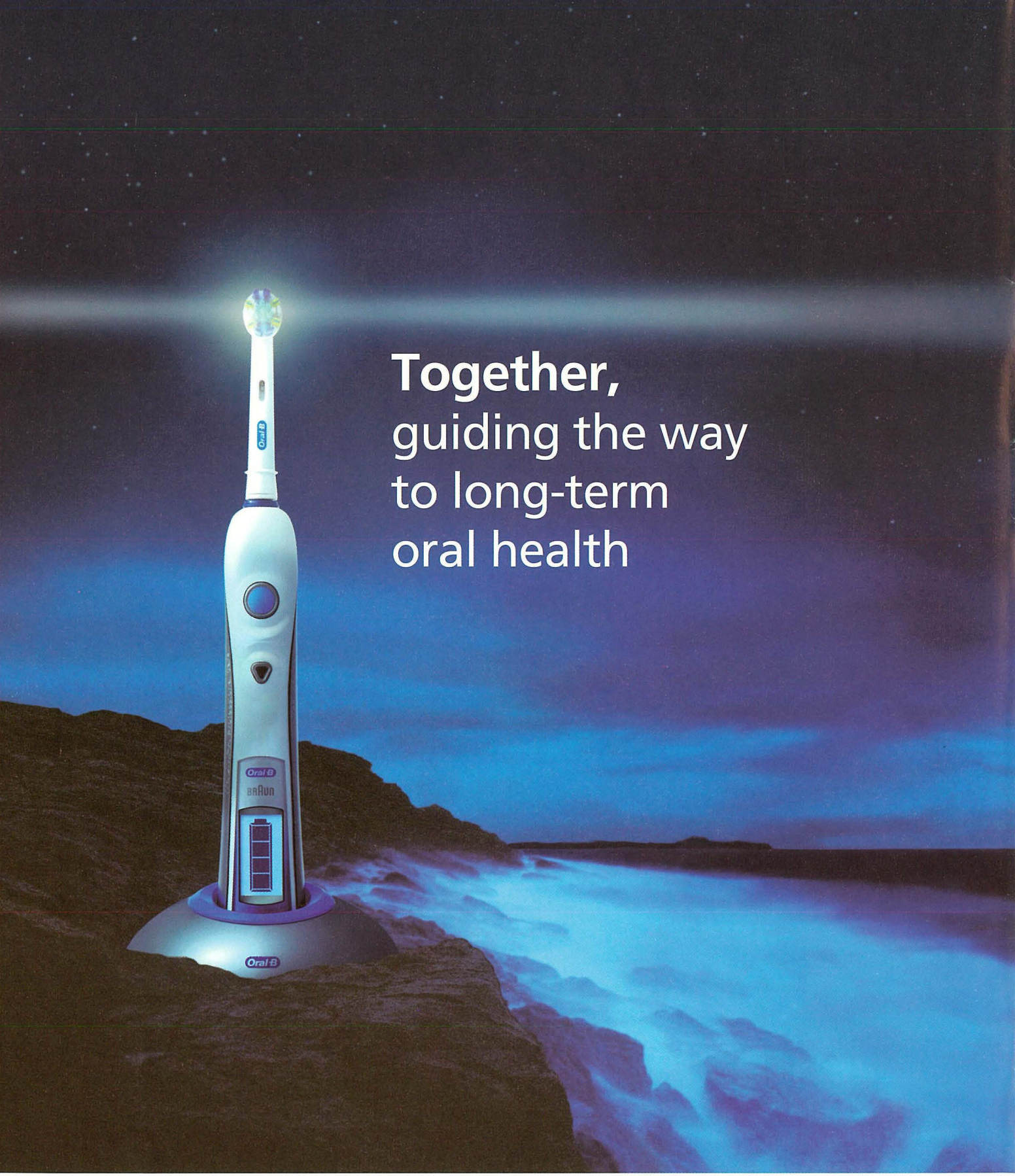
ISSUE
43
SEP12

The Dental Probe

The Maltese Dental Journal



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Editorial

DENTAL ASSOCIATION OF MALTA
The Professional Centre,
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By Dr David Muscat

Dear colleagues,

Well, after a good rest this summer we will now have several activities.

In September we had a Sanofi Aventis event at Guze with a lecture on probiotics by Dr Pierre Ellul consultant gastroenterologist. We are planning a lecture by Dr Mark Diacono with a dinner sponsored by Menarini (A M Mangion and Sons).

On 21 November there is the ' Smile For Health' annual dental conference .At the end of November there is a dental week sponsored by Sensodyne.

The cover picture is of a speckled scorpionfish , taken by Dr Dan Keir in Belize.

Best regards,

David

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

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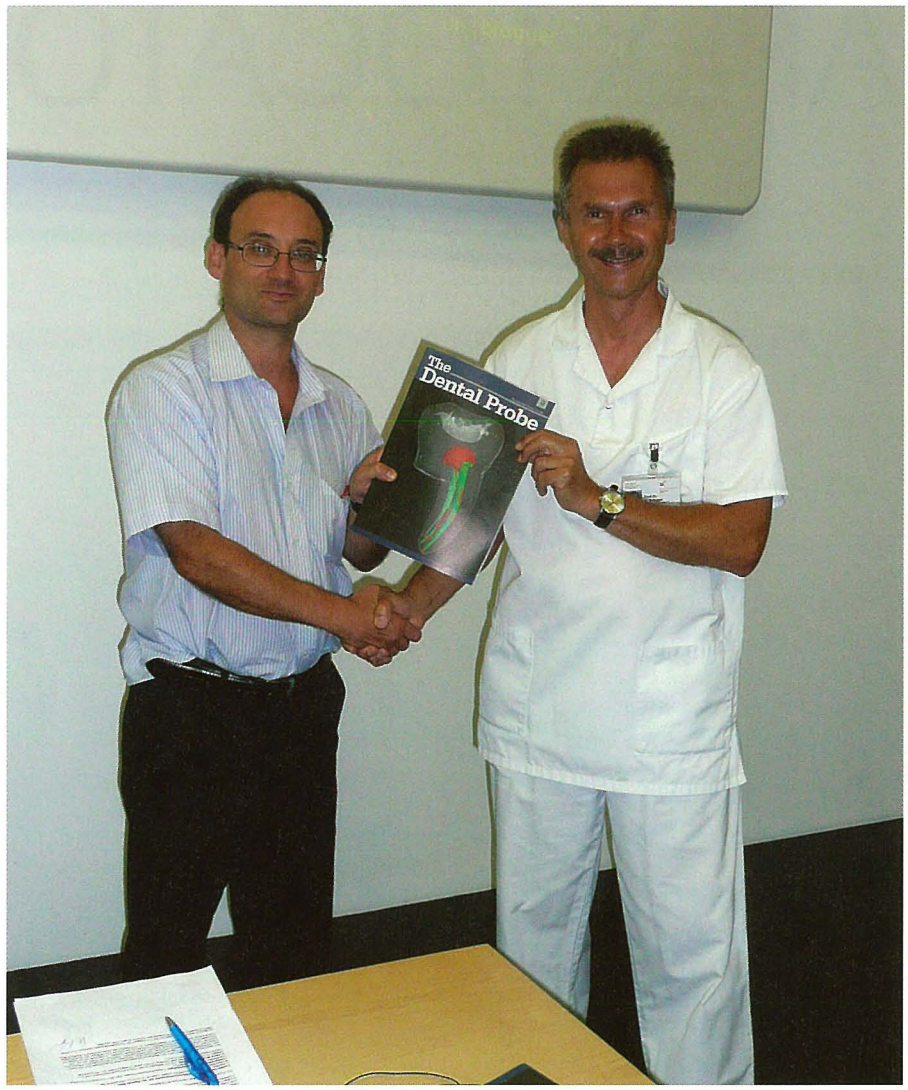

Dr David Muscat presenting the Dental Probe to Professor Bragger at the ITI implants course in Bern in August 2012.

THE BERNE SUPREMACY

Drs David Muscat , Mario Camilleri, Chris Gauci and Maria Abela together with Professor Bosshard at the ITI implants course in Bern in August 2012.

More photos and write-up on pages 14 and 15.

THE CASE FOR ELECTRONIC APEX LOCATORS

By Daniel M. Keir, DDS
Diplomate, American Board of Endodontics

It is generally agreed the preparation and obturation of the root canal system should be at or short of the apical constriction. The challenge dental clinicians encounter is how best to accurately determine where the apical constriction is located. It has been consistently shown that endodontic treatment completed to this point, termed the working length and defined as the length from a coronal reference point to this landmark, has the most favorable outcome and success.

The traditional methods for determining working length have been radiography, tactile sensation, moisture on a paper point and the use of anatomical averages. The more current and accepted method for determining the apical constriction and working length is the use of the electronic apex locator (EAL). Using an EAL in endodontic treatment has many advantages over these traditional methods.

Radiographic determination of working length has been used for many years. The radiographic apex is defined as the tip or end of the root as determined radiographically; its location can vary from the anatomic apex due to root morphology and distortion of the radiographic image (AAE Glossary of Endodontic Terms, 2003). Radiographic determination of the working length is subject to distortion, magnification, interpretation variability as well as anatomical considerations. Vertical and horizontal cone angulations, film position, and tooth position can influence determination of working length from radiographs (Goldman et al. 1972). The superimposition of the zygomatic arch has been shown to interfere with the radiographic determination of the root apices of the maxillary first and second molar (Tamse et al. 1980).

When adjustments to working length as determined radiographically were required, 68% of examiners agreed when adjustments up to 0.5mm were needed but there was only 14% agreement when adjustments greater than 1mm were required (Cox et al. 1991). Williams et al (2006) concluded in their study that when a file is long radiographically it is actually longer than it appears and when the file is short it is closer to the apical foramen than it appears.

Tactile sensation has many limitations. The anatomical variations in apical constriction location, size, tooth type and age make working length assessment unreliable by this method. Even among experienced clinicians, only 60% could locate the apical constriction using tactile sense (Seidberg et al 1975). In some cases, the canal is sclerosed or the constriction is destroyed by inflammatory resorption thus rendering tactile sensation unreliable.

The use of anatomical averages has its own limitations. Several studies have shown a wide variation in the average distance from the anatomical apex to the apical foramen and the distance from the apical foramen to the apical constriction. In some cases, the apical foramen may be located as much as 3mm from the anatomical apex (Kuttler 1955, Green 1956, Pineda & Kuttler 1972). Using the averages from anatomical studies and the assumption the CDJ occurs at the apical constriction, it is common practice to determine working length to be 0.5-2mm short of the anatomical apex as seen radiographically. Because of the variability of apical anatomy, the use of averages to define the apical constriction can result in under or over preparation of the working length.

The electronic apex locator is a device that allows for much greater accuracy in determination of working length. The first use of an electronic method for determining root length was investigated in 1918 (Custer 1918).

Since that time, electronic apex locators have gone through several generations of design. The current designs have generally overcome the limitations of the earlier generations with better electronics and algorithmic calculations to give more accurate readings.

The first generation EAL used the resistance method and alternating current . These devices were found to be unreliable compared to radiographs with many of the readings being significantly longer than the accepted working length. These devices often caused pain due to the high currents often used.

The next generation was of the single frequency impedance type using impedance measurements instead

of resistance to measure location within the canal. The disadvantage with this generation was the root canal had to be relative free of electro conductive materials (tissue or fluids) to obtain accurate readings.

An increasing number of second generation apex locators were designed and marketed but all suffered similar problems of incorrect readings with electrolytes in the canals and also in dry canals (Gordon et al 2004).

The third generation, introduced in the 1990s, is similar to second generation except this generation uses multiple frequencies to determine the distance from the end of the canal and more powerful microprocessors and mathematical algorithms to give accurate readings.

The Root ZX is probably the most researched EAL from this generation. This device uses a ratio method and it is the change in electrical capacitance at the apical constriction that is the basis for the operation of the Root ZX (Kobayashi et al 1994). The Root ZX has been extensively researched and has been shown to be 90% to 100% accurate in determining working length to within 0.5mm to 1mm of the apical foramen or CDJ depending upon reference point used (Pagavino et al 1998). The Root ZX is considered the benchmark against which other EALs are compared.

Using 2 or more frequencies, the fourth and fifth generation EALs measure resistance and capacitance separately. It is claimed that the combination of using only one frequency at a time increases the accuracy and reliability. The disadvantage of the 4th generation is the need to conduct measurements in a relatively dry canal whereas the 5th generation using different and better algorithms allowed for the use in the presence of blood, exudate and irrigating solutions.

The fourth generation EALs were found to be as accurate and reliable as the Root ZX with reported accuracy rates of 90-95% (Guise et al 2010). These two generations of EALs are the most commonly used in dental practice today.

The case for using an EAL is supported by many articles in the endodontic literature showing the reliability and accuracy of the EAL compared to radiographs. Recently published articles only confirm the results of earlier studies.

Mancini et al (2011) found EALs were more accurate than radiographic measurements in all dental groups. EALs are shown to more accurate in determining the working length than digital radiography (Cianconi et al 2011). Vieyra et al (2011) found that measuring the location of the apical constriction using an EAL was more accurate than radiographs and therefore reduced the risk of instrumentation and obturation beyond the apical foramen. Overall the accuracy of the most recent generations of EALs approaches 95%. Another benefit of using an EAL is the reduction in radiation exposure to the patient as EALs can reduce the number of radiographs taken during treatment (Brunton et al 2002, Ravanshad et al 2010).

Another use of EALs is the detection of perforations. Suspected periodontal or pulpal perforations can be confirmed by all apex locators, as a patent perforation will cause the instrument to complete a circuit indicating the instrument is outside the tooth or root (Ingle et al 2002). Any connection between the root canal and the periodontal membrane/ ligament such as root fractures, cracks and internal or external resorption can be recognized by EALs and can serve as an excellent diagnostic tool in these circumstances (Nahmias et al. 1983)

Although numerous studies have been conducted to support the accuracy of these devices, there are still some problems that can influence the accuracy. The lack of patency, the accumulation of dentinal debris and calcifications, intact vital tissue, blood and inflammatory exudate can affect the accuracy of EALs (Aurelio et al. 1933 Trope et al. 1985 ElAyouti et al 2009).

Other conductors that can cause short circuiting are metallic restorations, the presence of caries, saliva, and instruments in a second canal. Although the majority of the present generation of EALs are not affected by irrigants within the root canal, contact of the irrigant with metallic restorations can complete the circuit (Jenkins et al. 2001).
The size of the apical foramen also influences the accuracy of EALs.

THE CASE FOR ELECTRONIC APEX LOCATORS

As the width of the major foramen increases, the distance between the file tip and foramen increases thus electronic measurements may not be accurate (Stein et al. 1990).

Immature or "blunderbuss" apices tend to give short measurements (Wu et al. 1992).

The only possible contraindication to the use of an EAL is the possibility of interference with cardiac pacemakers. In 1996, Beach et al. found that electronic apex locators caused alterations in pacemaker function.

However, this disadvantage seems to have been overcome in the newer versions of EALs and with better protection and shielding of pacemakers.

Garofalo et al. (2002) tested five third generation EALs and concluded all but one of the units caused no inhibition or interference with normal pacemaker function and concluded EALs could be used safely in patients with pacemakers.

In 2006, Wilson et al reported no evidence of any interference in cardiac pacemaker function when an EAL was used in patients with working, implanted cardiac devices.

They went on to conclude that EALs were safe for use in patients with implanted cardiac pacemakers and defibrillators.

Currently, manufacturers of EALs warn against using these devices in patients with cardiac pacemakers due to the speculation of potential risk of electromagnetic interference. If an EAL is to be used in a patient with a cardiac pacemaker, it may be prudent to consult with the patient's cardiologist.

While many studies have addressed the benefits and clinical performances of the many different models of EALs that have been developed in recent years, there is general agreement as to the reliability and accuracy.

With all this information and with the contrasting claims of manufacturers, it remains difficult for a clinician to choose from the EALs available (Stober et al 2011).

No matter which EAL a clinician chooses to incorporate into practice, it is incumbent on the clinician to determine the accuracy and reliability of the EAL used.

This should include comparing radiographic working length determination along with EAL use until there is a level of clinical confidence with the EAL to produce the desired working length result.

Although EALs can reduce the number of radiographs required during endodontic treatment, it would be considered below the standard of care to perform endodontic treatment without proper pretreatment and post obturation radiographs.

The electronic apex locator is a very useful tool in endodontics for determining working length. While the apical constriction (CDJ) is the desired anatomic termination point for preparation and obturation, radiographs alone cannot determine this point whereas the modern EAL can with accuracy approaching 95%.

REFERENCES

Goldman M, Pearson AH, Darzenta N. (1972) Endodontic success: who's reading the radiograph? Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology and Endodontics 33, 432-7.

Tamse A, Kaffe I, Fishel D (1980) Zygomatic arch interference with correct radiographic diagnosis in maxillary molar endodontics. Oral Surgery, Oral Medicine, Oral Pathology 50, 563-6.

Cox VS, Brown CE Jr, Bricker SL, Newton CW (1991) Radiographic interpretation of endodontic file length. Oral Surgery, Oral Medicine, Oral Pathology 72, 340-4.

Williams CB, Joyce AP, Roberts S (2006) A comparison between in vivo radiographic working length determination and measurement after extraction. Journal of Endodontics 32, 624-7.

Seidberg BH, Alibrandi BV, Fine H, Logue B (1975) Clinical investigation of measuring working lengths of root canals with an electronic device and with digital-tactile sense. Journal of the American Dental Association 90, 379-87.

Kuttler Y (1955) Microscopic investigation of root apexes. Journal of the American Dental Association 50, 544-52.

Green D (1956) A stereomicroscopic study of the root apices of 400 maxillary and mandibular anterior teeth. Orals Surgery, Oral Medicine, Oral Pathology 9, 1224-32

Pineda F, Kuttler Y (1972) Mesiodistal and buccolingual roentogenographic investigation of 7,275 root canals. Oral Surgery, Oral Medicine, Oral Pathology 33, 101-10.

Custer C (1918) Exact methods for locating the apical foramen. Journal of the National Dental Association 5, 815-9.

Gordon MPJ, Chandler NP (2004) Electronic apex locators. International Endodontic Journal 37, 425-37.

Kobayashi C, Suda H (1994) New electronic canal measuring device based on the ratio method. Journal of Endodontics 20, 111-4.

Pagavino G, Pace R, Baccetti T (1998) A SEM study of in vivo accuracy of the Root ZX electronic apex locator. Journal of Endodontics 24, 438-41.

Guise GM, Goodell GG, Imamura GM (2010) In vitro comparison of three electronic apex locators. Journal of Endodontics 36, 279-81.

Mancini M, Felici R, Conte G, Costantini M, Cianconi L (2011) Accuracy of three electronic apex locators in anterior and posterior teeth: An ex vivo study. Journal of Endodontics 37, 684-87.

Cianconi L, Angotti V, Felici R, Conte G, Mancini M (2011) Accuracy of three electronic apex locators compared with digital radiography: An ex vivo study. Journal of Endodontics 37, 2003-7.

Vieyra JP, Acosta J. (2011) Comparison of working length determination with radiographs and four electronic apex locators. International Endodontic Journal 44, 510-518.

Brunton PA, Abdeen D, Macfarlane TV (2002) The effect of an apex locator on exposure to radiation during endodontic therapy. Journal of Endodontics 28, 524-26.

Ravanshad S, Adl A, Anvar J, (2010) Effect of working length measurement by electronic apex locator or radiography on the adequacy of final working length: A randomized clinical trial. Journal of Endodontics 36, 1753-56

Ingle J, Himel T, Hawrish C et al. (2002) Endodontic cavity preparation. In: Ingle J, Bakland L, eds Endodontics. Hamilton, Ontario: BC Decker, pp. 517-25.

Nahmias Y, Aurelio JA, Gerstein H (1983) Expanded use of the electronic canal length measuring devices. Journal of Endodontics 9, 347-9.

Aurelio JA, Nahmias Y, Gerstein H (1983) A model for demonstrating an electronic canal length measuring device. Journal of Endodontics 9, 568-9.

Trope M, Rabie G. Tronstad L (1985) Accuracy of an electronic apex locator under controlled clinical conditions. Endodontics and Dental Traumatology 1, 142-5.

ElAyouti A, Dima E, Ohmer J, Sperl K, von Ohle C, Lost C. (2009) Consistency of apex locator function: A clinical study. Journal of Endodontics 35, 179-81.

Jenkins JA, Walker WA, Schindler WG, Flores CM (2001) An in vitro evaluation of the accuracy of the Root ZX in the presence of various irrigants. Journal of Endodontics, 27, 209-11.

Stein TJ, Corcoran JF, Zillich RM (1990) Influence of the major and minor foramen diameters on apical electronic probe measurements. Journal of Endodontics 16, 520-2.

Wu YN, Shi JN, Huang LZ, XuYY (1992) Variables affecting electronic canal measurement. International Endodontic Journal 25, 88-92.

Beach CW, Bramwell JD, Hutter JW. (1996) Use of an electronic apex locator on a cardiac pacemaker patient. Journal of Endodontics 22, 182-184.

Garofalo RR, Ede EN, Dorn SO, Kuttler S. (2002) Effect of electronic apex locators on cardiac pacemaker function. Journal of Endodontics 28, 831-33.

Wilson BL, Broberg C, Baumgartner JC, Harris C, Kron J. (2006) Safety of electronic apex locators and pulp testers in patients with implanted cardiac pacemakers or cardioverter/ defibrillators. Journal of Endodontics 32, 847-52.

Stober EK, de Ribot J, Mecade M, Vera J, Bueno R, Roig M, Duran-Sindreu F (2011) Evaluation of the Raypex 5 and the Mini apex locator: An in vivo study. Journal of Endodontics 37, 1349-52.

Introducing Sensodyne Rapid Relief – instant relief from the pain of dentine hypersensitivity

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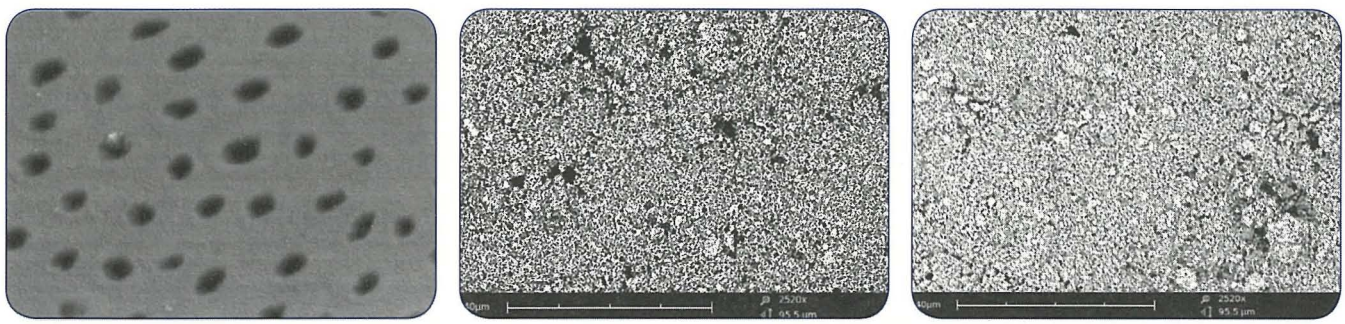
The strontium acetate formulation forms a deep occlusive plug within the dentinal tubules[1,2]

The robust occlusion formed by Sensodyne Rapid Relief is still maintained after an acid challenge[2]



Unoccluded dentine

After treatment and a 30-second acid challenge

After treatment and a 10-minute acid challenge

In vitro study of dentinal tubule patency following an acid challenge (immersion in grapefruit juice, pH 3.3) applied after dabbing and massaging for 60 seconds with Sensodyne Rapid Relief. Adapted from Parkinson and Willson 2010.

Sensodyne Rapid Relief – instant and long-lasting relief from sensitivity

- Clinically proven relief.[3,4] Works in just 60 seconds*[3]
- Proven long-lasting relief with twice-daily brushing[4]
- Creates deep, acid-resistant occlusion[1,2]
- Contains fluoride

*When used as directed on pack

References:
1. Banfield N and Addy M. J Clin Periodontol 2004; 31: 325–335.
2. Parkinson C and Willson R. J Clin Dent 2010. Accepted for publication.
3. Mason S *et al*. J Clin Dent 2010. Accepted for publication.
4. Hughes N *et al*. J Clin Dent 2010. Accepted for publication.

Prepared March 2010. CRC approval Z-10-036

GlaxoSmithKline

SENSODYNE
DAILY PROTECTION FROM THE PAIN OF SENSITIVE TEETH

PROBIOTICS

Pierre Ellul
Consultant Gasttroenterologist

The Gut and Micro-organisms

- Gut - X 10 the number of human cells
- Colonic Flora - Bacteria
- 99% anaerobic
- 300-1000 different species
- 60% of dry mass of faeces

Beneficial Effect

- Carbohydrate metabolism and absorption
- Trophic effect
- Control of Pathogenic microbes
- Vitamin production

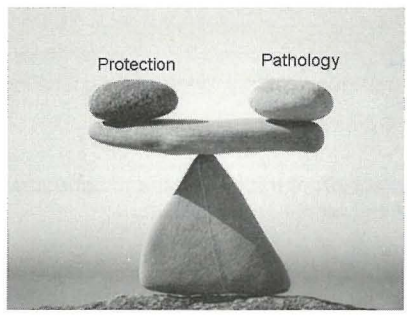
Role in Disease

- Cancer
- Inflammatory Bowel Disease
- Obesity

The Gut

Intestinal Epithelial Barrier
Innate Immune Response
⇩
Inflammatory Response

- Vast ecology of microbes



How can we alter the Intestinal Microflora

1. administration of antibiotics

2. prebiotics (dietary components that promote the growth and metabolic activity of beneficial bacteria)

3. probiotics (beneficial bacteria).

Features of Probiotics

- microorganisms that have beneficial properties for the host
- Most commercial products have been derived from food sources, especially cultured milk products.
- strains of lactic acid bacilli (eg, Lactobacillus and Bifidobacterium)
- A non-pathogenic strain of Escherichia coli (eg, E. coli Nissle 1917)
- Clostridium butyricum
- Streptococcus salivarius
- Saccharomyces boulardii (a non-pathogenic strain of yeast).

Continues on page 10.

PROBIOTICS

Continues from page 9.

The Future

- genetically engineered bacteria that can secrete immunomodulators

Aim - to favourably influence the immune system.

Mechanisms of Benefit

1. Suppression of growth or epithelial binding/invasion by pathogenic bacteria

2. Improvement of intestinal barrier function

3. Modulation of the immune system

4. Modulation of pain perception

How is it possible?

- Induce protective cytokines e.g IL-10 and TGF-beta
- Suppress pro-inflammatory cytokines e.g TNF-alpha
- induce expression of micro-opioid and cannabinoid receptors in intestinal epithelial cells

Yoghurts and probiotics – Beware!

- Not all of the live cultures contained in yogurt survive well in an acidic environment nor do they colonize the microbiota efficiently
- Pasteurization kills the bacteria
- Residual lactose contained in yogurt can increase symptoms in patients with lactose intolerance

Clinical benefits

- Pouchitis

VSL#3® (Bifidobacterium breve, B. longum, B. infantis, Lactobacillus acidophilus, L. plantarum, L. paracasei, L. bulgaricus, Streptococcus thermophilus)

- Maintenance of remission

- Improved QoL

Diverticular Colitis

- Infrequently, patients with diverticular disease develop a segmental colitis, most commonly in the sigmoid colon, which can occasionally be symptomatic.
- Combination therapy - VSL#3 + oral beclomethasone dipropionate was beneficial in a case series.

Antibiotic Associated Diarrhoea

- Pozzoni P et al. Am J Gastroenterol 2012
- *Saccharomyces boulardii* for the prevention of antibiotic-associated diarrhea in adult hospitalized patients: a single-center, randomized, double-blind, placebo-controlled trial
- are effective in reducing the incidence of diarrhoea in patients who are taking antibiotics.

Antibiotic Associated Diarrhoea

- 82 randomized trials of probiotics
- A meta-analysis was performed using the 63 trials (11,811 participants)
- Probiotics - had a 42 % lower risk of developing antibiotic-associated diarrhoea than participants in the control groups

Hempel S et al. JAMA 2012; 307:1959.

Infectious Diarrhoea

- Systematic reviews
- All of which found an overall reduction in the duration of diarrhoea
- Time reduction - 17 to 30 hours
- Probiotics were generally safe, with no serious adverse effects

Szajewska H et al. J Pediatr Gastroenterol Nutr 2001
Van Niel CW et al. Pediatrics 2002; 109:678.
Johnston B et al. Cochrane Database Syst Rev 2007, CD004827.
Sazawal S et al. Lancet Infect Dis 2006

Traveller`s Diarrhoea

meta-analysis of 12 studies

Probiotics reduced the risk of traveler's diarrhoea

No serious adverse effects

McFarland LV. Meta-analysis of probiotics for the prevention of traveler's diarrhea. Travel Med Infect Dis 2007, 5:97.

Irritable Bowel Syndrome

Lactose Intolerance

The Future

- chronic intestinal inflammatory diseases
- prevention and treatment of pathogen-induced diarrhoea
- urogenital infections
- atopic diseases

SINUS PHYSIOLIFT:
A NEW TECHNIQUE FOR A LESS INVASIVE GREAT SINUS AUGMENTATION WITH CRESTAL APPROACH

Rosario Sentineri DDS, MD Giorgio Dagnino DDS

AIM
The purpose of this article is to present an innovative surgical technique that produces a big maxillary sinus lift by the crestal approach through the use of hydrodynamic pressure for detaching the Schneiderian membrane.

MATERIALS AND METHODS
Specific hollow elevators were designed, which due to their specific shape enable a closed system and exploits the Pascal's principle of the incompressibility of liquids. With a micrometric device the physiological liquid was injected into the sub- Shneiderian space in order to detach the membrane.

RESULTS
This Sinus Physiolift technique uses piezoelectric surgery to reduce the percentage of perforations of the sinus membrane compared to traditional drills and osteotomes.

CONCLUSIONS
This technique significantly reduces the risk of perforation of the membrane when compared to previous methods, but the most important benefit is a much less debilitating postoperative phase for the patient. In addition, the simplicity of the procedure reduces stress for the patient as well as the surgeon's discomfort.
(J Osteol Biomat 2011;1:69-75)

INTRODUCTION
The insertion of implants in the posterior maxilla is often complicated by the presence of inadequate quantity and quality of bone. Among the various surgical procedures proposed to overcome the anatomic limitations of this area, the technique of sinus grafting with autologous bone or bone substitutes has proven to be a safe method with high predictability of success[1-5].

Access osteotomy which elevates the sinus membrane can be performed through a vestibular approach or a crestal approach. The main advantage of a crestal approach is the lower level of invasiveness when compared to a vestibular approach, which, though presenting the advantage of having a visual inspection of the separation, creates great discomfort to the patient undergoing surgery in the post-operative phases. The short and long term results of the sinus ridge augmentation have been shown in various studies. They show a high success rate with various morphologies and lengths of the implants, with many different surgical techniques and grafting materials.

A minimally invasive surgical approach through the crest was proposed by Tatum in 1986 [6] and subsequently refined by Summers in 1994[7-8-9].

Depending on whether either the new bone is created with the preparation of the osteotomy site or graft material used, we have the OSFE technique (osteotomies Sinus Floor Elevation) or the BAOSFE technique (Bone-Added Osteotome Sinus Floor Elevation).

Despite the lack of controlled studies for comparison between the implant site preparation with osteotome or drill, it seems that the osteotome technique significantly improves the success rate of implants in the posterior maxillary over the use of drills [10]. Many authors adjust this technique with the intention of avoiding perforation of the membrane [11-14] and to use most of the remaining bone to ensure the position of the implant at the same time. Evidence relate to early failures in the majority of implants using this common technique of single-stage sinus lift during the healing period.

The failures are correlated with smoking, occlusal overload, lack of primary stability, and a low residual bone height. If the ridge has a height less than 5mm does not ensure the primary stability of the implant, use of a delayed protocol of implant placement is necessary. In fact, it is recommended to avoid inserting implants at the same time in cases where there is residual bone height is less than 5mm. The patient, however, must be subjected to at least two surgeries.

Continues on page 16.

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THE BERNE SUPREMACY

By Dr David Muscat

On 19th August 2012 four intrepid travellers flew to Berne for an intensive ITI education week.

Drs David Muscat , Mario Camilleri, Chris Gauci and Maria Abela were coached and lectured by the likes of Professors Buser, Bragger, Belser, Salvi, Reinhard and Bosshard.

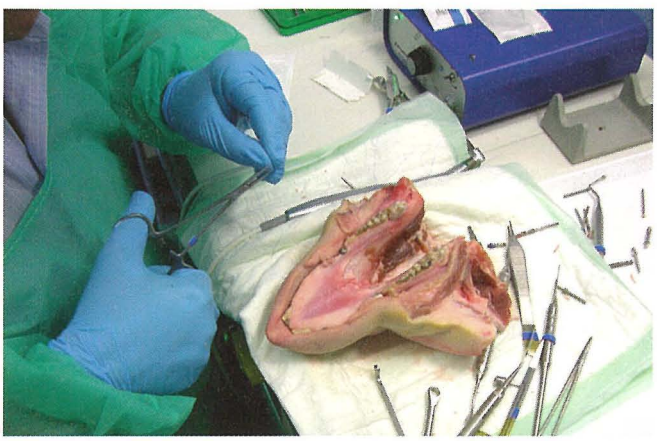
During an unusually hot week, in the city of Bears , and close to the gushing clear waters of the river, several topics were covered such as:

- Bone and tissue integration
- Medical risk factors
- Periodontal considerations
- Orofacial anatomy
- Basic surgical principles
- Prosthetic considerations
- Prosthetic procedures
- Biological complications
- Risk assessment
- Single tooth replacement
- Edentulous spaces

There were live surgeries, surgical hands-on for tissue level and bone level implants as well as prosthetic live demos and hands-on.

We were all treated very well and were amongst delegates from all corners of the globe.

A trip to the Straumann factory as well as a couple of social events were organised. An excellent course with a great group of friends.The course was partially funded by EU funds via the ETC Training Aid Foundation.



SINUS PHYSIOLIFT:
A NEW TECHNIQUE FOR A LESS INVASIVE GREAT SINUS AUGMENTATION WITH CRESTAL APPROACH

Continues from page 12.

With the crestal approach, the elevation of the muco-periosteal flap is often confined to the ridge, thus limiting damage to the vascular contribution of the lateral wall of the sinus. Numerous studies demonstrate the low incidence of perforation of the membrane, low incidence of pathologic alterations of the sinus mucosa and low incidence of sinus infections respect to those reported with the lateral approach[15].

With the crestal osteotome technique, even if proven to be one of the most predictable, has a negative aspect, the use of the hammer cannot guarantee an optimal control of force and the discomfort of the patient. The use of drills significantly reduces the need to use the hammer, but this approach results in significant bone loss during the preparation of the implant sites.

The Piezoelectric® bone cutting technique was introduced in the year 2000[16] and its peculiarities of selective cutting can reduce the rate of membrane perforation by 7% [17-18].

This technology has permitted the development, in recent years, of a sequence of piezoelectric implant site preparations[19] with inserts which reaches, through a crestal approach, the sinus membrane without the use of trephine drills or traditional drills presenting a high-risk of perforation. Since 2003 various techniques have been designed with the aim of raising the membrane through the use of an elastic balloon inflated by hydraulic pressure[20-22].

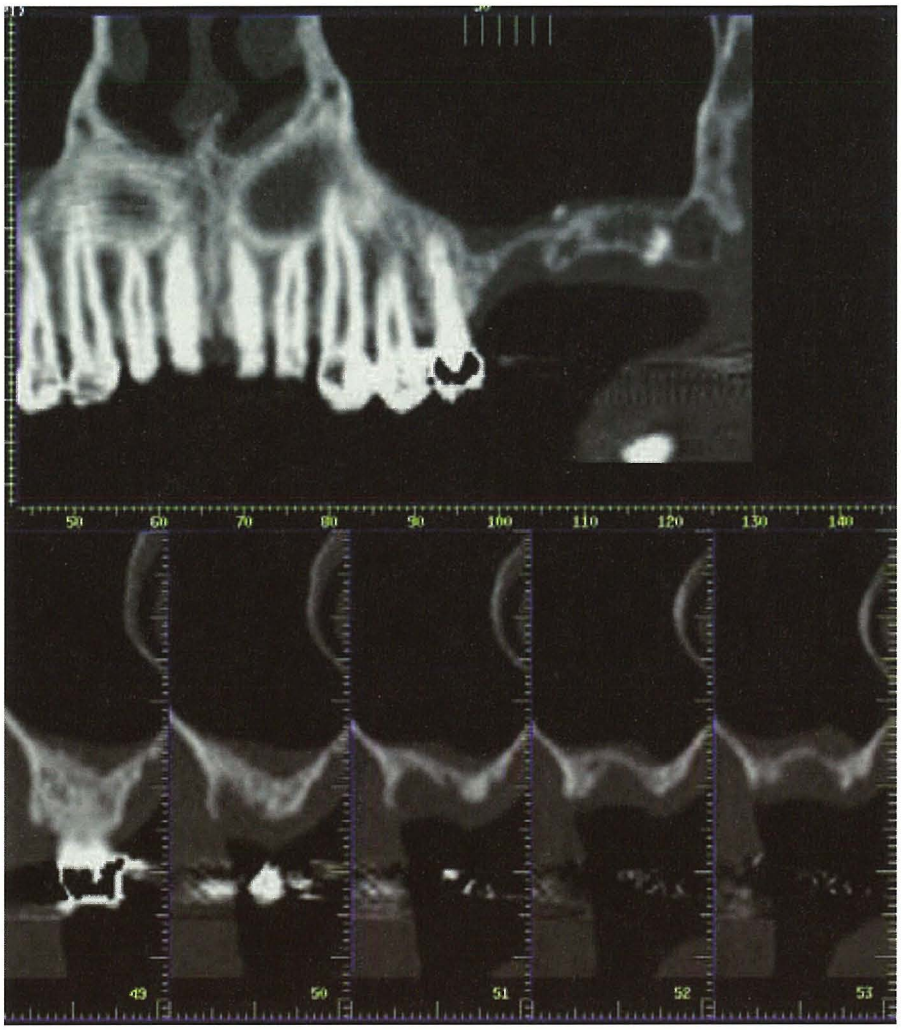


Figure 1. CT shows a low bone quantity

Continues on page 24.

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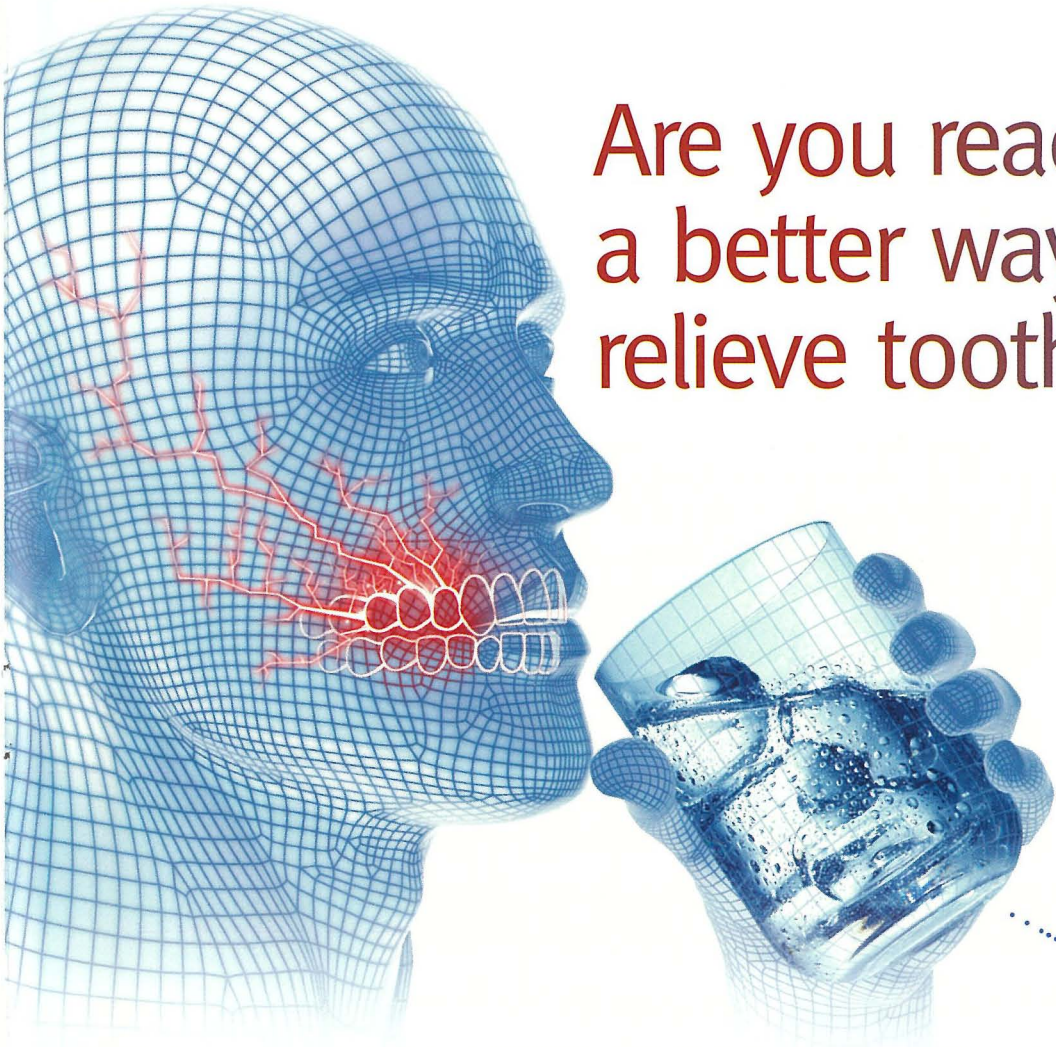

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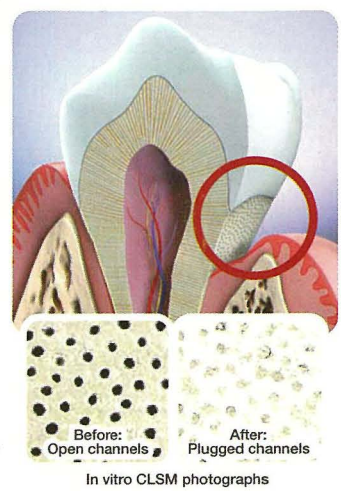

In vitro CLSM photographs

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PITFALLS IN ORTHO

Mark Sciberras BChD(Hons) MSc(Lond) DOrth MOrth FDSRCS(Eng)

Pitfalls in Orthodontics

- a problem or difficulty that is likely to happen in diagnosis and treatment of a patient needing orthodontics

Mark Sciberras
BChD(Hons) MSc(Lond)
DOrth MOrth
FDSRCS(Eng)

Pitfalls in Orthodontics

May happen if:

- The wrong course of action is taken

or

- The correct course of action is not taken

Consequences

- Most mistakes, once noticed, can be rectified. May need further and more complicated treatment
- Usually embarrassing to the practitioner and may lead to loss of trust
- Serious mistakes may lead to litigation

Avoidance of Pitfalls

- Mainly directed to the General Dental Practitioner.
- Limited to using URA, LRA and functionals. Possibly simple fixed appliance.
- Awareness of what should be done.
- Eye-opener for common pitfalls.

Pitfalls during mixed dentition

- Account for eruption of all permanent teeth
- Unerupted incisor- Why?
  - Supplemental tooth
  - Odontome
  - Post-trauma

Treatment

Unerupted Central Incisors

DONTICS

Pitfalls in Mixed Dentition

- Post-Occlusal incisor
- + Displacement
- + Gingival trauma

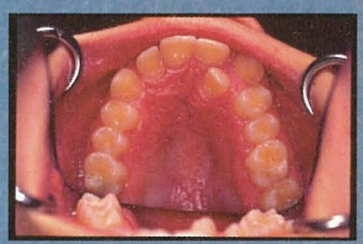
URA with adequate posterior biting platform

Flexible T Spring

Short treatment

Pitfalls in Mixed Dentition

- 'Post-Occlusal' lateral incisor
- Bodily displaced palatally
- No Displacement
- No Trauma



- No treatment

Pitfalls in Mixed Dentition

- Spaced Front Teeth
- Normal Development?
- Check for hypodontia
- DO NOT USE ELASTICS

Pitfalls in Mixed Dentition

- Check that upper canines are palpable labially between 8 and 10y.
- If not, check radiographically
- If palatal, ext C?
- Monitor radiographically for eruption and resorption of 2

Pitfalls in Mixed Dentition

- Severe Overjet (>8mm)
- Girls 10 years, Boys 12 years
- May benefit from functional appliance treatment
- Do not wait for all permanent teeth

Pitfalls in Mixed Dentition

Crowded incisors

- Extraction of C's?
- Long term benefit?

Continues on page 20.

PITFALLS IN ORTHODONTICS

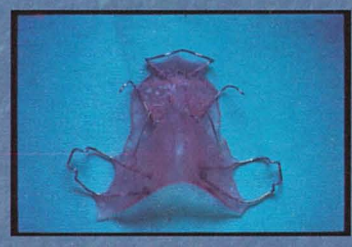
Continues from page 19.

Pitfalls in Mixed Dentition

- Avulsion of front tooth, with failure of reimplantation
- Fit 'Spoon Denture' for aesthetics, Space Maintenance and control of Midline.

Pitfalls in URA treatment

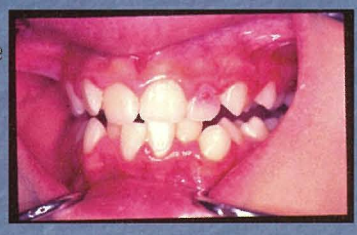
- URA move teeth by tipping.
- Good for reducing deep overbites in growing patients.
- Do not attempt complicated tooth movements.
- Very limited to correct rotations, and incapable of bodily movement.



Crowding

- Assessment of degree of crowding
- Mild, Moderate or Severe
- Extraction or non-extraction
- Extraction:

Which tooth?
All teeth accounted for?
Any pathology?



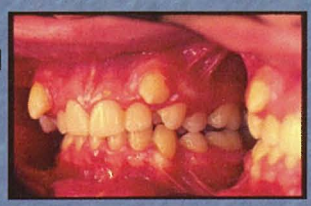
Mild Crowding

- Creation of space by distal movement
- Need of Headgear support
- Patient Compliance?
- Advise re long treatment

Crowded Canine

Ideal conditions for URA treatment:

Canine is mesially inclined
Not too high labially
Extraction of adjacent 4 will leave minimal residual space – measure with dividers



Crowded Canine: Pitfalls

- Distally Inclined
- Upright
- Too high labially
- Extraction of 4 will leave unsightly residual space
- Effect of lower canine on final position.
- Account for 5 if E still present

Crowded Anteriors

- Degree of Crowding, Extraction Y/N
- May need to distalise 3 first, so check inclination
- Any Rotations?

Lower Incisor Crowding

Treatment with Lower Removable Appliance is limited

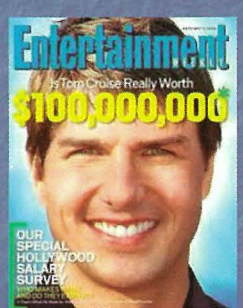
Simple cases only

Spaced Front Teeth

- Can be corrected with URA only if distally inclined
- If straight, need bodily movement
- Prosthetic replacement?

Centre-Line

- Is the centre line correct or does it need to be corrected?
- Will treatment worsen the centre-line? (asymmetrical extractions?)
- Can the centre-line be corrected by URA or needs to be accepted?



Class II div 1 treatment

Typical Treatment plan:

1. Extract upper 4's
2. First URA to retract 3 into Class I, and reduce overbite
3. Second URA to reduce overjet, maintaining canine position and overbite reduction
4. Retention

Pitfalls in Class II div 1- Diagnosis

- Check presence (esp 5) and condition of all teeth before extracting 4.
- Check inclination of 3: mesial, upright or distal?
- Check inclination of anterior teeth: proclined or upright?
- Check exposure of anterior teeth (gummy smile) – retraction may lead to extrusion.
- Check anchorage requirements. If overjet is 8mm or more, proceed with caution.

Continues on page 22.

PITFALLS IN ORTHODONTICS

Continues from page 21.

Pitfalls in Class II div 1 - Treatment

- Monitor OH and gingival condition
- Monitor overbite reduction (make sure ABP is of correct width)
- Monitor that teeth can move freely with no interference from acrylic or occlusion
- Monitor anchorage, check overjet

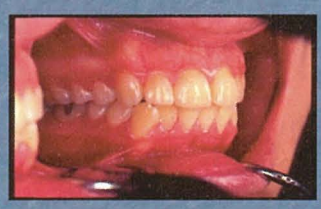
Pitfalls in Class II div 1 -Treatment

- Is 3 in the correct position?
- Correct trimming of the ABP during overjet reduction
- Correct activation of components
- Retention

Bimaxillary proclination

- Major pitfall in diagnosis
- Patient complains of prominent front teeth.
- Overjet is usually about 6mm
- Canines are in Class I

DO NOT EXTRACT UPPER 4's and URA



Anterior Open Bite

- Complex Cases
- May involve a combined orthodontic and surgical approach with a high risk of relapse

Pitfall: DO NOT EXTRACT 7's

Pitfalls in Class II div 2

- If growing, may consider proclination of anteriors with URA, followed by functional.
- Patients and parents must be fully informed.
- Compliance?
- Pitfall: NO EXTRACTION IN LOWER ARCH

Pitfalls in Class III

- Minimal treatment during growth.
- Crossbites may be corrected if displacement present and patient can get edge-to-edge

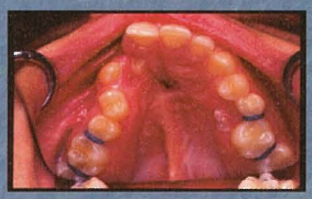
Pitfalls in Class III

- If unable to get edge-to-edge, not treatable with URA
- Options:
  - Alignment of upper arch
  - Combined orthodontics and surgery

DO NOT EXTRACT IN THE LOWER ARCH EVEN IF CROWDED

Pitfalls in Severe Cases

- Skeletal Class III
- Skeletal Class II
- Facial Asymmetry
- Anterior Open Bite
- Hypodontia
- Cleft Lip and Palate

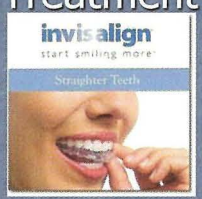


Pitfalls in Adult Orthodontics

- Simple treatment
- Limited objectives with URA
- Periodontal Aetiology?
- Tolerance to URA?

Pitfalls in Adult Treatment

- Not advising Adult patients on orthodontic option



- Availability of invisible appliances: Invisalign, Lingual Fixed appliances (Incognito)

Conclusion

- Before extracting permanent teeth, think and think again.
- If in doubt, don't do it! First, do no harm!
- Explanation before is a REASON
- Explanation after is an EXCUSE

THANK YOU

SINUS PHYSIOLIFT:
A NEW TECHNIQUE FOR A LESS INVASIVE GREAT SINUS AUGMENTATION WITH CRESTAL APPROACH

Continues from page 16.

Although several studies show a high success rate, one of the complications of this method may be the rupture of the balloon, which may lead to a possible simultaneous rupture of the membrane. Some authors have recently proposed the use of techniques of sinus floor elevation using hydrodynamic pressure but none have guarantee a closed system[23-25]. Bassi and Lopez in 2010 [26] developed a system which can elevate the Schneiderian membrane with a hydraulic detachment using a crestal approach. The purpose of this article is to present a new technique of detaching the sinus membrane and to obtain a big sinus lift, with the use of special hollow hydrants in the case of a height of at least 3 mm between the crown margin of the bone crest and the sinus floor, and the use of hydrodynamic pressure in combination with bone grafts.

SURGICAL TECHNIQUE

Surgical case

The female patient was 64 years and a non-smoker. Her medical condition was good. She presented a unilateral dental edentulia in the distal quadrant 2. The residual bone height below the maxillary sinus was very low as shown by CT and intraoral x-ray (Fig 1-2). She underwent 2 sessions of professional hygiene in the weeks prior to surgery. An antibiotic coverage was begun with amoxicillin clavulanic acid ,1capsule every 12 h for 6 days from the day before surgery, and 0.12% chlorhexidine rinse 2 times a day was administered. The patient underwent conscious sedation and pain control therapy with the following drugs:

- cortisone (4 mg Bentelan)
- benzodiazepines (diazepam, 1 mg boluses

to achieve the effect)

- NSAIDs (ketorolac tromethamine 1 vial during surgery)
- Fargan
- local anesthetic, mepivacaine with a 1:100,000 adrenaline ratio (Septanest 4% Septodont).

A crestal incision distal to the 2.5 element was performed. The dissection of the total thickness of the flap was performed only on the bone crest. After bone exposure of the ridge, the first implant tunnel was prepared in the 2.7 position with Piezosurgery ® III (Mectron Piezosurgery, Mectron, Carasco, Italy). The 'Bone' power was set following the protocols designed by Dr. T. Vercellotti, mainly with regard to the initial steps with IM1 insert and then with IM2P insert up to one millimeter from the sinus floor (Fig 3).

The baseline cortical sinus was eroded with a specific piezoelectric insert (Ot9 - Fig. 4) in order to obtain an access hole of 2.4mm in diameter. The first hollow elevator was thus added by an implant micromotor (20 Ncm, 20 rpm) in the prepared site as far as the basal cortical area (Figs. 5-6).

However, it was not necessary to penetrate the inside section of the sinus. The hydrant was stable in order to ensure watertight integrity. Once the hydrant was inserted, the Physiolifter® had to be connected, which joined the syringe containing a know volume of physiologic saline (Fig. 7).

The hydrant was connected to the rubber hose which created a very effective pressure system, avoiding loss of pressure for separation, or lateral loss, in case of oval preparation or lack of firmness of the operator's hand, or error in the techniques for the preparation site. It is worthwhile to remember that the syringe was filled before it was connected to the hydrant to avoid air bubbles. After checking for leaks for incorrect insertion of the hydrant, by pressing the Physiolifter®, the physiological liquid was injection in the sinus. The membrane thus gradually became separated. Following this, a second implant tunnel was

Figure 2. Intraoral x-ray

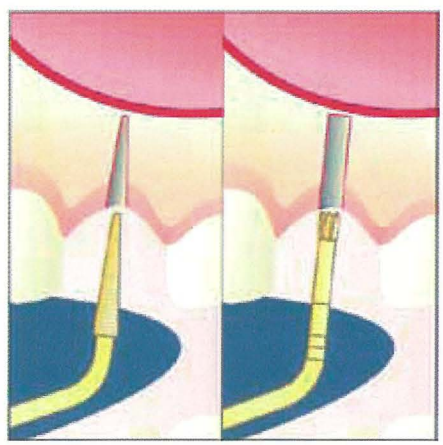


Figure 3. IM1 and IM2P Piezoelectric site preparation.

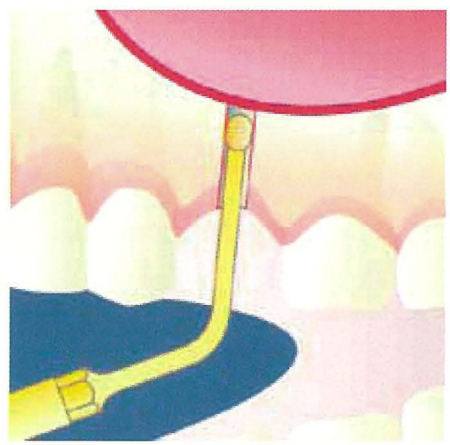


Figure 4. Erosion of the cortical basal with OT9 insert.

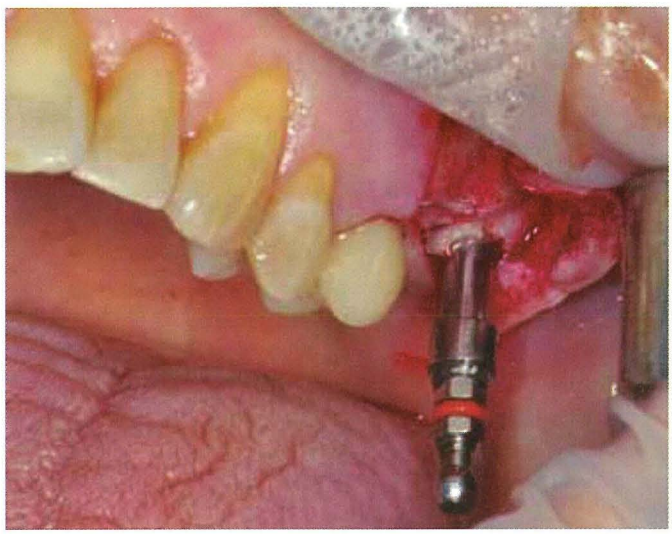


Figure 5. Insertion of the first hollow screw.

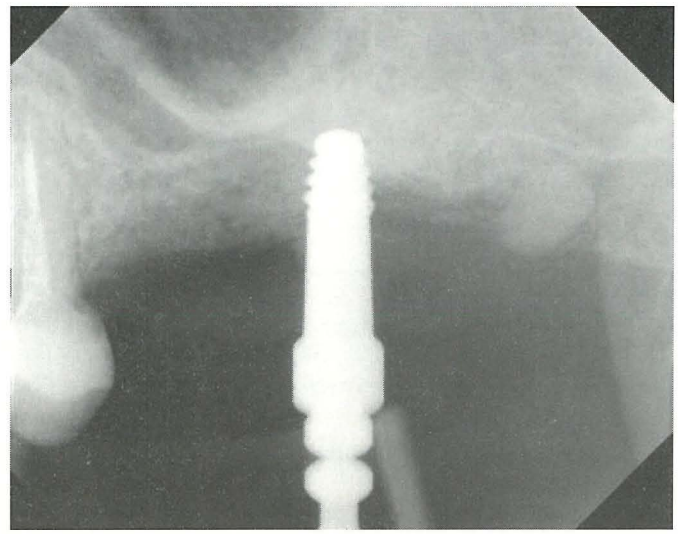


Figure 6. X ray control of the correct insertion of the first hollow screw

prepared in the 2.6 position and the steps were repeated in order to insert a second hollow hydrant (Figs. 8-9) The Physiolifter® was connected and the physiological liquid was injected for a second time. During this procedure the first hollow screw had a special airtight seal to ensure that the system was closed during the second elevation. (Fig. 10)

The Physiolifter® tube was later disconnected and the Valsalva maneuver was performed on the patient in order to drain the isosaline liquid from the maxillary sinus. This maneuver was also performed to verify the integrity of the membrane. After the hollow hydrant was unscrewed, heterologous bone was compacted into the hole. Without any need to activate the pedal, by means of insert Ot9, the graft material that remained in the implant site was pushed into the sinus. If the graft material resisted, one possible way of operating more easily consisted in intermittently activating the machine with the regulation of the physiological flow being as low as possible. After freeing the channel implant, conical implants (3,25 x 10 and 4 x 10 Full Osseotite, 3i Implant Innovations) were inserted according to need and using the submerged technique (Fig. 11).

PROSTETHIC PHASE AND EVALUATION OF THE RISE

After 4 months of healing from surgery abutments were inserted and after 2 weeks two metal-ceramic crowns were screwed in the implants. The x-ray showed an accurate fit between implant and prosthesis and a satisfactory stability of the rise (Fig. 12)

DISCUSSION

Since their introduction the maxillary sinus has always limited the placement of osseointegrated implants, and a growing need to overcome this anatomic limit with a stable solution, and at the same time, obtain a reduced cost is now clear. Presenting the patient with the option of making a removable prosthesis is an easy, but obsolete solution in the implant era.

Although removable prostheses are relatively easier to produce patients have a difficult time socializing and accepting the prosthesis. In an effort to resolve the psychological discomforts that removable prostheses may evoke in patients, dental surgeons now have the option of suggesting osseointegrated implants. There are many methods for lifting the sinus. Some have reached a very high predictability, as well as ease of performance that they can become part of a surgeon's ordinary activity.

The vestibular approach to the sinus on the one hand produces a "non-blind" approach and it is therefore easier to achieve good results. On the other hand, it causes a very debilitating period after surgery.

Until recently this was considered to be the only way to produce a big sinus lift because the crestal approach in most cases does not allow an extended lift. This approach is certainly less disabling, but, as has already been mentioned, it does not allow good visibility of the operating area, which must therefore be perceived only instrumentally and requires great sensitivity.

Figure 7. Physiolifter.

Traditional techniques cause much discomfort to the patient, for example, fracture of the sinus floor, or rising and compaction of any graft material inevitably require osteotomes which are "hammer and chisel" procedures, definitely not pleasant to the patient and cannot be controlled by the surgeon. The gold standard that must be reached must produce minimal discomfort to the patient . Along with this there must also be the possibility of obtaining a large volume increase to generate more bone.

A good technique was introduced with to the water balloon system, although an incomplete method, it is not completely controllable by the clinician because of the elastic resistance of the balloon, which does not permit a safe elevation of the sinus membrane.

Continues on page 30.

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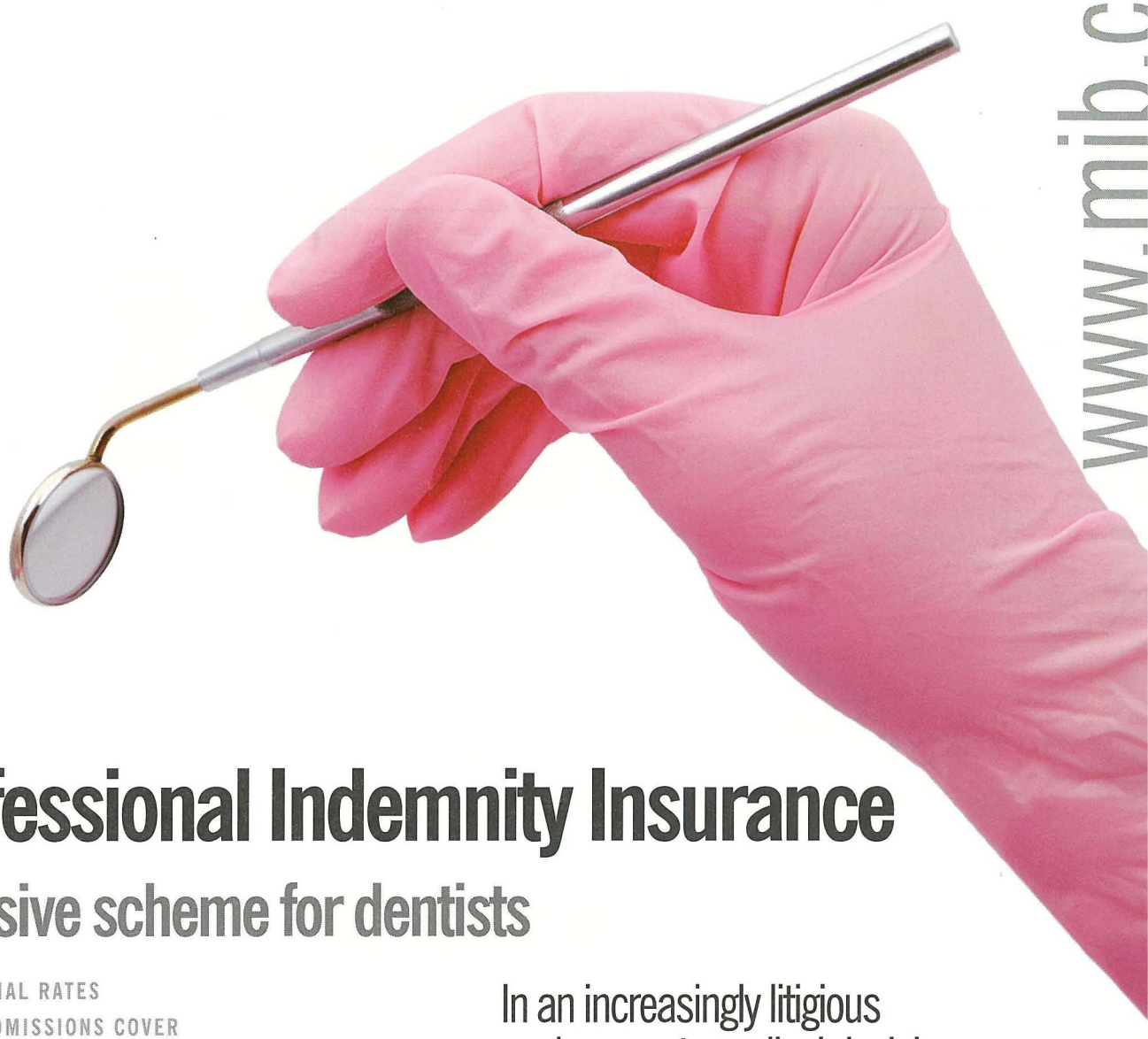

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The #1 issue

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.

THE PLATFORM FOR BETTER ORAL HEALTH IN EUROPE

By Dr Paula Vassallo BChD MSc(Lon) DDph RCS (En) MBA
Consultant Dental Public Health

The Platform for Better Oral Health in Europe is a forum which brings together European organisations that work towards the promotion of oral health and improving the prevention of oral diseases in Europe.

The Platform is a joint initiative of the Association for Dental Education in Europe (ADEE), the Council of European Chief Dental Officers (CECDO) and the European Association for Dental Public Health (EADPH), and kindly sponsored by the Wrigley Oral Healthcare Program and GlaxoSmithKline Consumer Healthcare.

The Platform was launched on World Oral Health Day in 2011 and has been created to respond to the Call to Action for Better Oral Health in Europe handed over to Health Commissioner Dalli by several Members of the European Parliament in 2010.

The mission of the Platform is to promote oral health and the cost-effective prevention of oral diseases in Europe.

The main aims of the Platform are to:

- Promote oral health and the prevention of oral diseases as one of the fundamental actions for staying healthy
- Address oral healthcare inequalities and the major oral health challenges of children and adolescents, of the increasing elderly population, and of the populations with special needs in Europe
- Develop the knowledge base and strengthen the evidence-based case for EU action on oral health
- Mainstream oral health across all EU health policies

Despite significant improvements in oral health across Europe, oral diseases still constitute a major public health burden, and significant oral health inequalities exist both within and between individual Member States in terms of severity and prevalence.

The burden is attributable principally to dental caries, periodontal diseases, and oral cancer. In fact only 41% of the Europeans still have all their natural teeth and over 50% of Europeans are affected by gum disease.

Oral Health means more than just good teeth. It is a determinant factor for quality of life, essential for well-being, and an integral part of general health. In the EU, the socio-economic burden of oral diseases is considerable: they affect the majority of school-aged children and adults and account for 5% of public health spending.

Costs of traditional curative treatment have risen from €54bn in 2000 to €79bn in 2012 and are expected to rise up to €93bn by 2020.

Studies have also shown that the mouth is the most expensive part of the body to treat. Treatment expenditure exceeds that for other diseases, including cancer, heart disease, stroke and dementia.
In order to raise awareness of this Platform, the 1st Pan-European Oral Health Summit was held on the 5th September 2012, at the European Parliament, Brussels, with the support of Ms. Karin Kadenbach MEP and Dr. Cristian Silviu Buşoi MEP.

The Summit brought together policymakers and dentists at the occasion of World Oral Health Day, to discuss the current oral health situation and engage policymakers to commit to developing and funding policies that will improve the prevention of oral diseases.

The main policy recommendations of the platform are to:

- Recognise the common risk factors for oral diseases and other chronic diseases, and work towards linking oral health policies across other EU policies.
- Better integrate oral health into relevant national and EU health programmes and policies.
- Develop a coherent European strategy for the promotion of oral health and the prevention of oral diseases.
- Address the major oral health challenges of children and adolescents, socio and economically deprived groups, an increasing elderly population and other vulnerable populations in Europe.

Continues on page 35.

SINUS PHYSIOLIFT:

A NEW TECHNIQUE FOR A LESS INVASIVE GREAT SINUS AUGMENTATION WITH CRESTAL APPROACH

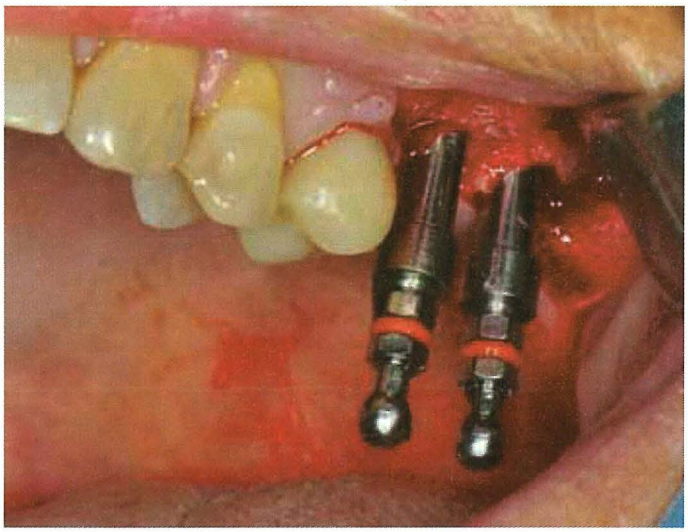


Figure 8. Insertion of the second hollow screw.

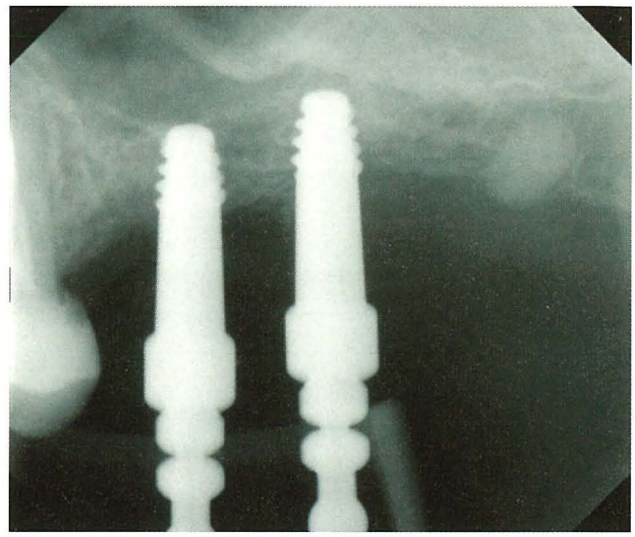


Figure 9. X ray control of the correct insertion of the second hollow screw.

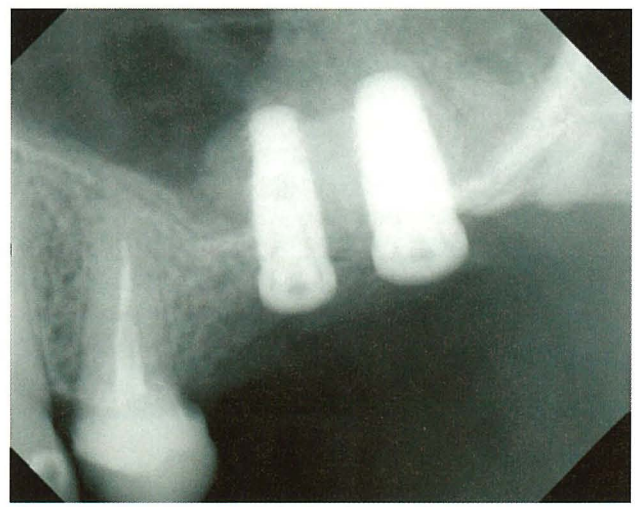


Figure 11. X ray control of the implants at baseline.

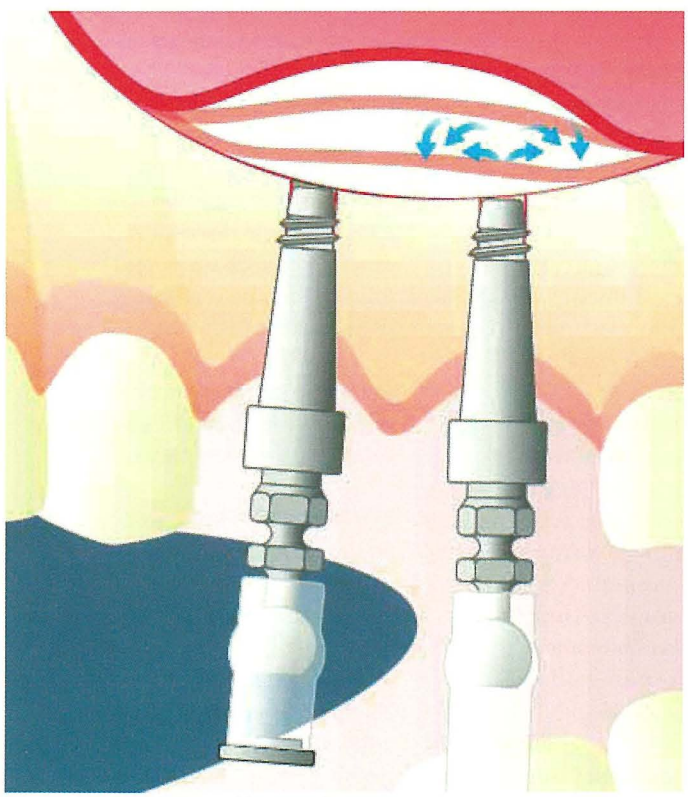


Figure 10. Airthight seal inserted.

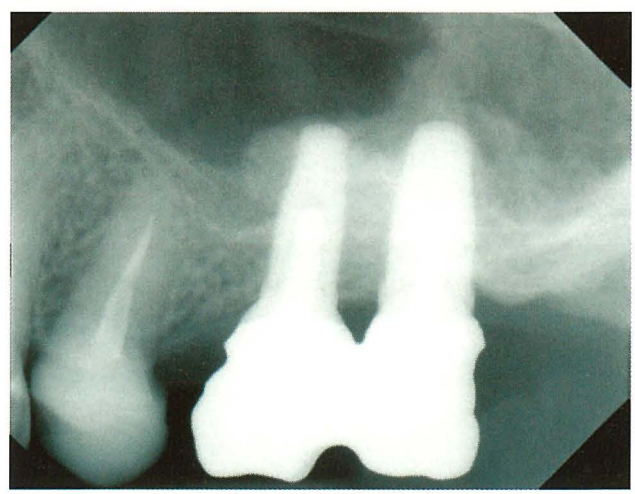


Figure 12. X ray control after 4 months at an half.

Continues from page 25.

The Bassi & Lopez method 26 is similar to the method proposed here, since it uses the same hydraulic technique for elevating the sinus membrane and producing the sub-antral graft filling space.

The main difference with the technique proposed in the present paper is in the preparation of the access route to the sinus that uses advantageously a piezoelectric site preparation saving the Schneiderian membrane 17-18 and the use of hollow screws instead of hollow cylinders to warrant a predictable pressure maintenance during all the elevating procedures, avoiding the risk of detachment of the hydrant from the crestal bone tunnel.

The advantages may be: a better stabilization of the hydrant and no pressure losses during the detaching procedure. In the case of a lower height of the crestal bone, the use of screwed hydrants is more favourable since it maintains pressure and a predictable detachment of the membrane.

To ensure the tightness of the system a special hollow screw was designed that, through an intimate contact achieved between the coils and the basal cortex, allows to use the pressure-tube syringe contained in the system optimally and efficiently.

CONCLUSIONS

The level of lift in our system is much greater than other techniques which use the crestal approach. The most important benefit of this technique is the achievement of a much less debilitating postoperative period for the patient. To this we must add that less time is spent in the chair and the surgeon's operative stress is also reduced.

Considering that the operator was an experienced surgeon these results are very encouraging.The learning curve should progress very gradually, as the technique depends on the operator. However, a longer follow up is necessary in order to assess the stability of the lift.

ACKNOWLEDGEMENTS

We thank Mectron for collaborating and the production of the hollow elevators. We also thank 3i Implant Innovations Biomax Italy for the supply of implants.

REFERENCES

1. *Boyne PJ, James RA. Grafting of the maxillary sinus floor with autogenous marrow and bone. J Oral Surg 1980;38:613-616.*
2. *Hirsch JM, Ericsson I. Maxillary sinus augmentation using mandibular bone grafts and simultaneous installation of implants. A surgical technique. Clin Oral Implants Res 1991;2(2):91-6.*
3. *Fugazzotto PA. Report of 302 consecutive ridge augmentation procedures: technical considerations and clinical results. Int J Oral Maxillofac Implants 1998;13(3):358-68.*
4. *Fugazzotto PA, Vlassis J. Long-term success of sinus augmentation using various surgical approaches and grafting materials. Int J Oral Maxillofac Implants 1998;13(1):52-8.*
5. *Kahnberg KE, Ekestubbe A, Gröndahl K, Nilsson P, Hirsch JM. Sinus lifting procedure. I. One-stage surgery with bone transplant and implants. Clin Oral Implants Res 2001;12(5):479-87.*
6. *Tatum H Jr. Maxillary and sinus implant reconstructions. Dent Clin North Am. 1986; 30:207-29.*
7. *Summers RB. A new concept in maxillary implant surgery: the osteotome technique. Compendium 1994a;15:152-160.*
8. *Summers RB. The osteotome technique. Part 3 - Less invasive methods of elevating the sinus floor. Compendium 1994b;15: 698-708.*
9. *Summers RB. The osteotome technique: Part 4- Future site development. Compendium 1995;16:1090-09.*
10. *Zitzmann NU, Schärer P. Sinus elevation procedures in the resorbed posterior maxilla. Comparison of the crestal and lateral approaches. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 1998;85(1):8-17.*
11. *Fugazzotto PA. The modified trephine/ osteotome sinus augmentation technique: technical considerations and discussion of indications. Implant Dent 2001;10:259-264.*
12. *Malchiodi L. Chirurgia implantare. Edizioni Martina Bologna. 2003;219-225.*
13. *Winter AA, Pollack AS, Odrich RB. Placement of implants in the severely atrophic posterior maxilla using localized management of the sinus floor: a preliminary study. Int J Oral Maxillofac Implants 2002;17:687-695.*
14. *Cosci F, Luccioli M. A new sinus lift technique in conjunction with placement of 265 implants: a 6-year retrospective study. Implant Dent 2000;9:363-368.*
15. *Tidwell JK, Blijdorp PA, Stoelinga PJ, Brouns JB, Hinderks F. Composite grafting of the maxillary sinus for placement of endosteal implants. A preliminary report of 48 patients. Int J Oral Maxillofac Surg 1992;21(4):204-9.*
16. *Vercellotti T. Piezoelectric surgery in implantology: a case report-a new piezoelectric ridge expansion technique. Int J Periodontics Restorative Dent 2000;20:358-365*
17. *Vercellotti T, De Paoli S, Nevins M. The piezoelectric bony window osteotomy and sinus membrane elevation: introduction of a new technique for simplification of the sinus augmentation procedure. Int J Periodontics Restorative Dent 2001;21:561-567.*
18. *Wallace SS, Mazor Z, Froum SJ, Cho SC, Tarnow DP. Schneiderian membrane perforation rate during sinus elevation using piezosurgery: clinical results of 100 consecutive cases. Int J Periodontics Restorative Dent 2007;27:413-419.*
19. *Vercellotti T. Essentials in piezosurgery; clinical advantages in dentistry. Quintessence Pub. Co 2009*
20. *Muronoi M, Xu H, Shimizu Y, Ooya K.Simplified procedure for augmentation of the sinus floor using a haemostatic nasal balloon. Br J Oral Maxillofac Surg 2003;41: 120-121.*
21. *Soltan M, Smiler DG. Antral membrane balloon elevation. J Oral Implantol 2005;31: 85-90.*
22. *Hu X, Lin Y, Metzmacher AR, Zhang Y. Sinus membrane lift using a water balloon followed by bone grafting and implant placement: a 28-case report. Int J Prosthodont 2009;22:243-247.*
23. *Wang DL, Li MJ, He T, Zheng Z, Duan X, Zheng YJ. Development of the remote hydraulic pressure control injection. Zhongguo Yi Liao Qi Xie Za Zhi 2009;33(1):34-5. Chinese.*
24. *Sotirakis EG, Gonshor A. Elevation of the maxillary sinus floor with hydraulic pressure. J Oral Implantol 2005;31(4):197-204.*
25. *Chen L, Cha J. An 8-year retrospective study: 1,100 patients receiving 1,557 implants using the minimally invasive hydraulic sinus condensing technique. J Periodontol 2005;76(3):482-91.*
26. *Bassi MA, Lopez MA. Hydraulic sinus lift: a new method proposal. J Osteol Biomat 2010;1: 93-101*

CASE STUDY

PATIENT DETAILS:

Name:	**Mrs Smith**
Age:	**70s**
Sex:	**Female**
Nationality:	**Maltese**
Occupation:	**Housewife**
MH:	**Slight Hypertension**
DH:	**Regular attendant**
SH:	**Non-smoker**

PATIENT COMPLAINT:

1. Mobile lower partial denture

HISTORY OF PRESENT COMPLAINT:

1. History of failed bridgework
2. Several partial lower cobalt chromium dentures
3. Repeated immediate additions onto denture

TREATMENT PLAN:

1. Clearance of lower remaining dentition namely 32, 33 and simultaneous provisionalisation with a lower complete denture.
2. Reline of complete lower denture 6-8weeks (post-extraction).
3. CT Scan of Mandible and fabrication of Surgical guide NOBEL GUIDE
4. Placement of implants and immediate fabrication of provisional acrylic resin bridge.
5. Fabrication of definitive implant bridge 4 months post implant placement.

INITIAL TREATMENT:

1. Impression for construction of immediate complete acrylic resin lower denture. Figure-1 shows DPT of pre-op status.
2. Removal of 32,33 and immediate fit of denture
3. Impression for reline 6-8 weeks post-extraction.
4. Fit complete denture with radio-opaque gutta percha markers now described as radiographic guide.
5. CT scan of mandible with radiographic guide and another of radiographic guide taken alone. Loading of data on Procera System Nobel Guide.
6. Implant planning in positions 35,32,42,45 Figure-2
7. Fabrication of Nobel Surgical guide. (Figure-3)

1ST STAGE SURGERY

1. Prophylaxis of antibiotic to start 1-day prior to surgery
2. Local anaesthetic
3. Try-in Surgical guide
4. Placement of implants 4X13 Nobel Speedy Groovy using surgical guide.
5. Primary stability gained to 35Ncm2 on all but one implant. Decided not to provisionalise
6. Cover screws placed on all four implants.
7. Post-operative instructions Written/verbal
8. Post-operative radiograph. (Figure-4). Cover screw on lower left distal implant was tightened to 15Ncm2 into its fully seated position.
9. Denture adjustment, addition of soft lining material.
10. Review at 1week, 1month, 3months post-implant placement.

2ND STAGE SURGERY

1. Exposure of implants using surgical guide and placement of healing abutments.
2. Placement of Multi-unit abutments, distal implants having 32deg angles abutments. Figure-5
3. Impression for implant-bridge replacing 31, 32, 33, 34, 36, 37, 41, 42, 43, 44, 46, 47 2 weeks post implant exposure.
4. Records of old radiographic guide taken so as to replicate aesthetics.

LABORATORY CONSTRUCTION

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

FINAL TREATMENT AND LONG-TERM CARE

1. Fit of Implant bridge to 35Ncm2 4months post-implant insertion. (Figure 6-7)
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-8)
6. Recall appointment for review on 4monthly basis

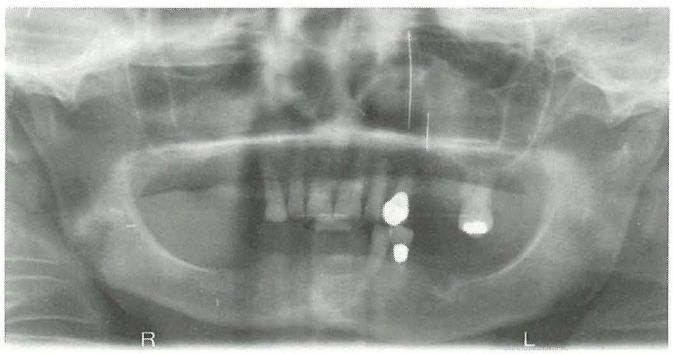


Figure 1: Pre-op DPT

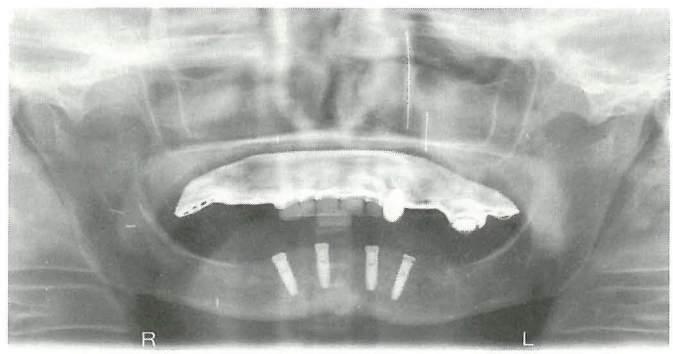
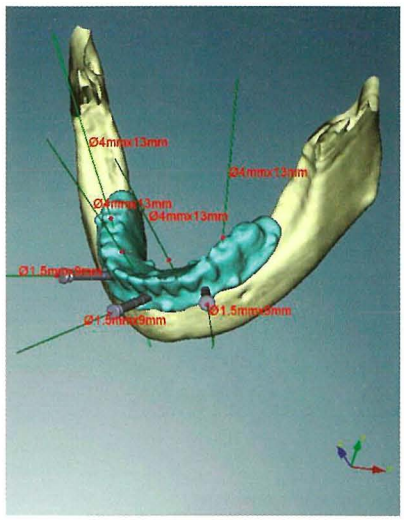


Figure 4: Post-implant placement

By DrJeanPaul Demajo BDS Hons (Lon)MSC Impl. Surg (LON)FICD

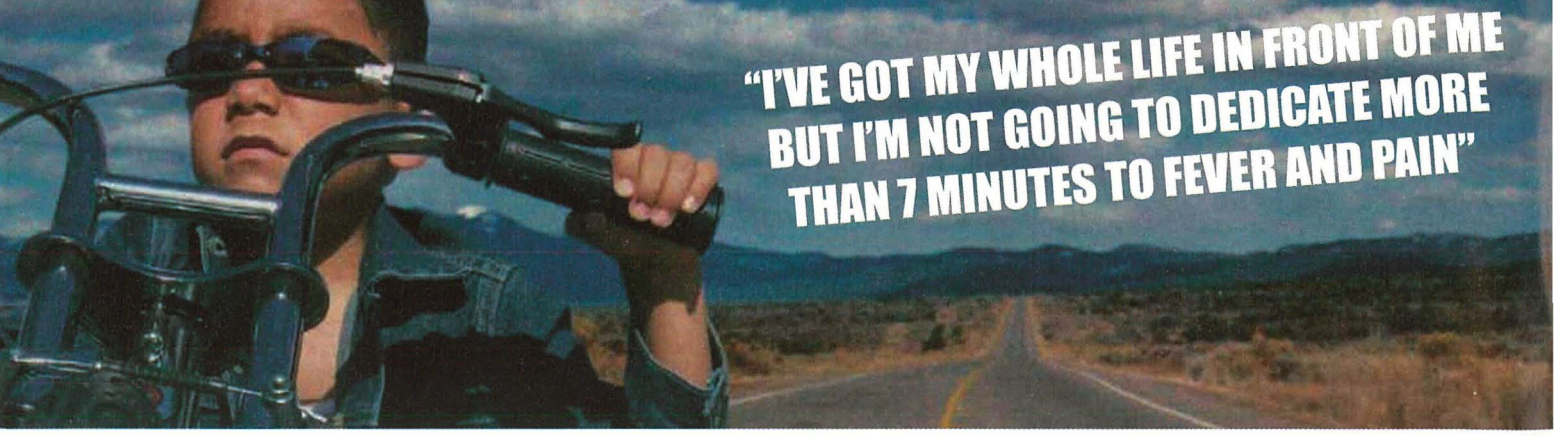


TOP:
Figure 2: Implant Planning

RIGHT (top row, from left):
Figure 3: Nobel Surgical Guide
Figure 5: Healed gingiva 2weeks post-placement of Multi-unit abutment

RIGHT (bottom row, from left):
Figure 6: Bridge in situ
Figure 7: Bridge in-situ

BOTTOM:
Figure 8



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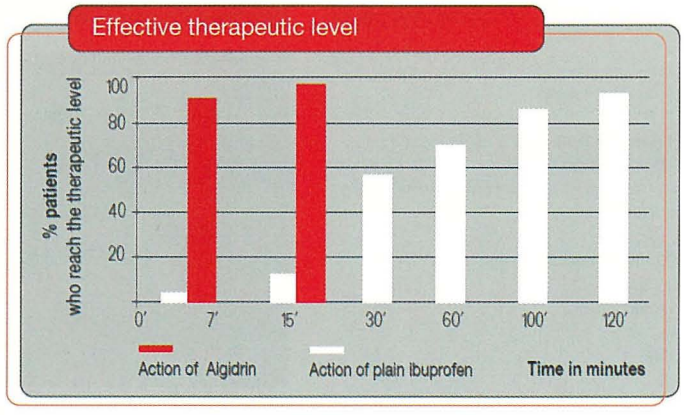

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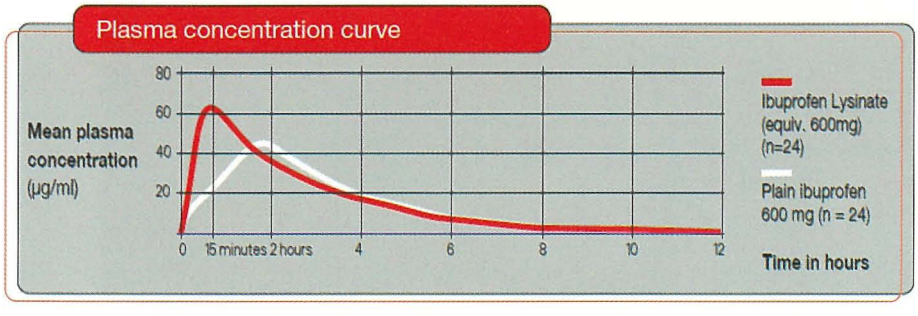

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(1) Portolés A, Vargas E, García M, Terleira A, Rovira M, Caturla MC, Moreno A. Comparative Single-Dose Bioavailability Study of Two Oral Formulations of Ibuprofen in Healthy Volunteers. Clin Drug Invest 2001; 21 (5): 383-389.

THE PLATFORM FOR BETTER ORAL HEALTH IN EUROPE

Continues from page 29.

- Support the training and education of dentists to develop robust oral health epidemiological infrastructures and assist in oral health strategy and policy development.
- Make oral health and the prevention of oral diseases a priority under the European health and research programmes.
- Improve the collection of validated oral health data, align methodologies between EU countries, and frequently collect reliable and comparable data.
- Encourage best practice sharing across countries

Mr Martin Seychell, Deputy Director General at DG Sanco office, one of the speakers at the event, stressed that "we need to make sure that all the politics that we have are connected , are implemented and that OH is seen as an integral part of these policies and not as something extra or additional; it is an integral and vital part"

World Oral Health Day is celebrated on the 12th September . This was established by the FDI World Dental Federation. (Federation Dentaire International). 12th September was chosen to coincide with existing oral health days around the world, to honour the birthday of FDI founder, Dr Charles Godon and to jointly celebrate the anniversary of the WHO's International Conference on Primary Health Care, which took place on 12th September 1978. World Oral Health Day was celebrated for the first time in 2008.

The aim of such a commemorative day is to support the improvement of oral health worldwide, by increasing awareness as well as stressing the impact of oral diseases on general health and well-being.

This is the fourth year that Malta organized an event to promote oral health. The Dental Public Health Unit of the Superintendence of Public Health in collaboration with the Faculty of Dental Surgery of the University of Malta took part in an outreach event in Mosta, Paola, Gzira and Sliema, where the main aim was to educate the public on improving their oral health.

Approximately 1000 people received advice and information on oral hygiene and diet instructions together with oral hygiene bags with products to take care of their teeth and mouth which were kindly provided by pharmaceutical companies.

The advice was given by Dentists, dental students and dental hygienists, promoting the relationship between a healthy mouth and a healthy lifestyle to lead to an overall improvement in general health.

The Dental Public Health Unit was recommending some quick tips:

- Brush your teeth and gums twice day with a fluoridated toothpaste
- Eat healthy foods
- Visit your dentist regularly

Remember your Oral Health is part of your Overall health and your quality of life! DP

WOMEN AND THEIR SELF-ESTEEM IN THE WORLD OF WORK

By Vania Tabone Dip.Soc.Stud.(Gender and Development)

SOCIALISATION

According to Mead (1934), the 'self' is a social structure and it arises in social experience. He continued that the concept of 'self' is developed through the process of role-taking only if the person is able to get outside himself.

This can only be achieved if the individual perceives himself from the point of view of others. Cooley (1909) elaborated Mead's concept emphasising the importance of primary groups. He stated that our behaviours are a result from socialisation especially through primary groups.

Thus it all indicates that our actions are learned behaviours and we are not born with them. Cooley argued that primary groups' beliefs spread from the family to the local community, to the nation and finally across the world. According to him, primary groups give an individual his entire and earliest experience of society. This is because they are moulded by special traditions and express a universal nature.

SELF-EFFICACY

According to Social Cognitive Theory, "the learner acquires knowledge as his or her environment converges with personal characteristics and personal experience". Thus both gender roles and self-efficacy are generated through parents, peers and institutions. Bandura (1997) states that self-efficacy reflects on how an individual perceives his own capabilities to achieve certain goals. Self-efficacy can only be achieved when the individual realises his own potential. It directly impacts on numerous outcomes such as academic achievement, birth control and even career choice.

According to research, higher self-efficacy levels are found in males when compared to females. Self-efficacy is instrumental for controlling one's life while coping with life's challenges.

If a person lacks self-belief and self-confidence especially at work and relationships, finances and career progression are liable to suffer. Success depends heavily on self-efficacy as consistent failure is more likely to result in a lower self-efficacy envisaging more failures in the future.

WOMEN IN THE WORLD OF WORK

Self-esteem can be maintained by holding a job even if the working conditions are not favourable. Work was found to be a significant contributor to an individual's psychological health. In fact full time housewives are more often depressed than women with jobs. Work offers a stable social identity.

This is because it identifies one person from another, according to profession. Men often attribute their self-esteem to their economic contribution to maintain the household.

Women's involvement in the world of work offers an important role in cultural and economic advancement. However, work pressure creates anxiety to women. Organisations require employees who believe in themselves. Unfortunately women in our Western society and culture have always been stereotyped as 'weak and disable'.

This negative inspiration in most women has resulted into lack of self-esteem and lack of thrust in their abilities. Consequently women are more liable to feel anxious and worry. In addition they often envisage that men are more capable.

Work is considered as a path to personal growth, hence increasing one's self-esteem. In such respect, one must not equate one's own personal worth with career success because a person's worth should not be put in one basket.

This is because today women not only encounter the glass ceiling that results into lower salaries, but there is also what has been termed as 'rose-coloured ceiling'.

Nowadays women have many opportunities, but unfortunately relationships are still not egalitarian and women are expected to shoulder most of their family responsibilities. This only creates tension between what we are and what we aspire.

In such circumstances poor self-esteem may lead to an eventual depression. The invisible barrier diminishes every hope for career conscious women to progress.

Continues on page 38.

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WOMEN AND THEIR SELF-ESTEEM IN THE WORLD OF WORK

Continues from page 36.

Such outcome apart from lowering women's self-esteem, also decreases their motivations and interest in their jobs. Modern sexism is harder to notice. Subtle sexism tends to create anxiety resulting into poor self-esteem. Job performance very often is associated with self-esteem. Occupational success may increase self-esteem and in return can lead to happiness. Job failure on the other hand is more likely to lead to unhappiness and depression.

Women in the highest categories identify their major obstacle to career progression as lack of self-confidence. They attribute this retention to 'internal barriers' such as lack of assertiveness and fear of failure. Women holding prestigious jobs stand as role models especially for children who may follow their steps. Bandura calls such behaviour as 'vicarious experience' in which an individual witnesses others perform in challenging activities.

Women equate success with loss of femininity and feel anxious about success. She continued that women very often fear success because of the negative consequences that may follow in male dominated fields. Women have low confidence in their performance on masculine tasks. Men in general perceive themselves as more capable than women. This is more liable to make them feel more confident in many situations although most probably are resistant to advice and feedback.

REFERENCES

Ayushveda Informatics. (2010). Glass Ceiling Effect. Retrieved June 27, 2010 from http://www/ayushveda.com/magazine/glass-ceiling-effect/

Bandura, A. (1997). Self-efficacy: The Exercise of Control. New York: Freeman.

Barretto, M., Ryan, M.K. & Schmitt, M.T. (2009). The Glass Ceiling in the 21st Century. Washington, D.C.: American Psychological Association

Betz, N.E. & Hackett, G. (1986). Applications of Self-efficacy Theory to Understanding Career Choice Behaviour. Journal of Social and Clinical Psychology. 4, 279-289.

Bolender Initiatives, LLC. (2006). Charles Horton Cooley 1864-1929. Retrieved July 19, 2010 from http://www.bolenderinitiatives.com/sociology/charles-horton-cooley-1864-1929

Brannon, L. (2002). Gender Psychological Perspectives (3rd ed). Boston: Allyn & Bacon.

Buchanan, T. & Selmon, N. (2008). Race and Gender Differences in Self-Efficacy: Assessing the Role of Gender Role Attitudes and Family Background. Sex Roles. 58, 822-836.

Cooley Charles Horton. (1983). Social Organization: A Study of the Larger Mind. London: Transaction Publishers.

Gecas, V. (1989). The Social Psychology of Self-efficacy. Annual Review of Sociology. 15, 291-316.

Grabowski, L.J.S., Call, K.T. & Mortimer, J.T. (2001). Global and Economic Self-Efficacy in the Educational Attainment Process. Social Psychology Quarterly. 64, 164-179.

Hakim, C. (2000). Work-Lifestyle Choices in the 21st Century: Preference Theory. New York: Oxford University Press.

Horner, M. (1969, November). Fail: Bright Women. Psychology Today, pp. 36-38,62.

Idea. (2010). Social Cognitive Theory (SCT): Journal of Interaction Recepes. Retrieved July 19, 2010 from http://www.idea.org/page110.html

Jemmott, J.H., Jemmott, L.W., Spears, H., Hewitt, N. & Cruz-Collins, M. (1992). Self-efficacy, Hedonistic Expectancies, and Condom Use Intenions Among Inner-city Black Adolescent Women: A Social Cognitive Approach to AIDS Risk Behaviour. Journal of Adolescent Medicine. 13, 512-519.

Lane, J. & Lane, A. (2001). Self-Efficacy and Academic Performance. Social Behaviour and Personality. 29, 687-694.

Le Page, K. (2010). What is Self-Efficacy? Retrieved July 18, 2010 from http://personaldevelopment.suite101.com/article.cfm/what-is-self-efficacy

Mead, G.H. (1934). Mind, Self and Society: From the Standpoint of a Social Behaviourist. London: The University of Chicago Press, Ltd.

Nathaniel, B. (1991). Healthy Self-Esteem. Retrieved July 17, 2010 from http://www.nathanielbranden.com/calalog/pdf/healthy_self_esteem.pdf

Nathaniel, B. (1999). A Woman's Self-Esteem: Struggles and Triumphs in the Search for Identity. New York: University Park: The Pennsylvania State University Press.

Nathaniel, B. (1998). Preface to self-esteem at work. Retrieved July 17, 2010 from http://www.nathanielbranden.com/catalog/pdf/preface_to_self.pdf

Porkiani, M. (2009). Self-Belief and Anxiety in Women Employing Governmental Organisations Yazd City Iran. European Journal of Scientific Research. 36 (1), 102-113.

Ritvo, E. (2009). Women and Depression. Retrieved June 27, 2010 from http://www.psychologytoday.com/blog/the-beauty-prescription/200911/women-and-depression

The Makeover Experience. (2006). Personal Empowerment for Women and Mixed Groups. Retrieved July 18, 2010 from http://www.themakeoverexperience.com/default.asp?id=25

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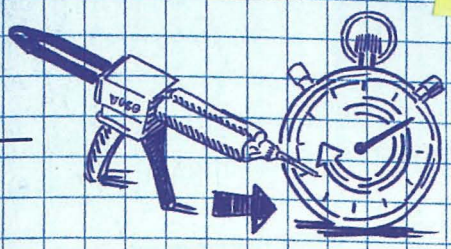

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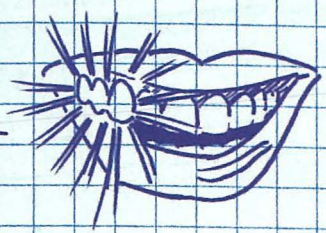

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