

The Dental Probe



1 COMPLETE SENSITIVITY TOOTHPASTE SPECIALLY DESIGNED WITH 7 BENEFITS**

Sensodyne® understands that dentine hypersensitivity patients have differing needs

Sensodyne® Complete Protection, powered by NovaMin®, offers all-round care with specially designed benefits to meet your patients' different needs and preferences, with twice-daily brushing.

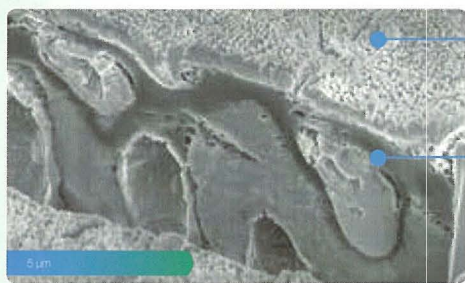
Sensodyne® Complete Protection:

- Is clinically proven to provide dentine hypersensitivity relief¹⁻³
- Contains fluoride to strengthen enamel
- Helps to maintain good gingival health⁴⁻⁶

Sensodyne® Complete Protection, powered by NovaMin® – an advanced approach to dentine hypersensitivity relief

- NovaMin®, a calcium and phosphate delivery technology, initiates a cascade of events on contact with saliva⁷⁻¹² which leads to formation of a hydroxyapatite-like restorative layer over exposed dentine and within dentine tubules^{7,9-13}.
- In vitro* studies have shown that the hydroxyapatite-like layer starts building from the first use⁷⁻⁹ and is up to 50% harder than dentine^{9,14}.
- The hydroxyapatite-like layer binds firmly to collagen within exposed dentine^{10,15} and has shown in *in vitro* studies to be resistant to daily physical and chemical oral challenges^{9,14-17}, such as toothbrush abrasion¹⁶ and acidic food and drink¹⁴⁻¹⁷.

In vitro studies show that a hydroxyapatite-like layer forms over exposed dentine and within the dentine tubules^{7,9,10,12,13}



Hydroxyapatite-like layer **over** exposed dentine
Hydroxyapatite-like layer **within** the tubules at the surface

Adapted from Earl *et al.*, 2011 (A)¹³. *In vitro* cross-section SEM image of hydroxyapatite-like layer formed by supersaturated NovaMin® solution in artificial saliva after 5 days (no brushing)¹³

**With twice daily brushing.



References:

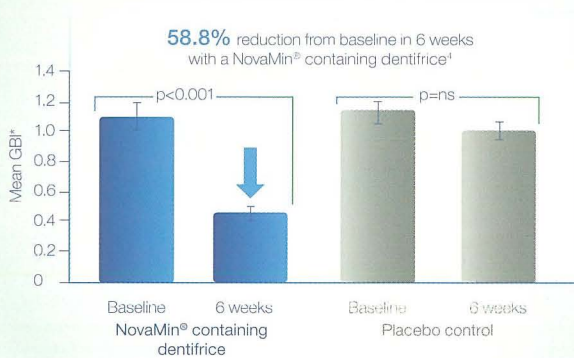
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Sensodyne® Complete Protection helps maintain good gingival health⁴⁻⁶

Good brushing technique can be enhanced with the use of a specially designed dentifrice to help maintain good gingival health^{18,19}.

In clinical studies, NovaMin® containing dentifrices have shown up to 16.4% improvement in plaque control as well as significant reduction in gingival bleeding index, compared to control toothpastes^{4,6}.

Significant reduction in gingival bleeding index (GBI) over 6 weeks with a NovaMin® containing dentifrice⁴



Adapted from Tai *et al.*, 2006⁴. Randomised, double-blind, controlled clinical study in 95 volunteers given NovaMin® containing dentifrice or placebo control (non-aqueous dentifrice containing no NovaMin®) for 6 weeks. All subjects received supragingival prophylaxis and polishing and were instructed in brushing technique. *GBI scale ranges from 0-3.



All-round care for dentine hypersensitivity patients¹⁻⁶

Editorial

DENTAL ASSOCIATION OF MALTA

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By Dr David Muscat

Dear colleagues,

Since the last issue several Maltese dentists abroad have made a name for themselves. Dr Romina Shelbourne nee Carabott has co-authored a book on Forensic Dentistry.

Dr Nicola Zammit has won an Irish dentistry award for Best Aesthetic Practice. In the same practice Dr Niki Bezzina works as a dental sedationist.

We mourn the loss of Dr Tommy Demajo and Dr Joe Bartolo who both passed away recently.

The latest DAM events are listed on the right.

On the initiative of Dr. Walter Debono, at the St. Apollonia mass we collected 320 euro towards the 'Dar Frate Jacoba' Project which is an innovative project centred round an open community of religious and lay people who live together with and cater for youths who find themselves on the edge of society and are labelled as social cases.

We encourage those who have not as yet paid their memberships to do so as soon as possible.

I would like to take this opportunity to wish all our members and their families a Happy Easter.

The cover picture was provided by Dr. Kristian Vella.

Best regards,

David

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

Advertisers are responsible for the claims they make in their ads and the opinion of the advertisers and editors of articles in the issue are not necessarily the opinion of the DAM.

RECENT/PLANNED EVENTS

15 JANUARY

'Floss or Die' by Dr Edward Sammut at Mediterranean Conference Centre sponsored by Arcoxia.

29 JANUARY

'Maxillary Sinus Augmentation' by Dr JPDemajo at Carmelite Monastery in Mdina followed by dinner at Sharma sponsored by Keral.

5 FEBRUARY

AGM at MFPB

9 FEBRUARY

St. Apollonia mass at San Gorg chapel in B'Bugia followed by lunch at Ferretti.

26 FEBRUARY

'Surgeons and Egos' by Mr Alex Manche Cardio-Thoracic surgeon at Din L-Art Helwa offices followed by dinner at Palazzo Preca.

25 MARCH

'Facial Pain-Is It Really Sinusitis?' by Mr Adrian Agius ENT surgeon. With dinner at Palazzo De Piro Mdina.

30 MARCH

Lenten retreat at the Carmelite monastery at Tas-Silg. Meet at 9.30am. Lunch 12.30pm.

APRIL

'Safe Sedation Group' event.

21 MAY

DAM Golf afternoon at Marsa Sports Club with Dr. David Debono followed by dinner.

AUGUST

Event at Mediterranean Conference Centre.

3 SEPTEMBER

Lecture by Professor Brian Millar on Distance Dentistry courses at Kings.

FORTHCOMING EVENTS

Maltese history lecture by Dr. Stephen Spiteri. Lecture on History of wine by Dr Lino Said

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LEFT: The DAM annual Christmas party was held on 6 December 2013 at the Excelsior Hotel and was very well attended. An excellent buffet was served followed by a raffle with generous prizes. The picture shows Dr David Muscat Public Relations Officer with Dr Ray Catania who was tasked with picking one of the winning tickets that evening.



Dr Nicola Zammit principal at Ivory Dental Care in Ireland receives the prize for Best Aesthetic Practice at the Irish Dental awards. In the picture also features Dr Niki Bezzina and the rest of the staff. Dr Nicola Zammit is secretary of the Irish Dental Association and also on the Health and Safety Committee

**"I'VE GOT MY WHOLE LIFE IN FRONT OF ME
BUT I'M NOT GOING TO DEDICATE MORE
THAN 7 MINUTES TO FEVER AND PAIN"**

ALGIDRIN 600

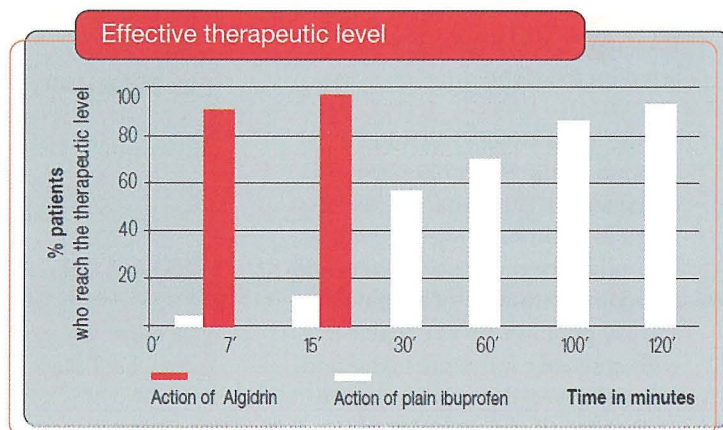
Ibuprofen Lysinate in single dose sachets

Less time to alleviate the pain

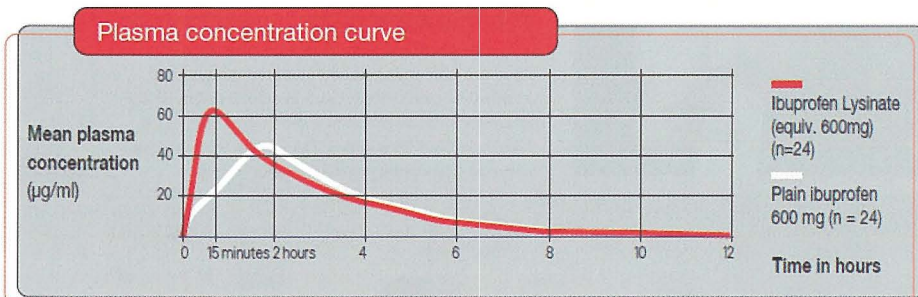
Algidrin ibuprofen lysinate reaches plasma levels faster than plain ibuprofen:

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Higher plasma concentration in Less Time



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

REPORT OF THE DAM President

AGM FEBRUARY 2014

It has been quite a rollercoaster of a year. We have had two new committee members namely Dr David Vella and Dr Roberto Cutajar.

David has proved to be a very effective secretary and has kept very precise minutes and never missed a meeting and attended most of our lectures and events in a very committed fashion.

Roberto, notwithstanding his marriage, birth of a new baby, his studies and action man adventures, still managed to attend most meetings and events. He is our man at the Federation of Professional Associations and has represented us very well there.

The Dental Association of Malta has been involved in

1. The radiographic regulations Legal Notice 44/2003 and helped organise

- a lecture on this at Bart enterprises Ltd. A synopsis for dental clinics was written and published in the Probe.
2. Sharps, Medical devices, Data Protection, amalgam and tooth whitening issues.
3. Dental Indemnity Insurance- we have helped dentists get good rates, and have helped tailor –make the insurances for the local market.
4. The DAM promotes postgraduate education and we welcome the three new Orthodontists.
5. We also encourage the other dentists who are studying for Masters and Phd degrees both locally and abroad.
6. In 2013 the dental Association have organised and helped organise the following events:
 - a. Lifesaving hands on course with our manikin and defibrillator
 - b. Advanced implants course with Professor Lerner-co sponsored

- by Marletta Enterprises Ltd.
- c. 10 professional lectures and presentations
- d. 6 social events.
- e. The Dental Association has the CPD certification in place and already provides sufficient lectures and courses locally to satisfy the requirements which will be enforced within the coming two years in the EU.

We remember Dr Alfred Magri Demajo who had worked so hard for the association and the federation who passed away just over a year ago.

We look forward to the challenges of 2014 which we will face with pride, enthusiasm and motivation. 🇲🇹

Dr David Muscat
President

REPORT OF THE DAM International Liaison Officer

AGM FEBRUARY 2014

This year the IRO was involved in maintaining good contacts with the CED-council of European Dentists; the FDI Federation Dentaire international, and the ERO European regional Office of the FDI.

This year due to personal reasons I only attended one CED meeting which was the important annual meeting in Brussels.

The main EU issues this year have been as follows. May 2103:

1. Professional qualifications. It was decided that 5000 hours was the 5 minimum requirement over a full time 5 year dental undergraduate course.
2. General data protection regulations- we protected the dentists from excessive fines and red tape.
3. Medical devices – we tried to limit the impact of regulations eg. implants not covered by this now. What is covered is a pre-manufactured appliances.
4. Tobacco directive-we tried to limit certain things such as rolled tobacco and menthol additives and increase warnings on packets
5. Sharps directive – to protect workers from sharps injuries. Risk assessment, training and monitoring.
6. Cosmetics regulation-rules for nanomaterials in cosmetic products.
7. September 2103 - .EU Manual of dental practice
8. Working groups on amalgam and other restorative materials, patient safety, tooth whitening products, infection control and waste management, education and professional qualifications, e health, medical devices, oral health.
9. Task forces on Liberal Professions, antibiotics in Dentistry, internal market.
10. The CED is the voice of dentists in Europe and acts as a' trade union 'protecting the interests of dentists in Europe as well as the stakeholders – our patients. 🇲🇹

Dr David Muscat
International Relations Officer

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Tetric EvoFlow

Making a proven product even better

Tetric EvoFlow, the top-selling flowable composite filling material in Europe, is now supplied in ergonomic Luer lock syringes featuring a new 0.9-mm metal tip. Moreover, the material is available in three additional shades. The product's popular consistency remains unchanged.



The outstanding characteristics of Tetric EvoFlow include both optimum surface affinity and sufficiently high viscosity: That is, the filling material flows where it is needed and becomes sculptable when it is required. The Viscosity Controller imparts these properties to Tetric EvoFlow, as it regulates the composite's viscosity during extrusion. The composite resin completely fills out even hard-to-reach areas without leaving any voids.

The ergonomically designed syringe facilitates the exact application of Tetric EvoFlow. The syringe is comfortable to hold and can be guided with great precision. The tips are easy to twist on the syringe due to the Luer lock system, which ensures a tight connection.

Precision application

With the very fine metal tip Tetric EvoFlow is applied precisely where it is needed to repair difficult-to-reach lesions, such as undercut cavities and tapering proximal cavities, and to close diastemas. The 0.9-mm tip is suitable

for placing minimally invasive restorations. The Cavifil vessels also feature a very slender tip that enables accurate application.

Additional shades

As a result of the growing esthetic requirements of patients, small adjustments in the front teeth are in frequent demand and have therefore become a standard procedure in dental practices. In order to fulfil these high esthetic expectations, a wide choice of shades is desirable: For this purpose, shade B1 has been added to the Tetric EvoFlow Bleach range (BL L, BL M and BL XL). This shade is particularly useful for restoring very light teeth.

Due to their true-to-nature opacity, the existing dentin material A3.5 and the new dentin materials A2 and B2 can be used to mask lightly stained areas in posterior dentition. Tetric EvoFlow can be combined with other composite resins, for example, Tetric EvoCeram and Tetric EvoCeram Bulk Fill. It can be placed as an initial layer under a normal-viscosity composite filling material.

Key features at a glance

- Flowable when desired, stable as required
- The ideal consistency for all composite indications
- The proven shade range includes three new shades

High radiopacity

Good radiopacity is requisite in a filling material for reliably identifying secondary caries.

Tetric EvoFlow has a high radiopacity of 360% AI. Therefore, the filling composite is easy to distinguish from the tooth structure.



When a composite resin is used to close a diastema, it is very important to work with a flowable material. This type of composite resin allows the emergence profile to be recreated with great accuracy. Tetric EvoFlow has a suitable consistency for this purpose.



When Tetric EvoFlow is applied, it is both flowable and sculptable.



Due to the fine syringe tips, Tetric EvoFlow can be used to repair very small lesions.

(All clinical pictures courtesy of Dr Eduardo Mahn, Santiago, Chile)



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REPORT OF THE DAM Secretary

AGM FEBRUARY 2014

It's amazing that one year has passed since the current committee was elected. We first met in late February and during our first meeting elected members were appointed to the variety of posts.

Dr David Muscat was appointed President, International Relations Officer and Editor of The Dental Probe; Dr Adam Bartolo Vice President, Government Representative and Representative on SAC; Dr Noel Manche Honorary Treasurer; Dr Lino Said Events Coordinator; Dr Nick Dougall IT Officer and substitute Representative on the SAC; Dr Roberto Cutajar and Dr Darien Cini Representatives on MFPB; Dr John Vella Bardon our CPD Officer.

Our committee has met eleven times during the last year. We've had some long and interesting meetings, occasionally getting close to midnight.

We discussed a variety of issues, most notably; professional indemnity, improvement of access to CPD via lectures organized by DAM, monitoring of dental information given to the public and correcting any inappropriate advice, issues with the Dental Department at Mater Dei and The Faculty of Dental

Surgery, provision of First Aid courses and so on. The Committee also co-sponsored an implant course for its members in collaboration with a local agent. This was very well attended and was worth the effort by all involved.

Another main issue that got the committee busy and some of our members annoyed was the Dental services tender by The Ministry of Health. Our bone of contention was the fact that not all clinics were advised and the time given to reply was very short.

However as we gathered the info and evidence, the service seemed to be withdrawn practically on its first few days of operation by the powers that be. Unfortunately, this issue used up a whole session of our allocated meeting time.

I believe we are mainly proud of two achievements. The first is the organization of an impressive number of talks and lectures on a variety of subjects which were very well attended with most having a decent dinner available straight afterwards and the second is the serious reduction in annual fees for taking up professional indemnity

insurance. This saving, even on the lowest tier would have definitely been worth a few years of DAM membership!

The indemnity issues took a lot of the committee's time as we met most of the companies providing this service to give advice. We were approached by two companies to be their Official Partner, however following previous experience, the committee agreed not to give any company preferential treatment and refused to sign any sole agency contracts with anyone.

We have some interesting lectures in the pipeline, most notably Surgeons and Egos by Mr. Alex Manche in three weeks' time. This is an example of the variety of lectures DAM is currently organizing to improve all aspects of one's education. We might all have to swallow some humble pie during the evening!

Hope to see the usual full house at most events your committee organizes and thank you for the frequent appreciation we receive, most notably when all the chairs are taken up! ☺

David Vella
Hon. Secretary

JOIN US TO SAVE OUR HERITAGE



Din I-Art Helwa

Din I-Art Helwa, 133, Melita Street, Valletta. Tel 21220358 email info@dinarthelwa.org web <http://dinarthelwa.org>

CED PRESS RELEASE – 26 NOVEMBER 2013

EUROPEAN DENTISTS RE-ELECT BOARD OF DIRECTORS, UPDATE POLICY ON DENTAL AMALGAM AND WELCOME THE ADOPTION OF REVISED PROFESSIONAL QUALIFICATIONS DIRECTIVE

Representatives of CED member and observer organisations met in Brussels, Belgium on 22 November 2013 for a regular six-monthly General Meeting, under the chairmanship of CED President Dr. Wolfgang Doneus.

The Council of European Dentists (CED) is a European not-for-profit association which represents over 340,000 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.

CED BOARD ELECTIONS

Dr. Susie Sanderson (United Kingdom) was re-elected to the position of CED Treasurer for another three-year term. Dr. Peter Engel (Germany), Dr. Pirkko Grönroos (Finland) and Dr. Roland L'Herron (France) were re-elected as Directors.

They join the current CED President Dr. Wolfgang Doneus (Austria), Vice-President and Director Dr. Marco Landi (Italy) and Directors Dr. Nikolai Sharkov (Bulgaria) and Dr. Alexander Tolmeijer (The Netherlands).

CED Board of Directors is composed of eight members who must be dental practitioners and share the powers of administration of the



Dr David Muscat International Liaison Officer of the Dental Association of Malta presenting the Dental Probe to Dr R. Barnesconi from the Netherlands at the Council of European Dentists General Meeting on 22/11/13 in Brussels.

organisation, including communication and representation of the CED towards third parties, in particular the European Institutions, as well as implementation of CED policy and financial management.

MEMBERSHIP OF CROATIAN DENTAL ASSOCIATION IN THE CED

Following Croatia's accession to the European Union on 1 July 2013, the Croatian Dental Chamber requested to become a full member in the CED. The CED members unanimously approved the request.

CED UPDATED POLICY ON DENTAL AMALGAM

In light of the Minamata Convention on mercury signed on 10 October 2013, the CED Members adopted a position on the Convention in

which they reaffirm their continued engagement in encouraging the reduction of the environmental impact of the use of dental amalgam and acknowledge with appreciation the progress achieved in Europe in this area, and now worldwide.

The CED believes that the signing of a globally-binding treaty on the use of mercury is a sensible outcome that recognises the practicalities of improving oral health. For many years, the CED has stressed the importance of avoiding a complete phase-out of the use of mercury in dentistry, particularly in a short timeframe.

The CED also welcomes the flexible approach adopted to take into account countries domestic circumstances. We believe that the treaty reaches a good

balance between the use of amalgam and non-mercury based materials.

The CED further welcomes the measures which encourage research and development of non-mercury based materials.

The CED has noted that the scientific community is not yet fully able to demonstrate the relative emerging risks of the use of alternative materials and that the toxicology of these materials is a work in progress. The CED strongly supports research based evidence and research based decisions.

Following the signature of the Minamata Convention, the CED Members also updated resolutions on dental amalgam and on responsible practice accordingly stressing that costs for alternative filling materials will likely be higher than for dental amalgam.

Background information: The CED adopted on 19 November 2010

a resolution on dental amalgam, stressing that amalgam is a safe and highly effective restorative material.

The worldwide consensus of the dental profession is that amalgam should remain part of the dentist's armoury as it continues to be the most appropriate filling material for many dental restorations due to its ease of use, durability and cost-effectiveness.

On 18 November 2011, the CED adopted a resolution on responsible practice aimed at minimizing the environmental impact of the use of dental amalgam.

The resolution also recommended more research to be carried out on alternative materials used in dentistry.

PROFESSIONAL QUALIFICATIONS DIRECTIVE

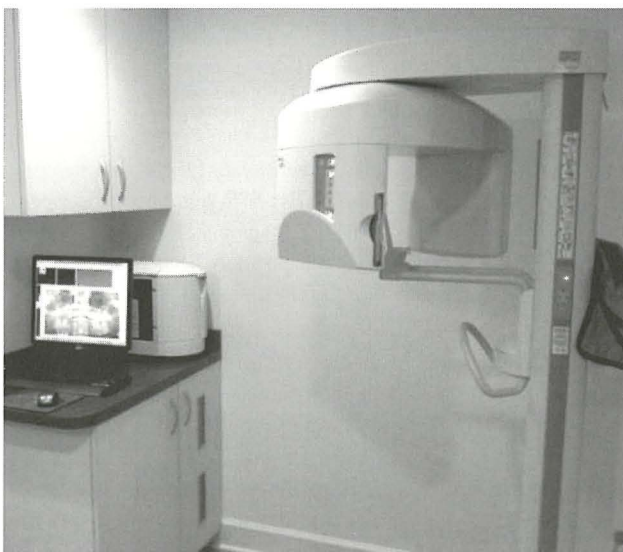
CED Members welcomed the final adoption of the revised Professional Qualifications Directive by the EU Council on 15 November 2013.

The main features concerning the dental profession include basic dental training comprising at least five years of study, which may in addition be expressed with the equivalent ECTS credits and consisting of at least 5,000 hours of full-time theoretical and practical training, possibility for Member States to refuse partial access to the profession on the grounds of public health concerns, obligation for Member States' competent authorities to alert, through a specific alert mechanism, the authorities of other Member States about professionals who are no longer entitled to practice as a result of a disciplinary action or criminal conviction, and possibility for Member States' competent authorities to conduct language controls in order to verify that professionals are in possession of necessary language skills. 🇪🇺

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

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THE REVISED PROFESSIONAL QUALIFICATIONS DIRECTIVE (DIRECTIVE 2005/36/C)

AN ENHANCED FRAMEWORK FOR MIGRATING PROFESSIONALS & FOR REGULATORS

The Federation of Dental Regulators in Europe (FEDCAR) welcomes the revised Professional Qualifications Directive (Directive 2005/36/EC) after its adoption on 9 October by the European Parliament together with its adoption today by the Council of European Union.

As competent authorities under the Directive, FEDCAR members play a key role in the recognition of professional qualifications for dentists and, in some cases, other members of the dental team. As such, they are pleased that patient safety has been central to the revision of the conditions to the circulation of health professionals in Europe.

FEDCAR welcomes the provisions of the new text that.

- Clarify the role of the competent authorities in confirming the language competence of migrating dental professionals;
- Introduce an Alert Mechanism throughout Europe so that sanctions applied to dental professionals are shared between competent authorities;
- Recognise that reasons of public interest can permit competent authorities to refuse partial access to dental professionals and so ensure patient protection.

One of the objectives of the revised Directive is to facilitate the movement of dental professionals choosing to work in another European country from that in which they qualified. From that perspective, FEDCAR members also welcome the extension of the Directive's scope to the recognition of professional traineeship undertaken abroad by young graduates.



Dr David Muscat, member of the Medical Council of Malta and ex President of FEDCAR presenting the Dental Probe to Dr Zsuzsa Nadicsan from Hungary at the FEDCAR Autumn General Assembly on 29/11/13 at the Ordre National des Chirurgiens Dentistes in Paris.

Member States will have 24 months to transpose the revised Directive into national legislation after its publication in the coming weeks in the Official Journal of the European Union.

FEDCAR members will prepare at the national and European levels to participate fully in the implementation of certain provisions, particularly the implementing act to introduce the alert mechanism.

Evlynne Gilvarry, FEDCAR President said: «These new provisions for the movement of dental professionals throughout Europe assist regulators in each country to ensure patients have access to safe and high-quality dental treatment provided by fully-qualified dental professionals». 📄

The Federation of Dental Competent Authorities & Regulators in Europe (FEDCAR) gathers Competent Authorities from 18 countries from and outside the EU; its mission is to bring together European orders and bodies responsible for the regulation, the registration and the supervision of dental practitioners. We share information and good practices on the regulation of dentists and aim at promoting common positions to the EU legislator regarding initiatives and legislation at European level which affect the regulation of dental professionals.

FEDCAR's key objective is to promote high standards of oral healthcare and effective patient-safety centred professional practice across Europe; this includes regular contacts with other European organisations and EU institutions.



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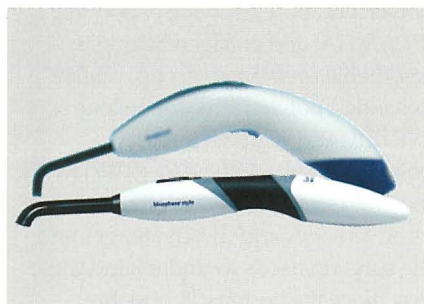
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The high standard of the cordless bluephase curing light is equally appreciated by dentists, scientists and renowned test institutes, not only because of its performance, but also for its handling. Needless to say that these quality criteria have been retained in the development of the new bluephase. And that's not all: whilst offering a comparable light intensity ($1,100 \text{ mW/cm}^2 \pm 10\%$), bluephase style is smaller in design and therefore more comfortable to hold in the hand than its predecessor.



The classic bluephase (top) and its further development: noticeably different

bluephase style – now comfortable to fit every hand

Whether man or woman, small or big: the compact design of the bluephase style curing light comfortably fits every hand; the light can be held like a pen or gun. Its well-balanced lightweight design reduces the strain on arms and hands – irrespective of the size of your hand.



bluephase style can be held like a pen or gun.

LED for every indication

Small and compact, bluephase style offers all the distinguishing advantages of the existing bluephase such as the Click & Cure function (enabling a quick change from battery to mains operation) and the proven proprietary polywave® LED technology. Consequently, bluephase style is suitable for all photoinitiators and materials which cure in the wavelength range of 385 to 515 nm, which is not the case with second-generation LED light units.



Shorter 10-mm light probe

The light probe of bluephase style is clearly different from all known light probes: it is shortened to allow easy access to all tooth surfaces without extreme opening of the mouth. In addition, the probe's large diameter of 10mm illuminates the entire area even of large cavities, eliminating the need for time-consuming multiple exposures in MOD restorations in particular.



Key advantages at a glance

- designed to comfortably fit every woman's and man's hand
- polywave LED technology offering a wavelength range of 385 to 515nm, similar to halogen curing lights
- suitable for all materials
- large illumination area due to 10-mm light probe
- shortened light probe: all tooth surfaces can be easily accessed without necessitating extreme opening of the mouth
- Click & Cure function for emergency operation directly from the mains, independent of the battery

For more information, please visit www.ivoclarvivadent.com

Guided tissue regeneration using non-resorbable high-density polytetrafluoroethylene (d-PTFE) membranes: clinical case studies in humans

Ms Katarzyna Swider, Dental Student

4th year dental student, Faculty of Dentistry, Medical University of Wroclaw, Poland

Dr Mark Diacono BChD (Leeds), FDS RCPS(Glasg)

Specialist in Oral Surgery, Dental and Implantology Unit, St James Hospital, Sliema, Malta

ABSTRACT

A variety of membranes have been developed over the years to help achieve guided tissue regeneration (GTR). Success depended upon tension free soft tissue closure but after bone regenerative surgery this may frequently be challenging. Soft tissue grafts have been advocated as a preliminary staged procedure to overcome this issue.

However, products are available to achieve tension free coverage without soft tissue grafting when primary closure is not possible.

This paper reports 3 cases where high density polytetrafluoroethylene, d-PTFE membranes (Cytoplast® TXT-200 Singles), were used to achieve guided tissue regeneration after bone grafting.

The membranes were positioned over the surgery sites where primary wound closure could not be obtained and secured with sutures. After three

to four weeks membranes were removed. The clinical outcome are presented in this paper and discussed.

INTRODUCTION

Membranes are mechanical barriers exploited in oral and periodontal surgery to create a secluded space around defects that permits bone regeneration without the competition of epithelium and other tissue – this is known as guided bone regeneration (GBR).

They are often used during periodontal and implant surgery. It is known that up to 22% of the alveolar height and 63% of the alveolar width may be lost in the first 6 months following extractions¹. Regenerative procedures rebuild bone to counter its loss after extraction whilst socket preservation procedures help reduce bone loss after extraction by promoting bone regeneration within the socket. Bone graft materials and membranes are routinely used in

bone grafting and socket preservation techniques as well as in immediate implant placement. Primary closure is frequently difficult and securing the edges of the wound under tension could lead to dehiscence, infection and bone loss. Releasing the periosteum to achieve closure may compromise the blood flow to the surgical site and may thus affect both bone and soft tissue healing. Membranes can be divided into two main groups: resorbable and non-resorbable.

Poly lactide/polyglycolide copolymer (PLA/PGA) and collagen belong to resorbable membrane group, whilst expanded polytetrafluoroethylene (e-PTFE) and high-density polytetrafluoroethylene (d-PTFE) to the non-resorbable. Each group has its advantages and disadvantages and the surgeon needs to understand these to achieve the best result possible.

Continues on page 23.



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The Treasurer, Dr Noel Manche,
The Dental Association Of Malta,
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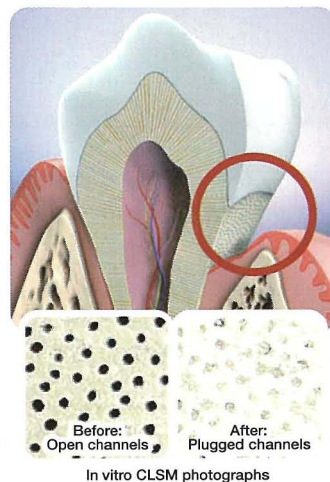
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 * For instant relief massage a small quantity directly on the sensitive tooth for one minute.

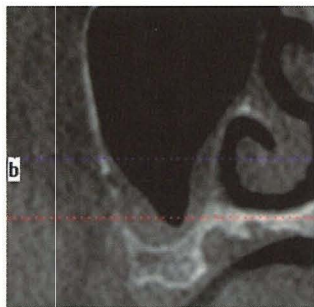
MAXILLARY SINUS AUG

ANATOMY OF SINUS

WALLS

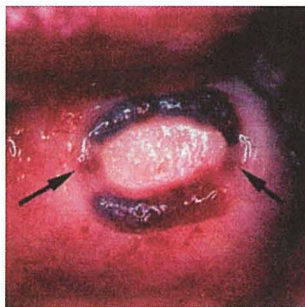
- 1 Buccal wall
- 2 Orbital floor
- 3 Medial wall
- 4 Sinus floor

CBCT SECTION

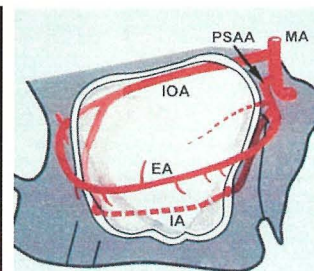


ANATOMY OF SINUS

SCHNEIDERIAN MEMBRANE



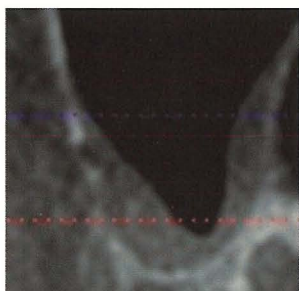
ALVEOLAR ARTERY



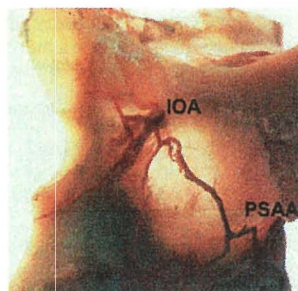
Clinical Oral Implant Research ISSN 0905-7165: Blood Supply to the Maxillary Sinus relevant to Sinus Floor elevation procedures: Solar, Geyerhofer, Traiser

ANATOMY OF SINUS

CBCT SHOWING ARTERY



PSSA



Clinical Oral Implant Research ISSN 0905-7165: Blood Supply to the Maxillary Sinus relevant to Sinus Floor elevation procedures: Solar, Geyerhofer, Traiser

Surgical Technique

- Conventional Lateral window approach

Invasive
Most documented
Risk of damage to the artery

- Summer's Lift
- Balloon Technique

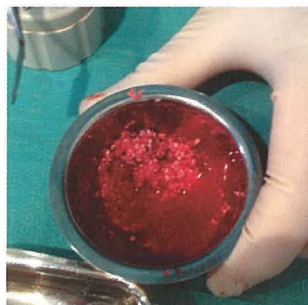
Material Selection

- Autograft
- Allograft
- Xenograft
- Alloplast

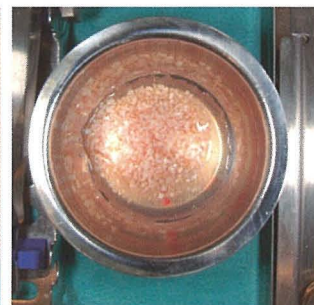
Sinus grafting Consensus Conference report:
Int J Oral Maxillofac Implants Special Supplement 1998:13
Success rates of implants inserted in different grafted bone with multiple other variable were very similar proving that no particular material is better than the other.

Material Selection

ALLOGRAFT



XENOGRIFT



MENTATION

By Jean Paul Demajo

Other Biomaterials

COLLAGEN



VICRYL



L-PRF: Leucocyte Platelet rich Fibrin.



Surgical Assessment

■ Pre-op check-up:

1. Is there an infection in the sinus?
2. Physiology of sinus
3. Is there a tooth infection?
4. Is the mouth clean and descaled?
5. Medical/Social history: absolute contraindications
6. Radiography: CBCT

Surgical Procedure: Pre-op medication

- Antibiotics: Penicillin based 1g/BD 10 days or Metronidazole 400mg TDS/10 days.
- Prednisolone 30mg/day 3-4 days
- Analgesics
- Nasal Spray such as Ocean Spray or budesonide?
- Diazepam

Radiography

1. Presence of artery
2. Remaining alveolar bone <4mm ???? 2stage??
3. Thickness of buccal wall
4. Thickness of membrane?
5. Number of chambers? Septa present? More than one window?

Radiography



Continues on page 20.

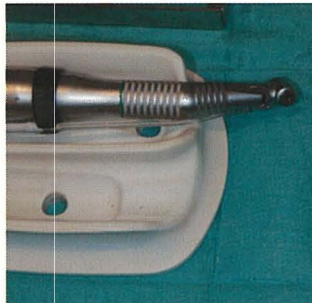
MAXILLARY SINUS AUG

Surgical Instrumentation

ULTRA-SONIC SURGERY



SURGICAL HP



Surgical Instrumentation

■ Piezosurgery VS Surgical HP

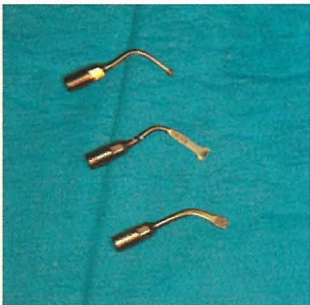
5% perforation with PZ vs 25% with burs

Int J Periodontics Restorative Dent 2007:27(6)

- Piezo tips for osteotomy: OT₁, OT₅, OT₇
- Piezo elevators: EL₁, EL₂, EL₃
- Osteotomes
- Membrane elevators
- Bone carriers and pluggers

Surgical Instrumentation

OT₁, OT₅, OT₇

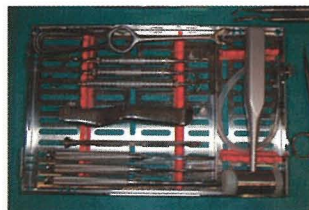


EL₁, EL₂, EL₃



Surgical Instrumentation

SURGICAL KIT



OSTEOTOMES



Surgical Procedure

1. Anaesthesia
2. 2-sided incision, crestal and relieving
3. Window: 1 or 2? Size small vs large?
4. Membrane elevation and assessment
5. Partial Bone placement
6. Implant osteotomies
7. Complete bone graft
8. Cover window????
9. Suturing
10. Post-op instructions V/W

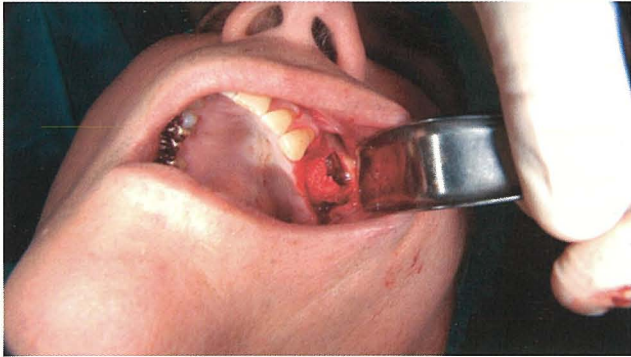
Surgical Procedure: Incision



MENTATION

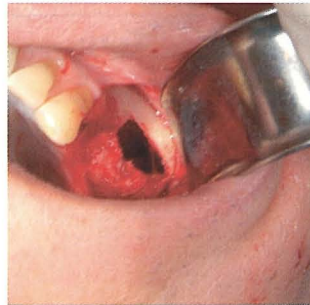
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Surgical Procedure: Osteotomy

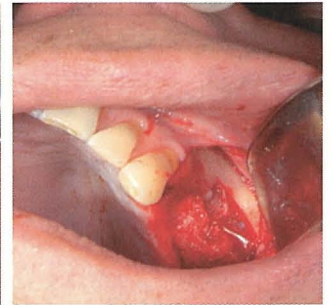


Surgical Procedure: Membrane Assessment

INHALE



EXHALE



Surgical Procedure: Membrane Assessment



Surgical Procedure-COMPLICATIONS

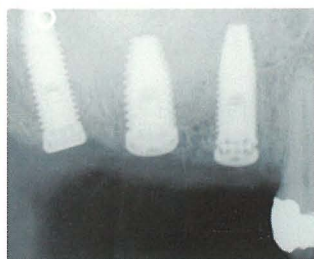
- 1 Membrane perforation
- 2 Implant in sinus
- 3 Loss of graft material
- 4 Damage to artery
- 5 Wrong location of graft/implant
- 6 Poor residual bone quality
- 7 Post-op Infection

PATIENT CASE 1: UNILATERAL SINUS LIFT

BEFORE

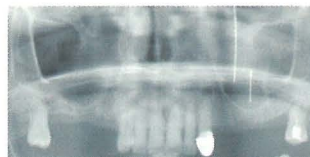


AFTER



PATIENT CASE 2: BILATERAL SINUS LIFT

BEFORE



AFTER

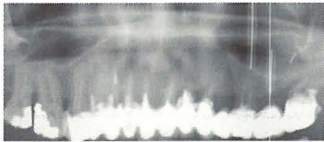


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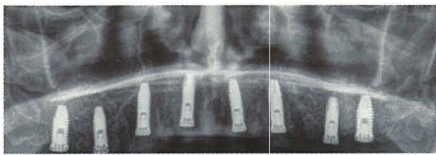
MAXILLARY SINUS AUG

PATIENT CASE 3: FULL ARCH REHABILITATION

BEFORE

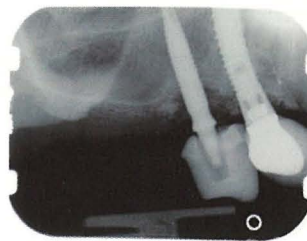


AFTER

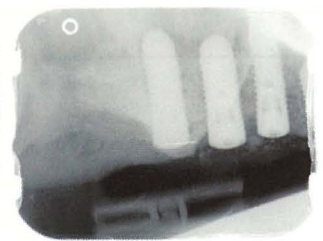


PATIENT CASE 4: SINUS WITH SEPTA

BEFORE



AFTER



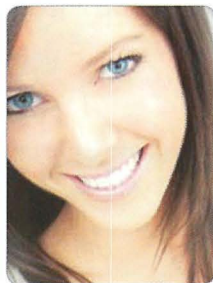
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Have you ever whitened your teeth?

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Available from all leading pharmacies

MENTATION

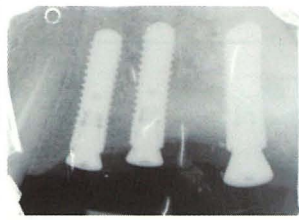
Continues from page 21.

PATIENT 5: TWO-STAGE SURGERY

BEFORE



AFTER



Conclusions

1. MH: patient selection
2. Pre-op scan is mandatory
3. Team approach, consult ENT
4. General oral health must be good
5. Play safe: ultrasonics SAFER
6. Well documented protocols
7. The best way to manage complications is to prevent them!
8. Know your limits.....if need be refer!

Guided tissue regeneration using non-resorbable high-density polytetrafluoroethylene (d-PTFE) membranes: clinical case studies in humans

Continues from page 16.

High density PTFE may be employed to overcome the difficulties a surgeon may encounter when primary closure is difficult or contra-indicated.

RESORBABLE MEMBRANES

Advantages of polylactide / polyglycolide copolymer (PLA/PGA) / Collagen are various and include the following:

- No need for second surgery – the absorption process starts after 4 to 6 weeks, and is completed after about 8 months. Beyond this it is impossible to detect any remnant of the membrane².

- The new bone appears compact and mature with narrow osteocytic lacunae and arrangement of osteons with many haversian canals, usually localized in the peripheral areas of the membrane².
- The spaces void of bone fill with dense, fibrous connective tissue with few cells and capillaries².
- Collagen has the added advantage of enhancing haemostasis and wound stability thanks to promotion of platelet aggregation in addition to promoting fibroblast migration, which could accelerate wound closure³.
- They are easy to handle and shape to cover over grafted areas, especially when wetted, where space maintenance is not required.

Double layering or membrane pins easily secure the membrane.

However, resorbable membranes also have disadvantages as discussed below:

- As resorbable membranes are not stiff, they collapse onto the underlying tissue when wet, hence they are not able to keep appropriate space unless supported by the reconstruction / surrounding tissue.⁴
- If the membrane becomes exposed, the risk of infection is increased as bacteria may become embedded within the membrane and possibly the graft itself.

Continues on page 25.

SENSITIVITY

ENAMEL

CLEAN

GUMS

FRESH

PLAQUE

WHITENING

new

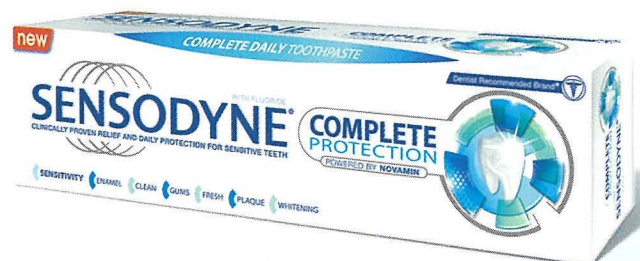
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*With twice daily brushing.



DENTISTS RECOMMEND SENSODYNE®

Guided tissue regeneration using non-resorbable high-density polytetrafluoroethylene (d-PTFE) membranes: clinical case studies in humans

Continues from page 23.

NON-RESORBABLE MEMBRANES

As stated earlier, there are two types of non-resorbable membranes, expanded and dense polytetrafluoroethylene (e-PTFE and d-PTFE respectively).

The main structural difference between these two membranes is that the expanded membrane has larger pores than the dense type. In the latter, the pores are smaller than 0.3 microns, therefore stopping bacteria, which generally measure 2 – 5 microns, passing through the membrane.

Advantages of PTFE membranes include:

- The membrane, when re-enforced, is rigid in nature and is able to maintain its shape.
- Denser and a greater amount of bone is generated below PTFE membranes than PI A/PGA and collagen when compared to control sites, especially at the centre of the graft2.

Disadvantages of e-PTFE are well documented:

- The membrane cannot be removed easily – second surgery is needed.
- Early exposure of the material to the oral environment may cause bacterial colonization and tissue infection5,6
- They may be awkward to shape and place due to their stiffness and require stabilization with pins or specific suturing techniques.

Advantages of high-density polytetrafluoroethylene (d-PTFE)2,4:

- As a non-porous membrane, it completely blocks the penetration of food and bacteria - if it is exposed to the oral cavity the effects

of guided tissue regeneration (GTR) are still good.

- Attachment to tissue is weak – the membrane can be removed by simply pulling it off and there is no need for lifting a flap.
- During the early exposure of the membranes, the risk of infection is far less than e-PTFE.

There is no significant difference in bone regeneration between e-PTFE and d-PTFE 2,7,8. With e-PTFE, new bone is separated from the membrane surface by a thin layer of dense connective tissue with scattered fibroblasts and fibrocytes (sometimes some bone formation is detectable on the external surface of the membrane).

Another documented small difference is the open horizontal probing depth (OHPD): d-PTFE was initially recorded as 4,75mm and reduced to 2,42mm. e-PTFE: initially was 4,92mm and reduced to 2,17mm after healing.

There were no differences in clinical indexes: Periodontal Index (PI), Bleeding on Probing (BOP), Gingival Index (GI), mobility, recession, keratinized gingivae, vertical probing depth, initial and final defect depth, defect fill, crestal change and percent defect resolution7,8. These case reports show d-PTFE (Cytoplast® TXT-200 Singles - Figure 1a, b) used in implant surgery and is followed by a discussion on its use.

Cytoplast has one smooth surface and one 'pitted' surface, the former is placed deep, that is, facing the graft site. Due to its dense nature and smooth surface, there is no significant cellular attachment on this surface.

On the other hand, there is a weak cellular attachment on the upper (pitted) surface, stabilizing the membrane and reducing tissue recession.

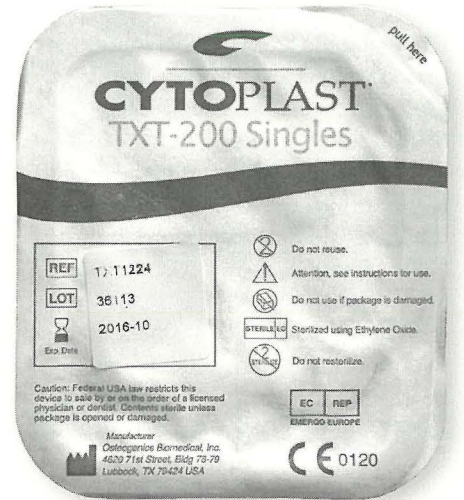


Fig 1 a – Cytoplast™ TXT-200 Singles package

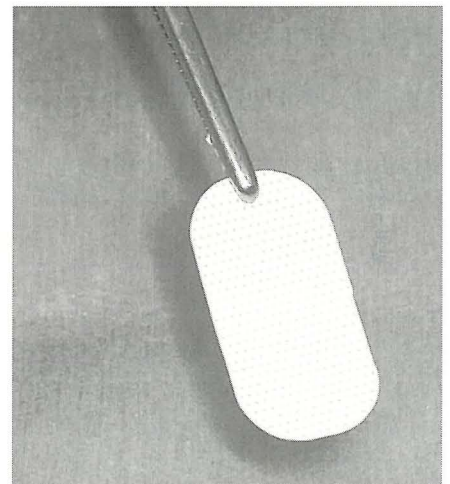


Fig 1 b – Cytoplast™ TXT-200 singles membrane

CASE REPORTS

The chosen patients underwent surgical treatment and membrane placement between June 2010 and May 2012. The surgical procedures were performed by the same oral surgeon at the Dental and Implantology Unit, St James Hospital, Sliema, Malta.

The d-PTFE was used to enable stabilization of graft material without complete primary closure of the wound during ridge preservation. The FDI tooth notation system is used in this article.

Continues on page 34.

ARE YOU IN LINE WITH THE LAW?

Following the recent Legal Notice issued by the Government of Malta, Mediterranean Insurance Brokers (MIB) strives to ensure that the Professional Indemnity Scheme offered to the various Dentists on the Maltese islands is still the most affordable as well as has the widest cover available.

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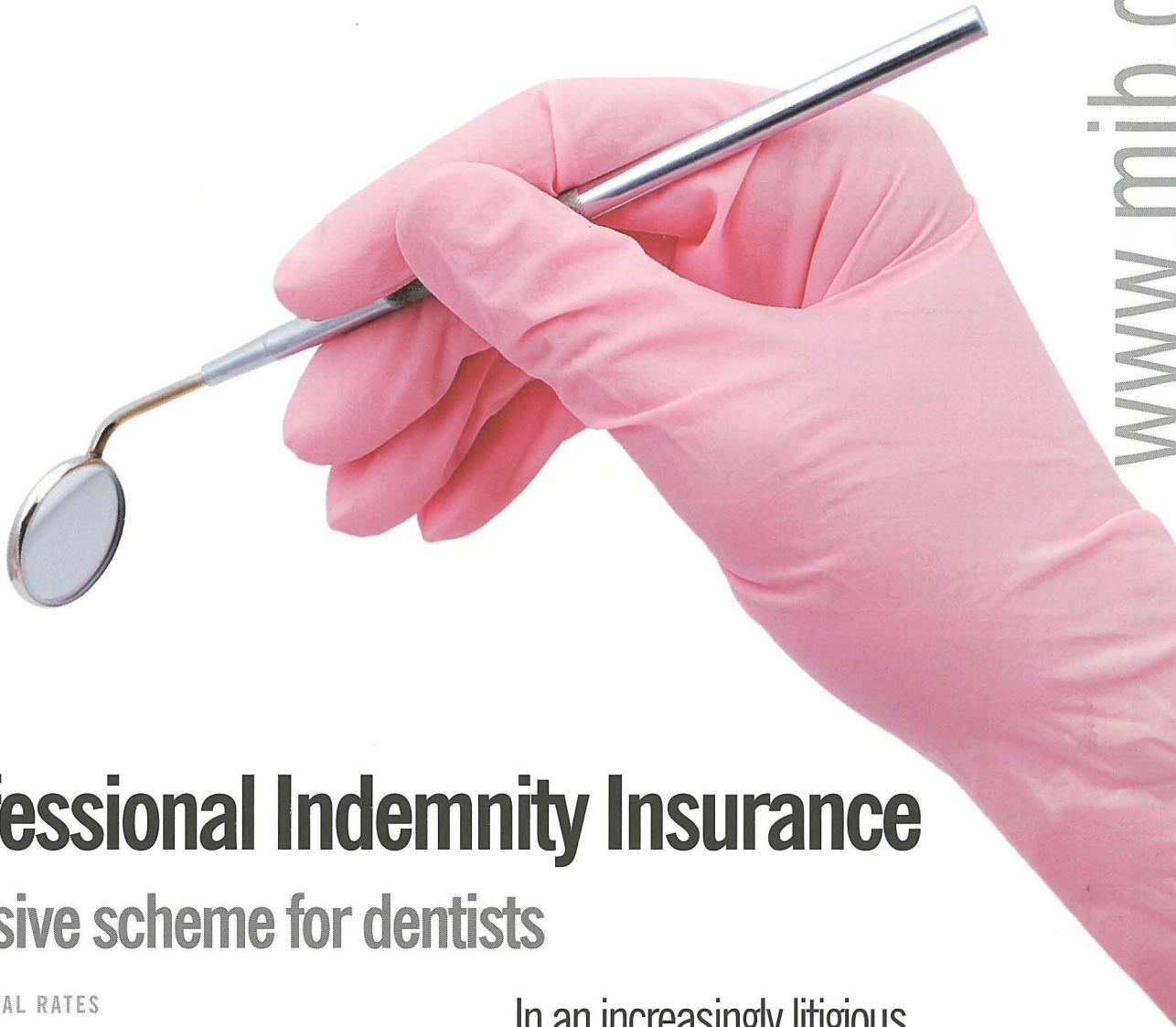


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INTERCEPTIVE ORTHODONTICS

EVIDENCE BASED PRACTICE

By Jan-Marc Muscat B.Ch.D. M.Sc. M.J.D.F. R.C.S. (Eng.) M.Orth. R.C.S. (Edin.)

Pyramid of Evidence

Evidence Hierarchy
Systematic Reviews & Meta-Analyses of RCTs
Randomized Controlled Trials (RCTs)
Cohort Studies
Case-Control Studies
Cross-Sectional Surveys
Case Reports
Perspectives

Definition and Relevance

- ❖ Interceptive orthodontics describes a number of treatments carried out to tackle problems arising in the developing dentition with the aim of ameliorating or preserving the permanent dentition.
- ❖ Studies have shown that interceptive treatment is required or may be beneficial in >25% of children aged 8-12.

(Burden and Holmes 1994; Vakiparta et al. 2005)

Anterior Crossbite

- ❖ Describes the situation where one or more lower incisor teeth occlude anterior to the upper incisor teeth
- ❖ Left untreated may cause attrition, fractures and mobility of the associated incisor teeth as well as deleterious gingival effects.



Anterior Crossbite-Treatment Options

- ❖ Systematic review by Borrie and Bearn 2011 identified little high quality evidence to recommend one treatment option over another.

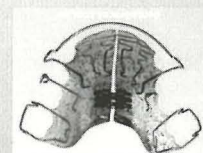


Posterior Crossbite

- ❖ May be unilateral or bilateral and may involve one or more teeth.
- ❖ Treatment aims at removing any possible displacement due to potential derangement of the TMJ
- ❖ Treatment aims at expanding a previously narrow maxilla and allowing for elimination of any displacements as well as limited space creation.

Posterior Crossbite- Treatment Options

- ❖ Cochrane review 2001 suggested grinding or provision of a quadhelix are both effective treatment options.
- ❖ More recent RCTs by Petren et al. found that treatment with a quadhelix is more efficient than treatment with mid-palatal screw however long term stability is similar.



Impacted Maxillary Central Incisors

- ❖ Royal College of Surgeons guidelines 2010
- ❖ Significantly delayed eruption or abnormality in eruption sequence should be investigated
- ❖ 2 main causes are trauma to primary dentition and supernumeraries
- ❖ Radiographic investigation should be carried out (Batra et al. 2004) by age 8-9 maximum
- ❖ Treatment recommendations depend on aetiology and age

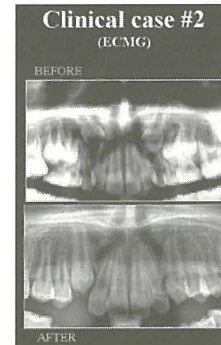
Age of child/ Stage of development of incisor	Recommendation
Children < 9 years with incomplete root formation of permanent incisor	<ul style="list-style-type: none"> • Remove the obstruction • Do not uncover bone from the unerupted incisor – maintain integrity of the follicle • Create or maintain space • Monitor eruption for 18 months • If exposure is required, expose minimally to eliminate soft tissue obstruction • If tooth is still high expose and bond
Children > 9 years, with complete or nearly complete root formation	<ul style="list-style-type: none"> • Remove the obstruction • Create or maintain space • If the permanent incisor is high monitor eruption for 12 months • If still unerupted after 12 months expose and bond
Children > 10 years	<ul style="list-style-type: none"> • Remove the obstruction, expose and bond bracket at first operation

Palatally Ectopic Maxillary Permanent Canines

- ❖ Multifactorial aetiology having both genetic and environmental facets
- ❖ Cochrane review 2009
- ❖ *“there is a **suggestion** from the literature that extraction of the primary canine **may** help eruption of the permanent canine”*
- ❖ The evidence for treatment is weak however it seems as though provision of space may ameliorate eruption of the canine

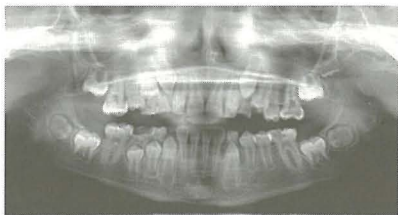
Palatally Ectopic Maxillary Permanent Canines

- ❖ Some recent RCTs have even recommended concomitant extraction of Cs and Ds
- ❖ Variety of opinions are also heavily influenced by the age at diagnosis and **operator's interpretation of ectopia**



Alessandri Bonetti et al. 2009

First Permanent Molars With Poor Prognosis



- ❖ Royal College Guidelines 2009
- ❖ May be due to caries or MIH
- ❖ Timing is crucial in the lowers and should be done when there is early radiographic evidence of dentine calcification within the root bifurcation of 2nd molar.

Balancing or Compensating Extractions?

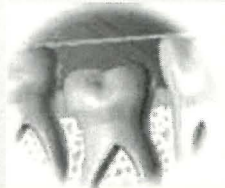
- ❖ Balancing extractions of 6s should only be carried out if justified for oral health reasons
- ❖ Current evidence (RCS Guidelines 2009) suggest that **compensating extraction should be carried out** when extracting lower 6s in a Class 1 malocclusion
- ❖ However what is the evidence for this?
- ❖ Await results from S.I.X.E.S. dental trial

INTERCEPTIVE ORTHODONTICS EVIDENCE BASED PRACTICE

Continues from page 29.

Infra-occluded 2nd Primary Molars

- ❖ Describes a tooth that is situated below the occlusal plane
- ❖ May occur in the presence or absence of developing premolar
- ❖ May be early marker for other anomalies



Infra-occluded 2nd Primary Molars

Permanent successor ?	Recommendation
YES	Likely that natural exfoliation will occur. If below contact point/tipping of adjacent teeth → extract
NO and primary molar submerging	If above contact point → build up. If below contact point/tipping of adjacent teeth → extract
NO and no primary molar submergence	If good root length and unrestored consider long term maintenance. If poor prog. seek orthodontic opinion.

Non-nutritive Sucking Habits

- ❖ Includes use of dummies, blankets and digit sucking
- ❖ Prolongation of the habit directly related to the severity of malocclusion
- ❖ Many RCTs address management strategies for cessation of the habit
- ❖ Later intervention groups more likely to be treated using fixed habit breaker.



Treatment Strategy

Psychological treatment in the form of positive reinforcement



Aversive taste treatment applied to the digit / Use of boxing gloves



The provision of a fixed habit-breaker appliance



Centreline Loss / Preservation

- ❖ Centreline shift may occur as a consequence of unilateral extraction in deciduous dentition
- ❖ Difficult to treat once in the permanent dentition
- ❖ In the maxilla noticeable by lay people when >2mm (Johnston et al. 2002)

Recommendation

- ❖ The evidence supporting balancing extractions is poor

Nonetheless

It seems reasonable to suggest that if one primary canine/first molar is lost early balancing of contralateral canine/primary molar is appropriate to prevent potential for centreline shift

- ❖ Centreline shift more likely in the mandible than maxilla

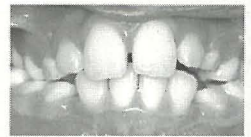
Recommendations

N.B.

- 1) Consideration should always be given to dental history and overall history of child which have priority on orthodontic considerations
- 2) Balancing should only be carried out if contralateral tooth is still firm
- 3) Do not carry out balancing extractions in spaced arches
- 4) Balancing should be done prophylactically and therefore choice should be influenced by prognosis
- 5) Ultimately can be treated at later stage → watch compliance

Extractions of Cs to Relieve Crowding

- ❖ BOS Guidelines 2010
- ❖ “To provide space for severely crowded lower incisors to align spontaneously - **if the crowding is more of a displacement than a rotation**, and the lateral incisors are less than half erupted.”



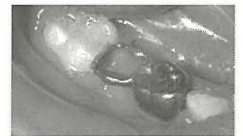
“The aim at this stage of dental development, around the age of 8 1/2 years, is to achieve the complete eruption of upper and lower permanent incisors, in reasonable alignment, with coincident centre lines.”

BOS guidelines 2010

Space Maintainers – RCS Guidelines

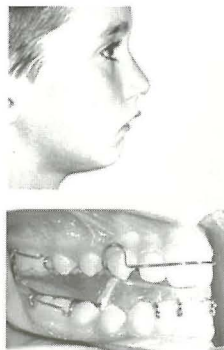
Space maintenance is most valuable in two situations:

- 1) Loss of primary first molar when crowding is severe (>3.5mm)
- 2) Loss of second primary molar except in spaced arches



Increased Overjet

- ❖ Children with increased overjet are twice as likely to sustain dental injuries
- ❖ Conflicting views but it is generally thought that risk is higher in
 - 1) Boys aged 8-10
 - 2) Overjet >9mm
 - 3) Incompetent lips



Recommendations – Cochrane Review

- ❖ Treatment best carried out as a single course of treatment in adolescence.
- ❖ Early treatment may be beneficial with respect to psychosocial issues (O'Brien et al. 2003)
- ❖ Literature supports the use of sports mouthguards in preventing trauma particularly custom made ones
- ❖ No one form of treatment recommended over another

Ethics in Professions: AN OPTION OR A NEED?

By Dr Klaus Vella Bardon

Rev. Prof José Angel Lombo

Friday 18th October 2013 at 19:30, Professional Centre, Gzira

ABOUT THE PRESENTATION

The speaker will expose the need of ethics in the field of professional work. For this, he will cover three steps.

First, he will put in relation ethics and professional work.

Second, he will present two main approaches to ethics, which are especially relevant for the aforementioned relation: ethics of goods and ethics of rules.

Third, he will propose two possible applications of this analysis:

- one regarding knowledge (formation),
- the other regarding action and life in general (unity or integrity of life).

ABOUT THE SPEAKER

Rev. Prof. José Angel Lombo was born in Spain. He graduated in Philosophy in the University of Navarre (Spain) in 1990. He obtained his PhD in Philosophy in the Pontifical University of the Holy Cross, Rome (2000), where he currently teaches as associate professor of Moral Philosophy. He has several publications on Philosophical Anthropology and Ethics: *Person in Aquinas* (2001), *Philosophical Anthropology: An Introduction* (2005), *Moral behaviour and free will: A neurobiological and Philosophical Approach* (2011), *The unity of the Human Person: An Interdisciplinary Approach from Philosophy and Neuroscience* (2013). In 2011 he organized in Rome the international conference "Neuroscience and Moral Action. Neurobiological Conditions of Affectivity, Decisions and Virtues". Nowadays, he is researching on the relation between science and philosophy in the understanding of human being, especially regarding the issue of affections and free will.

1. WHAT IS PROFESSIONAL ETHICS

Prof. Lombo made it clear that to exercise a profession has specific moral implications. As he was talking to people from different professional disciplines, he would not discuss concrete ethical implications on one profession or another [i.e. such as the issue of abortion faced by the medical profession] but the general moral implications of being a professional.

He referred to the landmark Catholic encyclical, "Laborem Exercens" written by John Paul II who underscored the two dimensions of work.

The objective dimension is the work that is done, work as a productive action external to the person who works.

The subjective dimension which John Paul II stressed is the primary basis of the value of work in man himself, who is its subject.

Prof. Lombo explained that the subjective aspect of work defines what

persons we are. What we do is the fruit of our choices. Work has a moral dimension. The exercise of work per se helps one to develop and become a better person and through his work he serves and helps other people and the wider community.

By its very nature, exercising a profession means confess one's calling. We are distinguished by our choice of work. Our professional work defines us and gives us an identity and role in society.

The way we work has an element of justice as it impacts on the lives of others.

In the past work was not considered an enriching or redeeming occupation. There was a negative attitude to work and people who avoided work and restricted themselves to a sole contemplative attitude in life were held in high regard.

Work was mostly associated with the primary occupations related to

manual work on the land and later this became more specialised, complex and differentiated but work always implied a powerful social dimension.

Professional work has obviously moral implications for professionals and society.

WHAT IS ETHICS?

We have to ask ourselves the ethical aspect of things. Ethics is that branch of philosophy dealing with values that impact on human conduct with respect of the full accomplishment of human life. That implies rightness or wrongness of certain actions and to the goodness and badness of the motives and ends of such actions.

Morality is not a physical thing or object, morality illuminates the quality, intent and outcome of actions what we actually do and say.

MORAL PERSPECTIVE

High ethical standards lead to increased efficiency and human

flourishing.

One asks how we judge a good professional.

A good professional means *'a good person working well'*.

This statement has a moral dimension as working well implicitly implies a good person.

To work well we need:

1. Skill, know-how and preparation... these are technical aspects that are needed to produce concrete results.
2. One cannot separate acquiring competence and right skills from being virtuous.

You cannot be virtuous if your skills do not justify your professional exercise.

2. TWO MAIN APPROACHES TO ETHICS

1. Striving to uphold high ethical principles leads to human flourishing
 2. To be ethical one must respect rules created to defend the common good.
1. The foundation of ethics is to strive to acquire the fullness of being human. The more one improves one's skills and the more one seeks to give the best service to others the more he develops as a good person thus benefitting not only the quality of professional service and well being of others but also his own fullness as a human person.
 2. Ethics also is related to living up to a code. To reduce moral life to norms is termed formalised ethics and is the legalistic approach [developed by Kant]. Norms are also important, as we have to respect and honour a framework of rules that reflect good practice. But nevertheless these rules have to be evaluated and analysed to ensure that they are just and conducive to human flourishing.

3. CHALLENGE OF FORMATION

1. Professional Formation
2. Formation of Conscience

1. Professional formation makes one a good human being as the more competent in the professional role we have pursued.

2. A well formed conscience is crucial to enabling us to face and deal with the moral dilemmas that arise in our professional vocation. A well formed conscience makes us aware of what are the right choices we have to make, choices that arise in the professional challenges we daily face.

4. HORIZON OF UNITY OF LIFE

1. Public and private Life
2. Work and Family
3. Work and Society
4. Work and Faith

1. To live a life of uprightness and moral correctness, one has to be consistent with the moral claims we subscribe to.

There cannot be a dichotomy with the rules we follow at work and home. One cannot have a set of rules at home and a different set at work.

One cannot separate the manner in which one behaves according to whether one is at home or at work. One has to be consistent at home, at work and with the religion one professes.

Consistency means that one acknowledges one Truth. There can be only one Truth and it applies to every sphere of our life. One has to behave justly both at home as well as at work.

2. One always has to grapple between tensions at work and the family and try to strike a right balance. It is difficult to run a good family. Yet we have to consider giving quality time to our family.
3. We also have to consider the need of our employees to have similar possibilities. In the long term good ethical behaviour towards the people we work carries positive economic dividends as this promotes a healthier work environment.

More and more, companies and business associations are becoming aware of their ethical responsibilities. By his very nature a human being is social and we live

in an interconnected and mutually dependent web of society.

Aristotle had strong words for those who say they are self sufficient and do not need anyone with the sharp admonition that 'those who do not need others must be either a god or a beast'.

4. Our work has to be consistent with our Faith. Awareness makes us realise our connection with God and our need to find time for God and the family. This is the philosophy in all religions that devotes one day of the week to rest and religious observance.

4. CONCLUSIONS

Ethical behaviour leads to:

1. Self Flourishing
 2. Social responsibility
1. Striving to be ethical has fundamental consequences. It changes the way one works and the way one relates with others. Good work done with commitment, professional competence and dedication leads to personal fulfilment and flourishing.
 2. The social dimension of our vocation makes us aware of our relationship to others and the consequential responsibility of the fruits of our work.

Prof. Lombo then fielded questions which he answered at length. He stressed the importance of respecting legal frameworks pointing out that the ethical approach to flawed rules is to change them not to break them or ignore them.

He pointed out that when faced with difficult choices, abdicating the responsibility to tackle them is the less virtuous option. Leaving thorny problems to others, who could easily have lower ethical standards, is not a virtuous option.

The formation of conscience is a lifelong exercise as we journey through life gathering experience and maturity.

As professionals we are indebted to our association for being given the opportunity to hear this worthy and pertinent lecture on a topic that is so crucial for our welfare. 🙏

Guided tissue regeneration using non-resorbable high-density polytetrafluoroethylene (d-PTFE) membranes: clinical case studies in humans

Continues from page 25.

CASE A (FIG 2 A – F)

A healthy female, aged 56, non-smoker, was referred by her periodontal surgeon for implant treatment in her maxilla. She had undergone many years of periodontal treatment for her advancing bone loss.

Examination revealed extremely good levels of plaque control, minimal pocketing, no bleeding on probing but discomfort due to mobility associated with loss of the supporting tissues. Radiographs confirmed generalized advanced horizontal bone loss with inadequate bone height for implants in both posterior regions.

Following discussion between the oral surgeon, periodontal surgeon, prosthodontist and patient, it was agreed that a full upper implant retained bridge would be her best option to achieve her wishes. As implants could be placed in the anterior maxilla the need for open sinus lift bone grafting procedures was removed. The patient was prescribed systemic Clindamycin, 300 mgs, twice daily for one week, starting one day prior to surgery.

She was also asked to rinse with chlorhexidine 0.12% twice daily for three weeks (Curasept™). Surgery was performed under propofol based intravenous sedation and local analgesia (lignocaine 2% with adrenaline 1:80k and bupivacaine 0.5%).

The remaining maxillary teeth (14, 13, 12, 21, 22, 23, 24, 26) were extracted and a bucco-palatal flap was raised from one second molar to the other (17 to 27). After debridement, sites 15, 14, 13, 12, 21, 23, 24, 25 were prepared to receive implants, including trans-alveolar sinus taps in 15 and 25 sites. Mk III, Ti Unite Brånemark™ implants were inserted in the palatal aspect of the sockets and exhibited good initial torque and Implant Stability Quotient (ISQ) values,

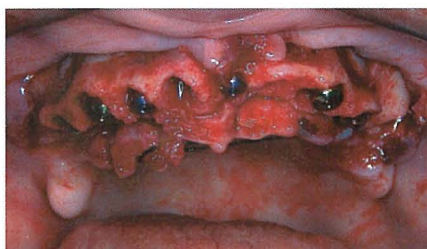


Fig 2a - Labial view after implant placement



Fig 2b - Labial view after grafting

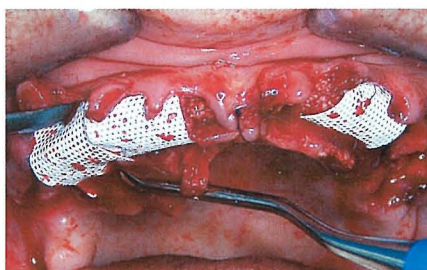


Fig 2c - Labial view after inserting Cytoplast™



Fig 2d - Immediate post-operative labial view



Figure 2e - Multi-unit abutments and healing caps

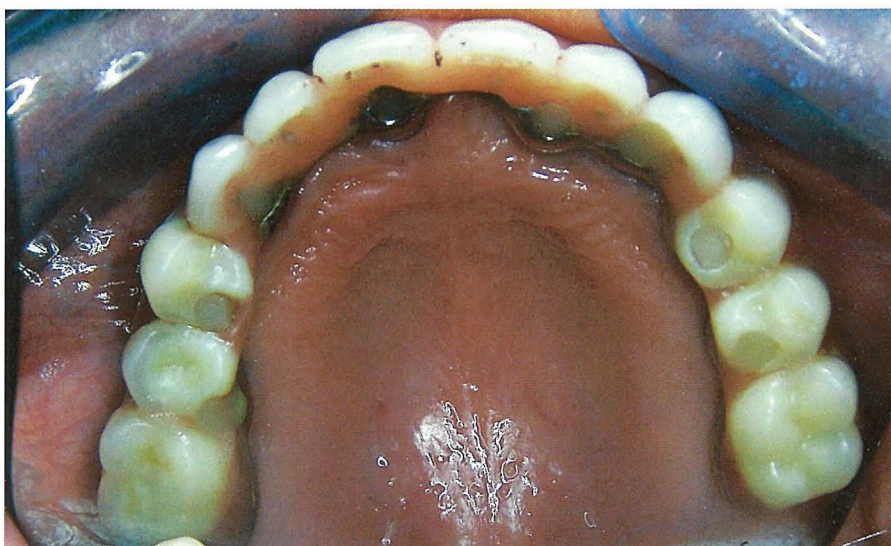


Fig 2f - Final prosthetic result six months after fitting (Prosthetic work - Prof. Nikolai Attard).

measured with an Ostell™ device. Bio-Oss™ granules (0.25 -1 mm, 0.5 g) soaked in 0.9% saline, were inserted into the voids around the implants within the sockets as well as into the empty sockets. Three Cytoplast™ membranes were placed over the Bio-Oss sites and flaps were secured with Cytoplast™ PFTE 3/0 and Serafid™ 4/0. A complete immediate denture was fitted; this included a soft liner (Coe Soft™).

Healing was uneventful; analgesics (paracetamol 1G four times daily and diclofenac potassium, 50 mgs three times daily) were used for two days.

ylthematous red tissue, immature osteoid. Two weeks later the sockets were covered with keratinized mucosa.

Four months later, implants were exposed under local anaesthesia. All implants were firm and exhibited significant increases in their ISQ values. Multi-unit abutments were fitted and torqued to recommended values.

Each implant was surrounded by healthy keratinized mucosa. Impressions were taken and a full arch Procera™ framework / resin bridge was constructed and fitted. Follow up was uneventful at twelve months.

CASE B (FIG 3 A- F)

A 66 year old gentleman attended with a failed three unit bridge in the upper left quadrant. The bridge extended from tooth 25 to 27, with the pontic in the 26 position. Clinical and radiographic examination revealed that tooth 25 was fractured below the gingival level, making it difficult to restore. The distal abutment was intact. It was thus decided to section the bridge, save 27 and extract 25. The resultant space will be restored with a two unit implant retained prosthesis. The radiograph also showed that there was no infection at the apex of 25.

The patient was informed about the treatment procedures, consent was obtained and a pre-operative periodontal cleaning completed. He was prescribed systemic antibiotic for one week (300 mgs of Clindamycin twice a day) as well as three weeks of Chlorhexidine 0.12% mouthwash (Curasept™).

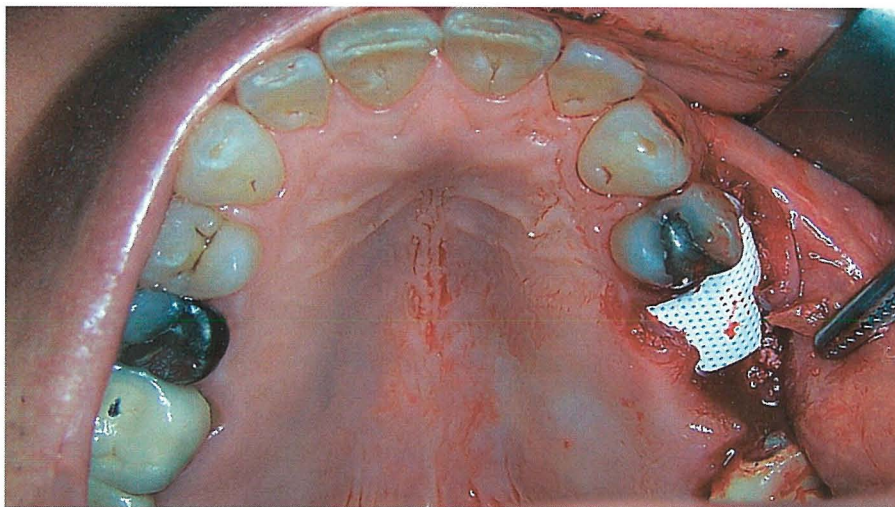


Fig 3a - Cytoplast™ TXT-200 in situ

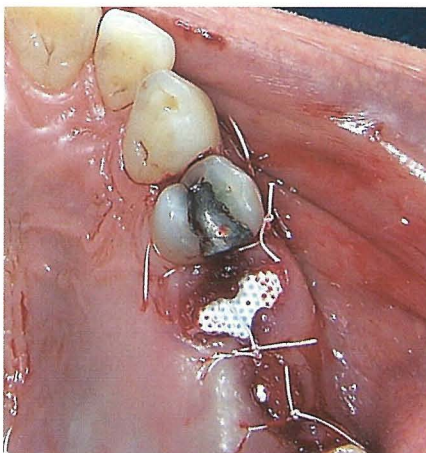


Fig 3b - Cytoplast™ PFTE sutures

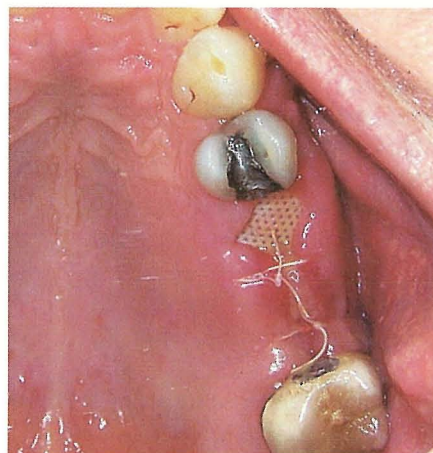


Fig 3c - three weeks post-operative view



Fig 3d - after membrane removal, immature osteoid - note topical anaesthetic gel (white coating)

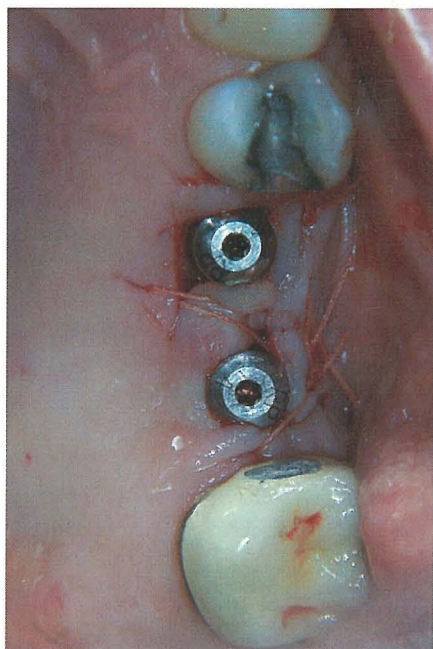


Fig 3e - exposure of implants and rotational palatal finger flaps



LEFT: Fig 3f - final bridge (prosthetic work - Prof. Nikolai Attard)

Guided tissue regeneration using non-resorbable high-density polytetrafluoroethylene (d-PTFE) membranes: clinical case studies in humans

Continues from page 35.

Surgery was performed under local anaesthesia (Lignocaine 2% with Adrenaline 1:80 k). After tooth 25 was extracted, the implant site was prepared on the palatal aspect of the socket to receive an 11.5 mm Brånemark™ MKIII, TiUnite implant.

Due to bone resorption in the 26 site, a closed sinus tap bone graft was needed. Bio-Oss™ (granules, 0.25 -1 mm, 0.5g) was placed into the 26 site to aid the sinus lift before a 10 mm Brånemark MkIV implant was inserted. Both implants exhibited low torque and ISQ values (Ostell™).

Bio-Oss was also inserted in the void between the implant surface and the socket wall in the 25 area. The Bio-Oss granules were secured with a Cytoplast™ TXT-200 Singles membrane as the soft tissue could not be primarily closed in a tension free manner. PTFE 3/0 sutures were used to stabilise the wound edges and the membrane. Sutures were removed after one week and membrane after three, using topical anaesthetic gel leaving a healthy looking osteiod exposed to the oral cavity.

Healing was uneventful. After four months, the implants were exposed. Both were firm and ISQ values increased. The palatal mucosa was rotated into the papilla position between the implants. Impressions were taken four weeks later and a two unit screw retained bridge was fitted. Follow up at twenty-four months was uneventful.

CASE 3 (FIG 4 A – H)

A 26 years old female had fractured tooth 11 when 8 years old. She had endodontic treatment and a resin build up which served well for over a decade. In June 2010 an abscess formed above tooth 11.

The radiographs showed significant bone loss. Re-do root treatment

drained the abscess and sealed the canal well but she still complained about intensive pain around 11.

It was decided that extraction and implant replacement would be the best course of action, however, as she wished to align her teeth in the process, she was referred to the orthodontist for assessment.

A plan was drawn up, explained to the patient and consent obtained. The bone defect above tooth 11 meant that treatment would have to be staged, namely debriding and grafting the socket/defect, complete orthodontic treatment (during which time the bone graft would have consolidated), implant placement and after healing, insertion of the final crown.

The subject was prescribed systemic antibiotic for one week (300 mgs of Clindamycin twice a day). The surgery was performed under local anaesthesia (Lignocaine 2% with adrenaline 1:80k). For orthodontic reasons, teeth 14 and 24 were removed with 11. The socket in 11 area was debrided thoroughly, rinsed with saline and grafted with physiological saline soaked Bio-Oss™ (granules 0.5 – 1mm, 0.5g). As the soft tissue defect was so large, the gingival cuff around the socket was released to a depth of 3 – 4 mm and a Cytoplast™ TXT-200 Single membrane was tucked below the gingivae, covering the whole of the socket.

The soft tissue and membrane were secured with Cytoplast™ PTFE suture. The fixed orthodontic appliance was fitted and an acrylic prosthetic tooth was lashed onto the wire in the 11 position.

Sutures were removed after one week and the membrane after four weeks, using topical anaesthetic gel. One year later, an implant was inserted under local anaesthesia. An immediate temporary crown was constructed and fitted. The final screw retained crown was fitted three months later.

DISCUSSION

Primary closure of gingival tissue over grafted sites remains a significant challenge for any surgeon. Whatever grafting material used, stabilisation of the graft and primary closure has been the 'gold standard' to date.

Good primary closure necessitates tension free wound edges to avoid dehiscence during the healing period. Any exposure of the bone graft or membrane runs the risk of bacterial contamination and possible failure due to the ensuing infection. Resorbable membranes and classical expanded PTFE membranes provide good protection from ingrowths of soft tissue into the graft site but the expansion due to the graft may make primary closure harder.

Following bone grafting, there may be inadequate amount of soft tissue to cover the graft, this is made worse by remodeling of hard and soft tissues after extraction. Releasing soft tissues does allow the surgeon to achieve primary closure but the blood supply to the grafted site is compromised by the incision within the periosteum.

Displacing the flap crestally may also lead to loss or alteration of the mucogingival line, at worst resulting in non-keratinized mucosa at the crest of the alveolar ridge and eventually around the implant. The same applies to soft tissue closure immediately after extraction.

Soft tissue grafting techniques may resolve many of these issues, however they do involve added surgery. These techniques usually involve free or pedicled grafts and are frequently carried out prior to the bone grafting to give the surgeon the added soft tissue to achieve primary closure when the bone volume is increased. The co-morbidity, expense and potential less than perfect results have to be considered by the surgeon prior to prescribing gingival grafting procedures.

Dense PTFE allows bone graft placement and stabilization without the need to obtain primary closure.

This means that the periosteal releasing incisions are not required, blood flow to the graft site is not compromised and the dense membrane prevents infiltration of bacteria and contaminants into the graft tissue itself. Judicious use of incisions allows papillae to be spared and gentle handling of soft tissues, lead to a reduction in post-operative morbidity. d-PTFE must be placed with approximately 4 mm of its margin below healthy mucosa and then secured in place with sutures, preferably PTFE, as they reduce plaque adherence.

Membrane orientation is important, the smoother side is placed deep (i.e. towards the graft) and the rough side uppermost. The smooth side prevents soft tissue adherence to the membrane on the inner surface whilst the rough side allows the mucosal tissues at the edge of the wound to 'bond' with the membrane forming an effective seal 9,10.

The membrane is easily shaped and adapted over the operative site. Membranes come in various sizes, allowing larger defects to be treated relatively easily. The patient is instructed to keep the area clean, using chlorhexidine mouthwash 0.12% twice daily till one week after membrane removal.

Membranes are gently removed three to four weeks after insertion with a dental probe and college tweezers. Topical anaesthetic may be applied to the area before removal.

Once removed, new tissue formation is observed – slightly darker in colour than the surrounding gingivae. This is non-epithelialized, soft yet stable immature osteoid tissue over which epithelial cells migrate so that it is covered with keratinized gingivae within 4 weeks 9,11. Thus, the overall width of the keratinized soft tissue is increased without any gingival mobilisation.

However, d-PTFE cannot always replace soft tissue grafting in the aesthetic zone when the soft tissue defect is on the labial side of the dentition, especially in patients with a high smile line.



Fig 3a – labial pre-treatment view

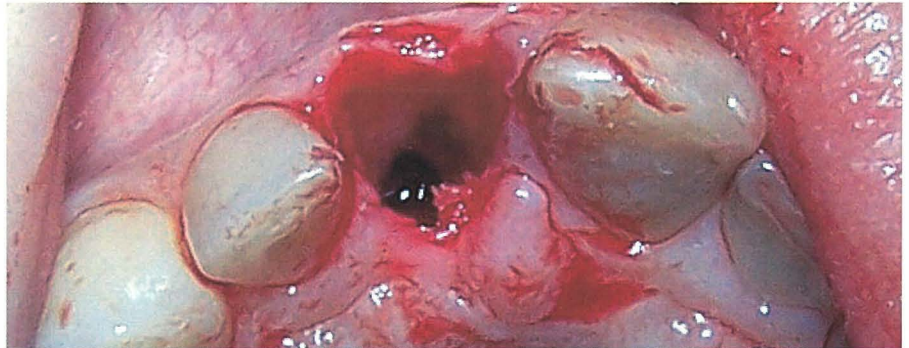


Fig 3b – extraction of 14, 11, 24



Fig 3c – four weeks after extraction



Fig 3d – after removal of membrane note topical anaesthetic – white coating



Fig 3e – one year after – labial view



Fig 3f – one year after – palatal view



Fig 3g – Post-operative radiograph - day of implant insertion and temporary crown. (prosthetic work – Dr T. Vella Briffa)

Guided tissue regeneration using non-resorbable high-density polytetrafluoroethylene (d-PTFE) membranes: clinical case studies in humans

Continues from page 37.

Resorbable membranes can be similarly used in smaller defects such as socket preservation and are being marketed for such treatment (eg Bio-Gide Combi-Kit™, Sombrero™) but larger exposed areas of resorbable membrane are at risk of infection.

CONCLUSION

d-PTFE minimizes risks and problems frequently seen when other membrane types are exposed to the oral cavity. It is easy to use, could reduce treatment time, may negate the need for soft tissue grafts, reduces morbidity and expense.

ACKNOWLEDGMENTS

The authors would like to thank all the staff at the Dental and Implantology Unit, St James Hospital, Sliema, Malta, for



Fig 4h – Final crown, one year after insertion.

making this study possible. Prof. Nikolai Attard BChD(Malta), MSc(Toronto), PhD(Toronto) completed the prosthodontic work in two of the cases and Dr Tim Vella Briffa BChD(Malta), MJFD RCS(Eng) completed the final case.

CONFLICT OF INTEREST:

None of the authors or treating clinicians obtained any financial or material sponsorship. Cases shown here were all referred to Dr M. Diacono for implant treatment. ■

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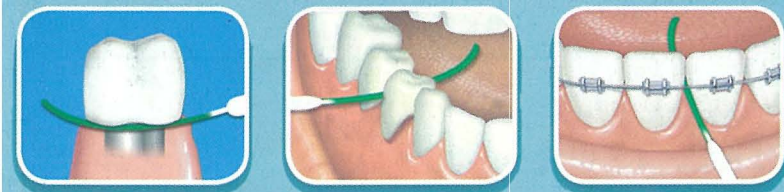
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