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 at 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.
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?

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

- 1 Endodontics
- 2 Crown & Bridge
- 3 Periodontics
- 4 Nerve Damage
- 5 Implants
- 6 Orthodontics
- 7 Veneers
- 8 Oral Surgery
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
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. Poyser² and P. F. Briggs²

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 consume 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.
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.
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 neurologists diagnosed psychogenic polydipsia caused by the excessive water consumption.
- This led to dilution hyponatraemia and encephalopathy (danger to life: low sodium level).
- She made a steady recovery and her serum sodium normalised after eight days.
- The patient was discharged with a short course of 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?

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

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

- Idiopathic/iatrogenic
- Vascular
- Inflammatory
- Traumatic
- Autoimmune
- Metabolic
- Infective
- Neoplastic
- Degenerative
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.

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endodontology</td>
<td>203</td>
<td>62</td>
<td>265</td>
</tr>
</tbody>
</table>
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.
For what were we training?

Moderate Difficulty

- De-Novo
- Re-Treatment
- Restorability
- Strategic Worth
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.
We need to get to apex and patency ASAP with revision work
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

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)

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
Complexity assessment: levels of endodontic care

- 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 1mm width
- Endodontic treatment not precluded by either patient cooperation or medical history

**ASSESSMENT**
Risk screening &
entry criteria

**Level 1 Complexity**

Diagnosis and management of patients with uncomplicated endodontic treatment need:
- Root canal with a curvature >15° 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
- Pulpectomy 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 >15° but <40°
- Canals NOT considered negotiable in the coronal 1/3 but patent otherwise, based on radiographic evidence
- Where the referring radiograph 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 canal curvature >40°
- Curved (6-shaped) root canals
- Canals are NOT considered negotiable through their entire length based on radiographic evidence
- Developmental tooth anomalies present, e.g. birth defects, complex branching of root canals, dentin defects, unionization, and C-shaped canals
- Long-term planning and management of trauma where severity extends beyond enamel & dentin, 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)
- NIH Instruments required
- Complicated retreatments are required (e.g. well-filling 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; overtreated roots with apical lesions)
- Major iatrogenic errors e.g. large ledges, blocked canals, perforations where these can be rectified
- Periapical 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.
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
• 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.
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 all teeth should be no active caries present
- Teeth should be able to be restored and made functional and sound coronal tooth tissue above the alveolar crest, 2mm below
- Endodontic treatment not precluded by either patient cooperation

Level 1 Complexity

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

Root canals with a curvature <30° to root axis and considered negligible, 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 and 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 >30° but <45°
- Locating and negotiating canals NOT considered negotiable in the coronal 1/3 but patent thereafter, based on radiographic evidence
- Difficulties with local anaesthesia 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
Understand complexity level and what this means to where provided and by whom.

<table>
<thead>
<tr>
<th>Clinical procedures and care</th>
<th>Description of types of patients and clinical procedures considered to fall within the first level of complexity. This would be comprehensive primary dental care.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care Delivery led by</td>
<td>GDP or DCP within their scope of practice.</td>
</tr>
<tr>
<td>Delivery expected within</td>
<td>Within primary care setting using Standard GDS or PDS contract.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description of types of</td>
<td>Description of types of patients and clinical procedures considered to fall within the second level of complexity.</td>
</tr>
<tr>
<td>patients and clinical</td>
<td>Dentist with enhanced skills, competence and experience.</td>
</tr>
<tr>
<td>procedures considered to fall</td>
<td>Within either primary or secondary care with additional equipment using Specific PDS or standard NHS contract.</td>
</tr>
<tr>
<td>within the first level of</td>
<td>Within primary with additional equipment or secondary care when acute setting is required. Specific PDS or standard NHS contract.</td>
</tr>
<tr>
<td>complexity. This would be</td>
<td>Currently Standard acute NHS Contract.</td>
</tr>
<tr>
<td>comprehensive primary dental</td>
<td></td>
</tr>
<tr>
<td>care.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level 3</th>
<th>Description of types of patients and clinical procedures requiring specialist and/or consultant planning and/or delivery of care.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dentist with specialty</td>
<td></td>
</tr>
<tr>
<td>registration + consultant</td>
<td></td>
</tr>
<tr>
<td>status</td>
<td></td>
</tr>
</tbody>
</table>
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.
10 Summarised Illustrative Patient Journey on referral

10.1 Illustrative patient journey Restorative Dentistry

- Primary Care assessment and care
- Referral management process
  - Consultant led clinical triage
  - Standardised core data set included
- Consultant led care
- Undergraduate treatment quota agreed with commissioners
- Consultant or specialist level care (oversight of case)
- Specialty training case

NHS delivery of specific treatments by dentist with validated skill set for case or Mono-Specialist on referral
Dentists with extended skills: the challenge of innovation

M. Al Hatib, S. Elphick, P.A. Viggo, J. Jones, B. R. Raven and J. S. Chairlin

BACKGROUND

Introduction...