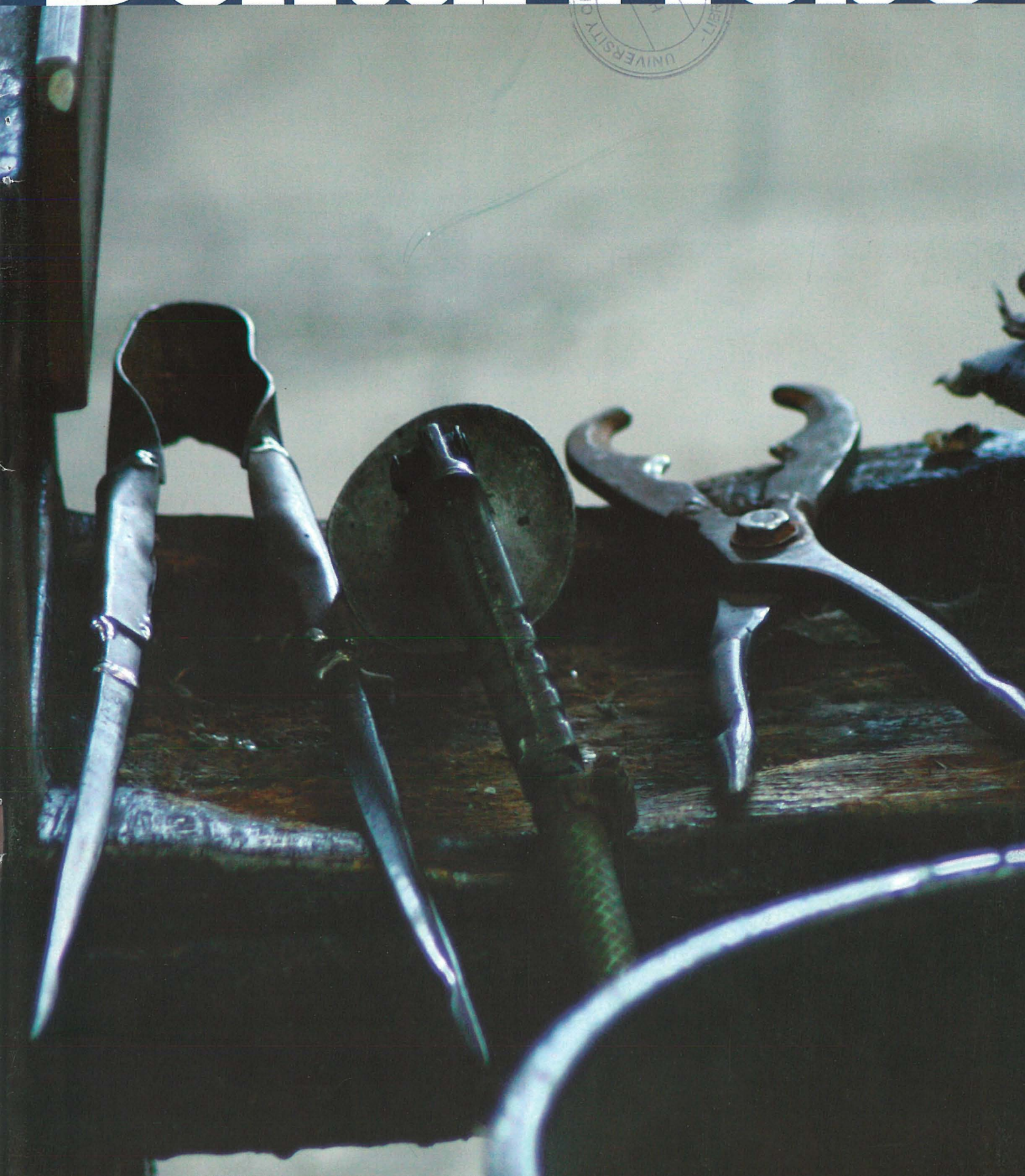
ISSUE
46
JUN13

The Dental Probe

The Maltese Dental Journal



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ISSN 2076-6181

Editorial

DENTAL ASSOCIATION OF MALTA
The Professional Centre,
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Fax: 21 343002
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By Dr David Muscat

Dear colleagues,

We have again started with our numerous events and this hopefully should be a busy Summer. Since March, these are the dental events (see table on the right).

The committee has been working behind the scenes on issues such as the latest EU Regulations on sharps, radiography, medical devices, data protection, amalgam and tooth whitening. There are still some members who have not paid their subscriptions. Please send your 50 euro –the journal issues 4 times a year cost us more than that.

The cover photo is by Dr Kristian Vella. "Tools of The Trade" – these are some tools used in the making of Mdina glass. "A man is as good as his tools" goes the adage.

Best regards,

David

Dr David Muscat B.D.S. (LON)
Editor / President, P.R.O., I.R.O. D.A.M.

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RECENT/PLANNED EVENTS

2 MAY
Coastline 'The dentists pain in The Neck' by Alan Zammit physiotherapist, sponsored by Collis Williams – Butler.

8 MAY
Bart enterprises Sonicare event at Corinthia San Gorg.

15 MAY
Valletta University Campus- Dental Research –lectures by several dentists doing postgraduate degrees.

29 MAY
Pinto Nino restaurant at the Waterfront Valletta Lecture by Dr David Mifsud 'Implants and UV Light. Better Osseointegration and Less Bacterial Adhesion'.

12 JUNE
'Skyfall' James Bond lecture at the Maritime Museum Vittoriosa by Professor Victor Grech followed by dinner at Don Berto kindly sponsored by Abbott (Klacid, Brufen).

18 JULY
GUM BBQ By Collis Williams.

EARLY OCTOBER
Lecture by Dr Edward Sammut 'Perimplantitis' sponsored by Chemimart.

ABOVE:
Doctors Christian Satariano, Noel Manche, Kristian Vella and Darien Cini don loupes at the Cologne Dental Exhibition 2013.

LEFT:
Mr Kevin Galea, director of Suratek, presents the Dental Probe to Dr Youssef Beni, Chairman of the Libyan Dental Implantology Association at the Rixos Hotel in Libya on 21st April, 2013.

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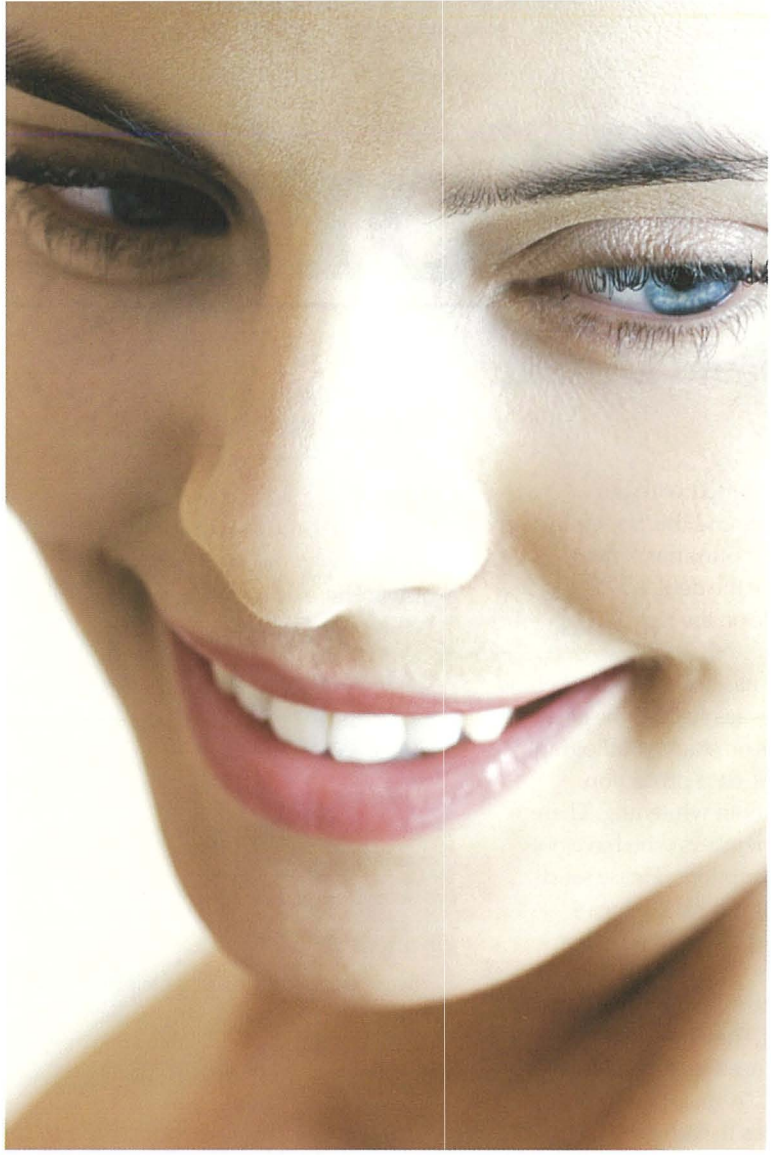

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XEROSTOMIA

Most people call it dry mouth. It's that parched, gritty, sticky feeling that comes when a person is not producing enough saliva and it can have a big impact on your loved one's health.

Dry mouth is the rule rather than the exception among the elderly and its consequences can be catastrophic. Patients who haven't had a cavity in decades can suddenly find that their mouths are riddled with decay, especially around the roots where it is difficult to treat. Appetite may wane as foods become tasteless and hard to eat.

Dry mouth is not a normal consequence of ageing, although the affliction is particularly common among the elderly, partly because nine out of 10 people over the age of 65 take medications. More than 500 drugs can cause dry mouth, including those used to treat heart problems, allergies, cancer and anxiety, according to the American Dental Association.

Although medication is the main reason patients develop dry mouth, it can have other causes as well. Among them are infections, alcohol abuse, trauma to the mouth and hormone changes (such as happen with menopause).

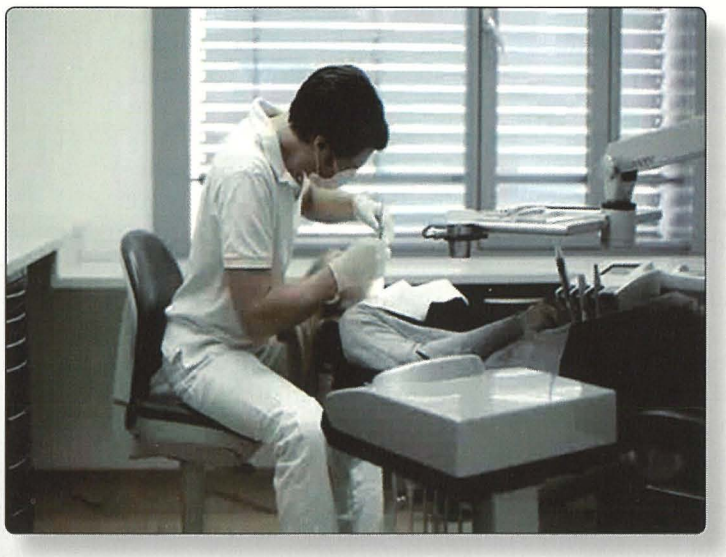
Chronic allergies, adenoids, blocked nasal passages and even bad posture can cause mouth breathing, which also dries out tissues. Mouth breathers also often snore or have sleep apnoea, which raises the risk of stroke and cardiovascular disease.

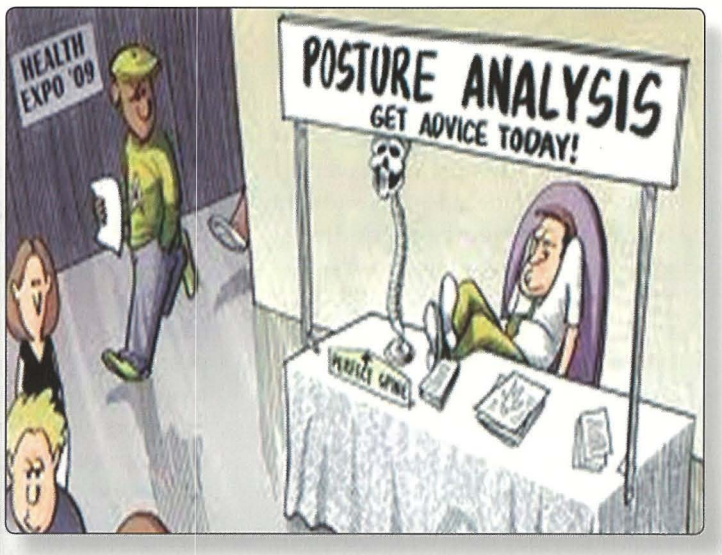
For all of the problems it causes, dry mouth can be overlooked by caregivers and even the sufferers themselves because its onset is often slow. Dentists happen to bring it to the attention of patients more often than not. Dentists can detect it because the tongue tends to have a white coating and the insides of cheeks are red—and tooth damage can be extensive.

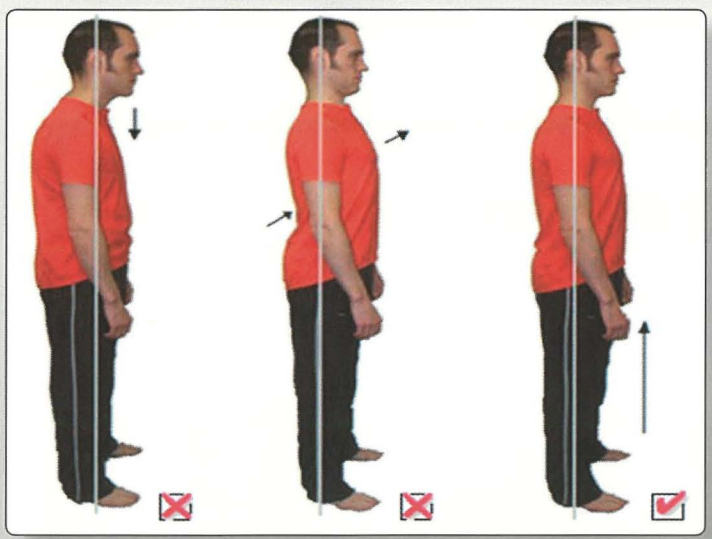
Xerostom with Saliactive active ingredients has been shown to: increases salivary flow up to 200% improving wellbeing, helps recover the natural salivary defences and protects enamel and dentine from demineralisation and erosion. These products, like all of the Xerostom line, can help to alleviate different types of dryness and pain.

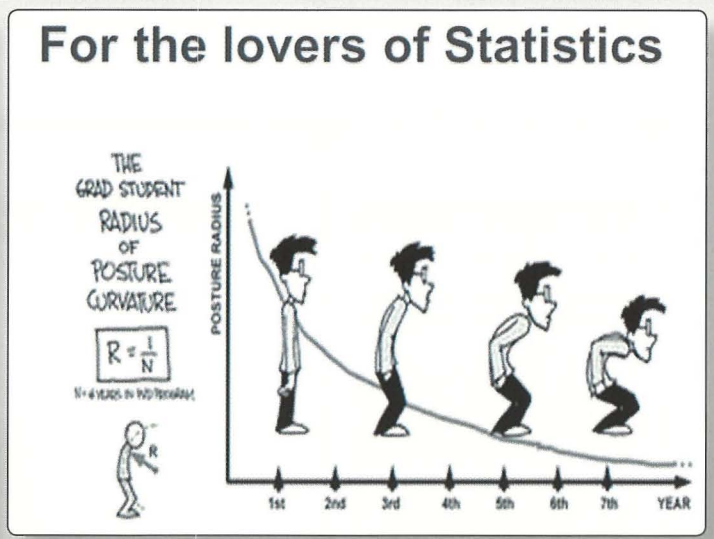
Xerostom products are exclusively distributed by Chemimart Limited, telephone: 21492212.

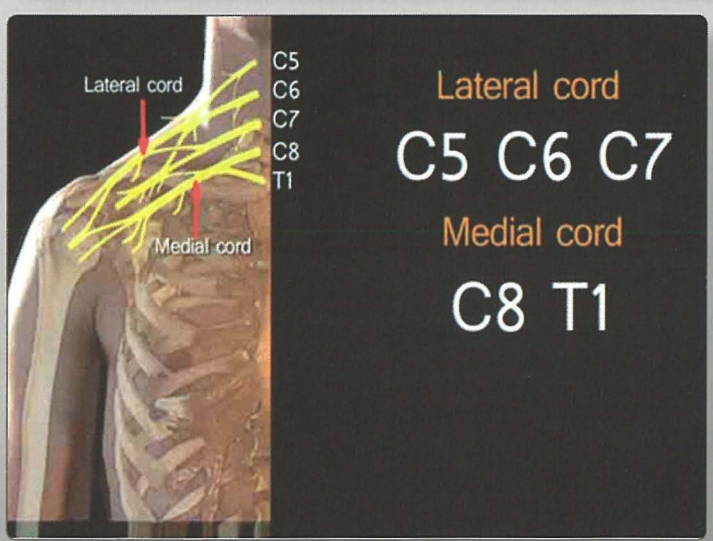
A DENTAL SURGEON'S **PAIN IN THE NECK** (AND BACK!)

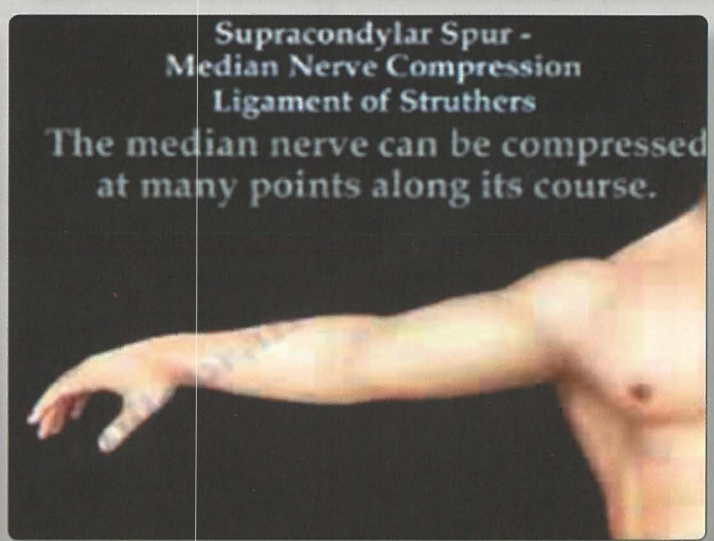






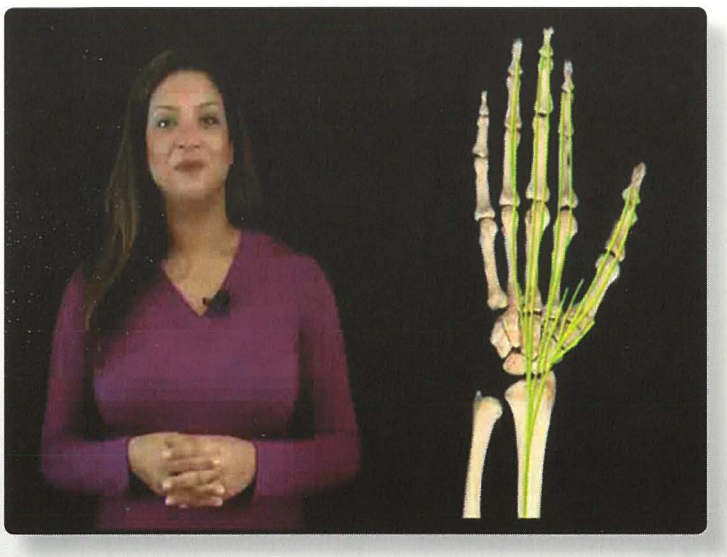


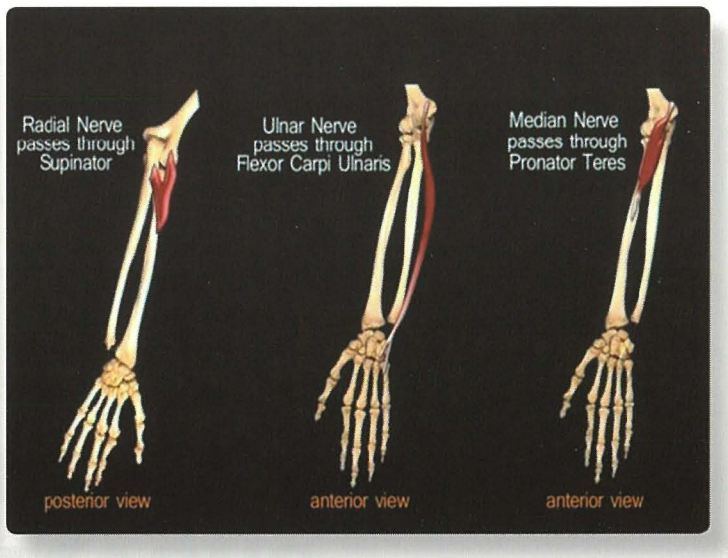




Alan Zammit MSc

Physiotherapist
Director of Rehabilitation
Fortina Medical Centre





(RSI) Repetative Strain Injury

- Also called Non specific arm pain
- Is a chronic condition of the upper limb
- RSI is confused with tenosynovitis , carpel tunnel syndrome and golfers or tennis elbow

- **With RSI patients complain of diffuse regional pain and tenderness with the loss of function that is associated with the lack of objective physical signs.(Lynn, Greening 2002)**

Who is at the receiving end of RSI?

- Associated with particular work:
- **Office workers**
- **Musicians**
- **DENTISTS**

- **All the above have highly repetitive tasks involving use of hands with constrained or static postures all identified as risk factors (Sefina et al 1999, Latka1999)**

Diagnosis

- **Principally, Diagnosis of exclusion**

- **Diffuse arm pain**
- **Muscle weakness without atrophy**
- **Muscle tenderness and allodynia**

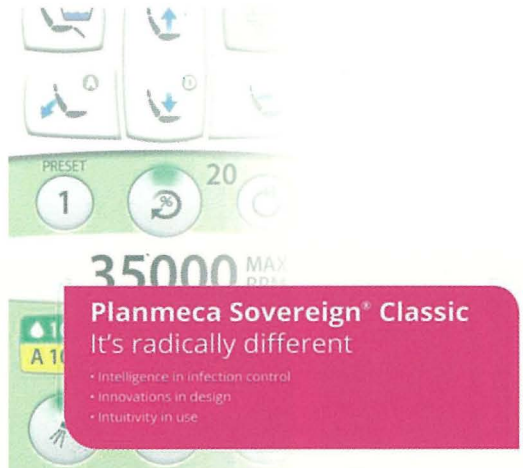
Social Economic Cost

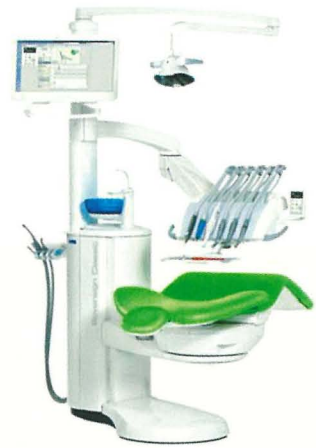
- Hand Function Is Extremely Limited
- Affecting Sufferers and family
- Self employed cannot afford to be off work-increase pain – increased symptoms –increased time off work
- Difficult to assess so Patients usually go through a multitude of tests with poor outcome.
- 2004 ; UK RSI was responsible for 400 million pounds in working days
- 2006 EU census stated that " Work related MSD cost the EU up to 2% of its annual gross national product

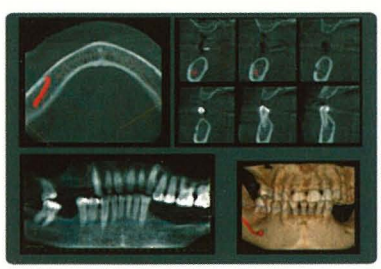
Continues on page 10.

PLANMECA

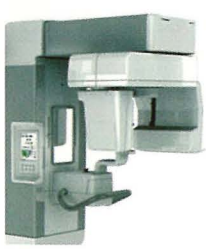
all in one

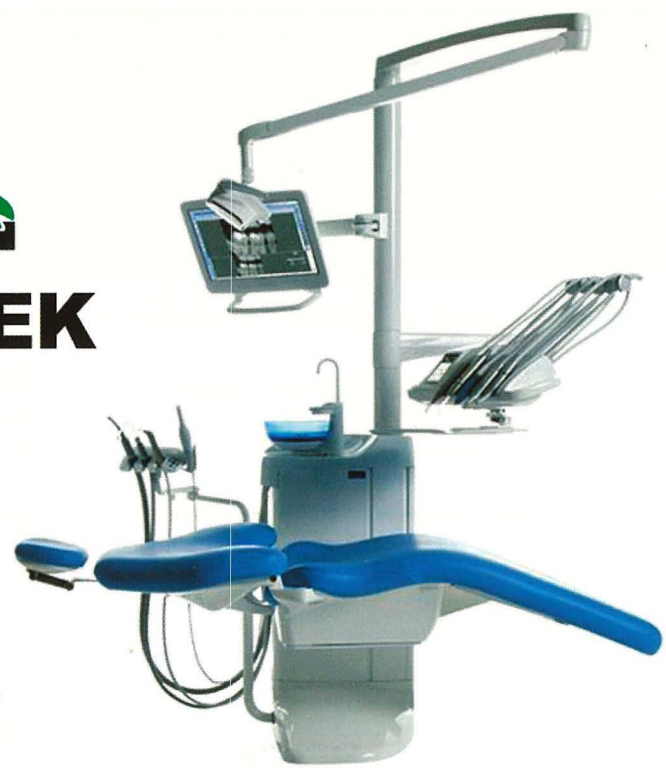






SURATEK





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NON-SURGICAL PERIODONTAL TREATMENT

By Dr Edward Sammut
BChD, MSc, MClinDent, MFDS MRD RCSEd

Professional removal of supra and subgingival plaque deposits is one of the essential treatment modalities for management of periodontitis. Coupled with improvements in oral hygiene, non-surgical treatment will result in decreases in tissue inflammation, bleeding on probing and pocket depths.

In most mild or moderate cases, it is likely to be the only required active periodontal treatment. As a periodontist in practice, I spend about half my operating time performing root surface debridement. Here are some hints and tips to make this work for you in your practice.

DOCUMENTATION

Before starting any treatment, we need to document the starting situation. Plaque, bleeding, probing depth and mobility are absolutely essential, and for some cases it will also be appropriate to record recession and furcation involvement.

This is time consuming but forms an important record which can be compared to in the future, as progress cannot be monitored on serial BPEs. In addition, radiographs, photographs, and pulp vitality tests may be required. Sitting down with the patient and showing them the periodontal record on paper or on screen and explaining what each set of numbers means can be a powerful educational and motivational exercise.

BEHAVIOURAL MANAGEMENT

Treatment will have poor results if the patient has poor or inconsistent plaque control. Patients must be given responsibility for their own health but also to enable the patient to achieve thorough plaque removal by helping them overcome their perceived obstacles. Some are put off interdental brushing because it makes the gums bleed – "yes, but if you do it every day for a couple of weeks, it will stop bleeding." I usually give them a

mirror and demonstrate interdental brushing of each of their interproximal spaces, pointing out key messages; use the right size of brush for the space – large size for large gaps, small ones for small gaps; larger brushes will bend less easily; be gentle but thorough; I'd rather you spent time and did this once a day but really well.

If there are considerable supragingival calculus deposits, it might be better to arrange for them to be seen for two or three visits to have gross scaling and repeated instructions for effective interdental brushing. In patients who present initially with very high plaque levels, I may arrange to see them for a short plaque control check before starting root surface debridement. This further reinforces the message that their performance is key to the outcome of treatment.

Smoking cessation is also extremely important to successful periodontal therapy. Some smokers may already be considering quitting, and concrete evidence that smoking is damaging their health may motivate them to give up. At the very least, we need to pass on a clear message which says that smoking seriously aggravates gum disease and results in poor treatment results.

ROOT SURFACE INSTRUMENTATION

The actual process of removing deposits of plaque and calculus from the root surface is time consuming, technically demanding and requires appropriate instruments and skill. I recommend the use of a combination of ultrasonic and hand instruments. For ultrasonic instrumentation, both piezoelectric and magnetorestrictive handpieces are effective. It is useful to have shorter, more robust tips which can be used at higher power to remove heavy deposits of subgingival calculus, and longer, finer tips which can be used to instrument deep and narrow pockets. Some manufacturers also produce curved tips which are exceptionally useful for debridement of surfaces in furcations and interproximal surfaces of molars.

It is important to remember that as the pocket gets deeper, the ultrasonic tip will expend an increasing proportion of its energy vibrating the pocket lining and the more coronal root surface and a decreasing amount of energy will actually reach the tip. This means that more time will be required to remove deposits at the apical extent of very deep pockets. In deep pockets, a fine tip can be used like a probe with short movements up and down the pocket. Avoid using the end of the tip directly on the root, but try to keep a large area of ultrasonic tip in contact with the tooth by holding it parallel to the root surface.

For hand instruments, start by choosing a range with broad, comfortable grips. Instruments with narrow handles will tire you more quickly. Universal curettes such as those of the Columbia or Barnhart patterns have a sharp edge on either side of the blade while Gracey curettes have a sharp edge on one side only. Use of curettes is a skill which takes time to develop and it is helpful to sit and watch someone experienced if you are unsure about which curette to use where. The key thing is to spend time examining the instruments carefully and visualising how the working end should connect with the root surface.

Continues on page 12.

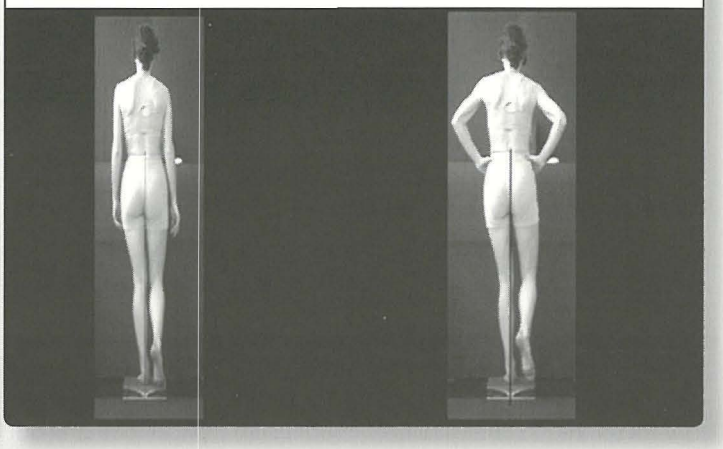
A DENTAL SURGEON'S PAIN IN THE NECK (AND BACK!)

Continues from page 7.

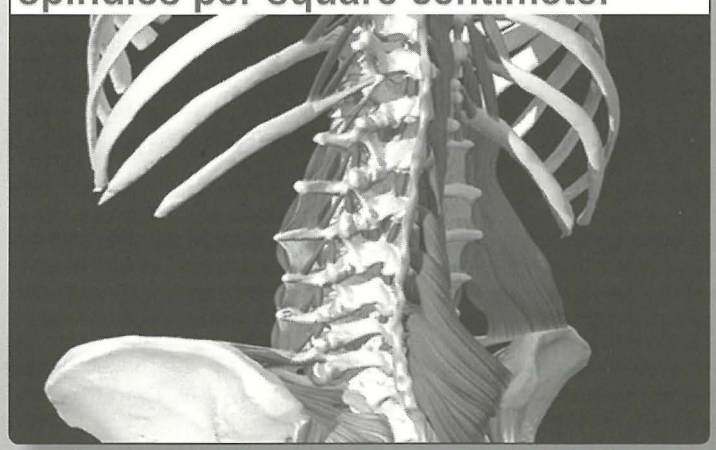
'Quote'

- *"We need to proceed step by step from the periphery throughout the afferent nerves before and through the neuronal circuits oof the CNS before assuming psychiatric diagnosis for patients whose peripheral tissues seem to provide an inadequate basis for their complaint" (Patrick Wall 1986)*

The effect of 15 minutes spinal vibration at 500hz



Greatest number of muscle spindles per square centimeter



Study

Neuropathy in female dental personnel exposed to high frequency vibrations

(Akesson , Lundberg et al 1995 , BMJ)

- 30 Dentists
- 30 dental Hygienists
- 30 medical Nurses (Control)

- Dentists are mainly exposed to high speed handpiece 6000 to 40,000 Hz
- Dental Hygienists use Ultrasonic Descaler

Tested For

- Vibrotactile Sensibility
- Strength
- Motor Performance
- Sensory neuronal signs and symptoms
- Vascular Symptoms in hands
- Mercury Concentration
- Cervicobracial symptoms

Results

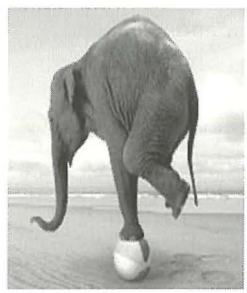
The two groups exposed to vibration had significant impairments of vibrotactile sensibility, strength, and motor performance, as well as more frequent sensorineural symptoms. In the dentists there were significant associations between the vibrotactile sensibility and strength, motor performance, superficial sensibility, and sensorineural symptoms. There were no associations between these findings and cervicobrachial symptoms, mercury concentrations, or smoking.

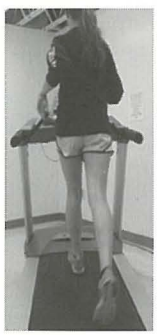
Important Conclusion

Various Experimental studies have shown that vibration may damage nerve fibres and infraneural microvessels as well as muscle Fibres(Hoe et al 98, Lundberg et al 08, 2007,Necking 92)

Dental hygienists and dentists had neuropathic pain, which may be associated with their exposure to high frequency vibrations, and which may be detrimental to their work performance. Thus, development of safer equipment is of utmost urgency (Horstmann et al 2008)

Don't expect any amazing feats





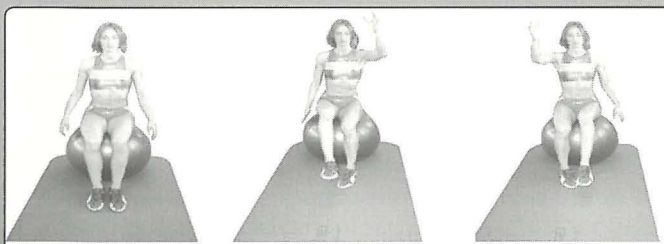
Excess trunk axial rotation

Heel strike foot strike (accompanied by an excessive toe lift angle and an overstride angle)

No Potentially Risky exercise is Necessary!!

Pelvic drop

Regular Median Nerve Stretching will help prevent RSI symptoms



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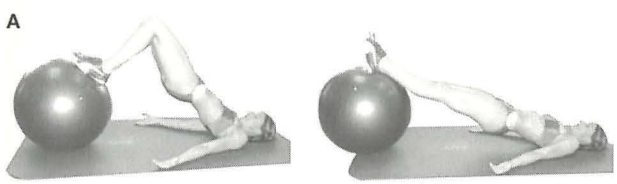

Strengthen Your Core!

Ergonomics
Choosing the appropriate furniture (if used correctly) can be useful!!

NON-SURGICAL PERIODONTAL TREATMENT

Continues from page 9.

In all cases, the terminal shank just before the blade should be held nearly parallel to the root surface for the blade to meet the root at the correct angle. Avoid using the toe of the curette to debride the roots – it can cause grooves – instead focus on using the flat portion of the blade to "plane" the root.

When instrumenting root surfaces, both with ultrasonic and with hand instruments, try to be methodical and progressively work your way around the full diameter of the tooth. Most of the work will be on the mesial and distal surfaces, but the trickiest parts are the line angles where the mesial and distal surfaces blend with the buccal and lingual.

PATIENT MANAGEMENT

Periodontal treatment requires time and attention to detail, and the fees charged should reflect this. Studies have shown that in order to do a good job, you need about 7-10 minutes per tooth with pockets 7mm or deeper. Good local anaesthesia with infiltrations or regional blocks as appropriate are important to keep the patient comfortable – if the patient is uncomfortable you're more likely to give up on some deep sites and leave deposits behind. Most patients are apprehensive and it helps if all the staff in the practice know about the treatment, its benefits and the likely level of discomfort afterwards. Most patients are surprised by how little discomfort they feel after treatment. Patient s do however need to be warned that they will notice some shrinkage.

Saying their teeth will look poorer cosmetically will immediately set up negative connotations in their head. Instead I say the gums will shrink making the teeth look longer, but they won't look sore and inflamed any more but will instead look pink and healthy.

If the patient has high aesthetic expectations then you need to be clear about what they can expect. The teeth are also likely to be sensitive so dietary advice about reduction in acid intake should be given. Also, exposed root surfaces can be at greater risk of caries, so it a good idea to suggest a fluoride mouthwash – this will have the dual benefits of reducing sensitivity and reducing risk of root caries in the future. Patients who return with troublesome sensitivity may need fluoride varnish applications and dietary monitoring.

ADJUNCTS

These are exactly what the name implies – "extras" to the main treatment which is the actual root surface debridement. In cases of aggressive periodontitis adjunctive systemic antibiotics have been shown to improve the treatment results, however most of these cases will be under the care of a specialist already.

If you are using systemic antibiotics, they should be started on the day of the last treatment appointment. Local delivery antimicrobials and antiseptics have scientifically significant but clinically quite small effects, so the cost-benefit ratio must be explained to the patient before using such treatments.

Continues on page 15.

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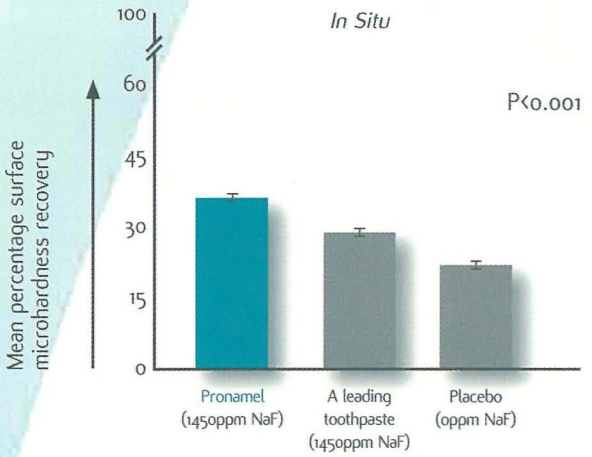
For extra protection against acid wear...

Modern eating and drinking habits increase the exposure of tooth enamel to dietary acid that can lead to **acid wear** (erosive tooth wear), the biggest contributor to tooth wear.[1–5]

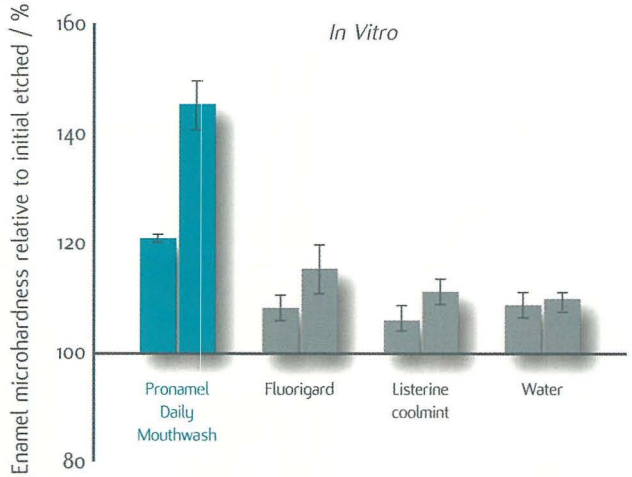
Acid wear is a widespread and growing condition, affecting both adults and children,[6] but in its early stages can be difficult to identify.

...Recommend the Pronamel combination regime

*Individually **Pronamel Daily Toothpaste** and **Pronamel Daily Mouthwash** are proven to reharden acid-softened enamel compared to standard options[7,8]*

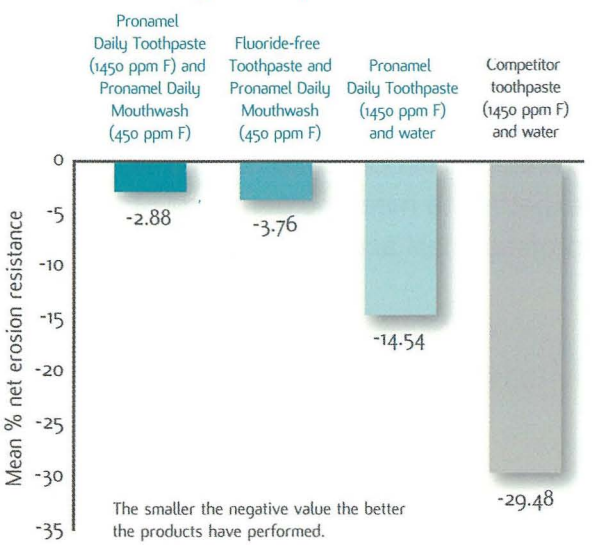


Adapted from Hara AT *et al*. Bovine enamel specimens were subjected to an erosive challenge. This was followed by fixation to palatal appliances and a 4-hour intra-oralphase in 58 human subjects.



Adapted from Young M and Willson R. 6 human enamel specimens were subjected to an erosive challenge *in vitro*. This was followed by a mean rehardening microindentation study after treatment with fluoride mouthwashes.

*But used in combination, provide **80% more protection against acid wear** than brushing with Pronamel Daily Toothpaste alone[9]**



Adapted from Maggio *et al* 2010. Original study design contained 5 test cells: the one not included here is a fluoride-free dentrifice plus water.

Extra protection against acid wear

Give your patients 80% more protection from acid erosion, compared to Pronamel Daily Toothpaste alone by recommending the Pronamel combination regime[9]*

GlaxoSmithKline

*based on clinical data with 450ppm Pronamel Daily Mouthwash and 1450ppm Pronamel Daily Toothpaste

References: 1. Lussi A. Erosive Tooth Wear – a Multifactorial Condition. In: Lussi A, editor. Dental Erosion – from Diagnosis to Therapy. Karger, Basel, 2006. 2. Lussi A. *Eur J Oral Sci* 1996;104:191–198. 3. Bartlett DW *et al. Int Dent J* 2005;55:277–284. 4. Zero DT. *Int Dent J* 2005;55:285–290. 5. Zero DT *et al. J Clin Dent* 2006;17 (Spec Iss):112–116. 6. Deery C *et al. Pediatr Dent* 2000;22(6):505–510. 7. Hara AT *et al. Caries Research* 2009;43:57-63. 8. Young M and Willson R. GSK data on file. 2008. 9. Maggio B *et al. J Dent* 2010;38(S3):537–544. Prepared: February 2011 Z-11-037

Continues from page 12.

Other adjuncts include photoactivated disinfection and laser disinfection/ debridement. Again it is important to be clear about what one is trying to achieve when using these additional therapies.

THE RESPONSE

The patient should be re-examined after eight to twelve weeks. By comparing the preoperative and postoperative charts, the response can be gauged, and this is arguably one of the most important parts of their periodontal diagnosis. Good responders will come back with considerable reductions in pocket depths and very little bleeding after probing. Ideally all pockets should be 5mm or less in depth, and in these patients a supportive periodontal maintenance programme can be commenced. Poor responders or those who started out with very severe disease may return with a greater number of deeper pockets with more bleeding after probing. These patients should be offered a referral to a periodontist for further management.

THE FINAL WORD

Periodontal treatment can be incredibly rewarding. You will see biological responses to mechanical treatment, and this is where it has earned the name "gum gardening". It will help develop your rapport with the patient and will produce conditions in which your restorative dentistry will be less stressful. Ultimately it will project your image of a caring, careful and preventively oriented dentist and will help you retain patients (and their teeth!) for life.

REFERENCES

The role of the general dentist in periodontal care. Trovato JP. Gen Dent. 2003 Mar-Apr;51(2):176-81; quiz 182-3.
Periodontal malpractice: current standards and record keeping requirements. Ebersold LA. J Mich Dent Assoc. 1989 Sep;71(9):483-6.
Oral hygiene in the prevention of periodontal diseases: the evidence. van der Weijden F, Slot DE. Periodontol 2000. 2011 Feb;55(1):104-23. doi: 10.1111/j.1600-0757.2009.00337.x.
A prospective 12-month study of the effect of smoking cessation on periodontal clinical parameters. Rosa EF, Corraini P, de Carvalho VF, Inoue G, Gomes EF, Lotufo JP, De Micheli G, Pannuti CM. J Clin Periodontol. 2011 Jun;38(6):562-71. doi: 10.1111/j.1600-051X.2011.01723.x. Epub 2011 Apr 13.
Genetic and environmental risk factors for chronic periodontitis and aggressive periodontitis. Stabholz A, Soskolne WA, Shapira L. Periodontol 2000. 2010 Jun;53:138-53.
Who is at risk? Periodontal disease risk analysis made accessible for the general dental practitioner. Cronin AJ, Claffey N, Stassen LF. Br Dent J. 2008 Aug 9;205(3):131-7.
The effect of smoking on periodontal treatment response: a review of clinical evidence. Heasman L, Stacey F, Preshaw PM, McCracken GI, Hepburn S, Heasman PA. J Clin Periodontol. 2006 Apr;33(4):241-53.
The effect of quitting smoking on chronic periodontitis. Preshaw PM, Heasman L, Stacey F, Steen N, McCracken GI, Heasman PA. J Clin Periodontol. 2005 Aug;32(8):869-79.
Effect of nonsurgical periodontal therapy. II. Severely advanced periodontitis. Badersten A, Nilveus R, Egelberg J. J Clin Periodontol. 1984 Jan;11(1):63-76.
Scores of plaque, bleeding, suppuration and probing depth to predict probing attachment loss. 5 years of observation following nonsurgical periodontal therapy. Badersten A, Nilvéus R, Egelberg J. J Clin Periodontol. 1990 Feb;17(2):102-7.
The long-term effect of a plaque control program on tooth mortality, caries and periodontal disease in adults. Results after 30 years of maintenance. Axelsson P, Nyström B, Lindhe J. J Clin Periodontol. 2004 Sep;31(9):749-57.
Psychological interventions to improve adherence to oral hygiene instructions in adults with periodontal diseases. Renz A, Ide M, Newton T, Robinson PG, Smith D. Cochrane Database Syst Rev. 2007 Apr 18;(2):CD005097.
Minimally Invasive Treatment, Arrest, and Control of Periodontal Disease Per Axelsson Quintessence Publishing Co Inc. ISBN: 0867153652
Systemic antibiotics in periodontal therapy. Heitz-Mayfield LJ. Aust Dent J. 2009 Sep;54 Suppl 1:S96-101.
Calculus removal and the prevention of its formation. Jepsen S, Deschner J, Braun A, Schwarz F, Eberhard J. Periodontol 2000. 2011 Feb;55(1):167-88. doi: 10.1111/j.1600-0757.2010.00382.x.
Prevention of crown and root caries in adults. Rodrigues JA, Lussi A, Seemann R, Neuhaus KW. Periodontol 2000. 2011 Feb;55(1):231-49. doi: 10.1111/j.1600-0757.2010.00381.x.

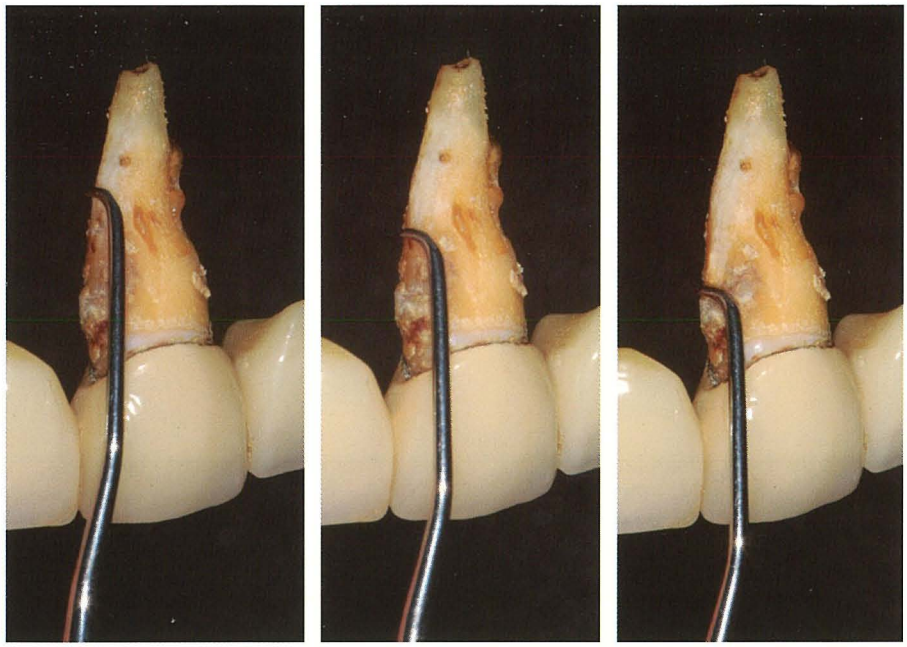


FIG 2:
Vertical power-stroke (exaggerated) demonstrating ideal movement of Gracey blade over root surface.

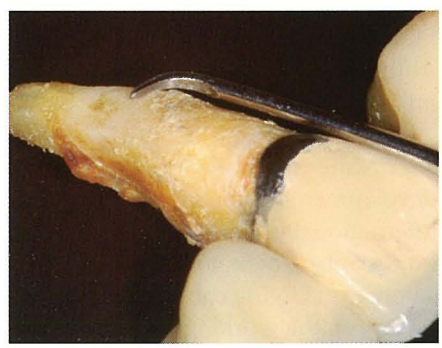


FIG 1:
Correct orientation of the Gracey curette blade to the root surface.

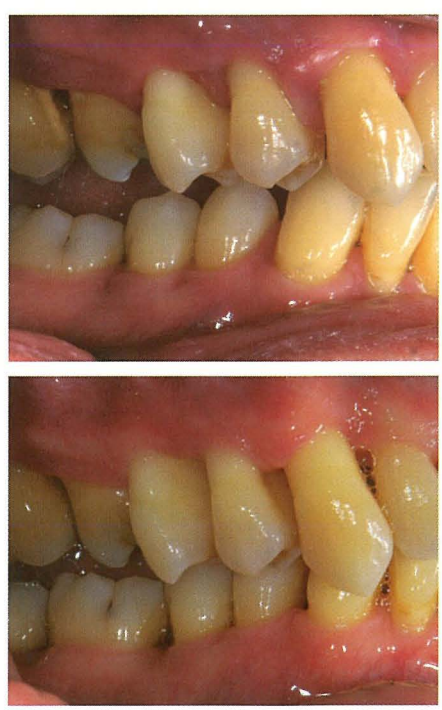


FIG 3:
Effects of non-surgical periodontal treatment (before and after). Gingival tissues appear pink, firm, healthy with reduction in tissue volume, pocket depths and bleeding after probing.

FEDCAR

Federation of Dental Competent Authorities and Regulators in Europe

SUMMARY OF THE SPRING MEETING 2013

Hosted by the British General Dental Council, the FEDCAR/ European Federation of Dental Competent Authorities held its Spring meeting in London on 3 May.

As a Guest speaker, Barry Cockcroft, Chief Dental officer to the government, illustrated "The importance of working with the EU" for the dental Competent Authorities with some examples linked i.a. to the patient safety.

An update was made on the recent developments at the EU and the international levels that are of importance whether for the patient safety (e.g. UNED convention on mercury), the working environment (e.g. data protection of health records, exposure to ionic radiation in dental office) or the movement of dentists within the internal market (the ongoing revision of Directive 2005/36 on the recognition of professional qualifications).

Additionally, were also reported some developments relating to the use of national numerus clausus by some European countries; in particular, an analysis was proposed of the contested opening in France of a so-called branch of a Portuguese university that would – allegedly – deliver Portuguese dental professional qualifications and, doing so, circumvent the national numerus clausus directly on the domestic territory.

The Autumn meeting of FEDCAR will allow the Dental Competent Authorities gathered in Paris to see the conclusion of some of this EU developments and to get ready for the next ones.

FEDCAR
Bureau de représentation / Representative Office
c/° Chambre Française de Commerce et d'Industrie de Belgique
Avenue des Arts, 8
B-1210 Bruxelles

Tél.: +32 2 506 88 44
http://www.fedcar.eu

The conclusions of the ADEE on CPD in Europe for dentists

A study by 5 Universities in the UK, Netherlands, Latvia, Greece and Finland.

Recommendations – the very latest information

CORE CPD

FOUR compulsory topics:
- Medical emergencies
- Infection control
- Medically compromised patients
- Radiation protection

THREE recommended CPD topics:
- Health and safety
- Pain management
- Safeguarding children and vulnerable adults

The teaching of topics must be underpinned by evidence based dentistry.

Dr David Muscat
FEDCAR representative
International Relations officer

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Please cut out this section and send with a cheque for 50 euro payable to **Dental Association of Malta** for your 2013 DAM membership – the best 50 euro investment ever!

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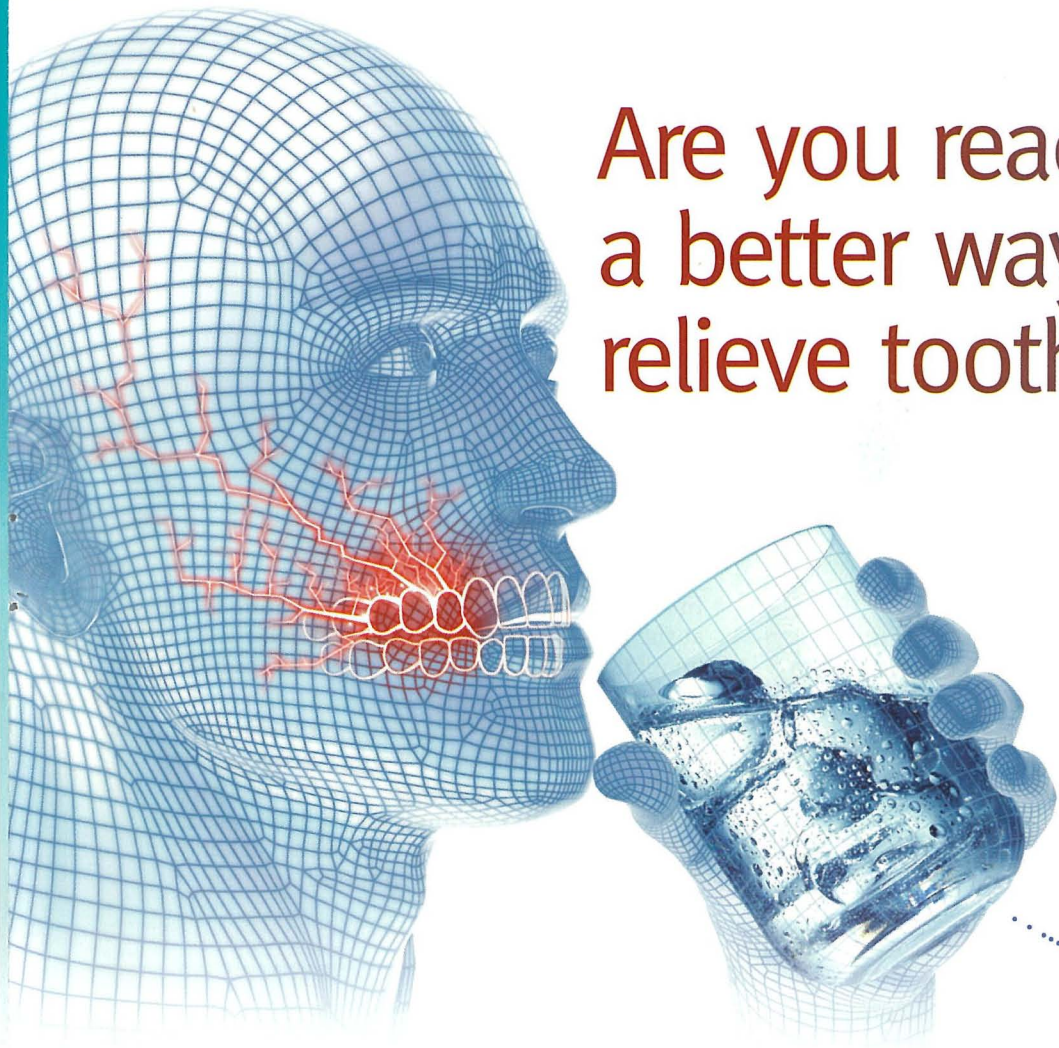
Are you ready for a better way to relieve tooth sensitivity?



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Announcing the arrival of a toothpaste so revolutionary, so different, it addresses the cause of sensitivity, not just the signs.

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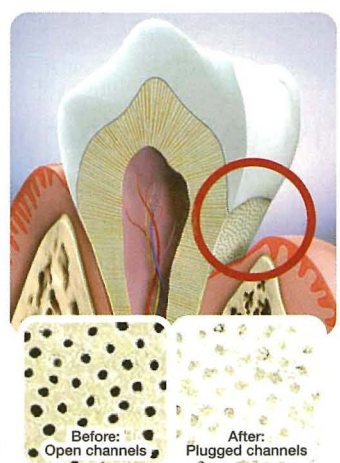

In vitro CLSM photographs

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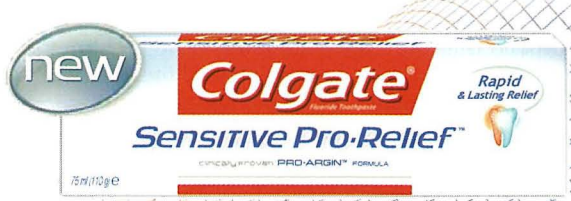

Instant and Lasting Sensitivity Relief... *prove it to yourself.*

* For instant relief massage a small quantity directly on the sensitive tooth for one minute.

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HYPNOSIS IN DENTAL

History of Hypnosis

- Shamanic healers in many cultures enter a trance state during which they are thought to journey to the spirit realm to have direct discourse with the spirits or gods that affect health or illness.
- Esoteric teachings of Judaism encouraged the practice of *kavanah*, a state of peaceful concentrated awareness

History of Hypnosis

- In ancient Greece, the dominant healing models at the time of Hippocrates considered the imagination to be an organ at the literal heart of healing.
- Galen, the dominant influence on Western medicine for a thousand years, considered the imagination to be a critical element of both pathogenesis and healing, as did Paracelsus, an eclectic physician best known as the father of chemical medicine in the fifteenth century

History of Hypnosis

- Franz Anton Mesmer 1734 – 1815

➢ Theory of Animal Magnetism 1766

De planetarum influxu in corpus humanum (*On the Influence of the Planets on the Human Body*

➢ Universal Fluid

➢ Baquets & Iron Rods

➢ Royal Commission 1784

History of Hypnosis

- Mesmer (cont'd)

➢ Commission by Louis XVI

➢ Lavoisier,Guillotin,Bailly & Franklin concluded there was no evidence for such a fluid. Whatever benefit the treatment produced was attributed to "imagination."

➢ Marquis de Puyesegur (l75l-l828),

➢ a trance-state without the violent crisis

History Of Hypnosis

- James Braid

➢ l84l, a Manchester Physician

➢ proved that the trance-state was brought about not by external influences, but by internal means from within the patient - a psychological process

➢ "HYPNOSIS" from the Greek word "hypnos" meaning sleep.

History Of Hypnosis

- James Esdaile

➢ British surgeon practicing in India, performed major operations utilizing Mesmer's techniques as the sole anaesthetic

➢ Low mortality rate reported

➢ Royal College of Surgeons investigated his work and concluded the patients only wished to please Dr Esdaille.

PRACTICE

By Alan Kendall
BDS,Dip TAA,Cert Accred Hypnotherapy

History Of Hypnosis

- Hippolyte Bernheim (1840-1919) French physician and neurologist Co-founder Nancy School
- Ambroise-Auguste Liébeault (1823-1904) French physician and hypnotist Co-founder Nancy School

➢Du sommeil et des états analogues considérés surtout au point de vue de l'action du moral sur le physique (Sleep and analogous states considered mainly from the point of view of the influence of moods on physical well-being)

History of Hypnosis

- Liébeault & Bernheim

➢"De la Suggestion dans l'État Hypnotique et dans l'État de Veille," Paris, 1884

➢"De la Suggestion et de son Application à la Thérapeutique," Paris, 1887

➢Émile Coué (1857-1926) THE PROPHET OF AUTOSUGGESTION

➢"Day by day, in every way, I am getting better and better."

History of Hypnosis

- **Jean-Martin Charcot** (1825 – 1893) French neurologist

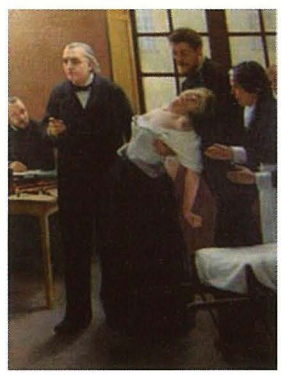
➢Professor of anatomical pathology. Greatly impacted the developing fields of neurology and psychology

➢Hypnosis was a pathological condition

➢Charcot is just as famous for his students: Sigmund Freud, Joseph Babinski, Pierre Janet, Georges Gilles de la Tourette, and Alfred Binet

History of Hypnosis

- **Jean-Martin Charcot** (1825 – 1893) French neurologist
- Lessons at the Salpêtrière hospital, "hysterical" women patients – here, his favorite patient, "Blanche" (Marie) Wittman, supported by Joseph Babiński.



History of Hypnosis

- Sigmund Freud (1856 – 1939)

➢Used hypnosis in early part of his working life after being influenced by Charcot and Bernheim

➢First World War clinical hypnosis was revived due to the shortage of psychiatrists and was used to deal with the treatment and removal of symptoms from traumatic wartime experiences.

History of Hypnosis

- Second World War Hypnotherapy was again used, this time to an even greater extent as an effective short-term therapy. Success in the treatment of war-neurosis
- **Milton Hyland Erickson** (1901 - 1980) American psychiatrist specializing in medical hypnosis and family therapy.

➢Founding president of the American Society for Clinical Hypnosis and a fellow of the American Psychiatric Association, the American Psychological Association, and the American Psychopathological Association.

Continues on page 20.

HYPNOSIS IN DENTAL PRACTICE

Continues from page 19.

History of Hypnosis

- **Milton Hyland Erickson**

➢ extensive use of therapeutic metaphor and story as well as hypnosis

➢ coining the term *Brief Therapy* for his approach of addressing therapeutic changes in relatively few sessions

➢ Neuro-linguistic Programming (NLP), which was in part based upon his working methods

History of Hypnosis

- Ernest R. Hilgard (1904 – 2001)
  - Hidden Observer
  - Many research papers
  - Majority of research used University Students as subjects

History of Hypnosis

- Hypnotisability Scales
  - hypnosis was like a kind of mystical phenomenon that respectable research psychologists didn't study
  - "One of the most important things he did was develop a measuring scale to measure depth of hypnosis, or how susceptible people were to hypnosis."
- Stanford Hypnotic Susceptibility Scale
  - It has helped to standardize research practices surrounding hypnosis. -Meredith Alexander 2001

History of Hypnosis

- Herbert Spiegel

➢ Hypnotic Induction Profile

  ➢ Clinical scale

  ➢ Developed in clinical setting

  ➢ Measures hypnotic phenomena

History of Hypnosis

- T X Barber & D S Calverley
  - The Barber Suggestibility Scale and the Creative Imagination Scale: experimental and clinical
  - No such state as hypnosis
  - measures hypnotic susceptibility with or without the use of a hypnotic induction.

Use of Hypnosis

- Relaxation
- Pain Control
- Anxiety Control
- Control of Bleeding
- Self Esteem Building (Ego-strengthening)
- Phobias
- Psychosomatic Disorders
- PTSD

Use of Hypnosis(As Advertised)

- Stop Smoking
- Motivation
- Sports Improvement
- Confidence
- Attitude
- Grief Issues
- Shyness
- Parenting Issues
- Weight Control
- Nail Biting
- Self-Esteem

Use of Hypnosis(As Advertised)

- Sleeping Problems/Insomnia
- Procrastination
- Test Anxiety
- Pain Management
- Natural childbirth
- Stress Management
- Fears and Phobias
- Trauma
- Anger Management
- Relationship Issues
- Sexual Issues
- Physical Healing
- Mood

- DENTAL ANXIETY is a reaction to an UNKNOWN danger, and the individual anticipates the worst even from relatively straightforward procedures.
  - Anxiety is extremely common, and most people experience some degree of dental anxiety especially if they're about to have something done which they've never experienced before.

- DENTAL FEAR is a reaction to a known danger
  - "I know what the dentist is going to do, been there, done that - I'm scared"
  - Involves a fight-or-flight response when confronted with the threatening stimulus.

- DENTAL PHOBIA is basically the same as fear, only much stronger
  - "I know what happens when I go to the dentist - there's no way I'm going back if I can help it. I'm so terrified I feel sick"
  - The fight-or-flight response occurs when just thinking about or being reminded of the threatening situation.
  - Will avoid dental care at all costs until either a physical problem or the psychological burden of the phobia becomes overwhelming.

A Definition

- Altered state of awareness in which perception and memory are altered in response to suggestion.

Continues on page 22.

HYPNOSIS IN DENTAL PRACTICE

Continues from page 21.

January 2001 article in Psychology Today

A hypnotic trance is not therapeutic in and of itself, but specific suggestions and images fed to clients in a trance can profoundly alter their behavior. As they rehearse the new ways they want to think and feel, they lay the groundwork for changes in their future actions...

Deirdre Barrett

July 2001 article for Scientific American

...using hypnosis, scientists have temporarily created hallucinations, compulsions, certain types of memory loss, false memories, and delusions in the laboratory so that these phenomena can be studied in a controlled environment.

Misconceptions

- Loss of Control
- State Secrets
- Permanent State
- Weak Will
- Lose Consciousness
- What if I don't wake

How to Produce Hypnosis

- Misdirect attention
- Belief
- Expectation
- Imagination

How to Produce Hypnosis

- Choice of Language
  - Suggestion
    - Direct
    - Indirect
- Mirroring
- Leading
  - Yes Set
- Pacing

How to Produce Hypnosis

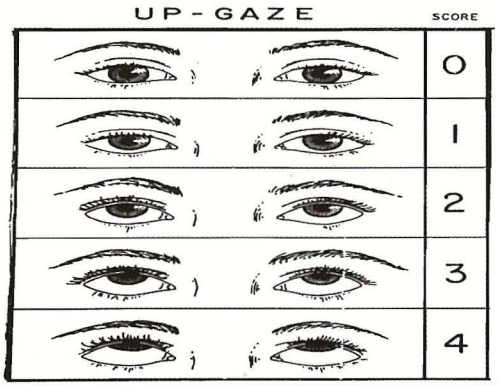
- Prediction
- Observation
- Feedback
- Reinforcement

Rapport

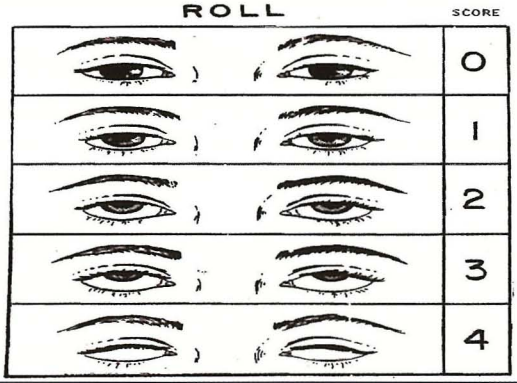
Hypnotic Induction Profile

- Developed by Herbert & David Spiegel
- Tests:
  - Eye-Roll
  - Arm Levitation
  - Dissociation
  - Suggestibility
  - Post Hypnotic Suggestion
  - Amnesia

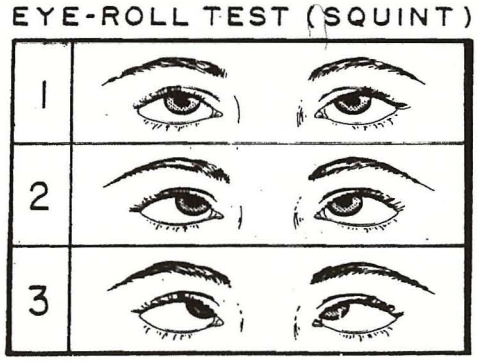
Hypnotic Induction Profile



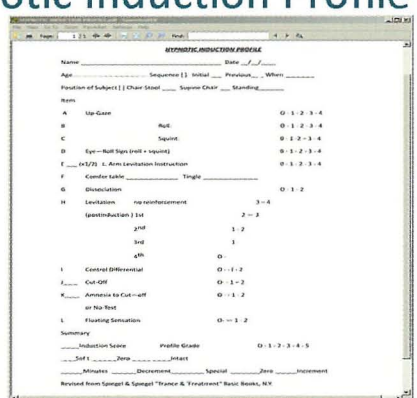
Hypnotic Induction Profile



Hypnotic Induction Profile



Hypnotic Induction Profile

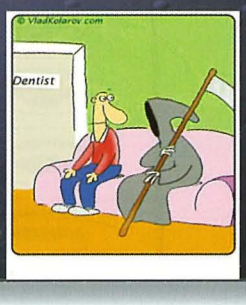


Pre-induction	Pretrance or preceremonial state of customary awareness	Up Gaze	Item A
Induction	Ceremony for entering formal trance with eye closure Instructions for post ceremonial responsiveness; exit formal trance with eye opening	Eye-Roll Sign Instructional Arm Levitation	Items B, C & D Item E
Post Induction	Postceremonial trance with open eye; post ceremonial responsiveness or experience tapped by Items F-J Exit Total program with touching of elbow	Tingle Dissociation Signaled Arm Levitation Control Differential Cut-off	Item F Item G Item H Item I
Post Induction	After Trance; state of customary awareness; retrospective aspects of the trance experience	Amnesia Float	Item K Item L

COMMUNICATION & THE ANXIOUS DENTAL PATIENT

Overview of Anxiety

- Physiology
  - Hans Seyle – 3 Phases
  - **Alarm Phase ("fight or flight" response)**
  - **Adaptation (Resistance)**
  - **Exhaustion**



Overview of Anxiety

- **Alarm Phase ("fight or flight" response)**
  - **Production of Adrenalin**
  - **Sympathetic nervous system is stimulated**
  - **Increased Heart rate**
  - **Increased BP**
  - **Increased Respiration**
  - **Endorphins released**
  - **Stored sugars released**
  - **Some senses become sharper**

Overview of Anxiety

- **Adaptation (Resistance)**
  - **Postulated there is finite amount of "adaption energy"**
  - **Ability to adapt to stressors**
- **Exhaustion**
  - **Depleted much of its reserves**
  - **No strength to deal with the stressor**
  - **If the stressor is too strong exhaustion may mean death.**

Overview of Anxiety

- Adaptation
  - Agree to bear its negative consequences
- Fight
  - Deal with it, eliminate it
- Fleeing
  - Escape from the problem

Overview of Anxiety

- Adequately estimating which strategy is most appropriate can be an arduous, even impossible task under stress.
- Concentration abilities are seriously deteriorated during the stress response
- It may be vital for an individual to react in any way as quickly as possible rather than wasting time thinking which strategy is best.
- Conditioning – Pavlov
  - Stimulus - Response
- Reinforcement Theory
  - Rewards and punishments.
- Common experience and careful research both confirm that human emotion conditions very rapidly and easily. Particularly when the emotion is intensely felt or negative in direction, it will condition quickly.

Overview of Anxiety

- *People think and have beliefs.*
- *Reactions are based upon what we are thinking and believing in at the time of the stimulus*

By Alan E Kendall B.D.S.,C.A.H

Setting the scene

- Roles of dental staff
- Ambience
- Sights
- Sounds
- Smells

The patient

- Greeting
- Body Language and Congruence
- "Listening" to non-verbal communication
- Positioning
- Eye Contact
- Mirror, Pace, Lead
- "Trying"
- Relaxation (exercise

Going to the dentist

- Schema
- Transactional Analysis Model
  - Paternalistic
  - Mutual
  - Consumerist
  - "Default"

Power of Words

- Fear
- Pain
- Hurt
- Needle
- Won't
- Surgery
- Forceps
- Drill
- Try
- Help
- Wonder

Patient in the Chair

- Active Listening
- Obtaining accurate information
- Affirmation
- Reflection
- Silence
- Paralinguistic Features
- Open & Closed Questions
- Forewarning patients
- Always use positive language

- Framing
- Dental language
- Touch
- Summarising
- Explaining
  - Use a series of logical points
  - Avoid or explain any jargon
  - Repeat and emphasise key points
  - Use examples and diagrams
  - Give specific rather than vague advice
  - Check out the patients understanding by asking for feedback

AN INSURANCE POLICY A DENTIST SHOULD KNOW ABOUT

CYBER RISK INSURANCE

The fact that information technology is now at the centre of your practice and most dentists are keeping clients' records has brought new risks. These risks are mostly associated with loss or corruption of data, which can have a debilitating effect on your practice. The threat of virus or hacker attack and the loss of sensitive data can also cause problems and pose threats to your practices. As a Professional you also have a responsibility to protect your customers' data, with failure to do so potentially leading to legal action, a resultant loss of confidence and the potential of a damages payment.

POLICY HIGHLIGHTS

Cover for loss of business and data rectification, whether through total network failure or one of a number of other causes including:

- Loss or corruption of data through network security breach, unauthorised use of the computer system, computer virus, human error, or accidental damage or destruction of data media
- Business income and extra expense cover, which helps your practice to survive the impact of loss of business income through a failure in the computer systems.
- Crisis management and notification costs, with coverage including the cost of hiring expert assistance to mitigate the effect of the incident - and the costs of notifying relevant parties in the event of a data breach.

This policy is extended to include costs legally incurred to pay to others as a result of trading electronically or of storing or using data electronically, including:

- Damages or costs incurred through disparagement, plagiarism or infringement perpetrated through computer systems or websites
- Liabilities from breach of privacy or confidentiality
- Transmission of virus or a denial of service attack

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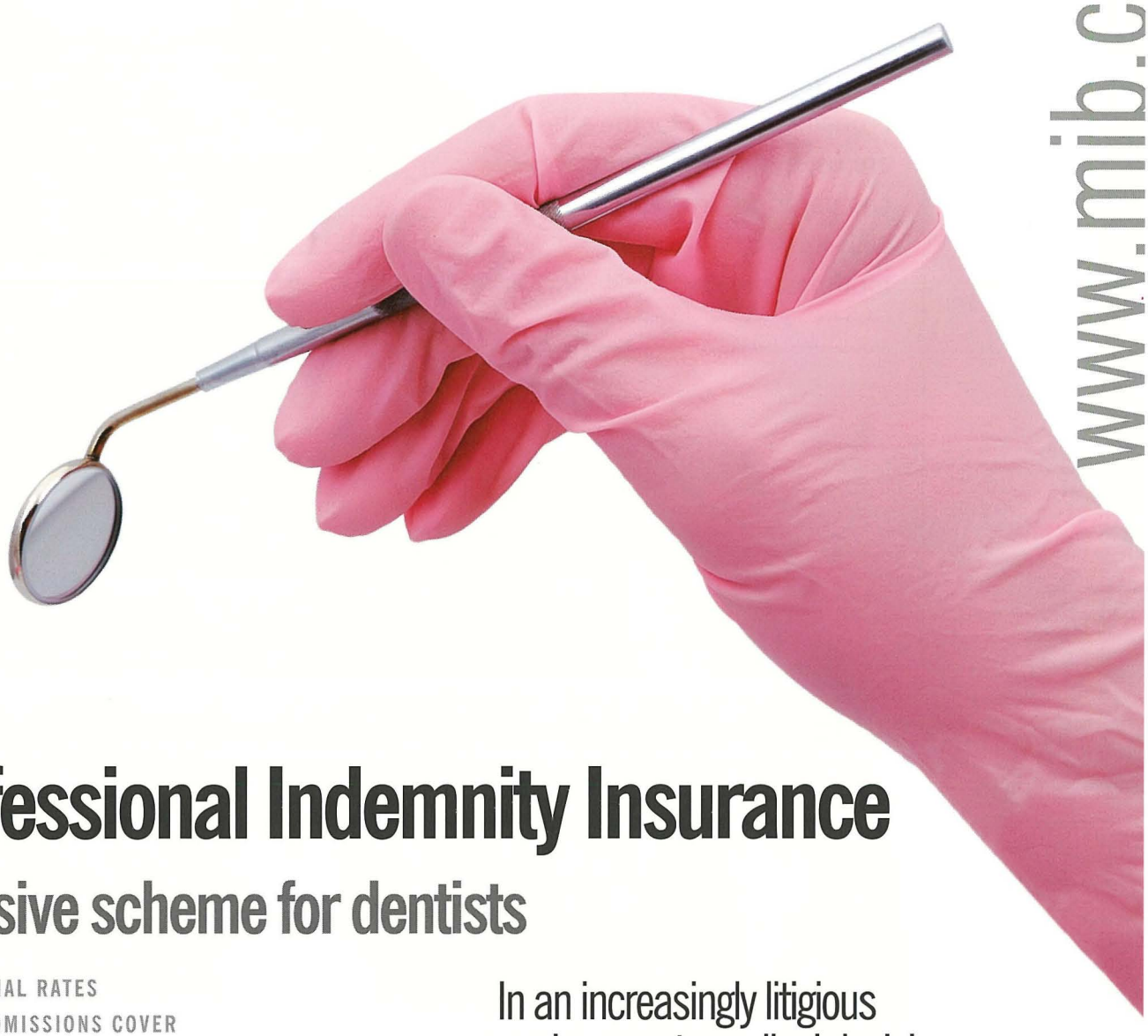

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more protection for your patients

From the effects of Acid Wear,[1] when Pronamel Daily Toothpaste and Pronamel Daily Mouthwash are used in combination, compared to brushing with the toothpaste alone.*

Extra protection from the effects of Acid Wear

*Based on an *in situ* study.
Reference: 1. Maggio B *et al.* J Dent 2010; 38(53): 537–544.

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Placing Posterior Composites: Increasing Efficiency

Ronald D. Jackson, DDS

INTRODUCTION

Let's face it, placing successful posterior composites is exacting, tedious, and time consuming. The process includes achieving the necessary isolation, selecting and placing an appropriate matrix, precise execution of the adhesive steps, the placement of a flowable resin or resin ionomer liner and finally, the incremental placement, adaptation, and light-curing of at least 2 or more layers of composite. Add to this sculpting, adjusting the occlusion, and finishing and polishing; and you have a procedure that just takes too much time. This in turn can produce a profitability problem for dentists who have contracts with insurance companies. In a recent article,[1] Tom Limoli Jr stated that the average fee accepted by insurance companies in the United States for a Class II composite is $195 (range $137 to $241). Given today's overhead per hour, dentists need material and technology advancements so that posterior composites can be placed faster, easier, and profitably without taking compromising shortcuts.

In recent years, materials have been introduced in an attempt to reduce some of the time and effort needed for layering and adaptation when placing posterior composites. One such composite resin material, Quixx (DENTSPLY Caulk) is advocated as a true "bulk fill" composite. Nevertheless, because of its high viscosity, it still might be prudent to place a low viscosity composite resin or low viscosity resin ionomer liner to achieve intimate adaptation to the pulpal and gingival floors. Although one 4-year clinical study[2] showed an acceptable annual failure rate of 2.7% (a literature review analysis of posterior composite restorations reports annual failure rates for Class II composites range from 0% to 7% with a mean of 2.2%[3]), a real drawback of a restoration using this material is its translucency. The high translucency allows for a 4 mm depth of cure in 10 seconds using a light with a minimum of 800 mW/cm^2 (manufacturer's directions for use). Unfortunately, this necessary translucency can cause restorations to look gray (low value) in appearance. (Note: The author uses the term "bulk fill" to mean the entire cavity is filled in one single increment. Recently, some manufacturers are using this term in their advertisements to describe their composite material if it cures up to 4 mm. This is whether or not that amount can, or should, be used to fill a cavity in one increment.)

Figure 1. SonicFill (Kerr).

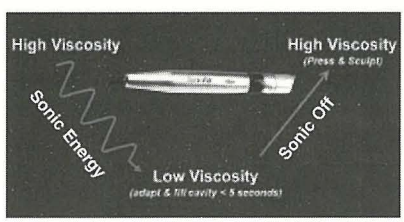


Figure 2. When the handpiece is activated, liquefaction occurs, and the composite is rapidly extruded to fill the cavity. Upon deactivation, Sonicfill begins to return to a high viscosity state.

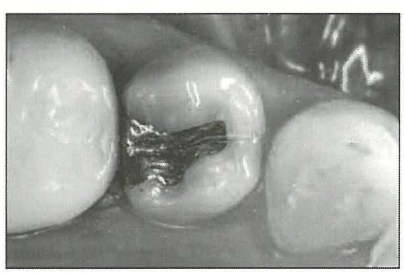


Figure 3. An amalgam filling with poor contact and recurrent caries.

Calset (AdDent) is a technology for delivering a heated high viscosity composite and has been in the marketplace for some time. This technology heats the composite resin to 60°C, which lowers the viscosity, allowing the material to readily adapt to the cavity walls. In addition, theoretically, a heated composite should cure more easily (ie, require less light curing time) and reach a higher conversion ratio. This, in turn, should increase physical properties. *In vitro* data seems to confirm these claims;[4,5] however, a recent *in vivo* study found minimal increase in conversion (3% to 4%) and concluded that reducing the light-curing time is not recommended.[6] The data showed that the tooth acts as a heat sink. Therefore, by the time the composite is removed from the heating unit, adapted to the cavity and light-cured, the material has quickly cooled to just slightly above tooth temperature. Whereas using this technology may preclude using a low viscosity liner, the restorative composite, depending on shrinkage and depth of cure, would still require layering for average-sized cavities.

More recently, a low viscosity composite, Surefil SDR (DENTSPLY Caulk) has been introduced. It is promoted as a flowable with a reported high depth of cure (4.1 mm) allowing placement of a large incremental base. This base is then surfaced with a high viscosity restorative composite resin. With a polymerization shrinkage of 3%,[7] Surefil SDR would not be classified as a low shrink (< 2%). However, the manufacturer claims low shrinkage stress which is actually more significant.[8] The appeal of this material is that, for the majority of cavities, a well adapted posterior composite restoration with good aesthetics can be achieved in less time because only 2 layers of composite are placed and cured; and only the second layer needs adaptation and sculpting.

New Materials and Technology

A new composite resin that is placed with the assistance of a sonic handpiece has recently been introduced. This material (SonicFill [Kerr]) (Figure 1) and technology increases the ease and efficiency of posterior composite placement even further. In essence, this composite resin is capable of delivering an aesthetic composite restoration in one true "bulk fill" increment. It is a high viscosity restorative composite which comes in tooth-colored shades (A1, A2, A3) and opacity, yet has a high depth of cure (5 mm). The customized composite is provided in a unidose tip. It is inserted into the cavity using a uniquely designed sonic handpiece. The handpiece fits KaVo MULTIflex air connections, as well as other brands, when

Continues from page 29.

using a compatible adaptor available from several manufacturers, including Kerr. When the tip is placed into the cavity and the handpiece activated, liquefaction occurs, resulting in an 87% drop in viscosity. The cavity fills in seconds. When the activation is ceased, the material begins returning to a high viscosity to allow for sculpting (Figure 2). When in the activated state, the composite material does not appear to reach what would be called a "flowable" state. However, the liquefaction achieved, along with the sonic vibration, yields optimal cavity adaptation in the same manner as a true flowable. Independent testing has shown SonicFill to have a 5 mm depth of cure with a bottom to top Rockwell hardness ratio of 80% or better.[9,10] The high depth of cure is not accomplished by raising the translucency of the material, therefore the final aesthetics of the restoration ranges from good to very good. In the author's experience, the majority of posterior cavities measure 5 mm or less; this means most posterior composite resin restorations can be restored quickly and efficiently in a single, rapidly placed true "bulk fill" increment without the need for a liner. Of course, for cavities greater than 5 mm, the first increment is pressed to place and cured before a second increment is placed. It should be noted, that although the bottom to top depth of cure ratio is above 80% for a 10-second cure using a light with an output greater than 1,000 mW/cm^2, the manufacturer recommends additional time to account for the distance between the material and the light tip when curing (see Kerr's directions for use because of variations in power output among different curing lights). Finally, SonicFill has been shown to have similar or better mechanical properties when compared to other restorative composite resins in the marketplace.[9,10]

CASE REPORT

The Technique

A patient presented with a leaking amalgam in a lower premolar requiring replacement (Figure 3). After local anesthesia and placement of the rubber dam (Hygenic Rubber Dam, [Coltène Whaledent]) the existing amalgam, liner/base and recurrent caries were removed (Figure 4). A sectional matrix and wedge (Triodent) were placed, and the contact area was burnished (Figure 5). The cavity measured less than 5 mm from the gingival floor to the marginal ridge of the adjacent tooth (Figure 6). After etching the enamel and dentin with a 30% to 40% phosphoric acid, a dentin/enamel adhesive (Optibond FL [Kerr]) was placed and light-cured according to the manufacturer's directions (Figure 7). The SonicFill tip was placed into the bottom of the proximal box (Figure 8). The 1.5 mm opening diameter of the tip's cannula allows access to small cavities (Figure 9). When the handpiece was activated, the cavity filled in less than 4 seconds (Figures 10 and 11). (The handpiece is slowly withdrawn as the cavity fills, with the tip staying within the material.) A round-ended condenser or a silicone-tipped instrument (Comporoller [Kerr]) was used to press down on the material and simultaneously wipe away excess at the margins (Figure 12). This composite resin material is nonsticky and does not slump, allowing for quick and easy shaping/sculpting with a bladed instrument (Figures 13 and 14). Upon completion, the restoration was light-cured from the occlusal for 20 seconds with a curing light providing high output. In this case, the Demi Plus LED (Kerr) was used. After removing the wedge and matrix, the restoration was light-cured again for 20 seconds from the buccal and the lingual aspects (Figures 15 and 16). Any excess adhesive and composite on the buccal or

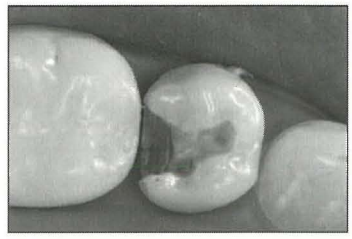


Figure 4. The amalgam, any base or liner and all caries are removed.

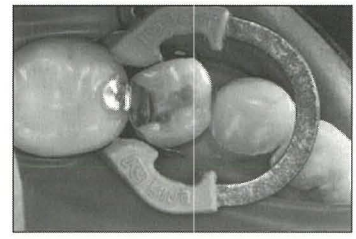


Figure 5. A matrix and wedge (Triodent) were placed and the contact area was burnished.

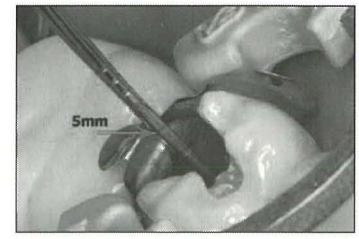


Figure 6. The maximum cavity depth from the gingival floor to the adjacent tooth marginal ridge is measured using a periodontal probe.

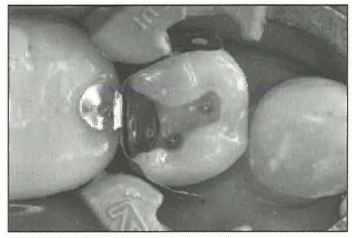


Figure 7. The adhesive was placed and light-cured.

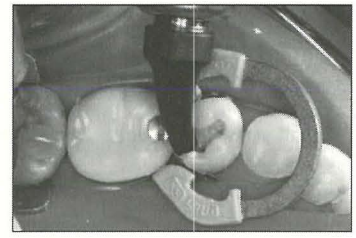


Figure 8. The unidose tip was placed in contact with the deepest part of the cavity.

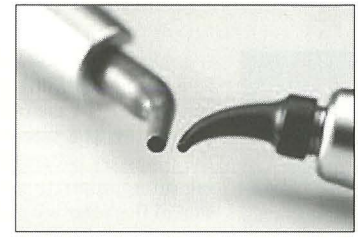


Figure 9. To reach the base of cavities, the opening diameter of the tips (SonicFill Unidose tips [Kerr]) (1.1 mm) are smaller than typical composite unidose tips.

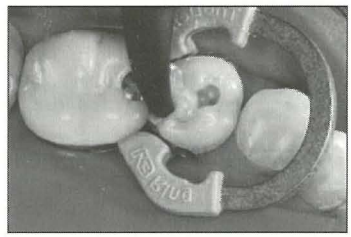


Figure 10. Upon handpiece activation, the viscosity of the composite drops and it is rapidly extruded, filling the cavity in seconds. The tip was kept in the material and withdrawn as the cavity filled.

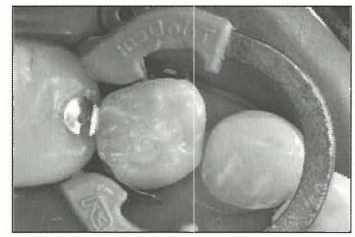


Figure 11. The filled cavity.

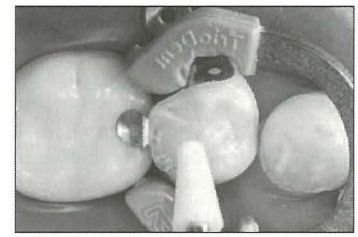
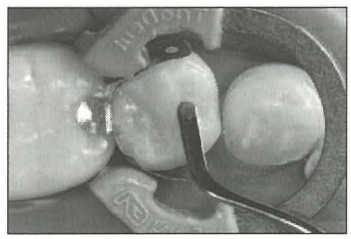
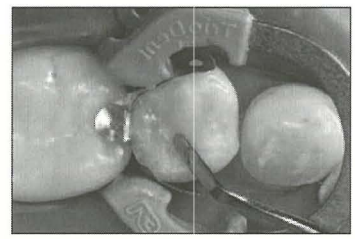
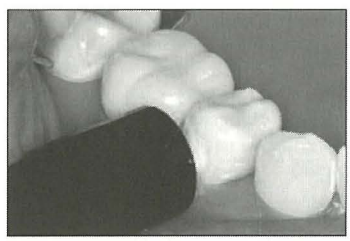


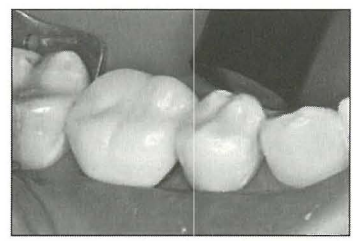
Figure 12. Using an instrument with a Teflon tip (Comporoller [Kerr]), the material was pressed down and wiped away at the margins.





Figures 13 and 14. The nonsticky, nonslumping material was rapidly sculpted using the tooth inclines as a guide.





Figures 15 and 16. After light-curing from the occlusal, the matrix assembly was removed and additional light-curing was done from the buccal and the lingual.

lingual was easily removed with a No. 12 blade in a scalpel handle (Figure 17). The rubber dam was then removed and the occlusion adjusted. It is the author's preferred technique to retain any bonded occlusal flash and merely feather it with a carbide finishing bur 7404 (Axis Dental) (Figure 18). Final finishing and polishing were accomplished quickly with a one-step rubber instrument (Progloss [Axis Dental]), wetted with water (Figure 19). This composite resin's finish will be retained, reducing the chance for staining over time. When dried, SonicFill will be seen to have a very smooth matte finish, which does not pick up stain. Whereas a retained high gloss finish is important for anterior restorations, posterior restorations are always viewed wet by patients (Figure 20).

A second case is illustrated in photos (Figures 21 and 22), showing 2 SonicFill restorations in molars at 10 months post-op

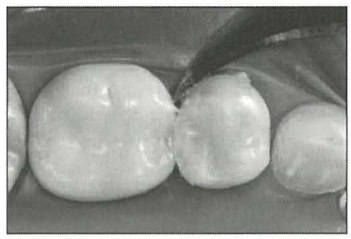


Figure 17. A new sharp No. 12 blade on a scalpel handle was used to trim any excess.

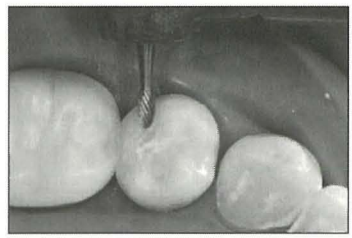


Figure 18. A 7404 carbide bur (Axis Dental) was used to feather the bonded excess composite beyond the occlusal margins. In the author's opinion, complete removal of bonded flash is unnecessary and, in fact, it provides additional protection of the margins.

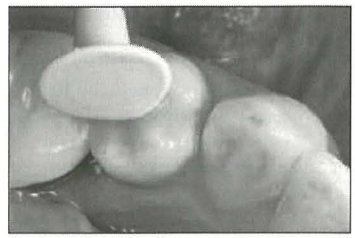


Figure 19. Surface finish was achieved with rubber rotary instruments, used wet.

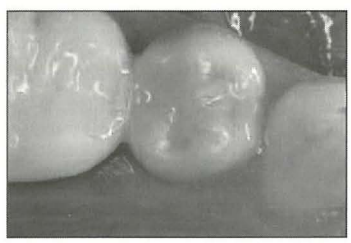


Figure 20. Two months postoperative view shown wet as the patient sees it.

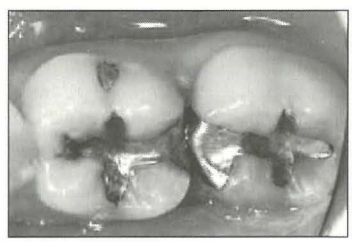


Figure 21. Preoperative view of failing amalgams.

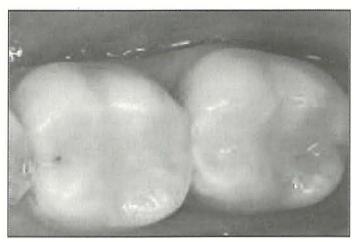


Figure 22. (Second case example.) Postoperative view at 10 months.

DISCUSSION

Posterior composite resin restorations are now mainstream and represent the majority of posterior intracoronal restorations being placed.[11,12] Besides satisfying patient desires for natural looking (nonmetal) restorations, these restorations seal the tooth and provide reinforcement.[13-17] However, the placement of composite resin restorations is more demanding for the operator when compared to the placement of amalgam fillings. Many dentists find the multiple steps quite tedious and very time consuming. The concept of "bulk fill" to reduce the time necessary to place and adapt multiple layers of composite resin has been appealing to dentists for some time. In fact, in a "voice of consumer" survey conducted by Kerr, 73% of dentists indicated they would choose a technique for posterior restorations using a bulk fill, single shade and opacity composite resin yielding a possibly identifiable restoration over a material requiring a layering technique with different opacities and shades to achieve imperceptible aesthetics.

The concern regarding bulk-filled restorations, and the reasons why they haven't become standard technique, has historically been related to adaptation to cavity walls, depth of cure, and volumetric shrinkage. SonicFill has been optimized to respond to a specific sonic level so the extent of liquefaction upon activation of the handpiece assures intimate adaptation to all cavity walls. Even though this material shows a nice blend of shade and opacity with tooth structure, it still has a 5 mm depth of cure using a high-energy light source. A common perception that a bulk-filled restoration will result in higher shrinkage (leading to higher shrinkage stress) and a poor restoration outcome has not been universally born out by the literature. Although there are published papers which seem to confirm this concern,[18] there are several studies contradicting this perception.[2,8,19-26] In his paper entitled "Does an Incremental Filling Technique Reduce Polymerization Shrinkage Stress," Versluis, et al[18] showed that "incremental filling techniques increase deformation of the

Posterior Resin-Based Composite

Tom M. Limoli, Jr

Some of the most commonly performed dental procedures are those identified as direct restorations. All codes in the 2100 and 2300 sequence are considered to be chairside procedures that utilize the direct technique. Direct restorative procedures are those performed directly on a tooth without the use of a die.

Third-party payers contractually reimburse only for completed procedures and restorations. They do not reimburse for individual subcomponents or techniques required to complete the procedure. With bonded restorations, the bonding is nothing more than the technique used to complete the procedure. With this combined material and handpiece technique, the procedure would simply be coded as the completed restorative procedure. The additional cost should be reflected in your total fee charged for the restoration.

Codes for single and multisurface restorations are not to be used for identifying buildups under crowns. Restorations are identified as replacements of lost tooth structures that involve occlusal and proximal contacts.

A restoration must complete the external anatomical outline form of a tooth that is subject to oral bacteria and forces of mastication. Cavity liners and cement bases have no such function and are therefore not separately identifiable as concerns reimbursement. Bases and liners are part of the restoration technique.

Table. Resin-Based Composites Codes and Fees

Code	Description	Low	Medium	High	National Average	National RV
D2392	Resin-based composite—2 surfaces, posterior	$137	$207	$241	$195	4.24
D2393	Resin-based composite—3 surfaces, posterior	$183	$268	$353	$261	5.37
D2394	resin-based composite—4 or more surfaces	$212	$309	$382	$291	6.33

Continues from page 31.

restored tooth" and concluded that "it is very difficult to prove that incrementalization needs to be retained because of the abatement of shrinkage effects." In another paper by Idriss, et al[20] the conclusion was the "method of placement of a given material had no significant effect on the quality of marginal adaptation."

The amount of polymerization shrinkage stress following light-curing is the result of many factors, including volumetric shrinkage of the composite itself, polymerization kinetics, modulus of elasticity and the cavity configuration factor (C-Factor) to name a few. Whereas in vitro testing can be a guide (statistical significance), controlled clinical trials have the most relevance (clinical significance). In the absence of such research, which is all too common, the astute clinician is left to rely on what literature does exist, trusted colleagues and teaching clinicians, and his/her own observations. In the 18 months that this author has used SonicFill, the aesthetics have satisfied all patients and the clinical performance has also met the standard of care (Figures 23 and 24). Indeed, the only difference noted has been a significant improvement in placement efficiency and less tedious effort when doing posterior composites.

Another area of concern for some dentists may be patient acceptance of single opacity composite resins from an aesthetic point of view. We are used to seeing photos by teaching clinicians in lectures and in articles where posterior composite restorations often defy detection. As much as we dentists are impressed by this type of beautiful aesthetic posterior dentistry, most patients wonder why we have placed stains in their fillings. The fact is, the vast majority of patients have a different aesthetic standard in the posterior than they do in the anterior (Figures 25 and 26). Yes, they want it tooth-colored and to blend in well, but I believe having the restoration completed faster, at a reasonable fee, would be preferred by all but the most discriminating patient. For those patients who desire imperceptible results, the dentist can place a material that possesses a broader shade range that is also layered with different opacities and the use of tints. Because this takes much more time, an appropriate fee should be charged.

CLOSING COMMENTS

SonicFill clearly breaks from tradition because it uses a single shade (A1, 2, or 3), single opacity, fast, 5 mm bulk fill method of placement without using liners. Significant breakthrough changes such as this can raise skepticism in some clinicians. After all, faster and easier can sometimes be red flags to lower quality. However, in this instance, teeth restored with this composite resin system may have better cavity wall adaptation and less potential for voids. Clinical research on SonicFill is underway in several centers worldwide and early data is very promising. It appears that a material and technology has finally been developed that allows dentists to place posterior composites at an efficiency that rivals amalgam.✦

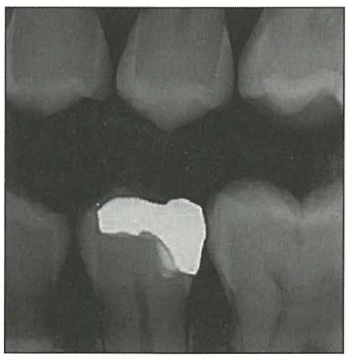


Figure 23. Preoperative radiograph of a failing amalgam.

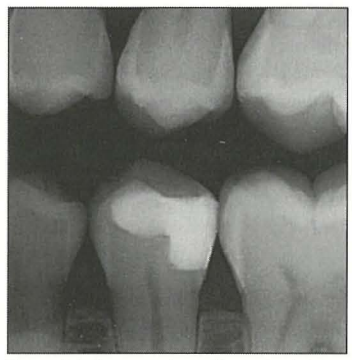
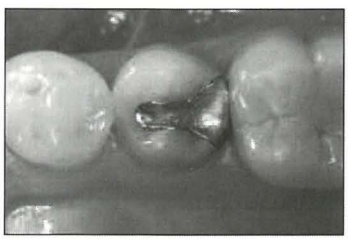


Figure 24. Postoperative radiograph of the composite resin (SonicFill) restoration.



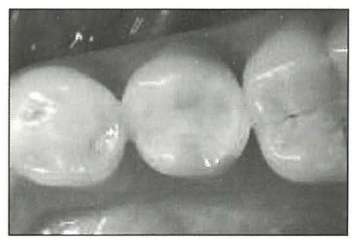


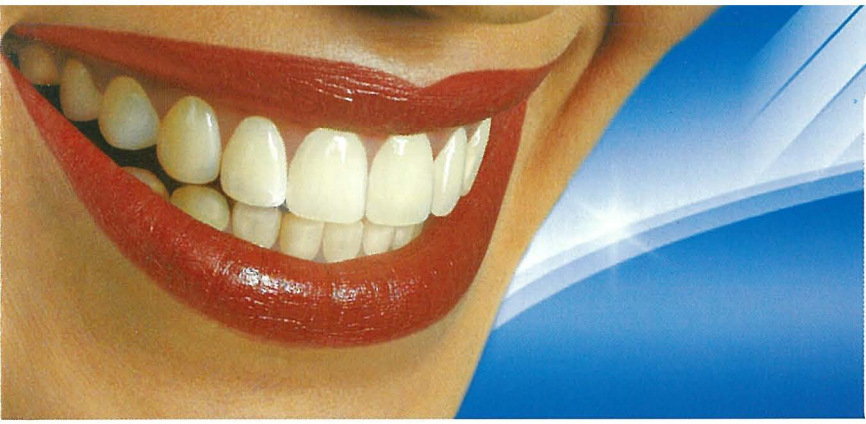
Figure 25 and 26. Views of the case shown in Figures 23 and 24. The patient requested that the lightest shade (A1) be used and was satisfied with the aesthetics. Postoperative dry view shows matte finish.

References

1. Nash R. Patient demand is increasing for posterior aesthetics. *Dent Today*. 2010;29:74, 76, 78-79.
2. Manhart J, Chen HY, Hickel R. Clinical evaluation of the posterior composite Quixfil in class I and II cavities: 4-year follow-up of a randomized controlled trial. *J Adhes Dent*. 2010;12:237-243.
3. Buonocore Memorial Lecture. Review of the clinical survival of direct and indirect restorations in posterior teeth of the permanent dentition. *Oper Dent*. 2004;29:481-508.
4. Daronch M, Rueggeberg FA, De Goes MF. Monomer conversion of pre-heated composite. *J Dent Res*. 2005;84:663-667.
5. Daronch M, Rueggeberg FA, De Goes MF, et al. Polymerization kinetics of pre-heated composite. *J Dent Res*. 2006;85:38-43.
6. Rueggeberg FA, Daronch M, Browning WD, et al. In vivo temperature measurement: tooth preparation and restoration with preheated resin composite. *J Esthet Restor Dent*. 2010;22:314-322.
7. Dentsply Caulk. SureFil SDR Flow Technical Product Profile. Clinician Information CD October 2010.
8. Braga RR, Ballester RY, Ferracane JL. Factors involved in the development of polymerization shrinkage stress in resin-composites: a systematic review. *Dent Mater*. 2005;21:962-970.
9. Thompson J. Laboratory Research Report: Evaluation of SonicFill Composite. NOVA Southeastern University, October 2010
10. Yapp R, Powers JM. Depth of Cure of Several Composite Restorative Materials. *Dent Advis Res Report*. 2011;33:1.
11. Burke FJ. Amalgam to tooth-coloured materials—implications for clinical practice and dental education: governmental restrictions and amalgam-usage survey results. *J Dent*. 2004;32:343-350.
12. Christensen GJ, Child PL Jr. Has resin-based composite replaced amalgam? *Dent Today*. 2010;29:108, 110.
13. Macpherson LC, Smith BG. Reinforcement of weakened cusps by adhesive restorative materials: an in-vitro study. *Br Dent J*. 1995;178:341-344.
14. Sun YS, Chen YM, Smales RJ, et al. Fracture resistance and microtensile bond strength of maxillary premolars restored with two resin composite inlay systems. *Am J Dent*. 2008;21:97-100.
15. Shor A, Nicholls JI, Phillips KM, et al. Fatigue load of teeth restored with bonded direct composite and indirect ceramic inlays in MOD class II cavity preparations. *Int J Prosthodont*. 2003;16:64-69.
16. Dalpino PH, Francischone CE, Ishikiriama A, et al. Fracture resistance of teeth directly and indirectly restored with composite resin and indirectly restored with ceramic materials. *Am J Dent*. 2002;15:389-394.
17. de Freitas CR, Miranda MI, de Andrade MF, et al. Resistance to maxillary premolar fractures after restoration of class II preparations with resin composite or ceromer. *Quintessence Int*. 2002;33:589-594.
18. Tjan AH, Bergh BH, Lidner C. Effect of various incremental techniques on the marginal adaptation of Class II composite resin restorations. *J Prosthet Dent*. 1992;67:62-66.
19. Versluis A, Douglas WH, Cross M, et al. Does an incremental filling technique reduce polymerization shrinkage stresses? *J Dent Res*. 1996;75:871-878.
20. Neiva IF, de Andrada MA, Baratieri LN. An in vitro study of the effect of restorative technique on marginal leakage in posterior composites. *Oper Dent*. 1998;23:282-289.
21. Idriss S, Habib C, Abduljabbar T, et al. Marginal adaptation of class II resin composite restorations using incremental and bulk placement techniques: an ESEM study. *J Oral Rehabil*. 2003;30:1000-1007.
22. Rees JS, Jagger DC, Williams DR, et al. A reappraisal of the incremental packing technique for light cured composite resins. *J Oral Rehabil*. 2004;31:81-84.
23. Loguercio AD, Reis A, Schroeder M, et al. Polymerization shrinkage: effects of boundary conditions and filling technique of resin composite restorations. *J Dent*. 2004;32:459-470.
24. Loguercio AD, Reis A, Ballester RY. Polymerization shrinkage: effects of constraint and filling technique in composite restorations. *Dent Mater*. 2004;20:236-243.
25. Tachibana K, Kuroe T, Tanino Y, et al. Effects of incremental curing on contraction stresses associated with various resin composite buildups. *Quintessence Int*. 2004;35:299-306.
26. Gallo JR III, Bates ML, Burgess JO. Microleakage and adaptation of Class II packable resin-based composites using incremental or bulk filling techniques. *Am J Dent*. 2000;13:205-208.

Dr. Jackson practices comprehensive restorative and cosmetic dentistry in Middleburg, Va. He is a 1972 graduate of West Virginia University School of Dentistry. He is an accredited Fellow in the American Academy of Cosmetic Dentistry, a Fellow in the AGD, a Diplomate in the American Board of Aesthetic Dentistry, and is director of the Mastering Dynamic Adhesion and Composite Artistry programs at the Las Vegas Institute for Advanced Dental Studies. He has published many articles on aesthetic, adhesive dentistry and has lectured extensively across the United States and abroad. Dr. Jackson has presented at all the major US scientific conferences as well as to Esthetic Academies in Europe, Asia, and South America. He can be reached via e-mail at ronjacksondds@aol.com.

Disclosure: Dr. Jackson discloses that he acted as a consultant in the development of SonicFill (Kerr) and retains a financial interest in it.



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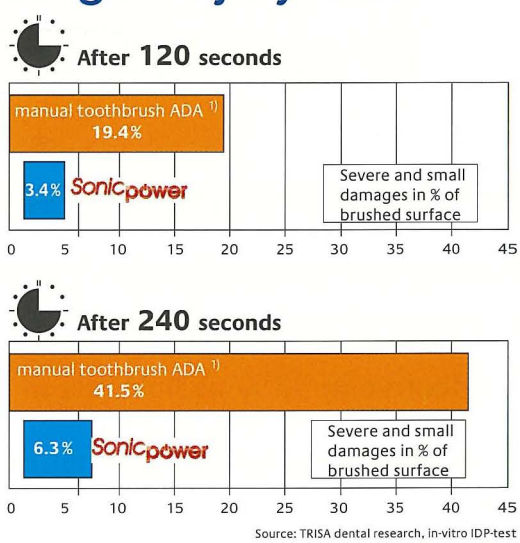
The easy-to-use change system allows a simple replacement of the brush head every 3 months (recommended by dentists).

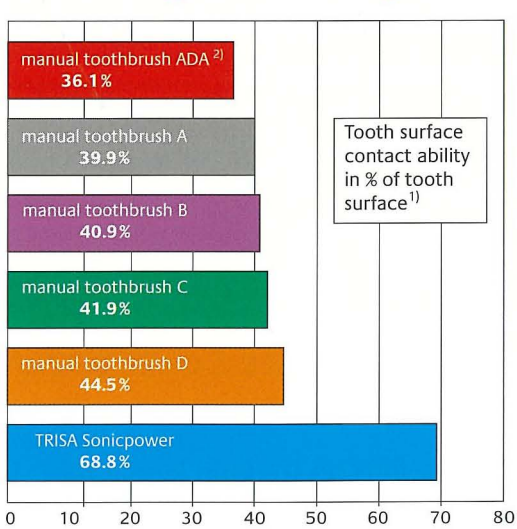
Gingiva injury (in vitro)



1) Benchmark manual toothbrush of American Dental Association ADA

Source: TRISA dental research, in-vitro IDP-test

Cleaning efficiency (in vitro)



1) Horizontal brushing technique

2) Benchmark manual toothbrush of

Source: TRISA dental research, in-vitro IDP-test

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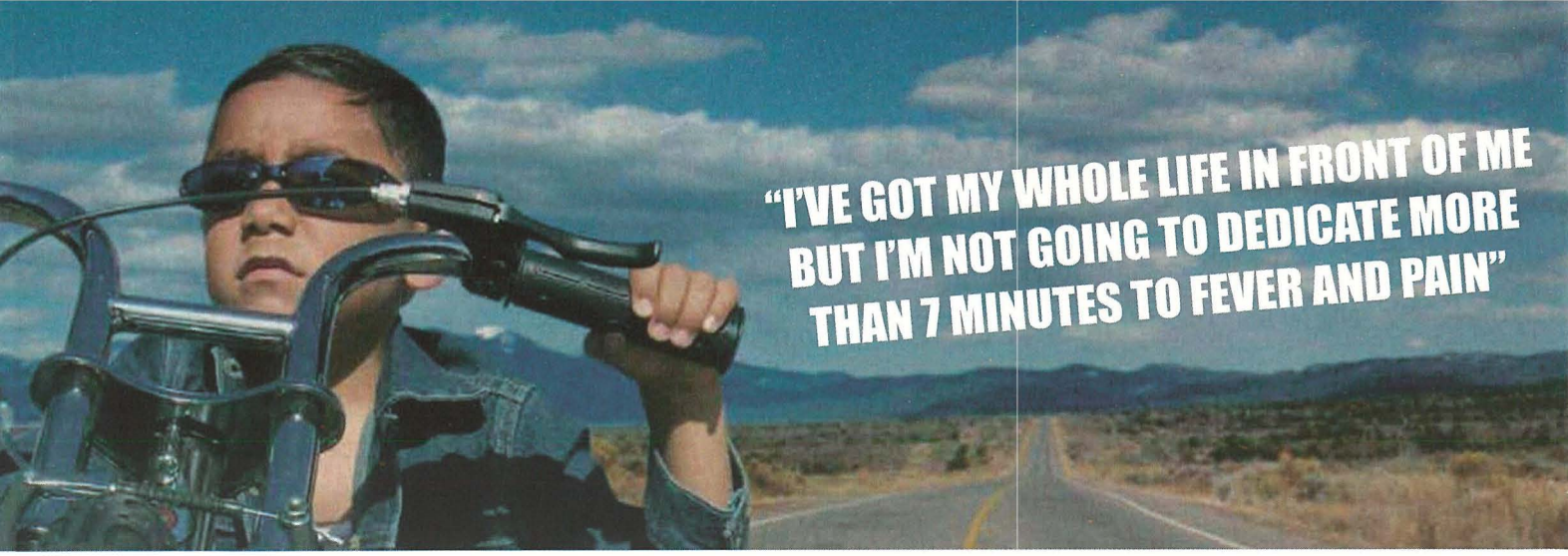

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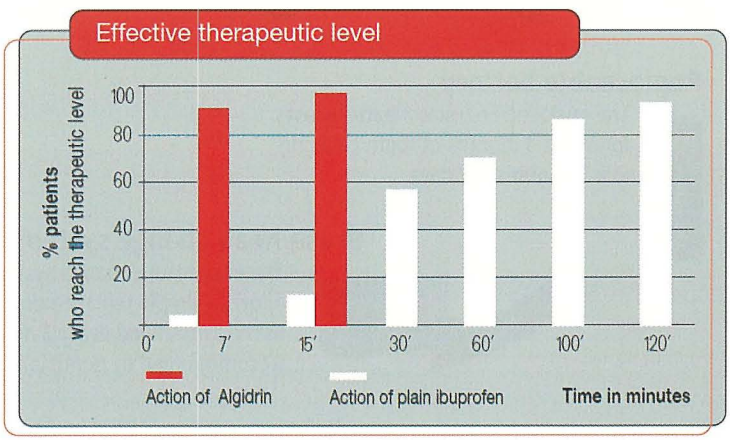
Algidrin ibuprofen lysinate **reaches plasma levels faster** than plain ibuprofen:

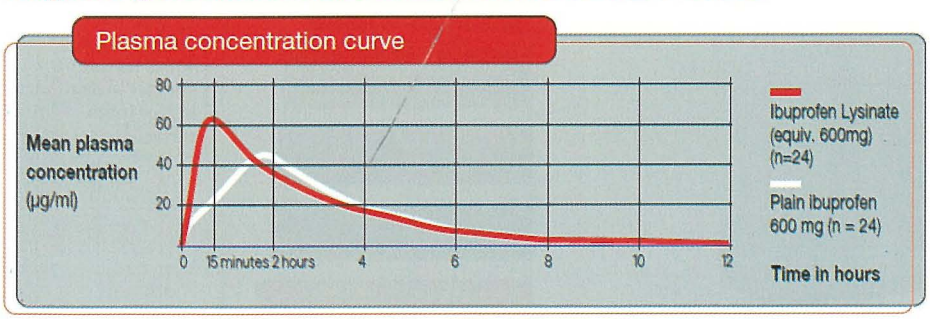
- Effective in **92% of patients at 7 minutes.**(1)

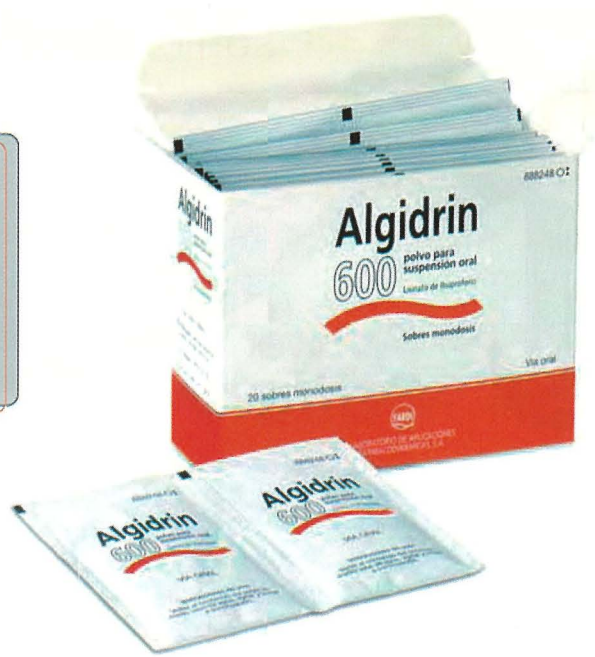
- And **effective in 100%** of patients **at 15 minutes.**(1)

Meanwhile, **plain ibuprofen needs nearly 2 hours** to achieve the same results.(1)



Higher plasma concentration in Less Time





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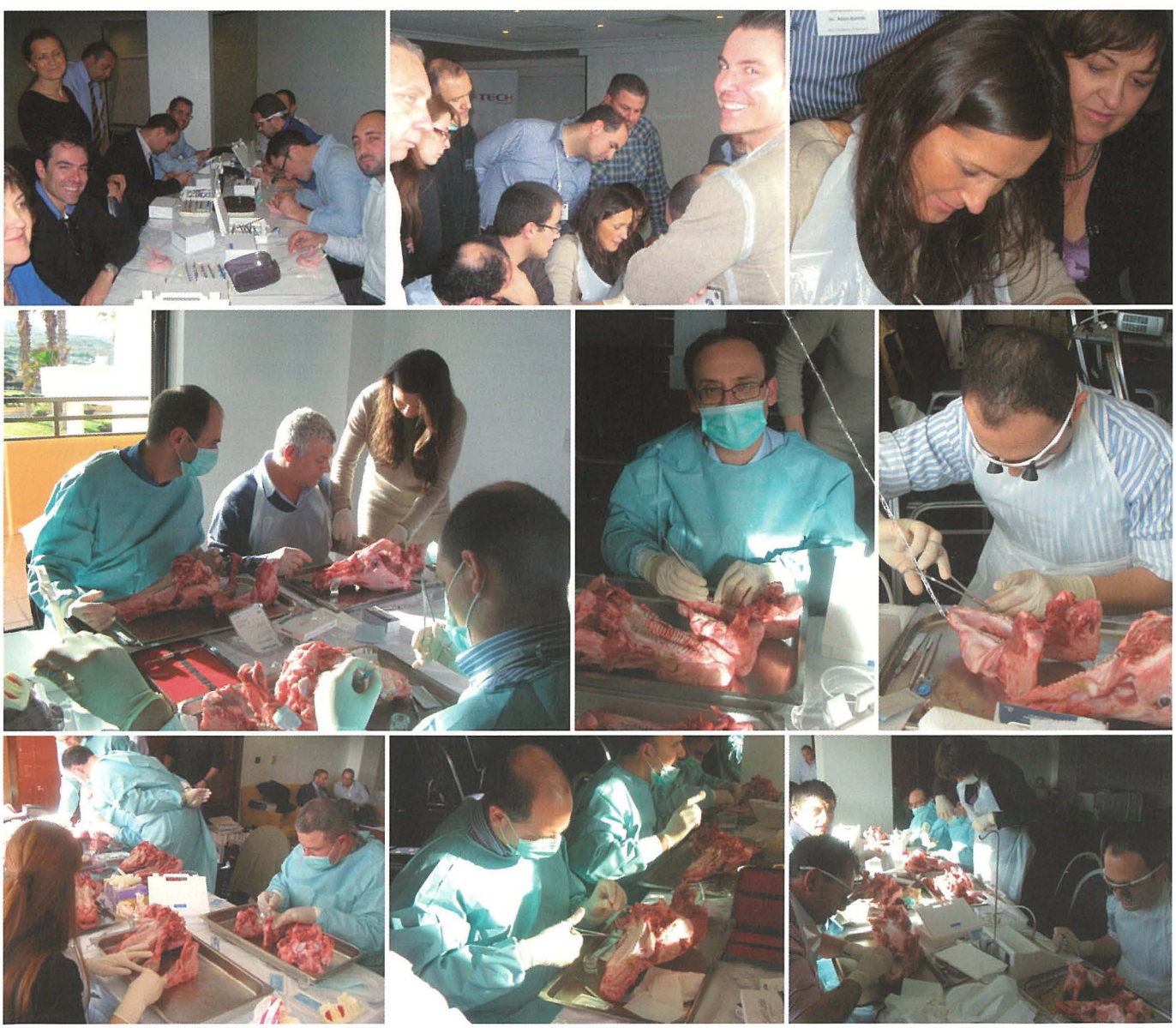
(1) Portolés A, Vargas E, García M, Terleira A, Rovira M, Caturla MC, Moreno A. Comparative Single-Dose Bioavailability Study of Two Oral Formulations of Ibuprofen in Healthy Volunteers. Clin Drug Invest 2001; 21 (5): 383-389.

THE DAM HANDS-ON IMPLANTS COURSE

By Dr David Muscat

On March 1st and 2nd 2013 the Dental Association of Malta, in conjunction with Marletta Enterprises Ltd, agents for C Tech implants and Ultradent organized a theoretical and practical course entitled 'Parameters in Contemporary Implantology for achieving Aesthetic Success' at the Radisson St Julian's.

Detailed report on page 36.



THE DAM HANDS-ON IMPLANTS COURSE

Continues from page 35.

The speaker was Dr. Henriette Lerner from Baden Baden-Implantology expert of the DGOI.

The lectures covered several topics such as:

- Esthetic analysis
- 3D diagnosis
- Intraoral scanning
- Bone block planning
- 3D implant planning (one scan 3D)
- Materializing of the surgical guide
- Managing immediate implants
- Provisionals
- Restoration in anterior extraction sockets
- Primary and secondary stability Grafting techniques
- Bone augmentation
- Membranes
- Alveolar ridge preservation
- Lateral augmentation
- Closed sinus elevation
- Sinus anatomy
- Bone blocks
- Autogenous bone, soft tissue and revascularization.
- Inlay grafts
- Subepithelial pockets, horizontal

Mattress sutures and increasing keratinized width were also described.

The practical aspects of the course included the placement of implants and sinus lifts on models.

Pigs' jaws were used in the Saturday practical sessions where participants had the opportunity to watch and then perform procedures such as palatal connective tissue grafting, tunneling procedures and bone augmentation with membranes with various suturing techniques such as the modified continuous suture.

C tech implants were used in the 'hands on'. The advantages of C Tech were described and these are namely:

- Morse tapered indexed connection
- Morse locking conical connections
- Cold weld seal
- Platform switching
- Indexing hex
- Passive fit-internal hex (octa.Paragon)
- 4 and 5 mm reusable healing abutments with 3 height options

IMPLANT TYPES, WITH THEIR CHARACTERISTICS AND ADVANTAGES

1. GINGIVAL
Level-root form anatomical design, micro-threading, internal hexagon connection whose surface is blasted with aluminium oxide and etched with citric acid. A simple and efficient kit is used.

2.BONE
Level-tapered internal hex connection; root form anatomical design; collar micro-grooving; threads with a 90 degree beveled profile.

3. NARROW DIAMETER
Internal hexagon connection; collar micro-grooving; apical threading and use of medical grade 5 titanium.

4. SMALL DIAMETER
smooth collar; aggressive thread for soft bone or fine thread for hard bone.

5. MONOBLOCK
2 different main body designs to meet differing requirements of bone and soft tissue in maxilla and mandible.

There was also a presentation by Ultradent. Ultradent have several innovative products such as:

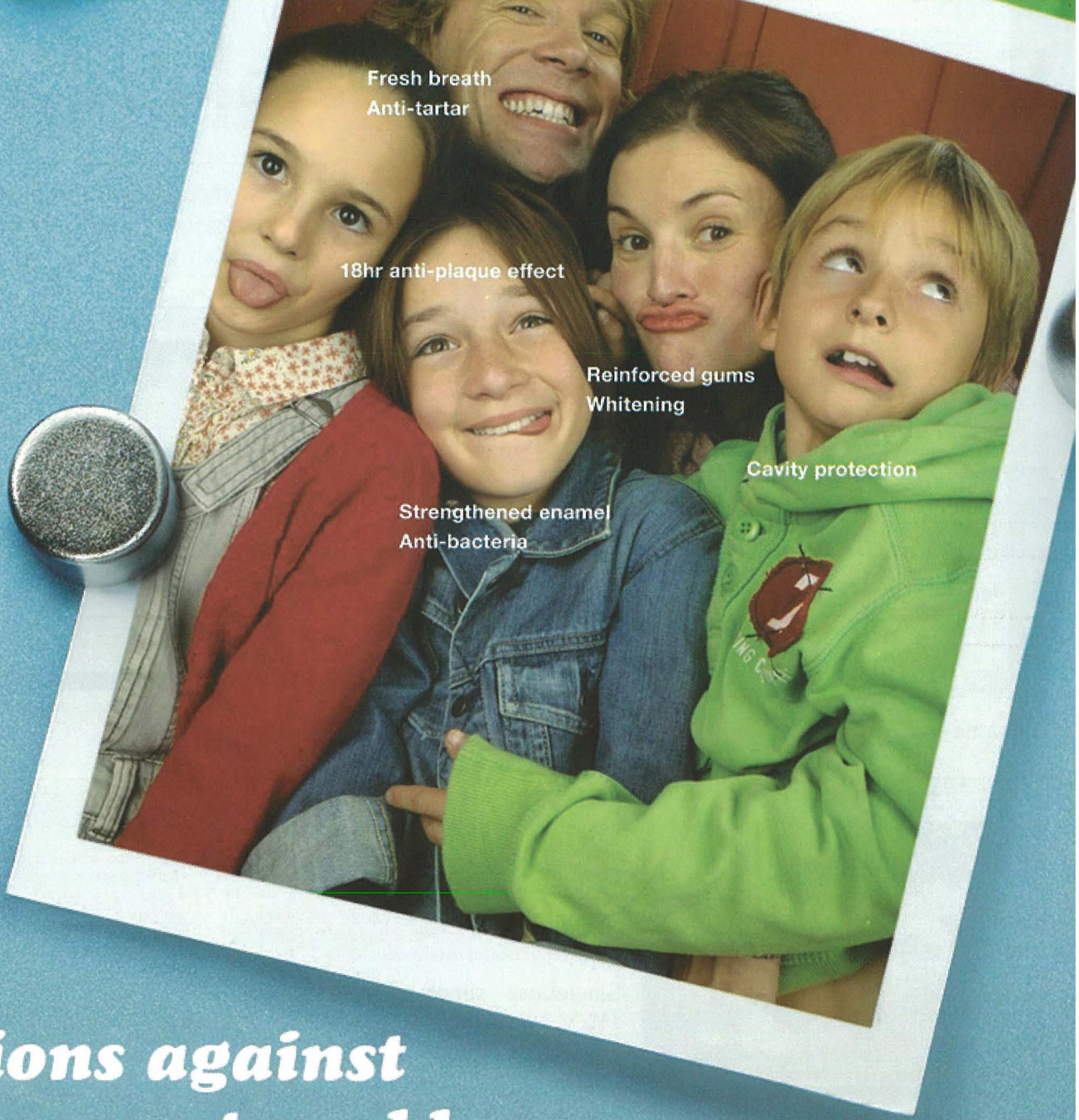
- Ultracal-XS calcium hydroxide for in between endodontic visits
- Opalescence-syringes for tooth whitening and preformed trays
- Seek and Sable-caries indicator-can also be used to locate root canals
- Ultraaseal-fissure sealants with very narrow tipped applier
- Opalustre-enamel microabrasion slurry
- Ultra EZ-desensitising kit
- Dentine liners
- Ultratemp-Temperory carboxylate cement-in a syringe
- Edelweiss direct composite veneers
- Oral seal putty –to block out undercuts with implants impressions
- Ultrapak viscostat clear – 25%aluminium chloride for gingival retraction.

The course was the fruit of planning by Drs Dougall and Manche who were very much 'hands on' with going to the abattoir to obtain the upper and lower pigs jaws, their storage and disposal. The more experienced participants guided the not so experienced ones. The camaraderie was there to behold.

With bloodied gloves and steely determination the DAM has done it again. The DAM partially sponsored the course.

The DAM is committed to postgraduate education for dentists in Malta.

This has emboldened us to organize further hands-on courses in the future.



8 actions against the frequent problems identified by dentists.

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- ☑ Fresh breath
- ☑ Strenghtened enamel

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FDI recognizes that twice daily brushing with a fluoride toothpaste is beneficial to oral health

Signal mouths make great moments

Futurabond U – Dual-curing universal adhesive

In recent years the advancements in adhesive dentistry have been tremendous...

Voco presents Futurabond U, the market's only true universal adhesive in a disposable applicator. Futurabond U offers practitioners an outstanding range of options for application, as much with regard to indications as to selection of the etching technique or the curing mode. Self-etch, selective-etch or total-etch: Futurabond U allows practitioners to freely select how they wish to condition the dental hard tissue, depending on the individual clinical situation and their preferred way of working.

Secure adhesion

Applied in a single layer, this new universal adhesive creates a strong bond to enamel and dentine, thus ensuring a durable, gap-free bond between the dental hard tissue and the restorative material. At the same time it offers firm adhesion to different materials such as metal, zirconium/aluminium oxide and silicate ceramics without any additional primer. An outstanding bond strength is also guaranteed in cases of chemical curing, thus making Futurabond U ideal for luting posts within the root canal.

Versatile application

This universal adhesive is fully compatible with all light-curing, dual-curing and self-curing methacrylate-based composites and is suitable for both direct and indirect restorations – and without any additional activator for dual-curing. Futurabond U can furthermore be used for desensitising hypersensitive tooth necks and after cavity preparation, and it is suitable as a protective varnish for glass ionomer cement restorations.

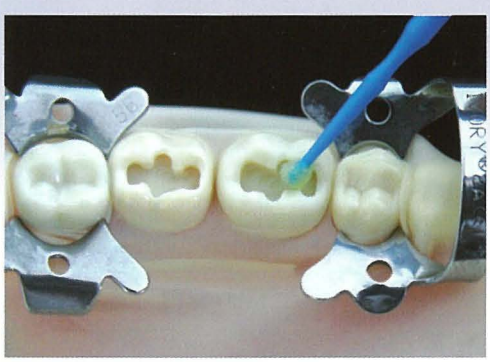


Figure 1: Self-etch

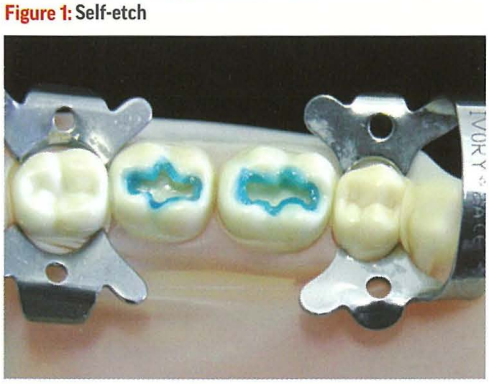


Figure 2: Selective-etch

Figure 3: Total-etch

SingleDose – simple and hygienic

The patented SingleDose guarantees fast, simple working as mixing errors are ruled out from the start, and the product is very hygienic. "Simply press, simply bond" – the SingleDose blister enables practitioners to apply the adhesive very easily in only 35 seconds working time in total. Futurabond U is available as a trial kit containing 20 SingleDose blister packs, a 2ml Vococid syringe plus cannulae, as well as 20 SingleTim for application. The new bonding material also comes in SingleDose packs of 50 and 200.

One step application – secure adhesion

The innovative formulation of Futurabond U together with the highly functionalised SiO_2 particles ensures outstanding film-forming properties of the adhesive. The adhesive can thus optimally wet the exposed collagen fibres and the micro-retentive etching pattern on the enamel. During polymerisation the resin tags reaching into the dentinal tubules harden and strengthen the retentive bond of the collagen fibre-bonding hybrid layer (Figure 4). The reliable formation of these tags in the dentine is the best protection against postoperative sensitivities.

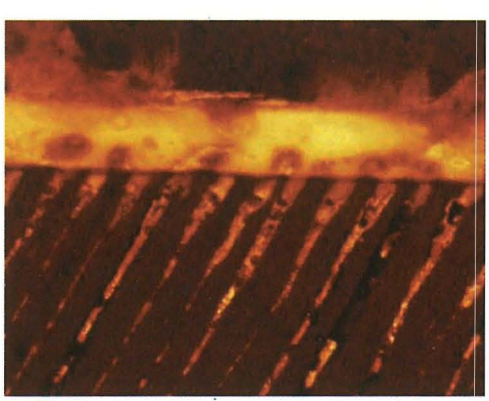
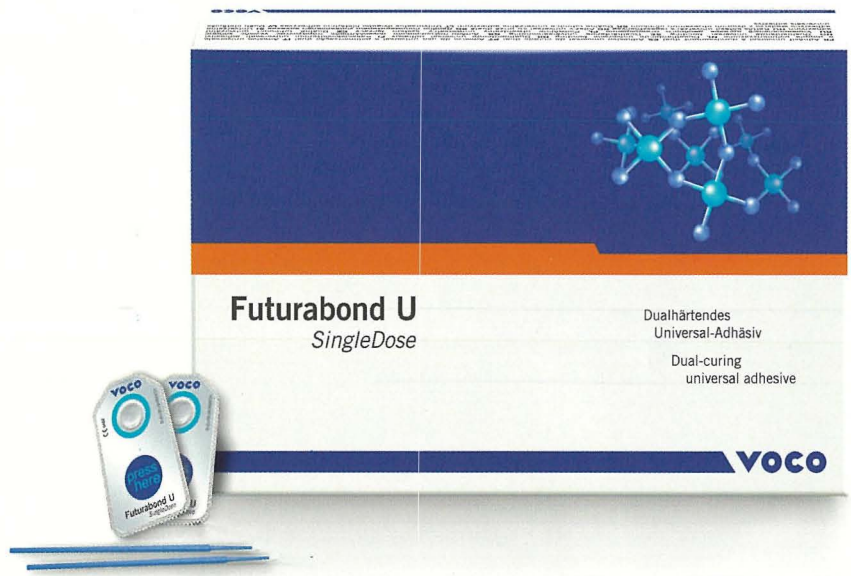


Figure 4: Reliable formation of resin tags in the dentine. Source: Dr.-Ing. Ulrich Lohbauer, University of Erlangen/ Germany, 2013



Advantages

- One bond for all cases – no other adhesive required in your practice
- Self-etch, selective-etch or total-etch – the choice is yours
- Outstanding versatility of application: for direct or indirect restorations; fully compatible with all light-curing, dual-curing or self-curing methacrylate-based composites, without additional DC activator; secure adhesion to various materials such as metal, zirconium or aluminium oxide, as well as silicate ceramics, without additional primer
- Applied in one layer - only 35 seconds total working time
- Optimal viscosity thus easy application
- Outstanding adhesion compared to other universal, self- or total-etch adhesives
- Moisture tolerant
- Refrigeration not necessary
- Easy, quick and hygienic with the SingleDose
- No additional devices required
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- One bond for all – no other adhesives required in your practice
- Self-etch, selective-etch or total-etch – the choice is yours!
- Outstanding versatility of application
  - for direct or indirect restorations
  - fully compatible with all light-curing, dual-curing and self-curing composites – without additional activator
  - secure adhesion to various materials such as metal, zirconium and aluminium oxide, as well as silicate ceramics – without additional primer
- Applied in one layer – just 35 seconds total working time

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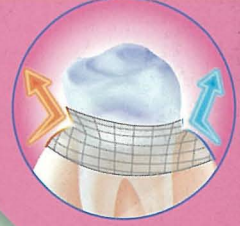

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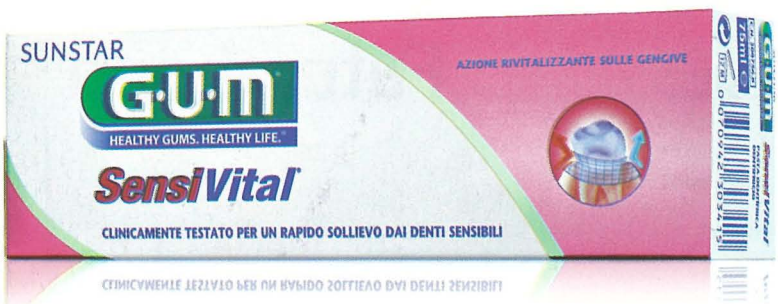

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