Dear colleagues,

We have had the committee elections on the 4th February and this year we elected 9 members and co-opted one member. The list is as follows:

Dr David Muscat
President, P.R.O., Editor ‘The Dental Probe’
Dr Adam Bartolo
Vice President, Government Relations Officer
Dr Noel Manche
Treasurer
Dr David Vella
Secretary
Dr Lino Said
Events co-ordinator
Dr Nik Dougall
IT Officer
Dr Chris Satariano
Federation Representative
Dr Gabrielle Cordina
Projects Officer
Dr Ann Meli Attard
CPD Officer
Dr Audrey Camilleri (co-opted)
International Relations Officer, Representative on Federation.

We have an eclectic mix of talent and a keen team. We welcome Dr Audrey Camilleri back on our committee as well as the new members Drs Ann Meli Attard, Gabrielle Cordina and Chris Satariano.

Next year CPD becomes mandatory so I recommend that all dentists become fully fledged DAM members. We provide certification for all our scientific/educational lectures/events.

Our next events are listed below. We are constantly working towards providing new lectures and courses.

I have been informed by a local dentist who was suffering with a severe work related ailment that there are special masks available for added protection from inhalants and aerosols. These are masks with valves (Aura)-3M1883 item FFP3N.

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

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ST APOLLONIA QUIZ 2015

1. In which city did St. Apollonia die?
2. In which Cathedral in Portugal may one find a reliquary containing the tooth of Saint Apollonia?
3. In which city do you find ‘Piazza Sant Apollonia’?
4. In which city is a principal train station named after St. Apollonia?
5. Which Island in the Indian Ocean was originally named St. Apollonia by Portuguese Navigators in 1507 and then subsequently renamed?
6. In which church in Malta can one find a painting of St Apollonia?
7. What date is St Apollonia celebrated in the yearly calendar?


The first prize was won by Father Mark Sultana, the second prize by Professor George Camilleri and the third prize Dr Walter Debono.

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Editorial

By Dr David Muscat

We have an eclectic mix of talent and a keen team. We welcome Dr Audrey Camilleri back on our committee as well as the new members Drs Ann Meli Attard, Gabrielle Cordina and Chris Satariano.

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For further information, please visit www.ivoclarvivadent.com

NEW LUTING COMPOSITE: VARIOLINK ESTHETIC

Variolink Esthetic, the light- and dual-curing luting composite, allows the dental professional to adhesively cement highly esthetic ceramic and composite restorations thanks to its flexible and well-structured Effect Shade concept. Pre-polymerized excess material can be easily and efficiently removed.

Cementation materials establish a durable bond between the tooth structure and the restorative material, and therefore contribute significantly to the long-term success of indirect restorations. Cementation materials are classified into three different types: conventional cements, self-adhesive composite cements and adhesive luting composites.

The advantage of conventional cements (e.g. phosphate or glass ionomer cements) lies in the easy and time-saving removal of excess material, which adheres mechanically to the tooth structure and is easily discernible due to its opaque shade. However, for conventional cements to establish a mechanical bond, retentive preparation is required.

The advent of adhesive luting composites has contributed to the rising importance of innovative restorative materials which allow for a defect-oriented preparation. Their adhesive bond makes it possible that highly esthetic all-ceramics – such as IPS e.max Press/CAD – can be used even if no retentive preparation has been performed.

It is essential in such cases, however, that a luting material of an appropriate shade and translucency level is selected in order to obtain excellent esthetic results. This applies in particular to restorations with a low material thickness. An additional advantage of adhesive luting composites over conventional cements represents the enhanced long-term integrity of the restoration margin. The low solubility and high resistance to wear of these luting composites lead to a reduced washing out of the cement gap. Adhesive luting composites use a dentin adhesive to ensure a reliable bond to the tooth structure. The adhesive penetrates into the dentin tubuli and forms a hybrid layer by bonding to collagen fibres. Etching of the tooth structure removes the smear layer and exposes the dentin tubuli, resulting in an increased micro-retention.

The luting composite forms a chemical bond with the hybrid layer and therefore adheres well to dentin and enamel. Although the pre-treatment time of well-established self-adhesive composite cements is considerably reduced as no conditioning is required, they demonstrate lower bond strength values.

OPTIMUM ESTHETICS FOR A BROAD RANGE OF INDICATIONS

Variolink Esthetic is a light- and dual-curing luting composite for the permanent cementation of ceramic and composite restorations. The light-curing version (Variolink Esthetic DC) is suitable for translucent restorations for which a longer working time is desired. This allows the dental professional to position, secure and subsequently light-cure all-ceramic veneers without any time constraints. The dual-curing version (Variolink Esthetic DLC) is suitable for ceramic and composite restorations for which a complete polymerization with light cannot be ensured due to the material’s opacity or strong wall thickness.

In such cases, complete polymerization of the luting composite is achieved by the material’s combination of light- and self-curing properties, resulting in a reliable adhesion of the restoration. Variolink Esthetic is available in five different shades, which allow the dental professional to influence the brightness value of the final restoration. Variolink Esthetic Neutral, which features the highest level of translucency, does

Continues on page 8.
NEW LUTING COMPOSITE: VARIOLINK ESTHETIC

Continues from page 7.

not affect the brightness value of the restoration and is colour neutral. “Warm” and “Warm+” increase the chroma of the restoration and therefore lend the restoration a darker appearance. The shades “Light” and “Lights” have a brightening effect on the restoration.

EASY EXCESS REMOVAL

In the past, the time-consuming removal of excess material before and after polymerization represented a disadvantage of the adhesive cementation technique. Variolink Esthetic has been further developed and sets now a new benchmark in this respect. Excess material can be easily removed while still in a gel-like consistency due to the material’s optional pre-polymerization feature. For the pre-polymerization, Variolink Esthetic DC is light-cured using the quarter technique, i.e. each quarter surface (mesio-oral, disto-oral, mesio-buccal, disto-buccal) is polymerized with light for two seconds. In case of Variolink Esthetic LC, the entire cement gap is pre-polymerized within two seconds (circular technique).

FLEXIBLE CONSISTENCY

The consistency of Variolink Esthetic has been optimally adapted to the requirements in dental practices. It has a convenient level of flowability and can be effortlessly and precisely extruded from the syringe. Furthermore, excess material smoothly flows from the cement gap, but remains stable at the cementation joint so that it can be readily removed after successful pre-polymerization.

COMBINATION WITH ADHESIVE UNIVERSAL

The adhesive material Adhese Universal ideally complements Variolink Esthetic. The optional etching step with phosphoric acid is part of the “selective etch” and the “etch & rinse” technique and results in an enhanced adhesion to enamel and optimized marginal seal. Adhese Universal is applied onto the tooth surface to be treated, starting with the enamel margins, and agitated for at least 20 seconds. Subsequently, the adhesive is dispensed with oil- and water-free air until a glossy, stable film results. Due to the adhesive’s adapted thixotropy, the film thickness is kept to a minimum so that the fit of the restoration is not affected. The material is polymerized with a light intensity of ≥300 mW/cm² for ten seconds before the placement of the indirect restoration.

CLINICAL CASE:

A 25-year-old patient presented to our practice with an insufficient composite filling and secondary caries on tooth 36 (Fig. 1). Since the defective area was very large, treatment with an IPS e.max CAD restoration was decided in order to achieve an efficient and esthetic result. After placement of the core build-up and preparation of the tooth, the tooth was scanned intraorally and a partial crown was designed (Fig. 2). Subsequently, the non-crystallized restoration was ground and tried in to check the contact points and the fit. In order to assess the aesthetic appearance and the shade effect, the characterized and fired restoration was again tried in using Variolink Esthetic Try-In Paste Neutral (Fig. 3).

During these trial placements, care was taken that the tooth was sufficiently moist to ensure a life-like shade impression. An anatomically shaped rubber dam (OptiDam Plus) was used for absolute isolation during the final placement of the restoration (Fig. 4). First, the enamel was etched for 15 seconds (Fig. 5), followed by the entire cavity for another 15 seconds (Fig. 5). Then, Adhese Universal was applied onto the prepared tooth surface and dispersed with a stream of air (Fig. 6). Special care was taken that no material pools formed at the cavity floor. Subsequently, the restoration was light-cured with a polymerization light (Bluephase Style) for 10 seconds.

To obtain an optimum bond, the IPS e.max CAD restoration was etched with hydrofluoric acid (IPS Ceramic Etch Gel) for 20 seconds and conditioned with Monobond Plus. In a next step, Variolink Esthetic DC was applied onto the restoration which was subsequently positioned on the tooth. After pre-polymerization of the excess material using the quarter technique (two seconds per quarter surface) (Fig. 7), the gel-like excess material could be easily removed using a scaler (Fig. 8). Glycerine gel (Liquid Strip) was applied to prevent the formation of an inhibition layer. In a final step, each segment of the restoration was light-cured for 10 seconds (Fig. 9), the composite gap was finished and polished (Astropol) and the occlusion was checked.

Fig. 6 Application of Adhese Universal in the VivaPen

Fig. 7 Excess material is pre-polymerized using the quarter technique, i.e. each quarter surface is light-cured for 2 seconds with the polymerization light held at a max. distance of 10 mm.

Fig. 8 The gel-like excess material is easily removed using a scaler.

Fig. 9 After the application of a glycerine gel (Liquid Strip), each segment of the restoration is light-cured.

Fig. 10 Final situation one week after the successful placement of the restoration.

NOISE-INDUCES HEARING LOSS IN DENTAL SURGEONS

Amanda Bartolo MD, MRCS, DO-HNS, FEBORS-HNS

Occupational Hazards in Dentistry

Dental surgeons are exposed to several occupational threats to their health during their daily practice (Copeman et al., 2006):

- Musculoskeletal problems
- Impairment of circulation and sensation of the fingers
- Infections from patients’ body fluids
- Allergies to chemicals and materials
- Psychological stress

Continues on page 10.
Effects of NIHL in Dentists

- failure to hear alarms of equipment
- impaired communication
  - errors when consenting patients
- tinnitus
- social isolation
- stress
- reduced quality of life

The Literature

- Several occupational threats in dentistry have been described, amongst which auditory disturbances: (Aydin et al., 2011; Gámez et al., 2008; Fons et al., 2007)
  - 18.8% (n=100) (Messino & Pett, 2012)
  - 21% (n=177) (Gámez, 2013)
- Dentists admit to being annoyed by noise in the clinic:
  - 60% (n=100) (Gámez et al., 2012)
  - 70% (n=322), M:F = 1:3 (Khan et al., 2014)

Occupational NIHL - Characteristics

- Occupational NIHL is usually
  - Sensorineural
  - Bilateral
  - Symmetrical
  - Occurs first at 3khz, 4khz, and 6khz giving a typical "notch" on the audiogram (ACOEM, 2010)

Noise-Induced Hearing Loss (NIHL)

- Noise damages cochlear hair cells (Akb, 2012)
- Occupational noise commonest cause of NIHL in adults (Akb, 2012)

Occupational NIHL

- Occupational NIHL is defined as
  - "Hearing loss that develops slowly over a long period of time (several years) as the result of exposure to continuous or intermittent loud noise." (ACOEM, 2000)

Occupational NIHL in Dentists

- Hearing loss more common in dentists than in the general population (Messino & Pett, 2012)
- Positive correlation between NIHL and years of service as a dentist (Schanz et al., 2012; Robbenmeier et al., 1990)

Continues on page 14.
NOISE-INDUCED HEARING LOSS IN DENTAL SURGEONS

Continues from page 12.

Occupational NIHL - Characteristics

- Affected frequencies
  - Ultra high frequencies affected before (Galueva et al., 2008; Lopes & Goday, 2005; Lopes et al., 2012; Garnier, 2011)

![Graph showing hearing thresholds of dentists' right ear (Lopes et al., 2012).]

Occupational Noise Exposure

- Risk of NIHL increases significantly with chronic exposures above 85dBA for an 8-hour time-weighted average (ACOEM, 2003)

- EU daily exposure limit value set to 87dBA (Directive 2003/10/EC, 2003)

The Literature

<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>Noise Levels (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dutta et al</td>
<td>2013</td>
<td>63 - 81.5</td>
</tr>
<tr>
<td>Elmehdhi</td>
<td>2013</td>
<td>65 (background)</td>
</tr>
<tr>
<td>Lourenco et al</td>
<td>2013</td>
<td>56.4 - 67.1 (background)</td>
</tr>
<tr>
<td>Kadankuppe et al</td>
<td>2011</td>
<td>64 - 97</td>
</tr>
</tbody>
</table>

Recommendations

- Recommendations to reduce occupational NIHL in dentists (Sharma, 2013; Tayyarenie, 2003)

- Equipment
  - Located outside clinic
  - Sound-insulating material
  - Regular maintenance & lubrication
  - Switched on only when needed to use

- Dentist
  - Suitable distance from operating field
  - Ear plug
  - Regular audiometric testing

Aims and Objectives

- To investigate hearing loss among dental surgeons registered and practising in Malta
  - Especially occupational NIHL
  - Other factors associated with hearing loss
  - Perceptions of hearing impairment and noise levels

- To measure noise levels in dental clinics
  - Especially noise produced by dental equipment

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Continues on page 16.
NOISE-INDUCES HEARING LOSS IN DENTAL SURGEONS

Continues from page 14.

Study Population
- Study population = dental surgeons registered and practising in Malta
  - Male & female
  - In public & private sectors
  - No age limit has been set as long as the dental surgeon is still actively practising

Research Instruments
- Research instruments:
  - Questionnaire
  - Hearing test
  - Sound level recording

The Questionnaire
- Self-designed
- Pilot on final year dental students
- 6 sections
  - General & demographic data
  - Non-occupational sources of hearing loss
  - Subjective perception of hearing impairment
  - Dental clinic & equipment information
  - Hearing protection
  - Contact information (optional)
  - Simple, structured, pre-coded
- Completed in ≤ 5 minutes

Hearing Test - Audiogram
- Establishes softest sounds that a person can hear
- Subject wears headphones
- Presented with a series of beeps at different frequencies and loudness levels
- Subject presses response button when sound is heard
- Thresholds obtained are plotted on an audiogram chart

Sound Level Testing
- Using a sound-level meter (dB)
- Standard protocol
- Background noise
- During instrument use

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

- Better understanding of local effects on
  - Occupational NIHL among dentists
  - Noise levels in local dental clinics
- Effects on
  - Dental-patient communication
  - Dentists’ well-being
- Correlations among other related variables
- Predictors of NHL

Possible Benefits

- Possible benefits:
  - Knowledge of the subject’s hearing level
  - Possible diagnosis of a hearing loss → preventive measures + appropriate management
  - Awareness of clinic noise levels → noise reduction + improvement of clinic acoustics

References (1)

10. GSK Data on File, Murphy S et al. 2012.

By combining daily use of Corega for Partials with a good oral care routine and regular dental visits, your patients can help protect the health of their remaining teeth.

Corega for Partials Clean & Protect cleansing tablets
- Proven bactericidal activity on biofilm
- Proven to help reduce plaque and stain build-up
- Non-abrasive and non-corrosive formulation

Corega for Partials Seal & Protect adhesive cream
- Helps stabilise partial dentures to reduce movement
- Helps seal out food particles to reduce gum irritation

References (2)

References (3)

Even a well-fitting partial denture may compromise the health of your patients’ remaining teeth.

*Activity on in vitro bacterial biofilms after 5-minute soak. †When used as directed.

References

10. GSK Data on File, Murphy S et al. 2012.
ERGONOMICS IN DENTISTRY

Laura Schembri BSc(Hons), MAPPI, SRP.

What is the Problem?
- Strain/ Repetitive
- Mild pain/Intermittent
- Musculoskeletal Disorders (MSDs)
- Moderate pain/Constant

Effect of MSDs in Dentistry
- Signs
  - Decreased Range of Motion
  - Deformity
  - Decreased Grip Strength
  - Loss of Muscle Function
- Symptoms
  - Pain
  - Numbness
  - Tingling
  - Burning
  - Stiffness
  - Cramping

Common MSDs in Dentistry
- Hand and Wrist Disorders
  - De Quervain’s Disease
  - Trigger Finger
  - Carpal Tunnel Syndrome
  - Saphenous Syndrome
  - Cubital Tunnel Syndrome
  - Hand Area Vibration Syndrome
  - Raynaud’s Phenomenon

Contributing Factors
- Usually a combination of multiple risk factors (e.g., a single factor) contributes to or causes a MSD
- Protracted and cumulative exposure → progressive degradation in efficiency of action AND ability to recover may cause OVERUSE INJURY
- May not only be at risk in the work place
- May be other predisposing factors

Dental Ergonomic Stressors
- Sustained awkward postures
- Repetitive tasks
- Forceful hand exertions
- Vibrating operational devices
- Time pressure from a fixed schedule
- Coping with patient anxieties
- Precision required with work

What is the Solution?
- Prevention is always better than cure.
- Find the problem.
- Ergonomics.

Sequence of Events
- Long periods of low level somatic contraction
- Large amount of mental processing
- Opportunity for social interaction
- Muscle tone
- Vascular / lymphatic pumping
- Oxygenation to muscles
- Nutrients + ability to remove waste products
- Muscles fatigue → INJURY

LOAD
- Life = whole life = chronological process
- Overload = excess of the individual's capacity to recover
- Adjustment = management of the load
- Disorder = symptoms for no reason

What is Ergonomics?
- The art and science of helping the individual to manage the demands of the environment, enabling them to meet those challenges
- Prevention, treatment and rehabilitation of musculoskeletal injury
- INJURY occurs due to an imbalance between the individual and their environment

Work Related MSDs
- Routine exposure to
  - Forceful hand exertions
  - Fixed postures
  - Vibrating tools
  - Injury may occur from a single major incident
  - May be due to one or more repetitions of a demanding activity → tissue failure

Ergonomist
- Focus on the individual
- Assesses the client’s ability to function within the environment
- Minimize the risk of developing symptoms
- Looks at lifestyle / work place
  - Changing at an extraordinary pace
  - Sitting

Goals
- Improved
  - Productivity
  - Safety
  - Health
- Job Satisfaction
  - "fitting the job task to the person performing the job"

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ERGONOMICS IN DENTISTRY

Management of Injury
- Fatigue, Malaise, Injury or Recovery
- Need to Identify Risk Factors
- Detective Work
- Minimize Risk
- Supportive Environment
  - 7th principle: Minimize muscular workload to enable recovery to occur

Ergonomic Factors
- Psychosocial
- Equipment
- Mobile tissue
- Static demands
- Biomechanics

Sitting Posture
- Predominant in Western Society
  - 4 spinal curves
  - Circulation
  - Digestion
  - Quality of Breathing
  - Obesity
  - Osteoporosis
  - Arteriosclerosis

Sit Up Straight?
- Sitting is not a problem but how you sit is!
  - Sitting straight is tiring; spinal muscles fatigue easily
  - Good sitting requires the right tool (seat)
  - Usually advised to sit with hips/knees at 90° flexion
  - Difficult to maintain lumbar lordosis especially for males or spine curves
  - Should actually sit with hips flexed at 60°

Workplace Assessment
- Early recognition of problems
- Early ergonomic intervention
- Appropriate management and/or therapy
- Supportive environment

Preventing Ergonomic Injuries
- Change human behavior
- Consider ergonomic features for dental equipment (e.g., patient chairs, operator stools, hand/toe controls, instruments) when purchasing new equipment
- Modify working conditions to achieve optimal body posture
- Achieve optimum access, visibility, comfort, and control at all times

Good Seating
- Tasks that require upright postures should have a seat with:
  - Forward slope of 20°-30°
  - Chair: waterfall front, adjustable backrest, variable positions
  - Etc.: posture
    - How to adjust seat correctly - often adjusted the wrong way.

Head and Neck
- Suboptimal postures held for long periods for visual purposes
- Weight of head magnifies loads
- Repetitive work of neck/arms → MSD
  - Risk factors: Neck flexed > 15°
  - Shoulder abducted > 60°
  - Head and neck postures may predispose to early degeneration, instability, and chronic neck problems
  - Important to avoid prolonged:
    - Rotation
    - Side flexion
    - Flexion

Postural Effects on Neck
- Head and neck postures may predispose to early degeneration, instability, and chronic neck problems
- Important to avoid prolonged:
  - Rotation
  - Side flexion
  - Flexion

Posture
- One may have excellent equipment but not know how to use it!
- Good posture
- Minimal joint strain
- Minimal muscle loading
- Avoiding prolonged, repetitive, awkward movements

Standing Ergonomics
- Long periods → compressive forces on lumbar spine and pelvis
- Footrests help
- Good shoes dissipate forces
- Standing work stations

Continues on page 25.

Continues on page 28.
**ERGONOMICS IN DENTISTRY**

**Wrist and Hand**
- "Make the job fit the person" not vice versa
- Minimize extreme joint position
- Keep wrist in neutral (i.e., straight) position
- Keep joints held at midpoint of range of motion
- Reduce the use of excess force
- Reduce highly repetitive movement

**Hand Instruments**
- When selecting instruments seek
  - Round, textured/grooves, or compressible handles
  - Carbon-steel construction
  - Hollow or resin handles
  - Color-coding may make instrument identification easier

**Dental Handpieces**
- When selecting handpieces seek
  - Lightweight, balanced models
  - Sufficient power
  - Built-in light sources
  - Angled vs. straight-shank
  - Pliable, lightweight hoses (extra length adds weight)
  - Swivel mechanisms
  - Easy activation
  - Easy maintenance

**Applied Ergonomics in Dentistry**
- Awkward bending, twisting, and reaching places strain on the musculoskeletal system and can lead to discomfort
- Permanently place equipment used in every clinical procedure within comfortable reach (within 20 inches of the front of the body)
- Use mobile carts for less commonly used equipment

**Lighting**
- Goal: produce even, shadow-free, color-corrected illumination concentrated on operating field
  - Overhead light switch readily accessible
  - Hand mirrors can be used to provide light intra-orally
  - Fiber optics for handpieces add concentrated lighting to the operating field

**Magnification**
- Goal: improve neck posture; provide clearer vision
  - When selecting magnification systems consider:
    - Working distance
    - Depth of field
    - Declination angle
    - Convergence angle
    - Magnification factor
    - Lighting needs

**Operator Chair**
- Goal: promote mobility and patient access/accommodate different body sizes
  - Look for:
    - Stability
    - Lumbar support
    - Hands-free seat height adjustment
    - Fully adjustable

**Back Vertical**
- Provide a clear line of sight to the oral cavity and all required equipment
- Maintain a neutral, balanced position
- Ensure equipment and work areas allow flexibility
- Facilitate right- or left-handed use
- Facilitate different working postures
BUSINESS INSURANCE... DEEP ROOT TREATMENT OR WHAT?

What is the worst that can happen? Who knows it depends on how severe the storm can be! How hard financially can it hit me? It can never be that bad... can it? These few sentences which are common between friends and business colleague are all within the context of what it would mean if business insurance cover was not purchased and you left your business risk or risks in the hands of a greater power and always hoping for the best. We never really expect that a major disaster can hit us as it always happens to someone else... never to us!

In realistic terms an insurance policy covering the business operation is going to cost and arm and a leg... or indeed require deep root treatment! A basic policy can offer and provide very simple and yet effective all round cover that will let you get on with your business without having to set aside additional financial resources or even lay wide awake thinking what can and cannot happen. An insurance policy can be tailored to provide the following:

• Building, Furniture, Fixtures and Fittings
• Equipment and tools [fixed and portable]
• Stocks
• Rent
• Glass
• Machinery
• Money
• Personal Accident

In addition to the above an insurance policy can also be increased to cover liabilities to the general public for slips and trips and even for property damage to the neighbours. This cover can also be extended to cover risks where the employer is liable to pay compensation.

Where one would want to expand the cover more a business interruption cover will provide payment in the event that the business will incur downtime and where the turnover can be covered for the loss of Gross Profit.

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ERGONOMICS IN DENTISTRY

Continues from page 25.

Good vs Bad Sitting

Goal: promote patient comfort/maximize patient access
Look for:
- Stability
- Pivoting or drop-down arm rests (for patient ingress/egress)
- Fully adjustable head rest
- Hands-free operation

Patient Chair

Work Practice
Goal: maintain neutral posture; reduce force requirements
Potential strategies:
- Ensure instruments are sharpened, well-maintained
- Use automatic handpieces instead of manual instruments wherever possible
- Use full-arm strokes rather than wrist strokes

Schedule Your Lists
Goal: provide sufficient recovery time to avoid muscular fatigue
Potential strategies:
- Increase treatment time for more difficult patients
- Alternate heavy and light calculus patients within a schedule
- Vary procedures within the same appointment
- Shorten patient's recall interval

Personal Protective Equipment
Glasses
- Lightweight, clean, well-fitted
- Magnifying lenses and head lamps are encouraged
Clothing
- Fit loosely, lightweight, pliable
Gloves
- Be of proper size, lightweight, and pliable
- Should fit hand and fingers snugly
- Should not fit tightly across wrist/forearm
- Should be right/left fit

When In Pain....

Posture in Dentistry

Goal: avoid static and/or awkward positions
Potential strategies:
- Position patient so that operator’s elbows are elevated no more than 30 degrees
- Adjust patient chair when accessing different quadrants
- Alternate between standing and sitting

- Avoid fatigue / injury
- Good work place design
- Interesting and varied tasks
- Comfortable postures with optimal neuromuscular efficiency
- Work at a sensible pace
- Opportunity for short regular breaks
- Avoid prolonged hours
- Seek help if pain > 48 hours

Summary
POLYCYSTIC OVARY SYNDROME
A COMMON CONDITION, COMMONLY MISSED

Dr Charles Corney MB, BS, DMRd, FRCr
Medical Practitioner and Researcher

A 25 year old female attended her dental practitioner for a routine dental and oral check which revealed no abnormality. However, the practitioner noticed the presence of a mild, hairy moustache over the upper lip and the presence of quite extensive facial acne.

He concluded that these findings suggested an excess of testosterone and referred her to an endocrinologist who, after a clinical examination and tests, diagnosed the presence of Polycystic Ovary Syndrome.

WHAT IS POLYCYSTIC OVARY SYNDROME?
This is an increasingly common condition currently affecting 10% of young women. The two basic features are hirsutism [from excessive testosterone] and fat deposition [from insulin resistance] both of which lead to other hormone imbalances producing further symptoms.

Also, the ovaries produce characteristic, multiple small cysts [microcysts]. Polycystic Ovary Syndrome [PCOS] does not produce large ovarian cysts which have other causes.

WHO IS LIKELY TO SUFFER PCOS?
The patient often volunteers one or more of the following histories:

1. PCOS in the family, [a genetic fault].
2. using oral contraceptives whose hormones are not identical to those of the body, [a chemical malfunction].
3. eating excessive amounts of carbohydrates, triggering excessive insulin release, [a chemical malfunction].

WHAT ARE THE EFFECTS?
In order to explain PCOS symptoms, an understanding of the disease process is necessary.

The most common factor is the eating of excessive carbohydrates [history number 3]. The cells of the body require glucose for nutrition and function, and insulin, a hormone secreted by the pancreas, to allow glucose to enter the cells.

Once insulin has prompted transfer of glucose into the cells, the bloodstream, any residual, excess insulin converts the remaining glucose into glycogen, and then into fatty acids and cholesterol leading to fat deposition and consequent weight increase.

Subsequently, the cells become resistant to insulin [termed ‘Insulin Resistance’], and thus starved of glucose. So, the glucose accumulates in the bloodstream as it can no longer be utilised by the cells. At this stage, the insulin resistance prompts excessive testosterone secretion by the ovaries which undergo microcyst proliferation, characteristic of PCOS.

Moreover, the cells switch their nutrition and functioning to fat sources, causing further rises in blood levels of fatty acids and cholesterol with more fat deposition. Once the fat starts to accumulate in the abdominal cavity, excessive secretion of certain hormones [such as angiotensin, adipocytokine, cytokine and oestrogen] occurs.

These cause yet more obesity, high blood pressure, diabetes mellitus type 2 [a 4 fold risk], and premature arterial disease causing heart attack and stroke at an early age with also a risk of cancer of the breast and the body of the womb.

Normally the ovary sheds an egg monthly [known as ovulation] leaving behind an empty space [known as the ‘corpus luteum’] which then starts secreting the hormone, progesterone, necessary for fertility and possible pregnancy.

In PCOS, the ovarian microcysts present the normal monthly shedding of an egg, so no corpus luteum develops and thus progesterone is not secreted.

The progesterone level becomes so low that fertility is lowered, with a reduced chance of pregnancy. The low progesterone also causes premenstrual tension with infrequent periods, and accentuates the arterial and cancer risk.

Recent research by Dr John R Lee MD revealed that the non-identical nature of the hormones in the contraceptive pill and coil to those of the body may lead to further lowering of the progesterone level in many women, adding to the fat deposition, high blood pressure, premature arterial disease, diabetes and cancer risks mentioned above. This is the explanation for history number 2.

WHAT ARE THE SYMPTOMS?
PCOS usually commences slowly and insidiously with few specific symptoms, but if this diagnosis is not considered and treated, then more symptoms appear gradually over a number of years.

Finally, there is a realisation that PCOS is likely. This diagnosis is confirmed by ultrasound scanning revealing microcysts of the ovaries, and blood analysis revealing high testosterone, insulin and glucose levels with a low progesterone level.

These symptoms may occur singly or in combination:

- Weight increase [from insulin resistance]
- Acne [from high testosterone]
- Facial hair requiring shaving [from high testosterone]
- Infrequent periods [from the long term presence of microcysts and high testosterone]
- No ovulation [from the long term presence of microcysts and high testosterone]
- Infertility [from low progesterone]
- Premenstrual tension [from low progesterone]

These conditions, with the above symptoms, indicate advanced, untreated PCOS:

- High blood pressure
- High cholesterol
- Heart attack or stroke at a young age
- High blood glucose
- Diabetes mellitus type 2

IS PCOS TREATABLE?
With this complex interplay of hormone imbalance triggering another imbalance or condition, one would think that PCOS treatment was complex also.

However, the main aim is firstly to treat the two basic features of high testosterone and insulin resistance. Replacing some of the dietary carbohydrate overload with more protein, and avoiding fattening food additives, such as lard and high fructose corn syrup, the excess weight, insulin resistance and testosterone are reduced, leading to some rebalancing of the hormones.

Furthermore, facial hair, acne, premenstrual tension and the infertility due to lack of ovulation often respond well to the application of biodiagnostic progesterone cream [same chemical structure as the body’s progesterone], which raises the low body progesterone and lowers the high body testosterone.

If a lack of ovulation persists and the patient is wishing to start a family, then clomid or human chorionic gonadotrophin is given to stimulate ovulation.

Failure of this treatment requires a minor laparoscopic operation to obliterate all the ovarian microcysts. This often precipitates ovulation permitting pregnancy.

When the patient has more advanced PCOS, showing diabetic tendencies or cardiovascular problems, a specialist opinion is advised as the patient could well benefit from oral anti diabetic medication [especially metformin], which further decreases insulin resistance and the disease process, thus reducing the symptoms and long term risks.

The presence of high cholesterol, high blood pressure, diabetes and cardiovascular disease will require individual treatment.

CONCLUSION
PCOS is a very common condition which is often mild. Lord Cohen of Birkenhead, a famous British physician, advised ‘common conditions are common’, so PCOS should always be considered even if the early symptoms are non specific.

Earlier recognition, leading to prompt treatment, is vital to stop the disease or reduce its self perpetuating tendencies leading to life shortening complications.

Thanks to the vigilant dental practitioner, the patient made a good recovery in 18 months with a loss of the moustache and acne together with weight loss and correction of the hormone imbalance.
EASY TO APPLY

Squeeze a small amount onto tooth brush.

Apply to teeth using tooth brush on all tooth surfaces.

Leave for at least 2-5 minutes. Avoid rinse (spit) but do not rinse.

Best left overnight.

Calcium, Phosphate and Fluoride:
Strengthens, Protects, Replenishes
Reduce tooth sensitivity
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Eliminate dry mouth
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Continues on page 34.

THE PLATFORM FOR BETTER ORAL HEALTH IN EUROPE (PBOHE)
– AN UPDATE

Professor Ken Eaton, Chair of the PBOHE

ASSOCIATE MEMBERS

European specialist societies for
children’s dentistry, gerodontology, oral medicine, orthodontics, dental caries,
periodontology, dental hygiene.

National preventive dentistry
organisations from France and the Netherlands.

Platform’s Objectives

1. Promote oral health and the prevention of oral diseases as
one of the fundamental actions for staying healthy

2. Address oral health inequities and the major oral
health challenges of children and adolescents, of the
increasing elderly population, and of the populations with
special needs in Europe

3. Develop the knowledge base and strengthen the evidence-
based case for EU action on oral health

4. Mainstream oral health across all EU health policies

5. Provide sound advice and recommendations to the
European Institutions for action with regard to EU oral
health policy developments.

Platform’s activities

- Develop contacts and continue ongoing dialogue with European Health
Groups, EU policymakers and MEPs to advocate for OH prevention

- Develop a website as a central tool to access OH information


- Commissioned the “State of Oral Health in Europe 2012” report to
assess the situation

- Set and monitor targets

- Take part in European Commission’s ECJ Joint Actions

- Comment on relevant EC consultations

The State of Oral Health in Europe

- Focus on 12 EU countries

- Prevalence & trends of oral diseases

- Assessment of the
economic impact of oral
diseases

- Identification of best
practices

- Key policy
recommendations

World Oral Health Day 2012

- 1st European Oral Health
Summit organised in Brussels

- 140 participants met in the
European Parliament

- Successful launch of the
policy report on the “State of
the Oral Health in Europe 2012”

- Focus on oral health
prevention

- Raising awareness: 2,000
oral health signs displayed in
front of the European
Parliament

Average adult daily dose up to 1600mg in 3-4 divided doses. Contains ibuprofen. Always read the product leaflet.
Continues from page 32.

**5 Key Policy Recommendations**

1. Develop a coherent European strategy to improve oral health, with commitments to quantifiable targets by 2020.
2. Improve the data and knowledge base by developing common methodologies and bridging the research gap in oral health promotion.
3. Support the development of cross-sectoral approaches with health and social care professionals and support the development of the dental workforce.
4. Address increasing oral health inequalities and knowledge of preventative hygiene practices of the public and guarantee availability and access to high quality and affordable oral health care.
5. Encourage best practice sharing across countries.

**Targets 2020**

Main areas for the targets:

- Improved data collection systems
- Preventive policies
- Education and awareness

**Why These Targets? (1)**

- Oral health-related costs are still rising despite the fact that oral diseases are highly preventable.
- Current spending in dental treatment in the EU-27 was estimated to be close to 75 billion EUR in 2012.
- The current oral health workforce in the EU is over 1 million and includes over 350,000 dentists and over 400,000 dental chair-side assistants (nurses).

**Why These Targets? (2)**

- Despite significant achievements in the prevention of caries, this disease remains a problem in particular for many groups of people in Eastern Europe and in socio-economically deprived groups in all EU Member States.
- Trends in the prevalence of gum disease and oral cancer across Europe are also worrying.
- The evidence-base available for decision making on oral health-related matters remains very poor.

**Immediate Report Findings**

**Joint Actions**

- The Platform is currently a collaborating member of two European Commission Joint Actions (JAs):
  - CHRODIS
  - Health Care Workforce Planning and Forecasting

**Chrodis JA – What is it?**

- European Commission Joint Action addressing chronic diseases and promoting healthy ageing across the life cycle
- Mainly focuses on cardio-vascular diseases (including stroke) and type 2 diabetes
- Includes over 60 associate partners and collaborating partners
- Lead by Instituto de Salud Carlos III, Madrid
- Runs from 2014 – 2016

**EC Consultations**

- Recently, the Platform has responded to EC consultations on:
  - Horizon 2020 priorities for 2016/17
  - Definition of primary care
  - Comments on opinion of the report on a systematic review of the dangers to health arising from dental amalgam and alternative filling materials

**The Report Card**

- Workforce planning

  7. Is there a national oral healthcare workforce plan?
  - Yes in 10 out of 25 Member States

  8. Are the number of training places for dental students controlled?
  - Yes in 19 out of 25 Member States

**What Next?**

- Recent planning workshop
- Continuation of present actions
- Increasing integration of oral health into general health
- More collaborative working with a broader range of supporting organisations
- Future events
Trusts for Professionals
What We can do today to protect Your tomorrows

Collaborating with the Malta Dental Association
• Thank you for giving us this opportunity.
• On a Macro level our intentions are:
  – Increase awareness in the use of Trusts;
  – Eliminate wrong perceptions;
  – Nurture a generational and cultural change towards Trusts.

Trusts are NOT Complicated
• Over the years the Trust industry has become more user friendly in an attempt to make trusts more mainstream;
• They are personal, they must be tailored to the specific family and estate planning objectives.

Trusts are NOT Pricy
• Common myth, is that Trusts are expensive, only available for the very wealthy – NOT TRUE; and
• Fees need NOT be based on asset Value but on time spent.

Trusts are Confidential:
• Unlike other asset holding structures such as a limited liability company or potentially a foundation, a Trust is NOT registered anywhere;
• It is an agreement, evidenced through a Trust Deed, between the Settlor and Trustee; and
• Assets settled are in the Name of the Trustee, Legal Ownership vs Beneficial Ownership

So what do You know about Trusts?
• Complicated;
• Pricy and Costly;
They are confidential and private

Parties Involved
Settlor

Assets

GTFL as Trustee

Beneficiary
“same settlor or otherwise”

Protector

Parties involved: The Settlor
• The Settlor is the individual who settles the Asset in Trust for the Beneficiaries of the Trust;
• In the Family scenario, the Settlor or Settlor’s are usually the parents or grand parents

Parties involved: The Beneficiary
• The Beneficiary is an individual or a group of individuals who will benefit from the Assets of the Trust;
• In the Family scenario, the Beneficiary or the Beneficiaries are usually initially the parents themselves and subsequently the children.

PAYMENT FORM

Please cut out this section and send with a cheque for 50 euro payable to Dental Association of Malta for your 2015 DAM membership – the best 50 euro investment ever!

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Continues on page 38.
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CONTINUES FROM PAGE 37.

TRUSTS FOR PROFESSIONALS

Parties involved: The Trustee
- The Trustee is responsible to administer the trust assets in accordance with the Trust deed;
- The Trustee must always act in the best interest of the Beneficiary; and
- The Trustee is authorised by the Malta Financial Services Authority.

Parties involved: The Protector
- The Protector is the individual with whom the Trustee will consult in taking certain decisions;
- The Protector has the ultimate power of removing the Trustee; and
- In the family context the Protector is usually a family member or a trusted family friend.

So how does it work?
- Trustee
- Protector
- Family Trust
- Beneficiary
- Parental Settlements

So Why Set up a Trust
- A Trust is a personal matter and each family situation is different.
- It has to be designed and tailored around your needs and those of your dependants.

So Why Set up a Trust
- Safeguards the assets in a separate pot, thus protecting against future creditor claims (unless deliberately fraudulent)
- Reinforces a culture to save and ensures sensible use of savings

So Why Set up a Trust
- Avoids the assets getting caught up in inheritance issues
- Preserves family wealth against spendthrift children and ultimately an efficient tool to manage family patrimonial issues.
Interdental hygiene is essential to maintain healthy gums

Introducing the NEW GUM® TRAV-LER®

INTERDENTAL BRUSHING HAS NEVER BEEN SO EASY AND EFFECTIVE.

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• Increased user comfort thanks to the contemporary ergonomic handle design
• Proven efficacy: Removes up to 25% more plaque thanks to its innovative triangular filament design
• Anti-bacterial bristle protection: prevents contamination between uses
• Better hygiene with a cap to protect brush
• Available in 9 sizes: Suitable for use for all sizes of interdental spaces