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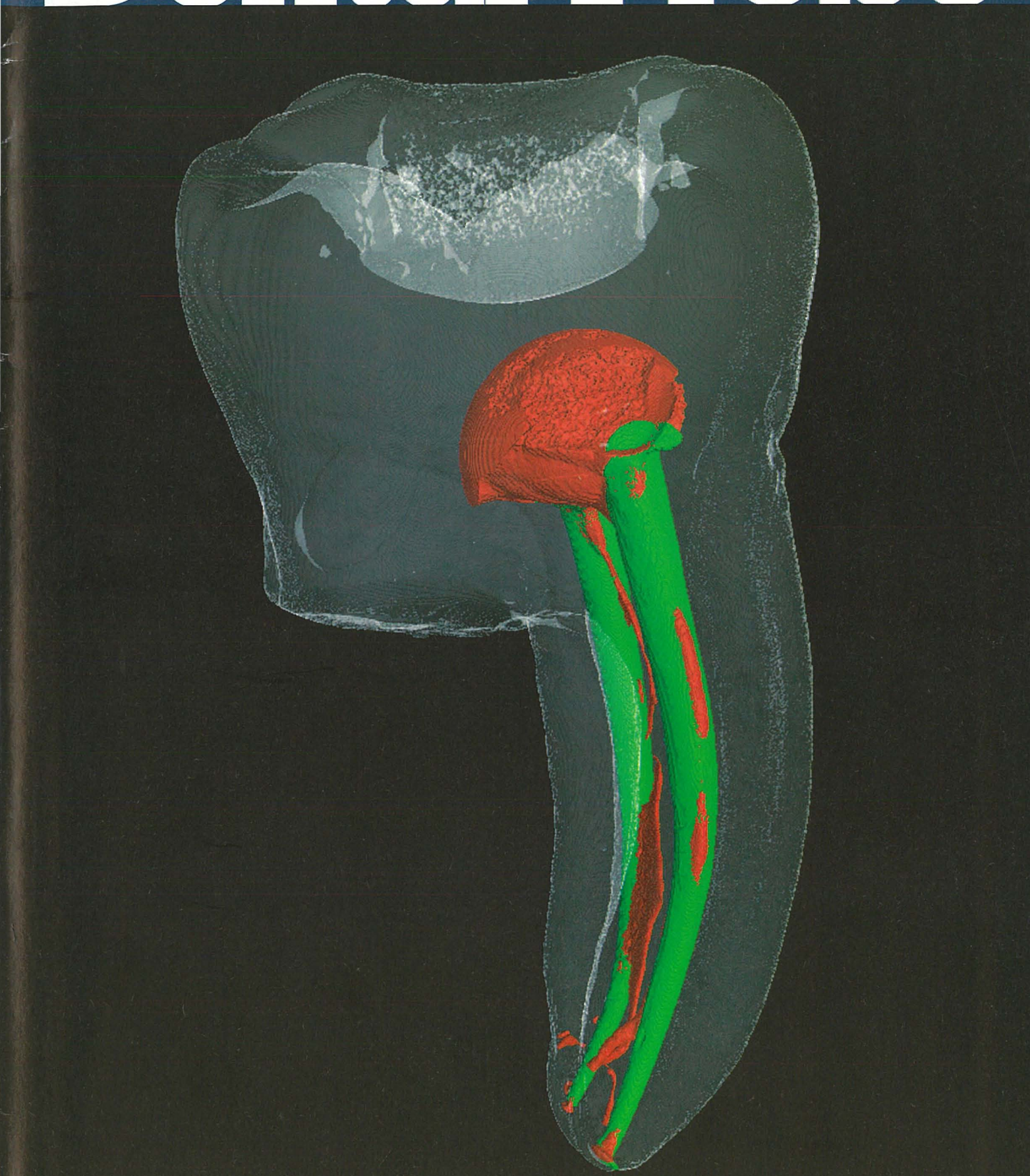
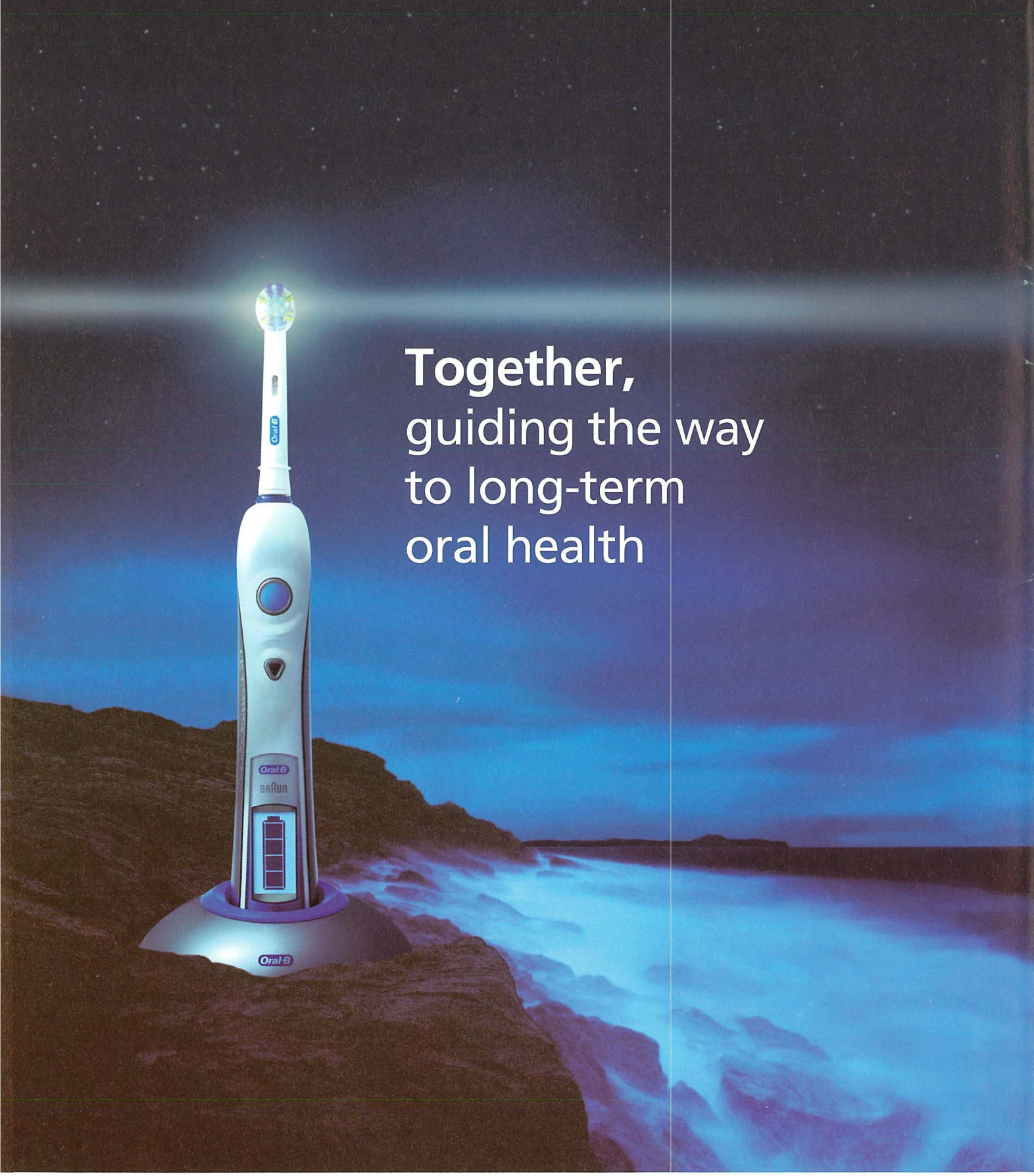
The Dental Probe

The Maltese Dental Journal





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Editorial

DENTAL ASSOCIATION OF MALTA
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By Dr David Muscat

Dear colleagues,

Welcome to the June issue .Since the last issue we have had the events listed on the right.

We now have about 100 paid up members. Those who have not as yet joined us, please do. We are a great association full of energy, initiative and ideas. Please send a cheque together with your details and a 50 euro cheque –there is a slip to fill in you can cut out of the journal.

We provide a free journal 4 times a year and provide countless events which Lino and I are constantly organising. We represent you and the profession and we give up precious free time for the common good. Get that cheque book out and write that cheque.

The front page is from WAVE ONE by Dentsply kindly provided by Bart Enterprises Ltd.

I Iave a great Summer!

Best regards,

David

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

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RECENT/PLANNED EVENTS

18 APRIL
DAM lifesaving course at Golden Sands Hotel

27 APRIL
Protelos event. Lecture on Bisphosphonates by Dr Ray Galea and Dr Alex Azzopardi at Tre Frati in Gharghur.

26 MAY
Federation Of Dental European Competent Bodies And Authorities assembly in Malta at the Excelsior Hotel. Malta holds the presidency 2012.

31 MAY
'Oral Manifestation of Dermatological Disease' lecture by Dr Lawrence Scerri at Lo Spezzo sponsored by Bial.

5/6 JUNE
Dentsply –Wave One and SDR restorative material course at Golden Sands Hotel by Bart Enterprises Ltd.

20 JUNE
'Pitfalls In Endodontics' by Dr Mark Sciberras at Agape in Rabat sponsored by Astellas.

PLANNED EVENTS
Sanofi Aventis event at Golden Sands. Presentation of BNFs to DAM members free of charge.

Catafast lecture and dinner.

Voco lecture and reception.

Lecture on lasers in dentistry / reception by Serolf ltd.

Launch of new wine by Dr Lino Said, with lecture by Liam Gauci and dinner at Don Berto.

More lifesaving courses later on this year.

THE FEDCAR CONFERENCE MALTA
The honourable Dr. Joseph Cassar addressing the assembly of The Federation Of Dental Professional Competent Bodies and Regulators at the Excelsior Hotel on 26 May 2012 together with Dr David Muscat President Of FEDCAR and Dr Herbert Messina Ferrante.

SUMMARY OF **CED MEETING**

By Dr Paula Vassallo

Representatives of CED member and observer organisations met in Copenhagen, Denmark on 11 and 12 May 2012 for a regular six-monthly General Meeting, under the chairmanship of CED President Dr. Wolfgang Doneus. The meeting was hosted by the Danish Dental Association, in the context of the Danish EU Presidency.

The Council of European Dentists (CED) is a European not-for-profit association which represents over 330,000 practising dentists through 32 national dental associations and chambers from 30 European countries. Its key objectives are to promote high standards of oral healthcare and effective patient-safety centred professional practice across Europe, including through regular contacts with other European organisations and EU institutions.

PROFESSIONAL QUALIFICATIONS DIRECTIVE

CED members reaffirmed their views on the possible changes to the Directive on the recognition of professional qualifications (Directive 2005/36/EC), which is currently being considered by the European Parliament.

The CED has called for defining the minimum duration of training for dental practitioners not only in years (5 years) but also in training hours (5000 hours), to maintain a high standard of dental education in the interest of patient safety.

CED members support language checks for dentists practising in another Member State, but believe that the wording proposed by the European Commission should be simplified in order to avoid confusion and different procedures depending on the status of the healthcare provider. The CED supports the increased use of electronic means in recognition of professional qualifications through the IMI system but calls for extension of the newly introduced short deadlines imposed on competent authorities, particularly in view of the suggested tacit approval of recognition if the deadline is not met. Finally, CED members are strongly opposed to the application of the principle of partial access and ask for a clear exemption for healthcare professions and professions related to public health in the Directive.

CED Position Paper: CED Position Paper on the Professional Qualifications Directive

MEDICAL DEVICES LEGISLATION

In view of the proposal for the recast of the medical devices legislation, which the European Commission is expected to present before the summer break, European dentists called for increased traceability and transparency of the system.

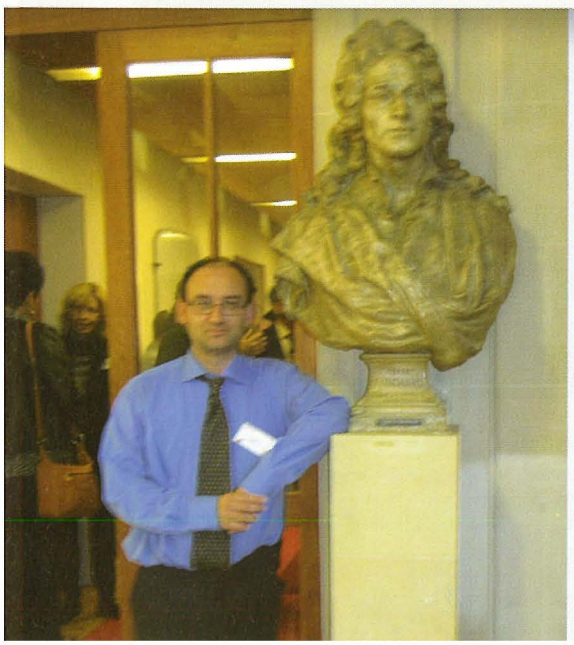
The PIP breast implant scandal clearly showed the need to strengthen medical device regulation and its implementation, to reduce the risk of similar incidents in connection to other medical devices in the future. Specifically, the CED has suggested enhancing reporting obligations of manufacturers, requiring them to report all sites of manufacturing and subcontracting of custom-made devices, to ensure transparency and free choice for end users.

NITROUS OXIDE SEDATION IN DENTISTRY

In a resolution reviewed by the European Federation for the Advancement of Anaesthesia in Dentistry (EFAAD) and the Society for the Advancement of Anaesthesia in Dentistry (SAAD), CED members unanimously supported the use of inhalation sedation using nitrous oxide in dentistry.

Administered properly and in line with relevant national legislation, by accredited dental practitioners using well-maintained equipment, and appropriately trained assistants, the technique is safe and effective, with an extremely high success rate and should be maintained in the armamentarium of dentistry as a fundamental tool for pain and anxiety management.

As many as 10 to 30% of adults and children may have some form of fear or anxiety related to dental treatment. While there is substantial evidence that these patients can benefit from this safe form of sedation, its use has been challenged in some European countries.



The Pierre Fauchard Academy

PARIS NOVEMBER 2011

Dr David Muscat near the bust of Pierre Fauchard at the Ordre National Des Chirurgiens in Paris. Pierre Fauchard was the 'father of modern dentistry'.

The Pierre Fauchard academy promotes the elevation of the standards and practices of the art and science of dentistry worldwide. It is an international honour organization. Pierre Fauchard wrote the book Le Chirurgien Dentiste,' The Surgeon dentist' in 1728.This was the first scientific description of dentistry and included oral pathology, operative techniques on restoration, periodontal disease ,orthodontics, prosthetics and tooth transplantation.

He joined the French navy at age 15 and was influenced by the surgeon major Alexander Potelerat who studied oral diseases. Fauchard learnt about scurvy. He was the pioneer of oral and maxillofacial surgery. He adapted tools from watchmakers, jewellers and barbers. He introduced dental fillings. He asserted that sugar caused dental decay and that later abscesses would form around the gums of the teeth affected.

With the passing away of the late Dr Charles Boffa, Dr Messina Ferrante remains the only Maltese member of the Pierre Fauchard academy. He was awarded this in 1975 in recognition of his outstanding contribution to dentistry.

CASE PRESENTATION

By Dr Jean Paul Demajo BDS Hons(Lond) MSC Impl. Surg.(Lond) FICD
Dental and Implant surgeon

PATIENT DETAILS

Name:	Mrs Joan Smith
Age:	60s
Sex:	Female
Nationality:	Maltese
Occupation:	Housewife
MH:	Slight Hypertension
DH:	Regular attendant
SH:	Non-smoker

PATIENT COMPLAINT

1. Mobile upper right bridge 16,15,14,13,12,11(constructed in 1999)
2. Sensitivity upper 15,14 (Fig 1-2)

HISTORY OF PRESENT COMPLAINT

1. Bridge constructed (1989 and enlarged in 1999) due to impacted 13
2. Previous periodontal surgery with simultaneous bone augmentation; Geistlich products to reduce periodontal pockets in 14,11(2005)
3. Swelling 11, periodontal abscess (2011)

TREATMENT PLAN

1. Clearance of upper right bridge and simultaneous provisionalisation with an upper partial cobalt chromium denture with cast porcelain teeth.
2. CT Scan of maxilla and fabrication of Surgical guide NOBEL GUIDE
3. Surgical removal of impacted canine 13
4. Lateral window Sinus lift procedure with bone grafting and simultaneous placement of three implant fixtures.
5. Placement of definitive implant bridge 6-8months post implant placement.

INITIAL TREATMENT

1. Impression for construction of a upper partial cobalt chromium denture with cast porcelain teeth 16,15,14,13,12,11.
2. Removal of upper right bridge, extraction of 15,14,11 and immediate fit of partial denture
3. Impression of upper arch for construction of radiographic guide replacing 16,15,14,13,12,11. Fig 3 shows healing gums 2months post-extraction.
4. Fit of Radiographic guide and addition of radiographic gutta percha markers.
5. CT scan of maxilla with radiographic guide and another of radiographic guide taken alone. Loading of data on Procera System Nobel Guide.
6. Adjustment of upper partial cobalt-chromium denture with Viscogel.
7. Implant planning in positions 16,13,11
8. Fabrication of Nobel Surgical guide. (Figure-4)

1ST STAGE SURGERY

1. Prophylaxis of antibiotic and steroid therapy to start 1-day prior to surgery
2. Local anaesthetic
3. Try-in radiographic guide
4. Crestal incision with relieving vestibular incision exposing lateral wall of sinus in position of 16
5. Surgical removal of impacted canine 13
6. Grafting of extraction socket with mixed autogenous bone milled in crucible and Bio-Oss (Geistlich).
7. Placement of implants 4X18 Nobel Speedy Groovy in position 13 engaging in floor of nose and 4x15 Nobel Speedy Groovy in position 11 using surgical guide.
8. Lateral window created with Piezosurgery unit.
9. Raising of Schneiderian membrane with sinus floor elevators
10. Placement of Bio-Gide membrane 25X25mm (Gesitlich)
11. Grafting of sinus with mixed autogenous bone milled in crucible and Bio-Oss (Geistlich).
12. Insertion of implant 4X15 Nobel Speedy Groovy
13. Cover screws placed on all three implants.
14. Bio-Gide placement covering lateral sinus window and grafted canine region.
15. Suturing with 4.0Vicryl Anti-bacterial (Ethicon)
16. Post-operative instructions Written/verbal
17. Post-operative radiograph. (Figure-5)
18. Denture adjustment
19. Removal of sutures 10 days post-implant placement.
20. Review at1month, 3months and 5months post-implant placement.

2ND STAGE SURGERY

1. Exposure of implants using surgical guide and placement of healing abutments. Figure-6 shows healing of gingival 2weeks post-placement of healing abutments.
2. Impression for implant-bridge replacing 17,16,15,14,13,12,11 2weeks post implant exposure. Figure-7 shows peri-apical radiograph confirming engaging impression copings.
3. Impression of partial denture in-situ required for aesthetic landmarks.

LABORATORY CONSTRUCTION

1. Articulation of models.
2. Placement of implant level cylinder (Biomain) and wax-up completed.
3. Investment and Casting of Alloy (Shera)
4. De-vesting and metal trimming (Figure 8)
5. Try-in of metal and new bite registration taken.
6. Addition of porcelain (Ivoclar) (Figure 9)
7. Final polishing.

FINAL TREATMENT AND LONG-TERM CARE

1. Fit of Implant bridge to 35Ncm2. (Figure 10)
2. Adjusted occlusion. Polish
3. Closure of access holes with PTFE tape and Ivoclar flowable composite
4. Implant prosthetic care instructions
5. Review appointment at1week (Figure 11)
6. Recall appointment for review on 4monthly basis
7. Review status of upper left quadrant for future implant planning.

Continuers on page 7.

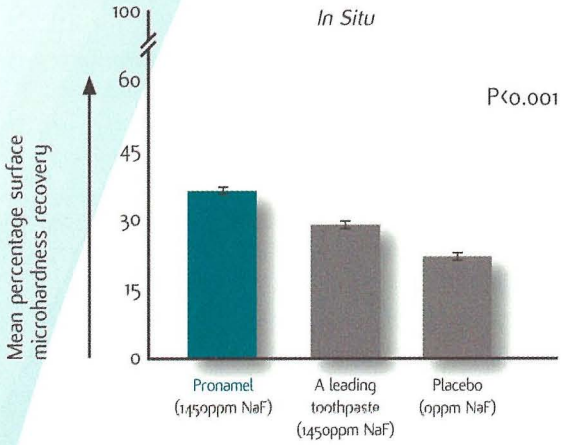
For extra protection against acid wear...

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]

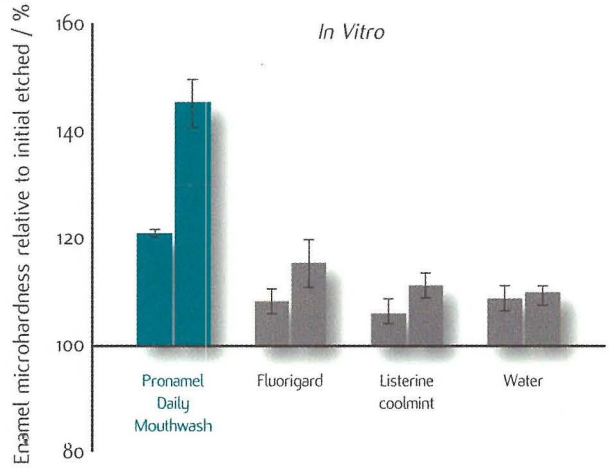
Acid wear is a widespread and growing condition, affecting both adults and children,[6] but in its early stages can be difficult to identify.

...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]*

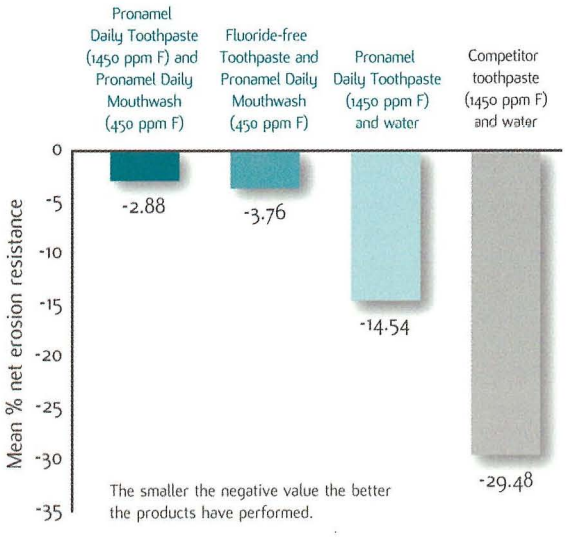


Adapted from Hara AT *et al.* Bovine enamel specimens were subjected to an erosive challenge. This was followed by fixation to palatal appliances and a 4-hour intra-oralphase in 58 human subjects.



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):S37–S44. Prepared: February 2011 Z-11-037

CASE PRESENTATION

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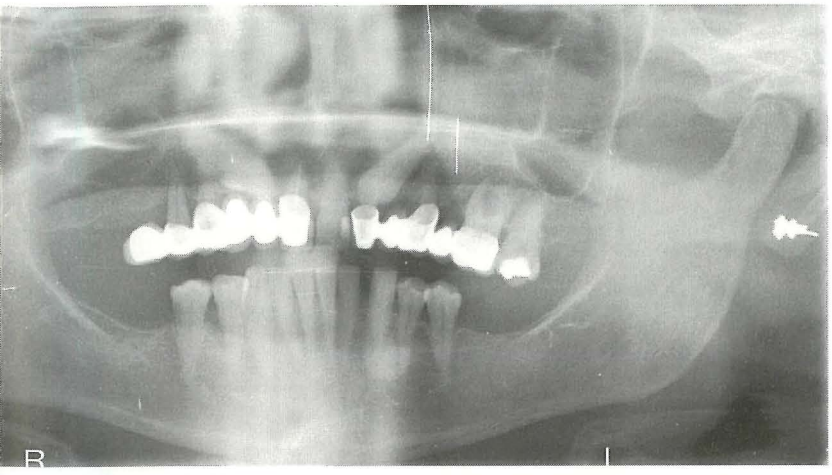


Figure 1- Pre-op 2010

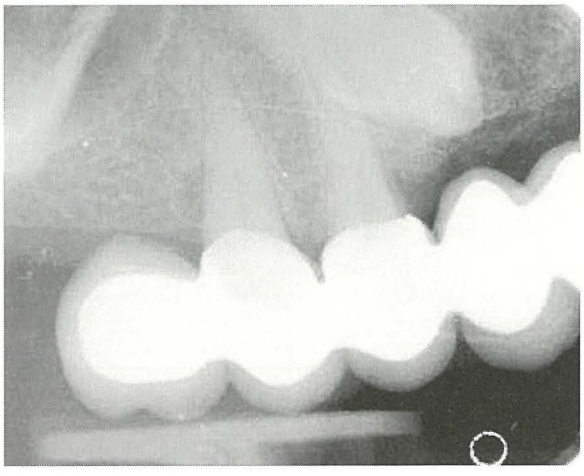
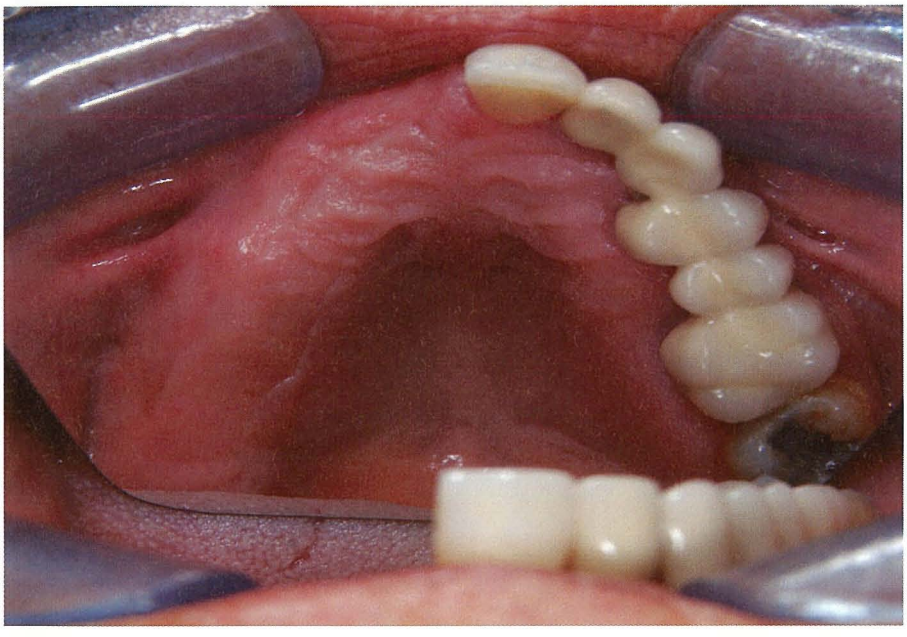
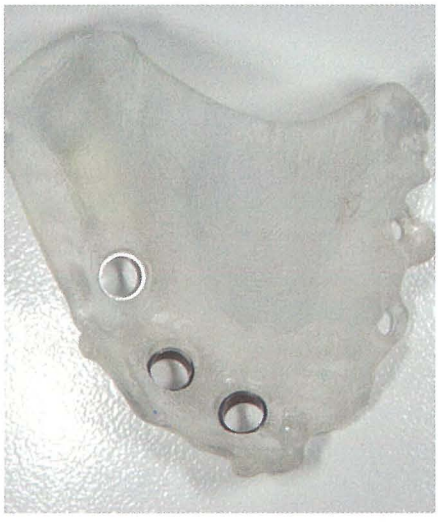


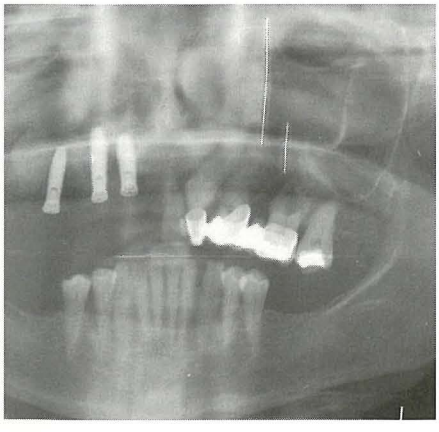
Figure 2- Pre-op 2007



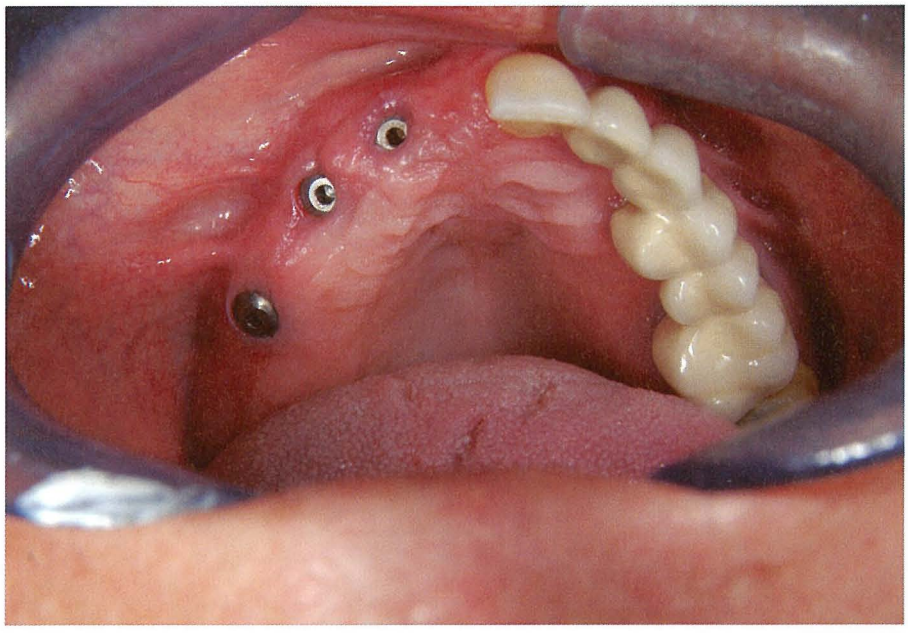


Left: Figure 3- 2months post-extraction

Above: Figure-4 Nobel Surgical Guide



Above: Figure-5 Post-implant placement



Right: Figure-6 Healed gingival 2weeks post-placement of healing abutment

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CASE PRESENTATION

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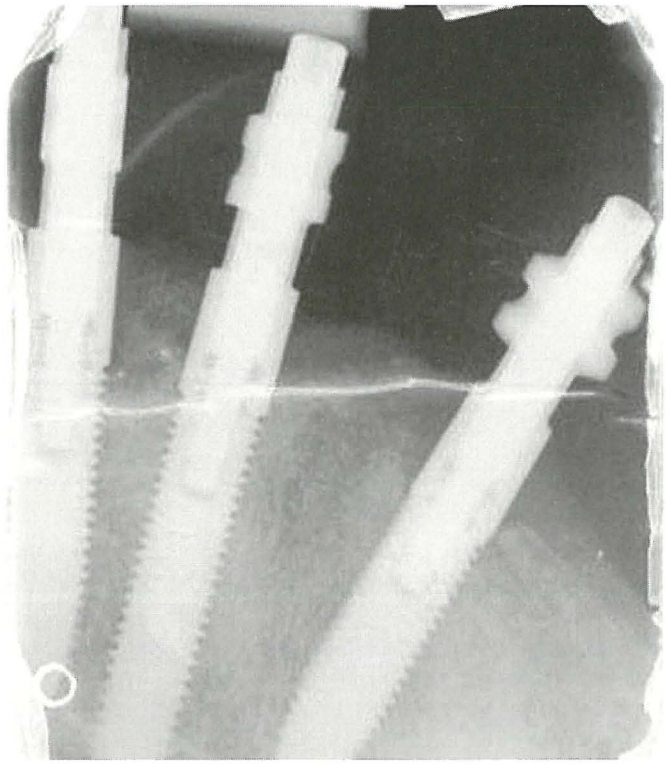


Figure-7 Engaging impression copings

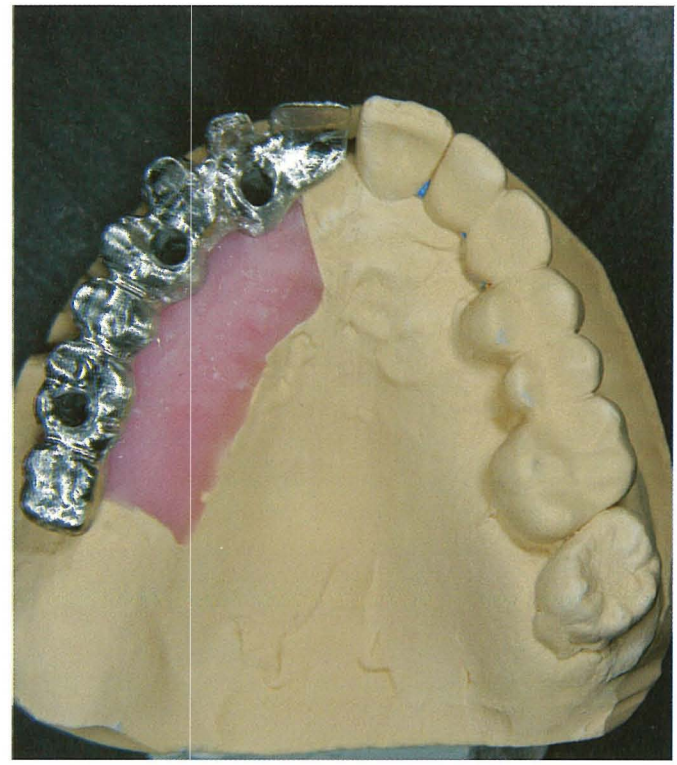


Figure-8 Metal try-in on model

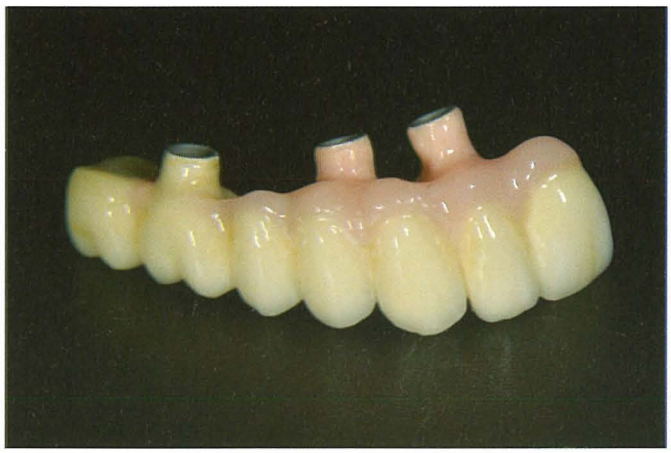


Figure-9 Porcelain fused to metal bridge

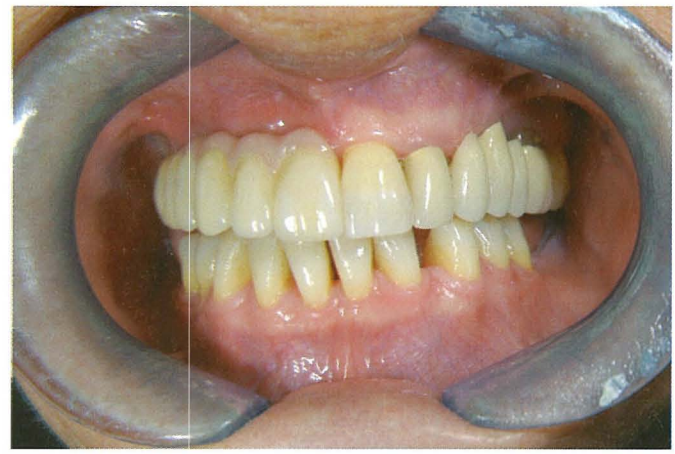


Figure-10 Bridge in-situ

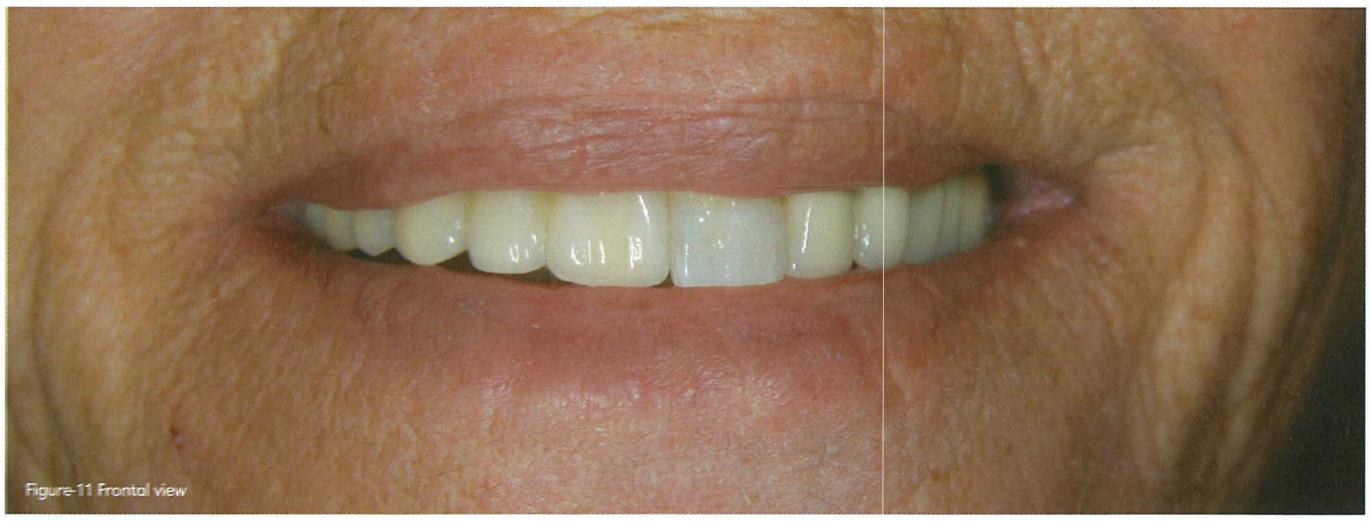


Figure-11 Frontal view

SWALLOWING MALFUNCTION

Dr Charles Corney, MB, BS, DMRD, FRCR
Specialist Radiologist and Researcher

ABSTRACT
Physical obstruction, such as cancer and stricture, causing dysphagia, needs to be excluded by a standard barium or endoscopic examination. This paper discusses the new field of swallowing malfunction.

A lady aged 82, accompanied by her daughter, attended her dental surgery for a routine check. However, the daughter informed the dentist, that her mother had suddenly developed some difficulty in swallowing solids with also a feeling of generalized weakness. The dentist observed unexpected oral pooling of saliva with an inability to swallow it.

He sought the opinion of a neurologist who diagnosed, using the techniques described below, the presence of a small stroke affecting one side of the brainstem. The patient's swallowing returned to normal after three months.

The anatomy and physiology of normal swallowing and the pathology of abnormal swallowing was not understood until recent years, when new visualization diagnostic techniques were invented.

The first was ultrasound of the movements of the tongue. Another was Fibreoptic Endoscopic Examination of Swallowing. The endoscope was passed through the nose so that, through its tip parked adjacent the soft palate, movements of the pharynx and laryngeal vocal cords, during swallowing, could be observed. These were simple bedside techniques.

In the mid 1980s, a US professor of speech pathology, JA Logemann1, perfected an X ray technique performed by a diagnostic radiologist which demonstrated normal and abnormal swallowing movements in the mouth, tongue, pharynx, larynx and oesophagus.

Using barium impregnated fluid, semi-fluid [yogurt] or solid [biscuit] the attendant speech therapist/pathologist could observe the efficacy of corrective manoeuvres in the management of swallowing malfunction and spillage into the larynx and lungs.

The X ray equipment was of the conventional direct viewing type. Images were stored in a video recorder which had a useful facility of slow replay allowing a leisurely [rather than hasty] assessment of all the components of the swallowing mechanism—bearing in mind that the normal oral-pharyngeal transit time was only 1-2 seconds.

Logemann's technique—Video Fluoroscopy of Swallowing--is revolutionary because it demonstrates, for the first time, all the components of the swallowing mechanism.

The airway and food conduits are, for the most part separate, except for a section [pharynx] which is common to both.

Below this point, the airway and food conduits become separate entities again, so the air and food have to be directed down their respective conduits.

This necessitates a complex mechanism to direct air and food alternately through the pharynx, with correct selection down the respective channel.

A malfunction of this mechanism may cause food to stick and/or pass incorrectly through the larynx and into the lungs to cause a severe aspiration pneumonia.

Often the involuntary, protective cough [choking] is absent due to the disease process, so the patient develops a 'silent' aspiration pneumonia. There is a 50% mortality if this condition is not suspected, diagnosed or treated, so it is incumbent that videofluoroscopy is performed to identify the problem so that preventive treatment can be commenced, because it could be life-saving.

Note that 'single shot' radiographs of swallowing are not useful as much valuable sequencing detail is missed.

NORMAL SWALLOWING MECHANISM
See Fig 1
The Roman numerals refer to specific cranial nerves
Once food or fluid is placed in the mouth, the lips close [1] and the face muscles commence biting and chewing [2], with the tongue muscles producing churning movements causing fragmentation of the bolus. During this time, the posterior part of the tongue is pressed against the palate [3] preventing premature entry of the bolus into the pharynx, whose multiple seals are open.

Continues on page 10.

SWALLOWING MALFUNCTION

Continues from page 9.

Then the posterior part of the tongue starts to push the bolus through the pillars of the fauces towards the back of the mouth. This immediately stimulates the sensory part of the IX nerve triggering muscular contraction of the soft palate causing it to press against the posterior wall of the upper pharynx whose muscles are also contracting.

This effectively blocks movement of the bolus into the nasopharynx [4]. Simultaneously, there is contraction of muscles pulling the hyoid and larynx antero-superiorly against the posterior-inferior angle of the tongue [5].

This, in turn, triggers the epiglottis [EG] and its fold to move postero-inferiorly [6] to block the upper larynx, with cessation of respiration and closure of the true and false vocal cords [7], producing a complete laryngeal seal.

The hyoid-laryngeal pull-up also triggers relaxation [8] of the normally closed cricopharyngeus [CP] sphincter or seal, allowing the bolus to be pushed down by peristaltic pharyngeal muscle contractions through the CP into the oesophagus.

Such complex manoeuvres are controlled by a coordinated nervous system operating the sequential opening and closing of multiple seals or valves, and the sequential propulsive contraction of muscles – both guiding the bolus safely through the common air/food pathway of the pharynx into the correct conduit without mishap.

ABNORMAL SWALLOWING PATTERNS

Revealed by seeing:

- Slow motility
- Pooling in mouth/pharynx
- Bolus mal-direction due to failed seal-commonly laryngeal aspiration
- Aspiration Provoked by Using Fluid

These reflect a specific muscle weakness caused by a specific nerve palsy.

1. Lip Seal failure→Food & Saliva Fall Out of Mouth
2. Unable to Bite & Chew→No Bolus
3. Tongue Immobile→Pooling & No Seal→Premature Filling of a Relaxed Pharynx →Leaking Seals into Nasopharynx & Larynx→Aspiration
4. Pooling in Pharynx [unilateral/ bilateral]→Leaking Laryngeal Seal→Aspiration
5. No lift up of Hyoid & Larynx→Leaking Laryngeal Seal→Aspiration
6. Epiglottis does not Close over Larynx→Leaking Laryngeal Seal→Aspiration
7. Cricopharyngeus does not Open→Bolus Obstruction→Post Swallow Laryngeal Seal Relaxation→Aspiration

CORRECTIVE MANOEUVRES

Aim:

- To Improve Motility & Reduce Pooling.
- To Prevent Aspiration

by Watching Effects of Using:

- Fluids/Semi-solids/ Solids (fluids more likely to cause aspiration)
- Head Manoeuvres

For 1,2 if unilateral:
Tilt head to good side [bolus travels only on this side]

For 3:
Perform Tongue & Palate Exercises

For 4, if unilateral:
Turn Head to Bad Side [flattens bad side-so bolus descends good side]

For 5,6,7

- Chin Down→EG moves over Larynx
- Mendelsohn Manoeuvre→Laryngeal Lift up→CP Opening [feel 'Adam's Apple' rise on swallowing and hold for 5 seconds]
- Rotate Head→Closes Vocal Cords→Opens CP

THE SWALLOWING CONTROL CENTRES

There are two centres - one in the cortex and the other in the brainstem. The former allows the patient to swallow at will, whilst the latter is involuntary and is stimulated by the presence of the bolus in the posterior mouth and pharynx, activating the sensory part of IX nerve.

Once the involuntary swallowing centre is activated, the brainstem 'fires off' the cranial and C1 and C2 nerves involved in swallowing. This occurs involuntarily in a pre-programmed sequential manner permitting a coordinated activation of all the sections of swallowing so that a normal swallow occurs.

If one nerve is paralysed, then one of these swallowing sections may not work, causing an uncoordinated swallow with the attendant risk of aspiration.

A small lesion affecting the brainstem unilaterally causes unilateral pharyngeal paralysis--a 'hemiplegia' of the pharynx, whilst a larger lesion affecting both sides of the brainstem causes total oral and pharyngeal failure.

The cortical swallow centre is in fact bilateral. The left side controls the oral phase whilst the right side controls the pharyngeal and laryngeal phases.

Continues on page 12.

Fig 1

Motor Nerves of swallowing mechanism

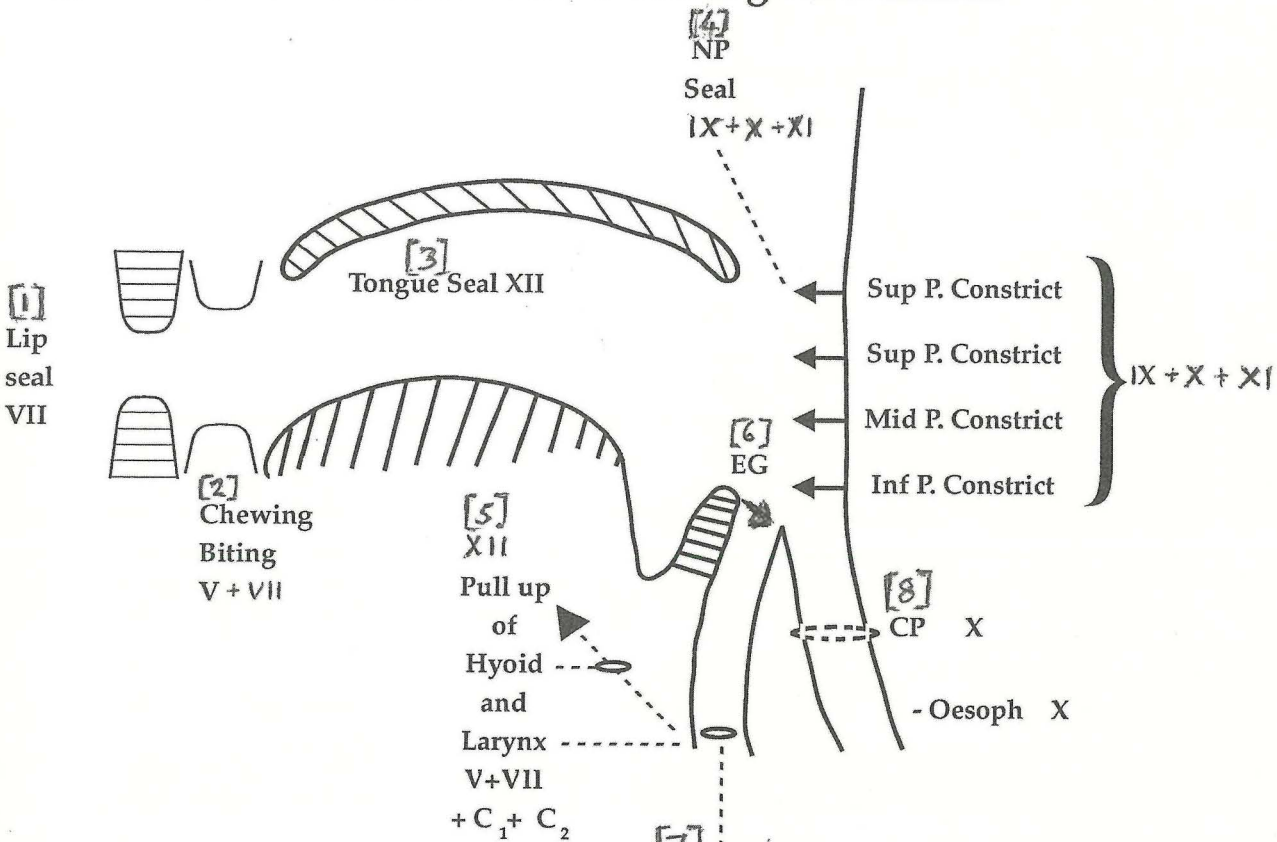
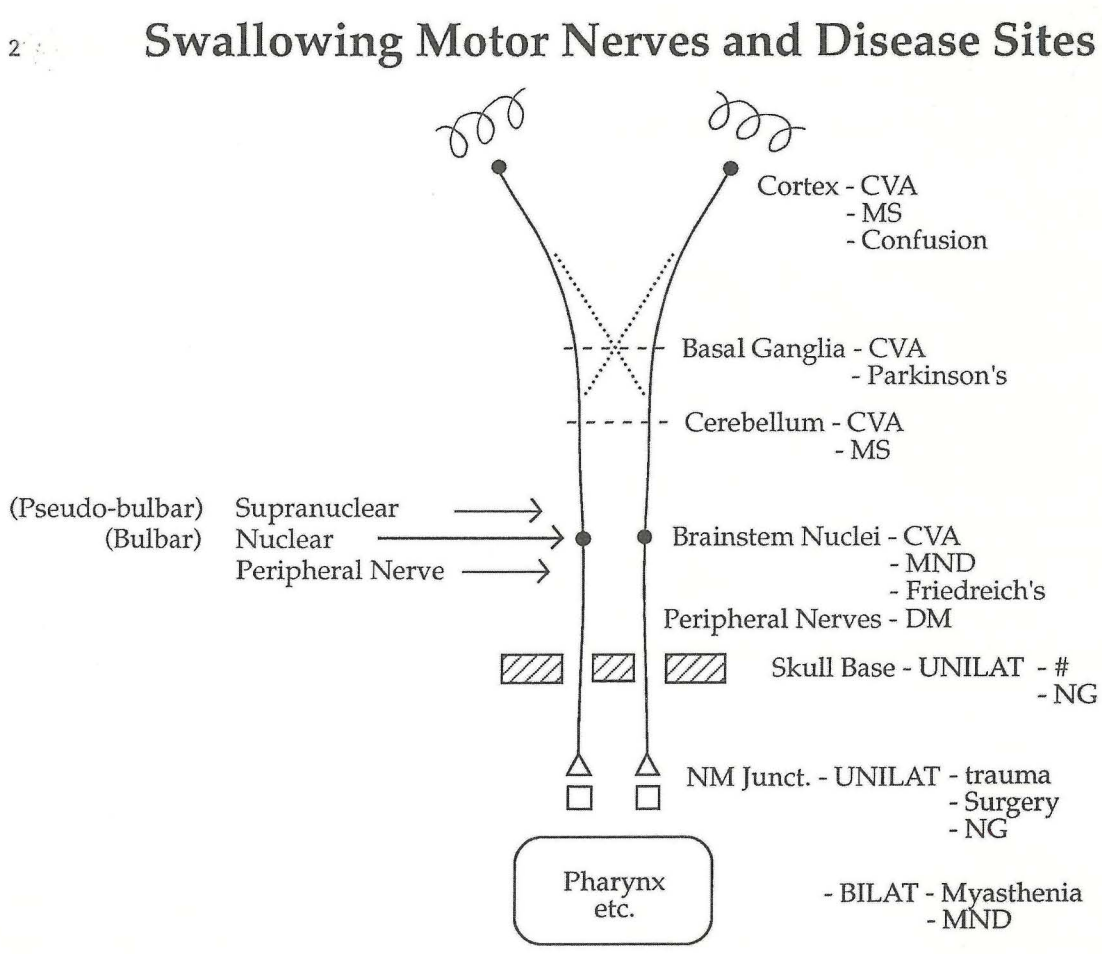


Fig 2

Swallowing Motor Nerves and Disease Sites



SWALLOWING MALFUNCTION

Continues from page 11.

THE COUGH CONTROL CENTRES

Coughing is related to some extent with swallowing. An abnormal swallowing pattern may or may not cause involuntary coughing [choking] to counteract aspiration.

The arrangement of cortical and brainstem nuclei is similar to that of swallowing.

The abnormal presence of an inhaled bolus in the larynx triggers sensory impulses along the IX nerve to the brainstem [involuntary] cough centre producing a involuntary cough to clear this obstruction. If the patient chooses to cough voluntarily, then this involves the cortical [voluntary] cough centre.

A lesion of the cortex may inhibit a voluntary cough, but the involuntary cough reflex is not affected. A lesion of the brainstem nuclei inhibits the involuntary cough reflex—risking 'silent' aspiration—but the voluntary cough is not affected.

Thus the ability of a patient to cough voluntarily is not a measure of the presence or absence of a protective involuntary cough to protect the larynx from aspiration of a bolus.

THE SITES OF NEUROLOGICAL DISEASE AFFECTING SWALLOWING

See Fig 2

Certain diseases have a predilection for a certain site, for example Motor Neurone Disease [MND] which can be identified by a neurological examination.

Other diseases may affect multiple sites, for example Cardiovascular Accident [CVA], Multiple Sclerosis [MS], Diabetes Mellitus [DM], Neoplastic Growth [NG].

It is important to realize that such neurological disease, in causing swallowing malfunction, often does not produce a hemiplegia of the limbs.

The most common cause is CVA—stroke affecting the brainstem. It has a sudden onset, unlike the other causes which are of gradual onset.

SUMMARY OF THE DIAGNOSTIC PROCESS

The aim is to demonstrate:

- Anatomical site of the lesion
- Pathological cause of the lesion
- Functional effect on swallowing by the lesion

The Anatomy and Pathology are determined by taking a careful history [?dysphagia, choking, cough, chest infections, voice changes, feeding habits, weight loss].

This is followed by a thorough clinical examination, particularly the cranial nerves. Special imaging techniques, such as CT and MRI, may or may not be confirmatory.

Swallowing Function is assessed by a speech therapist's bedside examination [?laryngeal elevation, 'gargley' voice, aspiration, cough reflex].

If the results are equivocal [for example, is aspiration present or absent?], then videofluoroscopy of swallowing should be performed. Occasionally video-endoscopy of swallowing and vocal cord function is helpful.

CONCLUSION

The advent of videofluoroscopy has led to a much greater understanding of swallowing, thus permitting more accurate diagnosis and management.

Hitherto, a patient with a 'stroke in the throat' languished for months in a hospital bed, having to be fed via a feeding tube.

Now, the effectiveness of treatment and progress of the underlying disease can be monitored at suitable intervals by repeating the videofluoroscopy, revealing if it is safe to feed the patient orally without using a feeding tube, and without risk of aspiration pneumonia.

Consequently, the patient can be discharged-saving hospital costs-to recover elsewhere from the 'stroke in the throat'. Recovery is usually within a few weeks if CVA is the cause.

There are still a few questions to be answered. Is there a hazy margin between normal and abnormal swallowing?

Is there a range of normality between young and old age?

For example, babies are able to breath and swallow a bolus simultaneously, and the older patient may have symptomless slower transit times through the pharynx.

Is the fleeting presence of laryngeal aspiration significant in a symptomless patient?

Is there a different method of swallowing when bolus texture, flavour or temperature is altered?

For instance, some beer drinkers can 'down' a pint without visible contraction of the mouth, pharyngeal and oesophageal muscles.

Further multidisciplinary research will give answers to these questions. It is a fascinating prospect.

Reference

1. Logemann JA, Noninvasive approaches to deglutive aspiration. Dysphagia 1993; 8 : 331-3

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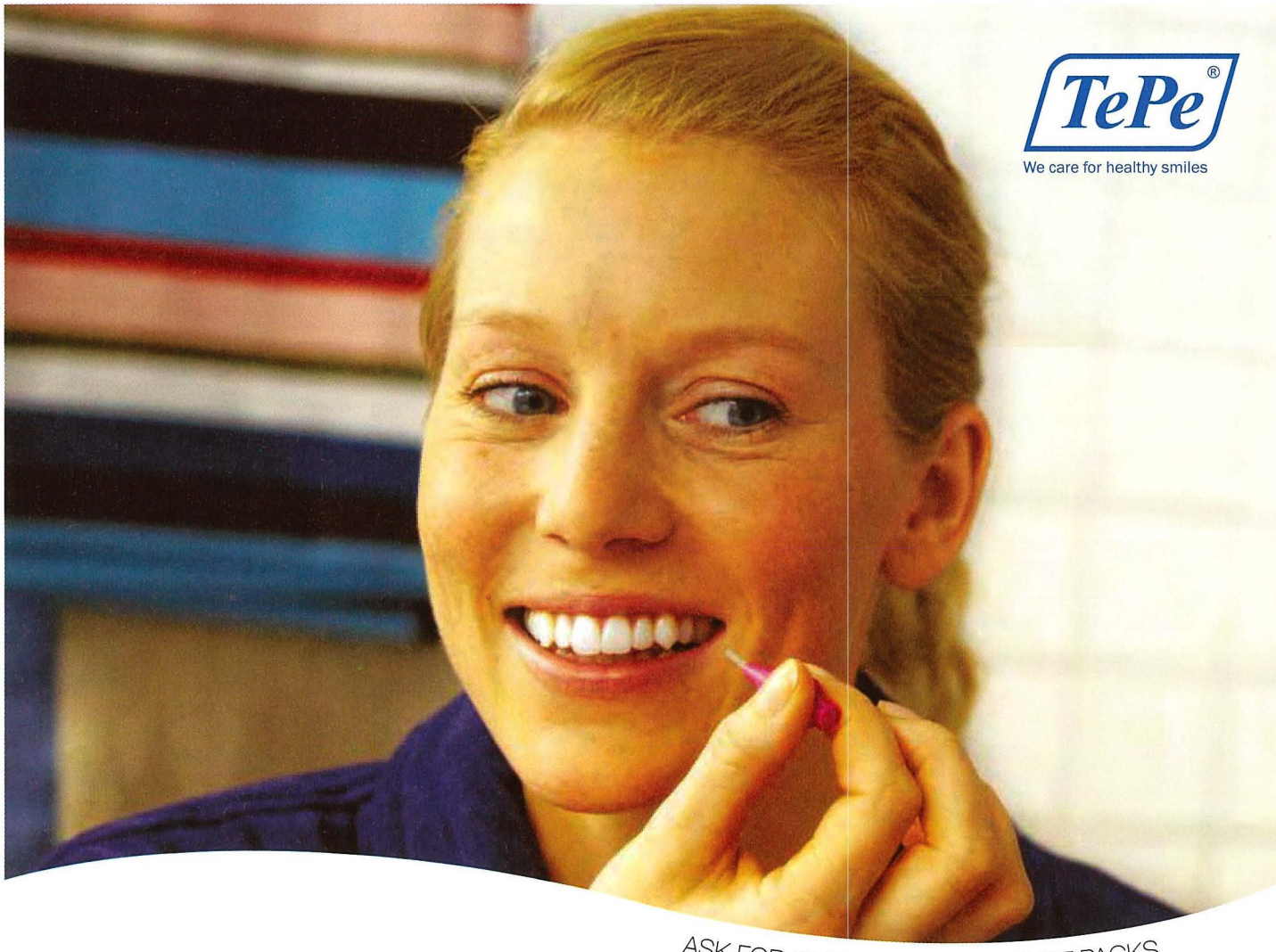

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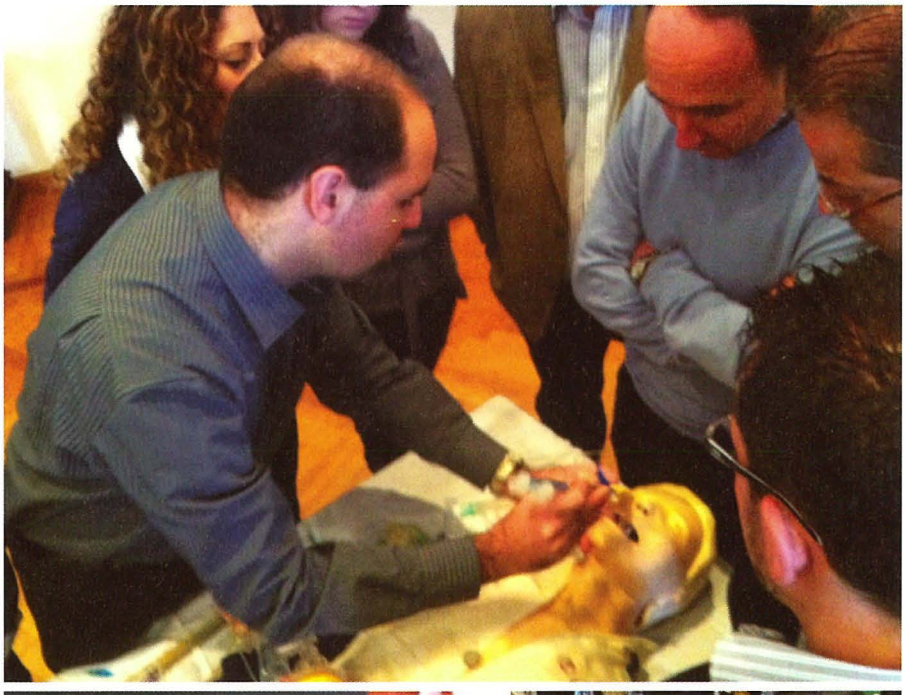
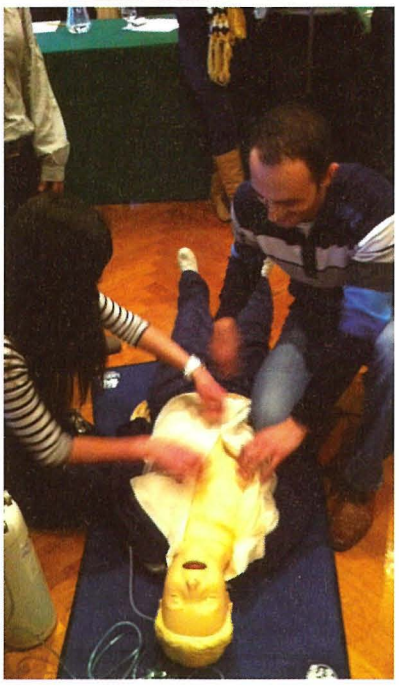
THE DAM **MEDICAL EMERGENCIES COURSE** AT THE COASTLINE HOTEL

Sponsored by GSK

By Dr David Muscat





The venue could not have been better. The penthouse suite with a glorious view on a bitterly cold but stunning Saturday in February.

The event had been planned several weeks earlier and Lino had scouted for a good venue and had patiently obtained several quotes.

Adam and Nick got to the venue very early and set up the projector, computers and all the kit, intubators, facemasks and items required with the manikin Annie which the DAM had purchased from sponsorships of the Probe.

A 5,000 euro investment which is now being put to great use thanks to the Dental Probe sponsorships.

Dr Joanna Gonzi, consultant anaesthetist conducted the course in conjunction with Dr Adam Bartolo and ably assisted by Dr Nick Dougall our IT officer.

I will not reproduce the content of the lecture here. However I will list some salient points.

The course teaches the student how to diagnose and manage medical emergencies. Eighty per cent of these will occur during treatment. The objective is to always keep calm and follow the golden rule of

- Airway
- Breathing
- Circulation
- Disability
- Exposure

One comes away from the course appreciating certain techniques such as 'chin lift'– holding ones finger under the chin hence lifting the tongue. Also the 'head tilt' and the 'jaw thrust'-all allowing the patient to breathe and getting the tongue out of the way.

One has to appreciate that during an emergency the venous blood will still have 16% oxygen and it is vital to circulate this to the brain and heart quickly.

The lungs are used as a pump an if circulation is not in motion then the air is not being consumed. Compressions are thus most important rather than the rescue breaths.

Hence nowadays it is 30 compressions and 2 breaths.

ITEMS FOR ONE'S EMERGENCY KIT

1. GLUCAGON injection 1mg with 1 ml diluents (glucagon hypo kit). Use in a hypoglycaemic crisis. Administer IM 9in deltoid muscle over shoulder). (drug kept in fridge)

Continues on page 16.

THE DAM **MEDICAL EMERGENCIES COURSE** AT THE COASTLINE HOTEL

Continues from page 15.

2. SALBUTAMOL inhaler 100g. At onset of asthma attack. Important –one should use a chamber-puff into it and then patient inhales the vapour.
3. HYDROCORTISONE SODIUM SUCCINATE 100mg with 2ml diluent use IV or IM during status asthmaticus . It is also used a second line drug in anaphylaxis and is also used in an adrenal crisis. ADMINISTER IM OR IV.
4. Glucose oragel-it needs to be sticky and not a sweet which can cause choking. Use in conscious diabetics – administer orally.
5. adrenaline injections 1mg in 10mls 1;1000 prefilled syringes for use in anaphylaxis as well as adrenaline minijet 1;10000
6. aspirin chewable 300mg
7. GTN
8. Midazolam for status epilepticus (controlled drug- kept under lock and key)
9. Chlorpheniramine 10mg in 1ml ampoules second line drug. It is an antihistamine used in anaphylaxis. Administer IM
10. Benzodiazepines Flumazemil 100mg/ml in 5 ampoules used as a reversal of sedative effects of benzodiazepines and administered IV.

If the patient is unconscious it is important to intubate. There are many types both nasopharyngeal(point towards patients toes as a direction) and oropharyngeal (the I gel is popular as well as the cobra variety)

The defibrillator will ultimately save the patient. We used a simulated machine. A defibrillator is totally automated and will save a life if properly used.

The first 10 seconds are important. Check for signs of life-namely for the carotid pulse. Look, listen and feel for normal breathing.

Call 112. 30 chest compressions and 2 rescue breaths.

Use defibrillator if available. The 2 pads are placed diagonally across the chest so that the impulse traverses the sino-atrial node. Whilst the shock is given one needs to stop the oxygen, as is combustible and to stand well away.

All the dentists and nurses took turns in exercises and each was monitored and efficiency in compressions etc actually measured on computer. One dentist got her long blonde hairy curls stuck in her mouth whilst giving compressions and one dentist almost called 112 for real.

Another almost lost her solitaire whilst 'saving' a patient from dying from an inhaled tooth. One team from a particular practice worked very well together as a group during resuscitation with one holding the mask to the face, another pumping the ambu bag and the other two taking it in turns with the compressions which can be quite tiring. Since one uses ones 'weight' to one's advantage whilst doing the compressions some well-endowed candidates fared better than others.

It also is a good idea to remove necklaces and jewellery. The idea is to 'keep on the procedure till you are exhausted.' As one Maltese lecturer once said 'the patient is only dead when he starts to smell' so keep going till the ambulance arrives. In children compressions must be up to one third of the depth of the chest. Please note that one can break the ribs of an elderly patient with the compressions .

The Dental Association looks forward to purchasing the children's version of the manikin to be able to widen our scope. The idea is to have small groups so as to allow as much hands on as possible.

The DAM – saving teeth and saving lives.

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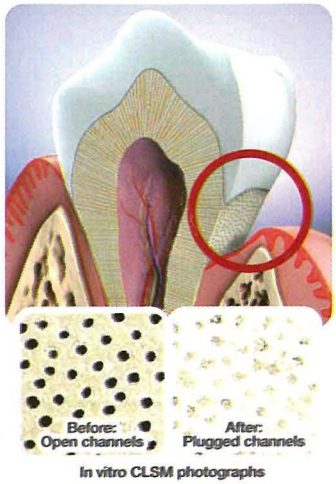

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ORAL DERMATOLO

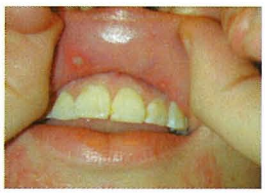
Dr Lawrence Scerri
Chairman, Department of Dermatology & Venereology
Senior Lecturer, University of Malta

Mouth ulcers

- ***Trauma*** (biting, thermal burn, aspirin burn, orthodontics, DXT)
- ***Recurrent aphthous stomatitis*** (incl. Behcet's)
- ***Neoplasms*** (esp. SCC)
- ***Drugs*** (cytotoxics, NSAIDs, alendronate, nicorandil)
- ***Systemic conditions***
  - Infective (HSV, VZV, HFMD, HIV, Syphilis, TB)
  - Cutaneous (Pemphigus, Pemphigoid, LP, EM, DH, Linear IgA, EB)
  - GI (IBD, Coeliac)
  - Haematological (Fe, Folate, B12 deficiency , leukaemia, neutropenia)
  - Rheumatic (SLE, Reiter's, Sweet's syndrome)

Recurrent Aphthous Stomatitis (RAS)

- Typically childhood/adolescence onset
- +ve FH in about 1/3 of patients
- Affects at least 20% of population
- Predilection for higher socio-economic classes
- Multiple painful round/ovoid ulcers with erythematous halo & yellow/grey floor
- Last 1-4 weeks
- Possible contributing factors:
  - Fe, Folate, B12 deficiency (10-20%)
  - Stress
  - Cyclical neutropenia
  - Coeliac disease
  - Childhood PFAPA (Periodic Fever, Aphthae, Pharyngitis, cervical Adenitis)

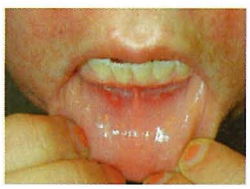


Recurrent Aphthous Stomatitis

- ***Minor aphthae (painful)***
  - Most common type
  - Childhood/adolescence onset
  - 2-4mm x up to 6 ulcers at a time lasting up to 10 days
- ***Major aphthae (more painful)***
  - Childhood/adolescence onset
  - May be 10mm or larger x up to 6 ulcers at a time lasting up to 4 weeks
  - May heal with scarring
- ***Herpetiform ulcers (extremely painful)***
  - Young adult predominantly females
  - 10-100 initially tiny ulcers that coalesce lasting up to 4 weeks

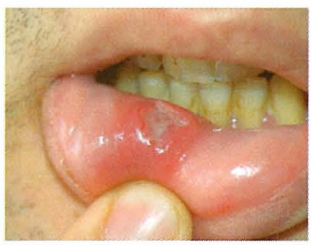
Recurrent Aphthous Stomatitis

- **Investigation:**
  - CBC, Fe, Folate, B12, Coeliac antibody screen
- **Treatment:**
  - Oral hygiene (antiseptic mouth wash)
  - Tetracycline/Minocycline mouth rinse (dissolve capsule contents)
  - Topical steroid (Adcortyl in Orabase, Corlan pellets)
  - Oral corticosteroid courses
  - Thalidomide 50-300mg od (for major RAS)
  - Topical tacrolimus ?



Behcet's syndrome

- Chronic multisystem disorder, especially males in 3rd/4th decade
- Most common in Eastern Mediterranean countries/Eastern Asia (Silk trade route taken by Marco Polo)
- RAS plus 2 or more of:
  - Recurrent genital ulcers
  - Eye lesions esp. uveitis (leading cause of blindness in prevalent areas)
  - Skin lesions (pustules, EN)
  - Pathergy (venepuncture followed by pustulation)
- Treatment:
  - Rx as for RAS
  - Colchicine
  - Azathioprine, cyclosporin, dapsone, thalidomide, chlorambucil, cyclophosphamide, interferon-alpha, levamisole



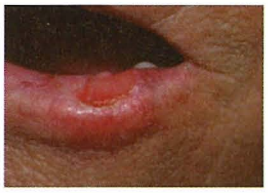
Oral Squamous Cell Carcinoma

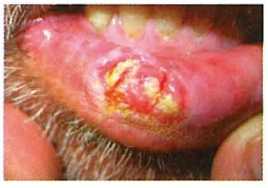
- >90% of malignant neoplasms of mouth are SCC
- 6th overall most common neoplasm worldwide (highest incidence in resource-poor countries particularly SE Asia, Brazil, Eastern Europe)
- Commonest sites: Lip (30%), tongue (25%)
- Most intra-oral cancers involve posterolateral border of tongue and/or floor of mouth (*Graveyard area*)

GY

SCC Lip

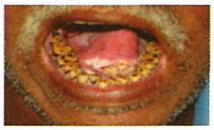
- Most common on lower lip of male fair-skinned individuals with H\O chronic sun exposure
- Often associated with actinic cheilitis
- Other risk factors: tobacco smoking, poor dentition, immunosuppression, HPV, HSV, syphilis
- Keratinous growth or ulcer with indurated base (check cervical LNs)
- Most lesions amenable to surgical excision
- >70% 5-year survival

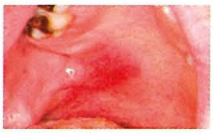


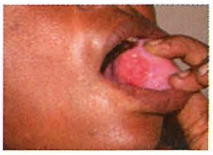


Intraoral SCC

- Precancerous lesions common: erythroplasia/erythroplakia, leucoplakia (particularly verrucous, sublingual, candidal & syphilitic varieties), LP, HPV, Plummer Vinson syndrome
- High index of suspicion/early diagnosis/biopsy
- Rx : DXT/Surgery
- 30% 5-year survival

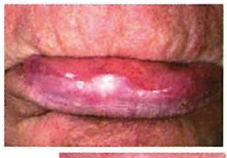


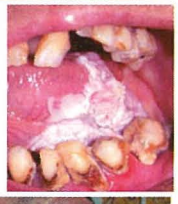


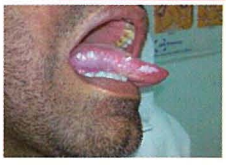


Oral Leukoplakia/Keratoses

- Mucosal white patch/plaque that cannot be rubbed off
- Causes:
  - idiopathic (majority)
  - chronic irritation (tobacco chewing, smoking)
  - infective agents (candidal leukoplakia, syphilitic leukoplakia, HPV verrucous leukoplakia, EBV-induced hairy leukoplakia in HIV)
- Malignant transformation rate of 2-5% in 10 yrs
- 5-20% are dysplastic
- 10-35% of dysplastic leukoplakia proceed to Ca
- 15-30% of leukoplakias regress spontaneously
- Rx
  - Biopsy to look for dysplasia
  - Scalpel/CO2 laser excision of high risk lesions:
    - Dysplastic
    - Non-homogenous/speckled
    - Verrucous
    - High-risk sites i.e. Floor of mouth/tongue ventrum, soft palate/fauces
  - Topical/systemic retinoids, calcipotriol



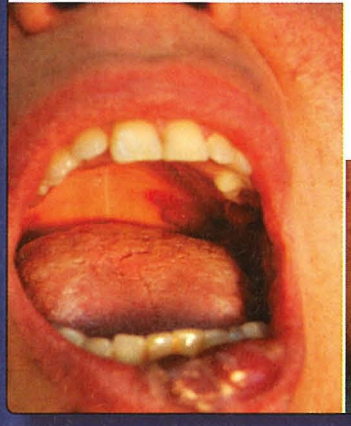


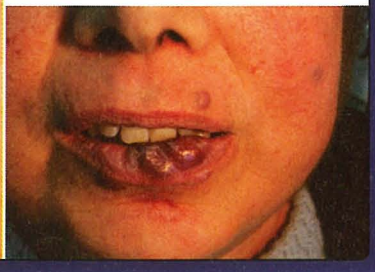


Kaposi Sarcoma

(HIV MSM or other immunocompromised states, HHV-8)

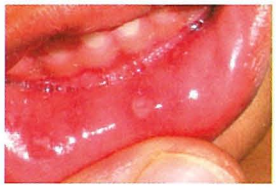
(Neoplasia vs reactive endothelial hyperplasia/Pemphigus, Systemic steroids, CyA)

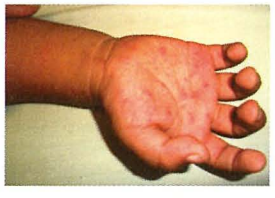




Hand Foot & Mouth Disease

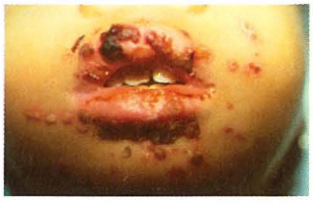
- Coxsackie A>B
- Mainly young children
- Incubation 3-10 days
- Often subclinical
- Mouth ulcers +/- deep-seated vesicles hands and/or feet particularly digits
- Systemic symptoms uncommon
- Self limiting





Herpes simplex stomatitis

- Represents 1° infection
- Mainly HSV-1 but HSV-2 increasing in adult-acquired cases due to increasing oral sex
- Incubation 3-7 days
- Many 1^0 HSV infections occur in childhood and are subclinical
- Typically presents as acute illness with painful oral ulceration, fever, anterior cervical adenopathy
- Lasts up to 14 days



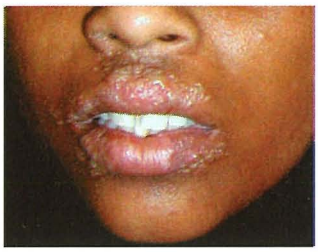
Continues on page 20.

ORAL DERMATOLOGY

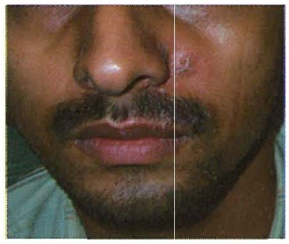
Continues from page 19.

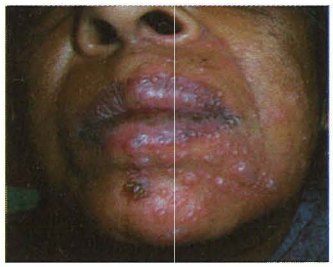
Recurrent herpes simplex labialis

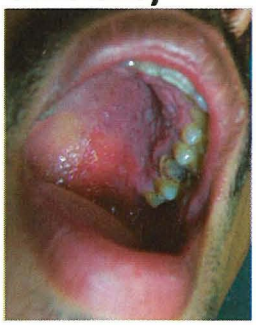
- Represents 2° HSV infection (1/3 of patients with primary infection are predisposed to recurrences)
- HSV remains latent in trigeminal ganglion after 1° infection
- HSV shed intermittently into saliva
- Triggering factors (sun, fever, menstruation, stress)
- Beware of severe infection in immunosuppressed and atopic dermatitis (eczema herpeticum)
- Rx : topical anti-viral agent (penciclovir 1% reportedly more effective than acyclovir)



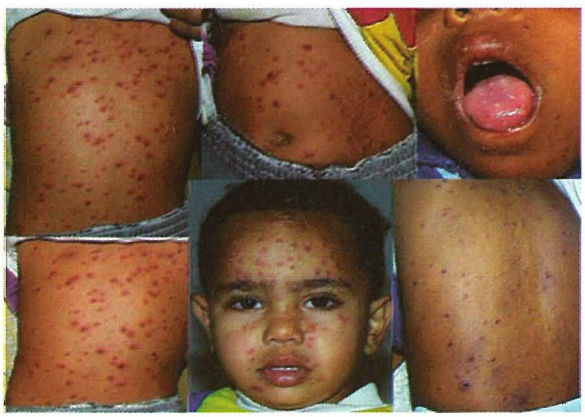
Trigeminal Herpes Zoster (maxillary/mandibular divisions)





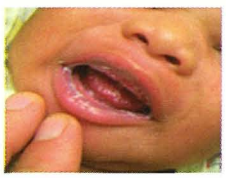


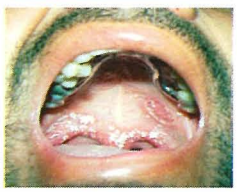
Varicella Zoster (Chicken pox)

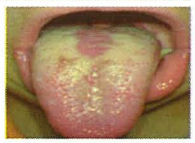


Intraoral candidosis

- **Causes:**
  - Healthy neonates who have yet to develop immunity against candida
  - Broad spectrum antibiotics & corticosteroids
  - Xerostomia
  - Severe T-cell immune defects
  - Denture-wearing esp. at night
  - Tobacco smoking
- **Types:**
  - Acute pseudomembraneous candidosis/thrush (soft milk curd-like patches easily wiped off with gauze)
  - Atrophic erythematous candidosis
  - Chronic hyperplastic candidosis (candida leukoplakia)
  - Median rhomboid glossitis
- **Rx:** topical polyenes (nystatin or amphotericin), miconazole, oral fluconazole (in HIV + oral antiretroviral Rx)

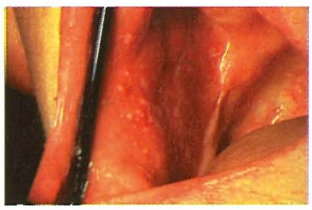


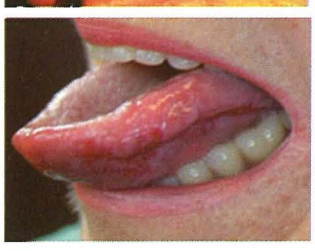




Oral Lichen Planus

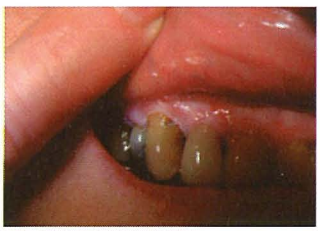
- Idiopathic chronic inflammatory disease
- Oral LP 8 times more common than cutaneous LP
- Oral lesions may or may not be associated with skin lesions
- Oral lesions may precede, accompany or follow skin lesions
- Contact allergic lichenoid mucosal reactions to dental materials (chromate, gold, thimerosal) possible
- Chronic liver disease, especially chronic active hepatitis & Hep C may be associated with oral LP particularly in persons from S. Europe or Japan
- **Types:**
  - Reticulopapular (commonest, buccal/lingual/lip/gingival mucosa, some soreness)
  - Erosive (painful, buccal/lingual mucosa, often large erosions with irregular outline)
  - Vulvovaginal-gingival syndrome

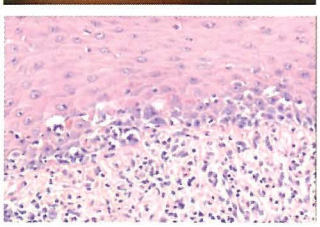




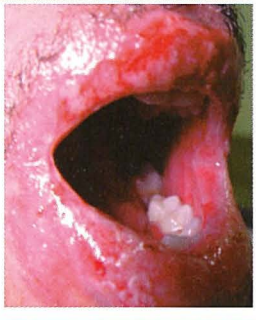
Oral Lichen Planus

- Increased risk of SCC in non-reticular LP (up to 5% over 10 yrs)
- Biopsy + immune studies esp. if erosive LP suspected (basal layer changes with Civatte bodies), and to exclude other pathologies
- Rx:
  - ?replace dental amalgams (if suspected e.g. Close proximity of lesions to amalgam), PTs not so helpful
  - Good oral hygiene
  - Topical corticosteroids
  - ? Topical CyA, Tacrolimus
  - Systemic steroids, CyA, azathioprine, Hydroxychloroquine, acitretin, thalidomide, cyclophopharnide (severe cases)



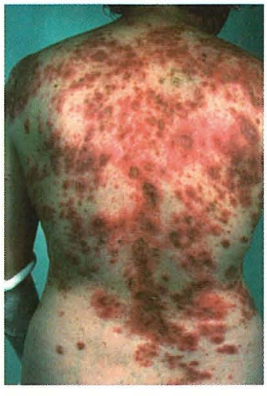


Oral Pemphigus Vulgaris



- Autoimmune disease (main target antigen – Desmoglein in epidermal intercellular cement)
- Typically in adults
- Mouth almost invariably involved
- Oral lesions are commonly the presenting feature
- Large painful irregular & persistent red erosions which often become secondarily infected (may extend down oesophagus causing dysphagia)
- Paraneoplastic pemphigus :
  - Mainly associated with lymphoproliferative disease or thymoma
  - Painful extensive stomatitis +\- cutaneous lesions
  - Prognosis reflects underlying disease

Oral Pemphigus Vulgaris

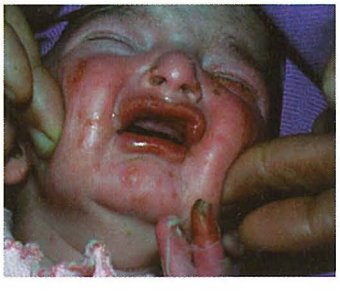


- Biopsy + immune studies (epithelial intercellular IgG, C3 deposits)
- Prolonged systemic immunosuppressive therapy (Corticosteroids, azathioprine, CyA, MTX, Dapsone, Cyclophosphamide, gold, mycophenolate mofetil, IVIG, rituximab [anti-CD20 monoclonal antibody])
- Oral lesions more recalcitrant than cutaneous lesions
- Generally poor prognosis due to aggressive disease and Rx-related complications

Mucous Membrane Pemphigoid

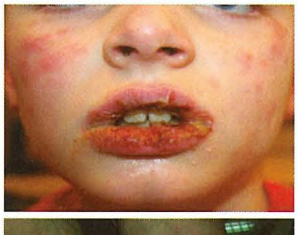
- Autoimmune disease (main target antigen specific for this variant – α6 integrin in epithelial basement membrane)
- MMP involves oral mucosa in >1/3 of cases, may be part of wider disease or on its own
- Desquamative gingivitis is the most typical feature (erythematous, glazed, sore gingivae)
- Subepithelial bullae, sometimes haemorrhagic, may be seen, since they last longer than in pemphigus
- Biopsy + immune studies (linear C3, IgG deposits in epithelial basement membrane)
- Rx: topical/systemic corticosteroids, azathioprine, dapsone, tetracycline+nicotinamide, tacrolimus, mycophenolate mofetil, IVIG, infliximab

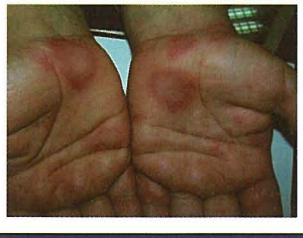
Epidermolysis Bullosa



- Traumatic blisters (skin and mucosae)
- Types:
  - Congenital/heredetary
    - Mutation of genes encoding basement membrane proteins (Type VII collagen, Keratins 5 & 14, Plectin, Desmoplakin, Laminin 5, α6β4 integrin) depending on EB form
    - Oral lesions common in *dystrophic* & *lethal* forms, but rare in most *simplex* forms
    - Mucosal blisters/ulcers/scarring
    - Dental hypoplasia/delayed tooth eruption esp. In *junctional* form
    - Rx: supportive
  - Acquisita
    - autoimmune disease with autoantibodies against Type VII Collagen
    - Biopsy shows IgG & C3 in sublamina densa zone of epithelial basement membrane on electron microscopy
    - Rx: as for pemphigus/Pemphigoid

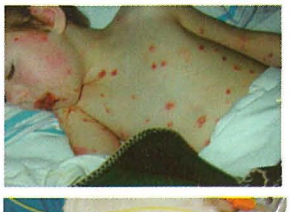
Erythema multiforme/Steven Johnson Syndrome/ Toxic Epidermal Necrolysis

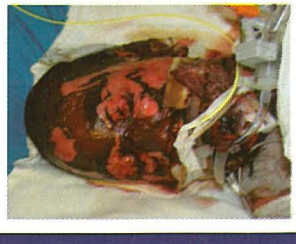




- Immunological hypersensitivity reaction involving CD8 T lymphocytes with apoptosis of keratinocytes and satellite cell necrosis
- **Variants:**
  - EM minor (affecting 1 mucosa)
  - EM major (affecting 2 or more mucous membranes)
  - SJS/TEN (affecting mucosae+extensive skin involvement
- **Clinical features:**
  - Most patient with EM have oral lesions (70%) +/- skin lesions
  - Painful oral lesions (blisters/irregular extensive erosions/serosanguinous exudate leading to crusted swollen lips)
  - Skin lesions (typical/atypical target lesions on extremeties/face, involving <10% body surface in **HSV-related EM major**; widespread distribution of atypical target lesions involving <10% body surface on trunk,face, extremeties in **drug-induced SJS**; extensive detachment of full thickness epithelium in **drug-induced TEN**)

Erythema Multiforme/SJS/TEN





- **Predisposing factors:**
  - Infection esp. in EM minor & major (**HSV**, Mycoplasma pneumonia)
  - Drugs esp. in SJS/TEN
  - Immune conditions (BCG/Hep B vaccination, IBD, GVHD, SLE, PAN)
  - Food additives/chemicals (Benzoates, nitrobenzene, terpentines, perfumes)
- **Rx:**
  - Oral hygiene
  - Liquid diet/IV replacement
  - Systemic corticosteroids (in severe cases except in established SJS)
  - CyA, thalidomide, levamizole, plasmapharesis
  - Intensive care (SJS/TEN)
  - IVIG (TEN)
  - Acyclovir course at first sign of lesions, or 400mg tds x 6 months for prophylaxis in HSV-related EM

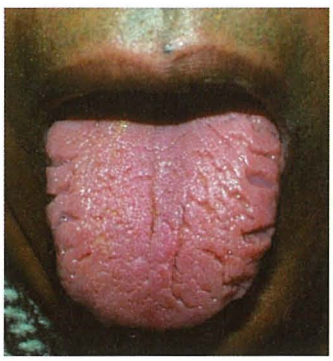
Continues on page 22.

ORAL DERMATOLOGY

Continues from page 21.

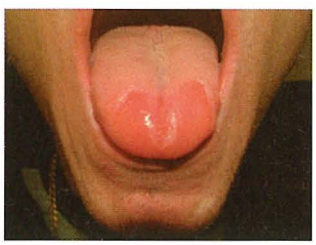
Fissured/Scrotal/Plicated Tongue

- 5% of population as normal finding
- Occasional discomfort with spicy/acidic food
- Often accompanied by geographic tongue
- Increased incidence in Down's syndrome
- Feature of the rare Melkersson-Rosenthal Syndrome (recurrent granulomatous orofacial swelling, facial palsy, fissured tongue)



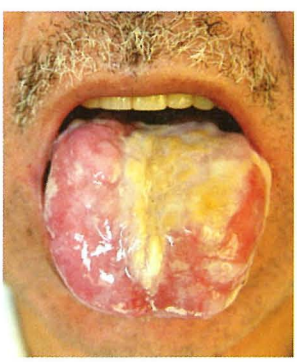
Benign Migratory Glossitis/ Geographic Tongue

- Benign inflammatory condition of tongue with map-like areas of erythema which vary in size, shape and location
- 1-2% of population
- Often associated with fissured tongue
- Asymptomatic or sore tongue



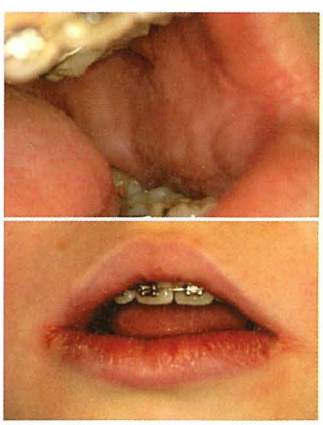
Oral psoriasis

- Rare
- White lesions on lip/buccal mucosa
- Tongue changes indistinguishable from *geographic tongue*, particularly in *generalised pustular psoriasis*



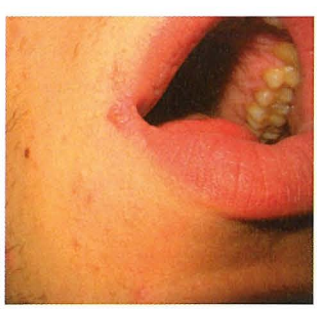
Orofacial Granulomatosis (OFG)

- **Disease spectrum incorporates:**
  - Crohn's disease
  - Allergy to food additives (cinnamaldehyde/benzoates, butylated hydoxyanisole or dodecyl gallate (in margarine)/menthol (in pepermint oil)
  - Sarcoidosis
  - Melkersson-Rosenthal Syndrome
  - Granulomathous cheilitis (Miescher)
- **Histology:** non-caseating granulomas & lymphoedema, granulomas tend to be sparse & deep
- **Clinical features:** linear ulcers in buccal sulcus, thickening & folding of buccal mucosa (cobblestone appearance), persistent swellings lips/face, lip fissuring, angular stomatitis, purple granulomatous enlargement on gingiva
- **Rx:**
  - Elimination diet if allergy suspected, topical /intralesional/systemic corticosteroids, clofazimine, metronidazole/thalidomide
  - Rx of underlying disease in Crohn's disease



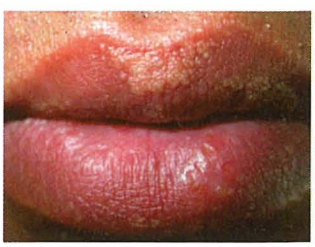
Angular cheilitis

- **Causes:**
  - Adults
    - Mechanical (edentulous patients not wearing dentures, or inadequate denture)
    - Infective (Candida, Staph isolated from most patients)
  - Children
    - Nutritional (riboflavin, folate, Fe & general protein malnutrition)
- **Rx:**
  - Remove dentures at night & store in candidacidal solution e.g. Hypochlorite
  - New dentures to restore facial contours if needed
  - Miconazole cream (& oral gel for denture-related stomatitis)
  - Anti-Staph topical antibiotic
  - Correct nutritional deficiency



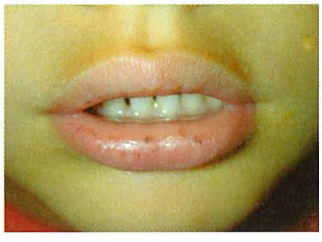
Fordyce spots

- Sebaceous glands
- Yellowish small grains seen beneath buccal/labial mucosa
- Probably around 80% of population
- Become more noticeable after puberty, & seem to be more obvious in males & persons with greasy skin
- Of no concern except aesthetically
- No effective treatment without risk of scarring or recurrence (CO_2 laser, PDT, oral Isotretinoin)



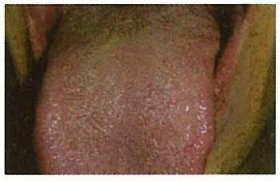
Peutz-Jeghers Syndrome

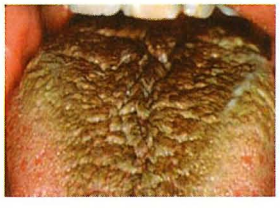
- Rare, AD transmismitted
- Melanotic freckles lip/oral mucosa & hands
- Benign hamartomatous small intestinal polyps which may lead to intussusception & Fe deficiency



Furred, Brown & Black Hairy Tongue

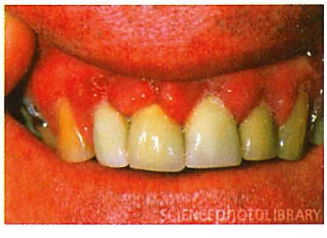
- Coating in most cases consists of epithelial, food & microbial debris (Candida, Strep. viridans) + excessively long filiform papillae sustained by accumulation of squames & chromogenic microorganisms
- More obvious in xerostomic & ill patients
- **Children:**
  - Whitish furry coating during febrile illness
- **Adults:**
  - Edentulous patients on soft non-abrasive diet & poor oral hygiene
  - Habitual tobacco & betel use
  - Staining induced by certain medicaments (Fe, chlorhexidine)
  - Drugs inducing xerostomia (lansoprazole)
  - Antimicrobial therapy causing overgrowth of microorganisms such as Candida species
- **Rx:**
  - Improve oral hygiene & brush tongue with toothbrush
  - Sodium bicarbonate mouthwashes
  - Chewing gum
  - Topical tretinoin
  - Avoid habits or drugs that stain the tongue





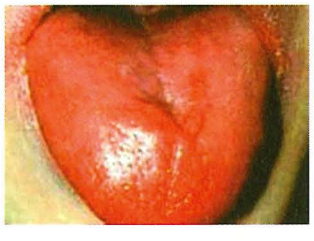
Generalized gingival swelling

- Local:
  - Chronic gingivitis
  - Hyperplastic gingivitis due to mouth breathing
- Systemic:
  - Drugs (Ca channel blockers, phenytoin, CyA)
  - Pregnancy
  - Crohn's disease
  - Sarcoidosis
  - Scurvy
  - Leukaemia
  - Metabolic deposition disorders



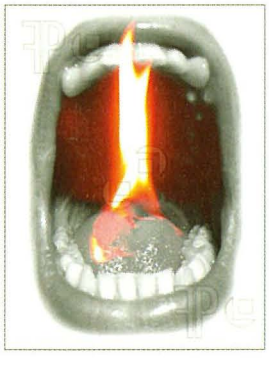
Deficiency glossitis

- Red sore smooth tongue due to diffuse papillary atrophy
- Deficiency of Fe, folate, B12(occasionally normal tongue)
- Deficiency of other B group vitamins usually in chronic alcoholics & malabsorption
- May be associated with angular stomatitis and/or mouth ulcers



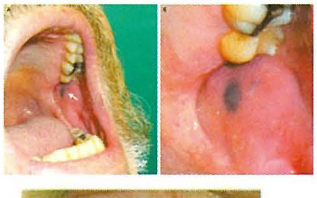
Burning Mouth Syndrome

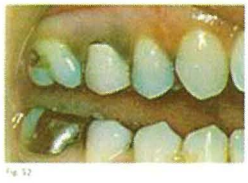
- Persistent oral burning sensation with normal appearance, often paradoxically relieved by eating or drinking
- Diagnose after excluding organic causes (ulcers, mucositis, glossitis, haematenic deficiencies, candidosis, geographic tongue)
- Occasionally drug-induced (ACE-inhibitors, protease inhibitors, cytotoxics, clonazepam)
- More common in diabetics
- Most often psychogenic (monosymptomatic hypochondriasis, depression, anxiety related to fear of cancer or STIs)
- 50% remit spontaneously after 6-7 yrs
- **Rx:**
  - Reassurance (including investigation for haematenic deficiencies)
  - Antidepressants
  - Topical benzydamine 0.01% rinse/spray
  - Avoid aggravating dietary agents (sparkling wine, citrus drinks & spices



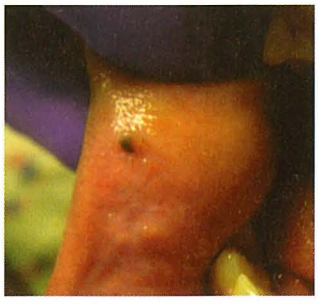
Tattoos

Amalgam





Pencil



Continues on page 26.

INTRODUCTION TO **WAVE ONE**

The course by Professor Edmond Koyess. Salient points by Dr David Muscat

A Glide path is a smooth path to allow your NiTi file to reach the end of the canal without overstressing.

Pathfiles A, B , C are sizes 13,16 and 19.These are in between sizes- between 10,15 and 20- so they are intermediate instruments.

Eg the difference between 15 and 10 is 5. 5 divide by 10 is one half . The difference between 20 and 15 is 5.

Then 5 divide by 15 is one third. So between 13 and 16 we are increasing by a third and between 16 and 19 we are increasing by a third.

The Sybron Endo is an R phase instrument (Ling and Kaplow in 1981). It is a torsional instrument mad by fusing 2 wires together and twisting them.

The 2008 M wire is heated and cooled several times so as to produce a wire of greater flexibility that is resistant to fracture, with an improved fatigue of 400%. New angles were developed.

There is an element of reciprocation.

If one turns 150 degrees in an anticlockwise direction and then 30 degrees in a clockwise direction the net result is 120 degrees. Three times 120 degrees is 360 degrees with 3three 120 degree rotations.

With 120 degree rotations you are reducing the risk, as we know that it will not exceed the elastic limit of the wire. The angles are adequate to prevent fracture.

The first step is to work on the coronal with a K10 and leave the apical part. Then use the K10 to negotiate the area. Ina a clockwise and anticlockwise direction. Develop a smooth glide path and establish the working length. Confirm patency. Do not overwork to length.

The Advantages of the instrument are:

1. Increase in cutting efficiency as one instrument is used for one molar
2. Simple, safe, efficient.
3. The file is delivered in a pre sterilised blister pack and fitted with an autoclavable handle. It has a red plastic rubber, which expands when it contacts heat- do not reuse.
4. A motor reciprocation in reverse is needed. In a clinical trial by Dr Koyess, using 112 molars (400 canals)only one fractured, and that is because the machine was not set on 'reciprocating movement'.

FEEDBACK

There is not a single screwing sensation.

There is no evidence of torsional and cyclical fatigue.

Respects the root canal anatomy Re-treatments can be carried out by using the machine in the normal way. Reduction of the angles means the reduced or no cyclical fatigue.

FACTORS AFFECTING IRRIGATION OF ROOT CANALS

1. VOLUME OF SOLUTION USED
2. Contact time with the tissue
3. Concentration of the irrigant (2.5% or 5% or 6%)
4. Viscosity or surface tension of the solution
5. Diameter and depth of penetration of the irrigating needle. The needle must penetrate almost to the end.
6. anatomy of the canal
7. method of delivering irrigant
8. canal diameter
9. temperature of irrigant
10. ultrasonic activation
11. the effect of combining different types of solutions.You need to leave the hypochlorite in the canals for some time.

THE ENDO ACTIVATOR BY DR CLIFFORD RUDDLE

A plastic needle vibrates in the canal creating a stream of irrigation. Sizes 15,25,35

There is no active mechanical effect-only vibrating. Activates 17% EDTA for 1 minute and sodium hypochlorite for 30 seconds.

The root canal is ready for obturation when you can fit an appropriate plugger to the apical third.

One wants to achieve a continuous tapered shape from the coronal to the apical.

Preserve curvatures in the original trajectory.

Envelop motion-you can carve canal wall.

Respect the original position of the foramen. Keep the foramen diameter as small as practical.

A 3D FILLING

When one uses 12-18 instruments normally one has about 60 passages.

The canal shaping should be performed with respect to the unique anatomy of the root

CONVENTIONAL ENDO WITH START X-TIPS

After starting with the x tips , one can use micro-openers 04 and 06. Scan the dark line with the micro-opener-the isthmus-follow the colour.

Continues on page 36.

INSURANCE POLICIES a dentist should know about

PERSONAL ACCIDENT COVER

Have you ever stopped to think what will happen if you suffer an accident and won't be able to attend to your patients? You may need personal accident insurance if you:

1. *Wish to take steps to protect your income*
2. *Need to continue to meet your personal and business commitments should the worst happen*
3. *Are concerned as to how the practice would survive if you were unable to work temporarily*

Basically Personal Accident Insurance is designed to offer you and your family protection from the financial impact, injuries can cause!

WHY CHOOSE PERSONAL ACCIDENT INSURANCE?

- Cover includes medical expenses incurred as a result of the accident
- You are covered even if the accident happens outside working hours, such as a sports injury at the weekend or DIY accident in the home
- Cover may also be extended to include sickness benefits
- Select from a range of cover levels so you can choose the right level of protection for your practice

THE PROFESSIONAL INDEMNITY INSURANCE SCHEME

The Insurance Scheme is exclusively available to members of DAM - Dentists Association of Malta through MIB - Mediterranean Insurance Brokers and is placed with a leading insurance security.

The policy protects you, as the insured Dentist, against legal liability to pay damages following bodily injury, illness, disease or death of any patient caused by any negligent act, error or omission committed by you in or about the conduct of your profession.

Contact MIB for a no obligation quotation on +356 234 33 234 or email info@mib.com.mt

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www.mib.com.mt

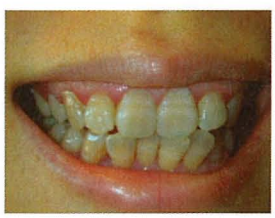
MIB MEDITERRANEAN INSURANCE BROKERS

ORAL DERMATOLOGY

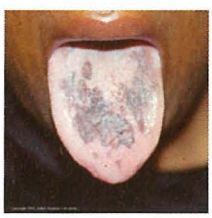
Continues from page 23.

Tetracyclines-induced oral changes

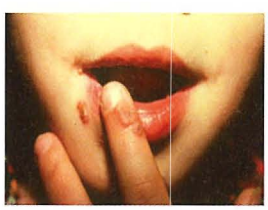
Pigmented teeth bands from childhood tetracycline exposure

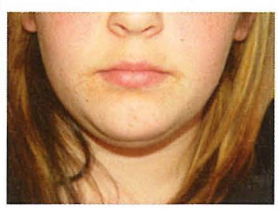


Prolonged high dose minocycline-induced oral pigmentation

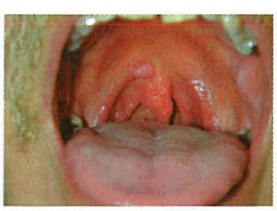


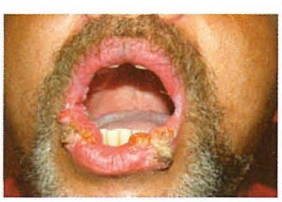
Viral warts/Verruca vulgaris/Verruca plana (HPV)



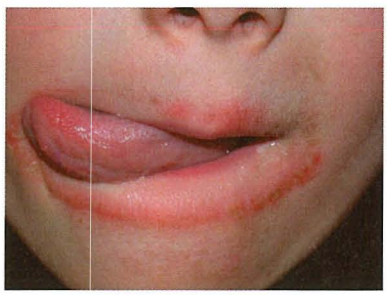


Condyloma acuminata (HPV, oro-genital, may co-exist with HIV)





Lip licker dermatitis (irritant contact dermatitis to saliva)



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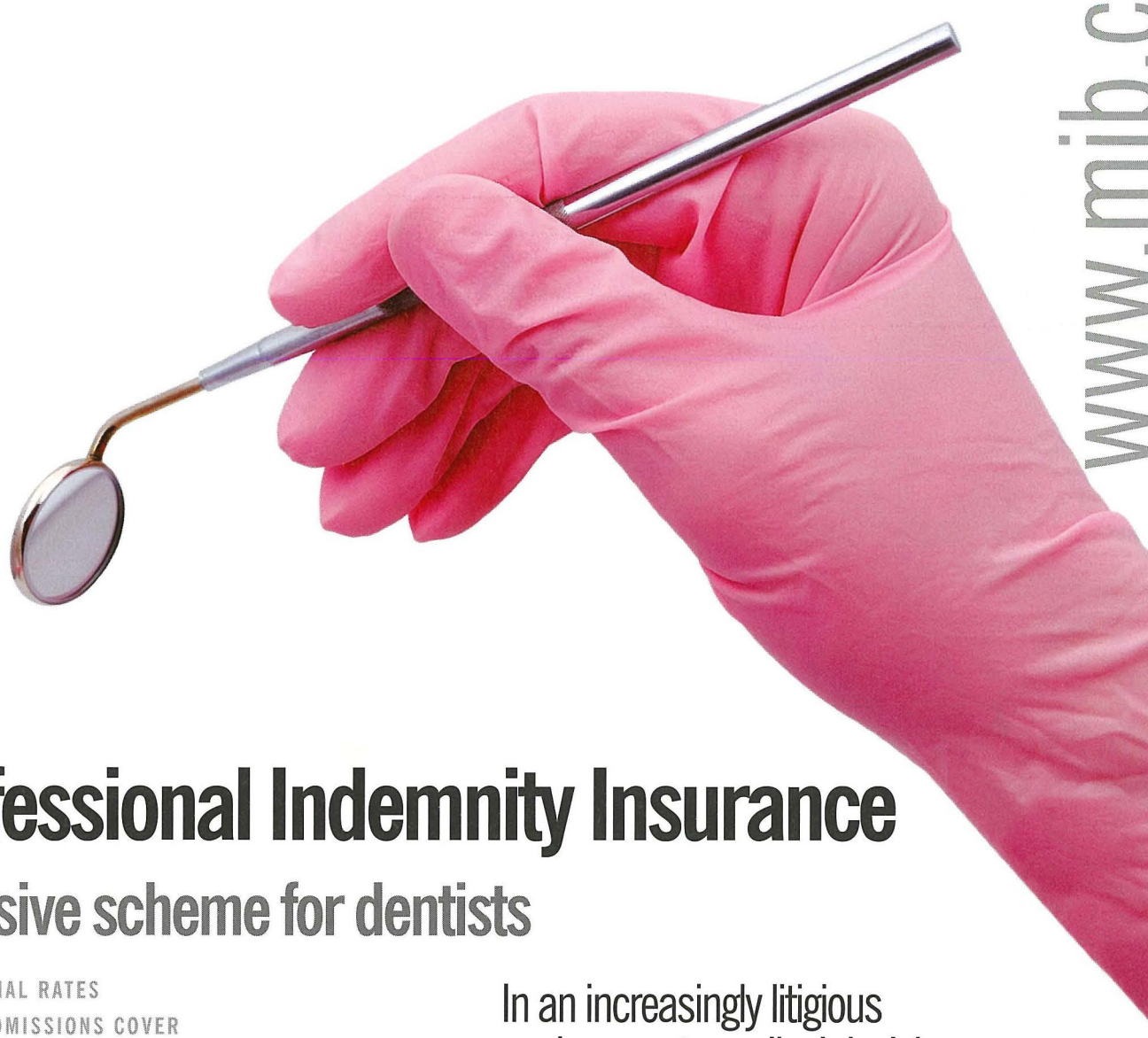

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The #1 issue

among full and partial denture wearers?

Food trapped under their dentures.

NEW CLINICAL DATA

proves zinc-free Corega® seals out up to 74% more food particles than no adhesive.[1, 2]

NEW DATA

from 3 clinical studies among patients with well-made, well-fitting* full and partial dentures

Zinc-free Corega® significantly improves

- Food occlusion[1, 2]
- Comfort, confidence and satisfaction[2, 3]

*Determined by clinical assessment using the Kapur index.

References: 1. The Use of Soluble Denture Adhesives to Prevent Food Particles From Becoming Trapped Under Full Upper and Lower Dentures, Study L3920658, 2010. Publication in progress. **2.** The Use of Soluble Denture Adhesive to Block Food From Migrating Under Removable Partial Dentures, Study L3920659, 2009. Publication in progress. **3.** A Study of Denture Adhesives in Well-Fitting Dentures, Study L3510566, 2008. Publication in progress.

CED EU INFO

Issue 2 – March 2012

SECTION I – EU TOPICS RELEVANT TO THE DENTAL PROFESSION

DIRECTIVE ON THE RECOGNITION OF PROFESSIONAL QUALIFICATIONS (PQD)

On 2 February, the Commission held a conference (conference webcast) to explain the main changes introduced by the legislative proposal to amend the PQD. During this conference, the CED learnt the new timeline for the legislative procedure:

- Consideration of draft report 17-19 September 2012;
- Deadline to table amendments 15 October 2012;
- IMCO vote on 28 November 2012;
- Plenary sitting vote scheduled for 14 January 2013.

On 28 February, the European Parliament's IMCO committee held a first exchange of views on this issue. The Committee is now planning a hearing entitled "Growth & Mobility: Modernising the Professional Qualifications Directive" on 25 April to continue to discuss the Commission's proposal on the PQD.

MEDICAL DEVICES

On 9 February, the European Commissioner for Health and Consumer Policy John Dalli called on Member States to ensure full and stringent implementation of the current EU legislation on medical devices. In a letter to the EU Health Ministers, the Commissioner set out his proposals for a joint plan of immediate measures, including verifying the designation of notifiedbodies, ensuring that notified bodies fully use their powers under the current legislation, such as the power to conduct unannounced inspections, and reinforcing market surveillance.

He also proposed improving the vigilance system for medical devices, for example by encouraging healthcare professionals to report adverse events, and supporting the development of traceability tools such as Unique Device Identification systems and implant registers. The proposal came as a result of the PIP breast implant scandal.

In addition to the immediate actions, the European Commission asked the Scientific Committee on Emerging and Newly Identified Health Risks to conduct an in-depth investigation of the potential health impact of the faulty PIP silicone breast implants.

Commissioner Dalli also indicated that lessons learned from the PIP case will influence the upcoming revision of the medical devices legislation, particularly by strengthening the provisions on market surveillance, vigilance and functioning of notified bodies.

eLABELLING

On 9 March, the Commission adopted a Regulation on Electronic Instructions for Use of Medical Devices. The regulation establishes the conditions under which manufacturers can provide instructions for use of medical devices in electronic form. One of the conditions is that the medical device in question is intended for exclusive use by professional users (healthcare providers).

In addition, the manufacturer has to undertake a risk assessment demonstrating that providing instructions in electronic form maintains or improves the level of safety compared to providing instructions in paper form; he is obligated to provide instructions in paper form to the user, if so requested by the user; and finally he has to keep instructions for use available to the users in electronic form for at least 2 years after the expiry date of the last produced device (for devices with a defined expiry date, except implantable devices) or for a period of 15 years after the last device has been manufactured (for devices without a defined expiry date and for implantable devices). This regulation will enter into force on 1 March 2013.

EUROPEAN STANDARDISATION

On 21 March, the European Parliament's IMCO committee approved the report on the draft Regulation on European Standardisation. The report was approved by 36 votes in favour and one abstention.

During the discussions, S&D and Green MEPs stressed their concern to include services in the scope of the regulation, explaining that that Member States should remain free to decide on the development of standards in areas such as social services and public health

The Committee now has to decide when to open formal negotiations with the Council; first informal meeting will take place on 11 April. The Council debate is planned for 30 May (Competitiveness Council) and the vote in the European Parliament plenary for 2 July. The approved version of the report has not yet been published.

DENTAL AMALGAM

On 26 March, the Commission organised a stakeholder meeting where BIOIS (consultancy firm contracted by the Commission) presented the draft report on the potential for reducing mercury pollution from dental amalgam and batteries. Stakeholders are now invited to provide written feedback by 16 April. The final report is expected by May 2012 and the Commission will use it to assess for further action at EU level. CED Working Group Amalgam and Working Group Infection Control and Waste Management will meet in London on 4 April to discuss and prepare the CED response on the draft report.

JOINT ACTION ON HEALTHCARE WORKFORCE

On 9 March, the future partners of the Joint Action for Health Workforce Planning submitted to the Executive Agency for Health and Consumers the proposal for the Join Action (JA).

Continues on page 30.

CED EU INFO

Continues from page 29

The main purpose of this JA is to provide a common platform for Member States to work together on: 1) data for health workforce planning; 2) exchanging good practices with planning methodologies; 3) forecasting future health workforce needs; and 4) the sustainability of the results of the JA.

The JA is structured in 7 Work Packages and is expected to start at the end of 2012 or in early 2013. The CED will contribute as an associated partner to Work Package 6 – horizon scanning. Specific objectives of this Work Package are to estimate future needs in terms of skills and competences of the health workforce, their distribution and to develop a user guide on how to estimate future needs.

The Work Package will be led by the UK-based Centre for Workforce Intelligence.

WRITTEN HEALTH WARNINGS FOR TOBACCO PRODUCTS

On 7 March, the Commission adopted 14 new health warnings to appear on tobacco packs through Directive 2012/9/EU. The Directive amends the Annex of Directive 2001/37/EC on the manufacturing, presentation and sale of tobacco products.

New health warnings include "Smoking causes mouth and throat cancer" and "Smoking damages your teeth and gums". Member States will have to comply with the Directive by 28 March 2014 but may decide to allow continuation of marketing of products not complying with the Directive until 28 March 2016.

SAFETY OF BISPHENOL A IN MEDICAL DEVICES

The Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR) has been requested to provide a scientific opinion on the safety of the use of bisphenol A in medical devices. The deadline is July 2012 after which the opinion is to be submitted for a public consultation. The CED is planning to contribute at that time through one of its Working Groups.

eHEALTH

The Commission launched a Public Consultation on the Access to Interoperability Information of Digital Products and Services to obtain information on the needs, barriers and opportunities for measures leading significant market players to license interoperability information not covered by standards.

Interoperability is defined as the ability of hardware or software products, or services to exchange information and mutually to use that information. The consultation is open until 20 June 2012.

Article 29 Data Protection Working Party (independent advisory body on data protection composed by Member States' data protection authorities, the European Data Protection Supervisor and the Commission) has recently published an opinion on data protection issues related to epSOS (European Patients Smart Open Services) project.

A home video about how epSOS work in a real-life situation is available here. The video shows a Greek pharmacist dispensing medication to an Italian patient using epSOS services.

PUBLIC CONSULTATION ON ePRESCRIPTIONS

On 26 March, the Commission published the results of the public consultation on measures for improving the recognition of prescriptions. The results of the consultation, to which the CED also contributed, will be used for the impact assessment on measures to improve the recognition of prescriptions issued in another Member State. This impact assessment will be published by the end of 2012.

EUROPEAN INNOVATION PARTNERSHIP ON ACTIVE AND HEALTHY AGEINGY

On 29 February, the Commission issued a Communication to take forward the Strategic Implementation Plan of the European Innovation Partnership on Active and Healthy Ageing.

In this Communication the Commission:

- invites stakeholders to commit to specific actions on innovation in active and healthy ageing;
- puts in place, as of April 2012, a "marketplace for innovative ideas", helping stakeholders find partners, share good practices and disseminate evidence;
- intends to address regulatory and standardisation issues, e.g. by developing a new EU framework for interoperability testing, quality labelling and certification on e-Health; and,
- intends to use EU funding instruments such as the Competitiveness and Innovation Framework Programme (CIP).

JURISPRUDENCE

The European Court of Justice recently ruled – Case-135/10 – on whether producers of phonograms are entitled to obtain remuneration when private dental practices broadcast phonograms by way of background music in the waiting room to entertain – free of charge – their patients while waiting for the treatment.

The Court ruled that these phonograms were not a "communication to the public" for the purposes of EU law (Article 8(2) of Directive 92/100/EEC currently repealed by Directive 2006/115/EC on rental right and lending right and on certain rights related to copyright in the field of intellectual property), and therefore, such broadcasting did not give rise to a right to a remuneration.

The plaintiff (a royalties collecting agency for phonograms producers) had tried to conclude a collective agreement with CED Member ANDI (Associazione Nazionale

Dentisti Italiani) to quantify an equitable remuneration. As those negotiations were unsuccessful, the plaintiff brought an action before the Turin district court.

SECTION II – GENERAL EU POLICY

FISCAL COMPACT TREATY

As CED EU INFO went to press on 30 January, EU leaders were meeting in Brussels to finalise the text of a new treaty to tighten fiscal discipline in the eurozone. The treaty, which was in principle agreed at the Summit on 9 December 2011, was vetoed by the UK and will as a result be concluded on an intergovernmental basis and outside of the EU legal framework. All EU Member States except the UK and Czech Republic have expressed their interest in joining the new "fiscal compact".

FIRST SINGLE MARKET GOVERNANCE REPORT

On 27 February, the Commission presented the first single market governance report to evaluate the state of the single market. This report will feed into a new report due in June on further means to enhance the implementation of the single market legislation, since 2012 is its 20th anniversary.

These actions come as a response to the Statement of the Informal European Council of 30th January 2012 towards growth-friendly consolidation and jobfriendly growth. Before the end of 2012, the Commission will present its programme for the next stage.

Its considerations will be fed by a large-scale economic study, the results of which will help to identify the areas still unexploited and pinpoint new drivers of growth.

Comments, questions and contributions please contact: ced@eudental.eu

THE I CAT PRESENTATION

AT DA VINCI HOSPITAL

A Bart Enterprises Event

Summarised by Dr David Muscat

The I Cat is a 3 dimensional machine that is guaranteed to make you purr.

The I Cat provides high resolution volumetric images and is very useful for dentists, maxillofacial surgeons and ENT surgeons, as one can carry out 3 D imaging with one tenth of the radiation than a normal scan.

A free and fully functional software is given to each referring dentist. Since the system is generic ,and Dicom compatible, it can be used with other applications.

With implant planning, one can remove the chin-piece on the machine and scan the stent on the model.

One then scans the patients jaw, and then one will superimpose the two together.

You can trace the inferior dental canal , and gauge proximity to the sinus walls and identify cortical borders. One can also rotate the jaw on the screen to compensate for the curve of spee.Thus one can mark the actual length of a tooth or implant.

A slight problem one may encounter is when the patient being scanned has several restorations which may make the tracing of the jaw go off course. This will then require your steady hand to retrace on the screen. This can be a bit of a 'cat' with the mouse.

One can slice through the maxilla and mandible at will. One usually slices halfway between the root and crown. You can plan which size implant you wish to use with say the SIMPLANT system. You can also use with Nobel and other systems.

Improve contrast and sharpness at will and can see very clearly well deep into the skull with all the depressions and topography .

The patient we were working on in fact we noted had a very long styloid process – a feature noted most astutely by my colleague , and a sign of 'Eagles syndrome.'

Any cysts and abnormalities of the jaws can be most readily detected. The machine will pick up tumors and will save more than 9 lives!

One must of course realize that with the information comes the responsibility. If there is pathology there you must pick up on it –if you have been trained to do so.

Surgical interventions can have predictable outcomes.

Since the patient is seated, which is what is advisable to keep still, one can achieve better positioning and alignment. One cannot stress how important this is.

The scan is under 9 seconds, and the data transferred within 30 seconds. From exposure to treatment planning in under a minute.

Fast. Flowing. Feline. Faster than my cat.

Lasers in Dentistry

Dr James Galea B. Ch.D, FDSRCS (Eng)
Specialist in Oral Surgery

The word LASER is an acronym for Light Amplification by Stimulated Emission of Radiation. The light waves produced by the laser are a specific form of radiation, or electromagnetic energy.

Absorption of the laser energy by the intended target tissue is the usual desirable effect. The amount of energy that is absorbed by the tissue is dependent on the tissue characteristics (pigmentation, water content) and on the laser wavelength and emission mode.

The most important laser-tissue interaction is photothermal, where the energy is transformed into heat.

Precise surgical incisions and excisions with hemostasis are the result of such an interaction. Photochemical interactions can stimulate chemical reactions, such as the curing of composite resin; and break chemical bonds by the activation of an agent, like what happens in laser assisted teeth bleaching.

A laser can be used in a non-surgical mode for biostimulation of more rapid wound healing, pain relief, increased collagen growth and a general anti-inflammatory effect. This is achieved by defocusing the laser beam and using low powers. Laser energy on hard dentinal tissues can be used to pulverize the tissue, creating an abraded crater. This happens through photoacoustic effects of laser light.

One of the main benefits of dental lasers is the ability to selectively and precisely interact with the target tissues.

Lasers also have the advantage of decontaminating the surgical field and, in the case of soft-tissue procedures, achieve good hemostasis with reduced need for sutures. A reduction in anaesthetic use is another benefit of laser use in dentistry.

Tissue absorption of the laser energy depends on tissue characteristics and on the laser wavelength.

There are a variety of laser wavelengths for the various applications in dentistry. Energy is delivered to the surgical site by various means which must be suited to the laser type. Shorter wavelength instruments, such as KTP, diode, and Nd:YAG lasers, have flexible fiber-optic systems with glass fibers that deliver the laser energy to the target tissue.

Erbium and CO2 devices are constructed with more rigid glass fibers, semi-flexible waveguides, or articulated arms.

Specific technical features of different brands of laser platforms contribute towards their individual ease of use and safety features. The most commonly used laser wavelengths and their respective properties are tabulated below.

Laser Type	Wavelength	Water absorption	Penetration in soft tissue (indicative)	Penetration in dentin and enamel (indicative)	Penetration in bone (indicative)
Nd:YAG	1,064 nm	Weak	3 mm	5 mm	5 mm
Diode	980 nm	Weak	3 mm	5 mm	5 mm
KTP	532 nm	Weak	3 mm	5 mm	5 mm
CO_2	10,600 nm	Strong	100 microns	200 microns	300 microns
Er:YAG	2,940 nm	Very strong	10 microns	10 microns	10 microns

The table below shows the dental field suitability of each of the common dental laser types (including the ideal power for each of the systems). The number of stars indicate the suitability of the laser for each indication, the more stars, the more suitable. Three yellow stars indicate the gold standard.

	Dental surgery	Conservative	Endodontics	Implantology	Periodontology	Teeth bleaching
Er:YAG 2940nm (8 Watts)	☆☆	★★★	☆	☆☆	☆	
Diode 980nm (5 Watts)	☆☆☆		☆☆	☆☆☆	☆☆	☆☆
CO_2 10600nm (25 Watts)	★★★	☆	☆	☆☆	☆	
Nd:YAG 1064nm (10 Watts)	☆☆☆	☆	★★★	★★★	★★★	☆
KTP 532nm (3 Watts)	☆☆☆	☆	★★★	★★★	★★★	★★★

With the use of a dental laser, several procedures will be made easier and simpler. Disinfecting an aphthous or herpetic ulcer will not only relieve the patient's discomfort, but it will also prevent the rescheduling of the appointment.

Tissue retraction for subgingival crown or implant restorations can be performed quickly with excellent hemostasis, ensuring an accurate impression.

Laser dentists report saving appointment time as well as elimination of a majority of cords and medicaments. Soft tissue surgeries are much easier to manage with control of bleeding.

Excessive gingival tissue around carious lesions can easily be contoured for access as well as improvement of the physiologic contour. Periodontitis becomes treatable with the highest success rate. These are only a few examples of where lasers can expand and improve treatment options.

In today's world, many dental patients are aware of the use of lasers for other healthcare and aesthetic applications, and many of them may have already received treatments with such devices. These same patients will appreciate the dental practice's desire to implement new technology that will make procedures more comfortable and effective.

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MEDOCHEMIE

TRIAGING AND EMERGENCY TREATMENT OF DENTAL PROBLEMS

By Dr M K Vasant MBE, Dental Surgeon

STAGES OF ORAL INFECTIONS

DENTAL INFECTIONS

Infection spreads from enamel to dentin and then to the pulp (pulpitis).

Pulpal involvement leads to necrosis (irreversible), which may lead to a peri-apical abscess, which may break into adjacent anatomical landmarks/spaces causing swelling, pain and lymphadenopathy.

Antibiotics are of no value in reducing pulpal pain. Useful analgesics are Paracetamol and Ibuprofen.

Dihydrocodeine should not be used as it has shown to be hyperalgesic in some types of dental pain.

PERIODONTAL DISEASE

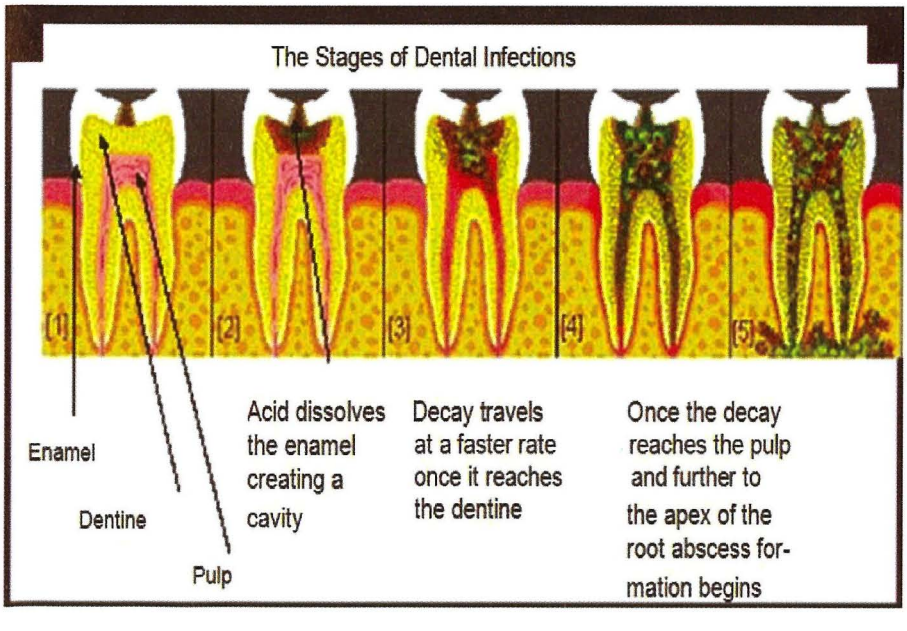
Gingivitis is the mildest form of periodontal disease. It causes the gums to become red, swollen, and bleed easily.

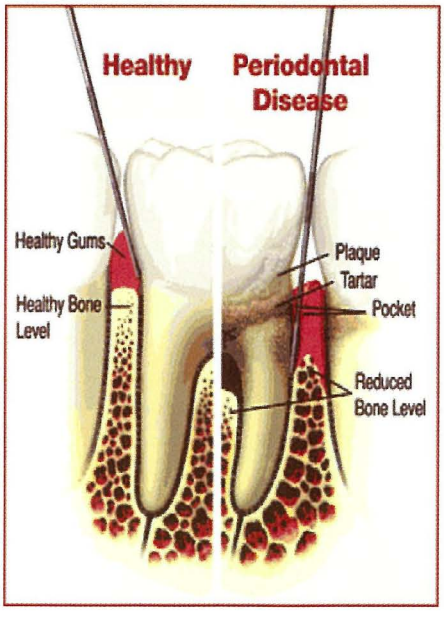
Periodontal (gum) diseases, including gingivitis and periodontitis, are serious infections that, left untreated can lead to tooth loss.

Presentation	Likely Diagnosis	Treatment
Acute pain difficult to locate by the patient. May complain of earache or facial pain	Pulpal decay or cracked tooth syndrome, which may be difficult to diagnose	Removal of decay and restoration by dental surgeon. If pulpitis is irreversible, root canal treatment carried out by dentist
Painless bleeding gums (spontaneous or during brushing), Bad breath, poor dental hygiene.	Chronic Gingivitis	Good dental hygiene (referral to a dentist for scaling/oral hygiene instructions)
Adult with painful gums, bad breath, pyrexia, patient generally unwell, smoker	Vincent organism causing Acute Gingivitis	Metronidazole 200mg tds for 3 days, Oral hygiene instructions (Gentle brushing & mouth wash
Young child with pyrexia, Generally unwell. Painful ulcerated gums. Varies widely in severity	Primary Herpetic Stomatitis	Usually self limiting. Lasts 10 days. Antibiotics may be given to prevent secondary bacterial infection. Severely ill or Immuno-compromised should receive systemic acyclovir.
Adult with vesicles around lips and crusting	Secondary Herpes	Self limiting, but 5% acyclovir cream may be prescribed
Localised pain around tooth with local swelling	Periodontal disease due to poor plaque control or occasionally trauma e.g. fish bone. Partially erupted tooth e.g. wisdom tooth in 18+ year old.	Emergency treatment with antibiotics such as Amoxicillin 250mg tds, or Metronidazole 200mg tds. Referral to a dentist.
Acute pain around a tooth with ulcers) in an adult (may have known GI problems)	Aphthous or similar ulceration	Usually self limiting. Mouthwashes may help reduce secondary infection
Thrush	Acute candidiasis	Antifungal treatment

Non Dental Pain which may manifest as "toothache" may be due to:

- Temporo - Mandibular Dysfunction Syndrome (TMDS) Pain in and around TMJ
- Sinusitis
- Psychological disorders
- Tumours
- Herpes Zoster





HOW TO ACHIEVE SUCCESSFUL DENTAL RESTORATIONS

The Dentsply Presentation by Dr Ghada Basil Haddad

Salient points by Dr David Muscat

CERAM x gives you 180 seconds working time. The MONO is used for posterior s and the DUO is used for anteriors. Ceram X mono comes as 7 syringes.

The smear layer is created by rotary instruments and nowadays is not removed prior to bonding.

BONDING
ETCH AND RINSE (TOTAL ETCH) – SELF ETCH
3 STEP – 2 STEP – 2 STEP – 1 STEP
ETCH,rinse,bond – etch, P and B – Etch and prime,bond – Etch ,prime+bond

NT TECHNOLOGY-7 NANOMETRES PENETRATING BETWEEN COLLAGEN FIBRES
With Prime and Bond NT one film is enough. One also gets fluoride release. Prime and Bond NT can be mixed with self cure adhesive and be used with indirect restorations such as Calibra.

One should etch enamel for 30 seconds, and extend to dentine for a maximum of 15 seconds, and then rinse thoroughly for 15 seconds, avoid evaporation of the solvent. Bonding should be left for 20 seconds undisturbed and air dry for 2 secs maximum.

CLASS 1V RESTORATIONS
Use a lingual shelf made from a silicone index. Build up an enamel wall at the back. You then have a base you can work on representing the anatomical shape of your incisor. Apply a thin ribbon of dentine at the transition. If the colour is too grey it is because the enamel is too thick or the dentine is too light. Finishing is with a 14-18 fluted diamond carbide bur.

POSTERIOR COMPOSITES
One aims to reduce and compensate for polymerisation stress.
Stress may result in caries.

Bulk placement of SDR can be made up to 4mm. It is not a flowable composite ,but it has a flowable consistency.

It self-levels. It is not an aesthetic restoration and contains a modulator- a monomer which reduces stress.

The Xeno V plus is used first to treat the dentine. This is acidic in itself-it is a self-etch with a Ph of less than 1.the phosphoric acid is neutralised by the calcium that is taken from the dentine and enamel.

Self Etch-the smear layer stays but will be modified and partakes in the adhesion.
On the dentine level, the self etch provides better adhesion. On enamel however, total etch is better. Xeno V can be kept in its dish for up to 30 minutes, at 2-24 degrees Celsius.

The new Xeno v plus does not contain acrylic acid, and has a 10 second curing time only. The resin tags penetrate to a depth of 50 microns .Xeno V plus contains tertiary butanol, and this is more friendly towards overdried dentine. It is applied and agitated for 20 seconds. Self etch is good also for use on sensitive teeth.

CHEMFIL ROCK
This new material has a great fracture resistance, and good mechanical properties. It does not contain methacrylates-which some patients are allergic to. There is no need for conditioning, coating, light curing or layering. The material does not stick to the spatula. It sets in 1.5 minutes.

NUPRO is a sensodyne prophylactic paste which affords immediate relief of sensitivity. Nupro uses Novamin calcium phosphate technology. It is applied for 60 seconds and relieves sensitivity for up to 28 days.

INTRODUCTION TO **WAVE ONE**

Continues from page 25.

Use the start X to enlarge it a bit. With Niti you get less transportation, less debris pushed out and need less time. A seven degree taper F1 should be discarded after using 4 to 5 times.

One does not need Sx or S1
The main instruments needed are S2 the F1 and F2.

Do not use the Sx as you may transport the canal. The S1 and the S2 do the same job. The S2 is enough. A brushing motion is not recommended.

Dr G. Yared started using the F2 as the only instrument using a reciprocating motion and found that it:

1. Reduced fatigue
2. Eliminated cross contamination
3. More cost effective

Dr Paul Dummer collected sterilised instruments that had been used before to be uses a second time and found that 32% showed evidence of debris.

Dr Varela Pateno showed that the lifespan of the Protaper file was 10 canals when used in sequence under continuous rotation NB – reciprocation prevents the taper lock.

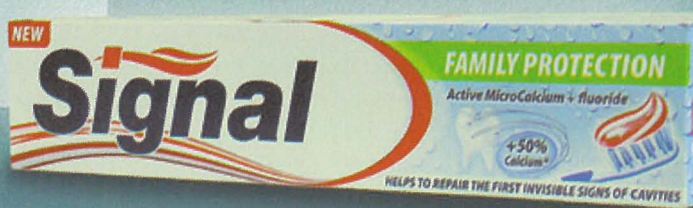
Every instrument has an elastic limit. If you pull both sides you will get a plastic deformation. Then pull further there will be a breakage beyond the plastic limit.

With the reciprocating 120 degrees with the WAVE ONE the instrument is rotating within the limits of the elastic limit and that is why reciprocating motion is important. There is a centering ability and no transportation.

There is a' BLUE wire 'generation being developed but the Wave One' M wire' is currently classed as the most reliable root canal filling system available at present in the world.

8 actions against the frequent problems identified by dentists.

ORDINARY TOOTHPASTE	Signal FAMILY PROTECTION
☑ Cavity protection	☑ Cavity protection
☑ Whitening	☑ Whitening
☑ Fresh breath	☑ Fresh breath
☑ Strenghtened enamel	☑ Strenghtened enamel
	☑ Reinforced gums
	☑ 18hr anti-plaque effect
	☑ Anti-tartar
	☑ Anti-bacteria



Signal | BRUSH DAY+NIGHT | fdi

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

Signal mouths make great moments

A CENTENARY COMMEMORATION

JOHN H. MERCIECA 1912-2003 M.O.M, DIP.D.S, D.SC. (HON. CAUSA)

By George. E. Camilleri

This year marks the centenary of the birth of John Mercieca, a tower of strength of the dental profession and the Dental Association of Malta. He was born on 7th November 1912 at Floriana, son of Salvatore Mercieca and Virginia (nee Borg). He attended the Lyceum and then joined the first Course in Dental Surgery (1933-37) at the University of Malta under the tutorship of Professor Egidio Lapira.

He was a brilliant student and obtained full marks in his pathology and surgery examinations before graduating with the Diploma in Dental Surgery in 1937. On graduating he went into private practice and was soon appointed an examiner in Dental Surgery at the University, remaining a member of the Examination Board till 1978. In 1939 he married Mary Agius who played a strong supportive role in his career. During the war years (1940-46) he joined the Royal Army Dental Corps reaching the rank of Surgeon Captain (D) and awarded the Africa Star.

He also participated in the volunteer dental service set up to cover the outlying villages during the war. After discharge from the RADC he returned and remained in private practice till he retired in 1973. Mercieca always had a deep interest in the dental School, and besides being an examiner, he was also a member of the Board (later Faculty) of Dental Surgery for many years.

His deep interest in the dental profession was recognized by his colleagues and he was elected an additional member on the Dental Board from 1945 to 1961. On the formation of the Medical Council the dental profession elected him as one of its delegates in 1961 and did so uninterruptedly till 2001. This is indeed a unique period of dedicated service in support of the profession for 40 years. He also participated actively in the Dental Association of Malta first as Secretary (1948-1961), followed by a twenty year stint (1961-1981) as President and finally as Honorary President from 1981 till his death. He played a major role in keeping the Association together during difficult times.

John Mercieca was an accomplished linguist and often utilised his knowledge of German and Russian by acting as interpreter in the courts and was also a founder member and Vice President of the German-Maltese Circle (1967-77). He was also one of Malta's leading philatelists with an encyclopedic knowledge of stamps and played a vital role in the Malta Philatelic Association becoming President in 1971. He was on the Stamp Advisory Board of the GPO from 1958 to 1973.

The Dental Association commissioned a portrait by Pitre which now hangs in the Association's office. In 1987 the Association and the University celebrated the Golden Jubilee of the Course of Dental Surgery and a highlight of the occasion was the award of the D.Sc. (Honoris Causa) by the University. This gave him much pleasure and we were encouraged to change the previous title of Captain to Doctor Mercieca.

The civic authorities also acknowledged his service to the community and dentistry by the award of the Membership of the Order of Merit (MOM) in 1993. He participated fully in the celebrations of the Golden Jubilee of the foundation of the Dental Association in 1995 and no doubt he had strong background role in the issue of a special set of stamps to commemorate the event.

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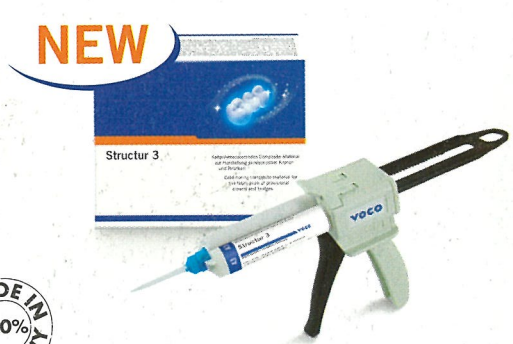

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