Evidence Based Practice – suggested Audits

Peter Briggs  BDS(Hons) MSc MRD FDS RCS (Eng)
QMUL – Friday 28th October 2016
Audit or Research?

Retrospective Audit of Patients with Advanced Toothwear Restored with Removable Partial Dentures

Nicola J. Woodley*, Brigitte M. Griffiths† and Kenneth W. Hemmings‡

Abstract – The dental records of 50 patients with advanced tooth wear restored with removable prostheses were examined. Retrospective data were collected with regard to source of referral, presenting complaint, aetiological factors, clinical features, dentures provided, details of failures and maintenance. The maximum follow up period was three years. The ratio of male to female patients was 4:1 and the age range 31–75 years. Failures were recorded in 38% of patients with provisional and 64% with definitive dentures. The most common failure was fracture or wear of the incisal or occlusal surfaces. The majority of failures were addressed by adjustment of the dentures and the audit confirmed the need for regular maintenance.
Audit

• Choose subject
• Gold standard of outcome
• Evaluate over a period of time
• Compare to gold standard – identify good and bad
• Reflect on reasons for poor performance – address and re-audit
2016 DFs NE – 10th June
EBD Conference

09.40am – 10.00am  Audit of patient experience of local anaesthetic
Nirmalan Patkunan, Mandi Pal, Vimalan Kulendran, Nehali Mattani, Shaaqi Manouchehri

10.00am – 10.20am  Prevention in children from 0-16
Ioanna Stylianou, Stephen Nkansah, Emma Lawrence, Georgina Malik

10.20am – 10.40am  Audit of non-surgical periodontal management
Neelam Rathod, Danai Nyoni, Siobhan Anthony, Jayne Dooey

10.40am – 11.00am  Root canal therapy: Factors affecting quality of obturation
Shankar Jeyakumar, Selina Tang, Ahmed Amer, Rishana Bilimoria

11.00am – 11.20am  Refreshment Break

11.20am – 11.40pm  Quality of impressions in NHS dental practices for extracoronal restorations
Ayesha Ali, Ayesha Mansha, Humma Kazim

11.40am – 12.00pm  Patients’ understanding of consent for extractions in Primary Dental Care setting
Sarah Sacoor

INTRODUCTION
An impression is an essential stage of treatment when providing an extracoronal restoration such as a crown or bridge. The accuracy of the impression in transferring relevant information to the dental lab is a major factor in how acceptable and successful the final restoration

METHODOLOGY
The audit was carried out across three dental practices in North East London over six months between November 2015 and May 2016. Only impressions taken for single or multiple extracoronal restorations were included.
Projects judged

Score Sheet of LDET Audit Poster / Presentations - EDB – Study Day
Friday 5th June 2015

- Subject and Goal of Audit – relevance, applicability to primary care practice & originality  
  (Marks 0-3)
- Identification of gold standard – quality of literature and information searched  
  (Marks 0-3)
- Quality of primary Audit (method, size, work involved & results)  
  (Marks 0-3)
- Identification of any barriers to improvement and need for re-audit  
  (Marks 0-3)
- Evidence of Re-Audit or suggestions of further work needed  
  (Marks 0-3)
- Overall conclusions, suggestions for future work & evidence of improving patient services in primary care  
  (Marks 0-3)
- Overall presentational quality  
  (Marks 0-6)

Maximum possible total = 24 Marks

<table>
<thead>
<tr>
<th>Audit Number</th>
<th>Subject 0-3</th>
<th>Literature 0-3</th>
<th>Primary Audit method &amp; results 0-3</th>
<th>Identification of barriers and need for re-audit 0-3</th>
<th>Re-Audit Voids, closure 0-3</th>
<th>Conclusions 0-6</th>
<th>Presentation Quality 0-6</th>
<th>Total Score (0-24)</th>
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Dentist Expertise / Experience
DF Projects for 2016/17

- EBD
- Posters
- Audits
- Clinical Outcome
So what types of things can we look at in your practices in the coming year?

- Quality of radiographs – LCPA & BWs
- Quality of Rx outcome e.g. post-op endodontic results radiographs
- Impression quality
- Periodontal Rx / pathway
- Prevention – Fluoride / Home plaque-control / smoking cessation /
- Antimicrobial Audit
Simple Intra-oral Radiographic Audit

The standard:
The NRPB suggest the following standards:
Subjective quality rating of radiographs-
No less than 70% of dental images should have a rating of Excellent – No errors of patient preparation, exposure, positioning, processing or film handling.
No more than 20% should have a rating of diagnostically acceptable – Some errors present, but do not detract from the diagnostic utility of the radiograph.
No more than 10% should have a rating of Unacceptable - Errors which render the radiograph diagnostically unacceptable.
# Standard Audit

## Simple Intra-oral Audit

The standard:

The NPPB suggest the following standards:

- **Subjective quality rating of radiographs**:
  - No less than 70% of dental images should have a rating of Excellent — no errors of patient preparation, exposure, positioning, processing or film handling.
  - No more than 30% should have a rating of diagnostically acceptable — some errors present, but do not detract from the diagnostic utility of the radiograph.
  - No more than 10% should have a rating of Unacceptable — errors which render the radiograph diagnostically unacceptable.

### Table

<table>
<thead>
<tr>
<th>Date</th>
<th>Intra-oral at 1</th>
<th>Intra-oral at 2</th>
<th>Intra-oral at 3</th>
<th>Retaken</th>
<th>Notes</th>
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RADIOGRAPHIC AUDIT

Identify quality measure e.g. 100% should be level 1 & 2 – 70 % level 1 – should be no level 3
Could combine with endodontic pre-op, diagnostic and radiographs
Things to measure

Radiographic

- Voids in RCT
- Taper
- Gaps between GP and canal wall
- Depth of obturation - filled to within 2mm of radiographic apex
- Technical errors – perfs, blockage, zips, ledges etc.
- Presence of likely untreated canal(s)
Hayes et al 2003

Results

Undergraduates performed primary treatment on 157 teeth. A postoperative radiograph was available in 97% of cases. A try-in point radiograph was unavailable in one-fifth of cases. Twenty-seven teeth (13%) were categorized as satisfactory in terms of both radiographic quality and distance of the root filling from the radiographic apex.

- No voids in RCT
- Continuous taper narrowest at apex
- No gaps between GP and canal wall
- Obturation to within 2mm of radiographic apex
- No technical errors – perfs, blockage, zips, ledges etc.
<table>
<thead>
<tr>
<th>Procedure</th>
<th>Pre-op radiograph</th>
<th>Number of visits to complete RCT</th>
<th>Post-op radiograph taken?</th>
<th>Observed</th>
<th>Number of canals found</th>
<th>Completed RCT</th>
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<td>Quality</td>
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<td>Y/N</td>
<td>Space variances or canal walls?</td>
<td>Optimal</td>
<td>Suboptimal</td>
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<td>Duration</td>
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<td>Coronal defects?</td>
<td>Y/N</td>
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<td>Material used</td>
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<td>Crown placed?</td>
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<td>Crown completed</td>
<td>Y/N</td>
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**Clinical**

- Tooth still present? Y/N
- Retained Enamel Adequate? Y/N
- Symptoms? Y/N
- TEP? Y/N
- Mobility: 0 1 2 3
- Swelling: Y/N
- Swelling: Y/N
- Lympho-Apoplexy: Y/N

**Radiographic**

- Apical reposition compared to pre-op: Y/N
- Note at root: Y/N
- Static: Y/N
- Appeared: Y/N
- Disappeared: Y/N
- Increased: Y/N
- Decreased: Y/N

**Comments**

- Resorbed: Y/N
- Sound: Y/N
- Cavity: Y/N
- Marginal defect visible: Y/N
- Lost: Y/N
- Restorations: Y/N

*Data collection*
Posterior mandibular teeth – LA

• Audit effectiveness of pain control for Xla, Cons, pulpal extirpation etc
• Audit against a known standard using normal ID block techniques
• Compare Articane 4% infiltration for restorative dentistry and Xla - childre and adult
• Take in views of patient
Hot pulp extripation – mandibular premolars / molars

• Top-up techniques
Prosthodontics

• RBB / C & B – remakes back to laboratory
• Acrylic and Co Chrome Dentures – remakes back to lab
• Why what was the problem?
Impression quality audit

• Identify standards
• What is a good impression?
• Gold standard?
• How would you measure?
• Models or impressions
GO DO IT!