AOG

towards perfect practice

2005

THE JOURNAL OF ANGLO-ASIAN ODONTOLOGICAL GROUP

Presidents Message

Dear AOG members
Welcome to our newsletter

Following the events at the end of last year, I feel there is a new unity within the world. The importance of charity has never been more important. We have all realised what we have and can offer to others. Those who attended the Charity Dinner in January this year will have seen generosity of the highest nature first hand. That evening alone raised over £100,000, of which 90% at least is going directly to those who have been affected by the Tsunami. To date the AOG members have raised over £300,000.

The AOG is involved in all aspects of charity and fellowship, always striving *towards perfect practice*. We aim to promote good practice both at home and abroad. Over the past years we have donated to dental projects in India and Sri Lanka, as well as supporting a drug rehabilitation scheme in London. We have worked with international organisations to arrange conferences all over the world.

The AOG started as a small group of friends who regularly met for dinner in a student flat in Whitechapel, London. Through word of mouth, others came to know that there were people out there who liked to discuss dentistry over some food and a drink, and the society grew to what we know and love today. The giving nature started all those years ago and continues today in a larger scale with our numerous charitable donations. The social side has not suffered. We always have a Mehfil night, a family day, a golfing day along with evening seminars and lecture days. The year always ends with the infamous Annual Ball.

I feel this diversity makes the AOG a unique society, one that I am proud to be associated with and especially honoured to serve you as this year's President. Saying that, none of the events, or the society as such would be a success without the enthusiasm and participation from its dedicated and hard working committee members. A special thanks to those who are always there in the background supporting and promoting the AOG at every opportunity.

I look forward to seeing you all over the next year's events. I have even taken up golf so that I can attend the golf day as a player rather than a caddie!!

Please continue to support us so we can carry on going from strength to strength, and providing you with opportunities to learn, get together with friends and meet new people.

May I again take this opportunity to thank you for your support in the past and hopefully for the future.

Mr Rishi Mehrotra

Immediate Past President's Report

When it was decided by the Committee in 2002 that the Presidency of AOG should be a two year tenure rather than one; I had my trepidations about the decision. But I could see the logic behind the decision in that it gave the person time enough to set and achieve the objectives of his/her tenure. I must say in the hindsight that it did prove right.

I took over from the then President, Dr Abhay Soneji, in January 2003 with a heavy burden of having to emulate his leadership. In the two years that followed, with the help of my ever helpful and willing Committee we organised our regular AOG annual events - namely - Family Days, Seminars; IQE Days. Mehfils and the Annual Balls. On the Charity front, we donated amounts towards Southall Drug and Alcohol Project and a Primary Dental Care Project in Sri Lanka. We strengthened our ties with The Dental Directory and their support in all our activities is gratefully acknowledged.

We exchanged invitations to each others' annual functions with FGDP, CODE, BDA, the then GDPA and strengthened our ties.

I thoroughly enjoyed my time in the Chair and am grateful to the Membership for giving me this opportunity to serve the Organisation. I would like to express my heartiest gratitude to the Committee for all their hard work and support during these two years.

It gives me a great pleasure to usher in my successor, Dr Rishi Merhotra, to lead the AOG for the next year and hopefully for many more to come. It is generally a feeling within the membership that AOG needs young blood at helm to change both the direction and the style of leadership. Well, here we have young Rishi who I have no doubt will lead the organisation into a new horizon with all the zeal and gusto. I wish Rishi the best of luck and will always be by his side to assist him in any project he embarks on.

Dinesh Jani

EDITORIAL

It gives me great pleasure to report that the AAOG is, after a little pause, producing a bumper journal and has given me and Dr. Abhay Soneji the privilege of gathering articles, putting them together and after adding the final touches to produce this journal, which I am sure everybody is waiting to look at, read, learn and admire and rest assured that the AAOG is still going from strength to strength.

Mr. Ian McIntyre having successfully presided over the AAOG in 2001, passed the responsibilities onto Mr. Abhaya Soneji who also had a successful year, 2002, and with his team had organised events which included IQE day, Mehfil, Family day and the Ball. Then came the turn of Mr. Dinesh Jani, taking over the reigns from Mr. Soneji. Little did he realise that he had to keep the hot seat for 2 years. He managed well again with the support of his team, managed to organise the same events as his predecessor.

Among the high Rankers, like Raj K. Raja Rayan OBE, Ruby Austin MBE, Manjul Vasant MBE, joins Dr. Rashmi Patel with an MBE.Congratulations. May there be many more.

The AAOG is still active in raising funds for Charity. We raised substantial amounts of money for the Gujarat earthquake, and this year for the Tsunami. The AOG supported project at Chitracoot is still going strong.

This year we hope to see our website www.aoguk.org involved in more activities and hopefully provide more information - watch this space.

I hope that we have brought you a taste of what has transpired over the past few years and have given an incentive for those who write articles and contribute to other journals to do the same to the AAOG journal. Students are also encouraged to contribute.

Your comments and criticisms are always welcome. May I and Abhaya wish you all the best.

Saif Najefi
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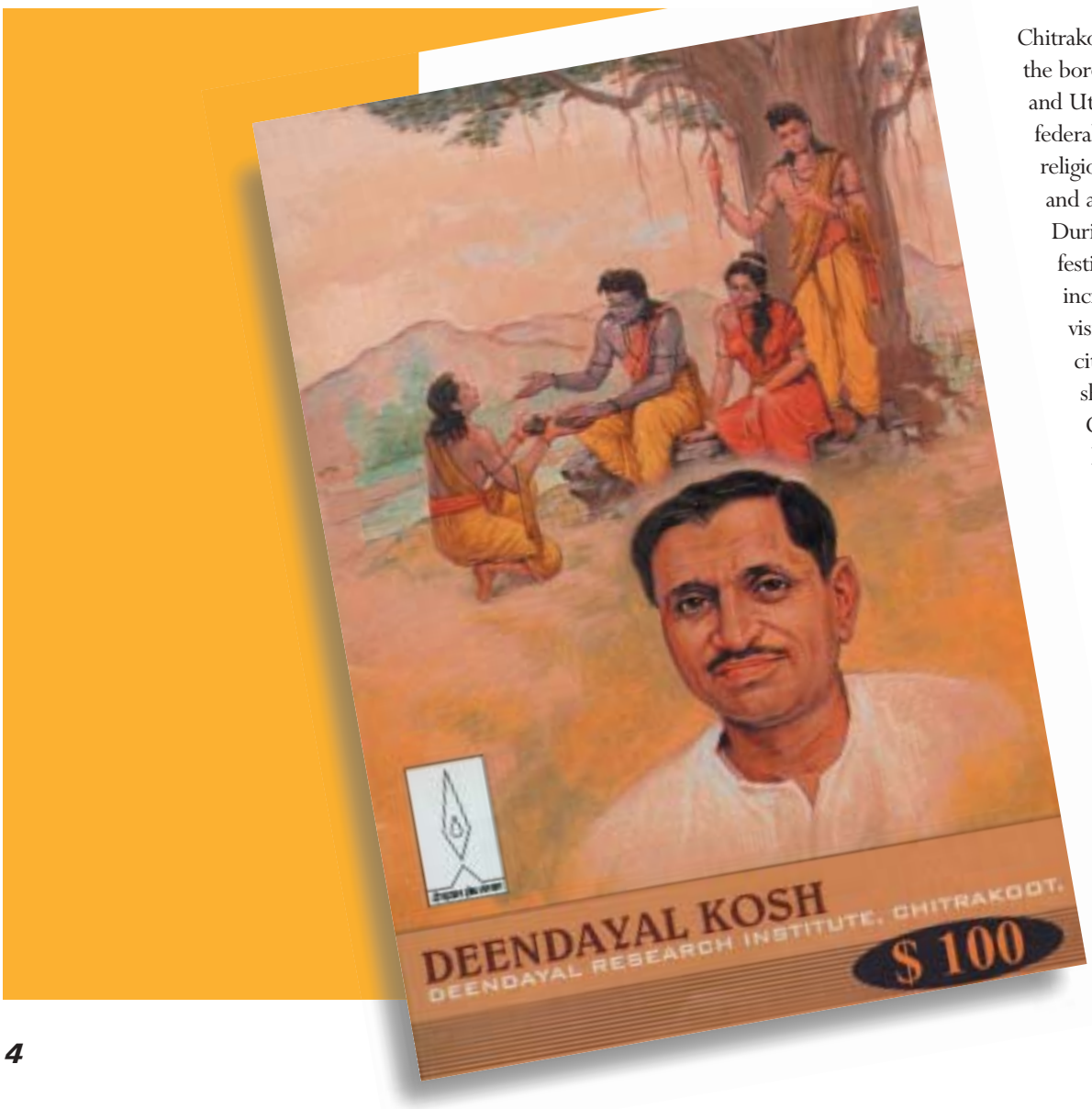
FDI Fund: Project report from Chitrakoot (India)

"The measure of economic progress and the success of economic planning is provided not by the man at the higher rungs of society but the one at the bottom. The nation cannot be vitalised until we are able to carry out a message of hope and action to the countryside where even today life stands still and parents are unable to give any direction to the future of their children..."

(Nanaji Desmukh. founder of Chitrakoot project)

Nanaji Desmukh was a prominent politician in the 1970's. About 18 years ago it was widely speculated that this dedicated man, full of passion and nobility, should occupy one of the highest offices of the country. His response seemed typical of Nanji: that his job is in India's grass roots, which the capital, Delhi, is not. To turn your face away from a coveted position requires deep convictions of purpose, which Nanji displayed by setting up the Deendayal Research Institute (DRI). This is an NGO (Non-Governmental Organisation) innovating dynamic rural regeneration.



Chitrakoot is a small town on the border of Madha Pradesh and Uttar Pradesh (Indian federal states). It is a unique religious place for Hindus and a place for pilgrimage. During some religious festivals the population can increase ten fold swelled by visitors. The nearest big city is Allahabad on the shores of the mighty river Ganges which is four hours away by car. The area is one of the poorest of central India and has a large tribal Adavasi population. This ethnic group has no social structure or land of their own.

The aims of DRI at Chitrakoot are five fold: education, life long health, reorientation

of agricultural practices, rural industrialisation and moral rearmament. This is a model of holistic development based on self-reliance and self-respect.

Elements of the Chitrakoot Project:

Education
DRI believes that the complementarity of schools, families and society is essential for the holistic and sustainable development of the next generation. Therefore several educational institutes have been opened.

Reorientation of agricultural practices
Establishment of agricultural colleges aimed at research and promotion of organic agriculture procedures. Distribution of seeds adapted to give maximum yield and introduction of water harvesting schemes provided better farming results.

Rural industrialisation
DRI is setting up cottage industries in every village to transform the available raw material into finished products. This aims at stopping migration of the rural population to the slums of big cities by bringing prosperity to the villages.

Life-long health
DRI aims at integration and renewal of India's two ancient sciences of Yoga and Ayurveda into a hospital with an in- and outpatient department. The dental unit is part of that hospital.

Moral rearmament
Newly married university graduate couples are invited to devote at least five years to serve among the rural population around Chitrakoot. They are provided with basic accommodation and a basic salary.
They are entrusted with the task of overall implementation of the project and are highly motivated to work in the social activities of the various development programs.

The Dental Project

It was during my first visit to Chitrakoot in April 1998 that Nanji Desmukh asked me to look at the feasibility of setting up a dental unit at Chitrakoot. The nearest dental facility was at Allahabad and most of the villagers cannot afford neither going there nor paying the treatment cost. Under surveillance of the University of Leeds and with the help of two vocational practitioners we carried out a dental survey to establish the basic needs of the population. The DMFT scores were 2.96 ± 0.38 for permanent teeth and 3.22 ± 0.53 for deciduous teeth. The filled element was negligible with a lot of untreated caries. Tobacco and pan chewing are widespread habits in this part of India.

Having established the basic needs fundraising started. Contacts were made with various dental companies and organisations in the UK The hospital gave us floor space for two surgeries and a waiting room in the outpatient department. KaVo India provided and fitted two state-of-the-art surgeries in April 2000. As soon as the surgeries were functional we started arranging electives by UK dentists. We also wanted to recruit Indian dentists to work at Chitrakoot and placed an advertisement. We now have Dr Sachin Raj and Dr Surabh Baweja working full time at the unit and seeing between 200 and 300 patients a month. There are also two dental assistants undergoing training.

The morning sessions are taken up by acute cases without appointments. Patients usually travel far for treatment. A nominal charge is made to those who can afford it. The afternoon sessions are appointments only for previously seen patients. The treatment demand has grown enormously over the last 18 months so that we ran short of hand instruments and consumable items. Our autoclave was too small as well and sterilisation too time-consuming. We applied to the FDI Fund for Developing Countries for which we were successful. The much-required equipment and material was shipped in August 2001 and helped us a lot in running the dental unit more efficiently.

The main problems that patients present are related to caries or periodontal disease. A handful of oral cancer or pre-cancerous lesions have been detected and have been referred to a charity cancer hospital in Delhi. A small dental laboratory has recently been added to the premises, enabling us to make simple removable prostheses.

In August 2001 we carried out a study together with two final dental students form the UK. The survey showed that

- There was no significant difference in caries prevalence between the children from DRI schools and villages
- Treatment needs in both groups are not being met
- There was a high prevalence of enamel defects
- Oral hygiene habits were not adequate and need to be changed through education and provision of low-cost effective oral hygiene aids
- The need for a comprehensive preventive programme is obvious

Future plans

The villagers living in distance to the dental clinic are those most suffering from disease and are those who cannot afford to travel to the clinic. The dentists at Chitrakoot have conducted a dental camp in seven villages covering the northern region around Chitrakoot They did extractions and simple restorations using the ART technique. We are now fundraising for a mobile unit that will cover all the villages that the DRI have adopted around Chitrakoot. At the hospital a new operating theatre is being built and it is envisaged that one day we might have a fully functioning oral surgery unit added to the hospital services.

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The Chitrakoot project has been mainly funded by donations from Indian industrialists

A Helping Hand for IQE Candidates

Manjul Vasant reports back from the AOG sponsored day for IQE candidates held in 2002.

The IQE is held under the Regulations made by the General Dental Council under section 16(4) of the Dentists Act and approved by the Privy Council. This exam is the only means whereby the Council can test the extent of the knowledge and skill possessed by an applicant for registration, whose oversea primary qualification is not generally recognised by the Council.

Historically, the Statutory Examination, which was the precursor to this examination, prevented overseas dentists from taking any courses before sitting the examination. This was so, as the GDC argued, that the former examination was a 'test of claimed competence', i.e. an overseas dentist who claimed to possess a qualification that was equivalent to the UK qualification should be able to pass the examination without any further training.

The Statutory examination included a theoretical and a practical on all dental subjects, including basic sciences, and made no allowance for the qualification date of the candidate. It is no surprise that many of the immigrant dentists had to change their career or emigrate.

It would have been interesting to compare the performance of local graduates qualified five years or so with this group if the same restraint was applied. Somehow, I could not see many volunteers – no wonder this research project was never attempted!

The IQE

Happily, the GDC did not wait for a legal challenge and in 2001 launched what is promising to be a much fairer examination – the IQE. The new examination is applicable to all non-EC graduates. (Australia, South Africa and Singapore graduates were not required to take the Statutory Examination.)

Unfortunately, courses for this intrepid group are not forthcoming. They do not qualify to attend the MADEL-funded courses and the few private courses that have sprung up are too expensive for this group who, by the nature of the qualification they are seeking, are largely unemployed and do not qualify for any benefits. However, the Anglo Asian Odontological Group (AOG) has sponsored such one-day events on three occasions since 1998. Speakers have been invited from the GDC and many other individuals have provided their services voluntarily.

At the beginning

The first event, in 1998, was attended by, amongst others, Professor McGowan (then Chairman of the Statutory Examination), Ian Waite (National Advice Centre for Postgraduate Dental Education), Dame Margaret Seward (then President of the GDC) and Ros Hepplewhite (Registrar of the GDC at that time). They all saw the need for such a day. If nothing else, it brings together a group who are, otherwise, very lonely and aloof. They are usually unaware that there are others in the same predicament.

The 2002 event

This year, the day attracted some 120 delegates, many of whom had travelled several hundred miles to attend.

Speakers included Ian Waite, Vishi Mahadevan, Raj Rayan, N Nasser and Joe Omar, all of whom gave up their professional time to address the group free of charge.

The highlight of the day was a 'product' of this course from the previous year, a woman called Gunjan Aggarwal who had since passed the examination. She gave a talk that provided much inspiration and support to the group.

Many of the AOG executive committee attended in person to give moral support and encourage the participants to use their surgery facilities for 'phantom head' exercises. This was much appreciated by the candidates.

Among the handouts, the participants received a list of fellow members with whom they were encouraged to form support groups. The feedback was extremely positive.

Dentistry 7 November 2002
by Dr M K Vasant MBE MGDS RCS (Eng), MGDS RCS (Edin), FFGDP (UK), FDS RCS (Edin)

A Millennium of Endodontics:

Clinical Preparation of the Root Canal. Sanjiv Bhandery

From the last article, we have seen how Endodontics or Endodontology has developed from the crude anecdotal notions of so-called 'physicians' of centuries past, into a more evidence-based *science*. And what evidence do we have to date? - the basic fact that it is the presence of **bacteria** that is the root (!) of all problems. So now we can define this particular field of dentistry: "the disease processes affecting the periodontal architecture (apically and laterally) as a result of infection deriving from the root canal system of a tooth".

In this part 2 (of three), we shall look at what this means to the clinician who is presented with a patient in the chair complaining of a head-splitting toothache (of endodontic of origin). Specifically, clinical *Endodontics* may be defined quite simply as: "the clinical stages performed on the tissues associated with the root canal system and all portals of exit, in order to render the adjacent periodontal tissues free of disease" The term *portals of exit* is extremely important in modern endodontics. It is necessary to now consider the implication of leaving pathogenic material within the intricacies, intercommunications, and apical delta of root canals and the possible pathways of communication to the external surface of the root, and its affect on the periodontal tissues. The complex anatomy of teeth has been demonstrated by many workers since 1925[1] and can be viewed in any textbook of dental anatomy. Thus, we are aiming to treat a 3-dimensional pulp space not just a root canal.

Now that we know *what* we are treating, the next problem posed is *How*? Over the past couple of decades, the fundamental concept of 'Cleaning and Shaping'[2], has confirmed our understanding of the clinical aims of endodontic therapy.

Cleaning: the removal of all potentially pathogenic contents of the root canal system.

Shaping: the establishment of a specifically shaped cavity which performs the dual role of 3-dimensional cleaning by allowing instruments and irrigants progressive access into the canal, *and* creating an apical preparation which will permit the final obturation instruments and materials to fit easily.

On a practical level, instrumentation on its own can only remove 30% of all debris from the pulp space[3]. We, therefore, require a liquid medium that can irrigate the canal space during the shaping procedure to flush out and dissolve all pre-existing tissue and cut debris, and even better, one that is antimicrobial to help the disinfection process. Currently, sodium hypochlorite (NaOCl) has been shown to be most effective against a range of bacteria, fungi, spores, and viruses [4], and a concentration of 0.5 -> 5.25% is universally recommended. Commercially available solutions are around 4%. In addition, it is evident that any cutting process in the tooth, whether it is coronal dentine during caries removal or root canal preparation, has been shown to create a residual *smear layer* which may leave behind bacterial cells or their by-products, which may affect the prognosis of the treatment. Thus, current techniques advocate the adjunctive use of 17.5% EDTA to remove this layer during or after canal preparation (see previous article).

Root Canal Preparation in the New Millennium

Previously, we had looked at the development of the 'Standardised' technique of canal *reaming* in the mid 1950's, and on to the current 'Balanced Force'[7] hand-shaping technique. The former technique was found to be inadequate in creating a canal space that was sufficiently cleaned and easily filled. Then, the *filling* (up and down) technique was advocated with an apical step-back approach From both a

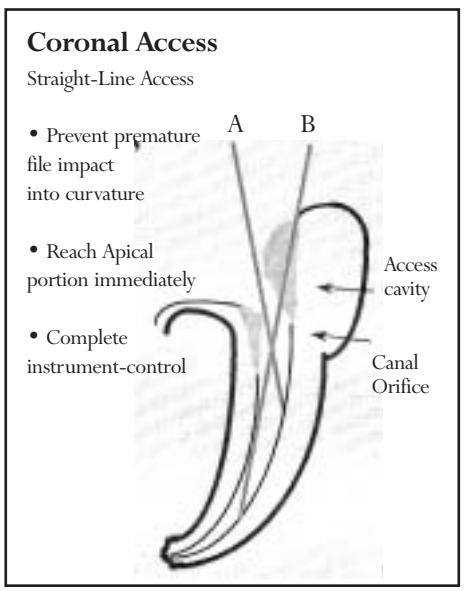
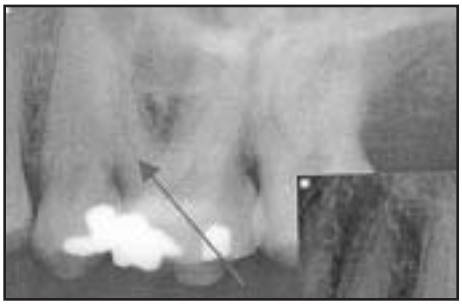
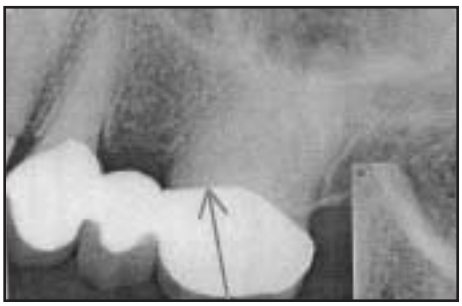
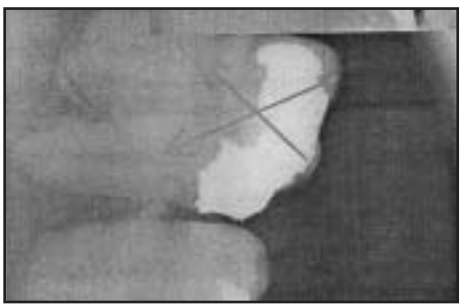


Figure 1. Coronal Access and pre-flaring







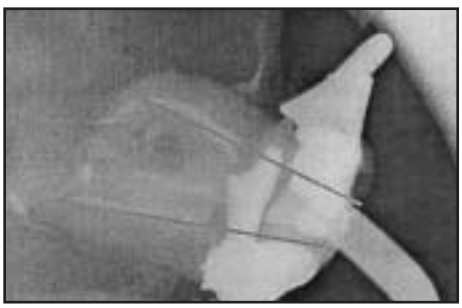


Figure 1. Coronal Flaring improves Straight-line Access

disinfection and mechanical viewpoint, it seems far more logical to initially perform coronal flaring followed by a crown-down approach [5,6] to clean and shape a canal. (Fig. 1 & 2).

Hand-filing does require a good level of tactile skill in order to prevent iatrogenic defects; particularly in curved canals [9] (Fig. 3).

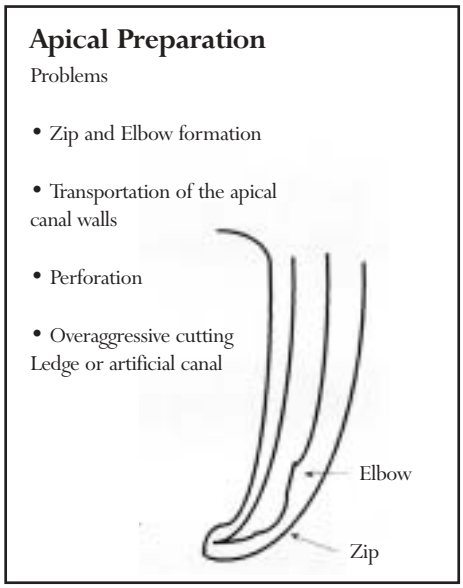
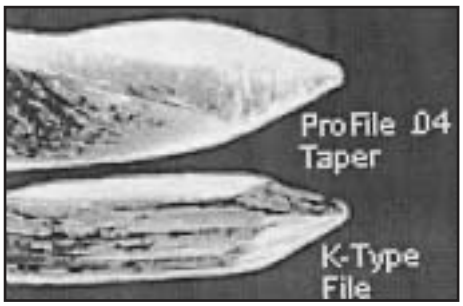


Figure 3. Procedural Errors during Canals Preparation

In attempt to solve this, file manufacturers have looked at the tips of various types of files, both stainless steel and the newer Nickel-titanium files (as well as the Gates Glidden bur), and have modified them to remove the aggressive sharp tip and terminal cutting blade to create a rounder safe-ended instrument (Fig. 4).



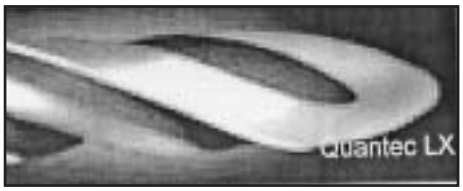
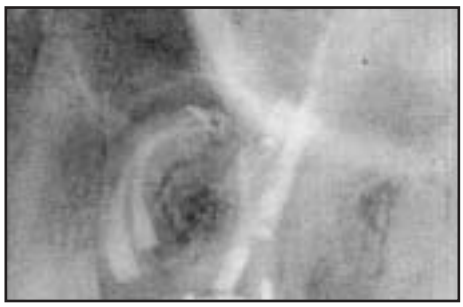


Figure 3. Modified file-tip designs

The 'Niti' Revolution

Traditionally, endodontic files since the 1960s have been made in stainless steel. This is a relatively rigid metal that needs to be pre-bent to negotiate curved root canals. However pre-bending can only be done according to the 2-dimensional image of the radiograph, and so procedural errors can still occur in the bucco-lingual plane, particularly if a heavy-handed action is used. Thus, the introduction of the 'super'-flexible nickel-titanium alloy (Niti) into endodontics in 1988[8] has quite literally revolutionised the predictability and efficiency of intracanal preparation (Fig. 5). Figure 6 summarises the outstanding properties of Niti alloy.



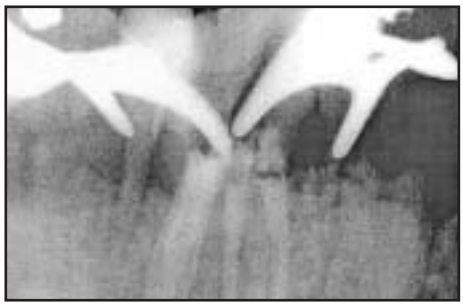


Figure 5. Curved canals refined with NiTi files

A Millennium of Endodontics:

Clinical Preparation of the Root Canal.

Nickel-Titanium Alloy ("NITINOL")

- **54:44:2 - Ni:Ti:Co**
- **Greater Fracture Resistance**
- **Higher Torque at failure**
- **Five times lower Bending Moment**
  e.g. Profile, Quantec, Niti-flex, GT file, Protaper and Lightspeed)

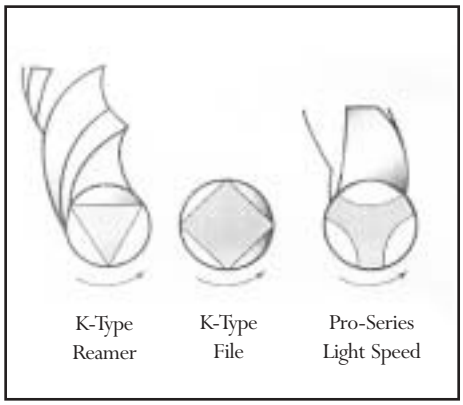
S.Bhanderi

Figure 6. Nickel Titanium alloy in Endodontics[8]

Most hand-files are now available in Niti alloy, but with its greater torsional strength, the potential to use it in a fully rotational handpiece has also been fully exploited. However, studies have shown that very low speeds of 200-350 r.p.m at a *constant* torque are required, as sudden changes in speed (such as occurs in an air compressor-driven dental unit) will fracture Niti files easily. Therefore, electric motors with an adjustable speed are a prerequisite when using these file systems.

A further technological development of Niti files, with the help of CAD, has been the increase in sophistication of the cross-sectional shape of these files. The cutting surfaces of the files are unlike traditional designs. For example, with K-type instruments, the cutting edges have a negative rake (cutting) angle and act to "scrape" against the canal walls (Figure 7). Rotary Niti files have sufficient torsional strength (at speeds below 350 r.p.m.) to have more positive rake angles. To prevent the file from screwing itself uncontrollably into the canal, the cutting surfaces are broad, called *radial lands*, and quite literally plane the surface of the canal. Two or three radial lands positioned equally around the circumference apply the rule of "balanced forces"[7] where the cutting forces of all the blades acting together in rotation, resolve towards the centre of the instrument and maintain the file's position at the centre of the root canal, and so minimising procedural errors.

Since the first 'standardised' files were introduced in the 1950's, all files have retained an arbitrary 2% taper with a 16mm cutting shaft In the mid 1990's,



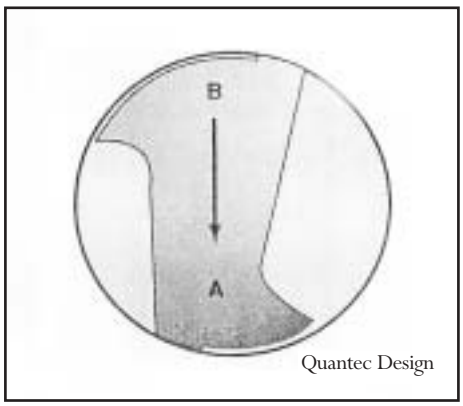


Figure 7. Cross-sectional designs of Newer Niti files

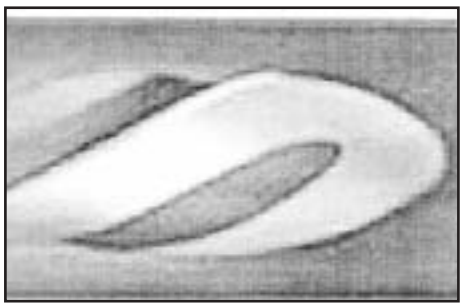


Figure 8. Radial lands of Rotary Niti files

Steve Buchanan[10] completely changed this concept of file shape. and questioned the inefficient need for so many files to create the traditionally desired canal taper of 5% (i.e. 1mm step-back using ISO files)[8]. He suggested a design of files that themselves graduated in taper away from this 2% standard so that they could effectively create the desired canal taper by virtue of their pre-determined shape. This could potentially mean that fewer files are required for preparation and with greater predictability (Figure 9a & b).

Thus, the *graduated taper* concept was born

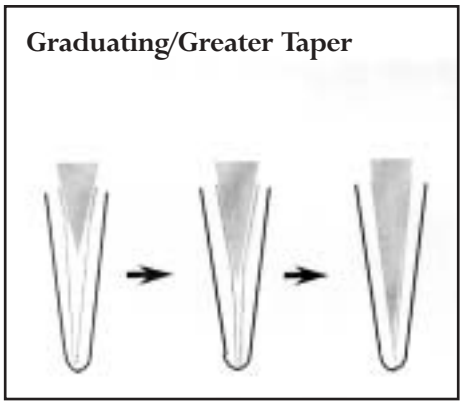


Figure 9a. Greater Taper file

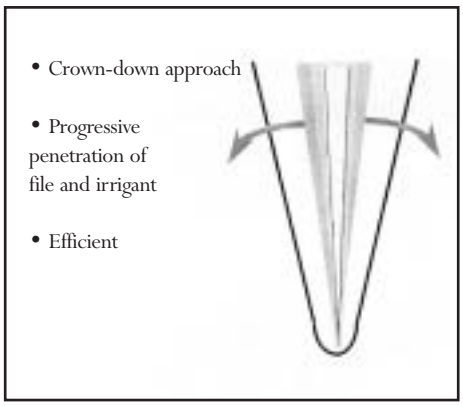


Figure 9b. Series of Graduating Tapered files

and is the basis of most contemporary Niti file systems now available:

- GT file (Dentsply-Maillefer) (Figure 10): 6%, 8%, 10%, 12%
- Quantec LX (Analytic Corp.): 2% -> 6%; Axxess: 12%, 10%, 8%, 6%
- K3 (Kerr-Sybron Corp:): 4% and 6%
- Profile (Dentsply-Maillefer); 4% and 6%
- Hero (MicroMega): 6%, 8%, 10%, 12%

- Protaper (Dentsply-Maillefer): variable taper

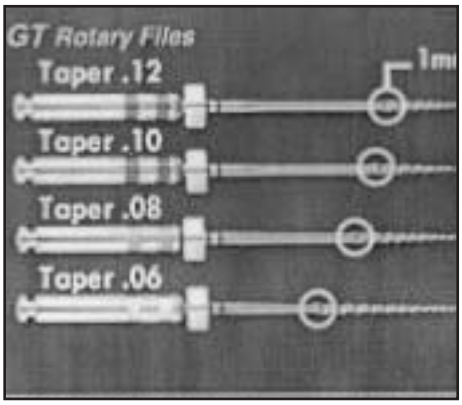


Figure 10. The GTfile (Dentsply-Maillefer): 12%, 10%, 8%, 6%

Thus, there has been an exciting 'explosion' in the concept of endodontic instrumentation and systems available to the practitioner, with each dental company producing its own Niti system, However, the following salient points are worth remembering before jumping on any particular endodontic 'bandwagon':-

- Handpiece-driven files are *not* a substitute for hand-filing. Niti files must not be used in sclerosed or narrow canals, which have not been preflared and prepared to at least a size 20 hand-file to create a patent 'glide-path'.

- Attend more-than-one course (if sponsored by only one dental manufacturer) or an *independent* lecture to experience all the Niti systems on the market.

- Be cautious when listening to a speaker that claims 'his/her' advocated system is better than the others. They are all only as good as the operator!

- From this, go on a *hands-on course* of the system you prefer, and use the system on *extracted teeth* as well as plastic blocks; as the 'feel' of the files is very different in both.

- *Practice* on extracted teeth before using them on your patient's teeth (using a different set of files of course!). Niti files demand a higher level of tactile sensation if activated in a handpiece.

- Remain cautious when clinicians claim that the files can be used on "10 cases", in order to decrease their unit-cost. Each endodontic case is anatomically different as is each Niti file. You will only get to know their 'working life' after practicing on extracted teeth. Even this is fallible. Does it warrant the heartache and embarrassment of explaining to the patient what has happened, and then increasing the cost of the treatment for the patient and the tooth's prognosis, since file-retrieval usually requiring referral to a Specialist who themselves may not be able to retrieve it. In the current climate of increasing litigation and "supercomplaints", it has to be said that there is increasingly strong cases for single-use Niti files.

- Use of handpiece-mounted rotary files is not an excuse for omitting to use rubber dam isolation. In endodontics, rubber dam protects against further contamination; for the patient, it protects their airway; for the clinician, it protects their indemnity!

In conclusion, preparation of the root canal system has come a long way in the past 50 years from an unpredictable mechanical procedure to a highly skilled tactile art. In spite of evolving technology, the fundamentals of the mechanical shaping remain:

ACCESS

BODY SHAPE of the canal; with adequate cleaning without over-weakening the root structure

APICAL SHAPE creating a terminal taper that respects the natural the apical foramen

TAPER CONVERGENCE creating an overall taper from orifice to the apex

PATENCY of the apical foramen *without* damaging its natural dimensions and irritation of the periapical tissues

Ultimately, we cannot sterilise the root canal system but rendering it 'disinfected' will decrease the microbial count to a clinically insignificant level. This can be predictably achieved with an aseptic technique and the armamentarium available and this is our aim from the moment the pulp chamber is opened. It seems the adage "*it's what you take out, not what you put in*" might hold well here, as long as it's good old gutta percha going in.....!

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AOG Presented its First Ever Mehfil Night

Which Featured The Music of Arpan Melodies.

This event was held on 27th April 2002 at 7.30pm at the Harrow Leisure Centre, Wealdstone, Middlesex. The event was held in Masefield suite. The stage and the backdrop was kindly set-up and decorated by Jyoti Soneji, Ila Soneji and Versha Thakerar.

Even though this musical event was not well publicised it was well attended by 105 guests and to add to the ambience, some also came in our traditional costumes, i.e. salwar/khamis, saris etc.

Before the start of the musical evening, we had arranged for guests to be well fed with a good indian meal.

The group entertained us by playing excellent Indian music, golden oldies as well as new Indi-pop. To cap it all, our home grown talents, the likes of Suresh Chande and Our Classical Maestro Dinesh Jani, took to the stage and gave us something to remember.

Very few people left before the end. It goes to show what a lovely, jovial evening it turned out to be.

For those who missed it ..... bad luck. Watch out for news of our next Mehfil Night.

For those who helped behind the scenes - Thanks a lot.

Report by the Social Secretary - Saif Najefi.

Dates for Your Diary

Family Day ***Sunday 10th July 2005***

Annual AOG Ball ***Saturday 3rd December 2005***

The Second Mehfil Night

Under the Reigns of Dr. Dinesh Jani - April 2004.

Same venue, more superb food, fantastic music and a great Audience.

The second AOG Mehfil night organised by Dinesh Jani and Co. was as good as the First AOG Mehfil night in 2002. Everybody thoroughly enjoyed the evening.

The AOG Family Day July 2002

There was an aura of great expectations from the summer of 2002. For example, England to beat both India and Sri-Lanka at Cricket, British Tennis players to lift the Wimbledon title, and the athletes preparing for the medals at the Commonwealth Games in Manchester and for the AOG President and social Secretary, the great British weather to make the Family Day a big hit.

The good Lord did not let the AOG down. The family day was held on 14th of July 2002 in the grounds of Merchant Taylors School for Boys in Northwood, Middlesex. This annual event turned out to be a great family occasion.

The cocktail of fine weather, gorgeous setting, background music, wine, beer and soft drinks, and the superb barbecued indian cuisine made for a fantastic day.

Almost 90 guests turned out for the midsummer Sunday and everybody thoroughly enjoyed themselves.
Some children had the bouncy castle to release their energy and some had their faces painted. A few mums went for a long walk, perhaps to exchange hot gossip?

The highlight of this years family day was THE game of cricket. Nasser Husein should have come to watch the youngsters and the OAP's in action. no .. not that but "Other Adult Players".

The next AOG Family Day is Sunday 10 July 2006 - Don't miss it.

Saif Najefi - Social Secretary.

Family Days July 2003

Venue – St. Hildas school for Girls, Bushey, Herts.

Even though there was no cricket, every body had a whale of a time, some playing tennis, some rounders, and some exchanging gossip, while the children digested food by exercising on the bouncy castle.

AOG Family Day 2006 will be held Sunday 10 July 2006.

2004

Haberdasher's Askes School for Boys in Elstree. – Yet again a great venue.

We were given the benefit of using the first team cricket pitch. Again it turned out to be a nice day and everybody participated in playing cricket.
Those who could not play cricket passed their time exchanging gossips, some talking shop and others good-nothings. Overall even though the numbers were less than usual, we had a lovely-jovial day.

Saif Najefi - Social Secretary.

AOG Charity Ball 2002

The AOG Annual Charity Ball was held at the Brittania hotel in the Docklands, November 2002.

The evening began with a champagne reception and canapes. The guests were welcomed by the President Dr. Abhaya Soneji and his wife Jyoti Soneji, and after the reception, they were led to the dining hall, which was well decorated for the dinner.

After the sumptuous Indian meal presented on Karahi stands, President Dr. Soneji in his address thanked the guest of honour Dr. Raman Bedi and other guests for gracing the occasion with their presence.

He also thanked his committee, the membership and wished the incoming president Dr. Dinesh Jani, the very best for 2003-2004.

Dr. Raman Bedi, in his reply praised the AOG for the contribution to dentistry and Charity. He also outlined the challenges of the new changes in the NHS that lay ahead and promised good things for the dentistry as a whole.

After the Speeches, Dancing commenced, to Bhangra tempo. Half-way through, the music was stopped for the Raffles. Well done to those who won the prizes.

The success of the evening was summed up by the difficulty in getting the die-hards of the AOG to leave the dance floor until 1.30 a.m.

Special thanks go to all the sponsors for the evening: The Dental Directory for sponsoring the Wine and who have supported the AOG over the years. Ghandhi Wines for the Beer.

A personal thank you to all the AOG committee members who worked hard to make this event such a success, especially Dinesh Jani, and Parvin Amiji, and Rishi Mehrotra.

Saif Najefi - Social Secretary











AOG Charity Ball December 2003

The Annual AOG Ball was held at the Portman-Radisson- Hotel in Russell Square, London, December 2003.
This time the President Dinesh Jani and his wife Dhanu Jani welcomed the guest of honour Dr. Mike Mulcahy, the Dean of the Faculty of General Dental Practitioners of the Royal College of Surgeons of England and other guests.

The proceedings were as usual, champagne reception with canapes followed by the Dinner and speeches, first by Dr. Dinesh Jani and reply by Dr.Mulcahy.

In his speech Dr. Mulcahy commended the AOG for maintaining the good work and wished the group well for the future.

Live Band, Zodiac, provided the music for the evening and Dancing was interrupted half-way by Raffles, and carriages at 1.00 a.m.

Sincere thanks go to The Dental Directory for sponsoring the wine, Ghandhi Wines for the Beer, and those committee members (and family members) whose hard work contributed to the success of the evening.

Saif Najefi - Social Secretary

Charity Ball October 2004

The Annual Charity Ball 2004 was again held at Portman-Radisson hotel in Russell Square, October 2004. Again under the Presidency of Dr. Dinesh Jani.
The numbers were less this year as there was multiple events i.e. religious, social and commercial, overlapping each other. Nevertheless, the spirit of the AOG membership never waned.

Dr. Dinesh Jani thanked all those present for showing the sense of loyalty, trooping behind the President and making the event a great success.

The President thanked The Dental Directory for supporting the AOG over the years. He also thanked his committee members for their support during his 2 year presidency.

Music was again provided by live band – Zodiac and dancing continued till the wee hours of the morning.

Saif Najefi - Social Secretary

How Necessary are Apicetomies and how well do they work?

I believe that the following scenario is not an uncommon one for those of us in general practice:

A patient presents with a recurrent periapical lesion in a tooth that has had (what now appears to be) a failed orthograde root filling. Given that the patient and their dental surgeon agree on trying to save the tooth, their options have traditionally included endodontic re-treatment or apical surgery with retrograde obturation.

I would suggest that the adage 'If one is proficient at a certain procedure, one tends to prescribe that procedure more often1 may hold true for those who perform apicetomies.

Given the relatively recent and very significant advances in orthograde root canal treatment, the question 'How necessary is apical surgery and retrograde obturation?' should be asked. If the advances in instrumentation and obturation techniques significantly improve the prognosis of orthograde treated teeth, then apical surgery and retrograde obturation should be scrutinised anew so that its efficacy may be compared to orthograde re-treatment.

Apical surgery most commonly include the following procedures (1), (2):

i. Periradicular curettage;
ii. Root-end resection;
iii. Root-end preparation/ filling;
iv. Biopsy.

The case for apical surgery should involve consideration of the following points, together with some relevant observations in published literature:

i. The indications for apical surgery:
Historically, there have been controversial contentions (2):

a. that large periapical (hereafter abbreviated to PA) lesions heal as well as small lesions, therefore surgery should not be considered a sub-optimal option;

b. diagnosis of cystic lesions based on radiographic interpretation is now not considered a valid indication for surgery- there is a good rate of resolution with conventional root canal treatment (hereafter abbreviated to RCT).

c. the 'perfection' of an apical seal by root-end resection and retrofilling is now considered an invalid indication due to the fact that satisfactory results may be achieved by orthograde approaches and retrograde seals have been shown to leak and deteriorate over time.

Gutmann (1), (2) wrote that there are few *true* indications for apical surgery and that they include:

1. If there is a strong possibility that non-surgical RCT will fail;

2. If non-surgical treatment has failed and re-treatment is impossible;

3. If a biopsy is necessary at or near the apex.

El-Swiah & Walker- '96- (3) expanded on the possible reasons for inability to perform conventional RCT:

1. Anatomical pathological or iatrogenic defects in the canal;

2. Blockages which make conventional RCT impracticable;

3. 'Medical or time (expediency) reasons'. Although one must wonder at the medico-legal/ ethical implications of justifying any treatment based on expediency.
And added another indication:

4. As part of a reimplantation procedure to evaluate the resected apices in terms of accessory canals/ fractures,

Moiseiwitsch & Trope- '98- (4) further reduced the indications for surgery by pointing out that:

i. Calcified, obstructed or 'non-negotiable' canals cannot be accurately determined radiographically - and that the use of EDTA may facilitate successful non-surgical instrumentation.

How Necessary are Apicetomies and how well do they work?

ii. Previous treatment with metal obturation materials or fractured dowels may be removed with ultrasonic instruments, obviating the need for surgery.

ii. The decreasing 'necessity' of apical surgery with the advances made in conventional orthograde approach endodontics:

i. The use of magnification.
Dental loupes and, increasingly, surgical microscopes with illumination has greatly improved the visualisation of the treatment area, leading to improved success rates of orthograde RCT.

ii. Debridement.
Ultrasonic techniques, crown-down approach,irrigation with Hypochlorite; patency filing, smear-layer removal and advances in intra-canal medicaments have greatly improved the ability to rid the canal of infected material, leading to more predictable outcome.

iii. Canal shaping.
The advent of mechanical canal preparation with Nickel Titanium (Ni.-Ti.) files have made canal shaping easier and may be said to improve the quality of the 'average' RCT. The correct use of Ni.-Ti. files should reduce the incidence of instrument separation which will directly remove one of the traditional reasons for apical surgery.

iv. Canal obturation.
The gaining popularity of warmed Gutta Percha (GP) obturation techniques will improve the 3-D filling of canals, and together with attention to the coronal seal (e.g. using dentine bonding) will reduce the incidences of bacterial ingress into the PA areas.

v. Electronic apex location:
Advances in this technology (e.g. use in wet canals), and computer aided digital radiography has made working length estimation more accurate in some situations.

iii. The contraindications for apical surgery:

Gutmann (2) wrote that there are very few contraindications for apical surgery, and they are limited to the patient (systemic & psychological), the clinician (experience and expertise) and anatomical (access & any unusual canal configuration).

iv. Viable treatment alternatives, with regard to patient preference:

These include: Extraction followed by:
1. Leaving the edentulous space, or,
2. Fixed partial denture, or,
3. Removable partial denture, or,
4. Implant-retained prosthesis.
5. Orthodontic closure of space.

Should these alternatives be in the best interest of the patient, or simply that it is preferred, then it renders the maintaining of the root by surgical means unnecessary.

Studies have been carried out by various authors that question the extent to which apical surgery can succeed and challenge the view that surgery can automatically overcome failures by conventional RCT.

Lin et al.- '96-(5), in a literature review, wrote that it was *far* more important to control the source of irritants inside the root canal, than removing all of the periradicular tissues affected by such irritants.

Moiseiwitisch & Trope- '98- (4) pointed out that the fundamental biological reason for failure of endodontic treatment is the persistence of infection within the canal system and apical surgery alone does not address this. It only hopes to seal the periapical tissues from the canal contents. Without thorough canal debridement, they felt that the success rate could not rise above 50-60%. Any leakage of bacterial contamination after initial success will lead to tissue breakdown. Although there has been advances in the retrograde cavity preparation with sonic retro-tips and improvements in retro-fill materials (e.g. Mineral Trioxide Aggregate -MTA; resin-based materials- e.g. Diaket; compomers- e.g. Dyract; light cured glass ionomer cements- e.g. Vitrebond) over amalgam, there is a view that leakage is almost inevitable. Therefore, one needs to consider the probability of long- term failure of apical surgery.
Likewise, Wada et al.- '98(6) felt that all of the refractory cases in their study were attributable to inadequate debridement or obturation during conventional RCT. Their success rate of endodontic surgery (apical resection and retro-filling) was 72% within this subset of patients, which they felt was satisfactory.

Other studies that included *orthograde retreatment of the canal* with apical surgery have achieved higher success rates; for example: Rud et al.- '72-(7), and Zuolo et al. -2000- (8) who achieved 91.2% success when selecting cases for surgery in which 'a reasonable effort had been made previously to retreat non-surgically teeth with failing RCT. This illustrates the effect that orthograde re-treatment has on the successful outcome of such endodontic surgery.

Also, Samaranayake et al.- '97-(9) concluded that the total eradication of bacteria from PA lesions was not possible by surgical means. 75% of chronic PA lesions around anterior teeth in their study harboured bacterial flora and 56% may not be eradicated despite surgical debridement.

Such studies put into perspective the extent

to which apical surgery can succeed and the conditions under which favourable results can be achieved, and therefore affect the point at which surgery becomes indicated.

There is also a view that apical surgery is an undesirable procedure. This may be due to:

i. The degree of difficulty of the procedure from some operators point of view;

ii. A traumatic experience/ poor post - operative sequlae for the patient;

iii. A perceived low success rate for the procedure.

However, with sound clinical practice employing good local anaesthetic techniques (augmented by conscious sedation to reduce stress); profound anaesthesia and haemostasis can be achieved. Optimal flap design and correct wound closure will produce predictably good results with little unfavourable post-operative sequelae. Gutmann (2) and Gartner et. al.- '92-(10) described many of the optimal surgical protocols, amongst them the 'Triad for Improved Visualisation' : Haemostasis; Magnification and Illumination. Under such conditions, apical surgery need not be excessively difficult for the clinician nor unpleasant for the patient.

Other areas in which advances have recently been made include:

i. The use of sonic, diamond surfaces retro-tips, von Arx & Kurt- '99-(11) found that they simplified the surgical approach, especially where space was limited; and their results for apical surgery with sonoabrasion and EBA-cement retrofilling showed 82% successful healing.

ii. The use of newer retrofilling materials:

a. Torabinejad & Chivian- '99-(18) described the use of Mineral Trioxide Aggregate (MTA) as a retro-filling material. Its sealing ability was superior to amalgam, and equal if not better than Super-EBA. It was less cytotoxic than IRM or Super-EBA. It was associated with significantly less inflammation, cementum formation over the MTA and significant regeneration of periapical tissues.

b. Witherspoon & Gutmann- '99- (14) compared Diaket- a poly vinyl resin- with GP and found the healing response with GP consistently involved a fibrous capsule at the root-end filling, whereas there was good bone apposition, reformation of the periodontal ligament and the deposition of new cementum on the resected root with Diaket.

c. Lloyd & Gutmann- '97-(15) compared Diaket and amalgam in their roles as retrofilling materials in different combinations of bevel and instrument and found Diaket to exhibit significantly less leakage.

iii. Guided tissue regeneration using e-PTFE membranes was studied by Pecora et al.- '95- (12) who found that the use of this material allowed significantly speedier healing, especially in larger lesions.

iv. Kamakura et al.- '99-(13); in a study of the implantation of synthetic OCP (a bone substitute) in murine bone found that it enhanced bone formation by acting as a matrix. It has been shown to result in more rapid bone formation than hydroxyappatite.

Such advances:

i. improve the predictability of apical surgery by reducing leakage;

ii. improves the biocompatability of the root-end filling materials;

iii. speed healing.

The unfavourable aspects of surgery is thus reduced.

However, advances in apical surgery techniques alone cannot justify its use. Attempts to quantify its efficacy have been made, but is inherently difficult due to the multifactorial nature of what determines a successful outcome.

Many studies-the bulk of which are retrospective- on the success rates of apical surgery come to conflicting conclusions in light of their inability to fully integrate all parameters of evaluation with techniques and materials used, clinical expertise and interpretive skills. Indeed, there is a lack of consensus on what constitutes failure amongst endodontists.

Rapp et al.- '91- (16), in their study, looked at three different retrofilling materials, the presence/ absence of a retrofilling material, patient age and retreatment status, projected an overall success rate of 80% and commented that given a choice between an 80% success rate and extraction, they felt apical surgery was a viable and desirable alternative. Contrary to the findings of many other studies, they found that orthograde retreatment had no effect on the success of surgery.

Danin et al.- '96-(17) made an attempt to circumvent some of the problems inherent in retrospective studies (that their criteria of evaluation are often limited to radiographic or clinical parameters; and patient drop-out rates are often high, and therefore the potential for a biased population exists (2)) by carrying out a randomised *prospective* study to compare orthograde retreatment and surgical intervention. They found a statistically insignificant higher success rate for teeth treated surgically but acknowledged their sample size was small and period of observation short.

Zuolo et al. '2000-(8) also noted that direct comparison between prognosis studies was difficult in light of the numbers of variables, and often lead to an interpretation that the success of surgical endodontics is unpredictable. They, in their study, also took a prospective approach to assess success of periradicular surgery. They concluded that with a strict adherence to a biologically based surgical protocol, well-defined case selection (ensuring that the teeth have had retreatment to reduce the amount of intracanal irritants), minimising the risk of coronal microleakage by attention to the

How Necessary are Apicetomies and how well do they work?

quality of the definitive restoration, the use of 'contemporary surgical techniques' (e.g. surgical microscopes) and modern materials, the outcome can be predictably successful.

Kvist & Reit- '99-(19) noted in their study that although there was a higher healing rate for the surgical group in the earlier stages, this difference disappeared by the end of their 4 year observation period. They concluded that surgical retreatment seemed to promote more rapid healing, but was associated with a higher risk of 'late failure'.

The factors that many authors seem to agree on as having a significant impact upon the success on apical surgery include:

i. Thorough debridement and obturation of the canal-apical surgery carried *without* orthograde retreatment was associated with a lower success rate.

ii. Modern retrofill materials showed less leakage than amalgam, but long term leakage may still be a significant risk. The condition of the surgical field (visibility and haemostasis) affects the performance of the materials, although some new materials (e.g. MTA) are less moisture sensitive.

iii. The size of the original apical radiolucency had an effect on the results (19).

It may be concluded that whilst there is a general lack of randomised prospective studies with large patient numbers over long periods, investigating the comparative success between apical surgery and non-surgical retreatment, there is much agreement that, given the accepted indications for surgery, the use of sound contemporary surgical protocols, high success rates can be achieved.
Apical surgery, under these conditions, should not necessarily be perceived as undesirable, but with the advances made in orthograde endodontic techniques, is becoming less necessary.

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AOG Golf Society Golf Day Report

Golf in bright sunshine and shirtsleeves and 75°F!!

You would think it an impossible dream for an October day in England and yet 48 golfers enjoyed just that in the Buckinghamshire countryside of Richings Park Golf & Country Club at the AOG Golf Day on 4th October 2002.

The picturesque course together with the heat and sunshine provided a perfect venue for the usual camaraderie and social interaction that is always a feature of our Golf events.

The format of the day was an individual Stableford competition combined with a Team competition and there were many other prizes which gave all the players a chance to get involved. The standard of the golf achieved by some was nothing short of remarkable as reflected by their amazing scores but the course proved to be very enjoyable for all the participants to play regardless of their level of golfing ability. After a light Breakfast and coffee, play got underway and the exertions of the first half of the course were rewarded with Spicy samosas and Fish pakoras together with a cold drink which 'fired' up the players for the remaining 9 holes!

Not content with the frustrations of a round of golf, many of the players then participated in an elaborate putting competition organised especially for us by the Club Professional which proved to be so treacherous as to be a great source of amusement for all as scores for a single hole were often running into double figures!

The day was concluded with drinks followed by a formal meal in the Club dining room where we were treated to superb Indian food provided by Raju Mashru of me 'Great Eastern' and 'Khana Khazana' in Kingsbury.

The meal was followed by a Charity Auction conducted by our current President of the AOG, Abahya Soneji, which raised a substantial sum for his nominated charity for this year and our sincere thanks go to David McMinn of Optident and Mike Volk of The Dental Directory for their very generous donations in this regard.

Jassi Bhamra of Dental £edger then presented the superb Trophies he had very kindly donated to the three winning AOG members and the President proceeded to present the remaining trophies to the respective prize winners.

We then called upon Dinesh Jani the President-elect of the AOG to conduct the Prize raffle and to entertain everyone with a few anecdotes. He told everybody to start practising for the next Golf day to be held in 2003.

Judging by the reaction of approval from all those present that had enjoyed the day so much, it would be a good idea gets your name down..... Quick!!

The AOG Golf Society also thanks Jay Patel of the Bank of Ireland for his generous sponsorship and Jassi Bhamra of Dental £edger (Tel: 01753 553322) for his donations of the prizes, the welcome packs for all the players and for all the financial co-ordination on the day.

Finally, I would like to add a note of personal thanks to my co-secretary, Sudhir Vasani for all his help with the organisation of what proved to be born a successful and memorable event.

Bhupi Bhogal AOG Golf Secretary
October 2002

PRIZEWINNERS

Singles Stableford competition:

AOG Members :

(on countback) 1st Ajay Ruparel 42pts
(on countback) 2nd Satya Goundar 42 pts
3rd Zul Palliwalla 42pts

Guests: 1st Kul Gogna 44pts
2nd Pal Chana 42pts

Team Competition:

(On Countback) 131pts 1st David Madan, Pesi Nanji, lan Haydon, Ramesh Parmar

131pts 2nd Surinder Ghalley, Pal Chana, Sheetal Chatrath, Verender Chatrath

127pts 3rd Kul Gogna, Harinder Sethi, Jatin Desai, Raju Mashru

Longest Drive: Babulal Panchal

Nearest the pin: Ian Haydon

Nearest the pin in two shots: Ajay Ruparel

Best Gross Score: Ian Haydon 73 (par 70)

Winner of Putting Competition:
Manix Manku

‘Aesthetics in Contemporary Restorative Dentistry’

by Dr JS Mankoo BDS

This article is reprinted From Dentistry Monthly, February 1997 pp 110-114

Over the past 15 years there has been a proliferation in materials and techniques aimed at improving the appearance of teeth. Clearly, there is a strong tendency towards a technique and material oriented approach to the management of aesthetics in restorative dentistry, yet aesthetic dentistry is not simply about whether we use the latest ceramic system or the
‘in-vogue’ technique. Aesthetic dentistry is a blend between science and art.

The aim of restorative dentistry today should not only be to restore and maintain optimal function, but also to achieve biologic and aesthetic harmony with
long-term predictability This requires an interdisciplinary approach, sound knowledge and awareness of new technology and materials, as well as a foundation in the fundamental principles of restorative dentistry.

Diagnosis and treatment planning remain the cornerstones of case management and the development of a close clinician-technician relationship as part of a team approach enables a better understanding and appreciation of the mutua difficulties encountered in our respective roes. With this multh disciplinary approach and the range of techniques and treatment modalities at our disposa we are able to treat ever more complex and challenging cases predictably and restore not only function, but also produce restorations

that mimic the natural dentition, both biologically and aesthetically.

Pink Aesthetics

Today when a patient presents to our practice for aesthetic and/or restorative rehabilitation, it is no longer sufficient to think purely in terms of the teeth. An attractive smile consists of a pleasing arrangement of naturohlooking teeth surrounded by healthy gums and soft tissues framed by the lips. The composition of these elements and their orientation to the face will create and enhance the appearance of health and beauty, or detract from it if health, harmony and balance are not present. Thus the lips and gingiva tissues provide the frame for your aesthetic composition.

When evaluating the soft tissues we must of course assess the health and condition of the gingivae and periodonta tissues. Health is, of course, the priority and neither a stable predictable result nor aesthetic harmony can be achieved without it. Various anatomic features may also hove to be considered and managed, such as deficient edenfulous ridges and the shape, symmetry and position of the gingival margins.

The lips provide key guidance as to the length and position of the teeth, the position of incisal edges, the shape of the incisal plane and the gingival margins.

The current abundance of interest in soft tissue management and plastic periodontal surgery procedures in the literature and on the international stage, highlights the importance of the soft tissues in the overal aesthetic composition of our patients’ mouths.

White Aesthetics

The maxillary teeth are the most critical in the aesthetic composition and central incisors the of greatest importance. These must be dominant and also slightly brighter than the other teeth. They ore usually quite similar in shape but not identical. The laterals are slightly lower in value, or slightly warmer in co our and usually asymmetrical; the canines are similar in length but often exhibit different rotational positions and inclinations, as well as dissimilar wear patterns, They also possess a higher degree of chroma. Dentists must learn to express shade in terms of hue, value and chroma. Hue is the actual colour, value the degree of brightness, while chroma is the colour saturation or intensity.

Tidu Mankoo, BDS, is a private practitioner in Windsor, Berks, concentrating on restorative, aesthetic and implant dentistry. He is the founding Vice-President or the British Academy of Aesthetic Dentistry, as well as being a member of the European Academy of Esthetic Dentistry, the International Society of Dental Ceramics, the Association of Dental Implantology (UK) and a member and fellow of the International Congress of Oral Implantologist.

Although we often focus to a great extent on the shade or colour of a restoration, it is the form that has the greatest importance, then the surface texture and lustre and lastly the shade. The common misconception when restoring the maxillary anterior teeth is the need to create a bilateral mirror image. This serves only to enhance the artificial appearance of the restoration. In fact, if is the subtle nuances and imperfections that create the balance and harmony found in the
natural smile.

The correct management of aesthetics in restorative dentistry will focus on the overall composition rather than on a tooth by
tooth basis.

Diagnosis and Treatment Planning

It is important that we follow a systematic diagnostic protocol and treatment planning

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Table 1
Treatment Planning

Stage 1
Involves initial stabilisation and control. Hygiene and initial periodontal therapy are instituted, primary restorative treatment (such as fillings, cores, endodontics etc) to create a sound and healthy foundation to further resoration.

Stage 2
May involve orthodontics, surgical periodontics either for control of disease or for aesthetic/restorative reasons (i.e. ridge augmentation, crown lengthening), dental implants, bone grafting/augmentation, orthognathic surgery.

Stage 3
Provisionalisation and stabilisation. The importance of this cannot be stressed enough. The provisionals are your working prototype and not only act as simple protection for the prepared teeth, but also enable one to gain soft tissue control, establish and assess the occlusal scheme and evaluate the proposed aesthetic form and general composition restorative.

Stage 4
Definitive restoration

Stage 5
Maintenance - it is essential that the maintenance aspects of acre are stressed to the patient. Regular hygiene and check-up visits help prevent problems and ensure optimal home care.

approach. Planning the treatment in a multidisciplinary staged approach allows a coordinated treatment sequence and control of each stage of a rehabilitation with greater predictability.

A particularly useful diagnostic tool in most situations is a diagnostic wax-up, particularly where a reorganised aesthetic and/or occlusal approach is required. This enables the clinician and technician to plan, design and visualise the individual restorations and the overall composition on duplicate mounted models of the patient.

Transferring the proposed restoration/reconstruction design to the mouth as provisionals enables its evaluation as a 'working prototype1. These can be simple, direct temporaries made from a vacuum form matrix constructed from the diagnostic wax-up, or indirect heat-cured acrylic/composite shell provisionals relined in the mouth.
In more extensive cases if may be necessary to utilise a second set of longer term laboratory constructed indirect provisionals made of acrylic or composite bonded to metal.

Case Planning

In terms of planning a cose a decision has to be made on whether it is going to be restored in a conformative manner (accepting and adhering to the existing occlusal scheme and aesthetic composition) or a reorganised manner (creating a new occlusal scheme and aesthetic composition).

This is often determined by the size of the reconstruction, the form/relationship/condition of the teeth and the existing occlusal status, as well as the patient's adaptive capacity, occlusal sensitivity and susceptibility to dysfunction. Generally a more extensive case, such as full mouth or arch rehabilitation, will require a reorganised approach, whereas a cose with few teeth to be restored, where the occlusion is otherwise stable and comfortable, would be treated in a conformative approach.

We hove at our disposal a number of therapies, including periodontal, restorative, orthodontic, prosthodontic, endodontic, surgical, regenerative and denta implants, any and all of which may be indicated to optimise the results of a particular case. Thus close cooperation with a team of colleagues may be necessary and it is becoming increasingly necessary to expand our knowledge and expertise.

Our treatment would typically be planned as shown in Table 1.

Control and Predictability

By staging the treatment in this manner, it is possible to maintain control and predictability over the case. One does not move on to the next treatment stage until the previous one has been completed

successfully. In this way, allowances can be made within the treatment for changes that may have to occur in the specific treatment requirements should, say, o tooth not be stabilised successfully by endodontic or periodontic treatment. The provisionals provide us with the opportunity to test out our restoration design in the mouth. We can establish and assess our occlusal scheme (especially where a reorganised approach is being token), our overall aesthetic composition (tooth form, crown length, lip line, smile line and so on] and gain soft tissue control and health before our final working impressions. The provisionals should need only cementing with temporary cement and with proper preparation design, retention and resistance form they should remain cemented through function so that a stable occlusion is established and verified. Repeated loss or loosening of properly designed and fitted provisionals indicates that something is wrong and it may be necessary to modify the functiona shape or the preparations in some way.

If need be, the provisionals can be modified repeatedly until the occlusa , biologic (access for hygiene procedures and periodontal health must be established] and aesthetic requirements for the case have been met.

If It Works...Use It

Once an ongoing healthy, stable and comfortable state has been achieved with the provisionals (this may be accomplished relatively quickly or may need several months

depending on the complexities of the case] and the patient's acceptance of the general form and aesthetic composition gained, the dentist can proceed with the definitive restoration incorporating all this information. Invariably, the definitive crowns and bridges and so on will be further fine tuned after a bisque bake try-in and by the artistic skill of the ceramist to create a lifelike restoration that meets the functional, biologic and aesthetic needs of the patient.

If the ceramist or technician is not able to view the fry in, it is a good idea to provide him or her with a full range of slides or photographs of the work in the mouth. In this way, the technician can get o feel for the case and relate better to the actual aesthetic demands of the case. The early involvement of the technician throughout the case fosters the development of better clinicianTechnician understanding, enabling the ceramist to incorporate the subtle nuances into the restoration that make it look as lifelike as possible.

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A clear appreciation and understanding of the basic aesthetic guidelines, anatomy, function and biologic principles along with a systematic approach to the diagnosis, treatment planning and management ore essential in order to better control the various stages of restorative treatment. This enables coser understanding and attainment of the patient's biologic, functional and aesthetic needs as well as promoting understanding of the mutual difficulties and challenges confronting the clinician and technician.

Figure 1: (Top left) Porcelain fused to metal crowns with vertically reduced framework design using Creation porcelain (Klema Dental, Austria] developed by Willi Geller. Uses specialised shoulder porcelain to create a lighting up effect at the tissue crown interface- preventing the normal darkening of the glngivae produced in traditional metol-ceramic design. Internal effect porcelains and opalescent properties closely mimics natural tooth structure- while polishing lechniaues achieve a more natural effect than simply glazing porcelain. Polished porcelain also produces a smoother less abrasive surface to the opposing dentition.

Figure 2: (Top right] Beautiful lifelike results achieved with properly executed porcelain veneers with natural charade- texture and lustre and excellent tissue response.

Figure 3: (Above left) The preoperative condition of a patient requiring full mouth rehabilitation. Note elongated ponlics of the anterior bridge due to post-extraction soft tissue loss. This gives the appearance of teeth hanging in front of the gum and also can produce a lack of lip support.

Figure 4: (Above right) Shows the same patient as in figure 3 approximately one year after the completed rehabilitation. Note the Improvement in the bridge form and overall aesthetic result after ridge augmentation of the edenlulous area.

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FIGURES 5-8 ILLUSTRATE THE CASE OF RESTORATION OF THE UPPER LEFT MAXILLARY CENTRAL INCISOR WITH A DENTAL IMPLANT SUPPORTED CROWN

Figure 5: (Top left) Single tooth implant abutment at placement and after guided soft tissue healing with a provisional crown to develop me correct gingival docket contour. Localised bone expansion or regeneration in these cases often has to be carried out either prior to or at the implant placement

Figure 6: (Top right) Post operative smile of the same patient. Note the harmonising of me implant supported crown with the natural dentition

Figure 7: (Above left) Close-up of the smile some two years later

Figure 8: (Above right) Close-up of the soft tissue interface some two years after fit. Note rfie stability and health of the tissue

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FIGURES 9-16 DEMONSTRATE A FULL MOUTH RESTORATION

Figure 9: Preoperative view of a case needing full mouth rehabilitation. Note the poor form of the crowns and ugly gingival contour and depressed pontic area of the upper right canine

Figure 10: Post completion - the upper arch restored with porcelain fused to metal crowns and a bridge replacing me
upper right canine after ridge augmentation. This type of case typically lakes about a year. The results demonstrate far more pleasing tooth form and harmony between the lip line and the smile line of the patient

Figure 11: Close-up of the lower incisors ana canines restored with porcelain veneers. These ore a very useful restoration in these cases in the lower incisor region where full crowns are often difficult

Figure 12: Close-up view of the porcelain fused to meta/crowns on the upper incisors with encelhnt tissue response
and natural characterisation of the crowns

Figure 13: Preoperative smile

Figure 14: Post completion smile

Figure: 15 and 16: Close-up views of smile illustrating the natural composition of the restoration and incisal effects

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