2012. It’s no time to be fitting your patients with 1960’s lab work.

MaxiDent is the brand new lab created to meet the needs of today’s NHS and independent dentists and their patients.

Try it for yourself.

You’ll get 50% off the cost of the first standard crown unit, MaxiFlex flexible dentures or unbreakable ZiRock crown you order from us.

Or, if you’ll give us an extended try out, we’ll give you 25% off your entire bill in the first month in which you order 10 or more jobs from us.

There’s lots more information overleaf, as well as inside the front cover flap.

Or take a look at our website.

It’s totally free to open your account.
Dear Reader,

Welcome to the second edition of Cosmetic Dentistry! In this issue we will be looking at some of the latest concepts of cosmetic dentistry, case reports as well as some of the politics surrounding cosmetic dentistry.

What exactly is cosmetic dentistry? The web based oracle that is Wikipedia defines it as ‘...any dental work that improves the appearance (though not necessarily the function) of a person’s teeth, gums and/or bite.’ This all sounds good but with the latest advances in materials, techniques, technology and patients expectations perhaps this definition is starting to be a little bit out of date as the boundaries between aesthetics and function become increasingly blurred.

The World Health Organisation defined Health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, so in the context of cosmetic dentistry how important is function? Ok now I’ve gone a step too far, but as people attitudes and social norms change the practice of dentistry has had to evolve with it and here at cosmetic dentistry we are aiming at moving with the times to help you provide your patients with successful, predictable dentistry, whether it is functional, cosmetic or hopefully a bit of both.

As always I welcome your feedback,

Until next time,

Neel Kothari

Editorial Advisory Board Member - Cosmetic Dentistry
Discover MeToo, a totally new range of Professional whitening products, both comprehensive and wide-ranging to cover all your patients requirements. MeToo provides you with fast, effective and gentle strategies of treatment for chairside as well as for take-home whitening to give your patients the smile they deserve.

For further information:
01480 477307
info@actiongroup.co.uk | sales@actiongroup.co.uk | www.actiongroup.com

EVERYBODY DESERVES A BEAUTIFUL SMILE

Take-home Whitening
To enhance the whitening results, patients can treat themselves at home, at their chosen time using MeToo Day or MeToo Night (as per their dentist's recommendation).

MeToo Calm is also available for the relief of any teeth sensitivity issues.

The patented NeoDam gel changes colour whilst curing.

MeToo Deluxe
MeToo Compact
Powerful whitening lamps, complete whitening kits, innovative disposable retractors with integrated suction system, new colour-changing gingival dam – everything is clearly presented and easy to use to make your work simple and your patients happy.

Chairside Whitening Kit

2012 MeToo Teeth Whitening Ad (Dental Tribune)_2012 MeToo Teeth Whitening Ad (Dental Tribune)  21/06/2012  11:42  Page 1
Discover MeToo, a totally new range of Professional whitening products, both comprehensive and wide-ranging to cover all your patients requirements.

MeToo provides you with fast, effective and gentle strategies of treatment for chairside as well as for take-home whitening to give your patients the smile they deserve.

Take-home Whitening

To enhance the whitening results, patients can treat themselves at home, at their chosen time using MeToo Day or MeToo Night (as per their dentist’s recommendation).

MeToo Calm is also available for the relief of any teeth sensitivity issues.

For further information:
01480 477307

info@acteongroup.co.uk | sales@acteongroup.co.uk | www.acteongroup.com
IAAFA “A conference with no wrinkles”

Author_ Dr Nilesh R Parmar

This year, I was lucky enough to be invited to the annual International Academy of Advanced Facial Aesthetics' yearly conference. This consisted of a two-day conference and parallel sessions for those involved with facial rejuvenation and dentistry. The brainchild of the charismatic Professor Bob Khanna, the conference started in 2007 and aims to bring together all the clinicians from dental, medical and nursing backgrounds, to learn the latest concepts and techniques from world leading specialists.

IAAFA is a non-profit organisation, which has gone from strength-to-strength each year, and the culmination of the event is a glamorous IAAFA charity ball at the Radisson Blu hotel. All proceeds from this go to charity, which this year included NSPCC, CLIC Sargent and the ‘Make-A-Wish Foundation’. This year, approximately £15,700 was raised for the charities. The IAAFA ball is a fantastic event, and, each year, it is marked on every dental party animal’s calendar (this party animal included!) The organising and planning which goes into creating such a fantastic event is a testament to the hard work of Prof Khanna and the other members of the IAAFA council.

What I noticed this year is that there were parallel sessions; and a welcome increase in the number of dental lectures. I enjoyed a fantastic talk on the six-month smile system by Dr Anoop Maini and experienced a masterclass in cosmetic den-
tistry by Dr James Russell and Ron Lynock. I also gained an insight into the world of facial aesthetics. Moving away from our usual area of the head and neck, I learnt a bit about lasers and liposuction by Dr Ravi Jain. Paul Tipton was on-hand to discuss occlusal vertical dimension and its role in facial aesthetics; whilst some insight into the business side of things was given by Chris Barrow in his own unique way.

As busy dentists, we are bombarded by courses and conferences, which are "must-see" and "revolutionary". With time being ever precious and the fees for these courses increasing (and usually quoted without VAT added – my personal bugbear!), dentists need to be a bit more selective. I can safely say that I actually LEARNT a lot from attending the two-day IAAFA conference, and made many new friends and contacts in the industry.

The Charity Ball was the icing on the cake, and all those involved had a fantastic time, whilst raising money for a worthy cause. I will definitely be back next year!

For more information, please visit www.iaafa.net or call 01344 891 235.

Dr Nilesh R Parmar
BDS (Lond) MSc (ProsthDent) MSc (ImpDent) Cert.Ortho was voted Best Young Dentist in the East of England in 2009 and runner up in 2010. He was short-listed at the Private Dentistry Awards in the category of Outstanding Individual 2011. Nilesh has a master's degrees in Prosthetic Dentistry from the Eastman Dental Institute and a master’s degree in Clinical Implantology from King’s College London. He is one of the few dentists in the UK to have a degree from all three London Dental Schools and has recently obtained his Certificate in Orthodontics from Warwick University. His main area of interest is in dental implants and CEREC CAD/CAM technology. Nilesh runs a successful five-surgery practice close to London and is a visiting implant dentist to two central London practices.

Nilesh has a never-ending passion for his work and is famed for his attention to detail and his belief that every patient he sees should become a patient for life. He offers training and mentoring to dentists starting out in implant dentistry, more information can be found on his website www.drnileshparmar.com. Twitter: @NileshRParmar
In today's environment of patient's high expectations and increased litigation especially with regards to cosmetic dentistry, good record keeping is essential. Clinical photography is a very important tool in general practice in documenting patient's treatment especially high aesthetic and cosmetic cases.

Clinical photography and academic presentation have undergone a transformation over the past 10yrs. In the past, clinical slide photography and carousel slide lecture presentations were the gold standard in both dentistry and medical fields.

Over the past decade the availability of digital photography, digital imaging systems and computer driven digital presentation programs has revolutionised teaching and lecturing. Before the arrival of digital photography it was expensive to purchase dedicated 35mm dental photographic equipment and accessories and it would be more likely to be bought by the dentist who is an amateur photographer. Since the development of digital cameras the costs have been brought down quite considerably. This has made it more accessible for most dentists to use in their normal everyday practice.

The main advantages of digital versus film photography are instant image acquisition, reduced cost of film processing and a relatively easy learning curve. It is very difficult to out race technology as it is evolving daily at a rapid rate and you will always be behind. So don't plan on using your current digital equipment for the rest of your life it is always outdated within a couple of years. Over time as our own skills and knowledge improve with digital photography we will want to improve on our old images therefore as a pursuit of excellence reinvesting in technology is a part of the challenge.

One of the biggest advantages of digital photography is that the images are seen instantly and can be edited in many ways such as improving brightness and contrast, cropping, changing hue and saturation, adding text and symbols when using digital presentation programs.

Types of Cameras

Digital SLR (Single Lens Reflex) cameras are high-end cameras that are designed for semi-professional to professionals (Fig 1). Recently most of the major camera brands have developed a range of affordable DSLR allowing ones potential to take clinical photography to develop over time as our knowledge and skills increase to achieve higher standards in our practice. DSLR have the advantages of interchangeable lenses including macro and telephoto, metered lenses, ports for accessory flashes such as a ring flash or a dual flash system. You also have the choice between manual focus and auto focus cameras. Although the modern camera can happily control a number of the key settings relating to the exposure and flash levels, these can normally be overridden.
These types of cameras can be expensive and bulky to use for clinical photography. A good number of the point and shoot style of digital cameras are available at reasonable prices and take excellent clinical photographs even at a macro level. The author has been using a Nikon 4500 (Figs 2,3) since 2003, which allows macro images up to 2cms from the object and has attained good results (Figs 6–14). The advantages of the smaller point and shoot style cameras over the DSLRs is that they are less bulky lightweight compact no need for multiple lens changes and works well for most clinical cases.

Digital Camera Jargon:

Digital cameras capture images as elements, known as pixels. A megapixel is equal to one million pixels.

The more pixels, the higher the image resolution. Resolution relates primarily to print size and the amount of detail an image has when viewed on a computer monitor at 100 per cent magnification.

More megapixels give you the opportunity to print the images. Many amateur and professional digital photographers like to crop their photos, sometimes reducing them dramatically in size to focus in on the key element of the image. Obvi-ously, the more pixels you have, the more you can crop while still leaving behind a useful image.

The author considers that six megapixels is sufficient for use in clinical digital photography. It gives one the ability to use the images for presentation to patients and for lectures using software such as Microsoft Office PowerPoint (www.microsoft.com) or open source software that can be obtained from the internet such as OpenOffice (www.openoffice.org) and to print reasonable size images (12x18inches) for poster presentations.

The images are stored onto a hard medium such as compact flash cards (CF card) and secure digital cards (SD card). There are many file types RAW, JPEG and TIFF, they all serve different purposes. A RAW file is comparable to the latent image contained in an exposed but undeveloped piece of film. This means that the photographer is able to extract the maximum possible image quality, whether now or in the future. This format is mostly used in professional photography.

A JPEG file is a file which is compressed. Every time the JPEG file is saved the file will lose its quality. As a result you have a lower quality and smaller image files. For many applications the image quality is more than sufficient, the smaller files also make it easier to transfer online. A TIFF
file is also compressed but every time the file is saved it does not lose quality therefore the files are larger than JPEG files. TIFF file formats can be utilised in presentation software the only drawback being that the software may run slower due to larger file format. The author is inclined to use the JPEG Fine format to save the images as they are easily transferred to the computer and can be used for presentation purposes.

**Standardising images**

It has never been easier to take standardised and use high quality controlled clinical images. Focal distance can be standardised by securing a piece of dental floss or chain to the bottom of the camera and hold it to an appropriate area (chin) of your patient. This ensures that you will be at the same distance from the patient in all views.

For macro photography, macro lens and ring flash for DSLRs can be used to allow close up images of the subject. Ring lights can also be obtained for most of the point and shoot style cameras, this is usually a ring of LEDs fixed to the lens (Fig 3). It is not always essential to have all these accessories with digital cameras as you do not need to get close to the subject. These cameras contain software that is metered for automatic conditions and some can compensate for macro. Getting too close will overexpose some areas and block the flash in other areas causing shadows. The best technique is to stay back from the subject and use the optical zoom to get close to the area. By doing this you are far enough away for the flash to disperse over a larger area. With digital editing, you can crop any extraneous anatomy. If the image is taken at a high resolution your image will be “macro like” (of a sufficient magnification after cropping out the unwanted structures).

**Basic functions**

There are four exposure settings (modes) in the majority of DSLR cameras; all employ a through the lens metering system defined as:

**Aperture priority:** The aperture is the lens opening. So the aperture control allows you to control how far you open the lens when a picture is taken. The further the lens is opened the greater the amount of light that is allowed into the camera and the lighter the exposure. One would choose the aperture and the camera automatically selects the correct shutter speed to produce an acceptable exposure. By setting the aperture, you decide on the depth-of-field (the plane of sharp focus) in the image as it allows. One can choose a small aperture (a high f/number) for a larger plane of sharp focus (Fig 4) and choose a large aperture (a small f/number) for a narrow plane (Fig 5).

The problem of depth of field. The entire dentition can only be photographed completely in sharp focus if the focal plane is positioned carefully. Therefore do not focus on the front teeth (Fig 4 yellow circle). In a frontal view the point of focus should be around the canines (Fig 5 yellow circle).

**Shutter priority:** The speed of the shutter controls the amount of light that enters the lens when the picture is taken. The more light that you want to let in, the slower the shutter speed. The shutter speed is chosen and the camera automatically selects the correct aperture to produce an acceptable exposure. This mode is not used for the purpose of intra oral photography.
Venus® Diamond

Low Shrinkage with High Aesthetics

Venus Diamond is a new nano-hybrid universal composite that combines low shrinkage and high strength in a unique way. This material can adapt uniquely to the colour of the surrounding tooth structure and features an outstandingly natural look.

- Full mouth indication
- Extremely low shrinkage
- High wear resistance
- High long-lasting polish
- Shade guide made from Venus Diamond composite

Contact us for a FREE Sample

Learn more about Venus Diamond at www.heraeus-venus.com or call +44 (0) 1635 30500
Fax: +44 (0) 1633 524622 Email: admin.uk@heraeus.com
Program: the camera automatically selects both the aperture and shutter speed based on a built-in program.

Manual: the photographer selects both the aperture and shutter speed; the camera’s built-in meter still can be used to calculate the correct exposure.

For dental photography it is important to be in control of the exposure features. Therefore either the aperture priority or manual exposure settings are preferable.

Accessories for intra-oral: Cheek retractors and intra oral photographic mirrors are essential tools for dental photography. Using these tools allows us as clinicians to teach and improve team involvement of all the staff. The author feels that it is important to delegate the process of intra oral photography to other members of staff therefore it is essential to teach and emphasise the standardisation of all the images taken so that any member of staff trained will achieve the high standards that one would need.

Orientation of image is important; the occlusal plane should run parallel to horizontal frame of the photo through the viewfinder, as a photo from below will distort and alter the perspective of the teeth. Lateral views should be taken perpendicular to teeth with a mirror (Figs 7, 8, 11a). Lateral views without mirrors will only show a few teeth as the metered focus will be on the canines and first premolars (Fig 11b). When taking occlusal views the camera should be as near as perpendicular with the occlusal mirror (Figs 9, 10).

When taking images of isolated teeth one way of improving the image is by using a black background (contrastors). The black background improves the image quality and allows the translucent regions of the teeth to stand out (Figs 12, 13).

_Radiographs_

Taking images of plain film radiographs can be difficult. The film is placed on an X-ray viewer box and the image is taken in most cases there will be a greyish green cast to the image. This is due to the fluorescent light in the X-ray viewer which produces flicker at the mains frequency. Essentially when the image is taken the fluorescent light may be flickering on or off therefore affecting the colour of the image (Fig 14a). There are many complicated ways of overcoming the colour cast, we found two methods that seem easier to achieve the results wanted.

The image can be manipulated to produce a black and white image (Fig 14b) using software...
that can be bought such as Adobe Photoshop (www.adobe.com) or using open source software such as Gimp image manipulation program (www.gimp.org).

The second technique and the easiest is to set the digital camera to take images in black and white (Fig 15).

Presentation Software:

For presentations the author uses open source software such as Openoffice, it is virtually the same as Microsoft Office the only difference is that you can save the documents in any format available ie: Microsoft Word and Google Docs. OpenOffice has software called Impress which is the equivalent to PowerPoint. I also like to use a black or a white background for my slides as the images have a greater impact on the slides during the presentation (Figs 16, 17). These presentations are used both for the patients as an education tool and for lecturing purposes. The author also finds it useful to take a photo of the nearest shade tabs to the adjacent tooth so that all information available can be sent to the laboratory technician. The image is sent either as a JPEG or an OpenOffice Impress slide to the laboratory. The technician will be able to use the image to create a restoration with the correct shade and characterisation. The author also uses the images taken pre and post operatively of any restorative and implant work and supplies the images to the dental technicians, rarely do the technicians see their own handy work in situ.

I also use another open source software to manipulate the images (Gimp) that is to crop out any unwanted distractions such as the retractors (Figs 18,19). Using this software it is possible to reorientate the image if they are not level with the horizontal plane using the rotation tool. The image is simply saved and imported into the presentation software.

Conclusion

According to Moore’s Law, which states that the number of components in integrated circuits has doubled every year from the invention of the integrated circuit, he also predicted that this trend would continue. It is obvious that when this article goes to publication the camera technology will be out of date, but the principles of taking an image are still the same.

Observing the simple rules to ensure standardised images will allow one to obtain good quality images by all of the dental team. An important consequence of digital dental photography is the ability for self-checking and improving by auditing the images.

Interestingly whilst writing this article there was an electronic convention held in Barcelona February 2011. This was the World Mobile Congress and at this event there were many tablet-like computers becoming available (Fig 20). I can see the use of these newer tablets being used in everyday practice as an important patient education tool. The images can be archived on the tablet and placed into presentation software making it more patient friendly. The tablet can then be used by the whole dental team to educate the patients.

It is important to be aware that dental photography is an essential part of dentistry used not only to document but to illustrate and educate.

Tips for Dental Photography:
1. Retractors
2. Dental Photo Mirrors (Warm using the 3in1 to...
3. If the image is too bright increase the f number (reduce aperture size)
4. If the image is too dark decrease the f number (increase the aperture size)
5. Take as many photos as you like, as you can delete them later

Tips for Dental Presentations:
1. Use the crop tool to remove cheek retractors
2. When using presentation software use a Black or a White slide as the background for your images.
3. Don’t use too many transitions as this can be distracting to the audience
4. Definitely don’t use any sound effects

REFERENCES:

_Author info_
Amit Patel BDS MSc MClindent MFDS RCS Ed MRD RCS Eng
Specialist in Periodontics & Implant Dentist

Amit is a Specialist in Periodontics practising at Grace House Specialist Dental Centre in Birmingham. His special interests are dental implants, regenerative and aesthetic Periodontics.

Amit graduated from the University of Liverpool and completed a four year specialist training programme in Periodontics at Guy’s, King’s & St Thomas’ Dental Institute. Amit is also an Associate Specialist in Periodontics at the Birmingham Dental School. He has taught at undergraduate and postgraduate level, including lecturing to dental practitioners both in the UK and internationally.
Beverly Hills Formula is delighted to announce that their Total Protection Whitening toothpaste is proven to be less abrasive than some other leading brands of both whitening and regular toothpastes.

We’re confident you’ll love Beverly Hills Formula toothpaste; we offer a 100% money back guarantee.* See back of the toothpaste carton for information on money back guarantee.

Beverly Hills Formula is delighted to announce that their Total Protection Whitening toothpaste is proven to be less abrasive than some other leading brands of both whitening and regular toothpastes.

Need advice? 
Ask the stain removal experts:
www.beverlyhillsformula.com    sales@beverlyhillsformula.com
Minimally invasive Cosmetic Dentistry: When less is more

Minimally invasive Dentistry (MiD), also known as minimal intervention dentistry and preservative dentistry, is a practice mindset and philosophy. There is no escape from MiD in clinical practice. All clinicians practice MiD periodically whether consciously or unconsciously. As a practice philosophy, there are principles of being, knowledge and/or conduct.

Although MiD relates to most oral diseases and aspects of dentistry, its application to caries is probably the most evolved. Carious lesions that are de-mineralised and non-cavitated are now "healed" instead of surgically removed. Tyas et al., as part of a FDI Commission-initiated project, provided an overview of the principles and concepts of MiD, suggested techniques and presented the results of clinical studies as they pertain to dental caries. The principles of MiD in relation to caries management are:

- remineralisation of early lesions
- reduction in cariogenic bacteria, in order to eliminate the risk of future demineralisation and cavitation
- minimum surgical intervention of cavitated lesions
- repair rather than replacement of defective restorations
- disease control

Based on these foundational tenets, generic MiD principles can be proposed for all oral diseases. They are:

- early detection and diagnosis of disease (D)
- control of contributing (predisposing, precipitating and/or perpetuating) factors (C)
- curative and least invasive management of disease or pathological effects (M)
- assessment and monitoring of intervention outcome

These tenets are not only applicable to dental caries, but also to aesthetic problems causing patients "disease". Dental aesthetic problems, like other...
diseases can be caused by genetic or developmental anomalies, infection agents (eg caries and periodontal disease) and/or environmental factors (malnutrition, diet, stress, trauma, etc.) and include:

- discoloured teeth
- poorly shaped teeth
- broken or worn teeth
- ugly fillings (secondary to dental caries)
- spaces between teeth
- crooked teeth
- missing teeth

Minimally invasive Cosmetic Dentistry (MiCD) aims to correct the aforementioned aesthetic disease and to fulfil patients' aesthetic desires and demands by using conservative and minimally invasive treatment options. The least amount of dentistry is performed and any tooth structure removal is kept to the absolute minimum required to achieve the desired aesthetics. The benefits of MiCD are highlighted by Koirala and include reduction of dental fear, increased patient confidence, promotion of trust, enhancement of professional image, tooth preservation, and reduction of treatment cost.

Treatment options can be broadly classified as non-invasive or minimally invasive and are listed in Table I. To achieve optimal aesthetic results, more invasive procedures, including conventional implants, periodontal surgery, and crown therapy, are sometimes required to complement MiCD treatment options.

MiCD materials

In view of the varied procedures, the entire range of materials used in MiCD is beyond the scope of this article. Emphasis is placed on direct aesthetic restorative materials that conserve the maximum amount of tooth structure because they are utilised in the majority of MiCD procedures performed in clinical practice. The continuum of direct restorative materials used in MiCD, based on their setting chemistry, is shown in Figure 1.

Glass ionomer cements (GICs) consist of basic glasses (calcium or strontium fluoro-aluminosilicate) and acidic co-polymers (polyalkenoic acids) that set through an acid–base reaction. The set cement consists of the original glass particles sheathed by siliceous hydrogel and bonded by a poly-salt matrix. Although their aesthetics is fair, they release fluoride and can chemically bond to tooth tissue. GICs also shrink minimally on setting and have a similar coefficient of thermal expansion to dentine.

Indications for the highly viscous version of these cements include the restoration of nonstress-bearing areas of anterior and posterior teeth and “open-sandwich” restorations. The latter involve the use of glass ionomer as a base under composite restorations. Resin-modified GICs were developed to overcome the early moisture sensitivity of conventional cements. In addition to decreasing moisture
sensitivity, resin modification also improves setting characteristics, aesthetics, physical and handling properties. The resin is typically incorporated by substituting acidic co-polymers with a water–HEMA (hydroxyethyl methacrylate) mixture or the use of acidic co-polymers with meth-acrylate side chains. Despite the addition of resin, which usually constitutes 4.5 to six per cent of the set material, resin-modified GICs retain a significant acid–base reaction as part of their overall curing process, bond chemically to teeth and are capable of fluoride release and re-charge. Their caries preventive effect and clinical uses are similar to those of their conventional counterparts.

Composites, compomers (polyacid-modified composite) and giomers (pre-reacted glass ionomer composite) all require resin polymerisation to set and intermediary bonding agents (micromechanical bonding) to adhere to teeth. They can be employed to restore all cavity classes (Class I to VI) and are especially useful for direct veneers and bonding. Composite resins consist of a resin matrix (commonly bisphenol A-glycidyl methacrylate [Bis-GMA] or urethane dimethacrylate [UDMA] with triethylene glycol dimethacrylate [TEGDMA] as a diluent monomer), ceramic fillers (amorphous silica and silicate particles) with coupling agent and minor additives such as initiators, activators, colouring pigments and stabilisers. Resin polymerisation can be activated chemically and/or by light. Composite resins have excellent aesthetics, physical properties and handling but are technically sensitive and shrink on curing (ranges from one to five per cent by volume). Compomers contain the essential components of GICs. The acid component is, however, dehydrated and incorporated in the resin matrix. After light curing, the acid–base reaction occurs slowly when the dehydrated acid is activated through water sorption resulting in a partially ionic structure within the resin matrix. Compomers are capable of fluoride release but the total fluoride release and re-charge is significantly lower than that of GICs. The water sorption needed for the acid–base reaction to take place has been shown to compromise the aesthetics and physical properties of compomers.

Giomers are the most recent category of hybrid restorative material. They are touted as a true hybridisation of composites and GICs because they have the fluoride release and re-charge of GICs and the aesthetics, handling and physical properties of composite resins. Giomers are based on PRG technology in which pre-reacted GICs are used as fillers (Fig 2). Currently available commercial products are based on S-PRG in which only the surface of the glass fillers are reacted with polyacid and a glass core remains. Examples of giomer restorative products include Beautifil II and Beautifil Flow Plus (SHOFU).

The fluoride release and re-charge of giomers are significantly better than that of compomers but lower than GICs. A recent study has reported reduced dental plaque formation and bacterial adherence on giomers when compared with composite resins. This had been attributed to the formation of a material film layer on the surface of giomer restorations after contact with saliva. This material film layer, which consists of aluminium, silica, strontium and other ions, originates from the PRG filler and has also been observed with GICs.

The clinical performance of giomer restorations has been evaluated in several studies involving Class I, II and V cavities up to eight years of duration. After three years, Matis et al. found no significant difference between giomer and micro-filled composite restorations in all the parameters evaluated. Gordan et al. evaluated the performance of giomer restorations over eight years and report no restoration failure. Significant changes were detected only for marginal adaptation at occlusal surfaces and marginal staining at proximal surfaces. Although recurrent or secondary caries is a major cause of restoration failure, this was not observed with giomer restorations. The latter may be accounted for by their better demineralisation inhibition effect at the margins of restorations when compared with compomers and composites.

MiCD in clinical practice

The spectrum of MiCD procedures and techniques involving the use of direct restorative materials has been extensively covered. The modification of tooth colour, shape, size, position and defects, as well as the replacement of missing teeth, can be conservatively achieved with none to minimal tooth preparation. Psychological (perception, personality, desire), health (general, specific, dentogingival), functional (occlusion, phonetics, comfort)
technique_MiCD

and aesthetic (macro, mini, micro) factors must be considered when designing a smile and this has been incorporated by Koirala into a Smile Design Wheel.2

The following case presentation highlights the key principles of MiD (DCMO) as it applies to aesthetic disease and precautions related to MiCD.

Case study

A 43-year-old female patient was referred by her general dentist for management of her aesthetic problems for social reasons. She had congenitally missing lateral incisors, a history of multiple tooth fracture and was unhappy with the spaces and shape of her upper anterior teeth. With the exception of her upper right second molar, all upper molars and second premolars were lost owing to fracture. Her posterior support was derived solely from her first premolars because she had a missing lower right second molar (Fig 3) and did not have an upper denture. Although her upper right first premolar was crowned and her left first premolar was "pristine", both teeth were cracked.

Early detection and diagnosis of disease

The patient’s aesthetic problems were exacerbated by developmental anomalies (congenitally missing laterals) and environmental factors, including occlusal disease (OD). Occlusal disease is defined as "the process resulting in the noticeable loss or destruction of the occluding surfaces of the teeth".¹⁴

The disease process is caused primarily by parafunction, especially sleep bruxism. The detrimental effects of OD could have been greatly minimised by early detection and management with a bruxism splint. Occlusal considerations are particularly important in MiCD because they have a significant impact on restoration success. The clinical and radiographic signs and symptoms of OD are listed in Table II.

As part of the diagnosis process, quality of life issues must be explored in addition to the usual history taking, examination and special tests (e.g., electric pulp test, salivary function test). Discussion of quality of life issues should focus on patients’ wants, needs and expectations with regard to:

- appearance
- tooth sensitivity
- tooth or restoration fracture or failure
- soft tissue discomfort
- loosening or moving teeth
- bite problems
- jaw pain and dysfunction

If MiCD is planned in the presence of OD, patients

<table>
<thead>
<tr>
<th>Clinical signs</th>
<th>Radiographic signs</th>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing tooth mobility</td>
<td>Angular bony defects</td>
<td>Sensitive, painful or sore teeth</td>
</tr>
<tr>
<td>Fremitus and migration of teeth</td>
<td>Increased width of periodontal ligament space</td>
<td>Uncomfortable, uneven or &quot;lost&quot; bite</td>
</tr>
<tr>
<td>Cracked or fractured teeth/restorations</td>
<td>Increased width of lamina dura</td>
<td>Occlusion-related periodontal pain</td>
</tr>
<tr>
<td>Abfraction cavities</td>
<td>Changes in alveolar bone</td>
<td>Symptoms of temporomandibular disorders</td>
</tr>
<tr>
<td>Occlusal wear and heavy occlusal contacts</td>
<td>Vertical reduction of interdental septum</td>
<td></td>
</tr>
<tr>
<td>Occlusal discrepancies</td>
<td>Root resorption</td>
<td></td>
</tr>
<tr>
<td>Soft tissue indentations</td>
<td>Furcation defect</td>
<td></td>
</tr>
<tr>
<td>Signs of temporomandibular disorders</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table II_Signs and symptoms of occlusal disease

Fig. 4a_Pre-treatment
Fig. 4b_Post-treatment
must be educated on the advantages and disadvantages of MiCD to conventional therapy, the possibility of failure and need for protection. The patient concerned was aware of her occlusal problems but wanted a quick, non-invasive and economical solution to improving her anterior aesthetics in view of a social commitment.

Control of contributing factors

As part of the patient’s MiCD treatment planning, all factors contributing to the aesthetic disease must be addressed. Contributing factors can be divided into those that increase risk (predisposing), cause the onset (precipitating) or enhance the progression (perpetuating) of the problem. Sleep bruxism, malocclusion and the loss of posterior tooth support (leading to occlusal trauma to the remaining teeth or restorations) were significant issues for the patient concerned. The contributing factors and their treatment implications were discussed in depth. The need for posterior support and future protection with a stabilisation splint was highlighted and the provisional treatment plan was formulated.

Curative and least invasive management of disease or pathological effects

Treatment according to the MiCD approach was undertaken in consultation with the patient in view of time and cost constraints. Bonding was done to close the spaces between her upper central incisors and canines and direct veneers were used to modify the shape of her canines into lateral incisors (Figs 4a & b). The restorations were achieved using giomer restoratives (Beautifil II and Beautifil Flow) and the flowable frame technique.13

Some minor aesthetic recontouring was also done to the right central incisor. Impressions were made after restoration placement in preparation of an immediate denture replacing all the patient’s missing posterior teeth and the fractured upper first premolars. The patient was also informed of the possibility of implants (with sinus lift and bone augmentation), should a fixed option be desired later. The need for conventional crown therapy should the bonded restorations not be durable was also discussed.

Assessment and monitoring of intervention outcome

A follow-up appointment for the seating of the immediate denture was scheduled but the patient did not attend her appointment. She was very happy with the aesthetic outcome and only returned when her bonded restorations failed a few months later (Fig. 5). The lack of posterior tooth support and high occlusal stresses secondary to sleep bruxism resulted in the failure of the bonded restorations. The latter could have been avoided if an upper stabilisation splint had been worn during sleep. Assessment and monitoring of intervention outcome is extremely important when OD is present. If teeth fracture and wear down, restorations will perform no better unless all contributing factors are addressed.

Conclusion

MiCD aims to correct aesthetic disease and fulfil patients’ aesthetic desires and demands through conservative and minimally invasive treatment. Generic minimum intervention principles were proposed for all oral diseases including aesthetic disease caused by genetic or developmental anomalies, infection agents and/or environmental factors. These were:

- early detection and diagnosis of disease
- control of contributing factors
- curative and least invasive management of disease or pathological effects
- assessment and monitoring of intervention outcome

The tenets were employed in a case study in which giomer restoratives were used. The latter are the most recent category of glass ionomer–composite hybrid restorative materials. They are particularly useful for MiCD procedures in view of their good aesthetics, handling and anti-caries properties.

Contact info

Assoc Prof Adrian UJ Yap
Raffles Dental
585 North Bridge Road,
#13-00 Raffles Hospital
Singapore 188770
Republic of Singapore
aujyaprd@gmail.com
poladay+night
from just 30 minutes once a day

Pola Day
• From 30 minutes once a day
• Available in 3%, 6%, 7.5% and 9.5% hydrogen peroxide
• High water content

Pola Night
• From 45 minutes once a day
• Available in 10%, 16% & 22% carbamide peroxide
• High water content

Visit us on stand no. B16 at the BDIA showcase for your free sample and join us for a coffee!

NOW Available 6% Hydrogen peroxide
Short Term Orthodontics
- An Overview

Author_ Biju Krishnan

Short term orthodontics or cosmetically focussed orthodontics can be defined as Orthodontic treatment that focuses on the alignment of teeth in the aesthetic zone, has no detrimental effect on the occlusion and can be completed in less than nine months.

As this paper aims to demonstrate, cosmetically focussed orthodontics is a very powerful tool that does everything good cosmetic dentistry should – it’s conservative, it’s quick, it’s predictable, it’s lasting and it’s relatively inexpensive when compared to alternative restorative procedures. As dentists we need to be aware of what it is, advise our patients accordingly, and if possible offer it as an alternative or adjunct to conventional restorative and cosmetic procedures as part of our obligations regarding informed consent.

We also need to understand that cosmetically focussed orthodontics is a philosophy of treatment that can be delivered in several ways. Once we understand the principles we can then decide on the modality best suited to deliver the result we are aiming for. This paper shows how treatment can be carried out using a fixed appliance but also be aware that removable spring appliances, as well as clear tray systems can also be used.

Case Presentation

Patient CR came to see me for what I believe was a fourth opinion regarding her “very crossed teeth” and after a fairly convoluted history ended with the all too common, “and by the way I’m getting married in ...”, which in this case was 10 months.

So far the options she had been given included:
Conventional orthodontics with removal of two upper premolars and a treatment length of around 24 months with a fixed upper and lower appliance.

Treatment of the upper arch only with 10 veneers - which most likely would have meant the devitalisation of at least two teeth.

Accept the existing situation

After discussing again with her the possible options, which also included the ones she had already been given, we decided that we could attempt to gain as much of an improvement as possible with short term orthodontics possibly followed by more conservative restorative treatment if orthodontic treatment alone could not provide a satisfactory outcome.

We opted for a fixed appliance and CR was fitted with this in July 2010.

She attended monthly thereafter for a period of six months during which time minimal interproximal reduction was carried out and arch wires changed accordingly. At the end of this period we arrived at a position where the patient decided she was happy enough with the appearance and wished to conclude treatment. It was suggested that there was still room for further improvement if the appliance was left in place for around two more months, however this was not possible due to the impending wedding.

Once the appliance was removed we carried out a chairside tooth whitening procedure followed by composite bonding to even out some differential tooth wear. The patient did not feel the need for any further cosmetic treatment and was happy to finish treatment at this stage.

Discussion

The most obvious question when looking at cases such as these is how space is created in what appears to be a moderately severely crowded arch without the removal of any teeth. Knowing the answer still does not cease to amaze. Looking back at this case, and other such cases that we’ve since completed, calculating how much space is required, predicting how much space is available and how to gain this space is one of the keys to understanding short-term orthodontics.

In short term orthodontics, space is gained in mainly two ways:

- Interproximal reduction
- The arch rounding out

(Upper arch expansion can also be used but brings with it additional complexities and considerations which for the purposes of this overview I will not be discussing.)
**Interproximal Reduction**

Interproximal reduction, also known as Interdental Stripping, Reproximation and Tooth Slenderising is the careful removal of a defined amount of enamel from the proximal surface of a tooth.

Studies show that enamel reduction does not appear to expose the enamel to pathological changes that could lead to caries and interdental stripping can be considered a reasonable therapeutic technique, especially if care is taken to avoid abrasion in more gingivally located enamel.


The maximum space gained in this way in a complete dentition between the mesial surface of the first premolar to the mesial surface of the adjacent first premolar, is around four mm.

In the vast majority of crowded cases we treat, the amount of space that can be gained by IPR alone is more than adequate to give a considerable improvement in aesthetics. However in conjunction with the arch rounding out we often do not have to remove the full 4mm of enamel.

**Rounding out the arch**

As arches round out we can gain a significant amount of space. To understand this more fully we need to go back to our geometry lessons. Let’s think of our arch as an arc or part of the circumference of a circle. The relationship between the diameter and circumference of a circle can be defined as pi or 3.14. Hence if we have a circle that has a diameter of 1cm its circumference is 3.14cm. Or put more simply - the circumference of a circle is roughly three times that of its diameter. Hence for every 1 unit increase in diameter we get three times the increase in circumference.

Now going back to the case in question. When we look again at the upper arch we can see on diagram below, the black line shows simplistically how “flat” the anterior incisors are. The blue curve indicates the likely end position of the teeth where the arch-wire of the fixed appliance naturally wants to take them. It is this “rounding out”, in effect increasing the diameter of the arc or circle that gives us quite a significant amount of space circumferentially.

This principle is usually very dramatic in class 2 div 2.

On first glance this appears to be a very crowded case. However, after just one month of treatment and no IPR it becomes a very spaced case. This can now be quite simply treated.

**Space Calculation**

There are three main ways to calculate how much space is required in the crowded dentition:

1. Guesstimate based on clinical examination, models and pictures
2. Measurement using Vernier Gauge
3. Ask the laboratory to assist

By far the most common way used is Option 1 and with experience is very reliable. However the most accurate method is by measuring the mesial to distal width of each individual tooth from canine to canine, giving us the required space, and then to measure the length of span of the teeth in the final position – the available space. Subtraction of one from the other determines how much space is required using IPR. However it is possible that no IPR at all is required.

**Discussion**

Although the vast majority of cases that are treated this way tend to be of minor crowding, minor spacing or misalignments, the case of patient CR does demonstrate that with the proper understanding we can also treat more dramatic situations that would otherwise necessitate significant destruction of healthy tooth tissue, or even require extractions. In summary short term orthodontics has roles to play in:

- Rounding out arches
- Leveling and aligning the anterior teeth
- Correcting simple to moderate crowding
- Correcting simple to moderate spacing
- Rotations
- Aligning gingival margins and improving emergence profiles
- Uprighting teeth that are flared or tipped
- Pre-restorative treatment alignment

- Avoiding elective endodontics

Looking at the above list gives us an idea of how valuable a tool short term orthodontics can be in the provision of cosmetic dentistry.

**The Occlusion**

In each case we need to also understand that we do not intend to change the posterior occlusion permanently or at the very least detrimentally. Invariably changes in occlusion will occur during treatment as quite often the bite will be propped open on the anterior teeth leading to mainly Dahl type movements posteriorly. However, going back to our definition of short term orthodontics, the appliances are rarely worn for more than six months and any movement posteriorly will either completely settle or not pose any long term problems, as reported by N.J. Poyser et al; *The Dahl Concept: past, present and future. British Dental Journal* 198, 669 - 676 (2005), “The development of adverse events is very rare. If they do occur they tend to be minor in nature and transient with no long-term adverse sequelae.”

With further regard to the occlusion, it is also critical that when we come to retain the anterior teeth in their final position, we do not interfere with the posterior occlusion settling. We need to ensure that patients fully understand the role of long-term fixed and removable retention and we need to provide retainers that hold the anterior teeth in place while allowing the posterior occlusion to readjust. Provision of conventional removable retainers such as an Essix retainer is not good enough and could potentially lead to further problems, and fixed retention alone can be insufficient.

This concept is quite different from conventional orthodontics where it is the intention to retain the whole arch in the occlusion that the orthodontist has determined. As such we have had to develop new concepts of retention to deal with the unique challenges posed by short term orthodontics, rather than...
borrow directly from conventional orthodontic retention protocols.

**When is treatment complete?**

In conventional orthodontics the end point is achieved when we have positioned the teeth in, or as close as possible to, a class 1 occlusion. This is a very accurately clinically defined position. In short-term orthodontics there is not a simple way to measure clinically when treatment is complete. The end of treatment is subjective and based on:

1. When the clinician feels that no more aesthetic improvement can be gained
2. The patients is happy with the appearance
3. Time – treatment should not progress beyond six- nine months or we are in the realms of conventional orthodontics.

Due to this subjective nature, it is very important to define, before treatment commences, what the expectations are of the patient and what we can deliver as clinicians within an acceptable time-frame. It is important to have this discussion with patients using study models and photographs, noting in particular what the main concerns are of the patient and highlighting any areas where there may be compromises in achieving the desired outcome.

For example in one case, there is a missing lower incisor. As such we will most likely be left with residual spacing distal to the canines or even between the incisors. This should still deal with the patient’s main concern of significant anterior spacing but we have to let her know of this potential negative scenario and offer the option of conventional orthodontics or make her aware that further treatment may be required if she feels that residual spacing is still not acceptable.

Similarly with a crowded lower arch, we have to accept that we will not be able to move the premolars into an ideal position, giving a fuller smile, without changing the occlusion significantly. Again discussion with the patient regarding a compromised outcome needs to take place prior to treatment commencing, stressing our focus on the anterior teeth only.

However, quite often in cases such as these, it is important to remember that what we see as potential aesthetic compromises are something patients are not concerned about as their main focus tends to be on the anterior six teeth. In this case the patient was indeed more than satisfied with the outcome when the arch was rounded out giving the anterior six teeth a more ideal symmetry and proportion.

As is common with many of our short term orthodontic cases, further, simple cosmetic treatments will serve to enhance the above appearance.

**Post Orthodontic Cosmetic treatment**

Whitening...

- **Maximum** results with **combined** InSurgery 6% HP & Home 16% CP
- **With Desensitiser**
- **Use with light or without light**

Kits comply to UK/EU allowed limits for teeth whitening

...and more

- **Night time** - 10% carbamide
- **Night/Daytime** - 16% carbamide
- **Daytime** - 6% hydrogen peroxide
- **3cc** large syringes with re-seal tips with built-in desensitiser

Laser & Whitening Specialists since 1992

Made in Great Britain

Call now for offers
Tel. 01227 780009
and visit our website:
www.quicklase.com
info@quicklase.com
Unlike the situation with children, in the majority of adult patients, we find that immediately following a course of short-term orthodontic treatment there will invariably be some degree of differential tooth wear or unaesthetic “black-triangle” formation which may necessitate further cosmetic treatments. This is usually very simply dealt with by composite bonding with or without prior tooth whitening, but the patient must be warned of the potential for further cosmetic work at the outset.

In the case of patient CR it is very noticeable that the incisal edges are uneven and there is a “black triangle” between the central incisors. With “black triangles” it is not uncommon for papillary growth in this region to continue for some period so it may be advisable to wait and see how much regrowth takes place prior to further cosmetic work.

Conclusion

Although I feel it is still somewhat in its pioneering stages, there is no escaping the fact that short term orthodontics is here to stay. We have to be able to offer this option to our patients as part of informed consent when undertaking any cosmetic procedure that would otherwise lead to significant tooth surface loss to achieve the desired cosmetic result.

There needs to be continued education and discussion to demystify some of the myths and scaremongering regarding occlusion and short term orthodontics, and we need to be able to have an educated discussion with our patients regarding this as an option for treatment. We also still need to treat conventional orthodontics with respect and work within very defined parameters in delivering this very cosmetically focussed treatment option.

However, echoing my earlier sentiments, this type of cosmetic treatment encompasses everything that good cosmetic treatment should do, and with the right training, we should all be capable of providing this treatment in one form or another to our patients.
How many patients have you had step into your clinic and say that they would like to improve their smile as they are going for a new job or are getting married soon... probably quite a few. It's also likely that you've had just as many who want to improve their smile for no specific reason at all, other than they've always wanted to. Nothing wrong with that you might say... but at what cost?

10 years ago, I worked full time at Dentics’ flagship Cosmetic Dental Clinic (formerly Ora) at the world famous Selfridges department store in London. Although it was thought that all we did was tooth whitening, we actually carried out many smile makeovers as well as general dentistry. At the time, we were inundated with requests for various forms of smile enhancements. Is it any surprise when the public are faced with celebrities on the big screen, small screen and in various glossy (and not so glossy) magazines with perfectly white teeth and that infamous ‘Hollywood Smile’? In those days, there was no recession and smile makeovers were the order of the day... every day! Of course I didn’t carry this out on everyone that asked for it, but the WANT was there and the requests flooded in.

Although I believe that tooth whitening can be considered as a scalpel-free face-lift, porcelain veneers are definitely not - and that includes the thin or prepless variety.

Back then, adult orthodontics was not what it is today. Lingual braces were in their infancy and in the realm of the very few specialist orthodontists that had the skill and the will to carry out this innovative but tricky treatment.

There were various reasons why porcelain veneers were requested, but one of the most common in my experience was crowding in the anterior segment. Frequently this involved people who had worn fixed orthodontics as teenagers, but relapse had set in and a quick fix was requested and, a lot of the time, guess what was carried out... yes, veneers. Even in a recession, there still remains the substantial demand for cosmetic dentistry.

Having heard a lot about the ‘three-month
I thought to myself, could this really be as simple as it sounds and could this also be the answer to what I had always wanted in my Dentic days... a fairly quick fix to the same old problem of the crowded anterior segment? A few years ago I attended the Straight Talk Seminars hands-on Inman Aligner course, and I would now like to share with you my first ever case.

The patient was a 45-year-old gentleman who was enquiring about the options to improve the look of his lower anterior teeth that had... yes, you guessed it, relapsed after fixed orthodontics as a teenager. Admittedly he blamed himself for this, as he had stopped wearing his retainer. He presented with mild to moderate crowding in the upper anterior segment and moderate crowding in the lower anterior segment. It was, however, only the lower incisors that concerned him.

Over the years he was given various options for treating this from various dentists. These included the quick fix porcelain veneers, fixed orthodontics and Invisalign. Luckily, he had always declined the veneer option and didn’t want the fixed orthodontic option. I made him aware of lingual orthodontics but due to costs and length of treatment time, this was declined. Although Invisalign was a viable option, it was twice as costly and would have taken twice as long as what I proposed... the Inman Aligner. He hadn’t heard of it before but really liked the fact that not only was it removable but it was also quick, usually taking three-four months and was cost effective.

Good case selection is essential and a parallel technique digital long cone periapical radiograph was taken of the lower incisors. This is essential not only to assess whether any apical pathology is present but also to assess the spacing between the
roots. If the roots are as crowded as the crowns, then this may be a difficult case and you should proceed with caution. This case exhibited no pathology and some spacing between the roots. The patient therefore went ahead with impressions at his consultation appointment. This is quickly done in alginate in metal Rimlock trays and an alginate finger sweep into embrasures lingually and labially for accurate bubble-free impressions.

The fit appointment was two weeks later and took 15 minutes. Lingual and labial composite attachments were placed to engage the palatal bow and prevent the labial bow from slipping towards the gingiva respectively. Some selective and progressive interproximal reduction (IPR) was carried out. The patient received instructions as well as demonstrations of insertion and removal of the appliance. It was emphasised that both nocturnal and daytime wear is essential in Inman cases, with an average of 18 hours of wear per day.

It may be tempting to carry out IPR in the region of most crowding, in this case LL1. However, if IPR had been carried out mesial and distal to the LL1, this would have created ledges, poor contact areas, a far from ideal contour and final result. It is important to remember the 'Domino Effect' with these cases. IPR in this case is done remote to the site of most imbrications or crowding, namely distal of the LL2 and LR2 and can even be done distal to the LL3 and LR3 (and in certain situations distal to the first premolars). Further down the line once the crowded incisors begin to 'unravel', IPR can be carried out in the LL1 region.

IPR is best carried out using Brasseler Vision-Flex metal perforated polishing strips in the following sequence (depending on space required and if needed): Yellow (Extra fine, 15µ), Red (Fine,
30µ) and Blue (Medium, 45µ). You must always go back the other way and finish off with the extra fine yellow strip to ensure a smooth enamel surface. A fluoride mouthwash is also recommended.

The patient was reviewed every two-three weeks, depending on progress, and 13 weeks later he was delighted with the result. The patient was given the option of bonding to level the incisal edges off but he was happy to accept the final result as it was. The composite attachments were polished off and a wire retainer fitted. A 0.5mm Essix style clear retainer was made to fit over the wire retainer. This acts as a good back up in case the wire comes away, however the patient is instructed to wear this every night for the initial three months, reducing this to every other night and then once a week after the first year.

There has been much debate about whether ‘simple’ orthodontics can or should be carried out by GDPs. In my view, the key word here is ‘simple’. We are not reorganising the occlusal scheme, we are not moving molars and we are not extracting teeth. In fact, I see no downside to providing this treatment. Whether the Inman Aligner is used as a standalone treatment, before whitening, bonding or even veneers, one thing is for sure, it simplifies treatment and allows minimal preparation or no preparation at all. Not offering tooth alignment, in my opinion, verges on negligence. It is not a question of ‘should we be providing this treatment option?’ We must provide it.

So is the Inman Aligner the Real Deal? It sure is…

Dr Kanaan has also teamed up with her husband Zaki and is a Clinical Director of K2 Dental Seminars, running a renowned whitening course to specifically train dentists, hygienists and therapists in the latest tooth-whitening techniques.

Dr Dominique Kanaan
BDS, LFHom
dominique@k2dental.co.uk
The new Luxatemp Star offers outstanding results for break resistance and flexural strength! The newest generation of DMG’s top material Luxatemp scores even better: excellent stability, maximum fit and reliable long-term color stability. No wonder experts recommend it. Find out more at www.dmg-dental.com

For a look that’s hard to beat.
The new Luxatemp Star.

Stunningly beautiful temporaries with proven durability:
25 Clinical tips for general practice

Author_ Dr Ashish B Parmar

**_Introduction_**

One of the best ways of becoming a better dentist is to learn from top dentists. I have been fortunate to be mentored by world-class dental educators. I recently did a webinar for Smile-On. This article is a follow up on this webinar; I will share some tips and advice to allow you to offer a higher standard of dental care in your practice. I will be talking about a range of clinical techniques and dental materials.

**_DISCLAIMER:_** I am not paid for promoting any dental materials. I will simply explain the preferred products that I use in daily practice, as well as on my training Courses.

**_TIP 1: Wearing Dental Loupes_**

I have been wearing dental loupes for many years. The magnification I use is 2.5x. This gives me ample magnification to do better general dentistry, as well as a wider field of view when doing Smile Makeovers. I use the Orascoptic loupes, and can recommend you contact Chris Minall on 07740 922136 for an initial consultation to help and advise further. Also visit www.surgicalacuity.com to find out more about loupes in general. So, if you want to have better posture and protect your health long-term, have better vision when doing your dentistry, and want to offer your patients the best you can, then you cannot be without dental loupes!

**_TIP 2: Digital Photography_**

A modern private practice cannot be without a digital SLR camera. Dental photography is a powerful tool to communicate with your patients the condition of their mouth. Photography is also essential in cosmetic dentistry whether you are documenting teeth whitening results or doing a Smile Makeover. Digital photographs (before and after), as well as Makeovers at the end of treatment can be used for marketing. It is much better to "show off" your own work, with a testimonial from the patient, rather than use stock pictures from a photo library. The two most common makes of camera in dentistry are Nikon and Canon. You will need an SLR camera body, a macro lens, a ring flash, and some camera accessories. The investment should be about £1,500. An excellent comparison website for the latest camera equipment is www.dpreview.com. I bought my Nikon camera from an American company called Photomed (www.photomed.net).

**_TIP 3: The Comprehensive Dental Assessment_**

This is perhaps the most important tip I can give dentists. I have devised one of the most comprehensive dental assessments available in the UK. The advantage of doing a detailed initial examination for your patients is that it builds up trust and confidence. Also, by capturing all the important diagnostic data before any treatment is done allows the dentist to make accurate diagnoses, treatment plan better, and therefore advise and look after patients in...
the ideal manner. It is also comforting to know that you have a “gold standard” of record keeping in case there are any medicolegal issues in the future. I spend an entire day on my Hands-On Course on this important topic! Visit www.theacademybyash.co.uk to find out more.

_TIP 4: Excellent Periodontal Health (Figs 1–3)

Having excellent periodontal health before restorative dentistry is an essential requirement for long-term success. We have a detailed initial screening protocol that includes six-point pocket charting, measuring percentage scores of plaque and bleeding, analysing recession and mobility scores, etc. A relevant treatment plan with the hygienist and/or periodontist is then recommended so that the patient can be motivated and treated to achieve healthy gums and very good oral hygiene. The use of a sonic cleaning brush (I use Diamond Clean by Philips), and daily and regular cleaning between teeth with floss and interdental brushes, as appropriate, is highly recommended. For many patients, Airfloss (by Philips) is also a great adjunct to their daily hygiene regime. Finally, I also recommend the Ultradex range of mouthwashes and products (from Periproducts). This mouthwash has chlorine dioxide and is the best product in my opinion for fresh breath. I always encourage my patients to use this when they are in the temporaries stage during a Smile Makeover case. I find the gum health to be excellent with no bleeding when I come to fit the porcelain restorations upon removal of the temporaries. You can find out more by visiting the following websites: www.philips.co.uk/c/electric-toothbrushes/139853/cat and also www.periproducts.co.uk.

_TIP 5: Digital Calipers

A digital caliper is essential to measure teeth very accurately in cosmetic dentistry. You can take measurements very quickly and easily with accuracy to 0.01mm! This will definitely raise the standard of your treatment, as well as keep your technicians on their toes as to what you expect from them! These can be easily bought for about £15 from Amazon or eBay.

_TIP 6: Pre Planning on Study Models

When doing a Smile Makeover, it is very useful to plan accurately on models regarding the preparation changes that are required. Areas where occlusal adjustments are to be made can be marked, as well as changes such as centre line shift, gingival height (zenith position) changes with lasers, finishing lines of porcelain veneers, etc. This, in conjunction with a trial preparation model, excellent wax ups and putty indices from an experienced laboratory technician will really help the dentist a lot.

_TIP 7: Articulating Papers

Visit www.bauschdental.com to find out a lot more about the different products and papers I use in my private practice. In particular, the big tip I can give dentists is to use the two-phase articulation paper technique. This involves first marking the occlusal contacts with a 100 micron thick blue paper with transculase bonding agent in it. Then, you should use a 8-10 micron red articulation foil to mark the exact areas that will actually need adjustment. You will see a blue wider diffuse mark, a halo, and a red dot in the middle. It is this “bullseye” that you have to aim for – simple!

Another great tip is the use of Shimstock foil to record “Shimstock hold positions”. This means making a note of the teeth that are in tight contact and prevent the release of the Shimstock foil inter-occlusally when the teeth are in contact in centric occlusion. This can then be written
on the laboratory docket. You can then expect accurate articulations, and restorations that are precise regarding occlusal anatomy and occlusal contact. This will save a lot of time and hassle when fitting crown and bridgework!

**_TIP 8: TMJ Assessment_**

Before embarking upon a comprehensive course of dental treatment, it is vital that the dentist knows how to do a clinical assessment of the temporo-mandibular joints (TMJ), as well as the important facial and neck muscles. The dentist can detect if there are potential TMJ problems and whether referral to a TMJ specialist is required BEFORE dental treatment. I also strongly recommend Joint Vibration Analysis (or JVA), which is computerised equipment and software that is excellent at diagnosing the health of each TMJ. There are special sensors that measure the vibrations of the TMJ on opening and closing. The data is then presented within the computer software and within a few minutes, the dentist can use the Piper Classification of TMJ Health and reach a diagnosis (which supports the clinical findings). I also recommend the use of T Scan, which I think is one of the best occlusion assessment computerised software available in the world. To find out more about JVA and T Scan, contact Mike Crooks (Ident Limited) on 07803 516737. There are also some great YouTube videos on occlusion topics that I have posted on my teaching website at www.theacademybyash.co.uk/Ash-s-Gems/occlusion.html.

**_TIP 9: Facebow Records_**

It is quick and easy to take a facebow record accurately when you know how to. I recommend the Denar system, as well as the Kois Facial Analyser. I take the Denar facebow when I am planning bigger cases (e.g. wear cases that require a new vertical dimension), if I am doing two or more crown/bridge units, and also during a Smile Makeover case. I use the Kois Facial Analyser if I am doing a Mini Makeover, as well as when I am taking the centric relation bite record for making a Michigan/Tanner type of hard acrylic appliance. If a dentist is thinking of buying an articulator or a facebow, I highly recommend the new Mark 320 Denar Articulator from Whip Mix Corporation. Call Peter Nutkins (on 07714 458215) from Prestige Dental (www.prestige-dental.co.uk) for more advice and a demonstration.

**_TIP 10: Taking an accurate Centric Relation Record (Figs 4–9)_**

Many dentists lack the confidence to do a “full mouth case”. Once you understand how to do a comprehensive dental examination, diagnose accurately and verify that the vertical dimension has to be altered i.e. a REORGANISED approach in restorative dentistry, then it becomes essential to carry out an accurate bite registration in centric relation. I teach practical methods in taking this important record using a variety of techniques. It is also important to learn how to make a deprogramming device using a product like the NTI appliance. Leaf gauges can be bought from Prestige Dental and the NTI kit can be bought from S4S Dental (www.s4sdental.com).

The bite registration paste of choice that I use is Luxa-bite (DMG). This is a blue coloured material that sets very hard. This is the most accurate material that I am aware of, and requires precise and careful trimming in the dental laboratory. The other great bite registration paste that I use is O Bite (DMG). This is orange in colour and not as rigid as Luxabite.

**_TIP 11: Accurate Silicone Impressions using Honigum (DMG)_**

Honigum (DMG) has been the material I have been using for all my crown/bridge work and Smile Makeovers, as well as open tray implant fixture head impressions, for many years. It is an accurate, easy to use material and the simple way I can validate its superiority is the quality of the impressions and the accuracy of the marginal fits I get. I use two techniques of impression. The first is the two stage putty and wash technique. My nurse mixes one scoop each of the rigid putty base and catalyst, ensuring
We’ve got everything you need for dental photography

Complete Camera Systems  Macro Lenses  Macro flashes

Dental Mirrors  Retractors  Universal Mirror Handle

You know how important photographs are to your practice, but you don’t know who to turn to for advice. PhotoMed understands your needs and can help you choose the right camera. Our camera systems include custom instructions and are delivered to you assembled, set and tested. Go to www.photomed.net for the best clinical photographic equipment available.

Digital Printers  R2 Dual Point Flash Bracket

Anterior Contrasters  Occlusal Contrasters  DVDs and Books

Visit PhotoMed at the BACD Annual Conference in Manchester - November 22-24

PhotoMed  www.photomed.net
non-latex gloves are used. The mixed putty is then loaded in to the tray (I use Borderlock trays), and a thin layer of cling film is placed on top. I then seat this down hard over the arch and wait about two minutes to ensure that the material is rigid. I remove the tray and dispose of the cling film. My nurse then places some Honigum Light body material in to the set putty in the tray, as I inject some Light body material around the prepared teeth. I then seat the tray again fully and wait four-five minutes.

The alternative technique I use is the one-stage Honigum Heavy body material (dispensed from the Mixstar machine (DMG)) and the Honigum Light body material being simultaneously syringed around the teeth. Again, the tray is held in place for four-five minutes before being removed.

For managing the tissues, I use a soft tissue diode laser, Expasyl (Kerr) or retraction cords from the Tissue Management System (Optident).

_TIP 12: CEJ-CEJ Measurements (Fig 10)_

This is an important reference measurement that is taken with a digital caliper. It is an accurate measurement in mm taken between the cemento-enamel junction (CEJ) of two diametrically opposing teeth. In a wear case, a dentist can take a CEJ-CEJ measurement in centric occlusion (CO) to establish the vertical dimension. The bite can then be opened up to the desired amount in centric relation (CR). A new CEJ-CEJ measurement can then be recorded, and an accurate inter-occlusal record (bite registration in CR) can be done. This can then be used to check at the temporaries stage, in the laboratory and also after the porcelain restorations have been fitted. In this way, a precise control can be maintained throughout the treatment stages.

_TIP 13: Laser Gingival Contouring (Figs 11–14)_

I use a soft tissue diode laser to carry out artistic, minimal gingival contouring changes. By placing the zenith positions of the upper teeth in the correct positions allows more natural and attractive looking smiles. The theory and techniques to do this can easily be learnt, and the prices of lasers have come down a lot over the years.

I also use a “hard tissue laser” to correct gummy smiles by doing gingival contouring followed by the removal of bone subgingivally by up to 2mm to recreate the biologic width. This allows faster healing times, no need for incisions and minimal or no post-operative discomfort. The key point is that laser energy has a sterilising effect and promotes faster and better healing.

_TIP 14: Fibre-Reinforced Composite Dentistry_

I strongly advocate dentists to learn about fibres in dentistry. I use the everStick range of fibres for numerous minimally invasive procedures including: -
- Periodontal splinting
- Fixed retainers after orthodontic treatment
- Replacing a missing incisor, premolar or molar tooth (studies show success rates of over 10 years)
- Extraction of a tooth, resecting the apical portion of the root and splinting it to the adjacent teeth in the mouth
- Making a custom fitting fibre post, which is then used to make a bonded composite core, before crown preparation
- Reinforcement of large composite direct restorations

Please have a look at my practice website at www.smiledesignbyash.co.uk/general-dentistry/fibreglass_dentistry and also the website www.sticktech.com.

_TIP 15: Customised Composite Shade Tab_

It is a good idea to purchase a blank shade tab that GC make, which can then be used to make a customised shade tab with the different colours of composites you have in your composite kit. This will allow accurate shade matching ability when doing more demanding anterior composite build-ups using the layering technique. My preferred composite products I use in practice are G-aenial for the anterior teeth and Kalore for the posterior teeth. Please have a look at www.gc europe.com to find out more about these composite products, as well as have a look at a very good App that GC have developed to help dentists in complex anterior build ups using the layering technique.

_TIP 16: Use of Luxacore (DMG), Luxabond (DMG) and EverStick Posts (Sticktech) to do a bonded Post/Core build up._

I use everStick Posts (0.9mm and 1.2mm fibres) to anatomically adapt the flexible fibres in the prepared root canal after the root filling. Root canals are never circular in cross section, which is why this technique is superior than using pre-fabricated fibre posts, which are circular in cross section. I use Luxabond as the bonding system, and Luxacore to cement the post and build up the core simultaneously. The tooth can then be prepared minutes later. The whole clinical technique can be viewed on a video (part of a series) on my Academy website at www.theacademybyash.co.uk/Clinical-Cases-Videos/porcelain-veneers-prep-videos.html.

_TIP 17: Composite Veneers_

I have done a lot of porcelain veneers over the years. However, increasingly I am using composite as a material of choice in a number of cases. Following simple orthodontic treatment using the Inman Aligner or six Month Smiles, teeth can be straightened quite well. Composite can then be used to make minor improvements (typically after teeth whitening has been done).
_TIP 18: The “Spade” Instrument

The instrument, which I call the “spade” is a great instrument to help with easy and quick shaping of labial surfaces of teeth that require composite veneers, as well as during addition of flowable composite material when making trial smiles using Luxatemp (DMG). It is a Hu-Friedy instrument and the reference code is TNCC18.

_TIP 19: Learn to do the Inman Aligner and Six Month Smiles (Figs 15-22)

I have found the UK Courses to learn about the Inman Aligner and the SixMonth Smiles braces to be excellent. I now use both these braces in clinical practice for the benefit of my adult patients. Please visit www.inmanaligner.com and www.6monthsmiles.com to find out more.

_TIP 20: Luxatemp (DMG) and Luxaglaze (DMG) for Temporaries

Luxatemp is a 5-star Reality rated product and rightly so! It is the number one choice for making trial smiles by cosmetic dentists in USA and UK. I have been using it for many years, and B1 is my favourite colour. You can get Luxatemp Fluorescence or Luxatemp Star (stronger – if you require more durable transitional restorations to last longer in the mouth). The use of Luxaglaze light cured varnish will significantly improve the appearance and stain resistance of the temporaries.

_TIP 21: Use of a Speed Increasing (Red Ring) Handpiece to Perfect your Preparations

I highly recommend the use of a speed increasing handpiece in an electric motor. Friction grip burs under water spray can be used to get smooth, precisely prepared and finished tooth preparations.

I have been using NSK handpieces for many years in my practices and recommend the Ti-Max X95L handpiece. You can contact Alex Breitenbach at NSK on 07900 245516 for more advice on NSK handpieces.

_TIP 22: The Natural Die Material Shade Guide (Ivoclar)

This is an essential shade guide to have for doing Smile Makeovers properly. The prepared teeth can be matched carefully with reference to this shade guide. The ceramist technician can then ultimately produce model dies of the matched colour. This will help with precise colour matching as the porcelain build-ups are done. You need to write down the “Stump Shade” colour e.g. ND7.

_TIP 23: Using a Top Dental Laboratory

My private practice is in Chigwell, Essex. I use Rob Stor-...rar from Amdecc Dental laboratory (www.amdecc.com) based in Basildon for Smile Makeovers for my patients. For my Academy, I have a close working relationship with Castle Ceramics (www.castle-ceramics.com). It is a real pleasure to have technicians who are passionate, knowledgeable, skilled, artistic and who have a good understanding about occlusion.

_TIP 24: Cementation with Vitique (DMG)

Vitique is my number one choice for cementation of multiple porcelain restorations when doing a Smile Makeover. I use the base and catalyst together (even if I am cementing porcelain veneers). My favourite colours are Transparent and B1 shades of the base, and I use the “low viscosity” catalyst. There is adequate working time with this cement to work in a stress free manner. I also use Vitique to cement in porcelain inlays, onlays and all porcelain crowns.

_TIP 25: The Celebration

One of the best rewards for me in private practice is seeing the emotional reaction when a patient sees their new smile for the first time. We celebrate this important moment in the patient’s life by presenting her with a nice bouquet of flowers, a signed card by the dental team with the before and after photographs. We also celebrate with non-alcoholic champagne served in crystal glasses on a silver tray. Our patients are genuinely touched by the special effort we go to during this “Celebration”. We also send the patient for a complimentary photo shoot with a professional photographer. The patients love the photos taken showing their increased confidence, because of their new smile. They get a complimentary photograph from the photographer, and we get the images that we want for our marketing use e.g. to go on the website as a case study. Please have a look at the Reveal for Dina, one of my patients who had a complex Smile Makeover, on my Academy website at www.theacademybyash.co.uk/Clini-cal-Cases-Videos/porcelain-veneers-the-reval.html.

_Summary

So, I hope you found these 25 Clinical Tips useful. However, clinical skills are only one of the important jigsaw pieces needed to create a successful and profitable dental practice.
Minimal invasive laser surgical crown lengthening

**Author** Dr Thorsten Kuypers

The surgical crown lengthening is a procedure, which is probably not performed as often as it should be. There are multiple medical indications for this operation. Not only do we need it for example to modify the red-white aesthetics, but this operation should be done in many other cases. If a patient has too short clinical crowns, which would give not enough retention for restorations we should prepare a more suitable situation by surgical intervention. Especially with ceramic restorations, which need adhesive attachment, we often have problems. The preparation margin should be supra- or paragingival. This is often not the case, so it is more difficult to have a clean and dry operation area, while attaching the restoration. If we would perform a surgical crown lengthening before preparation, things would be a lot easier afterwards. Last but not least we often have to distort the biological width. This will result in chronically inflamed areas around the restoration.

If we know that the defect of the tooth is going to force us to damage the biological width, we have to perform a surgical crown lengthening before starting with the planned treatment. So why is it, that this operation is performed so rarely? The answer is easy to give. The conventional treatment with scalpel, bone milling cutter, needle and thread is not easy, is bloody and risky and often associated with pain for our patients. In addition, we have to wait several weeks for the healing process to end, which will retard the actual treatment.

Therefore it is obvious, that many dentists and patients will look for a compromise and will risk functional and/or aesthetic degradation. To solve this problem we would need a possibility to perform a surgical crown lengthening fast, painless and with shorter healing time. This is where it comes to laser dentistry. The right lasers, used in the right way, will serve us all these benefits.

The right treatment will now be shown by the author in a case presentation. The crown lengthening was done with a combination of an 810nm diode laser and an Er,Cr:YSGG laser.

Intentionally we wanted to show a case of the upper jaw front. In those cases we need a high amount of predictability, which is given in the laser surgery. As well this can present a nice documentation.

**Clinical procedure**

The following case report should show the clinical guidelines how to use different wavelengths in this treatment. It would be possible of course to perform a crown lengthening with just an erbium laser, as it absorbs mostly in water and therefore works on gingival and on bone. But under clinical aspects it is our opinion, that the combination of diode and erbium laser is very useful.

Because of the gingivectomy with a diode laser— in this case the laser “Q 810” by ARC lasers—the operation field is not bleeding and shows good clarity. With good clarity it is no problem to measure the new biological width by ablating the bone with an erbium laser.

At first it must be ascertained how much tissue we have to remove and how much space exists from the limbus alveolaris to the top of the gingiva. This is carried
THE UNIQUE 8-DAY HANDS ON
SMILE DESIGN, RESTORATIVE AND
OCCLUSION COURSE

Why choose Ash for your dental education?

• High levels of integrity and his endorsement from leading international dentists
• To benefit from his investment in a world-class education
• His practical and professional teaching style, with a pursuit for excellence

What are the main benefits of attending this course?

• Learning about all the main topics to create a successful and profitable dental practice
• Master how to do a comprehensive dental assessment – the key to clinical success!
• Learn all the clinical aspects of doing a Smile Makeover case (8-10 units) and also how to confidently treat a full mouth wear case
• Occlusion simplified and made easier to understand
• The Art of Communication and Selling in a high integrity and non-pressurized way
• How to become a great Leader, motivate, empower & develop your dental team, and achieve a Balanced Life

Course runs from November 2012 to April 2013
Visit our website for full programme dates

£5000 + laboratory fees for a dentist treating a patient for a smile makeover
£3000 as an observer dentist
Finance options available

"Ash combines clinical excellence with a deep rooted commitment to his family… He is at the top of his game as a Dentist and is one of the most grounded humans I have met."

Chris Barrow, Dental Coach

The Preferred Training Academy For Excellent Dental Education
Contact Cheryl (Ash’s Manager) on 020 8500 0544 or speak to Ash himself on 07971 291180
You can e-mail Ash at training@theacademybyash.co.uk
out by means of measurement with a PA probe under anaesthesia. If the measurement is concluded, we are able to mark the tissue, which is to be removed. This is helpful for the following reshaping of the gingiva (Figs 1, 2, 3). Then we can begin with the excision of the soft tissue.

In this case we used 2.8 watts in the cw mode. In this setting a speedy work is reached under excellent coagulation (Figs 4, 5). If the modelation of the gingiva is concluded, we immediately can begin with the ablation of the bone. If we remove 2–2.5mm of bone, the basis for a new biological width is created.

The ablation with an erbium laser is carried without thermal damage under good visibility. In this case the “Waterlase MD” Cr:YSGG laser with 2,780nm wavelength by the company “Biolase” was used. The ablation of the bone is possible without a flap, minimum-invasive and without thermal damage. These were important factors for the patient to decide positive for this intervention.

The bone-ablation is checked within the treatment by means of using a PA probe (Figs 6, 7). In this case after the surgical steps were carried out we did a shaping of the incisors. Veneers are planned for a nice aesthetical result. But a functional pre-treatment is necessary. The final situation directly at the end of the crown lengthening is nice and already gives an improved aesthetic result (Fig 8) to the patient. After one week there is hardly something to be seen (Fig 9). The healing was without complications; there were no scars, no swelling or pain. Merely during the day of the treatment, the patient took a painkiller. This was purely prophylactic on our advising. After this no more medication was necessary. The normal oral hygiene was taken up again after four days. Before that, the area of the crown lengthening should be left out of the brushing procedure.

Only oral rinse was used adjuvant in the first days after surgery. After two to three weeks the healing is concluded solidly. The patient is contented and other therapeutic measures – in this case the construction of the canine guidance and veneers – can be begun. This approach is only because we are working in the front tooth area. If we are working for example on molars and the aesthetics are not too important, we can do our further treatment after six to ten days.

_Benefits_

The advantages for the dentist are obvious. A time needing, bleeding surgical approach with flaps, stitches and the risk of afterwards appearing scars can be avoided. Also a solidly healed result is to be realised in short time. This means that we can begin earlier with the next restorative treatments.

By the non-invasive approach the dentist can achieve an increased compliance for a treatment, which no patient wants to have. We can expand our methods in aesthetic surgery, pre prosthetic surgery and simplify our work. Also the financial benefits and the positive propaganda offer unmistakeable advantages. For our patients the advantages are also evident. A bloody, surgical intervention of this kind is substantially more pleasant by the application of laser light, than in the conventional approach. Also the post-surgical healing is generally without any complications. A shorter duration of the surgery and good healing also gives the opportunity for the patient to have this procedure done without changing his normal everyday life. To sum up, one can say that for “laser dentists” possibilities come up which are not to be reached conventionally. Own therapy can be improved, expanded and one can treat his patients non-invasive, careful and with good predictability. A classic "win win situation".

.Summary_

There are many indications for a surgical crown lengthening. Even though the indication list is long, this treatment is not very often done. This is probably, because it is difficult and demanding to perform and often painful for our patients. To solve this problem, we have the opportunity to use lasers instead of the conventional technique. The laser surgical crown lengthening is done fast, not very difficult and gives a great amount of safety and comfort to our patients.

_Contact info_

Dr Thorsten Kuypers, MSc
Private Practice
Neusser Straße 600
50737 Cologne, Germany
E-mail: info@laserzahnarzt-koeln.de
Create æ-motion with G-ænial from GC

The all-round composite for aesthetically invisible single and multi shade restorations.
Introducing the age-specific shade selection system.

With G-ænial you can reinforce your aesthetic skills and ability to match every restoration with nature thanks to the straightforward shading system. The choice of the enamel shades is made according to the age of the patient:

- JE - Junior Enamel for youngsters
- AE - Adult Enamel for adults
- SE - Senior Enamel for your senior patients

Selecting the right shades has never been easier!
The British Academy of Cosmetic Dentistry (BACD) holds an annual conference towards the end of each year, designed to facilitate the advancement of knowledge for all attendees. With international experts giving talks on a wide range of topics, delegates are able to learn about the latest techniques, materials and procedures from those at the forefront of aesthetic dentistry.

In November this year, the many acclaimed speakers attending the conference will include Dr Julian Caplan BDS, President-Elect of the BACD who will be presenting on the subjects of Photography and Accreditation. In this interview, Dr Caplan outlines what delegates can expect from his speeches at the BACD conference.

"I will be giving two lectures at the conference, one on photography and the other regarding accreditation," says Dr Caplan. "The photographic talk will combine a presentation on the 'nuts and bolts' of dental photography with a demonstration of the recommended cameras, involving plenty of hands-on opportunities. The accreditation seminar will be a workshop to help aspiring examinees with their cases."

"Photography is an important part of my work," says Dr Caplan. "The ability to produce clear photographic records of patients before and after treatment, benefits dentists in multiple ways. For legal reasons, photographic proof accompanied by good X-rays, study models and concise clinical notes, are essential cosmetic dentistry, especially in the litigious society we live in. As some patients have short-term memory of their original smile, initial pre-treatment photographs can be the proof you need to show that you have not moved their centre line, providing assurance of the quality of your work. Though of course this should be mentioned at the original treatment plan presentation."

"Photography also offers invaluable assistance to accurate treatment planning of cases. Photographs greatly aid the dentist when establishing what it actually is making the smile unattractive, and so help when deciding what needs to be changed and what type of type of treatment would be most suitable. Dentists are often too focused on teeth and not focused enough on gingivae. The photographic shots that I will be talking about will help the dentist..."
see how the problem lies with the ‘pink’ in the smile, rather than just the ‘white.’

“Another area essential for dentists to excel in is communication. Affecting everything from informed consent to treatment explanations, these visual aids can significantly enhance patient understanding. You could be the best clinician in the world, but if your patient does not appreciate why they need certain procedures to achieve a beautiful smile, they will not agree to them.”

In order to develop your career and improve the standard of service you offer, it is important to assess and evaluate your own work. Dr Caplan believes that photographs greatly enhance records and can help when you are evaluating your own previous work. “Adding photographs to your patient records is a big positive for self assessment, as you can see the good and the bad of each case, and the immense improvement between cases will be highlighted.”

At the BACD conference, speakers will also address current affairs within the dental industry, and offer their opinion and words of advice to dentists being affected by them. Dr Caplan’s second lecture will address the issues concerning the requirements necessary to practice certain areas of dentistry, as well as offering guidance. “The main issue that I am concerned about is the increasing effect that the CQC policies are having on our profession,” he says. “Although there are obviously definite positives, I regularly speak to diligent, caring clinicians who are scared of what the CQC might do to them, compelling them to invest ridiculous amounts of money on practice improvements. Recent changes have come at a time when practices are facing financial difficulties, and the way the CQC has communicated these should have been handled with the present economic climate in mind.”

When discussing where the inspiration to speak at the BACD conference comes from, he speaks very highly of the people he has met in previous years. “The delegates who attend the annual conference are my type of people – positive thinkers who are there to improve themselves. Every year I meet new people and make new friends, and I am inspired by each of them. I feel honoured to speak at such a conference, but I actually gain far more by listening to others.”

“For this reason, the main thing I would like delegates to gain from my speeches, is the motivation to take action. My goal is for dental professionals to return to their practices and either start taking photographs or improve their technique to enhance their work, and begin the accreditation process.”

BACD membership offers both accreditation and educational opportunities, giving you the means to develop your skills and knowledge with some of the most experienced professionals in their separate fields. According to Dr Caplan, “The BACD provides excellent study groups, courses and, in my view, the best annual conference available.”

The annual conference provides easy access to the advice you need to maintain and expand your practice, as well as information on new clinical techniques. For more information on any of the discussed topic, this year’s event will be held 22nd-24th November at the Manchester Central Convention Complex.

Committed to excellence in cosmetic dentistry, the BACD helps dental professionals keep up-to-date with the latest trends in aesthetics, and ensure they offer their patients the best care possible. _

---

For further enquiries about the British Academy of Cosmetic Dentistry visit www.bacd.com, email Suzy Rowlands at suzy@bacd.com or call 0207 612 4166.
"Cosmetic Interfaces: Bringing It All Together"

Featuring
Dr Rafi Romano,
Dr David Garber &
Dr Maurice Salama

The British Academy of Cosmetic Dentistry
Ninth Annual Conference 2012

Thursday 22nd, Friday 23rd and Saturday 24th November 2012
Manchester Central, Petersfield, Manchester M2 3GX
Manufacturer’s News

Ceramic Systems Ltd:

Cut Lab Bills down by 90 per cent

Buying a CEREC® System from Ceramic Systems, the UK CEREC® Specialists, will enable you to cut down your laboratory bills by up to 90 per cent.

CEREC® enables dentists to create high quality and durable chairside all-ceramic restorations in the most cost-effective and efficient way. Quick, efficient and easy to use, CEREC® is a computer-aided method for creating precision fitting all-ceramic restorations; saving virtually all your laboratory costs it enables dentists to design and create all-ceramic inlays, onlays, partial crowns, veneers and crowns for the anterior, premolar and molar regions in-house in one visit. Eliminating the need for messy and expensive impressions, CEREC® utilises a digital impression taking technique to capture the data used to design the restoration which is then milled in the milling unit. The milling unit can be situated anywhere that is convenient within the Practice, even as a fascinating eye-catcher in the waiting room.

Combined with adhesive bonding techniques, CEREC® creates biocompatible, non-metallic, natural-looking restorations from durable high-quality ceramic materials in a single treatment session - without the need for provisional restorations.

A fantastic practice builder, CEREC® is extremely popular with patients and saves a fortune in laboratory fees!

For further information contact Ceramic Systems Ltd on 01932 582930, e-mail j.colville@ceramicsystems.co.uk or visit www.ceramicsystems.co.uk

OXYjet UK:

OXYjet

The needle free cosmetic treatment that improves patients smiles and your “bottom-line” too!

OXYjet UK’s NEW OXYjet LEO De Luxe is the state-of-the-art cosmetic therapy which will delight your patients and the complete range of cosmetic therapies (wrinkle reduction; lip profile enhancement; irregular skin pigmentation, age spot and acne removal etc) without any of the complications associated with Botox etc.

Mobile and easily moved between surgeries and practices, the extremely patient-friendly OXYjet LEO De Luxe can be used easily by any member of the dental team (dentist, therapist, hygienist, dental nurse or beauty consultant) to deliver its patented pulsed oxygen cosmetic treatments. Costing just £10,000 it will enable the practice to add over £100,000 or more to the “bottom-line”. It is a genuine Practice Builder.

To supplement the benefits of the OXYjet LEO De Luxe, OXYjet UK also offer an extensive range of skin care products, including Beauty-Tox and INtact.

Clinical demonstrations available upon request.

For further information telephone OXYjet UK Ltd on 01775 722243, email enquiries@oxyjetuk.co.uk or visit www.oxyjetuk.co.uk
DMG UK:

**NEW PermaCem 2.0 Special Introductory Offer!**

To coincide with the launch of their NEW PermaCem 2.0 self-adhesive luting cement, DMG have introduced a Special Offer Intro Kit containing a 9ml PermaCem 2.0 Smartmix Syringe and 5 mixing tips for just £55.00 plus vat. Available in A2 Universal, A3 Opaque or Transparent shades it will be available until 31 December 2012.

DMG’s PermaCem 2.0, perfect for use with all crown and bridge restorations including zirconia-based all-ceramic restorations, was introduced because of the problems associated with other cements.

Zirconia-based all-ceramic restorations deliver a perfect combination of aesthetics and reliability. Until now, however, clinicians have had to accept a compromise between reliable adhesion and overall aesthetics. By launching PermaCem 2.0, DMG has introduced a completely new generation of self-adhesive luting cement which provides outstanding adhesive strength to zirconia without the need for separate etching and bonding steps. PermaCem 2.0’s special ‘Flow 2.0’ adhesive monomer formula enables superior natural self-adhesion without the compromises associated with traditional permanent cements.

PermaCem 2.0 achieves an exceptional adhesive strength to other materials as well, including metals, composite restorations or glass-fibre reinforced posts. Its unique ‘Flow 2.0’ formula also facilitates easy handling and incredibly simple excess removal.

Alternatively contact your local dental dealer or DMG Dental Products (UK) Ltd on 01656 789401, fax 01656 360100, email paulw@dmg-dental.co.uk or visit www.dmg-dental.com

Sident:

**Scan Plan Finish & Fit….First impressions to lasting restorations in a single session**

Digital impressions are being sent to laboratories, CT scans are being sent to bureaux, patients are being referred to hospitals and implantologists etc. The key to making these different processes help you is to create a workflow that adds value to your Practice. However, how do you implement digital processes that will give your Practice the best set up for the future?

Sident Limited is the only dental supplier that can provide a one-stop digital solution from preparation to restoration. They are running a series of One Day Scan, Plan, Finish & Fit Digital Implementation Workshops at Sirona’s new Centre of Excellence in London, on 14th September and 7th December 2012. Delegates will have the opportunity to hear Dr V J Vadgama, a pre-eminent user of digital equipment, explain how he has implemented a workflow that has allowed him to offer outstanding levels of patient treatment.

By the end of the workshop, attendees will understand the requirements for a fully integrated digital workflow and have hands-on experience of the latest Sirona XG 3D Digital X-ray, Sinius Treatment Centre, Cerec CAD/CAM and hygiene solutions.

Numbers are limited so to book your place call Sident Dental Systems on 01932 582900 or email j.colville@sident.co.uk today!

BACD:

**Become the best you can be with the BACD**

The British Academy of Cosmetic Dentistry (BACD) is dedicated to creating a friendly environment where members can come together to share in their passion for their profession and the learning opportunities the BACD provides.

Hitesh Panchal is principal dentist at Dental at MediaCityUK. He says: “My first real ‘taste’ of the BACD came when I attended the Annual Conference a few years back. I remember thinking to myself just how refreshing it was to meet like-minded people all hugely passionate about cosmetic dentistry. The conference really is a fantastic way of meeting different people and networking. It’s also been a great way of gaining new friends within the profession, learning different techniques and swapping tips.

“What I love about the BACD is just how open and friendly everyone is. By speaking to colleagues in the BACD I’ve even managed to gain a number of really useful contacts that have helped me set up my new practice in Salford Quays. Without the BACD it’s fair to say I wouldn’t be the dentist I am today!”

This year’s BACD Annual Conference will be held at the MCCC in Manchester on 22nd–24th November. For further information about the British Academy of Cosmetic Dentistry, call 0207 612 4166, fax 0207 182 7123, email suzy@bacd.com or visit www.bacd.com
submissions: formatting requirements

Please note that all the textual elements of your submission:

- the complete article,
- all the figure captions,
- the complete literature list, and
- the contact info (bio, mailing address, E-mail address, etc.)

must be combined into one Word document. Please do not submit multiple files for each of these items.

In addition, images (tables, charts, photographs, etc.) must not be embedded into the Word document. All images must be submitted separately, and details about how to do this appear below.

Text length

Article lengths can vary greatly—from a mere 1,500 to 5,500 words—depending on the subject matter. Our approach is that if you need more or less words to do the topic justice then please make the article as long or as short as necessary.

We can run an extra long article in multiple parts, but this is usually discussing a subject matter where each part can stand alone because it contains so much information. In addition, we do run multi-part series on various topics.

In short, we do not want to limit you in terms of article length, so please use the word count above as a general guideline and if you have specific questions, please do not hesitate to contact us.

Text formatting

Please use single spacing and un-indented paragraphs for your text. Just place an extra blank line between paragraphs.

We also ask that you forego any special formatting beyond the use of italics and boldface, and make sure that all text is left justified.

If you would like to emphasize certain words within the text, please only use italics (do not use underlining or a larger font size). Boldface is reserved for article headers.

Please do not “centre” text on the page, add special tab stops, or use underlining as all of this must be removed before layout. If you require a special layout, please let the word processing program you are using help you to do this formatting rather than doing it by hand on your own.

If you need to make a list, or add footnotes or endnotes, please let the Word processing program do it for you automatically. There are menus in every program that will help you to do this. The fact is that no matter how careful one might be, errors have a way of creeping in when you try to hand number footnotes and literature lists.

Image requirements

Please number images consecutively throughout the article by using a new number for each image. If it is imperative that certain images are grouped together, then use lowercase letters to designate the images in a group (i.e., 2a, 2b, 2c).

Please put figure references in your article wherever they are appropriate, whether that is in the middle or end of a sentence. If you are not directly mentioning the figure in the body of your article, when it appears at the end of the sentence the figure reference should be enclosed within parenthesis and be inside the sentence, meaning before the full stop.

In addition, please note:

- We require images in TIF or JPEG format.
- These images must be no smaller than 6 x 6 cm in size at 300 DPI.
- Images cannot be any smaller than 80 KB in size (or they will print the size of a postage stamp!).

Larger images are always better, and something on the order of 1 MB is best. Thus, if you have an image in a large size, do not bother sizing it down to meet our requirements but send us the largest file sizes available. (The larger the starting image is in terms of bytes, the more leeway the designer has in terms of resizing the image to fill up more space should there be room available).

Also, please remember that you should not embed the images into the body of the text document you submit. Images must be submitted separately from the textual submission.

You may submit images through a zipped file via E-mail, unzipped individual files via E-mail, or post a CD containing your images directly to us (please contact us for the mailing address as this will depend upon where in the world you will be mailing them from).

Please do not forget to send us a head shot photo of yourself that also fits the parameters above so that it can be printed along with your article.

Abstracts

An abstract of your article is not required. However, if you choose to provide us with one, we will print it in a separate box.

Contact info

At the end of every article is a Contact Info box with contact information along with a head shot of the author. Please note at the end of your article the exact information you would like to appear in this box and format it according to the previously mentioned standards. A short bio may precede the contact info if you provide us with the necessary information (60 words or less).

Questions?

Please contact us for our Author Kit, or if you have other questions:

Group Editor
Lisa Townshend
lisa@healthcare-learning.com
about the publisher _ imprint

**Group Editor**
Lisa Townshend
lisa@healthcare-learning.com
020 7400 8979

**Publisher**
Joe Aspis
joe@healthcare-learning.com
020 7400 8969

**Editorial Assistant**
Angharad Jones
angharad.jones@healthcare-learning.com
020 7400 8981

**Sales Executive**
Joe Ackah
joe.ackah@healthcare-learning.com
020 7400 8964

**Design and Production**
Ellen Sawle
ellen@healthcare-learning.com
020 7400 8921

---

**Editorial Board**

**Professor Nick Grey**
BDS, MDSc, PhD, DRDRCSEd, MRDRCSEd, FDSRCSEd, FHEA
Professor of Dental Education, National Teaching Fellow, Faculty Associate
Dean for Teaching and Learning School of Dentistry, Manchester

**Professor Andrew Eder**
BDS, MSc, MFGDP, MRD, FDS, FHEA
Director of Education and CPD, UCL Eastman Dental Institute

**Dr Trevor Bigg**
BDS, MGDS RCS (Eng), FDS RCS (Ed), FFGD (UK)
Practitioner in Private and Referral Practice

**Dr Neel Kothari**
BDS
Principal and General Dental Practitioner

---

**Published by Dental Tribune UK Ltd**
© 2012, Dental Tribune UK Ltd.
All rights reserved.

Dental Tribune UK Ltd makes every effort to report clinical information and manufacturer’s product news accurately, but cannot assume responsibility for the validity of product claims, or for typographical errors. The publishers also do not assume responsibility for product names or claims, or statements made by advertisers. Opinions expressed by authors are their own and may not reflect those of Dental Tribune UK.

**cosmetic _Copyright Regulations**

*cosmetic* is published by Dental Tribune UK and will appear in 2012 with one issue every quarter. The magazine and all articles and illustrations therein are protected by copyright. Any utilisation without the prior consent of editor and publisher is inadmissible and liable to prosecution. This applies in particular to duplicate copies, translations, microfilms, and storage and processing in electronic systems. Reproductions, including extracts, may only be made with the permission of the publisher. Given no statement to the contrary, any submissions to the editorial department are understood to be in agreement with a full or partial publishing of said submission. The editorial department reserves the right to check all submitted articles for formal errors and factual authority, and to make amendments if necessary. No responsibility shall be taken for unsolicited books and manuscripts. Articles bearing symbols other than that of the editorial department, or which are distinguished by the name of the author, represent the opinion of the afore-mentioned, and do not have to comply with the views of Dental Tribune UK. Responsibility for such articles shall be borne by the author. Responsibility for advertisements and other specially labeled items shall not be borne by the editorial department. Likewise, no responsibility shall be assumed for information published about associations, companies and commercial markets. All cases of consequential liability arising from inaccurate or faulty representation are excluded. General terms and conditions apply, legal venue is London, UK.
Additionally, implants, the international magazine of oral implantology, delivers the latest thinking in this fast-moving area of the dental profession. User-oriented case studies, scientific reports, meetings, news and reports, as well as summarised product information, make up an informative read.

What’s missing?

**implants**

Fill the gaps... **implants** is the international magazine of oral implantology, delivering the latest thinking in this fast-moving area of the dental profession. User-oriented case studies, scientific reports, meetings, news, and reports, as well as summarised product information, make up an informative read.

You got the look...

**cosmetic dentistry**

You got the look... **cosmetic dentistry - beauty & science** presents the most significant international developments in the world of cosmetic and restorative dentistry. With an editorial mix of speciality articles, clinical studies, case reports, industry reports, reviews, news, and lifestyle articles, **cosmetic dentistry** leads the way.

Enjoy Endodontics?

**roots**

Down your canal... **roots** is the place to keep up with the latest developments in the endodontic arena. A combination of comment, studies, case reports, industry news, reviews, and news, those professionals with an interest in endodontics will find **roots** invaluable.

For more information or to subscribe please call Joe Aspis on 020 7400 8969 or email joe@dentaltribuneuk.com
Often times, compromises have to be made when developing impression materials. Because normally the rheological properties of stability and good flow characteristics would stand in each other’s way. DMG’s Honigum overcomes these contradictions. Thanks to its unique rheological active matrix, Honigum yields highest ratings in both disciplines. We are very pleased to see that even the noted test institute »The Dental Advisor« values that fact: Among 50 VPS Honigum received the best »clinical ratings«*

*www.dmg-dental.com

Honigum.
Overcoming opposites.

*The Dental Advisor, Vol. 23, No. 3, p  2-5