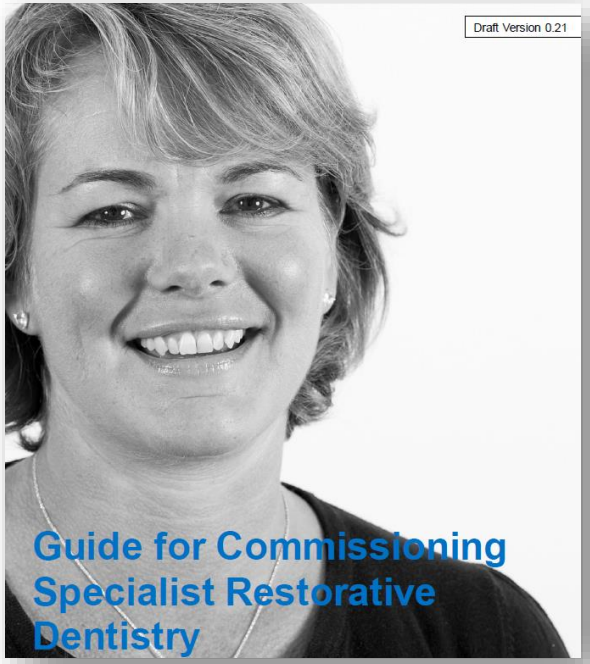
# Presentation to: EDH UCK Endodontic Diploma Group




**Friday 21st July 2017**

**Peter Briggs, Consultant & Specialist Practitioner**



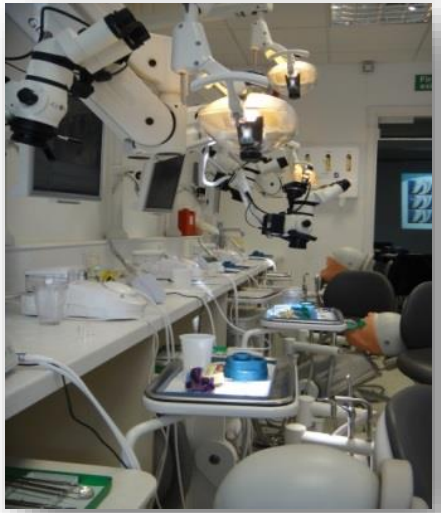
# Peter Briggs

**QMUL & HEALTH EDUCATION LONDON & SOUTH EAST**

**Hodsoll House Dental Practice**

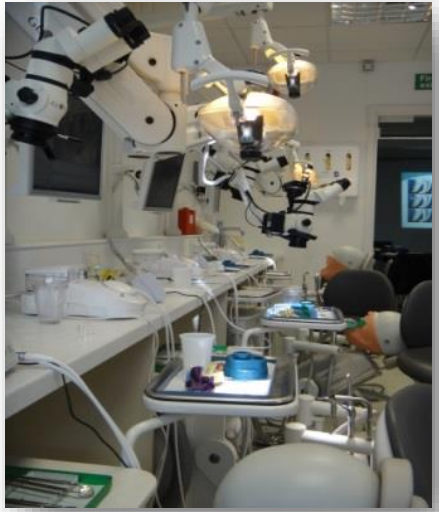
# A little about me

- I own a referral practice in North Kent near Sevenoaks (www.hodsollhousedental.co.uk)
- I was appointed as a Consultant in Restorative Dentistry and Implantology at St. George's Hospital,  SW17 in 1994 – worked there until 2015
- I have committed to training others -  throughout my career
- In 2009 I was commissioned to lead the educational delivery of a DwSI(Endo) programme for 10 GDPs
- 2015 elected as Chair of the London Rest Dent LPN



# A little about me

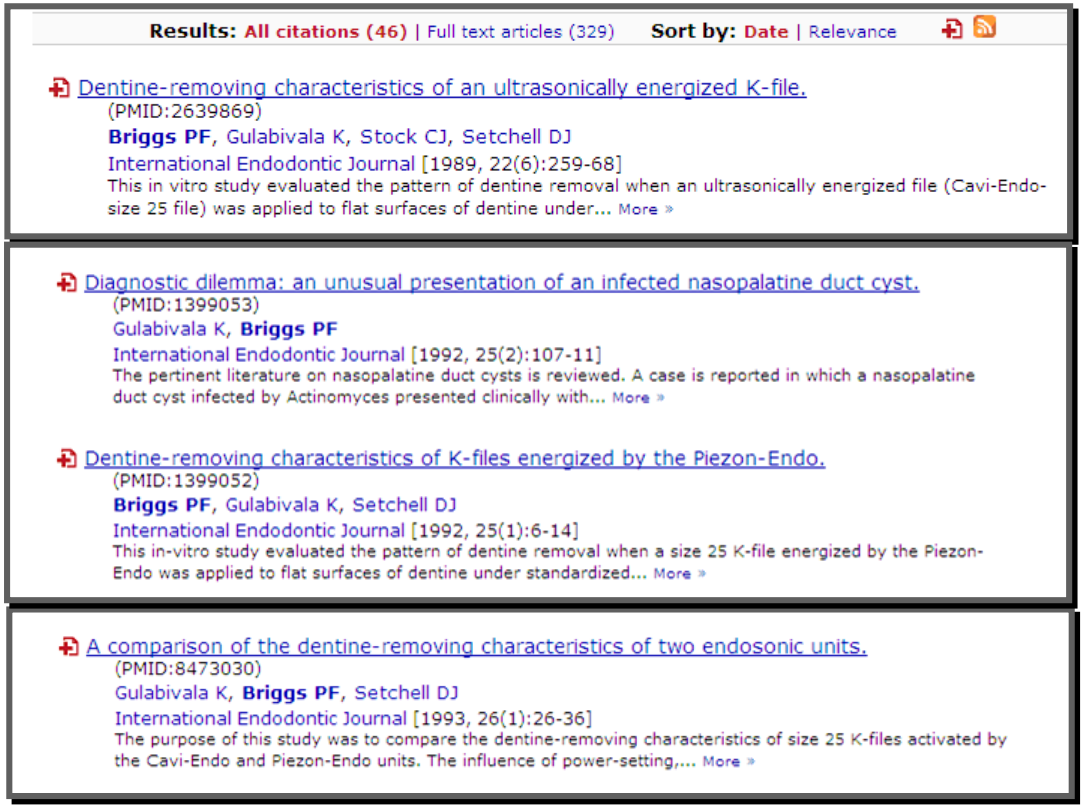
- Always had an endodontic interest
- Did my MRD in Endodontics
- Bought my first Zeiss microscope in 1994
- Did my MSc project with Kishor on characterisation of dentine cutting with Cavi-endo and Piezon-Endo
- Published first paper in 1989
- Was on the EDH staff in Cons and Perio for nearly 4 years



# Why did I get into Endodontics?

- I worked with Kishor (the ‘root twiddler’) for two years ar EDH – we all worked hard but had a laugh – always have enjoyed doing things that are difficult
- He helped me a lot and I have much to thank him for
- It’s no surprise to me that he has become an understated ‘root twiddler’ of international repute

# My MSc project and first publications were in Endodontics -it gave me the push to keep publishing throughout my career



**Results:** All citations (46) | Full text articles (329) **Sort by:** Date | Relevance

Dentine-removing characteristics of an ultrasonically energized K-file.
(PMID:2639869)
**Briggs PF**, Gulabivala K, Stock CJ, Setchell DJ
International Endodontic Journal [1989, 22(6):259-68]
This in vitro study evaluated the pattern of dentine removal when an ultrasonically energized file (Cavi-Endo-size 25 file) was applied to flat surfaces of dentine under... More »

Diagnostic dilemma: an unusual presentation of an infected nasopalatine duct cyst.
(PMID:1399053)
Gulabivala K, **Briggs PF**
International Endodontic Journal [1992, 25(2):107-11]
The pertinent literature on nasopalatine duct cysts is reviewed. A case is reported in which a nasopalatine duct cyst infected by Actinomyces presented clinically with... More »

Dentine-removing characteristics of K-files energized by the Piezon-Endo.
(PMID:1399052)
**Briggs PF**, Gulabivala K, Setchell DJ
International Endodontic Journal [1992, 25(1):6-14]
This in-vitro study evaluated the pattern of dentine removal when a size 25 K-file energized by the Piezon-Endo was applied to flat surfaces of dentine under standardized... More »

A comparison of the dentine-removing characteristics of two endosonic units.
(PMID:8473030)
Gulabivala K, **Briggs PF**, Setchell DJ
International Endodontic Journal [1993, 26(1):26-36]
The purpose of this study was to compare the dentine-removing characteristics of size 25 K-files activated by the Cavi-Endo and Piezon-Endo units. The influence of power-setting,... More »

I believe in the concept of the NHS – I wouldn't want to live anywhere else. The concept to me as dental practitioner with all the luck, opportunity and success that I have gained within our profession is not - *if someone cannot afford RCT then tough – they should simply have the tooth out.* If this opinion prevails dentistry is doomed

# Context over the last decade in London

- There had been a rise in referrals to hospital based services from primary dental care since the introduction of the new dental contract in 2006
- Hospitals from 2007 required to manage waiting lists more effectively and avoid patients waiting more than 18 weeks for care
- This meant that Endodontics became ‘a lower priority’ within secondary care in some centres
- Lots of triage models developed to include SDA in some PCTs

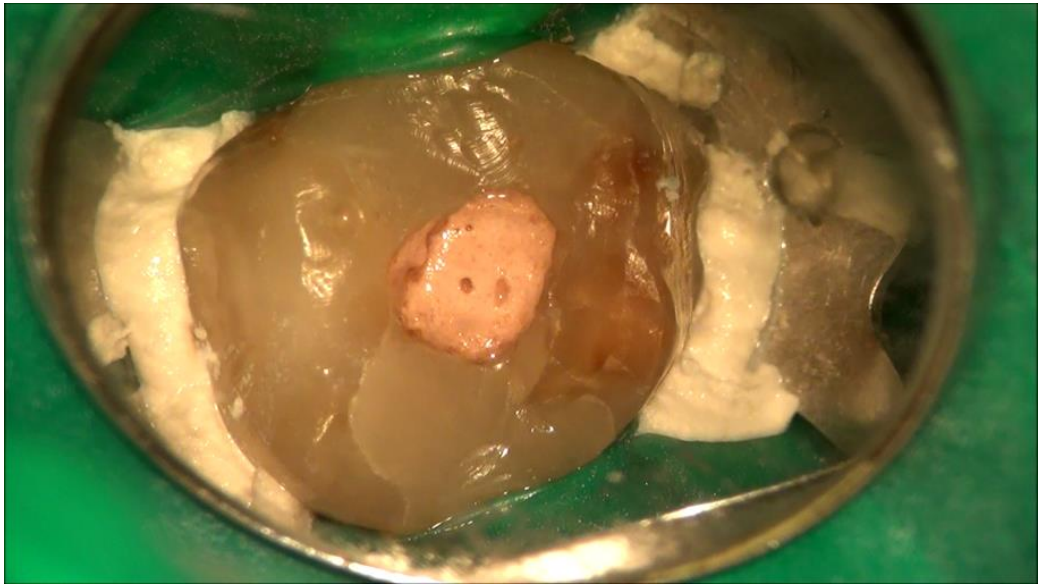
# NHS Dentistry in London

- Estimated that 30-40% of dentistry is delivered in secondary care – unlike the rest of England where it is closer to 5-7%
- HEE is has responsibilities to train all members of the dental team
- In dentistry my four portfolios are: DCPs, DFs, DCTs and Speciality

# Background – the elephant in the room

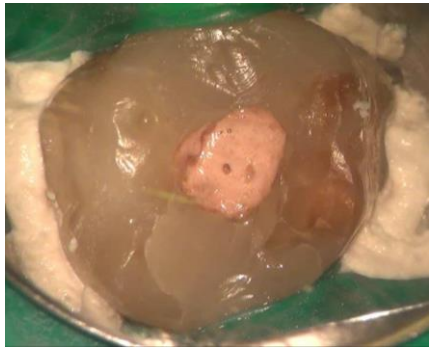
- Endodontics is technically very difficult – most dentists struggle to achieve even level 1 outcomes - Dummer (1997a &b); Tickle et al (2008)
- UGs / DFs at exit are very inexperienced – many not done a molar on own and take +++++ appointments to complete
- Young dentists are becoming increasingly risk adverse for many reasons and as a result will never skill up to the appropriate level

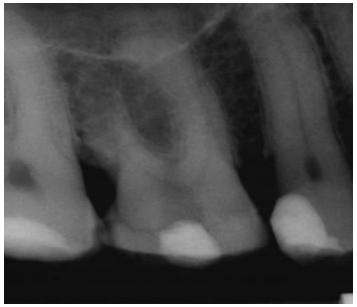
- Many practices have visiting dentists with enhanced endo skills.  It's difficult and much of the need is now revision / there is often much confusion on restorability

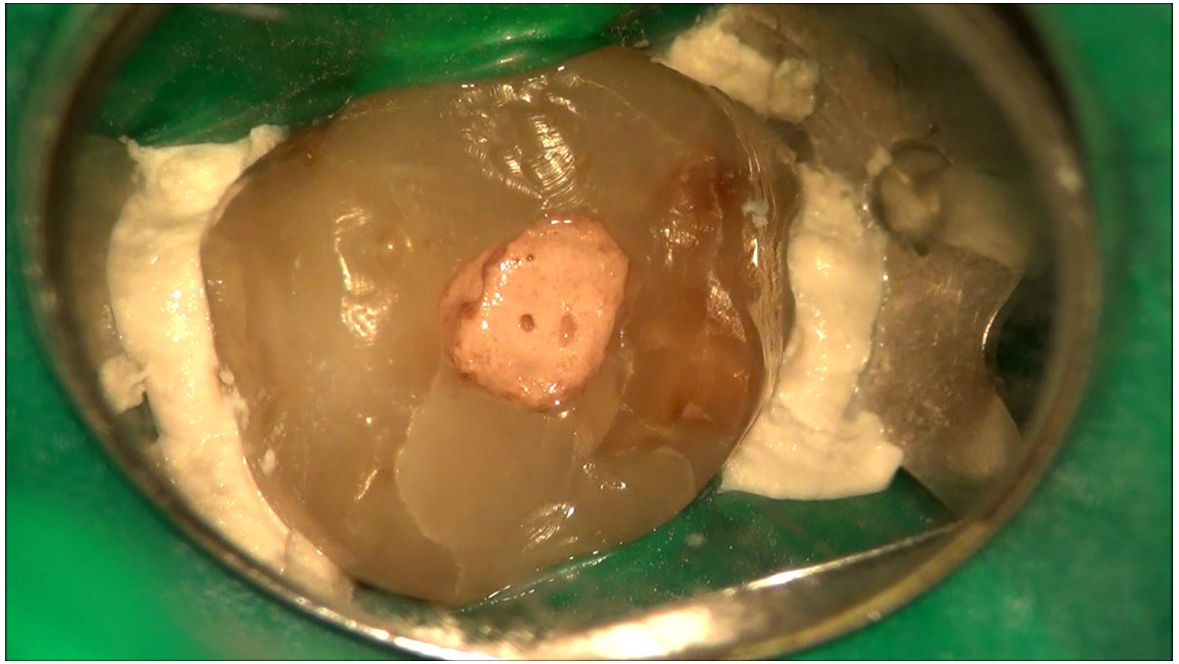



# Technical skills – are they as good as they were?

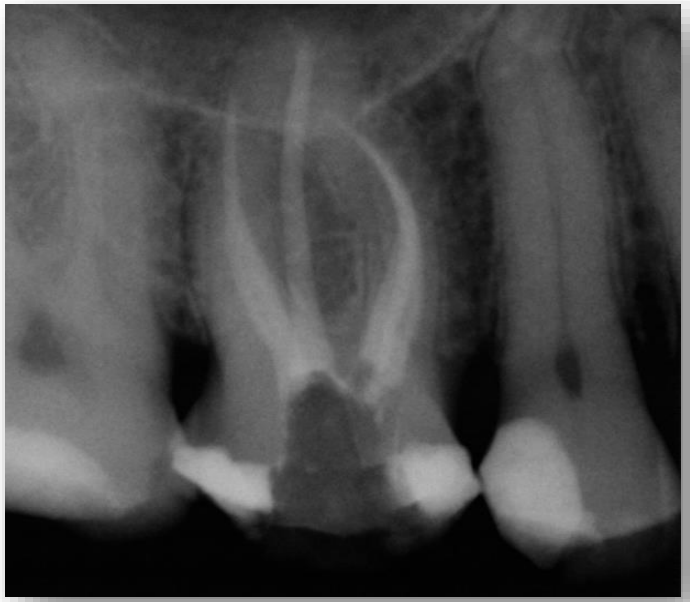
UR6 previous AIP / extirpation - restored with MOD composite. Tooth needs RCT and definitive restoration. Be ready to answer some questions

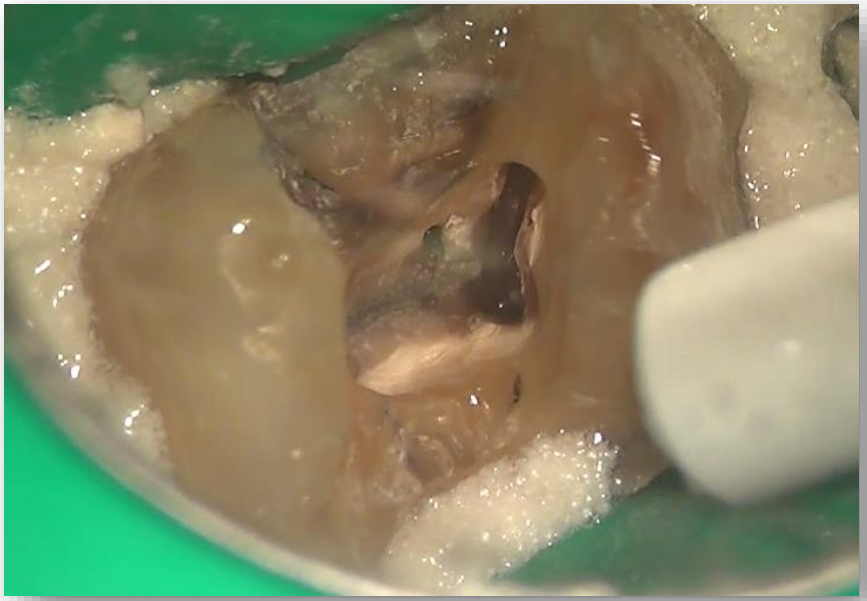




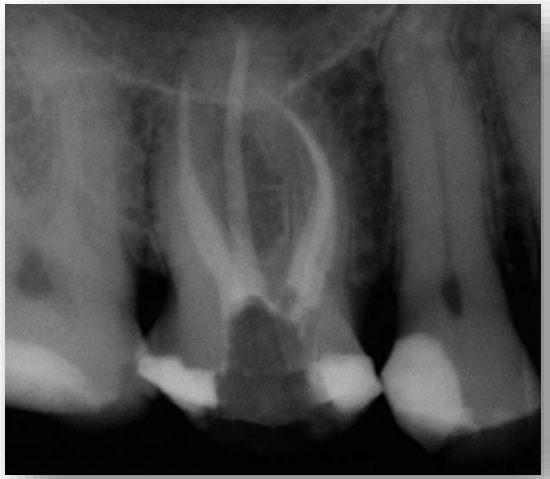


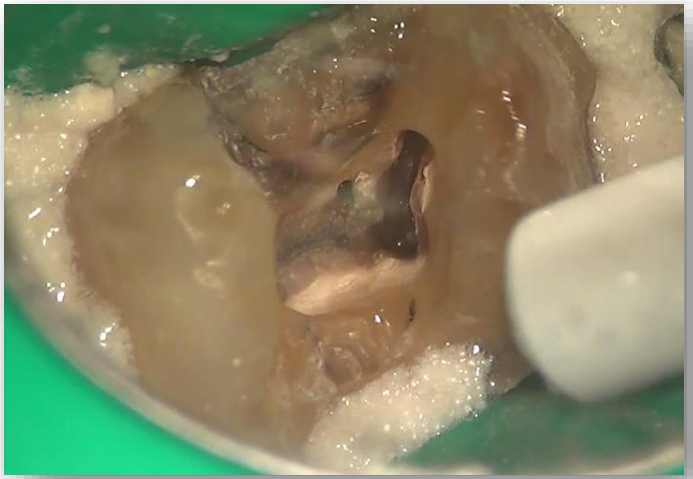
**UR6** – assuming tooth is asymptomatic after your primary endodontic Rx, strategically important and patient wants to preserve and keep the tooth





**Question** - how would you definitively restore the UR6?

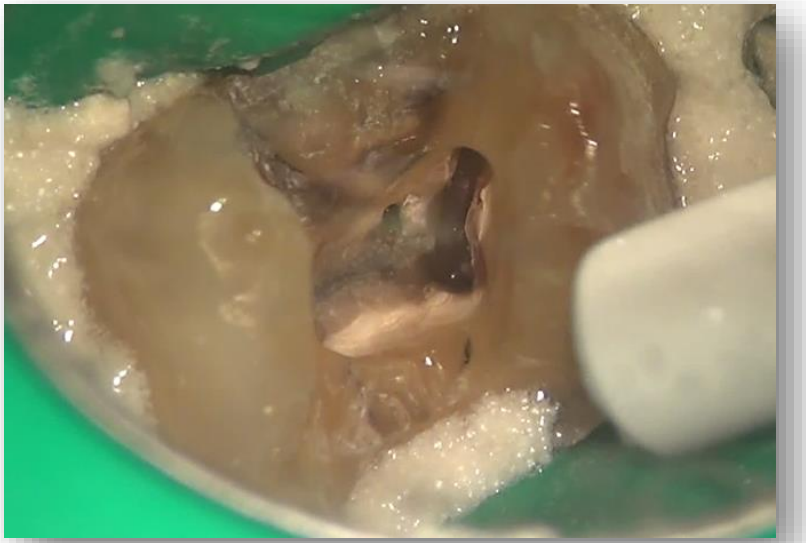




# How would you definitively restore - UR6?

**Answers:**

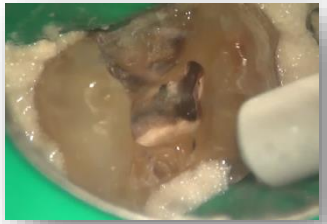
1. MOD direct composite
2. MOD amalgam
3. MOD GIC
4. MOD RMGIC
5. Indirect Restoration
6. Unsure



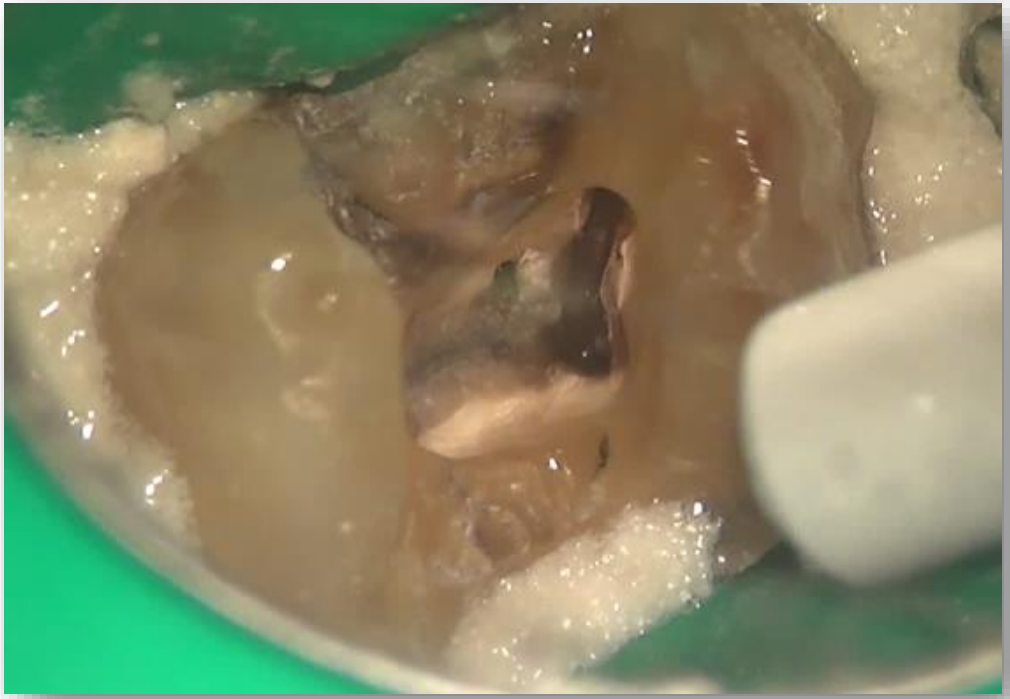
If your choice was **indirect restoration** - which of the following would you use to definitively restore UR6 for this NHS patient? (assuming functional)

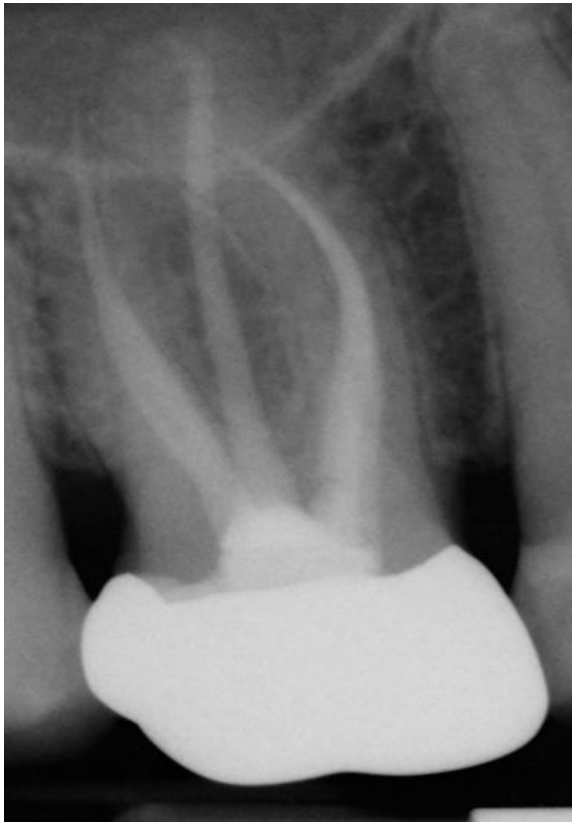
**Answer:**

1. Direct Composite core / Indirect crown (ceramic/ non-metal)
2. Direct CF post / Direct Composite core / Indirect crown (ceramic/ non-metal)
3. Composite Core with or without CF post / Indirect conventional crown (cast metal / PFM)
4. Amalgam core / Indirect conventional crown (cast metal / PFM)
5. Not sure



# Discussion





# How long would you advise wait before restoration after RCT?

# How long do you wait until restoration after RCT?

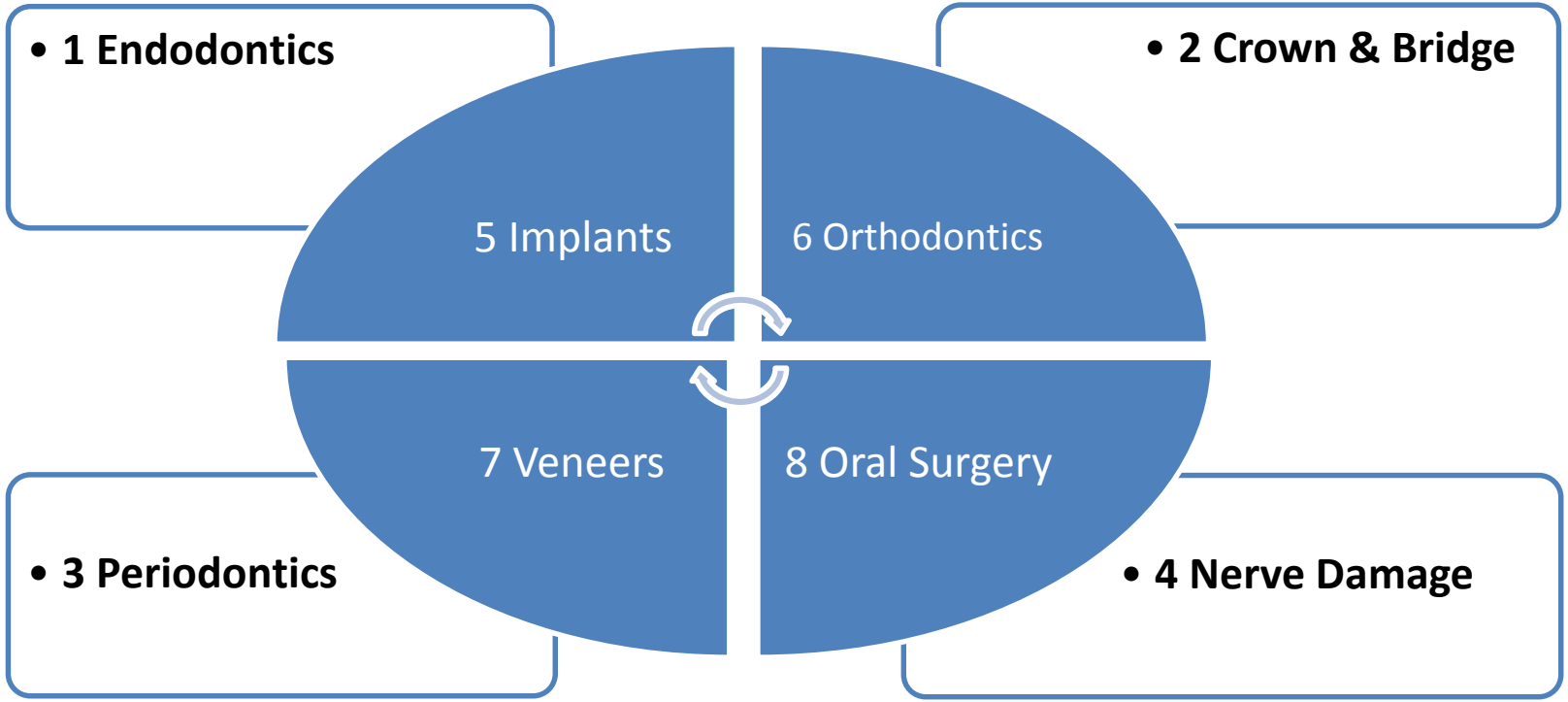
**Eight-Year Retrospective Study of the Critical Time Lapse between Root Canal Completion and Crown Placement: Its Influence on the Survival of Endodontically Treated Teeth**

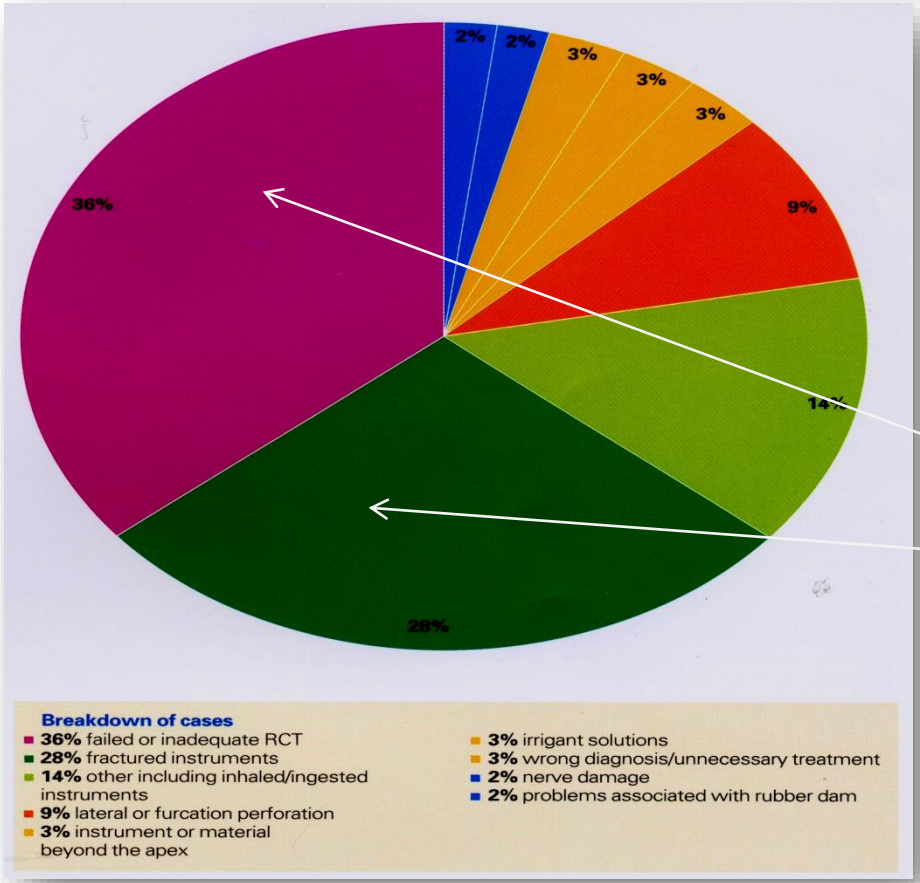
**Pratt I et al.** http://dx.doi.org/10.1016/j.joen.2016.08.006 - Published Online: September 10, 2016

**Results:**

- Type of restoration after RCT significantly affected the survival of ETT (P = .001).
- ETT that received composite/amalgam build-up restorations were 2.29 times more likely to be extracted compared with ETT that received crown (hazard ratio, 2.29; confidence interval, 1.29–4.06; P = .005).
- Time of crown placement after RCT was also significantly correlated with survival rate of ETT (P = .001).
- **Teeth that received crown 4 months after RCT were almost 3 times more likely to get extracted compared with teeth that received crown within 4 months of RCT (hazard ratio, 3.38; confidence interval, 1.56–6.33; P = .002).**

# Medico-Legal Risk and the problems that this creates





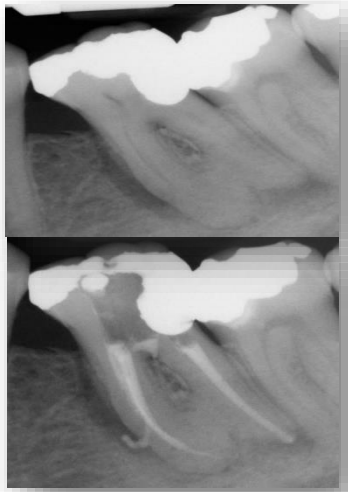

# Break Down of Endodontic Claims – failure or inadequate RCT or # instrument the biggest problems

# Background – perfect storm

- **The new 2006 UDA English GDS contract not attractive for NHS endodontics**
- **Patients keener than ever to save rather than extract teeth – more previously root treated**
- **London patients 'struggling' to access NHS Endodontic care – the poor most vulnerable**
- **PCT received more complaints from patients with infections**

# So in England - I do feel sorry associate dentists trying to do good quality endodontics on the NHS

- 25% of all Dento-Legal claims relate to Endodontics
- Patient **expectation** is now very high – people expect success
- Many overseas dentists have been historically taught to **'refer-out'** multi-root endodontic treatment to specialists
- However NHS practice owner have never earned more money from NHS – although I accept that they may not pass on to the associate



# Background – in London

- There had been a rise in referrals to hospital based services from primary dental care since the introduction of the new dental contract in 2006
- Hospitals from 2007 required to manage waiting lists more effectively and avoid patients waiting more than 18 weeks for care
- This meant that Endodontics became ‘a lower priority’ within secondary care
- Lots of triage models developed to include SDA in some PCTs

# This was one of the reasons why there was a drive to improve things in South London in 2006 onwards – I was CD at SGH and Chair of SL OHAG at the time

## A life threatening event from poorly managed dental pain – a case report

R. W. J. Porter,[1] N. J. Poyser[2] and P. F. Briggs[3]

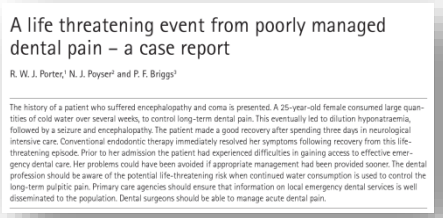
The history of a patient who suffered encephalopathy and coma is presented. A 25-year-old female consumed large quantities of cold water over several weeks, to control long-term dental pain. This eventually led to dilution hyponatraemia, followed by a seizure and encephalopathy. The patient made a good recovery after spending three days in neurological intensive care. Conventional endodontic therapy immediately resolved her symptoms following recovery from this life-threatening episode. Prior to her admission the patient had experienced difficulties in gaining access to effective emergency dental care. Her problems could have been avoided if appropriate management had been profession should be aware of the potential life-threatening risk when continued water consum long-term pulpitic pain. Primary care agencies should ensure that information on local emergen disseminated to the population. Dental surgeons should be able to manage acute dental pain.

[1,2]Specialist Registrar in Restorative Dentistry, [3]Consultant in Restorative Dentistry, Guys, Kings and St. Thomas' Dental Institute and St. George's Hospital, Tooting, London, SW17 0QT
*Correspondence to: Dr Richard Porter
Email: rich.porter7@ntlworld.com

Refereed Paper
Accepted 16 May 2006
DOI: 10.1038/bdj.2007.144
©British Dental Journal 2007; 202: 203–206

# History

- A single mother complained for several weeks of severe dental/jaw pain.
- She was seen by several emergency dentists who were not able to resolve her problems



A life threatening event from poorly managed dental pain – a case report

R. W. J. Porter,[1] N. J. Poyser[2] and P. F. Briggs[3]

The history of a patient who suffered encephalopathy and coma is presented. A 25-year-old female consumed large quantities of cold water over several weeks, to control long-term dental pain. This eventually led to dilution hyponatraemia, followed by a seizure and encephalopathy. The patient made a good recovery after spending three days in neurological intensive care. Conventional endodontic therapy immediately resolved her symptoms following recovery from this life-threatening episode. Prior to her admission the patient had experienced difficulties in gaining access to effective emergency dental care. Her problems could have been avoided if appropriate management had been provided sooner. The dental profession should be aware of the potential life-threatening risk when continued water consumption is used to control the long-term pulpitic pain. Primary care agencies should ensure that information on local emergency dental services is well disseminated to the population. Dental surgeons should be able to manage acute dental pain.

# History

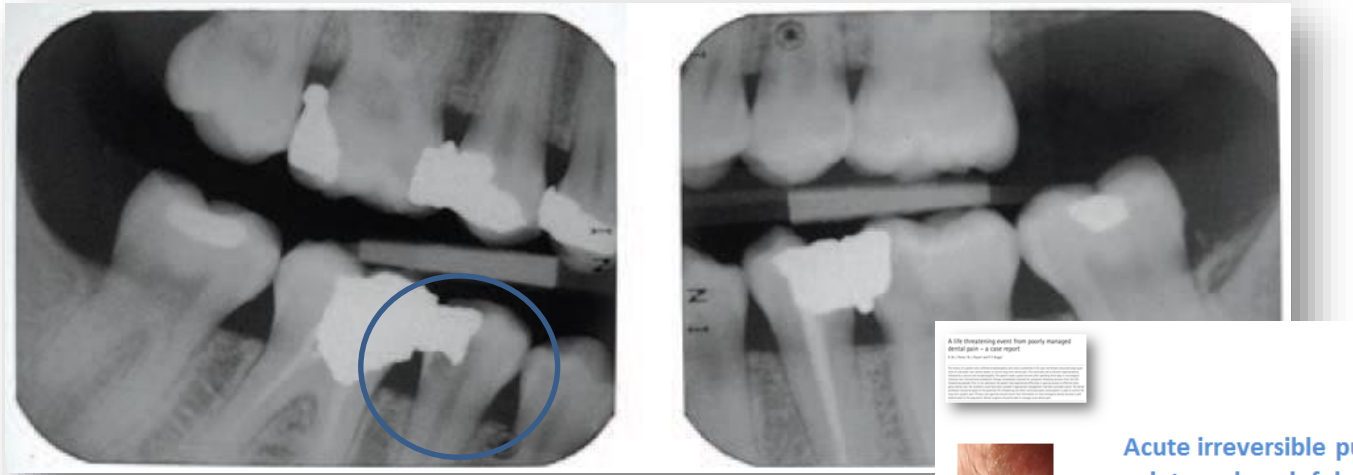
- She eventually collapsed at home
- Her 5 year old child rang 999 and he was admitted to hospital via casualty
- She was transferred to a specialist intensive neuro ICU in SWL (AM)

# Acute Management

- The neu… …osia caused by the ex…
- This led … …phalopathy (danger t…
- She ma… …um sodium normalis…
- The patie… …phenytoin

For those with or without a dental qualification would we have a hunch that a tooth / pulp was the cause of the thermally-affected pain?

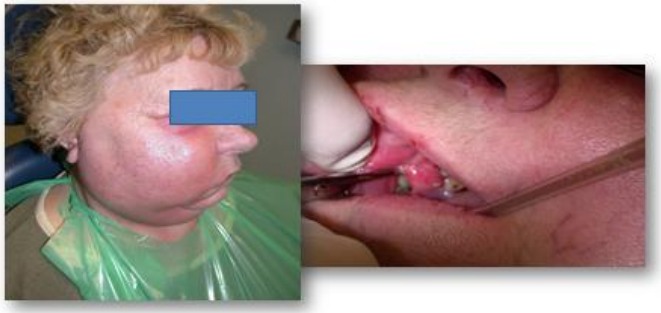
# What did we find?

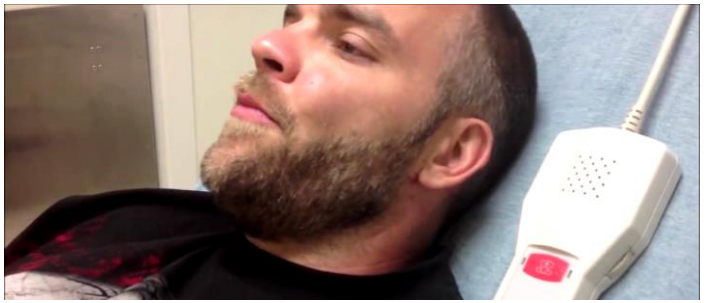


Acute irreversible pulpitis (AIP) is an intensely painful condition; which requires prompt intervention by dental professionals to provide appropriate treatment

# Maxillo-Facial Surgical Teams

Severe infections – life threatening?

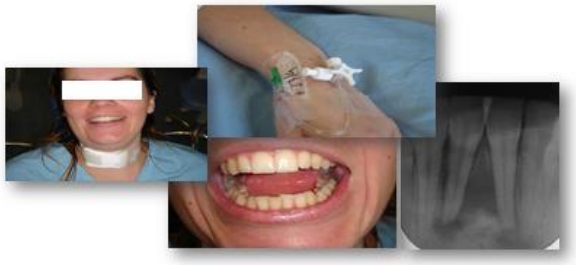




In secondary care – you tend to see when things are not going well - 42 year old female patient?

- Idiopathic/latrogenic
- Vascular:
- Inflammatory
- Traumatic
- Autoimmune
- Metabolic
- **Infective**
- Neoplastic
- Degenerative:

Virulent bacterial infection around lower front teeth. A susceptible host and inadequate treatment can lead to dangerous and expensive problems



# Background – perfect storm

- Within London, specialist training in endodontics is self-funded by trainees – we have 65 Mono NTN-trainees
- As a result they tend to work in the private sector
- Restorative dentistry training programme produces hospital-based consultants – who increasingly look after MDT patients & the severely compromised (unlike the past)
- Most Rest Dent Consultants make little impact in Endodontic provision
- There is a limited need for level I & II care within London teaching schools

| Specialty | Male | Female | Total |
|---|---|---|---|
| Endodontics | 203 | 62 | 265 |

# Background – in ‘Planet’ London

- Published guidelines on complexity of endodontics produced by the Royal College of Surgeons of England (RCS Eng) – had limited impact on care nationally
- American Association of Endodontics (AAE) guidelines had been used to inform referrals to specialist services mostly in USA – focus on GDP or Specialist
- There was no consistency of what is complex, moderately difficult and what implication the strategic worth of the tooth / teeth plays in triaging
- DOH and previous CDO suggested training DwSI practitioner for the primary care NHS workplace to deliver moderately difficult care to NHS patients in practice

# The Need for London?

- We needed a group of NHS special interest GDPs who have a proven track record of being able to deal with appropriate moderately difficult cases
- With the support of DPH Consultants, Deanery (HEE), NHS Commissioners, Secondary Care Departments we needed to train and embed them within London MCN(s)

# I was asked to lead the London PCT and Deanery teaching project for the DwSI Endodontics

## Dentists with extended skills: the challenge of innovation

M. Al-Haboubi,[1] S. Eliyas,[2] P. F. A. Briggs,[3] E. Jones,[4] R. R. Rayan[5] and J. E. Gallagher*[6]

RESEARCH

IN BRIEF

- Provides a narrative of the development of the model of dentists with special interests.
- Highlights the support of different stakeholders on a pilot initiative to train DwSIs in endodontics.
- Investigates the potential of such initiatives to meet the need for moderately difficult endodontics.
- Provides insight into how GDPs might wish to use DwSIs in future.

**Background** The aim was to obtain stakeholders' views on the former London Deanery's joint educational service development initiative to train dentists with a special interest (DwSIs) in endodontics in conjunction with the National Health Services (NHS) and examine the models of care provided. **Methods** A convergent parallel mixed methods design including audit of four different models of care, semi-structured interviews of a range of key stakeholders (including the DwSI trainees) and questionnaire surveys of patients and primary care dentists. **Results** Eight dentists treated over 1,600 endodontic cases of moderate complexity over a two year training period. A retrospective audit of four schemes suggested that first molars were the most commonly treated tooth (57%; n = 341). Patients who received care in the latter stages of the initiative were 'satisfied' or 'very satisfied' with the service (89%; n = 98). Most dental practitioners agreed that having access to such services would support the care of their patients (89%; n = 215) with 89%; (n = 214) supporting the view that DwSIs should accept referrals from outside of their practice. **Conclusion** This initiative, developed to provide endodontic care of medium complexity in a primary care setting, received wide support from stakeholders including patients and primary care dentists. The implications for care pathways, commissioning and further research are discussed.

### BACKGROUND

Endodontic care, as with most of dentistry, is predominately provided in primary care settings, across the National Health Service (NHS) and private systems, with cases of high complexity being referred to specialists, in either general practice or hospital settings. There has been a rise in referrals to hospital-based services from primary dental care since the introduction of the new dental contract in 2006,[1] while hospitals are also required to manage waiting lists effectively and avoid patients waiting more than 18 weeks for care.[2] Published guidelines on complexity of endodontics produced by the Royal College of Surgeons of England (RCS Eng)[3] have had limited impact on care nationally, while those produced by the American Association of Endodontics (AAE)[4] have been used to inform referrals to specialist services.

Within London, specialist training in endodontics is either self-funded by trainees who tend to then work in the private sector, or as part of the publically funded wider restorative dentistry training programme that produces hospital-based consultants. The latter can also opt to work within the private sector. Evolving health policy has emphasised changes to the system of educating and training the healthcare workforce,[5] including transfer of the responsibility for education and training from national to local level and ensuring flexibility and innovation in the future provision of services.[6] Developing intermediate education to build and recognise additional skills has become a focus for the NHS in the past decade,[7,8] as has providing access for routine care in a setting closer to home through a broader range of primary care services.[9]

In 2004, the Department of Health and Faculty of General Dental Practitioners (UK) adapted the model of practitioners with special interests (PwSIs) from medicine and formally introduced a policy framework for the concept of dentists with special interests (DwSIs) within the NHS. This involved dentists working in primary care providing additional dental services to those within their generalist role.[10] Two years later the same authorities set out the process of NHS appointments of DwSIs in endodontics in a guidance document.[11] Similar schemes were described across five other competency areas of dentistry.[12, 13]

A DwSI in endodontics was defined as being able to demonstrate a continuing level of competence in their generalist activity, an agreed level of competence in endodontics, and being contracted to the NHS to manage a number of patients requiring endodontic treatment of moderate difficulty.[14] Published research on pilot schemes with DwSIs in oral surgery suggests that minor oral surgery may be cost efficient, support patient management and improve access for patients,[15] and DwSIs in periodontics may improve access and produce positive clinical outcomes.[16]

In 2009 the London Deanery, in conjunction with a number of London Primary Care Trusts (PCTs), piloted and financed a two-year programme to train DwSIs in endodontics within the NHS in response to concerns about pressure on hospitals, skills and capacity in primary

[1]Queen Mary, University of London, Barts and the London School of Medicine and Dentistry, Centre for Clinical and Diagnostic Oral Sciences, Institute of Dentistry, London, E1 2AT, [2]Charles Clifford Dental Hospital, Sheffield Teaching Hospitals NHS Trust, Wellesley Road, Sheffield, S10 2SZ, [3]Department of Restorative Dentistry, Maxillofacial Unit, St. George's Hospital, London, SW17 0QT, [4]UCL WMS London (formerly London Deanery), Stewart House, 32 Russell Square, London, WC1B 5DN, [5]Formerly London Deanery, Stewart House, 32 Russell Square, London, WC1B 5DN, [6]King's College London Dental Institute at Guy's, King's College and St Thomas's Hospitals, Division of Population and Patient Health, Denmark Hill Campus, Bessemer Road, London, SE5 9RS. *Correspondence to: Dr Jennifer E. Gallagher Email: jenny.gallagher@kcl.ac.uk

Online article number 1E.
Refereed Paper – accepted 17 April 2014
DOI: 10.1038/bdj.bdj.2014.1162
*British Dental Journal 2014; 217: 1E

# For what were we training?

## Moderate Difficulty

- **De-Novo**
- **Re-Treatment**
- **Restorability**
- **Strategic Worth**

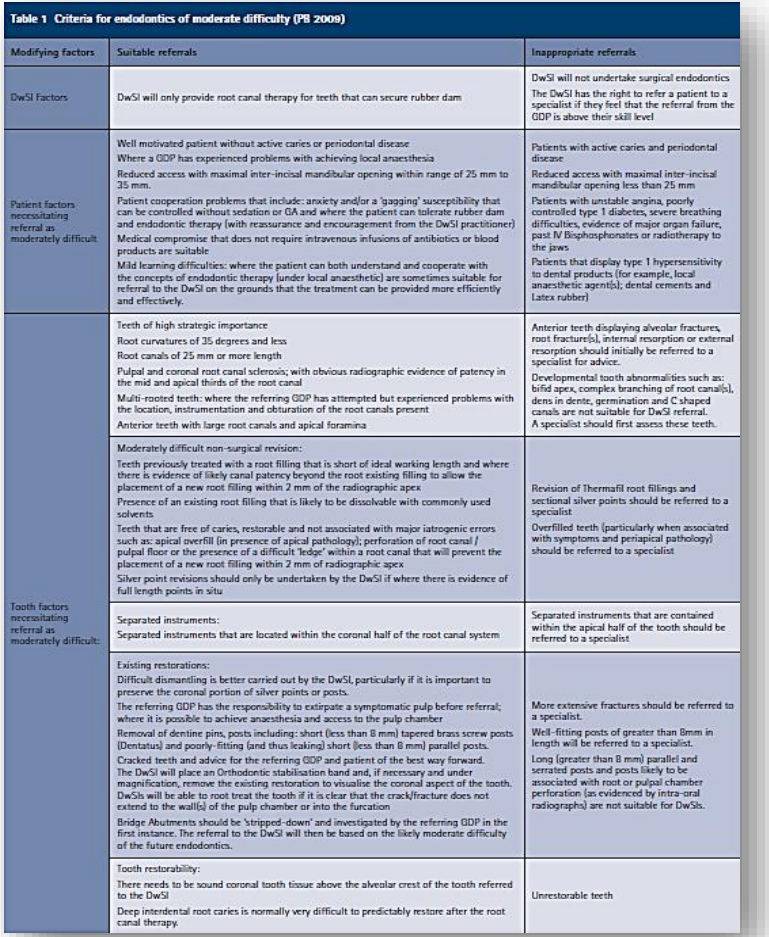
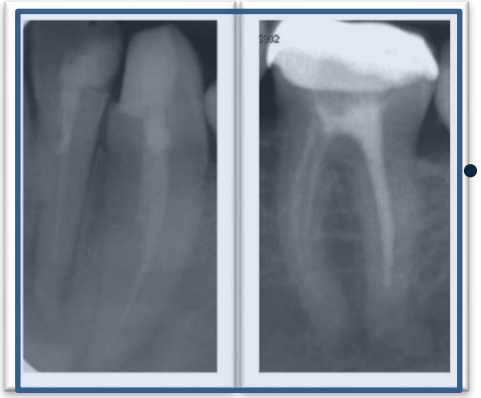
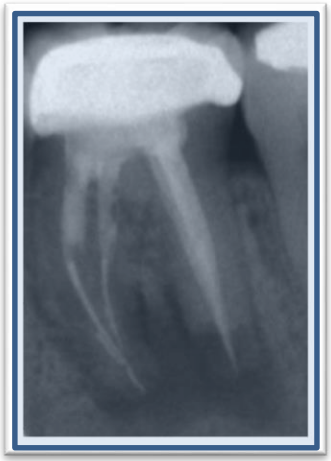


**Table 1 Criteria for endodontics of moderate difficulty (PB 2009)**

| Modifying factors | Suitable referrals | Inappropriate referrals |
|---|---|---|
| DwSI Factors | DwSI will only provide root canal therapy for teeth that can secure rubber dam | DwSI will not undertake surgical endodontics<br>The DwSI has the right to refer a patient to a specialist if they feel that the referral from the GDP is above their skill level |
| Patient factors necessitating referral as moderately difficult | Well motivated patient without active caries or periodontal disease<br>Where a GDP has experienced problems with achieving local anaesthesia<br>Reduced access with maximal inter-incisal mandibular opening within range of 25 mm to 35 mm.<br>Patient cooperation problems that include: anxiety and/or a 'gagging' susceptibility that can be controlled without sedation or GA and where the patient can tolerate rubber dam and endodontic therapy (with reassurance and encouragement from the DwSI practitioner)<br>Medical compromise that does not require intravenous infusions of antibiotics or blood products are suitable<br>Mild learning difficulties: where the patient can both understand and cooperate with the concepts of endodontic therapy (under local anaesthetic) are sometimes suitable for referral to the DwSI on the grounds that the treatment can be provided more efficiently and effectively. | Patients with active caries and periodontal disease<br>Reduced access with maximal inter-incisal mandibular opening less than 25 mm<br>Patients with unstable angina, poorly controlled type 1 diabetes, severe breathing difficulties, evidence of major organ failure, past IV Bisphosphonates or radiotherapy to the jaws<br>Patients that display type 1 hypersensitivity to dental products (for example, local anaesthetic agent(s); dental cements and Latex rubber) |
| Tooth factors necessitating referral as moderately difficult: | Teeth of high strategic importance<br>Root curvatures of 35 degrees and less<br>Root canals of 25 mm or more length<br>Pulpal and coronal root canal sclerosis; with obvious radiographic evidence of patency in the mid and apical thirds of the root canal<br>Multi-rooted teeth: where the referring GDP has attempted but experienced problems with the location, instrumentation and obturation of the root canals present<br>Anterior teeth with large root canals and apical foramina | Anterior teeth displaying alveolar fractures, root fracture(s), internal resorption or external resorption should initially be referred to a specialist for advice.<br>Developmental tooth abnormalities such as: bifid apex, complex branching of root canal(s), dens in dente, germination and C shaped canals are not suitable for DwSI referral. A specialist should first assess these teeth. |
| | Moderately difficult non-surgical revision:<br>Teeth previously treated with a root filling that is short of ideal working length and where there is evidence of likely canal patency beyond the root existing filling to allow the placement of a new root filling within 2 mm of the radiographic apex<br>Presence of an existing root filling that is likely to be dissolvable with commonly used solvents<br>Teeth that are free of caries, restorable and not associated with major iatrogenic errors such as: apical overfill (in presence of apical pathology); perforation of root canal / pulpal floor or the presence of a difficult 'ledge' within a root canal that will prevent the placement of a new root filling within 2 mm of radiographic apex<br>Silver point revisions should only be undertaken by the DwSI if where there is evidence of full length points in situ | Revision of Thermafil root fillings and sectional silver points should be referred to a specialist<br>Overfilled teeth (particularly when associated with symptoms and periapical pathology) should be referred to a specialist |
| | Separated instruments:<br>Separated instruments that are located within the coronal half of the root canal system | Separated instruments that are contained within the apical half of the tooth should be referred to a specialist |
| | Existing restorations:<br>Difficult dismantling is better carried out by the DwSI, particularly if it is important to preserve the coronal portion of silver points or posts.<br>The referring GDP has the responsibility to extirpate a symptomatic pulp before referral; where it is possible to achieve anaesthesia and access to the pulp chamber<br>Removal of dentine pins, posts including: short (less than 8 mm) tapered brass screw posts (Dentatus) and poorly-fitting (and thus leaking) short (less than 8 mm) parallel posts.<br>Cracked teeth and advice for the referring GDP and patient of the best way forward.<br>The DwSI will place an Orthodontic stabilisation band and, if necessary and under magnification, remove the existing restoration to visualise the coronal aspect of the tooth. DwSIs will be able to root treat the tooth if it is clear that the crack/fracture does not extend to the wall(s) of the pulp chamber or into the furcation<br>Bridge Abutments should be 'stripped-down' and investigated by the referring GDP in the first instance. The referral to the DwSI will then be based on the likely moderate difficulty of the future endodontics. | More extensive fractures should be referred to a specialist.<br>Well-fitting posts of greater than 8mm in length will be referred to a specialist.<br>Long (greater than 8 mm) parallel and serrated posts and posts likely to be associated with root or pulpal chamber perforation (as evidenced by intra-oral radiographs) are not suitable for DwSIs. |
| | Tooth restorability:<br>There needs to be sound coronal tooth tissue above the alveolar crest of the tooth referred to the DwSI<br>Deep interdental root caries is normally very difficult to predictably restore after the root canal therapy | Unrestorable teeth |

# Endodontic revision can we predict what will work?

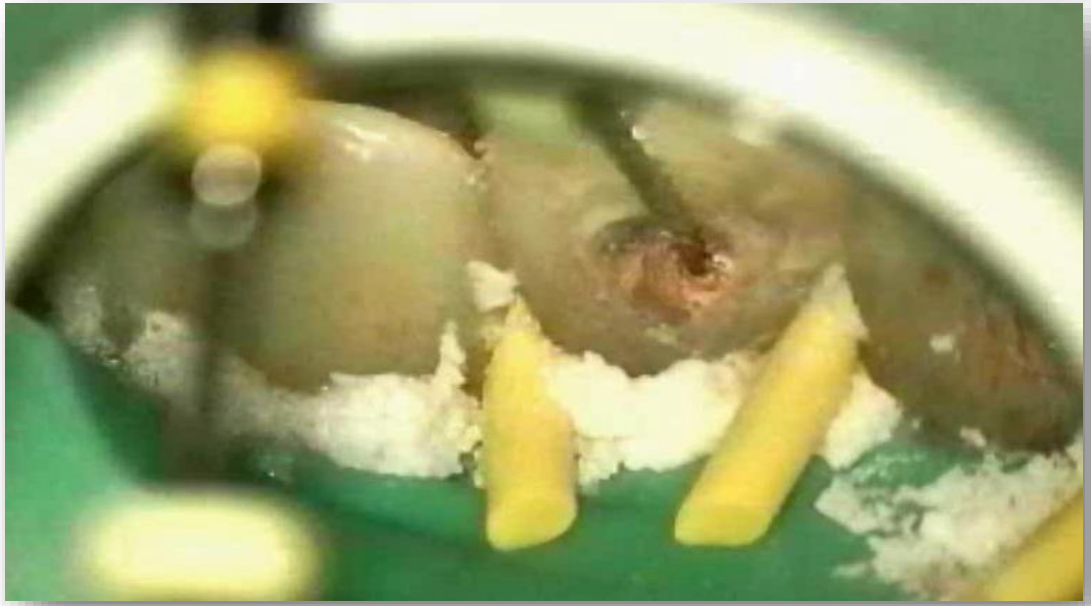


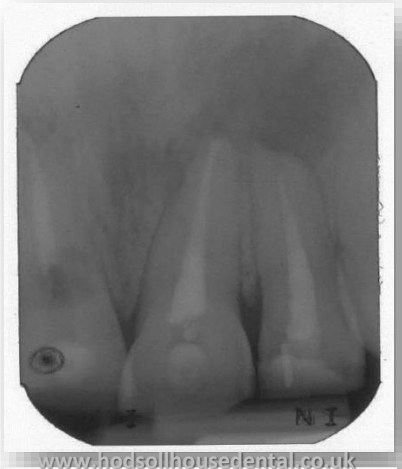


- The poorer the quality of the primary root filling in situ the easier and more predictable will be your re-treatment. You can then expect a 80% positive outcome (NG et al 2011) if you can achieve your objectives
- Ideally you want to revise a short poorly obturated root fillings!
- High risk: perforations, resorption, ledges, blockages, iatrogenic error – anything that stops you reaching your objective

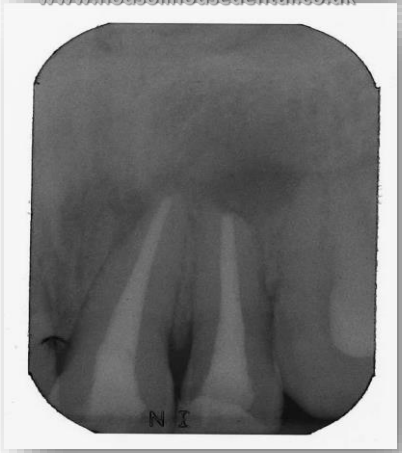
***The 'Toronto' study***

# We need to get to apex and patency ASAP with revision work









International Endodontic Journal (1994) 27, 75–81

**Retreatment or radiographic monitoring in endodontics**

J.-P. VAN NIEUWENHUYSEN, M. AOUAR & W. D'HOORE*
*Department of Dental Medicine and Stomatology, and *Department of Hospital Administration, Catholic University of Louvain, Belgium*

Re-Treatment usually means removing a GP - do not be scared of the stuff it will not bite! – You need to get to the end of the canal very early and achieve patency

**Ng et al (2008):**
Existing Apical Area
Good Coronal Seal
Obturation within 2mm from radiographic apex
Voidless and well condensed obturation

## Is our Endodontics going to work?

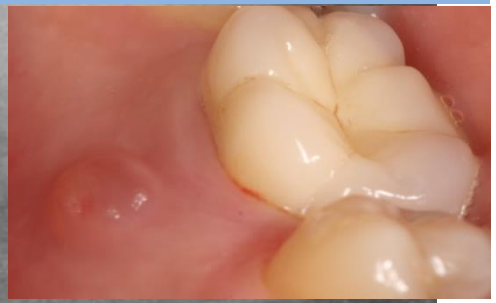
***Intra-operative:***

- Achieving patency (Two-fold increase)
- Canal prepared short of terminus (12% lower for every 1mm short)
- Long root filling (62% lower odds of success)
- Using Chlorhexidine as Irrigant (53% lower)
- Using EDTA (Re-RCTx) (Two-fold increase)
- Inter-appointment swelling/pain (47% lower)

*Ng, Mann & Gulabivala; International Endodontic Journal, 2011*

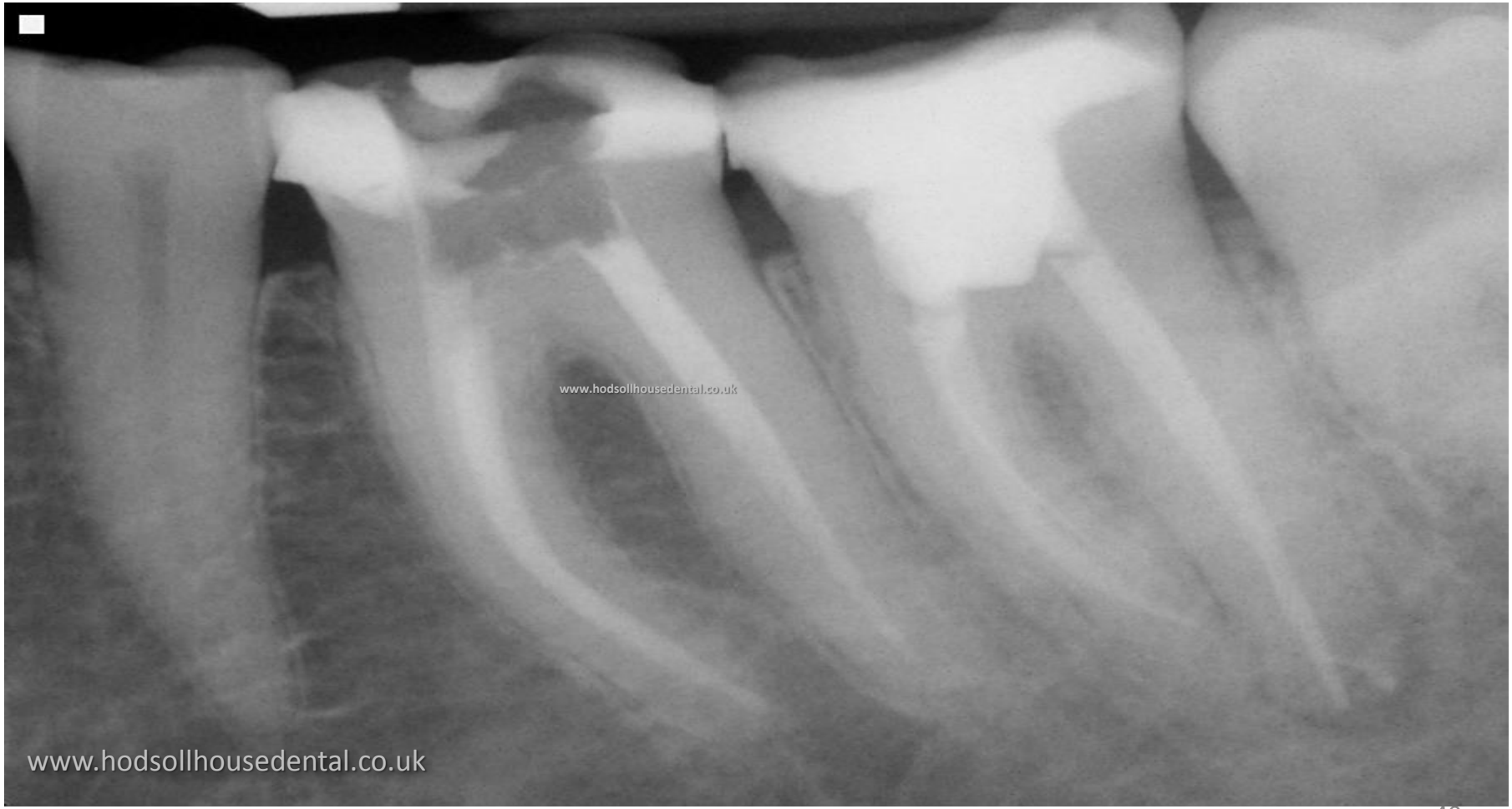
***Pre-operative factors that made a difference to outcome:***

- **Presence of periapical lesion (49% lower)**
- **Size of periapical lesion (14% lower for every 1mm)**
- **Presence of sinus (48% lower)**
- **Presence of root perforation (56% lower)**





*Ng, Mann & Gulabivala; International Endodontic Journal, 2011*


www.hodsollhousedental.co.uk
www.hodsollhousedental.co.uk

# Complexity assessment: levels of endodontic care

**ASSESSMENT**
**Risk screening & entry criteria**

- **Stable oral environment should have been achieved and all caries managed (there should be no active caries present)**
- **Teeth that can be restored and made functional after removal of disease, sound coronal tooth tissue above the alveolar crest, 2mm high and 1 mm width**
- **Endodontic treatment not precluded by either patient cooperation or medical history**

## Level 1 Complexity

**Diagnosis and management of patients with uncomplicated endodontic treatment need including but not limited to:**

- Root canals with a curvature <15o to root axis and considered negotiable, from radiographic evidence, through their entire length
- No root canal obstruction or damaged access, e.g. perforation
- Previously treated teeth with a poorly condensed root filling short of ideal working length where there is evidence of likely canal patency beyond the existing root filling
- Routine dismantling of plastic restorations, crowns and bridges to assess restorability
- Pulp extirpation as an emergency treatment
- Incision and drainage as an emergency treatment

This also includes any endodontic treatment not covered in level 2 or 3 complexity

## Level 2 Complexity

**The management of patients with teeth requiring endodontic treatment or retreatment where:**

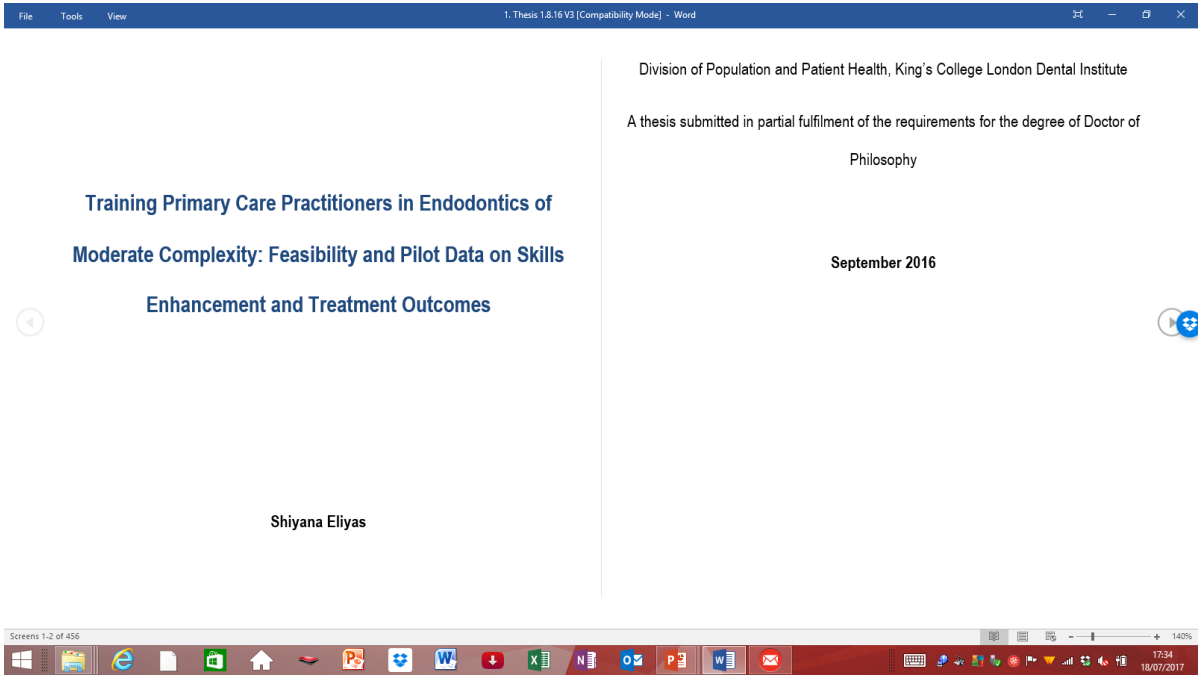
- Root canal curvature >15o but <40o
- Canals NOT considered negotiable in the coronal 1/3 but patent thereafter, based on radiographic evidence
- Where the referring GDP has attempted but experienced problems with location, instrumentation or obturation of the root canals
- Teeth > 25mm in length
- Incomplete root development
- Limitation of mouth opening (between 25mm and 35mm inter-incisal opening).
- Removal of fractured posts, less than 8mm in length?
- Well condensed root fillings short of ideal working length with evidence of likely patency beyond existing root filling where previous treatment did not involve complicating factors

## Level 3 Complexity

**The management of patients with teeth requiring endodontic treatment or retreatment where:**

- Root canals curvature >40o
- Recurved (S-shaped) root canals
- Canals are NOT considered negotiable through their entire length based on radiographic evidence
- Developmental tooth anomalies present, e.g. bifid apex, complex branching of root canal(s), *dens in dente*, gemination, and C-shaped canals).
- Long term planning and management of trauma where severity extends beyond enamel & dentine; usually involving multiple teeth
- Teeth with iatrogenic damage or pathological resorption are to be managed
- Severe limitation of mouth opening. (inter-incisal opening less than 25mm)
- NiTi instruments required.
- Complicated retreatments are required (e.g. well-fitting posts longer than 8mm; posts thought to be associated with a perforation; carrier-based obturations; silver points; fractured instruments; well condensed root fillings to length; overfilled roots with apical lesions).
- Major iatrogenic errors e.g. large ledges, blocked canals, perforations where these can be rectified
- Periradicular surgery

# Shiyana Eliyas, who took over from me at SGUG when I moved to HEE did her PhD on the educational outputs and processes of this course – we used a very different model to your Diploma



File Tools View 1. Thesis 1.8.16 V3 [Compatibility Mode] - Word

Division of Population and Patient Health, King's College London Dental Institute

A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy

**Training Primary Care Practitioners in Endodontics of Moderate Complexity: Feasibility and Pilot Data on Skills Enhancement and Treatment Outcomes**

**September 2016**

**Shiyana Eliyas**

Screens 1-2 of 456 140%

17:34 18/07/2017

# Engagement

- Patients
- Commissioners - pilot and after
- Agreement on MCN and Triaging forms and three levels of complexity
- Referrers (GDP and others) to know the proposed system
- Select Training teams & Trainees
- Buy in with Specialists and Secondary Care

# A suitable training team: DwSI Course Teaching Team

- Peter Briggs
- Shiyana Eliyas
- Glen Karunayake
- Richard Porter
- Tracy Watford / Linda Holden (nurse trainers)

# Building Blocks for Pilot London DwSI (Endo)

- The dentists (trainees)
- The NHS environment – suitability for DwSI practice
- The training (Clinical - log book and long and short defended cases) / Simulation skills / WBAs / Knowledge base / Rx)
- Assessment – Formative / Summative at 12 & 24 months (two attempts for each) / external validation
- Assessment of the training delivery – did the programme do what it set out to?

# Your endodontic Diploma

- Self-funded 800 hours of verified education
- QM and QA by UCL – they have their staff deliver the education and assess your progress (formative and summative assessment)
- External observes standards
- Will provide you with a number of verifiable hours that you may choose to be taken into account with mediated entry onto the specialist list and recognition as a Tier II practitioner

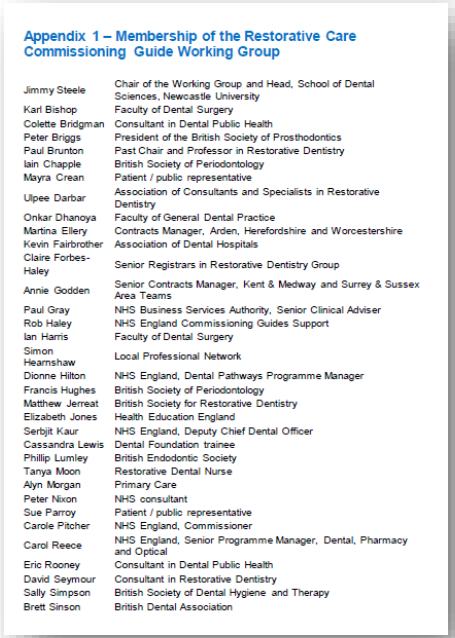
# Thinking ahead

- Steele Report – commissioning change
- NHS Commissioning guides – clinical complexity – matching those with skills to correct workplace within NHS
- Tier II NHS practitioners – enhanced skills
- Contract commissioning – provider / performer
- Education and training

# Opportunities

- Contract reform might allow you to consider working in the NHS
- Opportunity for you to teach / train
- Drive up standards
- Reduce litigation
- Rebuild trust with public – NHS – EasyJet set up

# LPN Restorative Working Group for London



**Appendix 1 – Membership of the Restorative Care Commissioning Guide Working Group**

| | |
|---|---|
| Jimmy Steele | Chair of the Working Group and Head, School of Dental Sciences, Newcastle University |
| Karl Bishop | Faculty of Dental Surgery |
| Colette Bridgman | Consultant in Dental Public Health |
| Peter Briggs | President of the British Society of Prosthodontics |
| Paul Brunton | Past Chair and Professor in Restorative Dentistry |
| Iain Chapple | British Society of Periodontology |
| Mayra Crean | Patient / public representative |
| Ulpee Darbar | Association of Consultants and Specialists in Restorative Dentistry |
| Onkar Dhanoya | Faculty of General Dental Practice |
| Martina Ellery | Contracts Manager, Arden, Herefordshire and Worcestershire |
| Kevin Fairbrother | Association of Dental Hospitals |
| Claire Forbes-Haley | Senior Registrars in Restorative Dentistry Group |
| Annie Godden | Senior Contracts Manager, Kent & Medway and Surrey & Sussex Area Teams |
| Paul Gray | NHS Business Services Authority, Senior Clinical Adviser |
| Rob Haley | NHS England Commissioning Guides Support |
| Ian Harris | Faculty of Dental Surgery |
| Simon Hearnshaw | Local Professional Network |
| Dionne Hilton | NHS England, Dental Pathways Programme Manager |
| Francis Hughes | British Society of Periodontology |
| Matthew Jerreat | British Society for Restorative Dentistry |
| Elizabeth Jones | Health Education England |
| Serbjit Kaur | NHS England, Deputy Chief Dental Officer |
| Cassandra Lewis | Dental Foundation trainee |
| Phillip Lumley | British Endodontic Society |
| Tanya Moon | Restorative Dental Nurse |
| Alyn Morgan | Primary Care |
| Peter Nixon | NHS consultant |
| Sue Parroy | Patient / public representative |
| Carole Pitcher | NHS England, Commissioner |
| Carol Reece | NHS England, Senior Programme Manager, Dental, Pharmacy and Optical |
| Eric Rooney | Consultant in Dental Public Health |
| David Seymour | Consultant in Restorative Dentistry |
| Sally Simpson | British Society of Dental Hygiene and Therapy |
| Brett Sinson | British Dental Association |

- Good evening, welcome to our first stand-alone meeting
- We wanted good representation from Level I, II & III practitioners
- We want representation from PHE, HEE, NHSE, Clinicians & patients

# Our Roles and Responsibilities

- Oversee establishment of the MCNs & ensure conflicts of interest, geography and resistance to change are managed successfully
- Oversee establishment of the referral management systems that are effective and work in the patients best interest.
- Ensure commissioning is clinically based
- Assist in assuring that patient and public are consulted and kept informed
- Ensure that the quality of commissioned services is consistent and of the highest quality

NHS Commissioning
Primary Care
Dental
**Guides for Commissioning Dental Specialities and their implementation**
Dental policies and procedures
Dental resources

Home > NHS Commissioning > Primary Care > Dental >
Guides for Commissioning Dental Specialities and their implementation

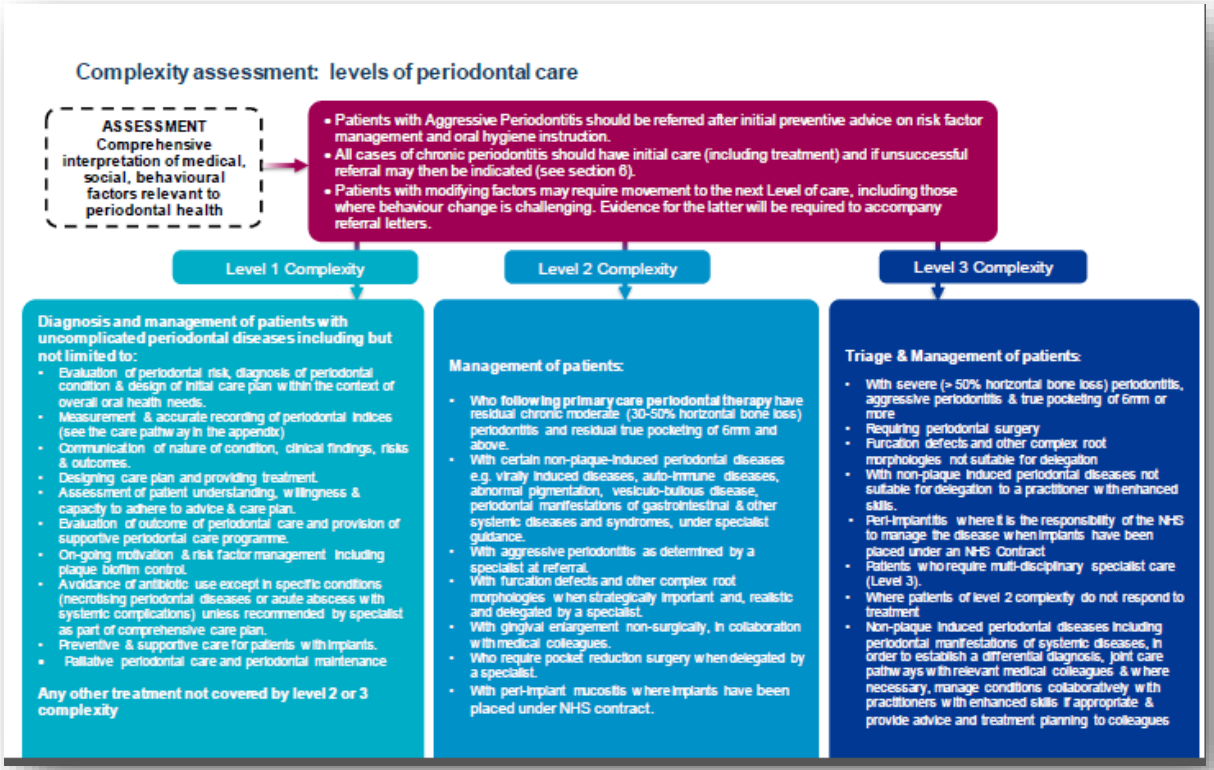
# Guides for Commissioning Dental Specialities and their implementation

NHS England's Guides for Commissioning Dental Specialities relate to the commissioning of NHS dental care in England. This series has been collaboratively produced by the dental profession and commissioners overseen by Chief Dental Officer England. NHS England has worked with Health Education England (HEE), Public Health England (PHE), specialist societies, patients and the public.

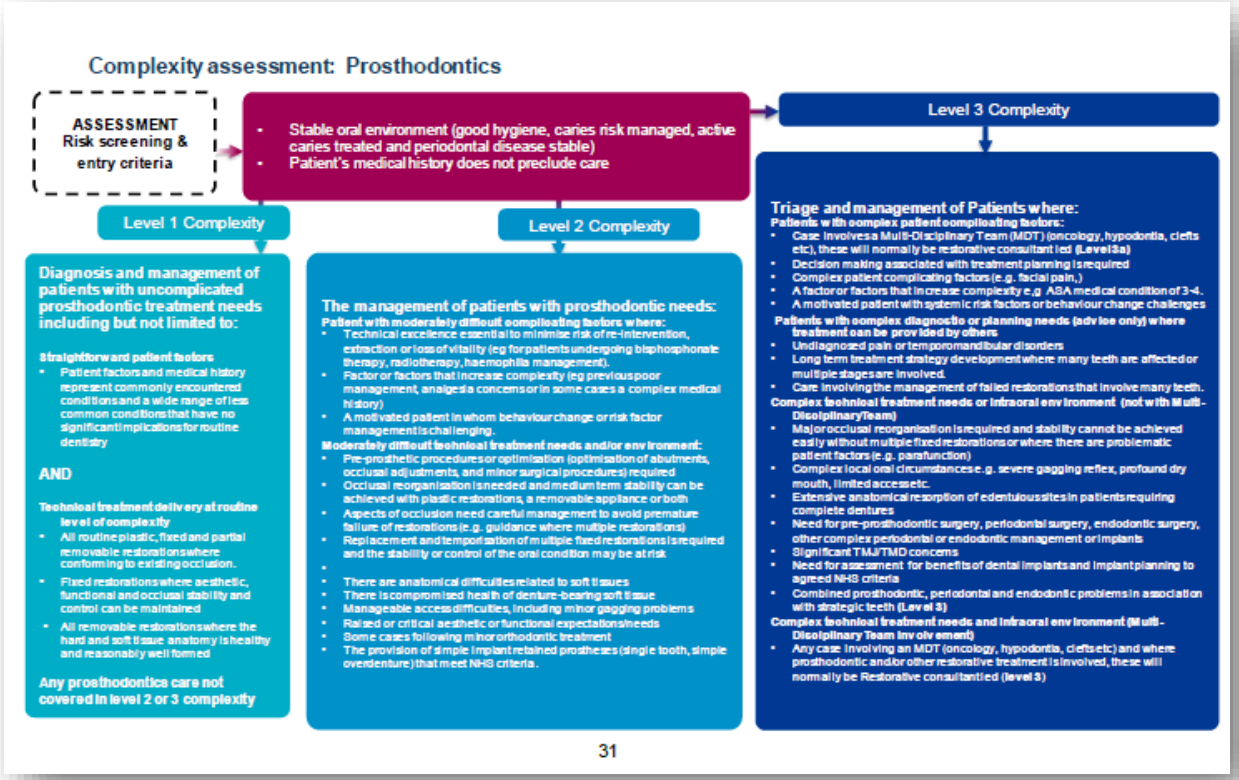
Designed primarily for NHS England commissioners; the Guides are intended to address the need for greater national level standardisation in NHS England's commissioning of dental care as well as providing clarity and consistency around the dental services the NHS provides.

The Guides support the aspiration to breakdown the artificial divide between primary dental care and hospital specialists in order to allow all providers to work together to focus on patients and their needs.

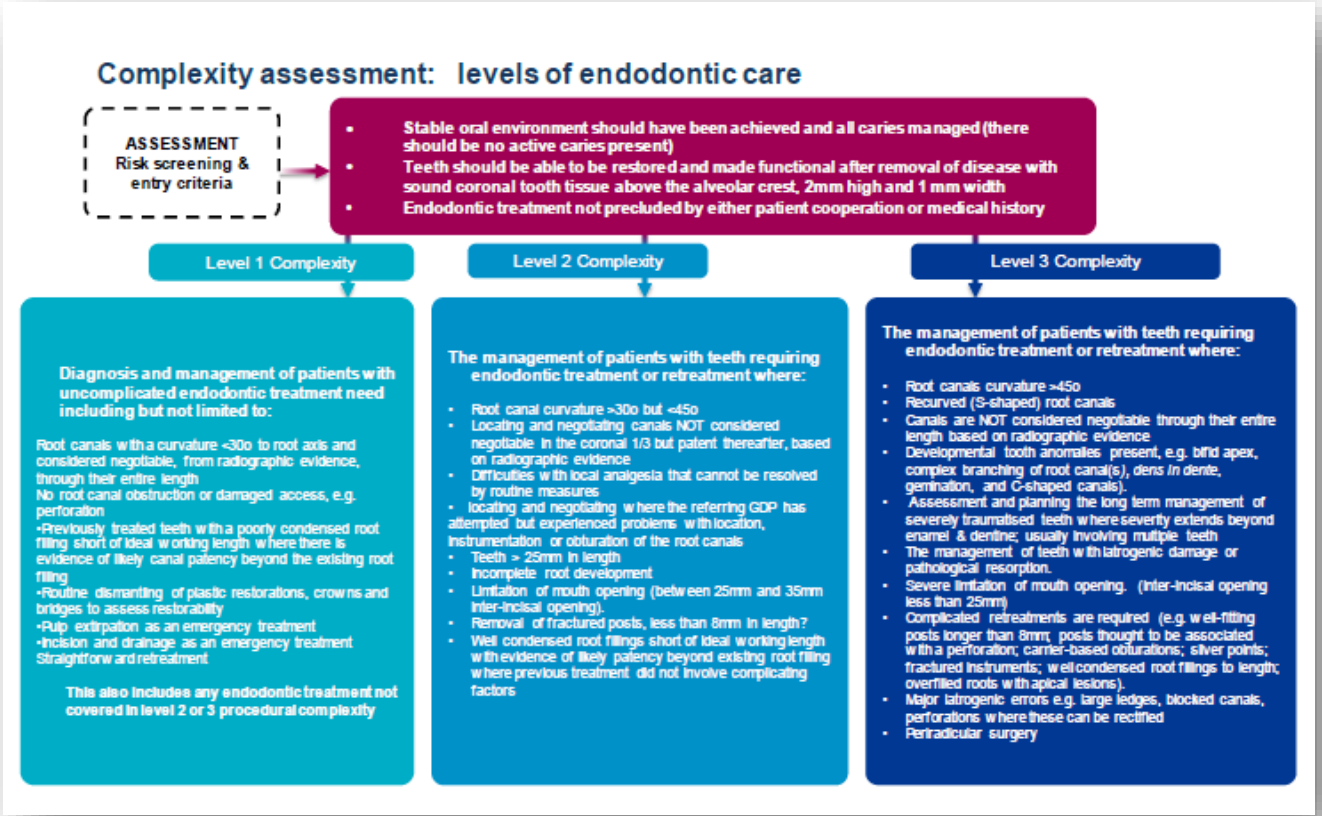
# Complexity levels have been agreed



# Complexity levels have been agreed



# Complexity levels have been agreed



# Complexity assessment: levels of endodontic care

**ASSESSMENT**
**Risk screening & entry criteria**

- Stable oral environment should have been achieved and a
  should be no active caries present)
- Teeth should be able to be restored and made functional a
  sound coronal tooth tissue above the alveolar crest, 2mm
- Endodontic treatment not precluded by either patient coop

## Level 1 Complexity

**Diagnosis and management of patients with uncomplicated endodontic treatment need including but not limited to:**

Root canals with a curvature <30o to root axis and considered negotiable, from radiographic evidence, through their entire length
No root canal obstruction or damaged access, e.g. perforation
•Previously treated teeth with a poorly condensed root filling short of ideal working length where there is evidence of likely canal patency beyond the existing root filling
•Routine dismantling of plastic restorations, crowns and bridges to assess restorability
•Pulp extirpation as an emergency treatment
•Incision and drainage as an emergency treatment
Straightforward retreatment

**This also includes any endodontic treatment not covered in level 2 or 3 procedural complexity**

## Level 2 Complexity

**The management of patients with teeth requiring endodontic treatment or retreatment where:**

- Root canal curvature >30o but <45o
- Locating and negotiating canals NOT considered negotiable in the coronal 1/3 but patent thereafter, based on radiographic evidence
- Difficulties with local analgesia that cannot be resolved by routine measures
- locating and negotiating where the referring GDP has attempted but experienced problems with location, instrumentation or obturation of the root canals
- Teeth > 25mm in length
- Incomplete root development
- Limitation of mouth opening (between 25mm and 35mm inter-incisal opening).
- Removal of fractured posts, less than 8mm in length?
- Well condensed root fillings short of ideal working length with evidence of likely patency beyond existing root filling where previous treatment did not involve complicating factors

# Commissioning Guides & what they mean to us?

- Implementing the commissioning guides will be one of the main roles of the LPN for the foreseeable future

- The LPN will act a vital link between NHS England as commissioners and the profession

# We are all in this together and need to make it work

NHS England produced the *Five Year Forward View* to set out a shared view of the challenges ahead and the choices about health and care services in the future, it applies to all services including dentistry.

This consensus on the need for change and the shared ambition for the future is the context in which these Commissioning Guides for Dental specialties have been produced. Clinicians, commissioners and patients have contributed to this work to describe how dental care pathways should develop to deliver consistency and excellence in commissioning NHS dental services across the spectrum of providers to benefit patients.

In order to deliver this vision and implement the pathways `a coalition of the willing' NHS England partners, HEE and PHE, specialist societies and others who have contributed to their development will need to respond in the implementation phase by unlocking structural and cultural barriers to support transformational change in dental service delivery.

It's a future that will dissolve the artificial divide between primary dental care and hospital specialists; one that will free specialist expertise from outdated service delivery and training models so all providers can work together to focus on patients and their needs.

**We provide the clinical advice to the commissioners – we hopefully understand the problems in London, the skills mix, the training needs and the environments where level I, II & III can be provided**

# Considerations for LPNs

- Local health needs when advising NHSE London team on commissioning
- To consult with London Patients & Public
- To consult with other local stakeholders such as HEE, HWBBs, Local Authorities, PHE

# Restorative Teams Impact

- In future all providers will need to adhere to consistent:
  - Care pathways
  - Clinical assessment and referral management
  - Referral protocols and acceptance criteria
  - Outcome measures
  - Minimum service specifications

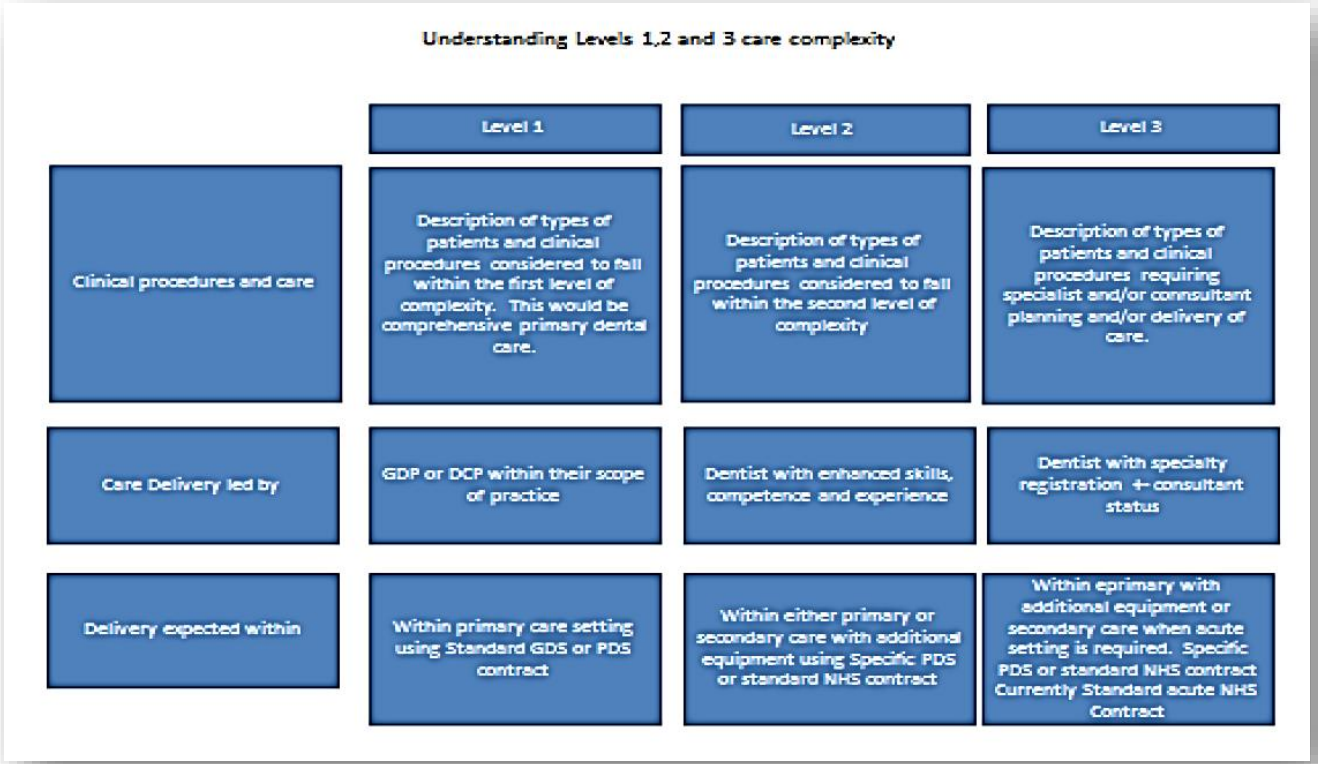
# Key Messages for Dental Teams

- The guides represent a direction of travel rather than a “big bang” approach
- The commissioning guides are not concerned with reducing costs rather, the release of resource from one part of a system and using it more effectively in another.
- An effective Managed Clinical network for each specialty will need to be established

# Key messages for the Dental Team

- An effective referral management service is necessary for the care pathways to operate successfully
- The NHS needs to move swiftly to all electronic referrals, including radiographs
- The guides will be used as a basis for future commissioning and procurement

# Understanding complexity level and what this means to where provided and by whom



# Specialist Providers – in Primary & Secondary Care – Roles and Responsibilities

- Participate in the local MCN and Referral
- Management service
- Use the nationally agreed pathway
- Minimum service specification
- Ability to tender for services
- Outcome measures PREMS and PROMS

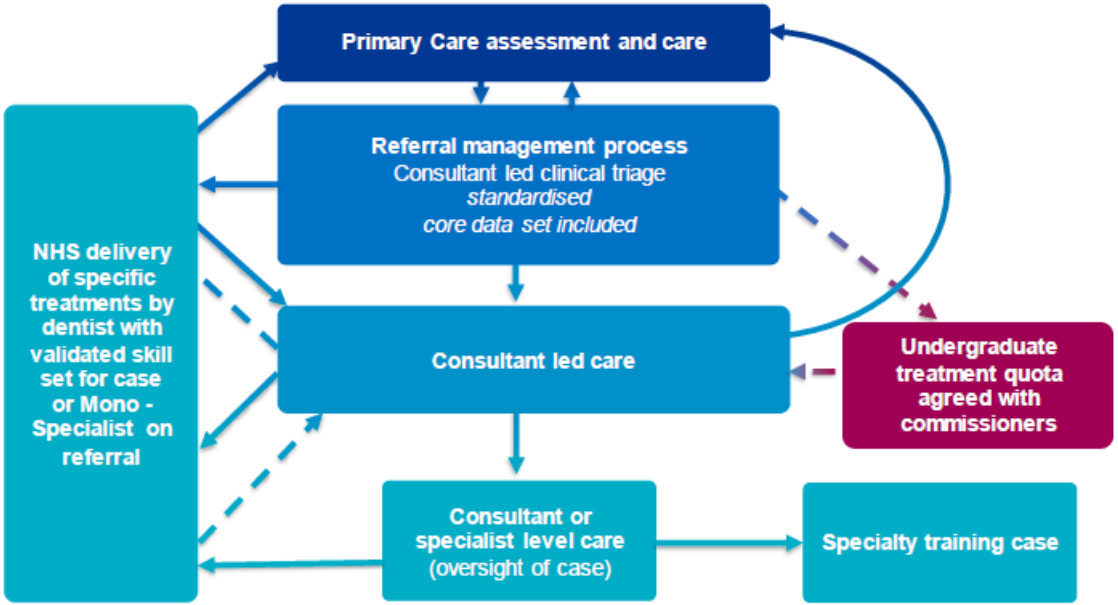
# GDPs: what will the guides mean?

- GDPs will have a set of guidelines for referral with consistent referral forms
- There will be a single point for referral. They will no longer be able to refer directly to a specialist.
- The quality of referrals will be more closely monitored and poor quality referrals returned.
- Support would be provided for those clinicians lacking core clinical skills (either self-referred or identified through the referral management system) to enable them to deliver Level 1 care competently.

# Patient Journey

## 10 Summarised Illustrative Patient Journey on referral

### 10.1 Illustrative patient journey Restorative Dentistry



# The End and good luck

## Dentists with extended skills: the challenge of innovation

M. Al-Haboubi,[1] S. Eliyas,[2] P. F. A. Briggs,[3] E. Jones,[4] R. R. Rayan[5] and J. E. Gallagher[4,6]

IN BRIEF

- Provides a narrative of the development of the model of dentists with special interests.
- Highlights the support of different stakeholders on a pilot initiative to train DwSIs in endodontics.
- Investigates the potential of such initiatives to meet the need for moderately difficult endodontics.
- Provides insight into how GDPs might wish to use DwSIs in future.

RESEARCH

**Background** The aim was to obtain stakeholders' views on the former London Deanery's joint educational service development initiative to train dentists with a special interest (DwSIs) in endodontics in conjunction with the National Health Services (NHS) and examine the models of care provided. **Methods** A convergent parallel mixed methods design including audit of four different models of care, semi-structured interviews of a range of key stakeholders (including the DwSI trainees) and questionnaire surveys of patients and primary care dentists. **Results** Eight dentists treated over 1,600 endodontic cases of moderate complexity over a two year training period. A retrospective audit of four schemes suggested that first molars were the most commonly treated tooth (57%; n = 341). Patients who received care in the latter stages of the initiative were 'satisfied' or 'very satisfied' with the service (89%; n = 98). Most dental practitioners agreed that having access to such services would support the care of their patients (89%; n = 215) with 89%; (n = 214) supporting the view that DwSIs should accept referrals from outside of their practice. **Conclusion** This initiative, developed to provide endodontic care of medium complexity in a primary care setting, received wide support from stakeholders including patients and primary care dentists. The implications for care pathways, commissioning and further research are discussed.

### BACKGROUND

Endodontic care, as with most of dentistry, is predominately provided in primary care settings, across the National Health Service (NHS) and private systems, with cases of high complexity being referred to specialists, in either general practice or hospital settings. There has been a rise in referrals to hospital-based services from primary dental care since the introduction of the new dental contract in 2006,[1] while hospitals are also required to manage waiting lists effectively and avoid patients waiting more than 18 weeks for care.[2] Published guidelines on complexity of endodontics produced by the Royal College of Surgeons of England (RCS Eng)[3] have had limited impact on care nationally, while those produced by the American Association of Endodontics (AAE)[4] have been used to inform referrals to specialist services.

Within London, specialist training in endodontics is either self-funded by trainees who tend to then work in the private sector, or as part of the publically funded wider restorative dentistry training programme that produces hospital-based consultants. The latter can also opt to work within the private sector. Evolving health policy has emphasised changes to the system of educating and training the healthcare workforce,[5] including transfer of the responsibility for education and training from national to local level and ensuring flexibility and innovation in the future provision of services.[6] Developing intermediate education to build and recognise additional skills has become a focus for the NHS in the past decade,[7, 8] as has providing access for routine care in a setting closer to home through a broader range of primary care services.[9]

In 2004, the Department of Health and Faculty of General Dental Practitioners (UK) adopted the model of practitioners with special interests (PwSIs) from medicine and formally introduced a policy framework for the concept of dentists with special interests (DwSIs) within the NHS. This involved dentists working in primary care providing additional dental services to those within their generalist role.[11] Two years later the same authorities set out the process of NHS appointments of DwSIs in endodontics in a guidance document.[12] Similar schemes were described across five other competency areas of dentistry.[13–18]

A DwSI in endodontics was defined as being able to demonstrate a continuing level of competence in their generalist activity, an agreed level of competence in endodontics, and being contracted to the NHS to manage a number of patients requiring endodontic treatment of moderate difficulty.[19] Published research on pilot schemes with DwSIs in oral surgery suggests that minor oral surgery may be cost efficient, support patient management and improve access for patients,[20] and DwSIs in periodontics may improve access and produce positive clinical outcomes.[21]

In 2009 the London Deanery, in conjunction with a number of London Primary Care Trusts (PCTs), piloted and financed a two-year programme to train DwSIs in endodontics within the NHS in response to concerns about pressure on hospitals, skills and capacity in primary

[1]Queen Mary, University of London, Barts and the London School of Medicine and Dentistry, Centre for Clinical and Diagnostic Oral Sciences, Institute of Dentistry, London, E1 2AD, [2]Charles Clifford Dental Hospital, Sheffield Teaching Hospitals NHS Trust, Wellesley Road, Sheffield, S10 2SZ, [3]Department of Restorative Dentistry, Maxillofacial Unit, St. George's Hospital, London, SW17 0QT, [4]UCL Eastman Dental Institute (Formerly London Deanery), Stewart House, 32 Russell Square, London, WC1B 5DN, [5]Formerly London Deanery, Stewart House, 32 Russell Square, London, WC1B 5DN, [6]King's College London Dental Institute at Guy's, King's College and St Thomas's Hospitals, Division of Population and Patient Health, Denmark Hill Campus, Bessemer Road, London, SE5 9RS. *Correspondence to: Dr Jennifer E. Gallagher Email: jenny.gallagher@kcl.ac.uk

Online article number 1E.
Refereed Paper – accepted 17 April 2014
DOI: 10.1038/sj.bdj.2014.422
*British Dental Journal 2014; 217: 1E