eGDC account, this can be found in past emails and letters we issue, normally underneath your registration number at the top of letter. Dental professionals should have this ready when setting up an eGDC account.



# VOTE WINNERS?

## TAX EXPERT TRICIA HALLIDAY LOOKS AT THE POTENTIAL TAX CHANGES TO COME IN THE NEW PARLIAMENT

✎ TRICIA HALLIDAY

Unless you have been out of the country for the past month or so, you would've been hard pressed not to notice some of the soundbites and pledges that have been made by the various political parties as they attempt to woo and convince voters that they are worthy of their vote.

Leaving the specific Scottish, English and Welsh national issues, EU membership and Trident renewal, which have come to dominate the headlines to one side for the moment, of more interest to me have been the announcements that have been made around what changes a future government could make to the tax system and the follow-on impacts on disposable income.

### PENSIONS FREEDOM DAY - A POTENTIAL STING IN THE TAIL

The revolution began on 6 April 2015 for those of working age and there is now more flexibility in drawing funds from a money purchase pension pot. For instance, an individual aged 55 or over will be able to withdraw as much or as little as they want from their money purchase pension pot. There will no longer be a need to purchase an annuity. A dental practitioner could withdraw his or her entire money purchase pension pot. However, income tax will be payable at the marginal rate on 75 per cent of the pot, although the first 25 per cent can be taken tax free.

However, the major political parties and media commentators are suggesting that the current pensions' revolution may well be devalued as future governments seek to raise further cash by raiding pension funds created over many years by hard-working dental practitioners and their employees.

At the moment up to 45 per cent tax relief is available on money purchase contributions per year, up to £40,000. If elected, the Conservatives may cut this relief for those earning between £150,000 and £210,000. It is possible that the annual contribution limit

which attracts tax relief may fall to £10,000 at the top end of the scale. Labour has said they are likely to do something similar.

At first glance, only the very wealthy would seem affected, but many dental practitioners pay less than they should into their pension pots in their 30s and 40s. It is not until their 50s and 60s (when the cost of mortgages and funding children through life and education are behind them) that they begin to increase their contributions. The reduced limit is likely to capture many mid-range dental practitioners rather than just the higher earners.

Dentists must first look very closely at their SPPA benefits and accrual, before considering any contributions to a money purchase arrangement, as Annual Allowance and Lifetime Allowance issues must be addressed.

### LIFETIME ALLOWANCE CONTINUES TO FALL. YOU SHOULD BE AWARE OF THE POTENTIAL IMPLICATIONS

We have witnessed a reduction in the lifetime savings allowance from £1.5m to £1m since it was first introduced. This may still seem high, however when you work it through, at the age of 65 a £1 million pension pot will buy a lifetime income starting at just £27,200 which is based on a competitive annuity of around 3 per cent.

Furthermore, it has also been mooted during the election campaign that the Lifetime Allowance could also be applied to ISAs which are popular savings accounts for higher rate taxpayers. This may be coupled with a reduced ISA allowance for investors on higher incomes. Claw back of allowances from higher earners have also continued to fall under the spotlight – the personal allowance which begins to fall away when earnings reach £100,000 could well be withdrawn at a lower level.

### PROPERTY INVESTMENTS AND REFORM

A new Help to Buy ISA will be launched

from Autumn 2015 which is good news for those who are helping their sons/daughters with help to get on the property ladder. Further good news was also announced by the Conservatives during the election campaign as they intend to cut inheritance tax which will enable parents and grandparents to leave homes worth up to £1m tax-free to the next generation.

However, as he giveth with one hand, he may taketh away with the other. In our experience, many practitioners have been thinking about investing in buy-to-let as there are good returns to be made by investing in the right properties. If you are also considering a buy-to-let investment property, you should keep a watchful eye on the future government's proposals as additional taxes are being considered, such as removing the ability to offset mortgage interest against rental income. Not to mention the higher taxes on pension savings for individuals earning more than £150,000 that David Cameron has mentioned will come into play in 2017.

### TAX SAVING IDEAS FOR THE CANNY INVESTOR

For more guidance and useful tips and suggestions, download Martin Aitken's Tax Planning for Life 2015-16 guide for individuals, married couples, business owners and those who have recently retired, from [www.maco.co.uk](http://www.maco.co.uk)



**ABOUT THIS ARTICLE**  
Further information can be found on our website, [www.maco.co.uk](http://www.maco.co.uk), or by calling Tricia direct at Martin Aitken & Co Ltd on 0141 272 0000.

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For more information, contact Mark Beckwith on 07900 246 529 or visit [www.myNSKdecontamination.co.uk](http://www.myNSKdecontamination.co.uk) NSK's video guide gives step-by-step instructions to ensure the appropriate maintenance of your handpieces. To find out more about and earn one hour of CPD visit [www.nskcare.co.uk](http://www.nskcare.co.uk)

# FAMILY AFFAIR

TWO SISTERS HAVE LIVED OUT THEIR LIFELONG DREAMS BY OPENING THEIR OWN DENTAL PRACTICE IN THE SOUTHSIDE OF GLASGOW

LAURA COVENTRY

**T**wo sisters have transformed a former newsagent selling sweet treats into a modern and vibrant dental practice dedicated to improving patients' smiles.

Sobiah Sattar and Ayesha Ghaffar were raised and schooled within half-a-mile of their new business venture, S&A Smile Clinic, which is located in Pollokshields, in Glasgow's southside, in the same unit that once housed the local post office.

Growing up in the area, the Ghaffar sisters dreamed of running their own dental practice locally, and in May 2014 it became a reality, when their first patients – Mum and Dad – arrived for their appointments.

Less than a year later, the practice is shortlisted for three accolades at the

Scottish Dental Awards – including Best Dental Team and the Style Award, while S&A's Louise Fletcher is up for the Best Practice Manager Award.

In just 12 months, Ayesha and Sobiah have expanded their client base from under 100 patients to more than 800. But this, according to the sisters, would not have been possible without the hard-working efforts of the practice manager.

Former head dental nurse Louise is well known in the dental industry, and in 2011 became the first Scottish dental nurse to qualify with a certificate in dental implant nursing from London's Kings College in London.

With 18 years' experience, Louise was a great find for Ayesha and Sobiah, after

the dental nurse's CV was passed on by a friend. Louise, who came from a bigger practice to re-locate in Pollokshields, admits "it's been a challenge, but a good challenge." And she already feels like part of the family.

Creating a unique and stylish practice which represents the girls' attitude towards dentistry – modern, highly professional and committed to patient care – was always in the sisters' sights.

Sobiah, who attended Craigholme School with her sister, said: "When we graduated in 2006, we always wanted our own practice and we knew we'd open one. But we went our separate ways and both worked as associates.

"At interviews, I would always be asked 'what is your future aim?' and I'd answer 'to set up a practice with my sister'. We are both very different, but it works."

Ayesha, who worked as an associate for seven years, added: "I went on to do my Masters for three years and then implant training, but I wanted a different type of challenge. Then in 2012, I handed in my notice and took six months off to look at practices."

Sobiah continued: "We looked at buying an existing practice, but that practice was their vision, not ours."

A vacant unit came up at the right time in their local area, and S&A Smile Clinic opened in May 2014.

CONTINUED OVERLEAF>



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When Ayesha and Sobiah were drawing up plans for the site of the former Barrett newsagent in Kildrostan Street, they worked with local architect David Jarvie and Everest Builders to utilise the space in the best way possible.

Today, S&A Smile Clinic is unrecognisable. The one-room newsagency has been transformed into a bright and vibrant dental practice with a contemporary red/black/white colour scheme. Staff members wear specially designed red tunics. Several rooms have been created at this compact site, including a reception area, two dental surgeries with NSK equipment, an LDU kitted out by Eschmann, storeroom and office. The businesswomen even managed to persuade Victoria Barbers next door to sell them some space, which made way for a kitchen and toilet.

Sobiah said: "We have literally used every corner of it. Some days we are so busy in the reception area, we have to get extra chairs out for patients."

However, the refit did not always run smoothly as a number of hurdles plagued the businesswomen's plans, until recently. One major stumbling block, which has just been resolved, was the shopfront signage.

Glasgow City Council planning chiefs rejected Ayesha and Sobiah's aluminium frontage, favouring timber because the



practice is located in a conservation area.

However, after intervention from a local councillor, the decision was overturned and new signage went up in April, prompting the official opening celebrations.

In keeping with S&A's bold red and black colour scheme, Scotland's First Minister and local MSP Nicola Sturgeon cut the ribbon wearing a red jacket on 17 April this year.

Despite succeeding in launching their own practice in their early thirties, experiencing early success, growing their client base eight-fold, partnering up with the local doctor's surgery, joining up with Avinent to offer the latest implant systems, and each completing Fast Braces courses,

the Ghaffar sisters are not resting on their laurels. Ayesha insists: "We can't get too excited, because we have not achieved anything yet. We want to grow – that is part of our bigger plan."

Sobiah, who is married with two young children, concluded: "We're females in a male-dominated industry. We are young, hip and modern, and we are learning. We are not in competition with anyone else; we are in competition with ourselves."

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BY IAN PEARCE

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✉ IAN MAIN

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I'm really excited about the Scottish Dental Show this year and to be presenting at it. I will be speaking on 29 May at 1.30pm in lecture room three. I do hope you will come along to hear 'Explode with growth – how to grow your dental business in the right way at the right time'.

I will be sharing our experience of working with high-performing dental

practices and how to learn more about the 'simple stuff that works'. I will share insight into benchmarking data on the performance of Scottish dental practices and delivering hints and tips on how you can achieve your own personal and practice goals.

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● I will be sharing our experience of working with high-performing dental practices ●

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✉ JILL WALKER

A busy work schedule can often mean tax planning comes last on the long list of tasks involved in running your own practice. However, there are simple things to consider that can reduce your tax liabilities:

- By accelerating or deferring expenditure you can manage your tax liability across two tax years. This could enable you to keep your income either below £100,000 so that you are entitled to the full tax free personal allowance or £150,000 where the 45 per cent tax rate applies.
- The current annual investment allowance, which enables you to get immediate tax relief for qualifying equipment purchases, is £500,000,

however this will reduce to £25,000 from 1 January 2016. If you are considering significant capital expenditure, such as fitting out a surgery, if possible the costs should be incurred whilst the higher allowance is available.

- Where personal income producing assets are concerned, such as shares, bank accounts, or other investments, transferring these to a lower earning spouse can ensure that personal allowances and basic rate bands are fully utilised. A new personal savings allowance will also be introduced from April 2016 which will allow basic rate payers to receive up to £1,000 of bank interest tax free.
- Higher rate tax relief continues to

be available on gift aid donations and personal pension contributions. They also reduce your income for the purposes of calculating your entitlement to a personal allowance, so the benefit can be two-fold.

Of course there are more complex tax planning ideas and self employed individuals, for example, can achieve significant tax savings by incorporating their business due to the difference between personal and corporate tax rates.

Incorporation can, however, affect entitlement to certain NHS benefits so needs careful consideration, but there is the potential for considerable tax savings on an annual basis.



**MORE INFO**  
For details of how our Private Client Team can help you, please call Jill Walker or Stuart Petrie on 01224 625 111

<sup>2</sup>  
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# English buyers looking north of the border

CHRISTIE + CO'S SPECIALIST ADVISER IN THE DENTAL SECTOR LOOKS AT THE GROWING TREND OF ENGLISH BUYERS SEEKING SCOTTISH PRACTICES, AS INVESTORS CONTINUE TO SEARCH FOR BETTER VALUE

✎ KARL CLEZY AND PAUL GRAHAM

Based in Edinburgh, Paul Graham of the specialist medical team at Christie + Co, said: "The allure of all types of dental practices in Scotland continues to attract buyers from throughout the UK, particularly as a stable NHS system in Scotland means dental income in this field remains consistent in most practices.

"We find that the majority of buyers recognise this and look to capitalise on the fact that with added investment, income can be increased further. Improvements in the economy also allow the growth of private dentistry to be considered."

As a result of this enhanced interest, Christie + Co have seen an increase in

the number of transactions completed in recent months, ranging from smaller two-chair practices up to larger six-chair practices.

Paul added: "For practice owners considering an exit strategy, it is encouraging to know that demand will always outstrip supply and, when marketed properly, not only does this create a safety net by having multiple interest, it also ensures the best possible price for your practice is being achieved."

After recently exhibiting at the Dentistry Show at the NEC in Birmingham, it was recognised among many acquisitive buyers visiting our stand, that the average value versus

turnover for practices in Scotland is still considerably behind that of the English market. The current momentum and appetite from buyers, bolstered by supportive lending institutions looks certain to continue throughout 2015.

With years of experience valuing businesses across many market sectors and experts located across the UK, Christie + Co understands the significance of local knowledge in ensuring the optimum values are met.

#### ABOUT CHRISTIE + CO

To discuss how Christie + Co might help you achieve your future plans, please contact Paul Graham on 0131 524 3416.

● For practice owners considering an exit strategy, it is encouraging to know that demand will always outstrip supply ●

## DENTAL FORESIGHT

Thinking of selling?

With increased demand from buyers south of the border, now is a good time to think ahead. You've worked hard to build your practice so don't leave it to chance, speak to one of our dental specialists.

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Together with tips and advice on working in practice and a database of hundreds of research articles at your fingertips, Dentalcare.com is the one-stop shop for dental professionals.

## TIME FOR CHANGE

National Smile Month is the ideal time to try and get patients to refine their brushing technique so that their efforts can be rewarded with better oral hygiene. An extensive campaign, spearheaded by the British Dental Health Foundation, will see the profession, schools and workplaces, as well as retail outlets combine to help raise awareness.

Alarming, 25 per cent of adults don't brush twice a day (including a third of men). Maybe you might want to share some fun stats with your patients. For example, it takes 43 muscles to frown, but only 17 to smile.

Patients might be surprised to realise that when seeking a partner, a smile is top of the most sought after physical attributes, beating body, dress sense and eyes. If they need any more reason to look after their teeth then you might like to remind them



of the link between oral and system health.

Oral-B has Pro-Expert toothpaste and Fixodent denture adhesive patient samples available to order via its website ([www.dentalcare.com](http://www.dentalcare.com)).

Giving patients the tools they need to do the job might encourage them to adhere to your advice. National Smile Month can be used as a catalyst for change in terms of your patients' oral hygiene.

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For a decade, the universal composite Tetric EvoCeram has proven its worth in clinical use. Continuous development has yielded yet another innovation: Tetric EvoFlow Bulk Fill.

The new flowable composite ideally complements the sculptable Tetric EvoCeram Bulk Fill. Tetric EvoFlow Bulk Fill is applied as a bulk-fill base in Class I and Class II restorations. Just like Tetric EvoCeram Bulk Fill, it can be cured in large increments of up to 4mm, while requiring only short light exposure times. Excellent affinity to cavity walls and self-leveling consistency are additional



benefits of this volume replacement material. Technology used in Tetric EvoCeram Bulk Fill such as the light initiator Ivocerin, the patented shrinkage stress reliever and the patented light sensitivity filter has also been incorporated in Tetric EvoFlow Bulk Fill.

For more information, please email [info@ivoclarvivadent.com](mailto:info@ivoclarvivadent.com) or visit [www.ivoclarvivadent.com](http://www.ivoclarvivadent.com)

## SUPERIOR PROTECTION

The new fluoride varnish system Fluor Protector S from Ivoclar Vivadent offers professional protection of teeth against hypersensitivity, caries and erosion.

The varnish technology of Fluor Protector S is based on decades of experience in the development and manufacturing of dental varnishes by Ivoclar Vivadent and was developed in co-operation with dentists and their teams. The varnish system contains fluoride in a homogeneous solution, which ensures immediate availability of fluoride.

Also, a high-yield depot is formed from which calcium in addition to fluoride is released over



an extended period of time. Fluor Protector S has a mild taste and smell and is therefore suitable for children and sensitive patients.

The multi-dose tube allows Fluor Protector S to be dispensed quickly, hygienically and economically. Alternatively, it is supplied in pre-dispensed single-dose units.

For your FREE sample, visit [www.ivoclarvivadent.co.uk/en-uk/forms/fluor-protector-s](http://www.ivoclarvivadent.co.uk/en-uk/forms/fluor-protector-s)

## CELEBRATE OROTOl'S 50TH BIRTHDAY

Dürr Dental will be giving away three 20-gram gold ingots in 2015 to mark the 50th anniversary of their suction cleaner, Orotol. The first formulation of Germany's leading disinfectant for suction systems wasn't created in a highly technical laboratory – it was created in a bathroom.

In 1965, Ludwig Pflug developed the first Orotol formula along with Walter Dürr. Fifty years later, his son now heads the Hygiene division at the disinfectant's manufacturing company Dürr Dental, and Orotol has



taken its place as the flagship among its hygiene range.

With Orotol the bactericidal, fungicidal, and partially virucidal agent even works against non-enveloped viruses such as adenovirus and noroviruses. In addition to tuberculosis agents, it also eliminates hepatitis C.

With regard to brand recognition in the sector, it's Orotol that dentists think of first when it comes to disinfecting their suction systems.

For a chance of winning a gold ingots, register at [www.orotol.de](http://www.orotol.de)

## LOOK, NO HANDS!

Dürr Dental's new 'Touchless' contact-free soap and disinfectant dispenser combines good looks with impressive functionality.

The failsafe automatic sensor reacts as soon as your skin comes within its detection range, dosing exactly the right dosage of liquid. It can be used for disinfectant, liquid soap or hand lotion. Its aluminium, anodized casing hinders the growth of bacteria by virtue of its bacteriostatic effect.

Not only is it easy to use, it's also easy to clean. Thanks to a 'push and click' system and a pivoting discharge plate, the stainless steel pump can be removed from



the front and placed back in later on without the dispenser needing to be removed from the wall. Five replaceable single cell batteries, which last up to two years, ensure a long and reliable service life. An audible signal indicates the need for a battery change.

This new dispenser is part of the reliable range of hygiene products from Dürr Dental. For more information, visit [www.duerrdental.com](http://www.duerrdental.com)

## NETWORKING – NOT JUST FOR COMPUTERS

Networks for X-ray systems and practice management software are commonplace. Networking can also be achieved with your compressor and suction system. By linking them to the network, practices can see the performance of each piece of equipment at a glance.

Linking the compressor to the network yields benefits: current status, faults or messages, such as for filter changes, are immediately displayed. Of similar importance to compressed air are suction units. A breakdown would bring a surgery to a standstill. Advanced suction systems, such as Tyscor from Dürr Dental, are networking-enabled,



making them very efficient, using as little as half the electricity as their predecessors.

All information is also ready to be forwarded to a service technician, who can then log onto the network and look into any errors.

For more information, contact Dürr Dental on 01536 647 566 or email [info@duerruk.com](mailto:info@duerruk.com)

## A-DEC AT THE SCOTTISH DENTAL SHOW

A-dec looks forward to welcoming you to stand C6-C10 at this year's Scottish Dental Show. On the stand this year we are proud to be showcasing the stylish, top-of-the-range A-dec 500 dental chair in luxurious Ebony coloured sewn upholstery along with the red dot award winning A-dec LED light.

Come and join us at the show to see if there is an A-dec dental chair for you. After all, you could spend over 26,565 hours with your chair throughout your career so it needs to be right for you and your dental team.

Our A-dec territory manager Charlie Cope will be on stand for



the duration of the show. Visit him on stand C6-C10 for ideas, suggestions and advice on your new surgery design and equipment, or call us on 0800 233 285 for more information. Alternatively, email [info@a-dec.co.uk](mailto:info@a-dec.co.uk) or visit [www.a-dec.co.uk](http://www.a-dec.co.uk)

## EQUIA FORTE – FROM SEVEN TO 77

GC's new Equia Forte is the bulk fill glass hybrid restorative suitable for all ages from seven years onwards.



Equia Forte is the latest in GC's glass ionomer and resin technologies, two systems working in synergy to build a stronger, superior bulk fill material for Class I and II restorations.

Equia Forte Fil is the fast-setting, aesthetic restorative with an hybrid glass technology offering greater fracture toughness, wear resistance and fluoride release. No need for conditioning or bonding, with its built-in universal adhesive technology and outstanding wettability, Equia Forte is extremely tolerant and bonds equally well to all surfaces independent of the age of the teeth. Also, Equia Forte Coat is a thin film-thickness lustre coating which enables clinicians to save on polishing time and improve the translucency and aesthetics quickly and easily.

*For further information, contact GC UK Ltd on 01908 218 999, e-mail [info@gcukltd.co.uk](mailto:info@gcukltd.co.uk) or visit [www.gceurope.com](http://www.gceurope.com)*

## THE ONLY WAY TO WORK

Belmont has challenged the traditional way dentists treat their patients by introducing a 'below-the-patient' engineering concept.



This means that the operator console is mounted below the patient so that it can simply be positioned out of site until needed. This allows for all the clean and preparation to be done out of the patient's view, and is more efficient in terms of time and space.

By working this way, the space in front of the patient is left unobstructed, eliminating the 'closed in' sensation that may make some patients feel anxious. With the mechanics of the chair 'below-the-patient', the dentist can work from any position, to retain direct eye contact with both patient and nurse, improving communication and reassurance. At the touch of a button the chair is in its working position. Another touch and the equipment automatically moves away from the patient.

*To find out more, visit [www.belmontdental.co.uk](http://www.belmontdental.co.uk) or call 020 7515 0333.*

## ACCESS FOR ALL

Most practices will have made provision for patients with disabilities, but there's much that should be considered in addition to how they enter and leave the building. Taking X-rays, for example, must also be accessible to patients in a wheelchair. Such logistics are effortless with Durr Dental's new VistaPano.



It uses S-Pan technology to provide unrivalled clarity. Until now, modern digital devices have generated panoramic images along a prescribed contour, which follows the jaw line of an "average" person on the axial plane. Since the upper and lower front teeth are not naturally on the same vertical plane and the upper and lower posteriors also have different inclinations, the panoramic layer orientation usually therefore constitutes a compromise.

S-Pan technology works differently. An extremely large number of parallel layers are segmented and the system automatically selects the image parts which best match the actual anatomy of the patient. The result is an image with impressive clarity



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## WANT A BIGGER SURGERY?

Unless you have a very large surgery, you will probably want your treatment centre to be as compact as possible. The smaller footprint of the Cleo II from Belmont can give the illusion of making your surgery look bigger as it creates more space.

A treatment centre is the first thing a patient sees when they enter your surgery. The first impression they get of the Cleo II will not disappoint. As well as being cosmetically impressive, it offers significant functionality and practical benefits. Its folding



leg-rest makes it as easy to sit in as an armchair, so it's perfect for patient consultations.

As with all Belmont treatment centres, the Cleo II comes with a free extended warranty well beyond the industry standard. As well as experiencing the illusion of a larger surgery, you therefore have the reality of knowing that your new centrepiece will be both reliable and robust.

## CARESTREAM DENTAL AT THE SCOTTISH DENTAL SHOW 2015

For the utmost confidence in your practice performance analysis and management, discover the CS R4+ software from Carestream Dental, now featuring Springboard.

The practice management software now not only streamlines your daily processes while saving staff precious time, but also provides an accurate measurement of how your business is performing. Using real-time data, the system focuses on chair occupancy, treatment plan

uptake, appointment confirmations and recare statistics to identify your practice's strengths and weaknesses at any moment in time.

The full range of solutions from Carestream Dental will be on display on stand H02 at the Scottish Dental Show, including the CS 3500 intraoral scanner, CS 8100 3D panoramic imaging system, CS 7200 phosphor plate system and CS Adapt software.

For more information, contact Carestream Dental on 0800 169 9692 or visit [www.carestreamdental.co.uk](http://www.carestreamdental.co.uk)



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For further information contact your local dental dealer or DMG Dental Products (UK) Ltd on 01656 789 401, email [paulw@dmg-dental.co.uk](mailto:paulw@dmg-dental.co.uk) or visit [www.dmg-dental.com](http://www.dmg-dental.com)

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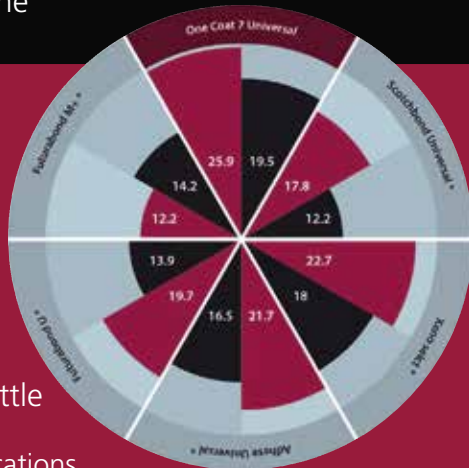


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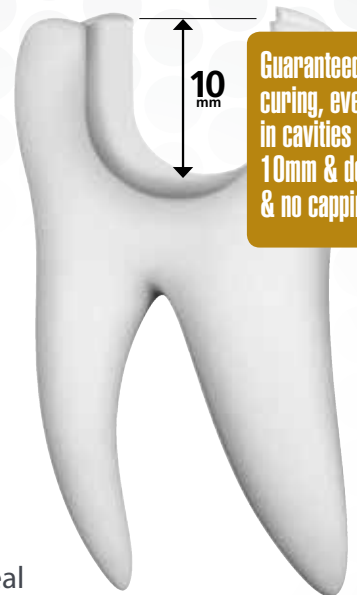
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