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The Dental Probe

The Maltese Dental Journal

Editorial

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DENTAL ASSOCIATION OF MALTA
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By Dr David Muscat

Dear colleagues,

I hope you had a great Summer. The DAM organised an excellent sailing event on the 27th July and is now planning a clay pigeon event.

The sailing event was well organised and attended with five boats departing from different ports. Captains Mark Diacono, Patrick Vassallo, Tonio Cachia, Adam Bartolo and John Attard Montaldo all helped out with their boats. Most sailed to the south of the Island where several swam off the boats and to the shore. There was also kayaking and surfboarding by some intrepid sailors.. Afterwards several boats berthed in Balluta bay for a Summer party. This has become a yearly event on our Dam calendar.

We organised an excellent lecture on 'Disinfection in General Dental Practice' by Professor Michael Borg from Mater Dei Hospital, followed by a reception. This event was very kindly sponsored by Bioscint Engineering.

The DAM committee has had talks with the health authorities regarding the outsourcing of dental treatment in general dental practice.

We have also looked into the issue of new private universities and will be holding a further meeting regarding this issue.

We are also to organise a Medical emergencies event. There will of course be the usual Christmas party. The front page is a picture by Ms. Jacqui Agius entitled 'Hal-Xluq.'

Best regards,

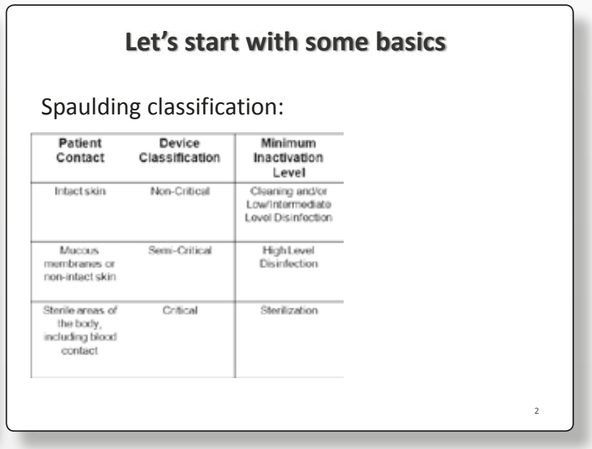
David

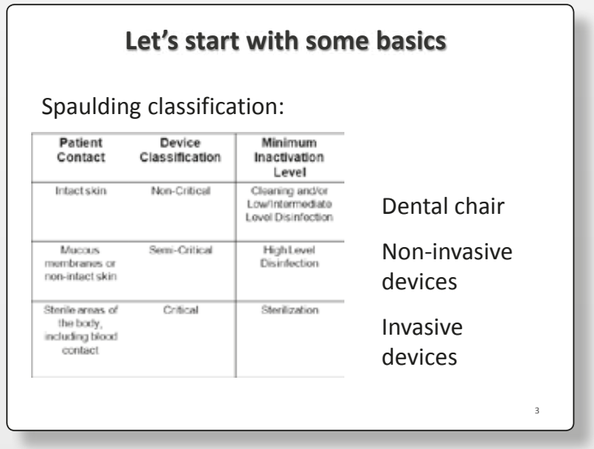
Dr David Muscat B.D.S. (LON)
Editor / President, P.R.O. D.A.M.

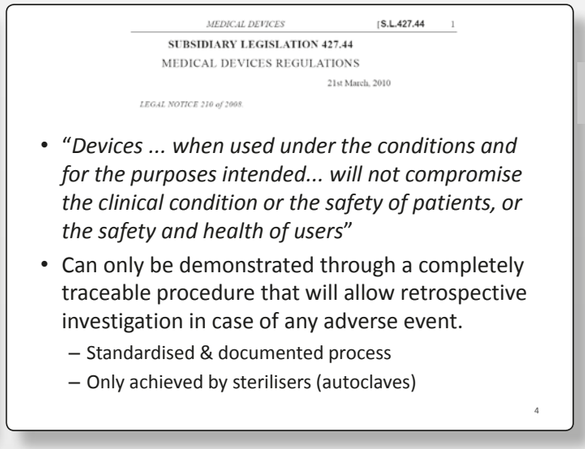
Dr Edward Demarco contemplates whether to take to the water at Tliet Hofriet near Delimara at the DAM sailing event. About twenty five dentists had the opportunity to sail that day. A big thank you to the dentists who generously made their boats available for all.

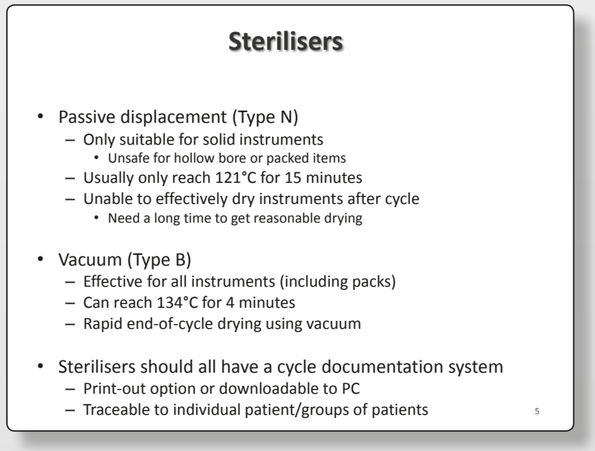
INFECTION CONTROL IN DENTAL PRACTICE

By Prof. Michael A. Borg
Mater Dei Hospital









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INFECTION CONTROL IN DENTAL PRACTICE

Continues from page 5.

Manual cleaning

- Wear appropriate PPE (gloves, visors, apron)
- Prepare the instrument washing sink with appropriate detergent designed for manual cleaning of medical devices.
  - Enzymatic, bacteriostatic
- Temperature must not to exceed 45°C.
  - Measure using a digital thermometer
- The water level (and the sink) must be deep enough to allow all instruments to be fully submerged during washing to minimise splashes and aerosols.
  - May be achieved by marking the sink with a fill line and adding the relevant volume of detergent.
- Wash instruments with a long handled, soft plastic bristled brush.
- Fully drain instruments
- Rinse with HOT (60°C) tap water in a separate rinsing sink.
- Allow to air dry

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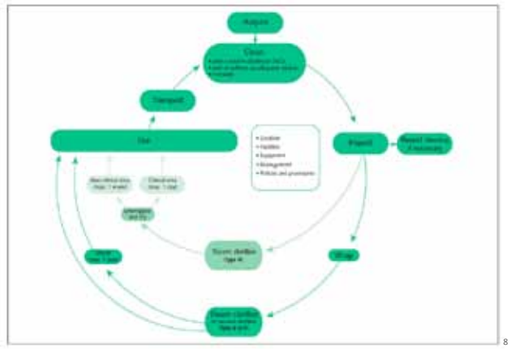
Decontamination cycle



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Daily tests

- Daily automatic control test:
  - a visual display of "cycle complete" occurs
  - values of the cycle parameters as indicated on the process-data record (or observed) are within the limits established by the manufacturer
  - disinfection/ cleaning/sterilizing temperatures are within an appropriate temperature band
  - time for which the temperatures are maintained is not less than that established by the manufacturer
- Steam penetration test
  - Bowie Dick or Helix
- Documentation is essential
  - Retained for at least 5 years

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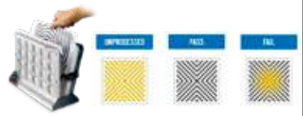
Steam penetration tests

- Bowie Dick test



- Helix test
  - Better surrogate
  - Can be put in pack/set

- Spore tests: no longer recommended

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Test	Type	Performed by
		DAILY
Steam penetration	B S	User or, by delegation, Operator
Automatic control test	B N S	User or, by delegation, operator
		WEEKLY including daily tests plus:
Air leakage	B S	User or, by delegation, Operator
Residual air test	S N	User or, by delegation, Operator
		QUARTERLY (or to manufacturers' recommendations) including weekly tests plus:
Thermometric tests	B N S	CP(D)/service engineer
		ANNUALLY including quarterly tests plus:
Steam generator overheat cut-out test	B N S	CP(D)/service engineer
Thermometric tests	B N S	CP(D)/service engineer
Small load		
Large load		
Dryness tests	B S	CP(D)/service engineer
Small load		
Large load		

L.N. 151 of 2013

PUBLIC HEALTH ACT (CAP. 465)

Prevention of Sharp Injuries in Hospitals and Health Care Establishments Order, 2013

- Based on EU Directive - 2010/32/EU
- Risk-assessment procedures shall be conducted by the employer
  - Aim of the risk assessment shall be to identify how exposure could be eliminated and to consider possible alternative systems.
  - Take into account **all** situations where there is injury, blood or other potentially infectious material
  - Include an exposure determination, taking into account the importance of a well resourced and organised working environment;

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INFECTION CONTROL IN DENTAL PRACTICE

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Sharps Injuries Legal Notice

- Where the results of the risk assessment reveal a **risk** of injuries by medical sharps and, or infection, workers' exposure shall be **eliminated** by:
  - implementation of safe procedures for the use and disposal of sharp medical instruments and contaminated waste
  - elimination of the unnecessary use of sharps by
    - implementing changes in practice
    - providing medical devices incorporating **safety-engineered protection mechanisms**;
  - banning of the practice of recapping with immediate effect
  - Placing technically safe containers for the handling of disposable sharps and injection equipment as close aspossible to the assessed areas where sharps are being used.

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Sharps Injuries Legal Notice

- Employers shall provide the necessary training on a regular basis including induction programmes for all new and temporary staff on:
  - the correct use of medical devices incorporating sharps protection mechanisms;
  - the risk associated with blood and body fluid exposures;
  - preventive measures including standard precautions, safe systems of work, the correct use and disposal procedures,
  - the importance of immunisation,
  - the reporting, response and monitoring procedures and their importance; and
  - measures to be taken in case of injuries.

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Sharps Injuries Legal Notice

- It shall be the duty of the employer to offer:
  - Vaccination and, if necessary, re-vaccination in accordance with the schedules and recommendations established by the Superintendent of Public Health
    - Workers shall be informed of the benefits and drawbacks of both vaccination and non-vaccination
    - Vaccination is offered free of charge to all workers.
  - Necessary and immediate steps for the care of the injured worker,
    - including the provision of post-exposure prophylaxis and the necessary medical tests where indicated for medical reasons

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HOSPITAL MATER DEI

HOSPITAL INFECTION CONTROL POLICY

Policy no: ICU 02Pol2015v02.0

Needlestick Injury & Blood Exposure Policy

- 'Exposure-prone procedures' are those where there is a risk that injury to the healthcare worker could result in the patient's blood or open body tissue being exposed to the blood of the healthcare worker.
  - surgery, midwifery, dentistry and physical contact with trauma patients who may have open fractures or glass-contaminated wounds

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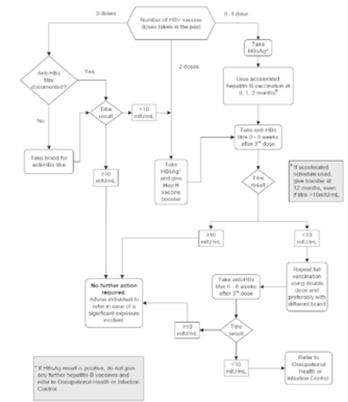

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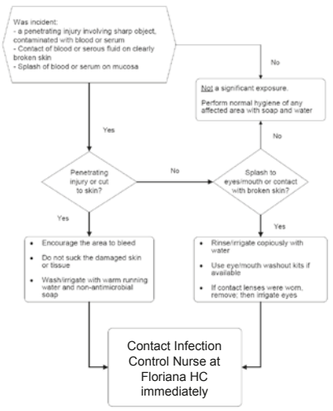

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INFECTION CONTROL IN DENTAL PRACTICE

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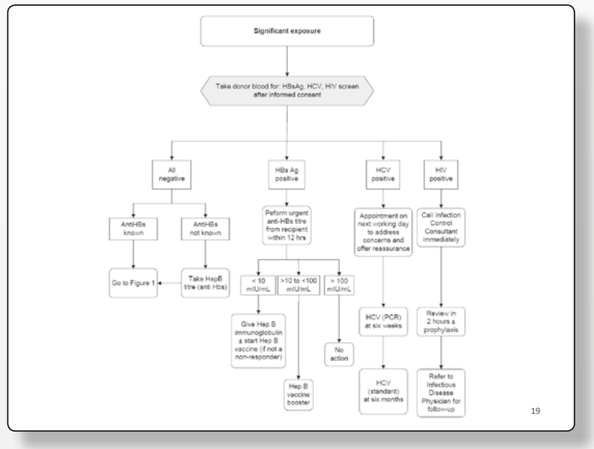

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Case Report

www.thelancet.com Vol 379 February 18, 2012

Pneumonia associated with a dental unit waterline

Maria Luisa Blod, Stefano Fontana, Federica Pinci, Emanuela Fiumana, Maria Federica Pedna, Paolo Farolfi, Maria Antonietta Bucal Sabattini, Maria Scattone

- 82-year-old woman admitted to intensive care unit with fever and respiratory distress.
  - Legionnaires' disease diagnosed
  - Patient developed fulminant and irreversible septic shock and died 2 days later
- No legionella isolated from her home
- Left her house only to attend two appointments at a dental practice
  - *L pneumophila* isolated from dental practice's cold-water tap, tap of dental unit waterline and high-speed turbine of the dental unit waterline
  - Identical to clinical isolates

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Cochrane Trusted evidence. Informed decisions. Better health.

Antibiotic use for severe toothache (irreversible pulpitis)

Published: 17 February 2016

Authors: Agnihotry A, Fedorowicz Z, van Zuuren EJ, Farmer A, Al-Langawi Alison

- One study involving 40 people with irreversible pulpitis (nerve damage) was included (quality: low)
- Antibiotics do not appear to significantly reduce toothache caused by irreversible pulpitis.
- Administration of antibiotics does not significantly reduce the
  - pain perception,
  - percussion (tapping on the tooth) perception
  - quantity of pain medication

  required by people with irreversible pulpitis.

Cochrane Trusted evidence. Informed decisions. Better health.

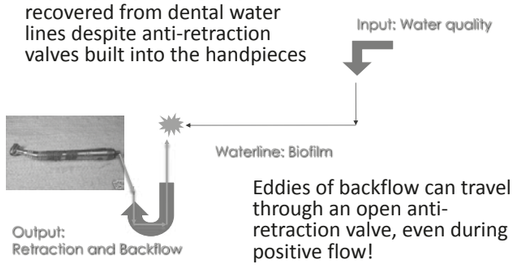
Systemic antibiotics for symptomatic apical periodontitis and acute apical abscess in adults (Review)

Cope A, Francis N, Wood F, Mann MK, Chestnutt IG

- Two trials with 62 participants included (quality: low)
- Compared effects of oral penicillin V versus a matched placebo given in conjunction with a surgical intervention (total or partial pulpectomy) and analgesics
- No statistically significant differences in participant-reported measures of pain or swelling at any of the time points assessed within the review.

Contamination Dynamics

Oral microflora have been recovered from dental water lines despite anti-retraction valves built into the handpieces



Eddies of backflow can travel through an open anti-retraction valve, even during positive flow!

Waterline Biofilm

- The small diameter and long length of the DUWL provides a large surface area for adherence of microorganisms.
- Microorganisms from water and patients combine in the DUWL and form a biofilm complex similar to dental plaque.
- Bacteria in biofilms tend to be more resistant to control strategies (biocides)
  - resilience has been related to physiology and protection by the EPS slime matrix that they produce

Cochrane Trusted evidence. Informed decisions. Better health.

Antibiotics to prevent complications following tooth extractions (Review)

Lodi G, Figini L, Sardella A, Carrassi A, Del Fabbro M, Furness S

- 18 studies with a total of 2456 participants
  - received either antibiotics or placebo, immediately before and/or just after tooth extraction.
- Antibiotics administered just before and/or just after surgery reduce the risk of infection, pain and dry socket after 3rd molar surgery.
  - Need to treat 25 patients to prevent one infection
  - No evidence that antibiotics prevent fever, swelling or problems with restricted mouth opening.
- Using antibiotics also caused more side effects for these patients.
  - generally brief and minor
- Authors' conclusion: Antibiotics may cause more harm than benefit to both the individual patients and the population as a whole (from generation of resistance).

Endocarditis prophylaxis

- Dental procedures involving manipulation of gingival tissue or the periapical region or incision/perforation of oral mucosa
  - Prosthetic cardiac valve or prosthetic material used for cardiac valve repair
  - Previous IE
  - Congenital heart disease
  - Cardiac transplantation recipients who develop cardiac valvulopathy
- Amoxicillin oral: 2 grams (adult) / 50 mg/kg (children)
  - Clindamycin oral: 600 mg (adult) / 20 mg/kg (children)

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Case studies

Death of a California dentist from legionellosis.
"It is likely that aerosols from those dental units were the source of the fatal Legionella infection."
Atlas RM, et al. Appl Environ Microbiol 1995;61:1208-13.

Two patients with immunodeficiency infected with Pseudomonas aeruginosa after dental visit.
"Identical strain of microorganism identified in the dental unit waterline."
Martin MW. Br Dent J 1987;163:152-4.

"58 (81.2%) out of 71 patients colonized with Pseudomonas aeruginosa identified in dental unit waterlines.
"The microorganism could be identified in the patients 7 days after dental appointment."
Martin MW. Br Dent J 1987;163:152-4.

Prevention

- Correct decontamination of hand pieces
  - Should be autoclaved, not just wiped
- Use bacterial filters in DUWL
  - Expensive; short life of filter
- Testing of water to exclude bacterial growth

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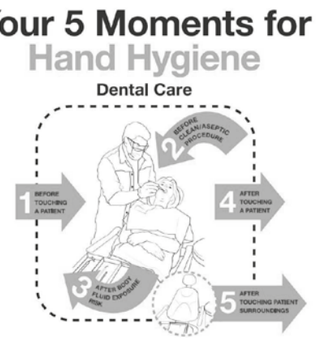
Let's finish with some basics...

Gloves are no substitute for effective hand hygiene with soap & water or alcohol rub



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Thank you

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SALIENT POINTS FROM DISINFECTION IN GENERAL DENTAL PRACTICE

DAM LECTURE BY PROFESSOR MICHAEL BORG AT HILTON

Summarised by Dr David Muscat

Due diligence is most important with regards to sterilisation protocol. Sterilisation is the most important intervention. One needs proper documentation and standardisation.

The N type sterilisers have a risk of air bubbles as the displacement is passive. There must be a system of traceability.

It is very important to get down to pre-sterilisation loads of bacteria. There must be not more than 25 organisms on each instrument. There is a washer – disinfector that is very efficient.

One should use a visor to prevent any splash from reaching conjunctiva.

To disinfect instruments chlorhexidine is not suitable as this is only effective on the skin. One needs to use a liquid that is enzymatic/bacteriostatic (not allowing bacteria to grow). The enzymatic works faster as with manual cleaning the time period of cleaning is shorter than with the washer machine.

The water must not be too hot as otherwise the protein will coagulate. Then it will be difficult to remove and there will be pitting of the instruments.

The instruments must be scrubbed under water. Above water one can create aerosols. The detergent must be at the correct concentration.

One may use tape on the sink to ensure correct concentration eg add 4 capfuls.

One must then rinse with hot water in a separate sink. One can 'shower' the instruments stacked on a rack. Then let air dry.

An ultrasonic bath gives a good depth of cleaning.

The N autoclave – instruments have to be used in one day especially if placed in drawer in same room, or 1 week if placed in a separate location.

Packed instruments sterilised in B type or S type autoclaves may be stored for a maximum of one year.

DAILY
Daily automatic control test

BOWIE DICK OR HELIX
These are both steam penetration tests.

SPORE TESTS
No longer recommended.

The Bowie Dick measures using resistance to steam by cellulose paper. The Helix Test – resistance is the long winding tubing.

The Helix test mimics better what you do. It has a long tubing. It is also very small so you can insert into a pack.

The Helix must go into the pouch if you are packing instruments. It must be the equivalent of what you are doing in your practice.

RISK ASSESSMENT
Sharps directive, possibility of injury- one must completely eliminate the risk to staff. Avoid recapping.

The Anti Hbs of 10 means immunity for life. Even if this falls below 10, it is still ok as the immunity is t cell mediated and it has memory.

The peak of immunoglobulins is 8 weeks after booster.If the vaccine for Hep B does not work we use a different one. Some people do not respond to the vaccine as they may be genetically unable to respond (5% of population)or they do not respond as they are carriers.

Given at 0, 6weeks, 6months. Dentists carry out exposure prone procedures.

When asking a health worker at interview ,one only needs to check the antiHbs antigen level.-should be at least 10.

When there is an injury Truvada can be given. PE

DAM DENTAL LIABILITY LECTURE

By Dr Julienne Portelli Demajo LLD LLM LLB
Lawyer at Ganado and Associates

Lecture kindly sponsored by Kin and MIB

DENTAL MALPRACTICE – EXAMPLE #1

Mrs K who already had upper and lower dentures, wanted something more fixed and approached Dr R and asked if implants could be fitted. Mrs K was confident that Dr R would carry out satisfactory work, and commenced with her implant treatment.

Unfortunately, Mrs K was left with post-operative numbness of her lip and chin which was both distressing and difficult to deal with. When she revisited Dr R, he advised that this was part of the healing process and to give it time to adjust, meanwhile carrying on with her implant treatment.

Mrs K was sceptical about how she was being treated by Dr R and decided to go to a new dentist within the surgery, who then sent her for a second opinion from a local dental hospital. It was discovered that Dr R had caused damage to the nerve in Mrs K mouth during the treatment, meaning Mrs K experienced permanent numbness of the lip and chin after dental implant placement. As a result Mrs K found herself having trouble with simple daily tasks such as eating and drinking, which has a devastating impact on everyday life. Mrs K was awarded £24,000 in an out-of-court settlement.

EXAMPLE #2

A $5 million malpractice award was levied against a Durham, North Carolina, dentist who performed what appeared to be simple third molar extractions. According to the verdict, the extractions resulted in the patient receiving lifelong pain and serious medical complications. Lawyers Weekly's 2003 survey of high jury verdicts and settlements reported that this was the highest verdict in North Carolina in 2002. The state's juries awarded more than $1 million in 6 cases that year, but the largest pay-out was in this dental case. Since the verdict, the parties Rissolo v. Sloop have reached a confidential settlement, according to an attorney for the plaintiff. The verdict was primarily based on the establishment of a direct link between the relatively simple extractions of third molars and a series of serious medical complications.

The plaintiff's attorneys contended that while extracting the teeth, the dentist used excessive pressure for a prolonged time. It was further alleged that this resulted in nerve and TMJ damage, which led to severe, unrelenting pain. The patient was then seen by a physician, who gave her a strong narcotic analgesic for the extreme pain. One of the plaintiff's attorneys stated that had not the patient received the powerful narcotic analgesic for the pain, she would have committed suicide. The real crux of the case was that as a result of taking the narcotics for a prolonged time, the patient came down with a "narcotic bowel." That condition caused her intestines to be so severely impacted that a surgeon had to remove slightly more than two thirds of her colon, a large portion of her small intestine, and her reproductive organs. With all of that, the patient was still in constant pain. It was contended that she would have that chronic pain as long as she lived.

According to one of the plaintiff's attorneys, the major problem in winning the case was to find a dental expert witness who would be willing to testify. However, they did find one, and the jury believed the plaintiff's case, which resulted in the $5 million award. This outcome shows that even what appears to be simple third molar extractions can result in a horrendous outcome. It is obvious that in performing extractions, a dentist must use the least amount of force required and perform the procedure well and expeditiously. A general dentist should only extract wisdom teeth if he or she is qualified. If in doubt, refer the case to an oral surgeon.

INTRODUCTION

In the course of their labour activities, in addition to the responsibility common to all people as citizens, workers also bear a specific responsibility: to answer for their acts while in the practice of their profession. For the health professions in particular, this obligation to answer for acts which happened during the practice of the profession (professional liability) is represented in four spheres: penal, civil, administrative and ethical.

The popularization of cure methods and the awareness of suffered damages have led to a significant increase in the number of patients seeking relief for harm resulting from professional liability. To combat the recent increase in medical malpractice claims which Malta is facing, a number of key elements need to be understood by every physician which would in turn help at mitigating liability in a medical malpractice claim which has resulted in litigation.

There are four main areas that tend to occur most often in dentist malpractice and dentist liability issues. There are others, too, but here's a rundown of the main ones:

Continues on page16.

DAM DENTAL LIABILITY LECTURE

Continues from page 14.

1. The first area of malpractice is wrong diagnosis. This means that the dentist has either failed to recognize a condition, or else he has confused it for something else. The most common "failure to diagnose" is gum disease.

2. The second area is to do with dental implants. There are several stages of dental implant treatment, and things can go wrong at any point. Most problems can be traced back to bad planning, where the dentist does not plan the implant treatment properly.

3. The third area of malpractice involves failed root canal treatment. There are a number of things that can go wrong during root canal therapy.

4. The fourth area covers the general area of surgery errors. For example, you may be left with a numb tongue after a wisdom tooth removal, or numb lip after implant placement.

BASIS OF LIABILITY

Briefly, an aggrieved patient has two possible courses of action against their doctors. The basis of their suit may be founded in contract (such as Italy) or in tort. Originally in our legal system, it was considered that there existed no contractual relationship between doctor and patient. The key judgment often referred to in this context is Victor Savona v Dr Peter Asphar (1951) where a patient developed gangrene following an operation that Dr Asphar failed to notice. The result was that the patient lost his leg. The Court of Appeal examined the conduct of the doctor against Maltese Civil Code provisions on tort.

In short, they lay down that every person person is considered to be at fault if he fails to use the prudence, diligence or attention of a bonus paterfamilias, i.e. of an ordinary reasonable man, or as described in the above judgment: 'the man on the Clapham omnibus'. However almost 60 years after this decision, in the 2009 judgment Rose Gauci et v Donald Felice et, our Court of Appeal established that there exists primarily an implied contract between the parties, and that their relationship is first and foremost contractual.

In this case, Mrs Gauci was diagnosed as suffering from advanced endometrioses in her pelvis and was recommended for a hysterectomy. Her doctor further had failed to carry out certain pre-operative tests. In surgery, Mrs Gauci suffered trauma to her ureter, which her doctor failed to notice and rectify. As a result, Mrs Gauci lost one of her kidneys. The court awarded Lm 30,000 in damages. In any case, whether an allegation is based on contract or on tort, the underlying claim is invariable the same i.e. the negligence that is found under tort law. As a consequence, the required standard of care is the same.

A DENTIST'S DUTY – STANDARD OF CARE

Every dentist is charged with a legal duty to comply with the standard of care in treating patients. The standard of care to be followed is that which is legally referred to as of the bonus paterfamilias: is the level of care at which an ordinary, prudent dentist (in good standing, and of same or similar educational background and geographic location) would administer under same or similar circumstances.

This is simply the legal way of saying that a dentist has a duty to provide care at the same level a similarly educated dentist practicing in any given area would provide.

BREACH OF DUTY

If a dentist fails to provide a service in line with the accepted standard of care, he has breached his duty. Of course, the practice of dental medicine is not an exact science, and there are no guarantees that any particular treatment will be successful or will sufficiently prevent future complications.

However, there are cases where a dentist clearly breaches the standard of care by, for example, extracting the wrong tooth or causing nerve damage with an injection. There are also not-so-clear cases of breached duty, and those cases are usually aided through the testimony of a trained medical expert witness, usually someone who is licensed to practice dentistry and has experience in the same specialty as the defendant.

This expert witness would then offer detailed testimony as to:

1. the appropriate standard of care under the circumstances, and

2. exactly how the defendant dentist's conduct fell short of meeting that standard in the plaintiff's case.

In Gambina v Golden Shepherd Medical Group (2013) during delivery, a baby suffered a rupture in her right shoulder, which the parents claimed could have been avoided with proper care of her doctors.

The medical expert report, however, found no wrongdoing on the part of Dr Camilleri and the hospital. The burden of proof rested with the patient, to prove not only the failure of the doctor, but also that that failure brought about the specific injury. Reference was made to Margaret Brazier in 'Medicine, Patients and the Law' (Penguin Books 1987 edit. pg 80) "proving negligence by the doctors does not conclude the case in the patient's favour.

Continues on page 19..

DAM DENTAL LIABILITY LECTURE

Continues from page 16.

He must also show that his injury, his worsened or improved condition, was caused by the doctor's negligence".

Therefore, for a dentist to be held liable, two things must be proved:

1. Fault (negligence)

2. Causal connection between the negligence of the dentist and the harm that was suffered by the patient.

PROVING CAUSATION

Causation is perhaps the key component when proving dental malpractice. It is entirely possible that a dentist could breach his duty to comply with the standard of care without actually causing you any harm.

In fact, a patient may never know a breach occurred. There must be a causal relationship between your dentist's breach of the standard of care and an injury sustained.

Moreover, if your injury would have occurred regardless of the dentist's actions, there may not be a causal relationship between injuries sustained and the dentist's alleged breach. Any claim would likely be difficult to prove.

DAMAGES – RESTITUTIO IN INTEGRUM

Once fault of a dental practitioner is established, as well as the causal connection with the harm suffered, compensatory damages must be determined.

Articles 1045 and 1046 of the Civil Code provide a total of 4 heads under which compensation may be claimed. In Malta, the purpose of damages is restitution in integrum: attempting to place the victim in the position he was in before the harm was suffered.

These 4 heads of damages are:

1. Actual loss (damnum emergens) which includes:
   a. Actual loss caused directly to the injured party. This is easily proven and ascertainable. It includes harm caused to property or a person, which must consist in a disability that can be quantified in terms of economic loss.
   b. Expenses which the victim incurred ass a consequence of such damage. For instance, in the 1997 case Scerri pro et noe v Cesario, the claimant's son was calculated to have suffered a 60% disability, so the family had to move house in order to accommodate him. The Court awarded Lm 11,000 for the difference in price between residences.
   c. Loss of actual wages or other earnings

2. Loss of future earnings (lucrum cessans)

Michael Butler vs Peter Christopher Heard was the first authoritative case in which a standard formula for determining the quantity of damages (drawn from Common law – UK) was effectively applied. Since then, our Courts have consistently applied this formula.

ACTUAL LOSS FORMULA

Actual weekly income of the injured party
MULTIPLIED BY
Number of weeks the injured party could not perform his occupation
PLUS
Direct material loss.

LOSS OF FUTURE EARNINGS FORMULA

Yearly income
MULTIPLIED BY
Multiplier
MULTIPLIED BY
Percentage disability
LESS
Lump sum payment reduction

YEARLY INCOME

This refers to earnings at the time of the incident in terms of gross income. The Court often takes into consideration potential increases in the cost of living, and potential growth of the industry in which the victim is employed. For instance, in Caruana v El Hangari (2007) the Court considered that the victim worked in the informatics sector; an industry that would undoubtedly see substantial growth in the future. Therefore, it was thought that the victim's yearly income would have increased from Lm9,300 (at the time of the incident) to Lm16,000.

MULTIPLIER

This is a number that represents the difference between:

- Age of the victim at the time of the incident, not at the time of the judgment. There is a general presumption that there is no loss of income before the age of 16 years; if the victim is younger, Court's will calculate the multiplier from this figure; and
- Retirement age.

This number is usually partially reduced due to the chances and changes of life. This is a concept that arose in the 1960s when the unemployment rate was high, and it was therefore reasonable for the Court to assume that the victim would have been unemployed for some years. Today, the applicability of the 'chances and changes of life' consideration is debatable. In fact, in the 1994 case Elvira v PM the Court refused to make a reduction because NSO statistics proved that most people work until retirement.

Courts are applying the multiplier with greater flexibility, for instance in the 2008 judgment Attard v Grima, the Court applied a multiplier of 12 even though the victim had already reached retirement age.

Continues on page 20.

DAM DENTAL LIABILITY LECTURE

Continues from page 19.

Housewives generally attract larger multipliers due to the fact that they have no prospective retirement age.

PERCENTAGE DISABILITY

This is not strict medical disability, but a percentage that is equivalent to the incident's effect on one's ability to earn a wage, and potential to increase it. The Court does enjoy discretion to increase or decrease the percentage suggested by a medical expert. For instance, in the 2009 judgment Cefai v Cutajar, the medical expert estimated an 8% percentage disability, but the Court increased the percentage to 30%, as it considered it was very improbably that the victim would return to any sort of manual labour.

LUMP SUM DEDUCTION

The lucrum cessans formula results in a lump sum reflecting the amount the victim would have earned progressively over a number of years if the incident had not occurred.
If the victim is given this lump sum, however, the victim has the added advantage of being able to invest it and earn considerable interest. Therefore, the Court makes a lump sum deduction, generally of 20%.
For every year that passes between the incident and the judgment, the Court then reduces this lump sum deduction by 2%, and may forgo the deduction entirely if many years pass.
In the 2011 judgment Cutajar v Bugeja, a 17 year old suffered permanent scarring in her scalp following treatment at her hairdresser's. The court applied:

- Multiplier of 40 years;
- 1.5% Percentage Disability, as the cosmetic defect might have affected her earning potential; and
- Lump sum deduction of 10% (the lump sum deduction was reduced from the usual 20% as 5 years had passed since the incident).

DEMOGRAPHICS WITH RESPECT TO 'LOSS OF FUTURE EARNINGS'

Students generally exhibit a greater potential for future earnings.
With respect to the unemployed and housewives, the Court generally refers to the minimum wage.
Regarding self-employed individuals, the Court generally relies on their income tax returns to assess earnings.
The Court has also shown a tendency to discard the lucrum cessans formula altogether in the case of minors and very old people, awarding instead a sum deemed appropriate to the gravity of the damage.

DAMAGES WHEN THE VICTIM DIES

The Court may award compensation to the heirs of the deceased, calculating:

- An award of Actual Loss and Expenses incurred (damnum emergens)
- 100% permanent disability (lucrum cessans – loss of future earnings) with:
  - 20% Lump Sum deduction
  - Deduction for Personal Consumption between 25-50%, as the victim would not have passed all income on to his heirs but would have consumed some himself.
  - A consideration of the dependency of the heirs on the victim. In the 1993 case Scerri v Spiteri¸ the Court surmised that a wife is largely dependent on her husband, and is in most cases granted 50% of the compensation awarded.

MORAL DAMAGES

Moral damages are not awarded as compensation under Maltese Tort law, the primary reason being that they are not mentioned as a head of damage in our law. Nevertheless, our Courts have covertly attempted to provide some sort of compensation for 'moral damage', starting a category of 'psychological damage'.

In Savona v Asphar (1951) a patient developed gangrene due to the negligence of Dr Asphar who failed to detect if following an operation, which resulted in his leg being amputated. In awarding 'loss of future earnings', the Court referred to "psychological insult" and "Moral harm". It broadened the concept of permanent disability to include psychological harm that could indirectly impact future income-earning potential, thereby awarding psychological damages.

In more recent case law awarding psychological damages, the Court has held however that such psychological damage must be permanent and caused directly by the tortuous event. In this way, psychological damage is distanced from moral damage, establishing itself as a form of physical harm.
One should note that moral damages are, however, awarded in different areas of the Maltese legal system, such as:

- Violations of Human Rights in Constitutional Cases
- Press law injuries to reputation
- Consumer Affairs Act
- Betrothal, in respect of a retracted promise to marry.

PROTECTION AGAINST LIABILITY

Long gone is the time when the professional- patient relationship was based entirely on trust, without so much questioning and demands from the patient. Nowadays, there is no question that patients are aware and knowledgeable of the con- tract relationship that is established with dentistry professionals, as well as having greater demands regarding the services to be rendered.

Motivated by their social circle or even by the news media, a significant part of these patients/ clients often pursue some sort of monetary compensation in cases of errors resulting from the fault of a dentist, seeking redress in the court system. The judiciary process, however, can often lack the technical and scientific control that rules the field of dentistry, as well as any other field of healthcare. Therefore, dental surgeons must perform their entire work based on a coherent and diligent technique, remembering that, in a lawsuit, dental appointment records are the primary evidence.

Protection against civil liability is probably best obtained through sound record-keeping. The importance of meticulous treatment records is highlighted in a case from Gujarat in India (Trivedi KR, Vishwakarma S, another. C.P.R. 1996(3):24.). Here, there was a lack of documentary evidence to support the doctors' defence against negligence. The State Commission's order went on to state that, in the absence of case papers and documentary evidence regarding treatment given to patient (who later died) in the hospital, it would appear that the doctor had not given proper, adequate, or standard treatment and was trying to cover up negligence.

Dental records may well be the only permanent evidence if/ when questions of litigation arise. Therefore, it must be stressed that one of the most important factors in self-protection is the maintenance of accurate, full, and up-to-date records of all treatments provided. Dental appointment records must contain all occurrences, their consequences verified over the treatment period, as well as all measures taken, as the lack of information or errors in the documentation will compromise its legal validity.

Records containing details of the anamnesis, clinical sheet, treatment plan, prescriptions, notes, models, x-rays and post-op and/or hygiene recommendations can be kept by any and every professional. Thus, all recommendations regarding dental documentation, as well as a faithful account of the facts that transpired, will be evaluated by the technical assistant, who can consult experts in the field of suit, in order to pursue a better position for the client's defence.

The dentist has a duty to warn the patient of risks inherent in the treatment procedure. Following examination, the dentist should carefully decide what line of treatment to adopt. It may be unwise for a practitioner to state that she/he "will perform a cure" or "undertake to use the highest possible degree of skill". A dentist who has acted in accordance with a practice accepted as proper by a reasonable body of practitioners cannot be considered negligent merely because there is a body of opinion that takes a contrary view.

While desirable for a dentist to possess the highest degree of skills, she/he need not possess such skills - it is sufficient that the practitioner exercises the ordinary skill of an ordinary competent person exercising that particular art and science. Hence, in case of health professionals, negligence means failure to act in accordance with the standards of a reasonably competent health professional of the same field.

ETHICS

Subsidiary Legislation 464.17 Ethics Of The Medical Profession Regulations

Article 2
"practitioner" means a medical practitioner or dental surgeon registered under the Act;

Article 5
(3) The provision of factual information about the services offered by a practitioner to patients shall not be deemed to be contrary to the provisions of this regulation

Article 6
The factual information referred to in the preceding regulation shall:
(e) not claim that any one doctor is superior to others, nor contain any endorsement for any particular doctor;

(f) avoid aggressive forms of competitive persuasion, such as those that prevail in commerce and industry;

Schedule B (Regulation 22) Ethics Of Dental Practitioners

Article 4
(c) Any difference of opinion should not be divulged unnecessarily; but when there is an irreconcilable difference of opinion, the circumstances should be frankly and impartially explained to the patient's relatives. It would then be open to them or to him to seek further advice, either preferably in consultation with the person who is already in attendance or with the medical attendant or practitioner only.

Article 6
(a) When a practitioner is requested to attend to a patient who is already under the care of another practitioner and where the case is not an emergency, he shall decline to do so, except in consultation with the practitioner in attendance, or in case the consultation is not agreed to, until the practitioner in attendance has been informed, preferably in writing, that his services are no longer required.

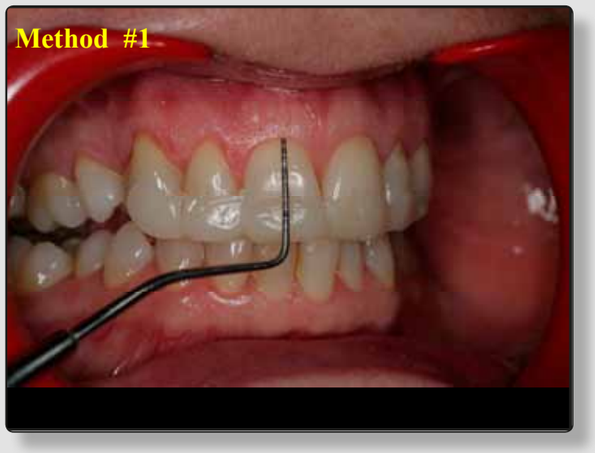
(c) When a practitioner is consulted at his own office, it shall not be necessary for him to enquire whether the patient is under the care of another practitioner, but if that fact shall transpire, the interest of the patient for courtesy may require that the practitioner or medical attendant be informed of the consultation and its results.

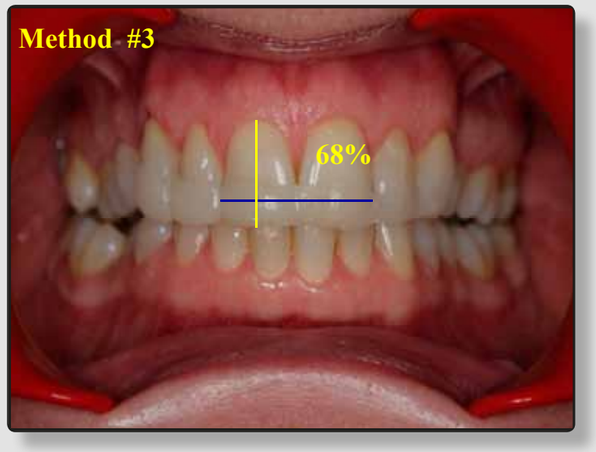
Article 9
The professional conduct of a dental practitioner is guided by principles essentially similar to those adopted by the medical profession and the relations between a medical practitioner and a dental practitioner shall be subject to the same considerations.

WEAR IS THE PROBLEM (PART 2)

ASSESSMENT, DIAGNOSIS, PREVENTION, MONITORING, INTERVENTIONS, FOLLOW-UP

Professor Brian Millar
Director of Fixed & Removable Prosthodontic Graduate Programme. Consultant in Restorative Dentistry King's College London Dental Institute at Guys, King's College and St Thomas's Hospitals. Private Specialist Practice, London





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WEAR IS THE PROBLEM (PART 2)

ASSESSMENT, DIAGNOSIS, PREVENTION, MONITORING, INTERVENTIONS, FOLLOW-UP

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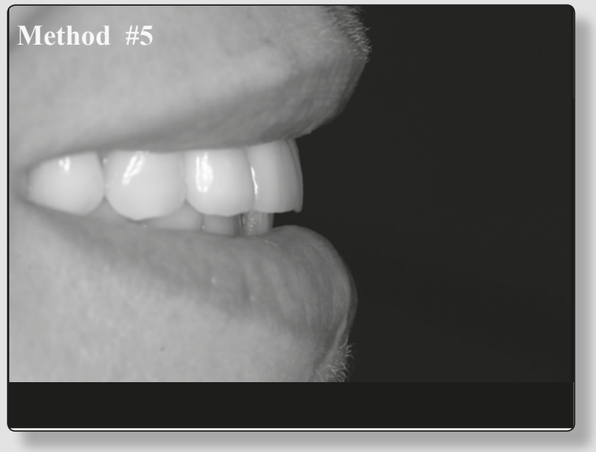
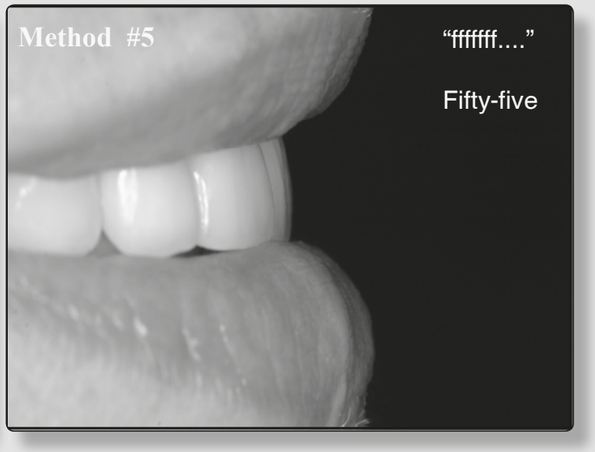




Hydrogen peroxide 6%

H_20_2 -> H_20 + O^+

10 minute treatment

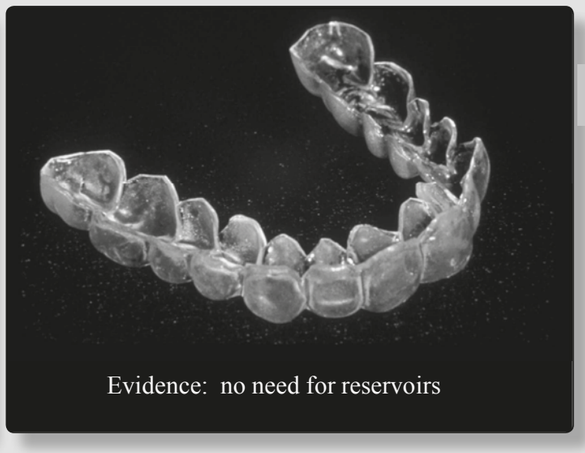
Carbamide peroxide 10-16%

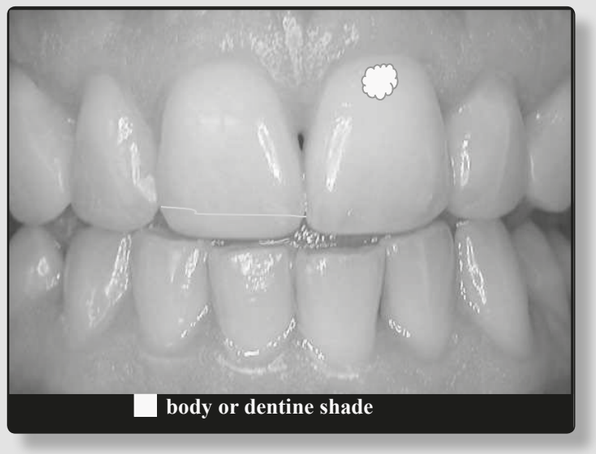
CP -> urea + H_20_2

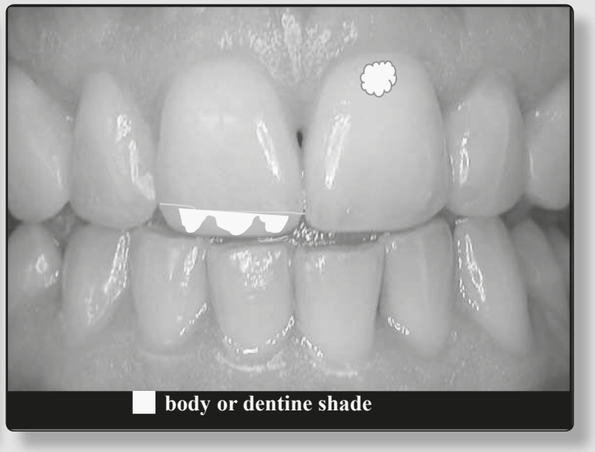
H_20_2 -> H_20 + O^+

90 minute treatment

Patel, Louca, Millar BDJ 2008







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HAVE YOU THOUGHT ABOUT YOUR PENSION?

Recently the Private Pension sector opened up and the Government agreed to allow the provision of PPPs (private pension plans) by local insurers.

The plan offers flexibility both in premium payments and investment paid. A key aspect in this matter is the tax rebate of 15% on the premium paid per annum (maximum €150).

The new pension plans are designed to invest into a fund which will be converted into pension income on retirement. This is the opportunity to make long-term plans for your retirement.

Those who invest in a private pension can avail themselves of a programmed annuity at retirement age with the aim of retaining same levels of standard of living.

PPPs may be arranged either by individuals or as a group. Employers are also seeing an opportunity in offering added value to its workforce by introducing them to Private Pension Plans.

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WEAR IS THE PROBLEM

ASSESSMENT, DIAGNOSIS, PREVENTION, MONITORING, INTERVENTIONS, FOLLOW-UP

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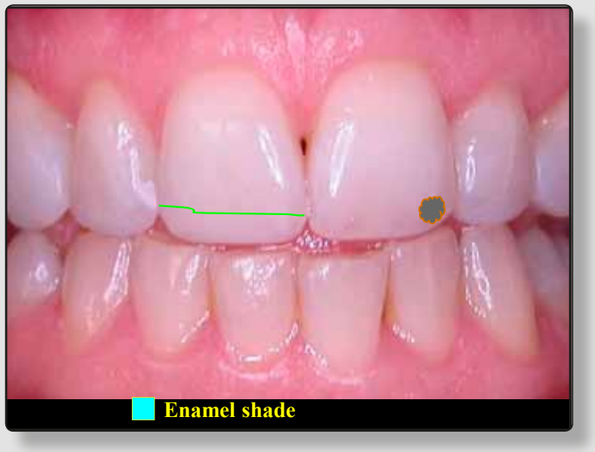

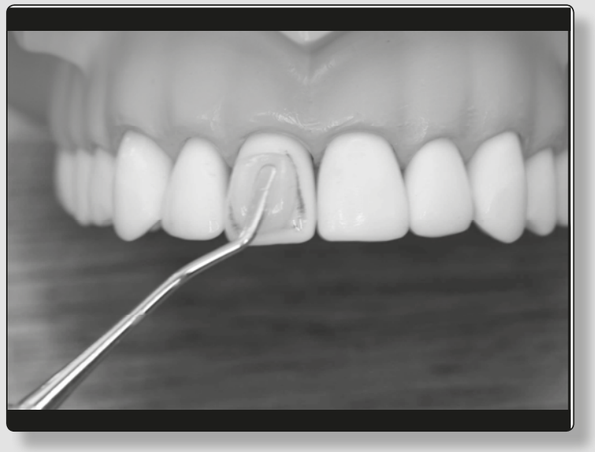

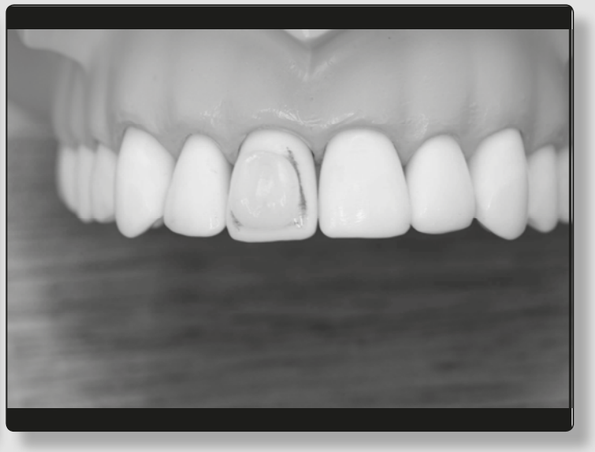

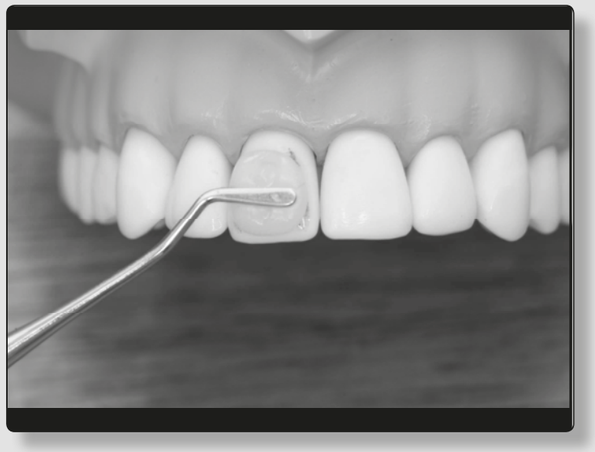

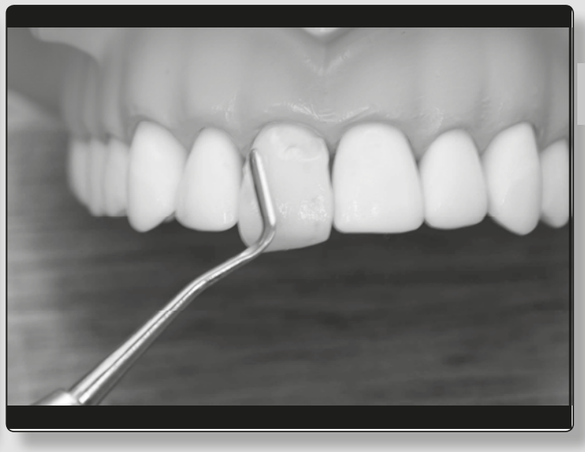

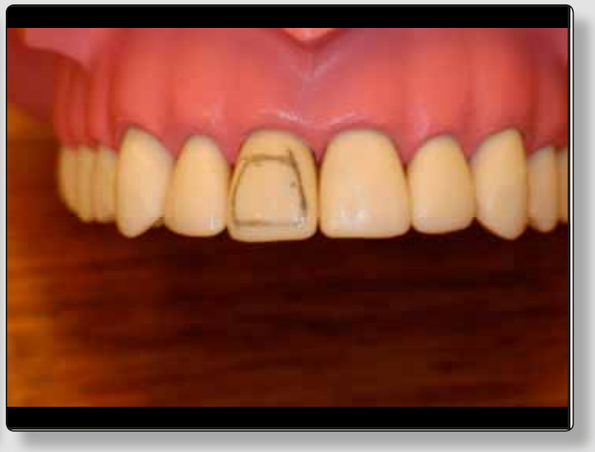

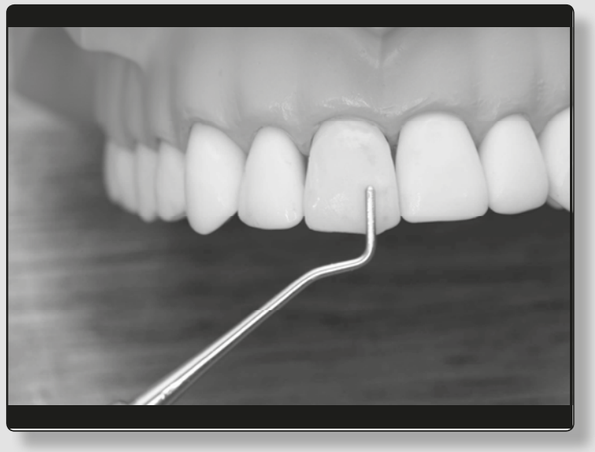

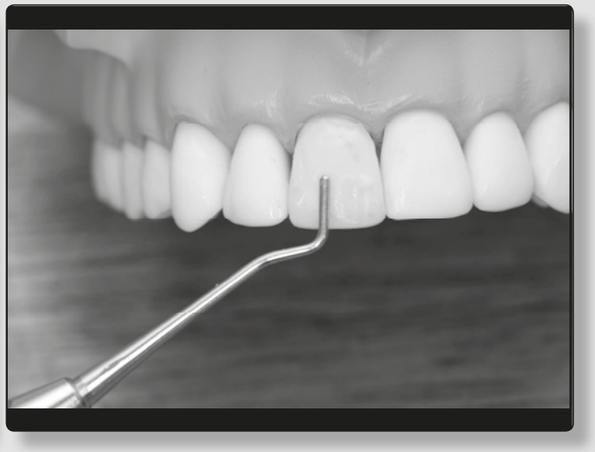

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WEAR IS THE PROBLEM

ASSESSMENT, DIAGNOSIS, PREVENTION, MONITORING, INTERVENTIONS, FOLLOW-UP

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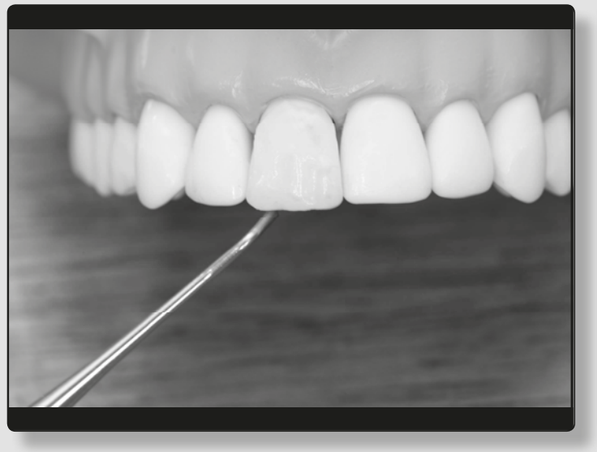

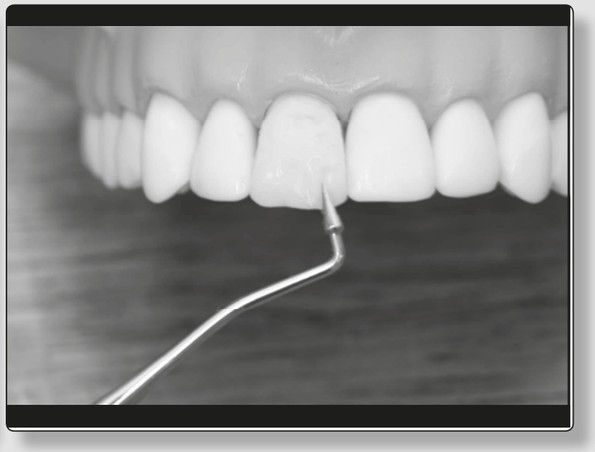

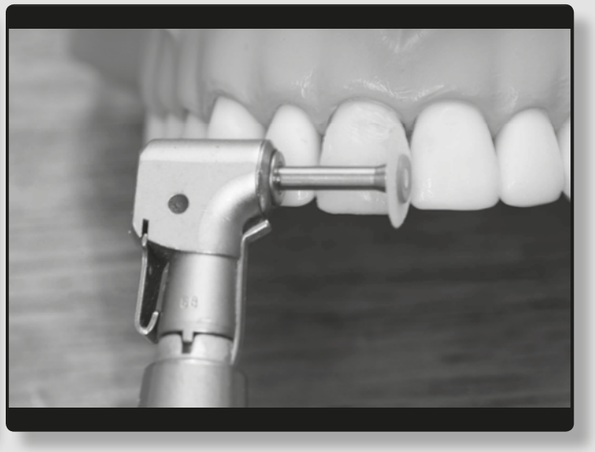

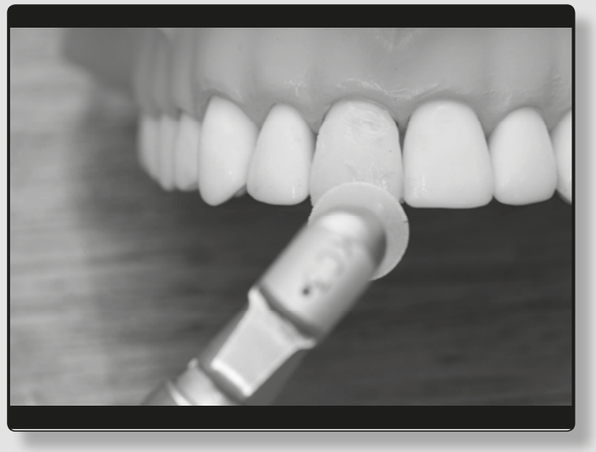

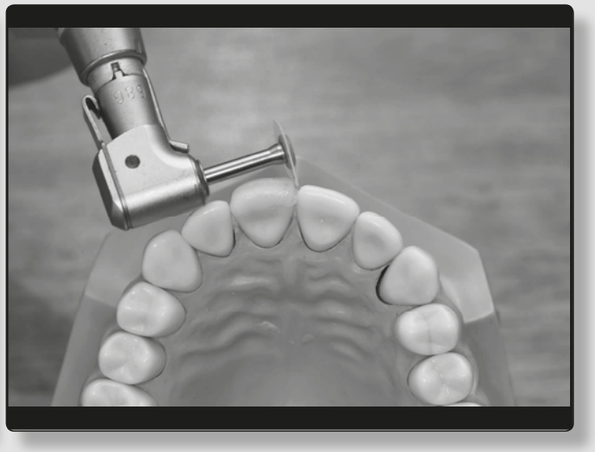

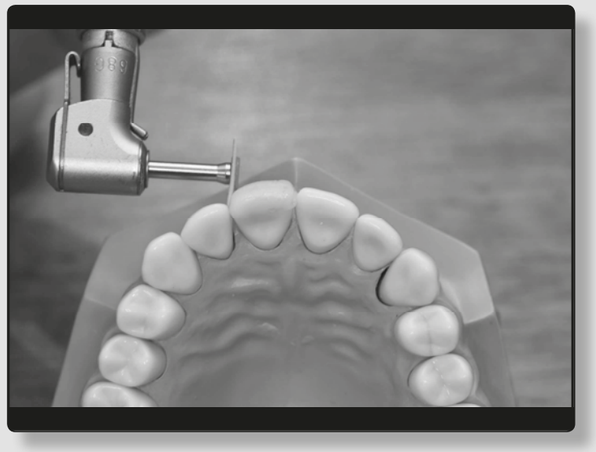

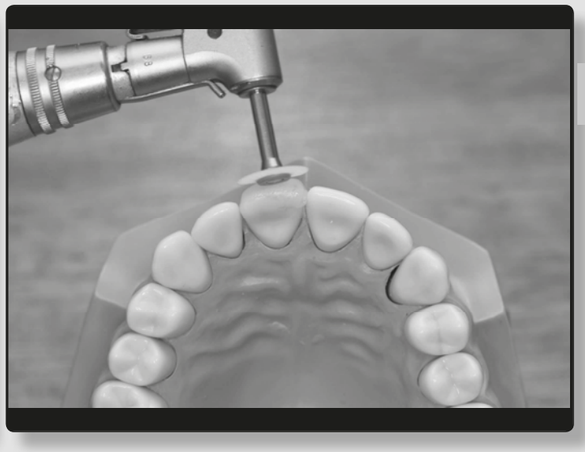

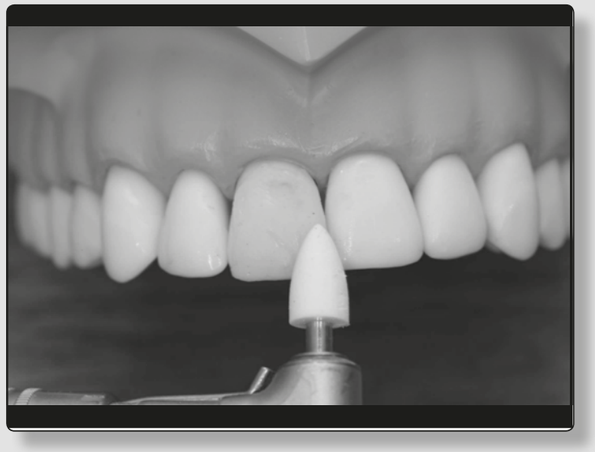

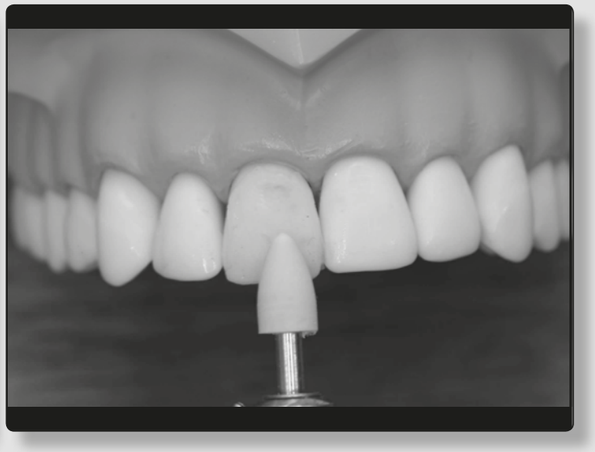

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WEAR IS THE PROBLEM

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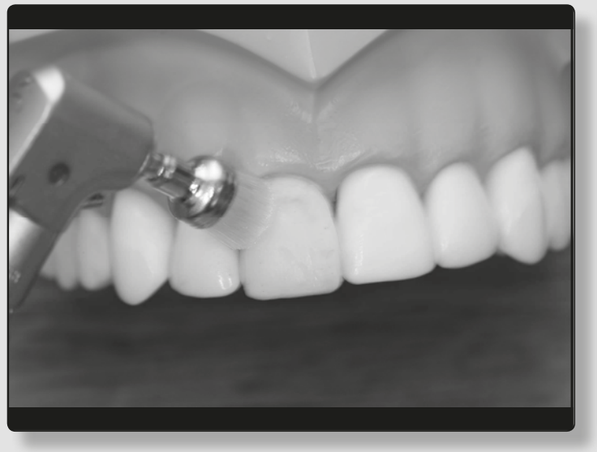

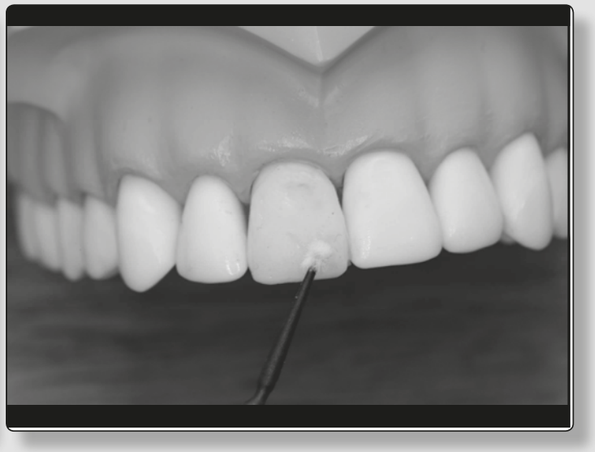

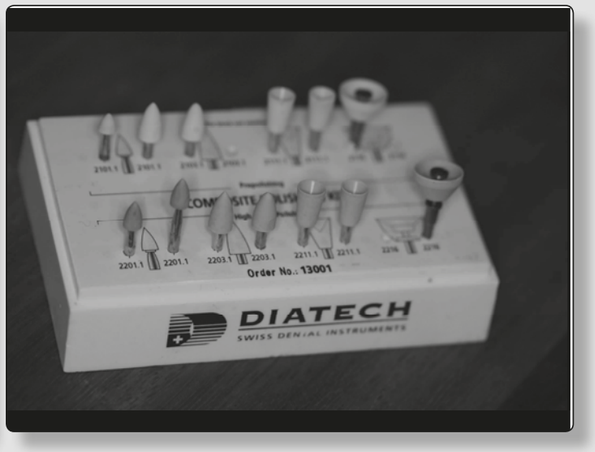

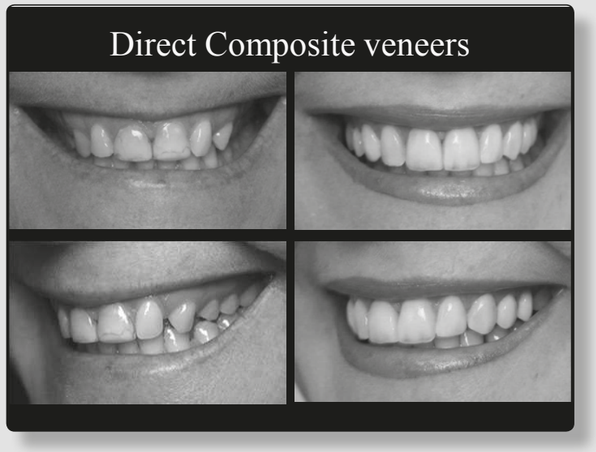

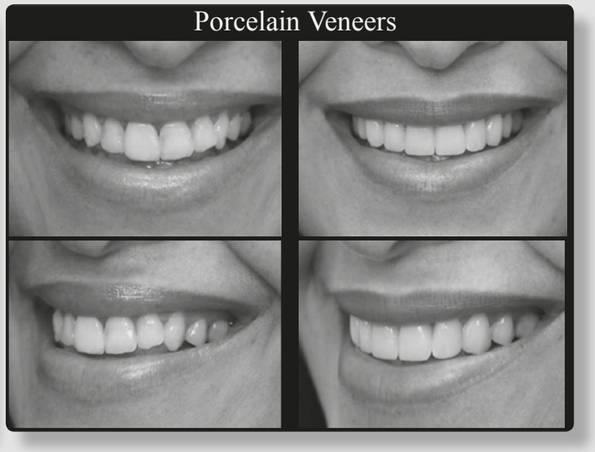

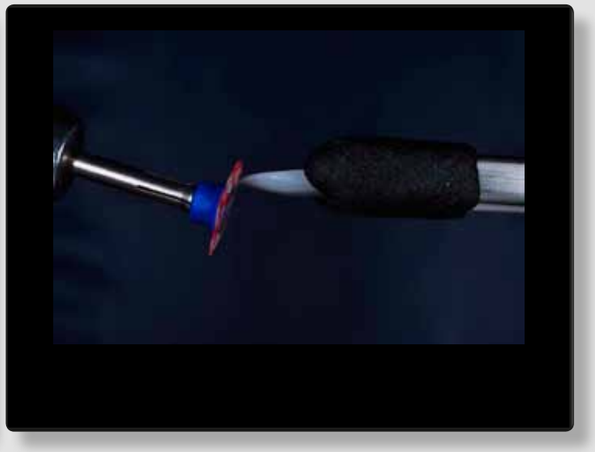

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WEAR IS THE PROBLEM

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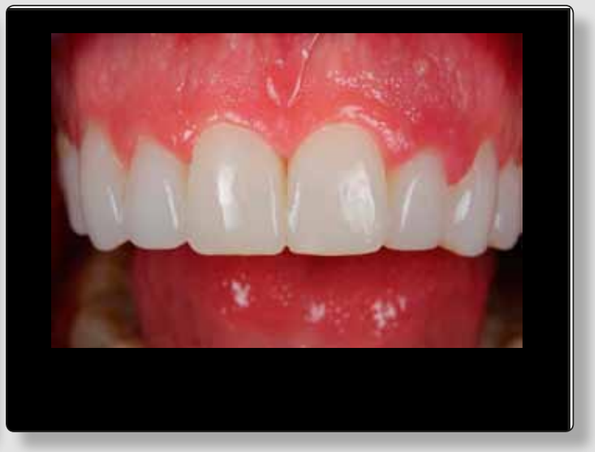

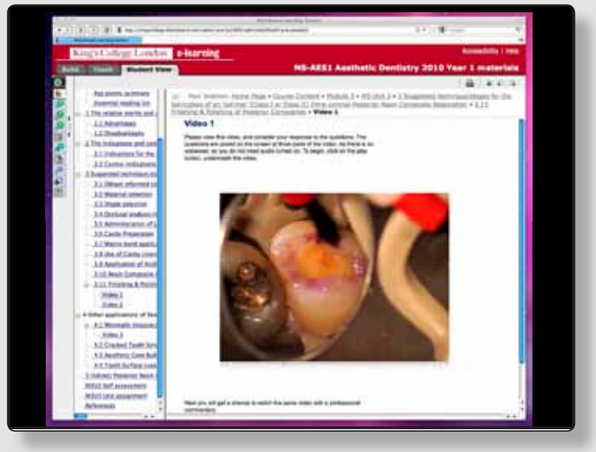

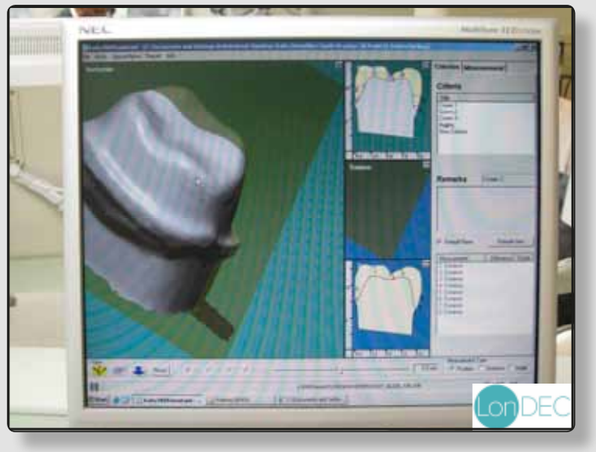

DAM LOCAL ANAESTHESIA LECTURE

By Dr Vipul Kataria, Endodontic Specialist from Kings London
Summarised by Dr David Muscat

Thermal changes in the oral environment cause rapid displacement of dentinal tubular contents,resulting in pain- the hydrodynamic effect.

Hundreds of sensory axons enter the apical foramen. The nerve supply in the dentine/pulp is made up of A fibres(delta and beta) and C fibres. These are efferent sympathetic nerves. Sensory nerve fibres in the pulp consist of myelenated A and unmyelenated C fibres.

A fibres are large diameter and fast conducting. C fibres are small and slow conducting.

When heat is applied to a tooth there is a two phase response. First there is an immediate A fibre response followed by a C fibre response. A fibres are activated by a higher level of electrical stimulation than C fibres but it is the C fibres that respond to the application of bradykinin and histamine. Thus premedication with NSAIDS will help with anaesthesia. Also giving LA at two different sites close to area to be worked on.

A fibres transmit pain directly to the thalmus generating an early localised fast sharp pain.These are stimulated by the application of cold.

C fibres are in the body of the pulp and deeper. C fibres are influenced by modulating interneurons before reaching the thalamus, resulting in a slow pain, dull and aching, lingering, stabbing and throbbing due to inflammatory mediators.

C fibres are responsible for referred pain, due to their location and arrangement.

THE GOW GATES BLOCK
Patient opens moth wide, and the dentist administers LA just anterior to the neck of the condyle near the mandibular branch of the Trigeminal nerve after its exit from the foramen ovale.

THE AKINOSI-VAZUANI BLOCK
This requires the patient's mouth to be closed, and the dentist fills the pterygomandibular space with LA.

INFRAORBITAL NERVE BLOCK
Blocks the anterior and middle superior alveolar nerves. It blocks incisors, canines, premolars and mesiobuccal root of first molar on that side. It also blocks the bony support and soft tissue, the upper lip, lower eyelid and part of nose on same side.

There are two approaches:

The premolar approach-needle under mucosa, should pass beneath and lateral to external maxillary artery and anterior facial vein.

The central incisor approach-passes beneath the angular head of Quadratus Labii superior muscle .Proceed anteriorly to origin of caninus muscle and beneath external maxillary artery and anterior facial vein.

PHARMACOGENETICS
Genetic differences in drug metabolism pathways can affect individual responses to drugs. Eg women with red hair/light complexion do not numb easily.

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KA1 ERASMUS+ PROJECT DISSEMINATION
TEMPOROMANDIBULAR DYSFUNCTION

Co-funded by the Erasmus+ Programme of the European Union

By Dr Thomas Pace Moore

Temporo-mandibular joint dysfunction
The first units of the course concentrated on providing an overview of Gnathology which is the study of the masticatory system. Gnathology incorporates : anatomy and physiology of the temporo-mandibular joint (TMJ) and masticatory muscles, pathologies of the system, and their management. The lectures were focused on temporo-mandibular joint dysfunction.

THE MASTICATORY SYSTEM

The principal role of the masticatory system(MS) is "chewing", which is the cutting/crushing action of teeth on food. This action is enabled through, the forces initiated by neural stimulation of the muscles of mastication, guided and restricted by the articulation of TMJ and transmitted to the dentition through the mandible and maxilla. All the components of the masticatory system function as one system enabling the 3 dimensional movements of the mandible in relation to the maxilla, permitting not only mastication but other functions such as speech, swallowing and breathing.

TEMPORO-MANDIBULAR JOINT AND MYOFACIAL PAIN

Myofacial pain

Is the acute inflammation of one or more of the masticatory muscles. Symptoms may be constant or intermitent and exacerbated through function. Effected muscles are tender when palpated. Myofacial pain may be brought about through excessive /abnormal use, parafunctional habits and by structural abnormities, imposing a dysfunctional movement of the musculature. Structural changes of the TMJ and alterations of occlusal factors through restorative, orthodontic and surgical procedures are possible risk factors.

It was stressed that myofacial pain is a complex condition and usually multi-factorial, the presence of a risk factor does not automatically result in the condition. Such as in a bruxist that has worn down his dentition, but is asymptomatic despite his/her parafunctional habit and alterations to his/her occlusion. This occurs since the neuromuscular element of the masticatory system has the ability to adapt to the parameters dictated by the structural components of the system.

For myofacial pain treatment includes soft diet, use of non steroidal anti-inflammatory drugs(NSAID), muscle relaxants and occlusal (non-functional) splints such as the NTI splint. The use of intramuscular botulinum toxin (BOTOX) injection in affected muscles was mentioned. ***Temporo-mandibular joint displacement***

Temporo-mandibular Joint displacement (TMD) are a primary source of Oro-facial pain. Up to 30 % of the population experience symptoms and only 7% of these seek medical treatment. TMD is 3-5 times more prevalent in females and symptoms typically become more evident by the 4th decade.

A commonly encountered and ignored condition by dental practitioners is internal displacement of the articular disc with reduction, which is observed clinically as clicking whilst mouth opening, with a deviated and staggered path of opening. 80% of symptomatic patients suffering from a temporo-mandibular disorder have disc displacement. In "normal" anatomy when the mouth is in a closed position the articular disc lies above the condylar head. In 95 % of cases the posterior band of the disc is positioned between 0°- 10° from the vertical plane directly over the condylar head . The articular disc is consider to be partially displaced if it's posterior band is present further than 10° to the vertical plane and displaced if more 30°. The articular disc may have an anterior, medial or lateral displacement.

Internal derangement is a progressive process. Initially, the disc displacement is present only in the closed mouth position and reduces (ie. assumes it's correct position, with the condylar head positioned within the intermediate zone of the disc) when the mouth opening starts. When left untreated, overtime, the elastic fibres of the bilaminar zone tend to become more lax, thus disc reduction occurs at a later stage whilst opening. Eventually the loss of elasticity in the fibres of the bilaminar zone (due to chronic stretching) makes it incapable of reducing the disc resulting in disc displacement without reduction.

Disc displacement without reduction, results in restricted mouth opening, since the displaced disc disrupts anterior translation of the condyle. This situation ultimately causes irreversible damage to the joint such as; disc deformity , disc perforations, secondary osseous and joint degenerative changes. Degenerative changes due to osteoarthrosis may include deformity of the condyle and the formation of osteophytes and subchondral cysts . Due to time restrictions the tutors were unable go into diagnosis and management in detail. A screening protocol and the use of special investigations such as cone beam computed tomography(CBCT), ultra sound(US) and magnetic resonance imaging(MRI) were mentioned.

Apart from treating the acute phases of pain with soft diet and NSAIDS, the anatomical position of the articular disc may be adjusted through the use of functional occlusal splints such as the 3-dimensional repositioning splint. This enables the disc to assume its correct position preventing further laxity in the elastic fibres of the bilaminar zone, preventing progression of displacement. Surgical procedures may be necessary in severe and unresponsive patients.

CONCLUSION

During the seminars our tutors emphasised the importance of identifying and providing the correct diagnosis for patients with Temporo-mandibular joint and related musculoskeletal disorders. Especially for patients with internal derangement of the TMJ, at an early stage to prevent the aggravation of disc displacement and degenerative changes.

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