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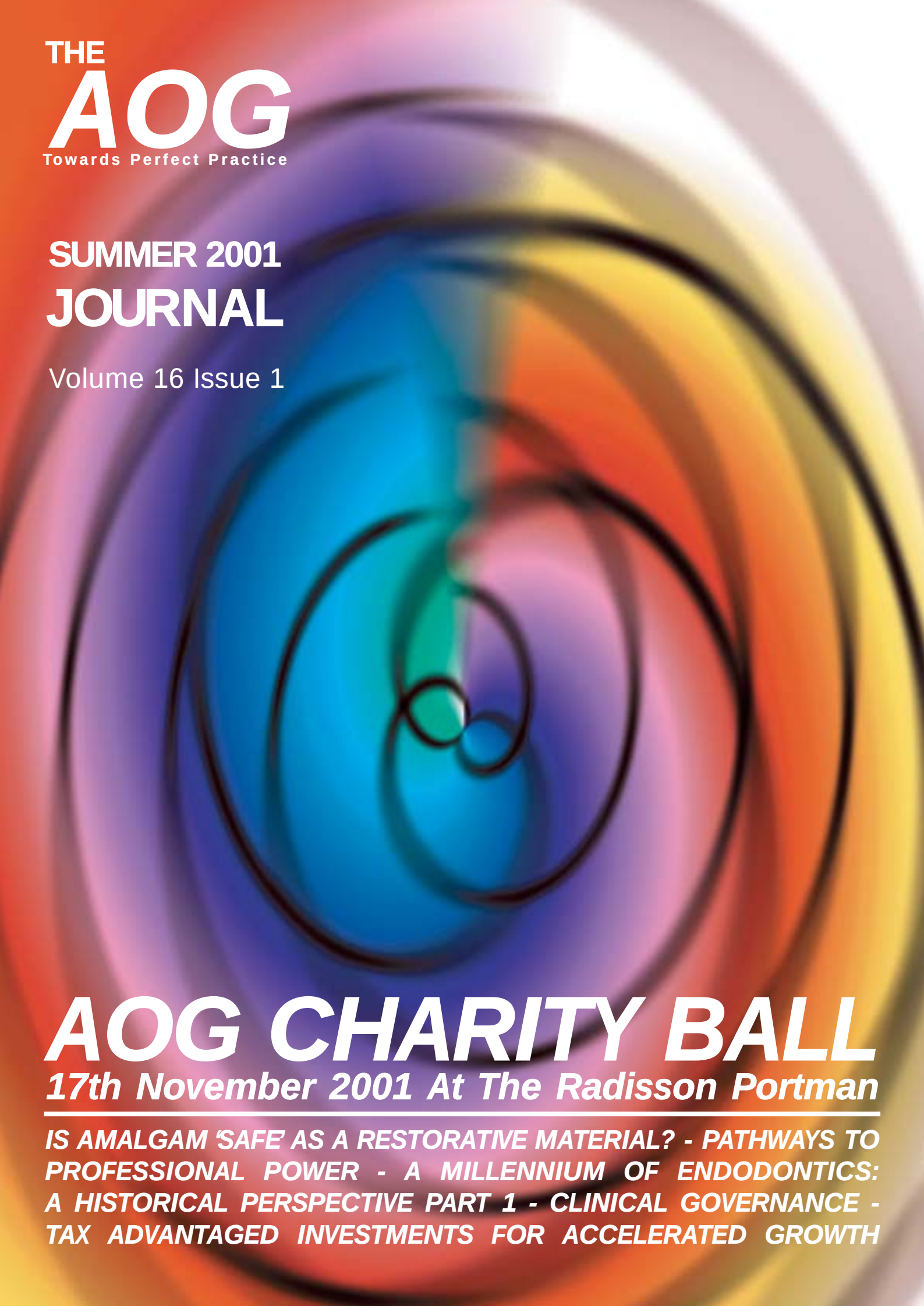

AOG CHARITY BALL

17th November 2001 At The Radisson Portman

IS AMALGAM 'SAFE' AS A RESTORATIVE MATERIAL? - PATHWAYS TO PROFESSIONAL POWER - A MILLENNIUM OF ENDODONTICS: A HISTORICAL PERSPECTIVE PART 1 - CLINICAL GOVERNANCE - TAX ADVANTAGED INVESTMENTS FOR ACCELERATED GROWTH

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From The Editor

Welcome to another issue of the AOG journal. It has been a very active year for the committee and members of our society. This year saw another very successful collaboration with BSGDS at the conference in South Africa. Pictures are included to remind the ones who were there and evoke regret for the ones who weren't. This year also saw our President, Ian McIntyre, receive The Probe's Lifetime Achievement Award. With his characteristic modesty, Ian was quick to mention the many others who were worthy of distinction.

On January 26th however, there was a gruesome reminder of the destructive forces of the elements. Nature shook Gujarat till 30,000 lay dead and wastelands blossomed where people's dreams once stood. Much has happened and the state machinery is often in the way. Rehabilitation is yet to touch tens of thousand of people.

In April over 5,000 marched from Bhachau to the collector's office in Bhuj — a distance of some 67 km in scorching heat to protest about the delays in receiving aid. Pictures of a smiling eight year old boy being fitted with an artificial leg, and a family making it's way through the rubble every Sunday stopping momentarily to pay respects in Anjar street where 250 school children perished, reflects the strength of the human spirit. "We go to visit them just to remind ourselves that we are the fortunate ones who are left here to be good human beings and keep alive the Kutchi spirit" says 11 year old Parth Bhinde.

So it is good that help both corporate and individual is coming through. Manjul and Rashmi have to be congratulated on organising an event which has raised about £50,000 for the relief fund and pledges still keep coming in with the total increasing. No doubt the rebuilding process will take a few years. The earthquake of 1995 in Kobe, Japan which killed over 5,000 took 5 years for rehabilitation, so help is still required.

In this latest issue I have endeavoured to put together some articles which I hope will be of interest. The first part of a three part article by Sanjeev Bhanderi 'A Millennium of Endodontics' is a very interesting feature which will give a complete overview of endodontics. Contributions of both clinical and financial interest are also featured and as ever, my warm thanks goes out to all the contributors. Please send in your comments which are always an enormous source of help and encouragement.

Wishing you all the very best for the summer.
Subir Banerji.
Editor.
E-mail: subir@sbanerji.freeserve.co.uk

THE JOURNAL OF
THE ANGLO-ASIAN
ODONTOLOGICAL GROUP (AOG)

"McIntyre, doesn't sound a very Asian name"

With the above comment one of my colleagues aptly described the lack of understanding about the role and membership of the Anglo Asian Odontological Group - the Anglos don't have to be Asian. As the President and the first Caucasian to be elected to that honour I would dearly love to see the AOG broadening its membership to encompass all of those like minded people within the wider dental community. Yes, of course the focus of the AOG is on the ethnic minority communities at home and less wealthy members of the dental profession overseas, they are the groups for whom so much needs to be done and who are so often overlooked. I believe that the AOG is unique among dental societies in putting charity and assistance to the less fortunate at the head of its agenda - we have no specific or limited clinical interest groups, no political agenda and no wish to advance our personal interests. We simply aim to illustrate the caring and compassionate side of dentistry that rarely if ever gets noticed. You only have to look at the £5,000 raised for Charity at the magnificent ball held at the Café Royal last year, or the recent Charity Ball and auction to raise money for the Gujarat Earthquake Appeal to see the visible proof of that.

As members of course we know about all of this, so who better to spread the word about the benefits of membership than those of us who enjoy it now? It is an obvious fact, but if we all recruit just one new member the AOG will double in size and our potential influence will grow with it.

I am very fortunate to have taken over from such a hard working man as Jatin, he handed over a society in good heart with sound financial status and a dynamic and enthusiastic committee who are always coming up with ideas to improve the benefits available to members. I look forward to serving you this year as your President and enjoying your support at our many functions.

Air Vice-Marshal Ian McIntyre

South Africa

The happy Couple

Steve Perry's & Rash Patels Products

Sheila Farell, Manny Vasant & Edger Gordon

The President and Wife

The Dean and the Green

Is amalgam 'safe' as a restorative material?

A review of some relevant literature on the subject of mercury toxicity

The question of mercury toxicity is frequently raised, not least by the media and inevitably a few days later by our patients who have read the articles. The specific fears that such articles raise are often simplistic and unequivocal. Links with Multiple Sclerosis (MS), severe soft tissue reactions and amalgam corrosion when placed in contact with other metallic restorations, even fine gold.....

Perhaps the layperson should, quite sensibly, be cautious – in light of such information – in their approach to amalgam, but how should we, as professionals, respond when they come to seek our advice?

A review of some relevant literature is detailed below and may help in our advice to those who seek it.

It is certain that mercury is toxic. The role that the mercury component of dental amalgam plays in the total mercury insult to those who come into contact with it, and the ill effects attributable to this material, has been under debate for years. In order to determine the significance of mercury from its use in clinical dentistry, the following need to be considered.

1. THRESHOLD LEVELS RELATING TO MERCURY EXPOSURE:

Two levels are used in assigning industrial and other thresholds for mercury (Hg) concentration in the air and these relate to levels at which ill effects appear or fail to appear (1). They are:
1. Lowest observed adverse effect level (LOAEL); and
2. No observed adverse effect level (NOAEL).
Hg threshold levels have been drawn up on the basis of toxicity studies carried out on industrial workers exposed to Hg vapour. Threshold levels suggested for the general public are based on these, having included generous allowances for safety and for the fact that industrial workers are subjected to continuous exposure (a 40hr working week).

The WHO has recommended a health-based occupational exposure limit for air of 25 microgram/cubic m. Gerstner & Huff-'77 (11) suggested a NOAEL threshold for air exposure of 1 microgram/ cubic m. for children, pregnant women and the infirm. It was considered that below this level, Hg vapour in ambient air posed no health hazards. Assigning a ventilation rate of 22 cubic m. /day, a lowest threshold of 1 microgram/cubic m. of Hg produces a safety threshold of 20 microgram/day through the lungs (assuming 100% absorption). This figure may be multiplied by a factor of 10 to estimate the daily absorption through the GI tract due to poorer absorption by this route and a further two-fold for the lower toxicity of mercuric compounds (1). This gives a safe threshold of 400 microgram/day for GI absorption.
Hg exposure, from a dental source, may be viewed against these thresholds to assess the risks.

2. QUANTIFYING THE MERCURY CHALLENGE TO A PATIENT OR DENTAL WORKER:

The routes of absorption of Hg from a dental source into the body include:
i). Lungs:
This is in the form of Hg vapour. Potential sources include:
a). Use of Hg in the dental surgery at any stage before the amalgam has set, e.g. during trituration of amalgam in the amalgamator; exposure of Hg (due to its volatile nature); spillages.
b). Vapour release from amalgam restorations as a result of corrosion. This is much reduced by the use of high- Copper alloys which are free of the Gamma II phase.
c). During the insertion and removal of amalgam restorations, e.g. during condensation or cutting of amalgam with air turbines.
One study using vapour detectors over a 24hr. period reported only 1.7 microgram/day inhaled(9). Three other studies showed Hg vapour exposure, for patients with 8-10 amalgam restorations, of between 1.1-4.4 microgram/day(9). It may be seen that these levels, taken on their own, are well below the thresholds considered safe for Hg absorbed through respiration.

ii). GI tract:
This may be in the form of amalgam particles or in ionic form:
a). Particles of amalgam may be swallowed during treatment, or through the fracture of restorations. It has been shown that gut bacteria can form and degrade methyl mercury.
b). The corrosion process results in Hg reaching the surface of the restoration where a concentration gradient exists. The Hg is then released in the vapour form; the Hg may also dissolve into saliva and be swallowed. Toothbrushing and chewing will accelerate the rate of release. Berglund estimated from his daily dose equation the mean amount swallowed at approximately 10 microgram/day. This Hg is oxidised to the less toxic mercuric ion form and 5-10% is absorbed (2). Hence, less than 1 microgram/day will be absorbed through this route.

iii). Pulp and the peridontium:
a).Studies have shown that Hg may reach the pulp through dentinal tubules in the absence of a lining.
b). Particles may be implanted unintentionally during retrograde obturation of a root-canal, or inadvertent placement into a socket.

Studies of such inclusions by electron microscopy and energy dispersive x-ray microanalysis show that these particles undergo progressive degradation to their constituent elements, which, when dispersed, eventually accumulate in the kidneys, or are excreted through faeces. However, the quantities of Hg passing through this route is considered negligible in terms of total exposure. Sandborg-Englund(13) concluded in 1996 (in a study of renal function before and after amalgam fillings were removed in 10 volunteers) that there was no signs of renal toxicity from dental amalgam sources.

In assessing the role of dental amalgam in the overall toxic effects of Hg, one needs to consider the other sources of Hg challenge to the body. These include seafood and environmental pollution, e.g. the burning of fossil fuels. One Swedish study showed that the consumption of 1 saltwater seafood meal per week raised blood Hg levels from 2.3-5.1 ng/l; whilst another study comparing average Hg levels in patients with amalgam fillings (0.7 ng/l) to those without (0.3 ng/l) shows that dental amalgam made a difference of only 0.4 ng/l (9) (two German studies actually found no difference in the Hg levels of blood and urine samples when comparing subjects with amalgam fillings to controls without). It could

Is amalgam 'safe' as a restorative material?

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be argued, therefore, that dietary sources can have a 7 times higher effect on blood Hg levels than amalgam restorations.
Jones (3) wrote in1999:
i). The average daily intake of methylated Hg (mainly in the form of seafood) needed to be in the region of 300 micrograms to cause discernible effects in even the most sensitive individual.
ii). Due to the low amount of Hg released from amalgam, he estimated that a patient would have to have 490 amalgam surfaces for the levels of Hg vapour and mercuric ions to reach maximum safety levels.
iii). The dietary form of Hg (methylated Hg) is more toxic and its uptake some 6-7 times higher when compared to Hg from amalgam sources.
Eley (1) also wrote that:
i). Estimates of average daily intake of Hg from sources such as water, food, air and fossil fuels range up to 20 microgram/day; most of it in the more toxic methylated form. This compares to estimates of 1 microgram/day through the lungs and 1 microgram/day through the GI tract attributable to amalgam.

When assessing the risks to the general public, it should be noted that dental workers have a much higher exposure to Hg vapour (Wirz et al. (5) found that although the blood and urine samples in dental workers were twice that of control groups- with and without amalgam restorations-there was no evidence of any Hg toxicity in any of the groups).
Osborne in '92 (4) concluded that there was no available evidence to show that dental workers were adversely affected by Hg use.
Another study in 1993 involving Japanese school children showed that the presence of amalgam fillings made a difference of only 1.5% to a mean urine level of 2 ng/l.
It may be concluded that:
i). The absorption of Hg from a dental source is very small in relation to levels that would cause ill effect or threshold levels set to protect the public.
ii). Hg release from amalgam is small compared to exposure from other sources.

3. TOXICITY OF MERCURY IN RELATION TO AMALGAM RESTORATIONS:

It is possible to show the derivation of elemental Hg and inorganic Hg salts from amalgam; the link between dental amalgam and organic Hg compounds, however, is very tenuous. The main source of such compounds (in the form, primarily, of methylated Hg) come from the diet.

Exposure to inorganic Hg can lead to Mercurialism with CNS symptoms and reproductive disorders. Organic Hg compounds, e.g. alkyl Hg compounds, can cross the blood-brain barrier and accumulate in high concentrations in the brain. They can cause toxic neurocephalopathy. Eley & Cox (6) wrote that, to date, there is no evidence of methyl Hg from dental sources detected in the oral cavity.

Many of the symptoms stated in the reports linking amalgam with Hg toxicity do not fit with any one pattern of Hg poisoning. Some relate to inorganic, others to organic Hg, whilst another group of symptoms are not characteristic of either form (7).

The main body of evidence implicating dental Hg has come from anecdotal reporting of symptom resolution after the removal of amalgam restorations. In such cases, it has not been possible to show a causal relationship between amalgam and the symptoms. Stenman & Grans (8) concluded from a study of 348 patients (some of whom were self-selected because of their fear of amalgam Hg toxicity) that many of those whose reported symptoms resolved post-removal of amalgam had symptoms that were primarily 'mental'!

4. MERCURY HYPERSENSITIVITY:

It is associated with a Coombs type IV hypersensitivity in < 1% of the treated population. Symptoms involve hyperemia, edema and vesicle formation. Evaluation by a dermatologist should precede assumption of allergy. A skin patch-test is available but deemed unreliable and Mackert-'85 (14) strongly advised against its use as a definitive test.

5. AMALGAM'S IMPLICATION IN MULTIPLE SCLEROSIS (MS):

There has been many attempts to link the presence of dental amalgam to MS. But since MS is characterised by spontaneous bouts of remission, the anecdotal reports of symptom resolution on amalgam removal cannot be taken to show a causal relationship between the two events.

Clausen-'93 (15) found no significant differences in the post-mortem brain total Hg levels in studies of patients who had suffered MS and those who had not. The lipid-soluble Hg was in fact significantly lower in MS sufferers, therefore, it could be seen that MS is not connected with increased Hg levels in the brain.

6. ENVIRONMENTAL CONSIDERATIONS:

In September 1992 the Swedish National Board of Health & Welfare issued a report that proposed a plan for the discontinuation of the use of Hg in dentistry. This was based entirely on environmental concerns, as opposed to any proven health risks in its clinical dental application. The Swedish government had already planned for the cessation of Hg use in industry. This was a culmination of research into the paper processing industry's pollution in the '50s and '60s.

However, their Medical Research Council concluded that Hg pollution from dentistry could be successfully controlled by the use of amalgam separators, many of which have efficiencies in excess of 99%. At present, discarded household batteries account for the majority of Hg in municipal waste. A 1992 U.S. Environmental Protection Agency report (12) stated that batteries accounted for 86% of discarded Hg, whilst dental amalgam accounted for 0.56%.

7.COST IMPLICATIONS OF THE USE OF AMALGAM AND ITS ALTERNATIVES:

These include:
i). Additional dentists would need to be trained to provide the same level of dental care, due to the operator intensive nature of the alternatives.
ii). The long term costs of amalgam alternatives will rise with time due to the lower life expectancies of some alternatives e.g. composites.
iii). More frequent replacement of restorations will result in tooth substance loss; the downward restorative spiral will incur a cost that is harder to quantify.
iv). Theoretical calculations of the long term costs of a 2 or 3 surface gold/ composite restoration is about 4 times that of amalgam; 5 times more for small gold restorations.
v). As the alternatives improve, these costs will fall.
vi). The continued use of amalgam, itself, incurs costs in the:
a). handling of the separated amalgam,
b). raising of the specifications of the dental equipment, e.g. capsule amalgam and modern amalgamators; and in the surgery set-up costs e.g. clean air systems.

8. NATIONAL GOVERNMENT POSITIONS ON MERCURY IN DENTISTRY:

1). In 1993, a two year U.S. Public Health Service review involving a wide range of medical experts concluded that there was no persuasive evidence to compel a change to amalgam alternatives.
Their conclusions were based on the following findings (in brief):
i). The amount of elemental Hg released from amalgam was minute.
ii). Existence of specific adverse responses to these minute amounts had not been demonstrated.
iii). Even if adverse responses existed, they were so subtle as to be undetectable and therefore no harm could be shown.
iv). True hypersensitivity was very rare. Only 50 or so reported cases since the early 1900s.
v). There is no persuasive evidence that shows a causal relationship between amalgam and many of the symptoms attributed to Hg toxicity from a dental source.
vi). The benefits of amalgam include:
a). Cost effectiveness compared to existing alternatives.
b). Absence of an alternative of comparable properties that may be used as a viable substitute in all situations.

2). The German authorities have recommended:
The use of amalgam should be avoided if possible in:
i). Children under 6 years old; who they considered to have a higher sensitivity to Hg. However the WHO clearly stated that there is no evidence to show age-related sensitivity in humans.
ii). Patients with renal complaints.
iii). Pregnant women. However, a study by Ericson & Kallen (4) in '89 did not find any significant differences between dental workers and control groups for spontaneous abortions, low birth weight of their babies, congenital abnormalities or infant survival. Studies with conflicting conclusions do exists on this issue.

3). The Canadian government have set a limit 95% below the level that may cause ill-effects and have lowered the recommended maximum daily exposure to Hg for women of child bearing age and children under 10 years. This has not been based on any scientific evidence but confirms a tendency for government health authorities to 'err' on the side of caution.
Schuurs- '99 (10) concluded that the negative effects on reproduction due to Hg exposure in the dental office are unproven. Unless very poor Hg hygiene measures were employed, the Hg concentration in the air will not exceed the female's time-weighted long-term Threshold Limit Value.
Therefore, in view of the lower amounts of Hg that will emanate from amalgam restorations, the public should be at an even lower risk from Hg of a dental source compared to dental workers.

9. MERCURY HYGIENE IN THE DENTAL SURGERY ENVIRONMENT:

i). Hand condensation of amalgam will reduce mean air levels to 15-320 microgram/cubic m. compared to levels of 770 microgram/cubic m. with mechanical condensation.
ii). 'Wet' cutting of amalgam in one study reduced:
a). mean Hg vapour levels to 15 microgram/cubic m. (compared to 50-190 microgram/cubic m. without water cooling).
b). mean particulate matter to 30-60 microgram/cubic m (compared to 270-520 microgram/cubic m. without water cooling.
iii). Use of rubber-dam will reduce:
a). the GI tract exposure through swallowing,
b). moisture contamination of the unset amalgam leading to lower corrosion – a significant source of Hg release and lowered restoration life-expectancy.
iv). Correct handling and hygiene measures:
a). Avoid skin contact. The routine use of procedure gloves now eliminate almost all operator skin contact.
b). Use of protective clothing/ footwear will reduce exposure (e.g. absorption through nailbed of toes).
c). Correct storage of unused amalgam under a solution of Potassium Permanganate pending proper disposal.
d). Use of capsule amalgam and modern triturators.
e). Use of high Copper alloys to eliminate the Gamma II phase.
f). Instigation of prompt recovery procedures in the event of Hg spillage.
g). Hard surgery flooring with rounded line angles at the walls and cabinetry to prevent accumulation of undetected spillages.
h). Uni-directional air-flow systems that replaces the surgery air constantly to reduce the air concentration of Hg vapour.
i). Refraining from the dry-polishing of amalgam.

It may be concluded that provided the handling and use of amalgam is carried out with care, there is no convincing evidence that, from a Hg toxicity or environmental viewpoint, to warrant the cessation of its use.

N. Poon

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Dental Private Patient Complaints

Presented at a joint AOG/BSGDS meeting at The Wilderness Hotel, Western Cape, S.A. April 2001 by Edgar Gordon

Governance of the professions is one of the hottest media topics around at the moment. All regulatory bodies are reviewing their arrangements either by choice or through government intervention with regulation of the General Medical Council taking the highest priority. Reform of the GMC is at the very heart of modernising the NHS. It is only natural that the public debate is very focused on doctors because of Bristol, the Ledward case and of course Dr. Shipman. The inflammatory language used by Alan Milburn of the Alder Hey organ scandal adds gist to the mill and because of the historical relationship between our profession and medicine, dentistry is inevitably the second domino. What happens at the General Medical Council today will inevitably happen to the General Dental Council tomorrow.

The title of my presentation is private patients' complaints. Technically – I should refer to them as non-NHS complaints. The reason is that the NHS general practice, the community and the hospital service all have a well tried and tested system that was updated as recently as 1995. I am also excluding capitation plans, insurance and dental corporate bodies. All three, for purely marketing reasons, have reasonably effective complaint mechanisms in place.

Dental private patient complaints occupy a unique place in the UK health care system. This is because there is virtually no private medical practice in family doctoring. Today, one in four GDPs treat 70% or more of their patients privately and there still is no formal mechanism for these patients to complain in the absence of legally defined personal injury or professional misconduct. Granted the General Dental Council has recently become more pro-active in their approach to complaints. A recent high profile suspension of a private practitioner caused an unprecedented furore in the dental press. It is a matter of debate on whether the GDC acted as they did to forestall a greater degree of governmental surveillance.

Why do patients complain?

It is often said by organisations acting for patients that when things go wrong, patients are not primarily interested in money. What they want is to be told the truth, an apology where appropriate and changes in practice to prevent other people from suffering. This view is almost wholly based on dealing with complaints in the NHS hospital trust sector and very little in primary care. It does not apply in dentistry and certainly is it at complete variance with the experiences of the dental defence organisations. Item of service fees has always been central to the culture of dentistry. Moreover, in the private sector, many interventions are elective, there are alternatives and many are lifestyle procedures with either marginal or no effect on health gain. Other factors contribute to the rising tide of dental complaints. A patient is more likely to complain if they have expectations, have absorbed the culture of a consumer society and are better educated.

It is also much easier to complain about dental than medical care. Dentistry is far more measurable both quantitatively and qualitatively. Most interventions are essentially invasive, irreversible and visible. They are elective and not life threatening. It follows that consumers have choices and enhanced levels of consent are required. Since dental care is provided in cottage industry conditions it is easier to focus on a single identifiable person who is both the clinician and the owner of the business. This contrasts with the difficulty of dealing with a large diverse organisation like a hospital where care is given by a multi-disciplinary hierachial managed staff.

The majority of dental private patient complaints are specific. They ask that following unsatisfactory treatment some sort of offer or arrangement be made to carry out remedial work at no further charge. Irrespective of whether complainants go back to the same practitioner they may seek common law damages. This is the financial compensation for their perceived harm together with the costs of repairing any damage. Inter-personal wrong doing is the tort known as clinical negligence. For this to succeed it must pass all three criteria of the Bolam test – a duty of care, a breach of that duty and damage arising from that breach. Private practice also generates some – but not many – breach of contract claims such as a poorly fitting denture or a crown of incorrect colour.

Another common objective is the desire to find an explanation of why the dental treatment went wrong. Where there has been an adverse result, dentists are often suspected of being less than completely open and honest with their explanations. Some consumers will try and use a complaints system as a discovery procedure. Another reason often given is to prevent unsatisfactory outcomes happening to other patients. This is a laudable attitude by a cynic would find it hard to believe that a patient who had crowns fall out after only six months is more concerned about other people's crowns than their own. Lastly complaints can be prompted by the threat of debt collection. A fee may remain unpaid but the dentist is unaware that the consumer is dissatisfied. When later faced with the threat of civil proceedings to recover the debt, they may respond by counter-claiming for breach of contract as well as alleged negligence.

Irrespective of whether the complaint concerns a clinical or contractual matter the first piece of advice to any complainant that any other responsible practitioner or other authority would give, statutory or voluntary, would be to go back and voice their concerns with the practitioner concerned…and quickly. It has long been recognised that a dentist's manner and attitude to the patient at the time of complaint can have a far-reaching effect on how vigorously the complaint is pursued. Dentists know themselves that sympathetic handling of an aggrieved patient, together with helpful explanations of what happened, can go a long way to defusing the situation. The dentist must be given the opportunity of putting things right. This is supported by the GDC whose guidance to dentists is that if a patient has cause to complain about the service provided every effort should be made to resolve the matter at practice level. For NHS treatment it is part of a dentist's term of service to record complaints in writing, acknowledge them either orally or in writing within three days and in ten days forward their definitive comments.

Trying to discover whether dental treatment was private or NHS has always been difficult. The term 'independent dentistry' has not helped. Patients are still confused and there is still little documentary evidence such as a treatment plan, estimate or receipt. This has long been a consumerist problem and led to the government introducing the FP17DC in 1990.

There is evidence that many practitioners do not follow the FP17DC procedure. Moreover, Health Authority complaint managers give the form of low priority. Not a single dental disciplinary hearing has ever been heard regarding a practitioner's failure give this mandatory information. It becomes part of a disciplinary hearing only as a adjunct to other more serious matters.

There are further difficulties. Although private contract dentistry is presently growing exponentially the actual number of purely private practices is still only 800 amongst approximately 20,000 generalists. This relatively small group have no administrative links with any Health Authority. The majority of practitioners refer to their practices not as private practices but as independent practices where both NHS and private contract services are provided. The pictures become more confusing because NHS registered patients may elect to have part of a course of treatment carried out privately.

Understanding the nature of the contract is absolutely vital for a patient who wants to complain. This is because a NHS registered patient, even though part of the treatment was carried out privately, can still avail themselves of the NHS complaints machinery. This allows them to present their complaint to a lay Independent Review Panel whose Health Authority may, in certain circumstances refer to the matter for a disciplinary hearing. However – and here we come to the crunch – this second tier NHS disciplinary hearing has nothing to do with compensation. Technically, the patient is not the complainant – it is the Health Authority. The patient is just a witness. At a hearing they will be asked to leave the room after giving evidence. All they will get is their bus fare. In very rare circumstances a patient may get a refund of their statutory co-payment and told to find another NHS dentist to carry out the remedial work. They certainly will not be told the result of the hearing. The Health Authority is only concerned with the dentist's terms of service. Should the dentist appeal against an adverse finding the patient may be asked to go over their complaint for a second time without even been told why. It is no small wonder that many complainants have given up by then.

Not only does the NHS complaints take a great deal of time but if, before the Independent Review Panel considers the complaint, the patient changes their mind and decides to proceed to

litigation, the NHS complaints machinery is immediately aborted.

From this you might have gathered that there is not much percentage for the patient to go through the NHS complaints machinery if they are looking for some financial redress. It may just be an outlet for letting off steam which can be therapeutic in itself. There is also the possibility – for the really sophisticated and knowledgeable – that the NHS procedure might provide a useful litmus test as to the strength of a negligence action before a complainant spends their own money.

Then where does a wholly private patient go to make a complaint against a practitioner?

An obvious port of call is the General Dental Council whose primary duty is to protect the public and to discipline dentists who fall seriously short of the standards expected of them. But like the NHS complaints machinery the one thing that a complainant will not get from a GDC investigation is compensation. However, unlike the NHS system they will get a report of the outcome and the sanctions – if any – against the dentist. This, of course, can form the basis of a subsequent claim in the civil courts. It is also possible to make a complaint to the GDC concurrently with civil litigation. It has also been known for complainants to reverse the procedure and make a complaint after an out of court settlement has been made denying liability.

The second option is a solicitor, preferably one who specialises in personal injury and clinical negligence. Here, as already stated, an allegation of negligence can only succeed if it can be demonstrated that a dentist has failed in their duty of care and that as a result of this failure they have suffered damage. This is known as causation and it is sometimes very difficult to establish. Going to a solicitor and litigation, or the threat of litigation, is the only way to receive compensation not only for any harm done but also to fund remedial treatment that will put the claimant in as near a position as possible as existed before the damage. Settlements also include any future dental treatment that might be required as a result of the negligence.

Exactly two years ago – in April 1999 – we had radical changes in the Civil Procedure Rules as a result of the Lord Wolff's 'Access to Justice' report. Today the litigation process is highly streamlined and claims for less than £15K are included in what is known as a fast track procedure. This is a timetable that is controlled by the Court and not by solicitors. It is comparatively rare that a dental claim does not fall into the fast track category.

Successful litigation depends almost entirely on a dental expert's report whose duty is to the Court and not to the claimant or instructing solicitor and who may be a single joint expert. The report will be wholly based on what the dental records show and the claimant's statement. The conclusion will be based on whether a responsible body of other general dental practitioners, not hospital consultants or Consultants in Dental Public Health, but other High Street dentists, would have adopted the same procedures under similar circumstances. Just because dental treatment fails it does not follow that it was done negligently. Anecdotal evidence from dental experts is that over 70% of all alleged claims are completely without any merit. A further number of marginal claims are abandoned after a conference with Counsel. Causation is the usual sticking point. A dentist might have failed in their duty of care but the tooth or teeth were at risk in any event due to some other variable. Currently 99% of claims that can be supported are settled without an admission of liability although there is often skirmishing between solicitors to arrive at the level of damages.

Until a year ago Legal Aid Board claimants were in a strong financial position as they had little to lose. Now conditional fee arrangements permits solicitors to enter into a contract with the claimant which provides for fees to be paid only if a case succeeds. In addition there is a percentage uplift if they win. If successful, the claimants costs, the uplift and a premium for insurance can all be recovered. An unsuccessful claimant will only lose their premium and the solicitor will remain unpaid. From these reforms, fast track and conditional fee arrangements, the two big barriers to litigation, time and costs, have partly been removed.

A very quick word about Alternative Dispute Resolution know as ADR. This includes arbitration which is legally binding and almost as expensive as going to Court, mediation which is less expensive but not binding and conciliation which requires a certain minimum fund of goodwill which is normally lacking in clinical disputes. For this reason ADR is little used in health complaints. It is seen in commercial disputes such as construction and shipping as is conciliation in family matters. It is also useful in inter-professional disputes which is outside today's remit.

So what are we left with? We are left with the private patient who has a complaint – legitimate or otherwise – but one that falls short of legally defined negligence. It can be unnecessary pain, poor out-of-hours emergency services, being kept waiting, locums, poor record keeping, lost x-rays and reports, staff that are either incompetent or rude – or both – it can be about anything – the colour of the wallpaper or the absence of girlie magazines in the waiting room. Remember – the definition of a complaint is 'an expression of dissatisfaction requiring a response'.

Why does it require a response? Surely if the patient/client/consumer is dissatisfied they will go elsewhere. Water finds its own level. The reason that all private patient complaints require a response is because we need to reassure the public that we are a caring profession. The covert reason is simply to preserve our self-regulation albeit a heavily reformed one.

The view of the British Dental Association is that there should be one unified mechanism to deal with all dental complaints that fall short of negligence and that the current NHS procedure should be extended. To quote a BDA spokesperson 'We want one front door'. The idea is to treat private patient complaints as a fact-finding exercise totally divorced from any clinical assessments. It would give a patient the opportunity to be taken seriously and for their grievance to be acknowledged and respected. This would satisfy many complainants. The enquiry would satisfy any 'day in court' attitude. It would be entirely non-judgemental with no need of professional assessors. However, the BDA want the GDC to deal with complaints on an agency basis. I would suggest a publicly funded independent review type mechanism.

My reason is that notwithstanding constitutional changes in the GDC and the uncertain composition of the Fitness to Practice Committee (or whatever elected or appointed body replaces it) the Council should not be allowed to be put in the position of sleuth, judge and jury. The dangers of serendipity in an investigation is too great. With the best will in the world I cannot envisage Chinese walls working in Wimpole Street. Even if it was possible dentists would have no confidence in such a system. This leaves the GDC with only one concern – that of process rather than praxis – to be concerned with the methodology and procedure rather than the outcome. To this end paragraph 3.13 of 'Maintaining Standards' should be expanded to include that copies of an acknowledgement of a complaint followed by a definitive response be forwarded to the Council. This to be carried out within a set time frame and failure to do so would lead to a charge of serious professional misconduct. Should the mandatory reply fail to satisfy the complainant then a type of local independent panel could be asked to investigate and that these panels be financed from public expenditure.

I feel that these simple proposals will go a long way. Complainants will have the opportunity of making sense of their complaint with the knowledge that the process has been monitored. I think it can be predicted with reasonable accuracy who will be drafting practitioner's responses. It is obvious that the dental defence organisations would be major stakeholders in this type of operation. I say this not because of the competition between them – which is largely illusory – but their obsession with control.

My conclusions are:

- The present crisis in professional self-regulation has little to do with private general dental practice.
- Nevertheless the absence of a dental private patients complaints procedure is still damaging public confidence in the dental profession.
- Complaint mechanisms for NHS dental treatment, managed capitation, insurance and dental corporate bodies exists.
- That the General Dental Council should expand paragraph 3.13 'Maintaining Standards' with respect to responding to private patient complaints and support complainants with information.
- That the General Dental Council audit the process of private patient complaints.
- An acceptance that the civil procedure rules now in place make alleged clinical negligence matters less expensive than hitherto, that conditional fee arrangements have made access to justice easier and an acknowledgement that this is the only way successful claimants can receive damages.
- For the private patient complaint that falls short of clinical negligence local independent review type panels should be convened financed by public expenditure.

Amarjit Gill gives an insight into the BDA.

Pathways to Professional Power!

Background
Many of us are too busy to have devoted time to understanding how the BDA hierarchy works. Generally, there is very little need to acquire this knowledge. But we live in times where coping with change in our profession is a routine matter, rather than an exceptional glitch. In an acknowledgement of this and to speed up the decision making process, the BDA has just finished its own modernisation process. Below there is a summary of how the BDA works.

Structure
There is the new BDA board of Directors, who all began their jobs in the year 2000. They have the responsibility to set the strategy and to react to any big issues. There is also a determination to effect some leadership in looking after the needs of the dentists.

Now with a bunch of well motivated but only part time dentists, progress has to be slower as we try to become business like. To fully appreciate this, reflect on how you cope with new implementing initiatives like clinical governance, within your practice. I guarantee you'll empathise as you try and change the culture of your practice!

Like any democratic organisation most are elected into position and in this case the power base is the Representative Body. Surprisingly, getting to be on the Rep Body is not difficult at all, as some of the positions are simply unopposed. That cannot be good for democracy and has to reflect on a lack of knowledge or just pure apathy. The role only requires you to attend a minimum of 2 meetings a year in London and feeding back to the colleagues you'll represent.

So the Rep Body will elect from within itself and add to the other Board of Directors, who are the Chairs of GDS, Private Community and Hospital committees.

Rep Body
This has approximately 80 dentists and generally meets twice a year to debate and comment on the Executive Boards work and recommendations. This work in usually done on a Saturday so you don't need to take a day off work, but it doesn't help the weekend stretch further either!

These RB members choose most of the Board and should hold them accountable for their performance. The ultimate accountability is effected on election day! They also contribute to the working groups that sort out issues like Education and Standards, or Ethics and put a Rep or two onto the main BDA Committees.

Executive Board
A lot of the 'behind the scenes' discussion about the BDA's work is overseen here, to ensure that we are meeting the needs of members, i.e. surveys, producing advice guidelines, development of the website etc. Over the last 3 years the BDA's made substantial losses and so the finances now play a bigger role to minimise this from becoming a regular forfeit. The last financial year saw a profit for the first time in years.

Other routine work includes finalising responses to other agencies such as the Department of Health, GDC, The Faculty etc. This can revolve around issues on how to develop General Professional Training, a national Private Practice Complaints Procedure, and stopping other Government departments from inadvertently becoming involved in Dentistry. For example, we have nearly had private dentistry getting lumped into a new quango. This agency would regulate the provision of this private healthcare service and charge us hundreds of pounds more for that interference, sorry I do mean pleasure. This type of activity doesn't generate any media activity so it would naturally escape ones notice.

Other work includes creating new benefits for members and although the highly successful insurance service is established, newer services that offer the convenience of a travel agency or lower costs of utilities, i.e. gas, electricity and phones are now offered. 2001 should witness the launch of a practice valuation scheme and a capitation scheme with all the insurance and direct debiting facility, for members to 'badge' as an in-house service to offer their patients.

Conclusion
Now, the BDA has stronger leadership than ever. This is reflected in the 3 top officials John Renshaw, John Craig and Ian Wylie, respectively the Chairman, the Vice Chairman and Chief Executive. I do not believe that this terrific trio would present 'glass ceilings' for aspirants from the opposite sex or ethnic backgrounds. From my perspective I have no hesitation in stating how supportive they have been to me.

So, if you have a talent to contribute to a progressive BDA, which then benefits us all, I believe that these men in particular will support you in your endeavours. Clearly we need to make the top more representative of the profession but that can only happen if more people are encouraged to enter.

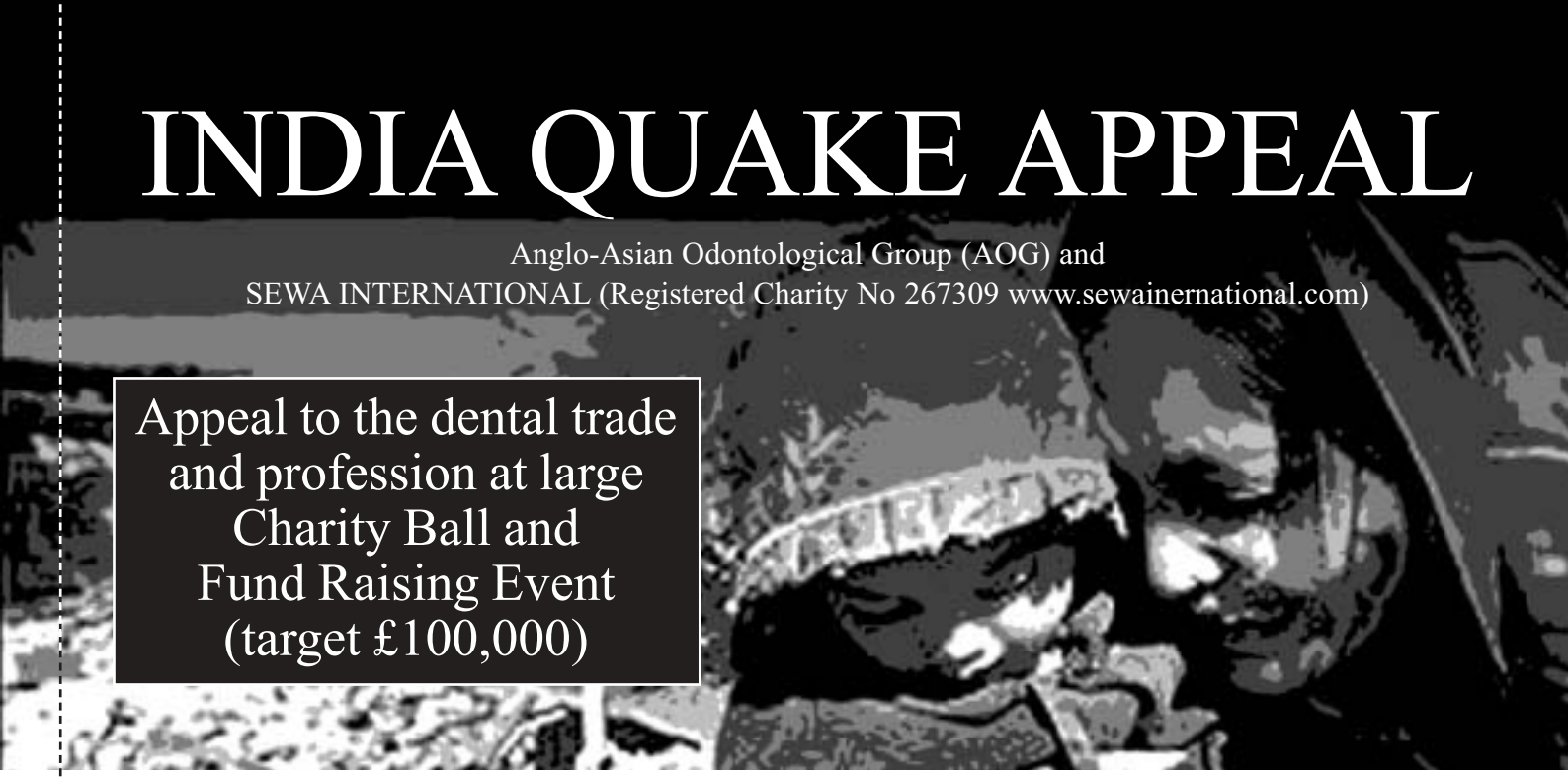
So what is my personal view. When I first came on board I was surprised to learn that this was never run as the £5 million operation, it is. The internal view was it didn't need to have a business like efficiency, because that conflicted with being a membership organisation and perhaps that led to the huge operating losses. The first year of having the BDA board of directors neatly coincides with making a small profit! Hopefully next year will show that this will be the trend to be proud of. As you know you need profit to create new services/products, otherwise the subs have to rise and we wouldn't want that, would we!

In conclusion, there is a real conflict between being a truly democratic organisation and having a business like efficiency. But I really believe that this is the best it's been and now there is general acknowledgement that change is necessary to evolve. However, if you could help move it one stage further and join in the revolution, then that would be great. Become a voting member and join us as a branch rep on the Rep Body. I'll happily try to guide you. If you want to ask me something specific then please contact me on email gill@smilesahead.co.uk and tel. no. 0777 6138616.

I hope this helps you to understand more about the BDA and help you feel comfortable inputting into its work, of looking after the dentists' interests. If you don't go for that, then tell me how to make it better and then lets see what happens.

INDIA QUAKE APPEAL

Anglo-Asian Odontological Group (AOG) and
SEWA INTERNATIONAL (Registered Charity No 267309 www.sewainernational.com)



Appeal to the dental trade and profession at large Charity Ball and Fund Raising Event (target £100,000)

Gujarat (India) has been devastated by a powerful earthquake this January. For those of us remote from the tragedy, it is difficult to appreciate the scale of the damage, suffering and pain.
For those who survived, slowly, very slowly, it dawns upon them that they have their life – a life that has changed forever. Some will never see their parents, nor, any relatives again – ever again!
For some parents, the last they heard of their children was a near but not so near scream when they could not reach them. This scar will last their lifetime.

This is yesterday's news, tomorrow's news, it is news for a very long time until people find their feet on the ground.

We are the fortunate ones who can help, so please be generous.

For further information or to send donations:

Dr Manny Vasant
1210 London Road, London SW16 4DN
Tel: 020 8764 1424. Fax: 020 8679 3126

or

Dr Rashmi Patel
156a Haverstock Hill, London NW3 2AT
Tel: 020 7722 4405. Fax: 020 7483 3603

CHARITY BALL

The Charity ball has already raised half the target through your generous donations. The cheques are still coming in. Should you still wish to help the victims, it is still not too late! Every penny counts!

DONATIONS:

The Gift Aid Declaration overleaf will enhance the value of your contribution. Special forms are available for companies and partnerships.

☐ I enclose a cheque for £1,000

☐ Please send me a DD form to be able to pay 10 instalments @ £100 per month

☐ I have enclosed a donation to the value of £ _____

Cheques made payable to: Sewa International (India Quake Appeal)

Name: _____

Address: _____

_____

_____

_____

Phone: _____ Fax: _____

e-mail: _____

AOG
Anglo-Asian Odontological Group

Gift Aid Declaration

SEWA International

(Registered Charity No. 267309)

46/48 Loughborough Road, Leicester LE4 5LD. Tel: 0116 266 5665

I would like all gifts to Sewa International, paid on or after the date of this declaration to be Gift Aid Donations.

I pay tax at: ☐ Basic Rate

☐ Higher Rate (please tick as appropriate)

Signed _____ Date: _____

PLEASE NOTE: You should have paid an amount of UK Income Tax or Capital Gains Tax equal to the tax deducted from your donations for your gifts to be eligible for Gift Aid.

The sum of £ _____

For: India Quake Appeal Project

Name _____

Address _____

_____

_____

_____

Postcode _____

Please complete and post to:

Anglo-Asian Odontological Group (India Quake Appeal)
at:

Dr Manny Vasant
1210 London Road, London SW16 4DN
Tel: 020 8764 1424. Fax: 020 8679 3126

or

Dr Rashmi Patel
156a Haverstock Hill, London NW3 2AT
Tel: 020 7722 4405. Fax: 020 7483 3603

FDI Annual World Dental Congress

27th September – 1st October 2001

Britain Together at FDI 2001

Mexico City in 1999, Paris in 2000 and now Kuala Lumpur in 2001!

The FDI Annual World Dental Congress traditionally offers dentists worldwide 'the best of all worlds' and this year, in Kuala Lumpur, will be no exception.

First and foremost, an outstanding four day scientific and educational programme which will provide an opportunity to hear a glittering array of international speakers on a comprehensive range of dental topics; this will be complemented by the World Dental Exhibition which, this year, will be the largest dental exhibition ever held in that part of the world.

An exciting and exotic social programme has also been arranged. Congress participants will experience something of the diverse Malaysian culture as well as the opportunity to meet dental colleagues from all over the world. The Malaysian Night and Gala Dinner Dance are just two of the programme highlights, and a wide choice of sightseeing tours are available.

Malaysia 2001 is a dental experience not to be missed and one which has already captured the enthusiasm of many dentists in the UK. Details of an attractive and competitively priced Congress package, which has been arranged through the FDI and Emerald Travel, are available by calling Emerald on 020 7312 1717.

We will be at FDI 2001 in Kuala Lumpur and we will look forward to seeing you there.

Don't miss it!

R. Raja Rayan *OBE*
Dean FGDP(UK)

Peter Swiss
President BDA

Air Vice Marshall
Ian McIntyre
President AOG

Ruby Austin *MBE*
President BSGDS

PACKAGES

Kuala Lumpur

Delegate £1120.00 Companion £510.00 Child £375.00

All plus £36.40 covering all pre-payable taxes

Includes: **Congress Delegates Registration Fees and FDI Membership**

Flights: London / Kuala Lumpur (Malaysia Airlines), depart 25th September MH3, returning KUL/London MH4 1st October. (morning flights). Economy class flights.

Manchester/Kuala Lumpur, depart 25th September MH11, returning KL/Manchester on MH12 1st October.

Hotel: Four nights at the Mandarin Oriental Hotel, including return airport transfers, daily breakfast and daily return shuttle between hotel and Putra World Trade Centre.
Please note that rooms with third bed for children are scarce!

NOTES: This special price applies only to the above package dates and flights. Seats at this special price are also available on the morning flight of24th September, ex London, and return seats to London are also available departing KL on 2/3/4/5 October on the MH3 (morning) departure. Additional nights at the Mandarin Oriental are available at £92 per room per night (including breakfast, up to a total of 8 nights). Other hotels available on request.

Seats have also been reserved on the evening flights between London and Kuala Lumpur on the above dates, but there is a surcharge of £50 in each direction.

Business class upgrade is available at £500 (one way, day flight) and £550 (one way, night flight)

Special Side Trip Offers for Delegates (Pre or post Congress)

Travel anytime, subject to availability at time of booking.

4 nights in Langkawi for £230 per delegate, plus £50 for companion
Staying at the Berjaya Langkawi Beach Resort – garden view

4 nights in Penang for £215 per delegate, plus £50 for companion
Staying at Shangri La's Golden Sands Resort – hill view

3 nights in Singapore for £190 per delegate, plus £45 for companion
Staying at the Albert Court Hotel.

All prices include economy airfares from/to Kuala Lumpur, hotel room plus breakfasts and transfers to/from the hotel at each destination

Australia
Special airfares and accommodation prices are available to delegates – contact Emerald Travel for details.

For further information/bookings please call Emerald Travel on 020 7312 1717

fdi

FGDP(UK)

BDA

AOG

Tax-Advantaged Investments for Accelerated Growth.

By Parimal Chaudhuri

My experience in dealing with dental practitioners confirm when it comes to investing the uppermost in their mind is tax saving and growth. One of the purposes of personal financial planning is to create wealth, preserve it, enjoy it in need, and then to transfer the surplus to your succeeding generation preferably without or minimal tax paid to the Exchequer. This article will concern in brief how to create wealth in a tax efficient manner.

Individual Savings Account (ISA).
This is the first port of call. This is a tax free wrapper to encourage investors to save for their future financial well being or retirement. There are different variants of ISAs available depending on ones financial circumstances ; the one suitable for high net worth professionals is known as 'Maxi ISA'. One can invest up to maximum of £7,000 per tax year in a maxi ISA. The investment is free of both income and capital gains tax. Unlike pension, a tax credit of 10% only will be recoverable in respect of UK dividends until April 2004.
The approved providers of ISAs are insurance companies, banks, building societies and unit trusts managers / companies. There are wide varieties of funds available to chose from for investment. You will have to be very careful in choosing the funds, market sector and the provider in terms of (financial strength), past performance, and your own investment risk profile. It is advisable you consult a good Independent Financial Adviser to guide you through the maze of ISAs.

Personal or / Stakeholder Pensions.
One of the primary incentives to invest in private pensions is its generous tax breaks. On 6 April 2001, Government introduced new rules giving tax breaks on pension contributions to individuals without taxable earnings. This the government expects will revolutionise the savings market for retirement.
Almost anyone can now contribute £2808, and the government will top it up to £3600, per year to a Stakeholder Pension regardless of age or earnings. This makes it possible for the first time to contribute to a pension for the years when you have no income (during a career break), and also on behalf of non – earning spouse or children.

The only groups who are excluded from taking advantage of the new £3,600 "pension allowance" for themselves are: those aged over 75; and those earning more than £30,000 a year and contributing to an employer – run pension scheme.

At the same time a new government - approved personal pension known as "Stakeholder Pension" was launched. Stakeholder labelled pension must be flexible and portable. Annual management charge must not exceed 1%, allow stop and start contribution as you please, and switching of funds between managers must be free of charge.

Whether you choose a stakeholder – labelled scheme or non – stakeholder pension is up to you. The stakeholder variety may be competitive and flexible; some non – stakeholder schemes may offer additional features such as wider range of investment funds to choose from.

All personal pensions, stakeholder or otherwise, benefit from tax relief at the basic rate the moment the contributions are made. So a contribution of £2,808 will be "grossed up" by the government to the £3,600 limit. Higher rate tax relief can also be claimed through the tax return if the person in whose name the scheme is taken out (not the person supplying the funds) is a higher rate tax payer. This will cut the net cost of a £3,600 contribution to just £2,160. The fund will grow free from income and capital gains tax just like any other Inland Revenue approved pension fund. At the time of vesting, 25% of the fund value can be taken as tax free cash; the balance must be used to buy an annuity to provide income for life.

The downside of the pension is that the beneficiary can not get their hands on the assets until they retire or aged 50 at the earliest as the law stands.

National Savings
National Savings have a wide range of

investment vehicles suitable for every age and tax status. They are also one of the safest forms of investment as they are provided by, and underwritten by the government.

The products which will be of interest to higher rate tax payers are National Saving Certificates. These certificates provide tax free income. Two types of certificates are available; index linked and fixed.

The maximum investment allowed in each type is £10,000 per person for a term of 5 years. No interest is payable if cancelled in the first year. There is no limit to the reinvestment of matured certificates. After 5 years you will get back your capital plus the accumulated interest.

The certificates in issue at the moment are 19th Index – Linked and 57th Fixed Rate carrying interest rate of 1.65% plus retail price index (RPI) and 3.55% compound respectively over 5 years.

You can buy the certificates through your local Post Office and there are no charges. National Savings do not pay any commission to the advisers.

Venture Capital Trusts (VCTs)
This falls into a very high risk category of investment. While it offers substantial tax breaks and potentially high returns on your investment it carries risk so much so that you may end up loosing your capital if the market goes against you. You should seek expert advice before entering into this area of investment.

A VCT is a quoted company which invests at least 70% in qualifying unquoted companies which may include AIM (alternative investment market) listed ones. Generous tax breaks are designed to attract capital to promote innovative new entrepreneurs to launch themselves into the business.

An investment in VCT shares will entitle one aged 18 or over to an income tax refund upto 20% of the amount subscribed. The maximum investment is £100,000 in any one tax year. Your investment will be committed for 5 years to take the full benefit of the tax advantage.

The rules governing VCTs are complex and with limited space available in this article I will not be able to go into further details.

The tax efficient investments discussed above are by no means exhaustive but the products suitable for high net worth investors I hope to address in my future articles.

Parimal Chaudhuri is an Independent Financial Consultant and a freelance writer.
Tel /Fax: 020 8906 3454 ; Mobile : 07956 589416.

Digital Volume Tomography

By Kish Soneji

It is interesting how the face of dentistry in this country has changed in the last fifteen years. The aesthetic demands and the need to feel and look good has done a service to the profession. One of the biggest impacts in modern dentistry has to be the need to restore with fixed prosthesis on Dental Implants. This area has been researched far beyond any other subject in dentistry as you are fully aware and this is the area where my passion lies. Having seen the benefits over the twelve years in my own practice, I decided to move to a dedicated Implant Centre.

Dental Implantology brings a mixed bag of goodies, as with any highly complex work the fees are always deemed to be attractive and it brings in the profession to want to provide this in general practice. This is not bad as it increases the consumption and delivery, and hopefully decrease the cost of implantology in the long run at the consumer level. There is a very steep learning curve and things can sometimes go wrong, this causes distress to no end and with intricate and expensive work the consumer led society will always look at punitive damages.

There are always cases which can be treated with Dental Implants in general practice without much difficulty. In an ideal situation there is sufficient bone height and width without any soft tissue deficiency and well away from any vital structures the final outcome can remain unobtrusive. These cases, even though rare, are a great practice builder and help the patient in a variety of situations, from a missing single tooth, free-end saddles or an overdenture.

There will always be cases which are far beyond the comfort zones of the general practitioner. This requires either an outside help to treat the cases or further, detailed diagnostic tools in the shape of tomographs.

Until now the majority of the Dentists providing Dental Implants or carrying out any form of hard tissue reconstruction has been relying on CT scans. The logistics, time, cost and the amount of radiation has always made it a tool occasionally used. One has to weigh the radiation against the benefit and this makes the tool available but seldom used. The other similar tools are the Scanora and the transverse slices on certain OPG machines which take less time and the radiation dose is low, but they suffer from unproportional distortion and 'noise'.

About a year ago I came across a scanner which is dedicated to the dentomaxillofacial area. The equipment is a Digital Volume Tomogram employing cone beam technology similar to an OPG machine. This therefore reduces the exposure and minimises the scan time. Compared to a normal CT scanner which takes 15 to 20 minutes, this machine will gather the data in 70 seconds. This also reduces the patient exposure to 5-10 times lower than the CT scanner. What a benefit!

Once the data is gathered, the information can be processed to get OPGs, axials, transaxials and 3D images. With these advantages there is no reason not to carry out the scan so that the treatment can be planned well. This works a treat for the Centre.

We at the Centre now provide a service not only for the scans but help with treatment planning or interpretation of the data.

The other added benefits of the scan is to assess periodontal prognosis by looking at the 3Ds of the bone, endodontics with the transaxial cut at 0.5 mm intervals, orthodontic assessment of buried teeth and TMJ 3Ds.

Kish Soneji
BSc (Hons) MSc BDS LDS RCS
61 Harley Street
London

AOG Charity Ball 2000

On the 18th November 2000, the AOG glitterati, their friends and colleagues, the great and good of the Dental Profession descended on the West End of London for a night to remember.

By 8p.m. The Café Royal one of London's most prestigious venues was buzzing as the guests arrived to a champagne reception and for those who preferred fizz of a different variety Cobra beer flowed nicely.

The President Jatin Desai accompanied by his wife Gopa greeted the guests and were soon joined by a very contingent accompanying the President Elect Air Vice-Marshal Ian McIntyre. The uniforms of the airforce and the armed forces were not only colourful but also most impressive.

The guests for the evening included one of our own Raj Rayan who attended in his capacity as the Dean of the Faculty of the General Dental Practitioners of the Royal College of Surgeons of England along with his most charming wife Ahila. The Chief Guest was none other than the Surgeon General Lieutenant Robert Menzies accompanied by his wife Joan.

The food provided by Madhus brilliant of Southall was as usual brilliant! In fact it did surpass previous efforts as there was an excellent selection for vegetarians, the quality wines which again were supplied by our friends at The Dental Directory were outstanding, the excellent desserts rounded off a splendid feast.

The Surgeon General Robert Menzies was very kind in his address and complimented the AOG and its role within the Dental Profession and also for its unique capacity for charity and support for noteworthy causes all over the world. He recommended the Armed Forces as a career route for Dentists particularly for those of the ethnic minorities.

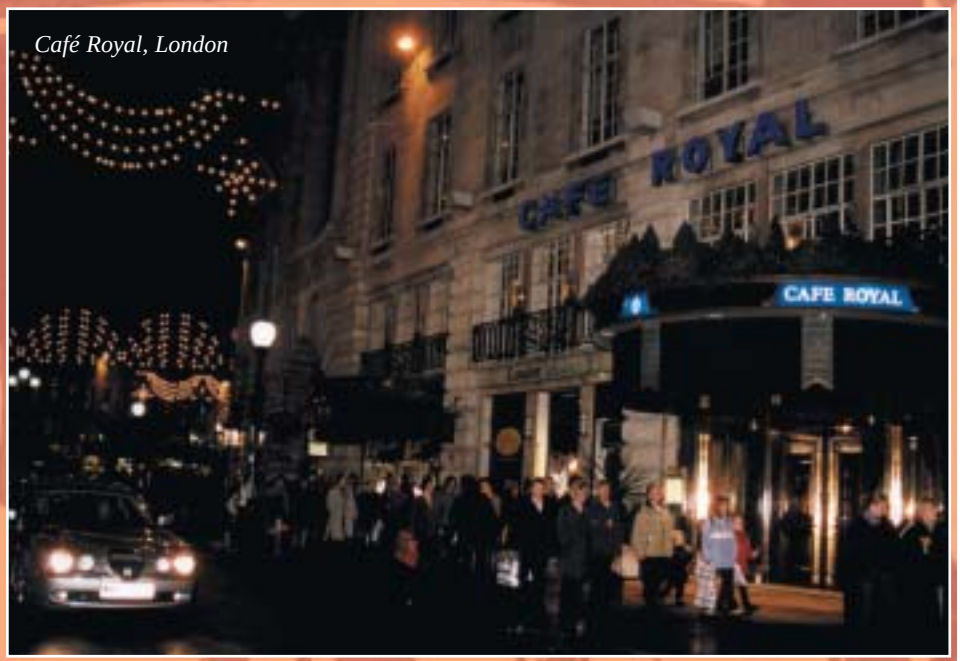
The President thanked his committee for their tireless enthusiasm and efforts to take the AOG from strength to strength.

Then an imputual charity auction was held, where Mike Volk of The Dental Directory raised a further £6,000 on the night for your committee to pledge to one of the many charities the AOG supports.

After the formalities, the band took over, the band took over and almost all were on the floor dancing, cavorting and enjoying themselves to the early hours.

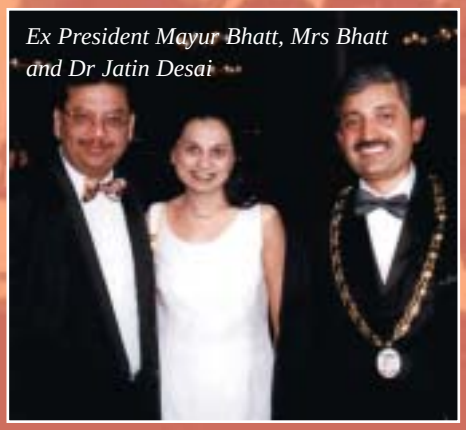
Truly a night to remember.

Presidents Address



Café Royal, London

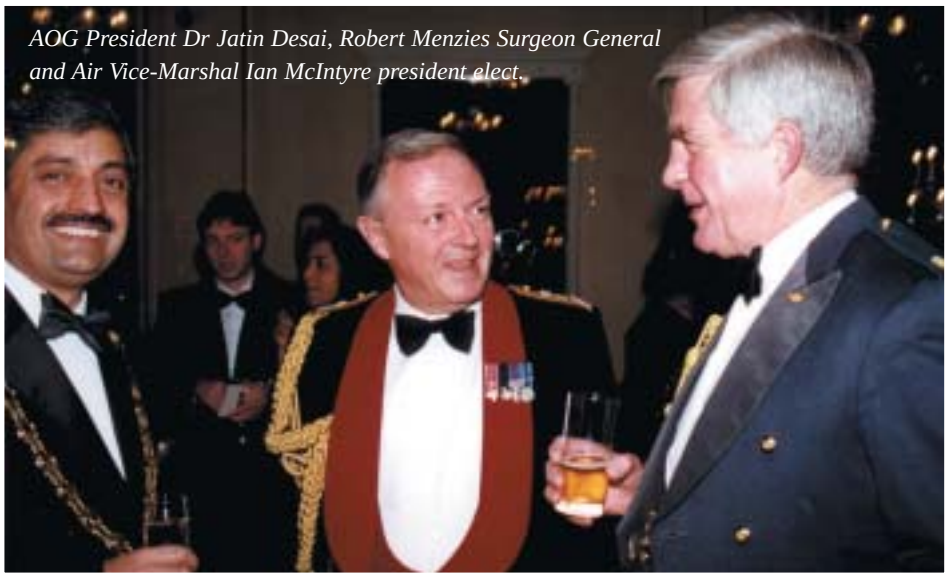

Jatin Desai, Air Vice-Marshal Ian McIntyre, Abhay Soneji–President Elect and Kish Soneji.


Ex President Mayur Bhatt, Mrs Bhatt and Dr Jatin Desai

Flowers for Pammi Dutta presented by Dr Rashmi Patel– Ex president

Contingent from Armed Forces

The top table of the President



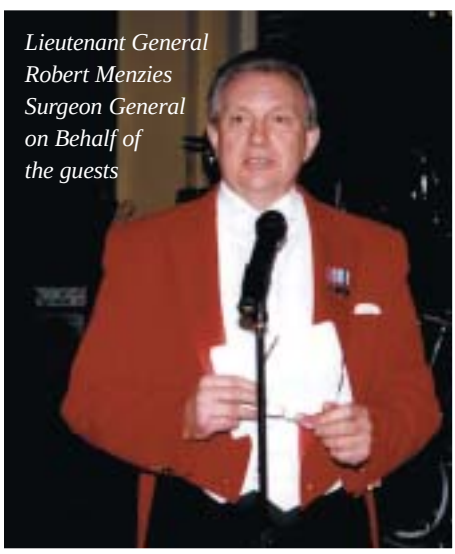
AOG President Dr Jatin Desai, Robert Menzies Surgeon General and Air Vice-Marshal Ian McIntyre president elect.

President Jatin Desai and Gopa Desai leading the dance.

Center – Dr Saif Najefi, Ex president.

Mike Volk

Jyoti Soneji presents flowers to Gopa Desai



Lieutenant General Robert Menzies Surgeon General on Behalf of the guests

Creating Papillae

A CASE STUDY

By Matthew Holyoak

Overcrowding of the dental arches should ideally be treated with orthodontics.

There is a large group of patients, however, who refuse to undergo orthodontics and instead prefer a quicker restorative solution.

This article describes just such a case (fig. 1 & 2), and will be presented in the form of a case study to describe and illustrate the step-by-step restorative approach to the elimination of crowding using fixed anterior bridgework.

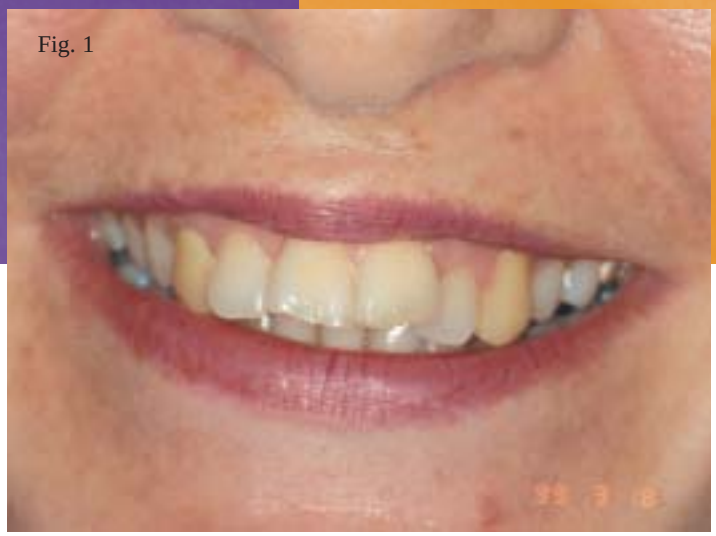


Fig. 1

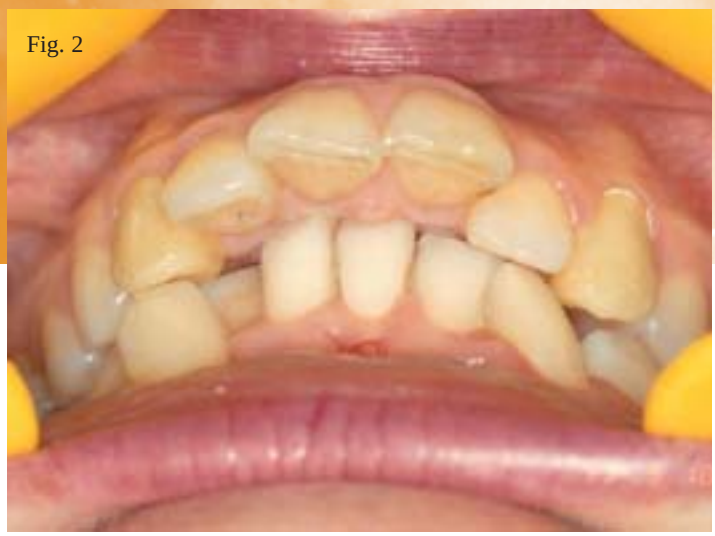


Fig. 2

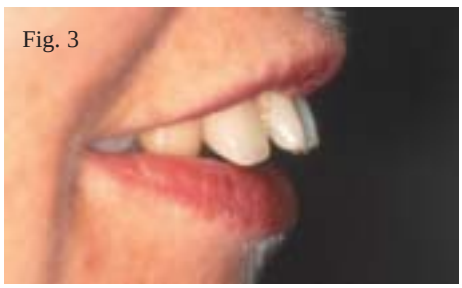


Fig. 3

This lady presented at my surgery wanted improvement to her smile. “Please give me straight and even teeth”. Louise was a mother of two young boys, a professional singer and as such needed fixed restorations throughout.

Profile views (fig.3 & 4) reveal an even greater discrepancy. She was planned for a 6-unit bridge using 3 / 3 as retainers. Mounted study casts were taken from which a diagnostic wax-up was completed to bring the 2 1 / 1 2 into line. (Fig 5)

The 3 / 3 were prepared for bridge retainers with the help of a labial putty matrix to ensure adequate reduction. A master impression was made with a polyether impression material in a closely fitting special tray.

Provisional crowns were fabricated for 3 / 3, 2 1 / 1 2 were left untreated. An immediate temporary bridge was constructed in vita zeta acrylic, with a metal framework for added strength.

The metalwork was kept well away from the margins and tissues so adjustments could easily be made.

Using the diagnostic wax-up as a guide, the pontics were positioned in line with the labial surface of \2. (Fig. 6 & 7)

Fig. 8 shows the immediate temporary bridge on then model, with the original study cast alongside for comparison.

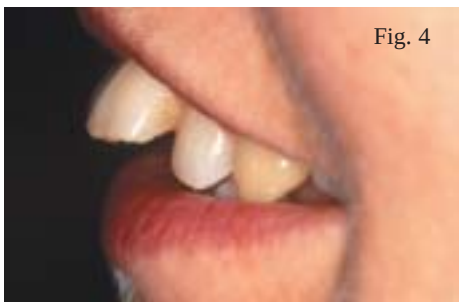


Fig. 4

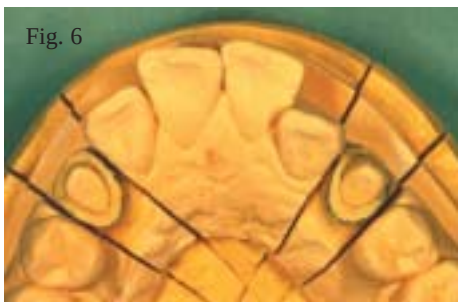


Fig. 6

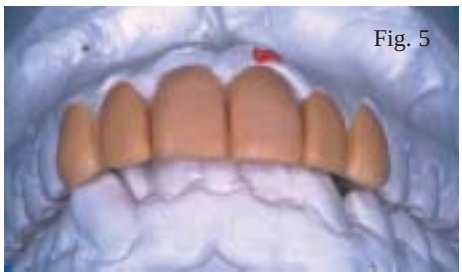


Fig. 5

Fig. 7


Fig. 8

EXTRACTION ORTHODONTICS

2 1 / 1 2 were extracted atraumatically with the aid of periotomes taking great care not to fracture the labial plate of bone (fig 9 & 10)

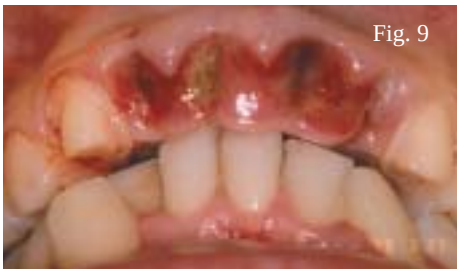


Fig. 9

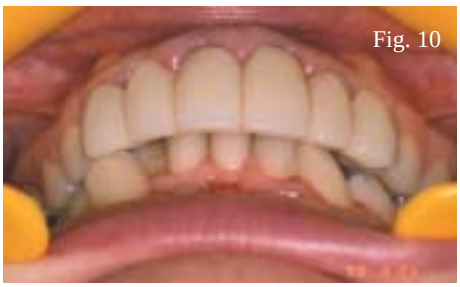


Fig. 10

The immediate temporary bridge was fitted with provisional cement. Fig. 10 shows the result immediately after extraction. At this early stage, the teeth have been successfully realigned and brought into a better arch position.

The soft tissue needs to heal, and with it form and position needs to improve.

PROSTHODONTIC SOFT TISSUE AUGMENTATION

A series of temporary bridges were constructed to manipulate the soft tissues to recreate ovate pontic receptor sites and natural looking interdental papillae.

Radiographs of the sockets were taken to assess bone heights. Bone sounding of the soft tissue revealed the distance from immature papillae to the underlying bone. Work by Tarnou et al has demonstrated that if that distance is less than 5mm then the papilla can be maintained at that level with approximately 90% certainty.

With each new temporary bridge, aesthetics were improved and the soft tissues compressed to help form papillae.

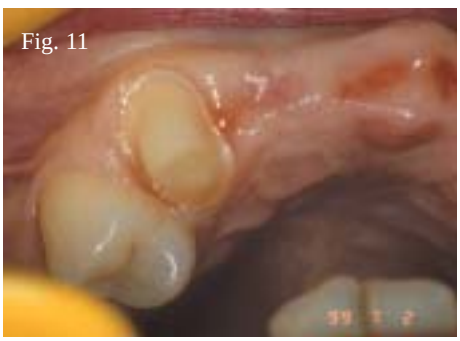


Fig. 11

Approximately 4 months after extraction, and 3 provisional bridges later, the soft tissues had neared maturation.

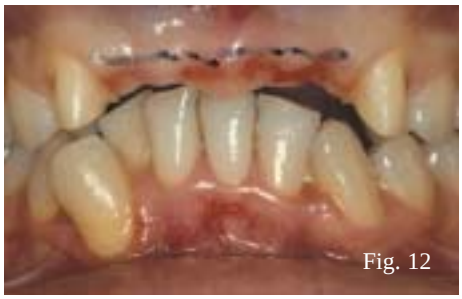


Fig. 12

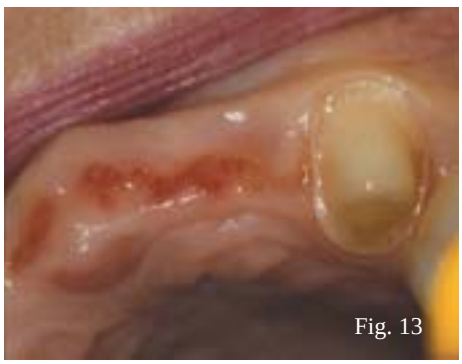


Fig. 13

The gingival margin height of 3 / 3 retainers is now at the same level of the pontic-soft tissue interface. Papillae were starting to form (fig. 11, 12 & 13).

The final manipulation of the soft tissues would be made by the final bridge.

LOW FUSING CERAMIC

'Duceragold' low fusing ceramic was selected for the final bridge because of;

- **Excellent aesthetics**
- **Abrasion similar to that of enamel**
- **Virtually no plaque accumulation**
- **Smooth chair side polish ability**
- **Self-healing hydroxyl layer**

The patient was happy with the appearance of the final temporary bridge – this was used as our guide. The bridge was constructed with a vertically reduced metal framework and tried in at the biscuit-bake stage to enable the assessment of;

- **Marginal adaptation**
- **Aesthetics**
- **Soft tissue support, to avoid black triangles**
- **Incisal position, tooth form, axial inclination**
- **Occlusal analysis**

The final bridge was cemented with provisional cement. The final restoration with its highly polished surface would manipulate the soft tissues to improve their form (fig. 14, 15, 16 & 17).

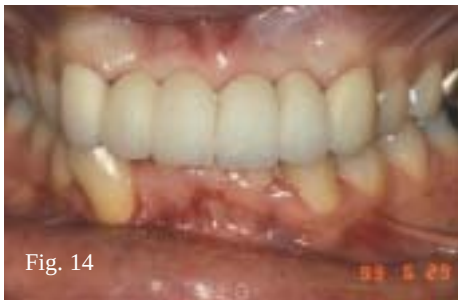


Fig. 14

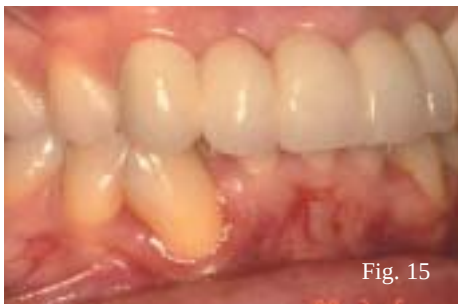


Fig. 15

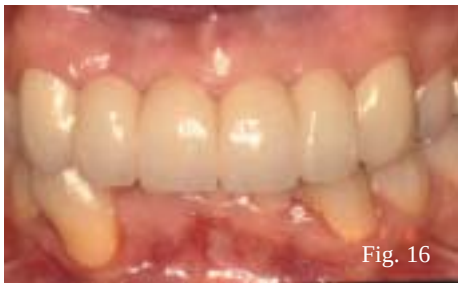


Fig. 16


Fig. 17

After 4 months the final bridge was removed to assess the soft tissue (fig. 18 & 19).

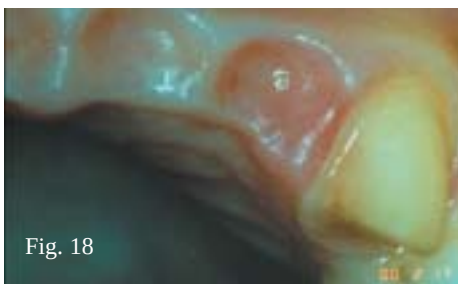


Fig. 18


Fig. 19

As can be seen the soft tissues have changed dramatically showing well rounded ovate pontic receptor sites and papillae formation.

Creating Papillae: A CASE STUDY

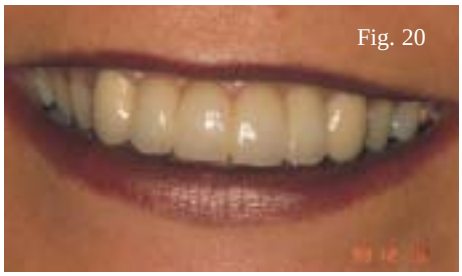


Fig. 20

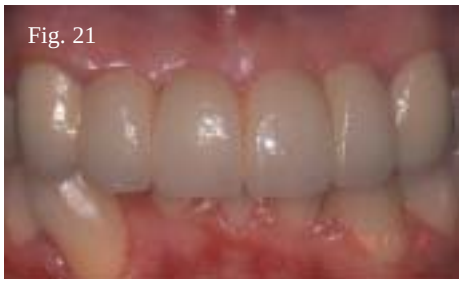


Fig. 21

The soft tissue is supported, there are no black triangles. The patient is happy, she has straight and even teeth (Fig 20 & 21).

Profile changes (Fig 22, 23, 24 & 25) reveal dramatic improvements for this patient.

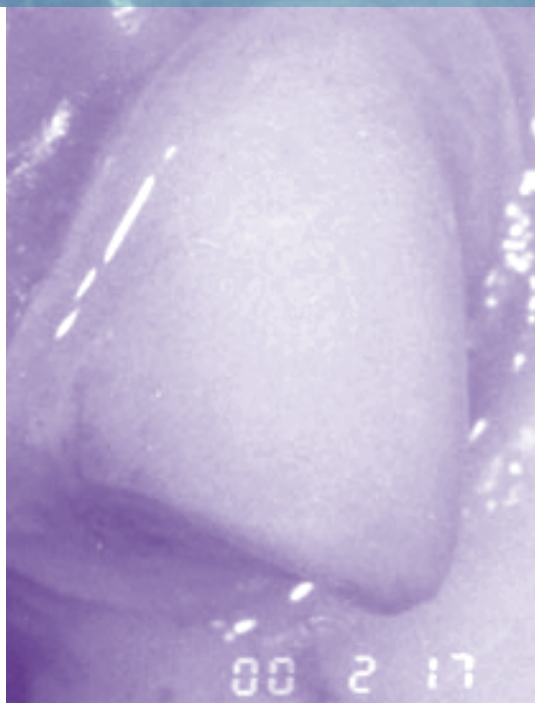
CONCLUSIONS

The final restoration exhibits excellent form and function, shape and aesthetics with the elimination of upper arch crowding. It appears that there is integration of the restoration with the soft tissues.

This has been achieved without orthodontics by a team approach between technician and dentist.

The new smile would seem to satisfy criteria described by Chiche, 1994;

- **Incisal plane of the maxillary teeth and gingival margin should be parallel to the interpupillary line.**
- **This harmony should be further reinforced by the incisal plane following the lower lip during smiling.**



ACKNOWLEDGEMENTS

Steve Taylor,
Taylor Dental Technology Centre, Leyland.

Inspiration from Tidu Mankoo, Nitzan Bichacho and Paul Tipton.


Fig. 22

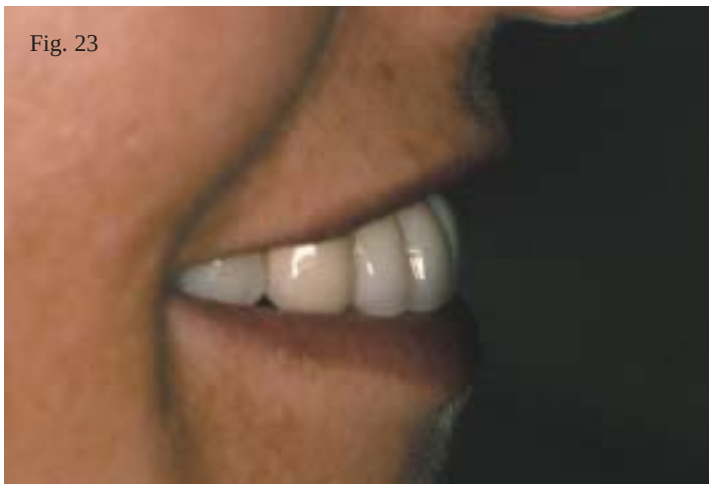


Fig. 23

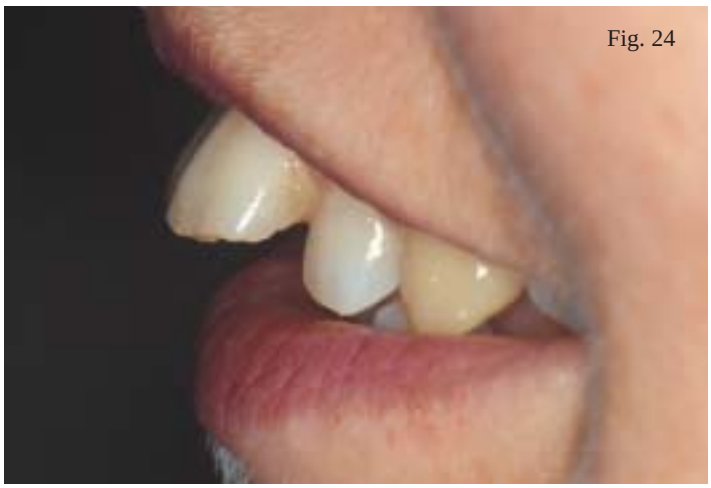


Fig. 24

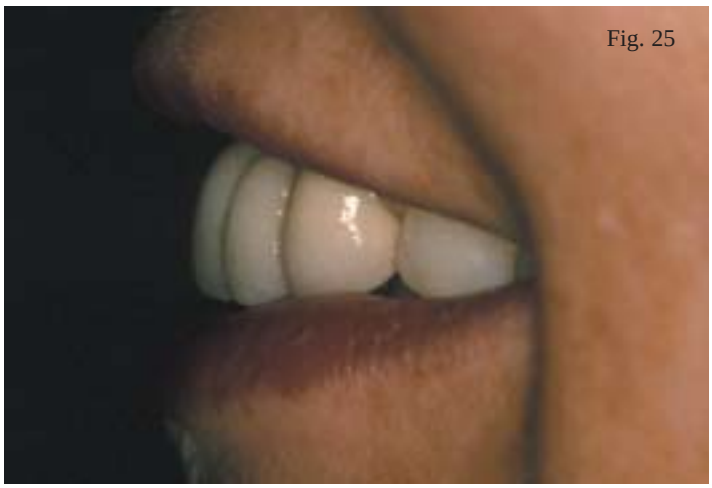


Fig. 25

PAIN RELIEF CLINIC
AT DERA BABA AJIT SINGH HANSALI

During 1998 one of the guest speakers at Mill Hill Rotary Club gave a talk on "Voluntary Services Being Offered by the Rotarians Overseas". In response to that talk, Rotarian Hardev Singh Coonar offered his services as a volunteer and explored the possibilities of setting up a Pain Relief Clinic in North India.

In August 1998, during his summer vacation, he explored the possibilities of establishing a Pain Relief Clinic at a rural location within easy reach from Chandigarh, which is the capital of Punjab, India. Baba Ajit Singh of Hansali very kindly agreed to finance the project. Rotary Club of Mill Hill UK and Rotary Club Sirhind, Punjab, sponsored the project. Rotarian Hardev Singh Coonar spent the last week of January and four weeks of February 1999 in setting up this which is now fully functional. The first patient was seen on Monday 8th February 1999 and at the end of two weeks, official inauguration took place on Sunday 21st February 1999. The clinic was inaugurated by Baba Ajit Singh and this function was attended by several members of the Rotary Club, Sirhind, Mr Bhatnagar, Secretary of Health, Government of Punjab, Dr S S Sidhu, Director, Sri Guru Ram Dass Dental Institute Amritsar, and a large number of local dignitaries.

Location

Dera Baba Ajit Singh is 23 miles from Chandigarh and surrounded by very fertile agricultural land. Chandigarh is approximately 150 miles from New Delhi. The best way to travel from Delhi to Chandigarh is by train, and the journey is covered in three hours. Dera Baba Ajit Singh can also be approached by road travelling on the National Highway from Delhi to Amritsar. Approximately 120 miles from Delhi, an approach road from a small town called Sadhoogarh leads to Dera Baba Ajit Singh which is approximately three miles from the main road.

Accommodation

The Pain Relief Clinic is situated in an independent block and the surgery occupies a large room. There is ample waiting space for the patients. There is living accommodation in the vicinity, which can be used by visiting doctors, and has the usual modern facilities. The clinic itself is equipped with a dental unit and has its own autoclave for sterilisation.

Staff

At present there is one Dental Surgeon who works six days a week from 10.00 a.m. to 2.30 p.m. She is paid a nominal salary by the management of Dera Baba Ajit Singh. The Dental Surgeon is assisted by an operating room assistant, who is under training.

Objectives

The clinic is designed to provide diagnosis of the conditions in the mouth, pain relief from inflammatory and non inflammatory conditions of the mouth. Routine dental extractions are carried out under local anaesthetic to relieve pain. For a limited number of patients, oral prophylaxis is carried out and oral hygiene instructions are given. This service is provided free of charge but patients can make donations according to their wishes into the cash box, which is only opened by the management.

Management

The Pain Relief Clinic at Hansali is under the control of the management of Dera Baba Ajit Singh. The management is advised by Dr P S Coonar who is the medical adviser and by Dr H S Coonar, and Dr S S Sidhu as dental advisers. The financial matters are dealt with by Baba Ajit Singh himself or by Mr Gursharan Singh, Financial Controller.

The Rotary Club's Contribution

The Rotary Club of Sirhind has agreed to provide local hospitality to visiting dental surgeons and has also provided the usual publicity including the preparation of the sign boards.

The Rotary Club of Mill Hill has pledged to provide services of Rotarian Hardev Singh Coonar and has contributed to the cost of stationery and a certain amount of medicines.

Future Plans

The Rotary and other volunteer Dental Surgeons from overseas will be encouraged to visit and work at the Pain Relief Centre by prior arrangements. Efforts have been made to find one Senior Dental Surgeon to visit the clinic once a week in order to provide consultant support to the dental surgeon. This person would have to be paid a salary and funds may also be needed for providing air conditioning during the summer and heating during the winter months. Although the primary role of the clinic is to provide a service to the poor people in the area, there is a considerable potential in imparting knowledge to local dental surgeons by visiting doctors and dental surgeons. There is scope in developing the Pain Relief Clinic to cope with pain in other parts of the body provided volunteers are available who specialise in disciplines other than dental surgery.

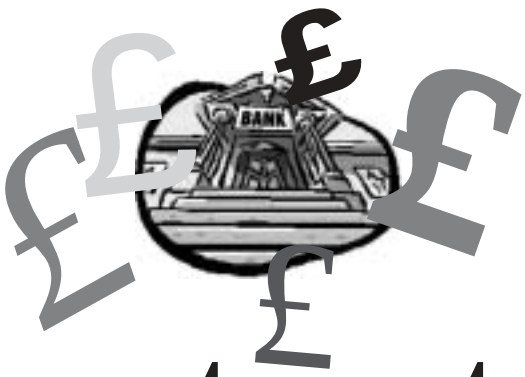
Clinics in other parts of rural India, Sri Lanka, Pakistan and Bangladesh are also set to start. Accommodation and food will be provided for volunteers. For more details contact

Hardev Singh Coonar
Royal Free Hospital
Pond Street
London
NW3 2QG

Tel 020 7794 0500
Fax 020 7830 2754

How often do you hear comments like "my bank manager just doesn't understand my personal or practice financial needs" and "I can't understand why the bank won't help me".

There are no doubts that these views are commonly held, especially as they are heard frequently from potential new customers around the country and to a certain extent they are justified. However there are always two sides to any story.



Getting the most out of your Bank

Quite often the reasons for the bank's approach to your practice's financial needs is not one of purposely adopting a negative approach but stems from a lack of knowledge of how your profession operates, compounded by an inability to communicate with it's customers. The results are an ideal environment to foster misgivings and misunderstandings.

Getting a good service from you bank is much easier if you know your bank manager and he knows about you and understands your business. It's obvious, but it is all about communicating effectively.

A bank takes time to understand their particular needs and that evaluates your potential, as well as your current performance, will undoubtedly nurture a relationship based on mutual, co-operation and information sharing.

But what sort of things do we look for? Why do we ask for certain information and what relevance does it have? Here are a few tips to help you develop a good working relationship with your bank manager.

Meetings with your bank manager occur in a variety of circumstances but they all have a similar format and requirements. In all of these meetings, whether for a practice purchase or because you have decided to review your banking arrangements, certain information will be requested, details of which will be covered later.

ARE YOU IN BUSINESS OR JUST PRACTISING?

It is generally true that bankers know about banking and dentists know about teeth. It's obvious (that word again) but it is still the single biggest cause of problems. There can and will be no mutual comprehension unless both sides make a particular effort. Looking at it from the Banker's perspective, we are interested primarily in the practice as a business. If you understand that before making an approach to the bank you'll be more successful. Most of what follows merely serves to reinforce this point and suggests how to put the lesson into practice.

IS YOUR'S A SYMPATHETIC BANKER?

For a bank manager to understand the practice as a business, he or she (we'll assume it is a man from now on) needs to understand what makes a dental practice tick. So does your bank manager know what capitation fees are? What an intra oral camera is? And does a hygienist make you money?

If the answer is no, make sure he does as soon as you can. Invite him to the practice and invest some time in explaining the way the business works. This is an investment and not a waste of time and effort, it really does help. If you can do this at a time when you don't need an immediate cash injection it would be preferable as bank managers are as cynical as the next man. Even if the next man has just won the cynic's Oscar.

An hour or two with no pressure on either side will help considerably when you do need some assistance. Just be careful that your bank does not see this as an opportunity to elicit a management charge from you, check beforehand.

PREPARATION

Because the banker is looking at your practice as a business, you have to come across as a businessman. And that means preparation and presentation.

Firstly, think about what the banker wants to know. Then contact him or his assistant well before the meeting to check. Find out exactly how he needs the information presented as this will aid his assessment of your requirements. It is on the quality of this information, your attitude, and responses to questions in the meeting that the manager will base his decision on. He may also have to justify it to senior managers.

Make sure you spend time compiling the information, allocate yourself more time than you think it will take. This can often be a time to consider your practice management. If getting the information ready for the meeting is a trial, perhaps you do not have the right management information? Before you meet the banker, perhaps you should meet your accountant?

PRESENTATION

A set of figures that have been written illegibly will not have the same immediate impact as a properly typed set. It's not right but it's human nature.

And try going to the meeting with your own agenda ready. Get on the front foot by stating what you want from the meeting and then using your agenda suggest the way that you would like to structure the meeting. Suggest how much time you would like to spend on each subject and overall. Check to make sure that your suggestions are well met. Then do try to stick to your timetable.

It will help the meeting progress smoothly but it also lets the banker know that you know about making time effective. A prerequisite of a successful practice. After all bankers have plenty of ineffective meetings.

It may be useful to 'rehearse' your proposal with a colleague to detect and eliminate any 'gaps' or discrepancies which you can then fill.

DON'T HIDE IT, DON'T AVOID IT… DEAL WITH THE DOWNSIDE

At any meeting with the bank, whether it is the first or one of many, do not forget your relationship with each other is built on the foundation of mutual trust and respect. Raise any negatives before he does, explain, rationalise and then if possible dismiss them, this shows that you have considered all the angles.

For instance your 12 months cashflow does not include rent because you have a rent free period. You know this but it could be considered as an omission especially if you have not mentioned it. Bank manager's training is one of critical assessment to safeguard yours and other customer's money and their experience occasionally leads them to make negative assumptions being unaware of all of the facts.

A good example of this is when asked to finance a surgery purchase it was apparent from the information provided that their were good practice profits, low borrowings but no

accumulation of assets. This was queried and we were categorically informed that nothing had been omitted. The assumption was that the profits had been spent wantonly and we all know how hard it is to 'cut back' expenditure, no matter how easy it looks on paper. The result was a declined loan. As you would expect this decision was not received enthusiastically and when the reasoning was explained, a set of building society pass books showing the 'missing' profits was provided. An approved loan proposal followed.

THE BACKGROUND.... WHAT'S WANTED & WHY?

(The questions that should be asked by a knowledgeable banker)

Dental Qualifications and History
A detailed dental CV to show your experience. Like you the banker is unsure of the future changes to dentistry in the UK, specifically the funding of the NHS. By keeping up to date with dental technology we take some comfort in your continued earning ability.

Personal Financial Position
Detailed personal and practice asset and liability summary, these are required to assess your overall financial position as this materially affects your needs and requirements from your practice. Consideration should have be given to your drawings policy, if you have one, as this is key to the amount of spare capacity you have to meet any funding request. In certain cases a personal income and expenditure is useful to confirm the minimum level of drawings that you need. Confirmation of your tax position will also be required.

Practice Details
Number of 'chairs', active patient list, the 'split' between NHS and private, level of capitation fees, number of exempt cases, staff numbers, premises terms, i.e. rental and review period. Comments on any future capital expenditure and how you intend or currently market your practice are required. Knowledge of the competition e.g. their policy to NHS patients and the demographics of your area, is it suitable for private dentistry are also useful.

Track Record
Evidenced via your accounts, your personal financial position, DPB schedules, bank statements. It is unlikely that you will be provided with bank statements on a practice being purchased, but you can always ask. The others are prerequisites as they are the bank's only way of financially assessing the deal and level of risk. The perceived risk is the key factor in deciding the interest rate to be levied.

Financial Requirements
Your current and future requirements whether overdraft, loan or leasing and how the costs will impact on the practice. A cashflow forecast is useful in that it provides an insight into the operation of the practice and it also shows that you have carefully considered your needs. A note of caution, if you put an item in the cashflow make sure you know why it is there. There is nothing worse then reviewing a cashflow, prepared by the accountant, with which the dentist is unfamiliar and is unable to comment on it's contents. What does this convey to the banker? Once prepared use it regularly to gauge your success and accuracy as it is a valuable management tool. When purchasing a practice where there are to be changes in the number of associates a projected profit and loss and cashflow is a great benefit.

Practice Management
Do you know what your practice profit is on a monthly basis, if not you should do. Show and explain your management information.

Your Commitment
We lend you other people's money and we will look to reduce their risk. This will be by an input from you as a cash contribution or security, which one is immaterial but in most cases necessary and expected.

The knowledgeable bank's approach to a request for funding can be surmised:-

Who is this person? A detailed dental C.V. clearly showing your experience. Asset and liability statement, do not be vague or blasé and provide evidence.

How much does he/she want? Costing of proposal to include accounts, cashflow and so on.

What for? Explain the rationale for the request.

How is it to be repaid? Know your own personal and practice financial position. If you cannot explain your practice profitability what does this convey to your manager.

Can they afford the repayments? Projections and reference to existing accounting information.

What are the risks? Consider the possible downsides then resolve them.

What is the bank's 'fall back' position? Quality and income generating ability of dentist and security.

If you follow these guidelines things will be achieved quicker and an understanding will develop between the bank and yourself.

To continue what you have achieved already started, talk to the bank manager during the year. Update him with any changes, positive as well as the negative ones. If you foresee a problem contact the bank, this shows an appreciation and knowledge of your practice. It also allows more time for the bank's input. As an accountancy colleague once said, if you have a problem and ask a bank manager for an immediate answer it is usually no.

It is in everybody's interest for you to succeed and the bank should be considered as a financial partner not the inconvenient, uncaring banker.

A good, caring bank will recommend an annual review irrespective whether you borrow funds. This enables all aspects of your practice and the bank's services to be discussed 'face to face' to reinforce the mutual respect that should be developing. Be mindful that there could be a cost for this, depending on who are your bankers. To keep it simple:-

Be honest

Keep in contact

Avoid surprises

THE CHOICE IS YOURS

You can present your case effectively and involve your bank in your practice but which bank to choose?

It is not as straight forward as it seems as all banks offer varying levels of service, different products and contrary to popular belief not all banks are the same.

Choose your banker with care. Try testing him against the following criteria:

Knowledge of dentistry
Is there a specialised unit? If so does it provide nationwide coverage? What you do not want is one bank with one policy interpreted differently by individual managers around the country.

Does the bank manager visit you?
This is a cost in addition to any bank fees as you are unable to earn during the time at his office, include travelling time.

Practice bank account
Can it fulfil the standard requirements of a practice, e.g. standing orders, cheque books and so on.

Credit interest
Does the current account earn Credit interest, is it tiered and can it be individually tailored to your practice as we do. Our practice account can combine the current and deposit accounts in one account at a preferential interest rate. This saves time, effort and maximises income.

Practice Funding
Do they provide practice finance at competitive rates, is any price differential possible between secured and unsecured lending? What value do they assign the security? We recognise the value of your income stream and this effects our view of security.

Is there a policy of continued customer contact?
Annual review at a minimum.

Charges
Not all banks are the same, consider them all before committing yourself. Remember the best way of ensuring you enjoy painless banking is by talking to the bank and using us and our contacts. We may not be able to help but we normally know someone who can.

Jay Patel
Professions Unit
Bank of Ireland
36 Queen Street,
London EC4R 1HJ
Tel: 020 7634 5064

AN EVENING WITH

Manny Vasant

Subir Banerji & Russ Ladwa share an evening with Manny (Manjul) Vasant

"Man is stronger than the strongest beast, not physically, but in inner wisdom. Failures and disappointments in life are just common and sometimes may be even rewards in disguise by the way of future successes. Don't let this little disappointment involving a delay of six months, in your goal, rob you of your "peace of mind"– so vital for your many battles in future."

Excerpt from a letter written by Manny's father to his brother Kishor during a temporary disappointment during his medical course.

These words are a constant source of strength and solace to Manny at all times. As he successfully made it to the Gillmans Point, the official certification point at the top of Mount Kilimanjaro, these words were still echoing through his mind as they always do. He believes that a man's job is to do one's best - the result, to a certain extent, is irrelevant and certainly out of one's control.

Despite a busy schedule Manny found time to meet with us. Over dinner we chatted freely and he was very generous about sharing his many stories, both good and bad! His experiences through life, it seemed, have acted to catalyse his strength to achieve the success he now has and rightfully deserves.

Manjul believes that the Asian Odontological Group (AOG), as it was called then, was officially launched in 1982 at a social gathering at the YMCA Croydon which Manny had organised for Asian dentists. Some 70 or so dentists attended this function. A social event at Guy's Hospital paved the way for regular events in the AOG's calendar. Soon after this event, Raj Rayan launched a newsletter which really became the voice of the AOG. It was Manny, who wrote a letter in this newsletter and suggested that the name be changed to Anglo-Asian Odontological Group. Even in the early days he had the vision that this group would one day be prominent in the national scene, indeed with potential for international recognition.

Born and brought up in Tanzania, Manny obtained a place to read dentistry in Bombay at one of the oldest dental schools in the country- The Nair Hospital Dental College, a colonial British institution. At the University, by coincidence, he met his old high school class-mate from home, Meena who was to later become his wife. On qualification in 1972, due to the political climate in East Africa, Manny was forced to come to England and re-qualify to be able to register in the UK. This, he did in a record time of four months. The difficulties of overseas graduates wanting to register to practice in this country was experienced first hand. Many of his contemporaries could not take the stress. Many sought other jobs such as bus conductors or clerks for survival. Some qualified up to 20 years later – others were not so lucky. One or two even lost their bottle completely. The stress and the frustration was too much. For a man of high principles, it was only natural that he take up their cause.

On qualification, he got married in Croydon, Surrey and set up a home there. This was to become a meeting, eating and teaching place for those who followed him. To this day, Manny continues to run courses for them- albeit, these have now progressed to better and bigger venues. Manny quietly, but persistently, continued his crusade for a level playing field. This could not have gone unnoticed. The International Qualifying Examination launched in year 2001, by the General Dental Council is a welcome change.

Manny was president of the AOG in 1994 and amongst others, along with Raj Rayan and Ruby Austin, a founder member of the Central London MGDS Study Group. He has remained a strong advocate of postgraduate education with a career pathway for general practitioners firmly in mind. Running two busy practices himself, how he finds the time to fulfil his many commitments of being a vocational trainer, VT advisor, lecturer, examiner for various examinations — the list is endless and is highly commendable. Since 1997 Manny has been appointed to become a Regional Advisor (University of London SW Thames VT Scheme). Fighting against all opposition for his principles and beliefs seems to be the driving force behind this dynamic man.

A committed family man, his daughter is an optometrist and his son is now following in his footsteps, at GKT Medical and Dental School, London. Manny has been and continues to be, a mentor to many practitioners, guiding them through the Faculty examinations. He also lends the benefit of his considerable experience to help colleagues write articles, organise lectures or set up practices. He remains grateful to his first principal Dr Harris Yee-chong of Mitcham Surrey for offering him an opportunity of a job after (unsuccessfully) having knocked on several doors. Subsequently, his second principal, Dr Lalit Bandlish London, encouraged him to carry on with his passion of taking post-graduate education and allowed him to make his frequent journeys to the USA.

Successful in the American Board Examinations and having obtained a licence to practice in the state of New York, early in his career, he has friends on either side of the Atlantic. When asked for advice from professional colleagues, one can always say that "I don't know the answer to that but I know a man who does" and then refer them to Manny who is willing to help. Whether he is on a squash court, golf course, at surgery or lecture podium, the essential ingredient is that he "enjoys" what he does, this seems to be the common denominator for his success. He remains highly respected in the professional and academic circles.

Sharing time with him at a restaurant across the road from his practice was a highly pleasurable and informative experience. Achieving what he has so far one would expect that he has deserved to take things easy. Hearing what he has planned for the future however, it seems that he is not one to rest on his laurels.

DENTAL CONTROVERSIES ACROSS THE POND
THE INTELLECTUAL DEBATE.

A JOINT MEETING BY THE PIERRE FAUCHARD ACADEMY AND THE FACULTY OF GENERAL DENTAL PRACTITIONERS (UK) THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

On the 29th of June 2001 at The Institute of Physics in London prominent clinicians and academics from both sides of the Atlantic were brought together for a stimulating meeting. Raj Rayan, Dean of the Faculty, set the tone. “Where is the scientific evidence?” he asked. As clinicians we carry out forms of treatment everyday on our patients which would not stand up to scientific scrutiny. Using examples he challenged the basis of the rationales used for dental treatment. Where do we stand as a profession? As scientists? Technicians? Or artists? The bottom line — “Do the patient no harm!!”

Senator Rawson from Las Vegas put forward the scientific basis of bite marks as used in forensic pathology. The bite marks left at the scene of a crime are so unique that it is regarded as strong evidence to prove the innocence or guilt of an individual. His flight at least was not delayed unlike the other American delegates led by Dr Arun Nayyar.

Larry Holt stressed the financial virtues of fee per item based dental treatment against the Insurance based system of payments in the USA. Clinical freedom and a set up to provide high quality dental treatment at a pace which best suited the clinician were described as the desirable advantages. The comparison of the NHS system to the insurance system became inevitable and was discussed at length with contributions from the delegates chaired by Rash Patel.

Under the guidance of Dr Arun Nayyar, Dr Randy Muecke and Dr Leever presented an overview of a technique to predictably and repeatedly mount the maxillary and mandibular casts of a patient using cephalometric radiographs. The technique, for which the patent is pending, appears to increase the accuracy and reproducibility of advanced restorative work.

With the knowledge that the revenue for dental treatment in this country of 2.5 billion is the same as that spent by this population on Chicken Tikka Masala, the meeting drew to a close.

At the Pierre Fauchard Academy (PFA) Dinner, which followed later that evening, several new fellows were inducted. Amongst them were Amolok Singh, Raj Majithia, Jatin Desai, Paul Howard and Tony Kilcoyne. Organised in 1936 the PFA is an International Honour Dental Organisation and one of its primary objectives was the extension of control by the dental profession over its own literature. This control has remained an important function of the Academy. It is a recognition for ethical dentists who have made contributions to the art and science of dentistry or to society. Membership to this Academy is by invitation and no doubt the newly inducted fellows felt privileged to be a part of such an organisation.

So you want to be a TV Star

Asks Russ Ladwa.

At the end of a long day while negotiating a difficult root canal, I thought that the phone call from "Nicola of ITN" was somebody trying to sell me something so I asked the receptionist to take a message. When, out of curiosity, I returned the telephone call the next day, it was indeed somebody from the news channel wanting me for an interview but by that time they had found somebody else. My teenage daughters were most upset that I had missed out on an opportunity to be on TV.

Personally I was relieved because I wouldn't have been prepared. For any media encounter one has to be prepared and go with confidence. As a BDA media spokesperson (and hoping to speak for the FGDP too!) I had a fascinating training day with some other aspirants recently at Wimpole Street, conducted by the thoroughly professional media consultant, Kim McLoughlin (who among other things was involved with producing the Kilroy programme).

You must check your facts beforehand (NEVER LIE). For a telephone interview, stall for time to prepare, rather than go straight into it. Have three short, simple positive "messages" you want to get across planned and get them in in the first few minutes because "waffle" and time constraints will edit out quite a lot.

Be warned that there is no "off the record" remark with a journalist. If you do not want something recorded just do not say it. I have known colleagues get into trouble for trying to be honest and fair. That's another thing, as a professional person you may feel you have to give a balanced argument - DON'T. You give your/the professions side. The journalist will do the opposition.

An interview in the practice can be disruptive. Two minutes of airtime could take hours to record! But do not be tempted to be filmed on the golf course or by an expensive sports car. Television is a powerful medium. Remember the greatest impact is not made by what you say, but your body language first, then your voice and the actual words the least. So smile, look positive and sympathetic; wear sensible comfortable clothes (no garish colours or checks) without bits of paper to distract. Do not make casual remarks even if the interview has formally ended.

In any interview the journalist has an agenda, so learn to deflect some questions so that you can get your message in. Avoid acronyms and jargon. Rule of thumb is that what you say should be in words that on average a 15-year-old can understand. We practitioners tend to speak too much of the technical language which may impress our colleagues, but not the lay audience.

As an interviewee you have some rights. You are allowed to ask what the format/type of programme is, the audience, the other participants, recorded/live etc. Interestingly you can also guess what the first question will be, but not a detailed list of all the questions. You also have the right to go back and correct something, even if the programme has been recorded. Never be afraid to correct a mistaken statement that the interviewer is making but be sure of your facts.

Avoid any negative aspects or unfavourable words to creep into the interview. Always be confident, upbeat and well prepared. In this age of spin doctors, advertising and accountability the media can be a powerful tool for you and your profession if used wisely. Any media encounter should therefore be welcomed as a golden opportunity to promote your profession and practice. So go and fly the flag positively with pride, power and professionalism.

Russ Ladwa.

NEW NEWS

RAJ RAYAN & AMALOK SINGH.

Re-elected in to he GDC.

AOG PRESIDENT.

AOG president Ian McIntyre receives Probe lifetime achievement award.

APPEAL TO THE TRADE AND PROFESSION FROM - MANJUL .

Donation and materials to a Hospital in Mwanza, Tanzania.

Access to dental services even in Mwanza, the second largest town in Tanzania, are very limited. For the disadvantaged, elderly and poor the suffering and pain can be terrible. YOUR help would alleviate much pain and suffering.

We are helping to set up a dental clinic within a hospital to serve the local community in this town. The services will be available to all at very subsidised costs and will be run by a local charity. A local dentist to run the clinic has been identified. I have personally visited the hospital and would endorse the project. There will be an opportunity for any volunteers (own travel expenses but free accommodation possible) to go and help once the clinic is running.

Simple serviceable dental equipment (in working condition) and materials are required.

PLEASE HELP!

Please send details of any available equipment to:

Dr Manny Vasant
Appeal co-ordinator
1210 London Road
London SW16 4DN
Fax: 020 8679 3126
Phone: 020 8764 1424 (please fax or e mail)
e mail: Manny@vasant.demon.co.uk

CLINICAL GOVERNANCE

Air Vice-Marshal Ian McIntyre

Clinical Governance is the subject of more confusion and suspicion than it merits; just because it is a Government initiative does not automatically make it a bad thing for the GDS practitioner. Recent articles in the dental press has even suggested that it is going to become some malign influence by those dry fingered dentists seeking to control the real workers. Perhaps as one newly arrived in the dry fingered brigade and working in Health Authority, I can put some of these apprehensions at rest.

Essentially CG is a means for a clinician to monitor the effectiveness of their own professional practices, both medical and dental, their conduct and performance. The main aim is to standardise the perceived wide differences in the quality of clinical care throughout the country and to build upon accepted common best practice. While Health Authorities may be able to help with the process, for it to be successful it must be "owned" and run by the participating clinicians themselves.

In my opinion, there are 5 main building blocks to CG:

1) Clinical Audit
2) Clinical Effectiveness - Evidence Based Dentistry
3) Risk Management
4) Quality Assurance
5) Practice organisation and staff development.

Quality assurance, improvement and management can be addressed by:

- Greater use of research in clinical practice
- Measuring performance against acknowledged and agreed standards
- Providing career development for the whole dental team
- Learning from complaints
- Strategic Priority Areas

Clinical Excellence
- Evidence Based Decision Making.
Three critical areas:

- The dentist's expertise, skill and judgement
- The needs and preferences of patients
- Acting on the best available evidence

Clinical Excellence
- Clinical Effectiveness
Clinical effectiveness is an umbrella term for activities ensuring that the best care is given. It involves finding the evidence, acting upon it, monitoring and evaluating the results. Because so little scientific evidence exists to support most dental procedures this is an area where standards could and should be set by practitioners themselves through audit led clinical guidelines and evidence based practice. Clearly from the outset audit projects must have strict criteria and standard setting must be based on current best evidence

Clinical Excellence
- Clinical Audit
CA is the systematic critical analysis of the quality of dental care, including the procedures used for diagnosis and treatment, the use of resources and the outcome from the patient's point of view.

Clinical Excellence
- Research and Development
Never an easy area for busy dentists requiring time energy and resources. Encouragement will be necessary at a national level before this can become a reality outside universities.

Clinical Excellence
- Patient Experiences
Clinical Governance requires a change of attitude from the "participant-Recipient" style of practice to one where there is a genuine partnership with the patient. It is more relevant in medicine perhaps, but an important factor in Government thinking nevertheless.

Clinical Excellence
- Quality Assurance
Quality assurance is based on setting and meeting standards; setting the standards is the hard part. Quality assurance and clinical governance are linked through the risk management process.

Standards Of Care

Standards of Care - Quality Improvement
Quality improvement links quality assurance and audit so that having met the standard in quality assurance and measured the outcome by audit you then aim for an improvement - the audit cycle. Quality improvement is supported by:

- Leadership by the team leader, usually but not exclusively the dentist
- Continuing professional development - meeting the GDC guidelines
- Sharing of information

Standards of Care
- Continuing Professional Development
CPD is about developing yourself and your staff in a process of "lifelong learning".
It supports CG by:

- Ensuring skills are up to date and effective
- Ensuring that skills are appropriate to the services being offered.

For staff CPD should include a training and development plan based on needs rather than interests, appraisal, encouragement from senior staff and time. The resource implications of CPD require decisions at a national level.

Reducing Risk

Risk management should include:

- Reporting incidents
- Risk assessment and prevention strategies
- Handling complaints
- Clinical supervision
- Dealing with poor performance
- CPD

The booklets produced by the Protection Societies to assist in the development of a Risk Management regime are excellent and should be used as guidance for individual practitioners.

There are packages available from the BDA and others to assist practitioners in preparing for Clinical Governance, but I personally favour a more local approach where each practice thinks about it for itself. Using a cookbook approach from a third party might get a tick in the CG box but is less likely to generate the change in practicing behaviour that should produce lasting benefits for both the patient and the practice.

And what about the threat that "Big Brother" is somehow going to use CG to impose the Governments standards and interfere with your clinical freedom. I believe that nothing could be further from the truth. Used properly CG could be about setting new and higher standards for general dental practice. If the evidence were there we dry fingered operators would be hard pushed to argue against it, the trick will be to use CG to generate the evidence that the Department of Health can not ignore. The reins are now firmly in the practitioners hands if they have the courage to take control.

A Millennium of Endodontics:

A Historical Perspective-Part 1

By Sanjeev L. Bhanderi BDS Lon. MSc

Endodontics had its humble beginnings in the bizarre ideas and treatments that were provided in ignorance of the pathological processes involved. Much pain was endured by the patient at the experimental hands of our predecessors in history as they derived the theories we can now take for granted as the principles of modern Endodontic therapy.

The signs and symptoms of infection of dental origin were documented as early as 3700 BC by the Egyptian civilizations. Around the era of the ancient Chinese Dynasties a phenomenon was described, that could be likened to an alveolar abscess, resulting from infection by a mystical "white worm with a black spot on its head" (probably describing the appearance of non-vital fibrous pulp tissue). This "worm" theory remained established for thousands of years, through the ages of the great Greek and Roman scholars and physicians, beyond the Middle Ages, until quite early on in the 19th century. Other attempts were made in order to identify the causes of toothache with diagnoses often being quite outrageous as: 'Fungus' of a nerve (a clinical description probably that of a pulp 'polyp'); and, 'vicarious menstruation' from a tooth in a case of a young women![1]

Work by Sixteenth century anatomists began to challenge the 'worm-theory' of dental pain. In 1746, the maverick ideas of a certain Pierre Fauchard may have started the birth of operative endodontics in a form familiar to us today, based on accurate descriptions of pulp cavity and root canals of different teeth. It was slowly becoming appreciated that it was dental decay that caused much of pulp-disease and so eventually displaced the 'worm-theory' once and for all. Then, towards the end of the 19th century, Roentgen was to discover X-rays (in 1895). The implementation of this latter discovery in clinical dentistry was rapidly seen to give endodontic therapy a more scientific foundation together with irrefutable diagnostic evidence of bony disease that could now be directly associated with periapical (and periodontal) pathology. Also around this time, the introduction of topical cocaine analgesia fueled a surge in popularity for root canal treatment of the day and became more accepted by patients.

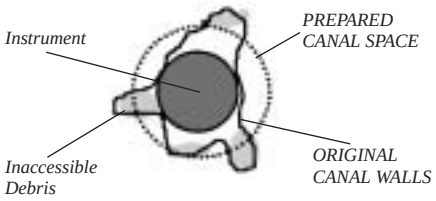
The treatments evolved still without any sound diagnoses and so remained only palliative. Arabian physicians would brutally sever the nerve of the offending tooth by subluxating it, which apparently would resolve the persistent pain![2]. Techniques for 'capping' exposed nerves in order to treat them superficially but also attempting to maintain its health became the vogue. In the 17th and 18th centuries, each dental 'physician' had his own favourite exotic concoction for the pulp-capping technique: oil of cloves, arsenic, opium, nitric acid, creosote, and even red-hot instruments for cautery. From this, materials that could provide a mechanical barrier within the treated root were used (approaching today's concept of 'obturation'): gold foil, lead plates, asbestos, and Hill's stopping (gutta percha).

Within our lifetimes (and still today!), 'pulp capping' still remains present albeit with less toxic agents (e.g. steroid-antibiotic and calcium hydroxide cements). However, unfortunately such treatment is often inappropriately given in an attempt to 'avoid' conventional endodontic intervention and should be regarded as pulp "*crapping*" rather then capping! Also, other biologically 'offensive' materials based on phenolic and paraformaldehyde compounds have, only until recently, been popular as root fillers or sealers until their toxic effects were discovered. Today, the philosophy of root canal 'fillings' has changed towards providing purely a passive mechanical barrier, initially, with the implementation of silver cones, stainless steel points, and acrylic cones. Currently, Gutta Percha has proved to be the material of choice.

ROOT CANAL PREPARATION

Concepts fundamentally changed in 1955, when Ingle[3] showed that endodontic failures were consistently resulting from poorly filled canals and this was somehow closely related to their initial instrumentation. He developed the *Standardised Technique* that aimed to create an ideal *conical* preparation by the grinding action of *reamers* into the root canal. Although groundbreaking at the time, certain shortcomings were encountered concerning the reaming technique. Difficulties were seen in treating curved canals, with ledging-formation and perforation of canal walls near the apex. As a solution, smaller more flexible files were then advocated, but this would then potentially underprepare the canal walls and leave infected and necrotic material beyond the curvature or where anatomic aberrations remain inaccessible (Fig. 1).

Fig 1.



This led in 1958 to a establishment of a standard which eventually was taken up by the Federation de Dentale Internationale (FDI) and then by the International Standards Organisation, encompassing size, shape and nomenclature of a wide range of endodontic instruments (ISO Standard No. 3630)[4], to give us the familiar 2% tapered instrument. Improvements in handpiece-technology in the late 1960's also saw the emergence of power-driven intracanal preparation claiming to facilitate the procedure (e.g. the *Giromatic* reciprocating handpiece[5]). Such methods, however, had serious dangers concerning the loss of tactile-feedback, extrusion of debris through the canal apex and aggressive cutting action especially around curvatures. Recent improvements in instrument and electric-motor design have paved the way for a newer interest and hope in their re-emerged use (discussed in the next article).

EMERGING CONCEPTS

"We do not believe that all teeth can be saved, nor do we believe that all pulpless teeth should be extracted ...." (Moffit 1922)[14]

THE ROLE OF MICROBIOLOGICAL INFECTION

In 1894, Miller[6] published his findings on the role of *bacteria* in dental disease. He was one of the first to suggest that elimination of damaging bacteria by removal of the pulp to the apex was the most satisfactory treatment for affected teeth. From this, much research was done particularly in the mid- to late 20th century on establishing the vital of role of

bacteria as the scourge of endodontics. Groundbreaking work by Kakehashi in 1965[7] showed how germ-free rats would retain healthy pulps even when teeth were perforated and opened to their oral cavities; however, in normal rats endodontic pathology ensued inevitably. So earlier theories of the empty 'hollow tube' root canal causing apical pathology were unfounded, and it was the importance of the management of bacterial contamination that was vital in the fight against endodontic disease.

Thus, with the knowledge imparted from this work implicating bacteria as the major aetiological factor, root canal therapy could now play a significant evidenced-based role as a treatment modality in dental practice to restore periodontal health and retain infected teeth. Thus, *debridement* of the canal space to eliminate infected pulp tissue remains critical. This requires the following prerequisites:

- an aseptic technique
- good access into each canal system
- complete obturation and fluid-tight seal to prevent re-percolation between the root canal space and the 'outside'

Aseptic Technique:
"Cleanliness is next to Godliness"
This remains of paramount importance prior and during the clinical stages of endodontic treatment. *"... learn to see microbes with a mental eye, as distinctly as we see flies and other insects..."* (Joseph Lister, 1875)[8].

This metaphor still apt then as it is today in the current climate of cross-infection and microbiological scrutiny, with threats from *BSE* and *Hepatitis B* and *C*, the minimum of autoclave decontamination is imperative, short of single-use items! The clinician should be able to at least limit further contamination of the root canal system. How best can this be achieved?

- Sterilised instruments
- Disinfected tooth
- Prevention from contamination during the procedure

Well the first point goes without saying in modern dentistry. Disinfection and isolation of the affected tooth is also vital. This can really only be achieved with *rubber dam* application and surface disinfection. The rubber dam seems not to be used widely in the busy restorative practice, probably because its application has not been taught that well in the past, if at all! Therefore, the following tips may be helpful:

- Set up the rubber dam apparatus at the beginning of the clinical session as shown in (Fig. 3). Application of the clamp (Fig. 2), rubber dam, and frame together takes seconds and minimises awkward fiddling with rubber dam.

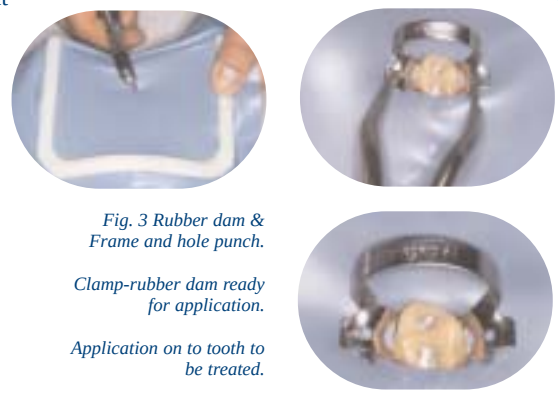


Fig. 3 Rubber dam & Frame and hole punch.

Clamp-rubber dam ready for application.

Application on to tooth to be treated.

- Show the patient the rubber dam and briefly explain why and what you are going to do.

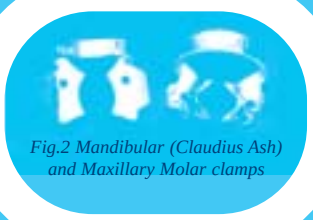
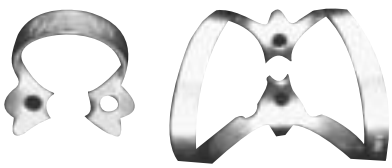


Fig.2 Mandibular (Claudius Ash) and Maxillary Molar clamps

- Give a little additional gingival-infiltration anaesthesia to make application more comfortable.
- Simply clamp the affected tooth (Fig. 3) or maybe a distal neighbouring tooth (so throw the floss and widgets away!)
- Smear the tooth with any Chlorhexidine preparation (e.g. *Hibiscrub* hand wash) to reduce the salivary contamination before access into the pulp.

Fig.2 Premolar clamp and Anterior ('butterfly') clamp (Claudius Ash)



As 'practice makes perfect', a willing candidate such as your delightful nurse will improve you proficiency at application!

Even apprehensive patients will quickly become accustomed to the rubber dam. Many will not have had the experience before and often remark on how 'safe' they had felt during its use, with a lack of materials falling in to the back of their mouths or instruments poking away their tongues. Of course additional benefits are:

- prevention of instrument-loss down the GI tract or into the lungs
- allows a clear and visible environment within to work in and around the tooth
- prevention of leakage of unpleasant intracanal medicaments onto the tongue or down the throat
- The definitive restoration can be provided easily with good moisture control, essential for current dentine-bonded materials or resin-modified glass ionomer materials
- Oh, and keeps patients quiet!

So it is worth the effort and it will improve predictability in your results, make root canal treatment more pleasant for all concerned, allow you to perform the clinical stages more efficiently, and is not expensive.

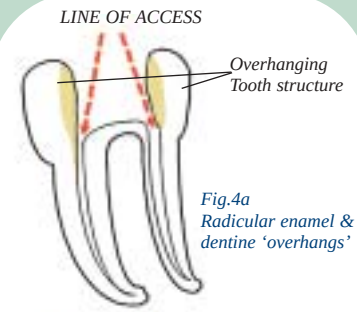


Fig.4a Radicular enamel & dentine 'overhangs'

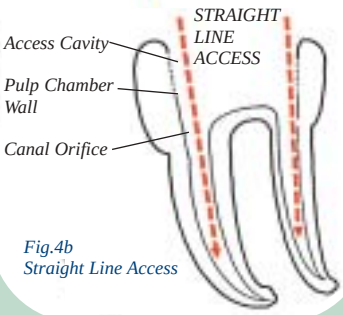


Fig.4b Straight Line Access

ROOT CANAL ACCESS AND PREPARATION

Attempts were made to apply G. V. Black's original principles of cavity design, with modifications to the endodontic situation, by dividing it into two phases: coronal preparation and radicular preparation. The access cavity should initially relate to the

internal pulp chamber walls and then 'project' the root canal orifices coronally. This may be influenced by site, shape, curvature, and direction of the root canals taking due account of deposition of secondary/reparative dentine. Thus, from a mechanical viewpoint, this concept of *coronal flaring* allows initial root canal preparation to be performed

- It will straighten the path of access into curved or calcified canals (Fig. 4)
- Removal of the majority of endodontic infection from the contaminated coronal zone of the canal[15]
- Apical instrumentation is thus made more predictable and effective in finely curved canals, reducing the risk of gouging (or 'zipping') the wall of the outer curvature

Fig. 5 4% Sodium Hypochlorite preparations (available from your local Supermarket)

- Deeper delivery of irrigants and debridement
- Improved resistance-form for the final Gutta Percha obturation and penetration of condensation implements towards the working length.

The overall aim is to achieve *straight-line access* (Fig. 4a & 4b)
Irrigation plays is an equally significant role in canal cleaning. They achieve more than simply washing out debris:

- chemical dissolution of tissue remnants
- antimicrobial effect
- lubrication of the canal walls to facilitate instrumentation.

Sodium hypochlorite (0.25-5.25 per cent) is the solution of choice and easily available as a

Fig. 6 EDTA preparations: gels (Optident & Dentsply-Maillefer) & Liquid (Pulpdent)

standard 4% solution (Fig 5). In addition, up to 17% ethyl-diamine-tetraacetic acid (EDTA, Fig. 6) is suggested as a chelating agent, which removes calcium ions from dentine and the smear layer thereby softening their organic-inorganic complex rendering their removal easier. Other agents such as 0.02% chlorhexidine gluconate (mouth wash) maybe helpful during emergency root canal cleansing when rubber dam is not used, prior to arranging the definitive endodontic appointment.

CONTEMPORARY PREPARATION TECHNIQUES

Over the latter part of the century, various techniques had been developed for the preparation and shaping of the curved canal to achieve an acceptable tapered form.

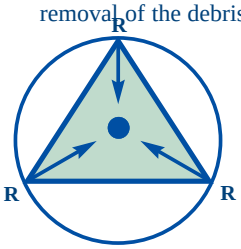
- Serial *Step-back* (1969)[9] - which aims to achieve a smooth taper from apex to orifice.
- *Crown-down Approach* (1984)[10]- as its name suggested, is broadly considered as step-back 'in- reverse'.
- *Modified Double-flared Technique* (1983)[11]- is a combination of both step-back and crown-down. It therefore has with the benefits of pre-coronal flaring
- *Graduating/Greater Taper* (1996)[12] - will be discussed in the next article

All these techniques (except the latter) advocate that instruments should be used in 'scraping' or filing action. This can push debris apically and cause shaping errors particularly in curved canals. As a possible solution, James Roane in 1985[12] developed the *Balanced Force* technique and suggested that the file may maintain the central axis of a curved canal if a rotational force was applied to it, so eliminating canal transportation. This works best with a file of a triangular cross-section such as a K-type file. Such balance of forces is generated by rotating the file with all its cutting blades in contact with the dentine, as occurs in the narrow apical region of a root canal. Thus, the digital action is:

1 a passive restricted clockwise angle that is sufficient only to engage the blades into the dentine wall;

2 then, a counterclockwise rotation with apical pressure that is sufficient to cut and load the cleaved dentine-chips into the flutes-spaces;

3 finally, this is followed by a slight clockwise turn to release the file and allow removal of the debris from the canal.



R - inward forces reacting against the cutting of the file-blades into dentine canal wall, all equally resolving into the centre of the file

(A filing 'scraping' action would not be balanced and canal wall is cut unevenly and ledging or transportation may result.)

Fig. 7 The balanced force Technique

This allows the reaction forces against the dentine-cutting blades to resolve or "balance" towards the centre of the instrument shaft. Thus, the instrument is not preferentially deflected towards any particular wall and so the central axis of the canal is maintained (Fig 7).

This is a technique that can only really be appreciated if demonstrated and practiced and most endodontic hands-on courses provide an opportunity for this. But when mastered it is far more predictable and efficient than the 'round-the-clock' filing technique that has been traditionally taught. It can be implemented right away in practice, as conventional *K-type* hand files are all that are required.

THE ROOT CANAL FILLING

The root canal is being *prepared* for obturation by virtue of the fact that it has been sufficiently disinfected, opened-up, and is of a satisfactory shape which it can be filled in three dimensions. Why fill once the bacteria have been removed? Root canals must be filled in three-dimensions in order to secure a fluid-tight seal from the apical tissues and lateral accessory canals, which will allow re-growth of retained intra-canal flora. But, more importantly is the fact that the coronal aspect is where the seal is paramount as this is the most likely source of potential contamination[15,16]. The 'obturation' should be considered complete only when the definitive restoration

has been secured at the crown of the tooth, otherwise this remains 'the weakest link'(!).

Gutta Percha remains the material of choice within the root canal as it possesses the most desirable properties and is relatively versatile in application. Traditionally, cold lateral condensation has been the technique of choice but with the realisation that gutta percha can be made to flow when heated, a plethora of new *thermoplastic* techniques have been developed and will be discussed in a later article.

So, throughout history 'root-treatment' has developed from a mere crude palliative procedure into a more biologically based discipline. Contemporary endodontics is now viewed to aim for the restoration of a healthy periodontal ligament, free of infection and inflammation and so keeping a tooth in function. Resolution of endodontic pathology involves chemo-mechanical debridement in an aseptic environment with judicious use of files that 'surgically' remove pathologically affected pulp tissue. It is impossible to completely sterilise the endodontium of a tooth so the aim is to decrease the microbial count to an insignificant (non-pathological) level and then incarcerate the residual flora, remove their nutrient supply, and prevent re-growth of the flora.

So what's in store for the *new* millennium? Now that we are equipped with the knowledge of the principles of Endodontics, the next article will enlighten on how technology has flooded the discipline with a plethora of new and exciting methods and materials that can be used to attain the highest predictability in clinical results with efficiency.

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