Well what shall we talk about?

• I have had a varied career – qualified in 1983
• Worked in junior hospital jobs and NHs practice – did MSc at Eastman in 1987
• Then registrar jobs and higher training in Rest Dent.
• Appointed as Consultant in 1995, opened practice same year
• Always have enjoyed training others and unearthing talent
Well what shall we talk about?

• We all have our ‘bad’ cases – I like to learn from mine
• As I have developed and aged – I have been given opportunities
• I am often used to arbitrate between dentists and patients in my work
• What drives me? – QUALITY – it intrigues me
Making the best of your talent
- create a no blame environment -
Talent – it is obvious when you see it
Talent – it is obvious when you see it
What skills does a dentist need?

• Common sense & logic
• Communication
• 3D awareness / manuals skills
• Leadership
• Resilience & insight
• Honesty & Probity
• Business skills within the context that the needs of patient will always trump ours
Dentistry is Tough

- Physically demanding
- Mentally demanding
- Some days go well others not
- So we need people that have resilience who can lead and organise others
- Operational managers / ‘People’ managers
- Strategic thinkers
A dilemma for me
( problem case )
Predictive Discussions with the patient

• CAP with exudation - presence of sinus (48% lower)
Setting the scene – 2009-2010

Appointment with [REDACTED] on Friday 20\(^{th}\) November for check up – delayed due to my bronchitis.
To discuss: Excruciating toothache in left lower, first molar (adjoining acid etched bridge), molar with inlay:

1) 11\(^{th}\) – 12\(^{th}\) July 09. Toothache so bad I felt I wanted to rip the tooth out. Used toothpaste as in the past to relieve sensitivity. It took the pain away by the following day.

2) 18\(^{th}\) – 19\(^{th}\) July. Same excruciating pain, same tooth. Again used toothpaste over night and pain was gone by following morning.

3) 2\(^{nd}\) – 3\(^{rd}\) September. Same pain, same tooth. Used toothpaste and took 1 ibuprofen 400mg around midnight. Pain was improved but returned evening of 3\(^{rd}\) so I took another ibuprofen that night. Pain gone by 4\(^{th}\) Sept.

4) 21\(^{st}\) – 22\(^{nd}\) Sept. Same pain, same tooth, both evenings.

5) 15\(^{th}\) – 16\(^{th}\) October. Same pain, same tooth. Started 15\(^{th}\), evening and there again in the morning, but gradually went away. It seems to improve with eating for some reason.

6) 9\(^{th}\) – 10\(^{th}\) November. Pain started in the evening of the 9\(^{th}\). Felt swollen and the following day it felt as though I’d had an injection, was very bruised, but the tooth pain stopped. Swelling and bruising still there on 12\(^{th}\) November, but getting less each day.

4\(^{th}\) December – Saw [REDACTED] for check up and discussion - to be referred for root canal treatment.

7) 27\(^{th}\) – 28\(^{th}\) December. Pain started on 27\(^{th}\), rubbed toothpaste on outer gum. Pain lessened on 28\(^{th}\), not bad enough for medication, came and went. Felt swollen and bruised for up to a week, also VERY sore on gum against cheek, sore to the point of painful.
Diagnosis and special tests
My mistake

• Referral case with a buccal sinus between LL67.
• Past symptoms – history of past acute pulp pain LLQ
• Recently placed Ceramic (indirect) LL6 and large but not deep AF LL7
• Both not TTP
• # 60 GP point placed into the sinus and radiograph taken
• LL7 negative to electric pulp testing (EPT) - at 80
• LL6 positive at 40 EPT from buc and ling aspects
• Difficult patient with limited mouth opening
Decision: I decided to root treat the LL7 in the first instance.

2.2.10. First treatment on back tooth with Peter Briggs
16.2.10. Second treatment on back tooth, with Peter Briggs
23.2.10. Temporary filling replaced
30.3.10. Review. It was decided to wait until my appointment with Peter Briggs on 11th June to see if the pain occurs. Don’t have permanent filling until all treatment is finished.

Minor aches and throbbing in tooth with ceramic inlay, site of original pain, only a couple of times, particularly when cold or hungry.

1) 20th and 21st April. During the evening the ceramic inlay tooth throbbed quite badly and each night I took one Ibuprofen to relieve the pain overnight. It was not as bad as last year July-December. Each morning the pain had gone and the tooth felt normal again.
Mid August review with PB - Buccal sinus still present between the two teeth and throbbing from the ceramic restored LL6 - What would you do?

Diagnosis – sometimes we get it wrong
What endodontic skills are we going to need throughout the life of our patients?

- We need to all understand what factors influence Endodontic outcome
What factors have been proven to make a difference to endodontic clinical outcome?
Hopefully most are aware of this critical review on Endodontics Ng et al. (2008 a & b) Int Endod J 41: 6-31

- Pre-operative apical area
- Root filling ending within 2 mm of radiographic apex (instrumentation and obturation)
- Voids within the root-filling (obturation quality)
- Satisfactory restoration coronal seal (post-Rx Rest Dent) – restoration
Can we predict if our Endo is going to work?

**Pre-operative:**
- 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*
Predictive Discussions with the patient

• CAP with exudation - presence of sinus (48% 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*
Is our Endodontics going to work?

**Intra-operative:**
- Apical Gauging Strategies
- Patency Strategies (Two-fold increase)
- Using EDTA (Re-RCTx) (Two-fold increase)
- Inter-apical appointment swelling / pain (47% lower)

*Ng, Mann & Gulabivala; International Endodontic Journal, 2011*
Is our Endodontics going to work?

Factors Affecting Outcome

- Achieving patent (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 (13% lower)
- Using EDTA (Re-ICU) (Two-fold increase)
- Inter-appointment swelling/pain (47% lower)
Pulpal vitality an important factor

Electronic Pulp Tester - a great tool

Get the patient to hold the pulp tester and let go when they feel something.
Presence of pre-operative area

- Why do you think this is important?
- How long will it take to heal after treatment?
If no sign of healing or radiographic improvement at 24 months then NSRCT not likely to have worked
Chronic Apical Periodontitis means that we need to kill bacteria
Endodontic Irrigation in 2014

- Navi-tip irrigation needles
- Can use carefully to 2 mm short of WL
- 17% EDTA / Hypochlorite dynamic pump until the grey sludge turns to colourless
Factors Affecting Outcome
How good are you – Dare you find out?
Benchmarking can be difficult and stressful
Resilience - Physical

- fitness and stamina – look after your body and it will look after you
- Rest / Sleep / Recovery – work and email to 2am - will not help
- Nutritional for energy – evidence beginning to show that Diet is important
Resilience - Emotional

• Calming / focussing
• Impulse control
• Emotional regulation
• Positive emotion
• Pragmatic optimism
Resilience - Mental

- Self-belief
- Outlook and perspective - it's only a job
- Thinking traps
- Sustained focus
- Causal analysis
- Control controllables
Resilience – Spiritual

• Values and beliefs
• Empathy
• Reaching out
• Understand need for support
Resilience – problems that I see

• Preparation for failure?
• Risk dominates – what about the good things that can follow taking a risk or two? e.g. Dahl concept, Cracked tooth Syndrome
• ‘...I cannot cope with the taking of this risk....’
• Awareness and admission of weakness(es)
• Insight – without it we are all stuffed
• Realising that others (despite what they say) – have the same problems - to do that you need to benchmark – against others
NHS Staff College

The NHS Staff College was created to start and sustain a movement which strengthens the personal qualities in our leaders in order to improve health care. It was established in 2010 by Professor Aidan Halligan who visited the military acute medical facility in Helmand Province, Afghanistan. There he witnessed the extraordinary teamwork, cooperation and leadership of the combined NHS and military teams. His vision was to share this experience with the NHS more widely.

The NHS Staff College develops and nurtures leaders who will deliver the best possible care and experience for patients and staff throughout the wider health and care community.

The NHS Staff College provides a challenging, demanding and fun environment in which individual insights are developed, personal capabilities are enhanced and leadership potential and skills optimised.
‘........All Staff College programmes are underpinned by the ‘Care to Lead’ ethos. The best leaders in healthcare derive their authority from how much they care: about their patients, about outcomes, about people, their own responsibilities, resources, and about the truth......’
‘.......... A change in culture cannot be taught or imposed, it must be embraced by leaders who enable trust, encourage challenge, and create commitment. These are the consequence of leadership and the main purpose of Staff College......’
Why do we need a Staff College?

It is extraordinarily difficult to measure the results of leadership and yet the results of leadership seem extraordinarily important. Healthcare is dominated by the extreme, the unknown and the very improbable conditions that demand leadership. Undeniable characteristics of a well-lead, open culture are easy to recognize but deceptively difficult to implement. These hard to measure characteristics cannot be taught or imposed, they are the consequence of enabling trust, encouraging challenge and creating commitment. They are the consequence of leadership.

What happens at Staff College?

The Staff College programme will focus on the acquisition of engagement skills. Leadership combines emotional intelligence with the courage to raise the tough questions, challenge peoples’ assumptions and personal risk. It demands commitment to serving others; a skill of diagnostic,
Talent – what is your talent level?
Talent – what is your talent level?
Can we start with a few important papers – that we can apply to clinical practice?

• What is the most important paper that you have read over the last 12-24 months?
• EBD – where does it sit with you?
• Why do I think it is so important?
Being Up to Date

• Improves the quality of your decision-making
• Improves the quality of your consent as you have more knowledge
• Reduces your risk – allows you to work more maturely and accurately
• Look at it like keeping fit and active
EBD – helps thinking and thought-processes

• More likely to do the right thing – if knowledge rich

Examples:
Know how to plan
Know where the risks lie
Can give honest and sometimes negative messages to patients
Understand the problems – and learn to overcome them
Be less likely to make silly mistakes
What promotes disordered thinking?
Putting the implants between rather than under the teeth in a high lip line case

- **Pressure (TCUP)** – it can make people do stupid things
- **Lack of knowledge / understanding** – protocols, evidence, etc.
- **Inexperience** – haven’t done many so little baseline to reflect - how many should I do?
- **Stupid** – lack of IQ doesn’t allow higher order thinking
Thinking and thought-processes for dentists

• **Synthesis** of (new) information – weighing up its importance against established knowledge and working out how it will affect your practice
UPDATE IN RESIN-BONDED BRIDGES FOR 2016
Contemporary Craft Kit & Skills in Restorative Dentistry in 2016

Dycal Ivory & RBBs
RBBs are not just something for use within the ‘Ivory Towers’ & they are not intermediate or temporary if done well (King et al 2015)
Failure characteristics – bond failure commonest failure

- 20% failed by 5 years
- Few failed thereafter even though more than two thirds were assessed for more than 10 years
- No failures of surviving bridges between 10 – 16 years
- As a result 5 and 10 year survival probability was 80% (as shown by survival curve)

King et al. 2015
Median survival can not be calculated as survival probability greater than 80% at longest review period.
• Hazard ratio bigger for multi-abutments than for multi-pontics (the number of supporting teeth very important)
• Minimal preparation (m) more successful than intermediate (I) or maximal (m)
• Where existing restoration present in abutment teeth - placement of new restoration improves outcome compared to accepting old

King et al. 2015
Minimal Preparation and remove and replace existing restorations within abutment tooth

King et al. 2015
My Cementation Protocol for RBBs

Dycal try-in – assess fit, aesthetics and occlusion
Place retained-retraction cord – palatal / lingual
Rubber Dam – if useful
Intra-oral sandblast
Metal wing sandblast
A/E / Prime / Bond / Lute Cement / Oxyguard
Remove excess cement / polish & review
Dycal try-in – assess fit, aesthetics and occlusion
Back to lab if not right 35% chance
Metal wing grey-out a thing of the past
In my hands 35% of RBBs need to go back to the lab for alterations

Dycal 1

Dycal 2

Poyser and Briggs (2004)
Dycal Re-Try-in – assess fit, aesthetics and occlusion
Cementation protocol of CRBB

- Place retained-retraction cord – palatal / lingual
- Rubber Dam – if useful
- Intra-oral sandblast
- Metal wing sandblast
- A/E / Prime / Bond / Lute Cement / Oxyguard
- Remove excess cement / polish & review
Cementation protocol – retained retraction cord and if helpful ‘open’ rubber dam

Place retained retraction cord – palatal / lingual

Rubber Dam – if useful
Remove: excess cement / retained retraction cord / location cast location cleat and polish & review
‘If you do everything well’

- Likely 10 years of survival (80% survival at 15 years King et al 2015)
- Aesthetically good
- Biologically sound
- CRRB likely to be Retreatable

Dycal try-in – assess fit, aesthetics and occlusion

King et al, 2015
Essential to have Chairside Sandblaster
Without a Sandblaster

• You cannot try-in restorations – as that will contaminate the metal and reduce adhesion
• Cannot freshen up oxide layer – which increases bond strength if done immediately before cementation
The Dycal try-in technique for Resin-bonded bridges.

Poyser NJ, Briggs PF.
Sandblaster
Decontaminates, increases wettability, increases micro-mechanical retention and oxidises metal bonding surfaces – compare fresh sandblast (left) to a wing contaminated by clinical try-in (right)
Survival analysis of composite Dahl restorations provided to manage localised anterior tooth wear (ten year follow-up).

Gutamal AB*, Hemmings KW, Tredvin CJ, Petrie A.

Author information

Abstract

OBJECTIVE: To evaluate ten-year survival and clinical performance of resin-based composite restorations placed at increased vertical dimension as a 'Dahl' type appliance to manage localised anterior tooth wear. Design: A prospective survival analysis of restorations provided at a single centre. Setting: UK NHS hospital and postgraduate institute.

METHODS: The clinical performance of 283 composite resin restorations on 26 patients with localised anterior tooth wear was reviewed after a ten year follow-up period. The study used modified United States Public Health Service (USPHS) criteria for assessing the restorations. Survival of the restorations was analysed using Kaplan-Meier survival curves, the log-rank test, and the Cox proportional hazards regression analysis.

RESULTS: The results indicated that the median survival time for composite resin restorations was 5.8 years and 4.75 years for replacement restorations when all types of failure were considered. The restorations commonly failed as a result of wear, fracture and marginal discoloration. The factors that significantly influenced the survival of these restorations were the incisal relationship, aetiology, material used, and the nature of opposing dentition. The biological complications associated with this treatment regime were rare. Patient satisfaction remained high despite the long term deterioration of the restorations.

CONCLUSION: With some degree of maintenance, repeated use of composite resin restorations to treat localised anterior tooth wear at an increased occlusal vertical dimension is a viable treatment option over a ten-year period.
A review of the success and failure characteristics of resin-bonded bridges

M. Miettinen and B. J. Millar

VERIFIABLE CPD PAPER

Objectives This literature review was designed to assess and compare the success rates and modes of failure of metal-framed, fibre-reinforced composite and all-ceramic resin-bonded bridges. Materials and method A Medline search (Ovid), supplemented by hand searching, was conducted to identify prospective and retrospective cohort studies on different resin-bonded bridges within the last 16 years. A total of 49 studies met the pre-set inclusion criteria. Success rates of 25 studies on metal-framed, 17 studies on fibre-reinforced composite and 7 studies on all-ceramic resin-bonded bridges were analysed and characteristics of failures were identified. Results The analysis of the studies indicated an estimation of annual failure rates per year to be 4.6% (±1.3%, 95% CI) for metal-framed, 4.1% (±2.1%, 95% CI) for fibre-reinforced and 11.7% (±1.8%, 95% CI) for all-ceramic resin-bonded bridges. The most frequent complications were: debonding for metal-framed, resin-bonded bridges (93% of all failures); delamination of the composite veneering material for the fibre-reinforced bridges (41%) and fracture of the framework for the all-ceramic bridges (57%). Conclusions All types of resin-bonded bridges provide an effective short- to medium-term option, with all-ceramic performing least well and having the least favourable mode of failure. The methods of failures were different for different bridges with metal frameworks performing the best over time.
Results:
The analysis of the studies indicated an estimation of annual failure rates per year to be:

- 4.6% (±1.3%, 95% CI) for metal-framed bridges
- 4.1% (±2.1%, 95% CI) for fibre-reinforced bridges
- 11.7% (±1.8%, 95% CI) for all-ceramic resin-bonded bridges.
Metal frameworks

We must not abandon RBBs as a treatment option; particularly where they are likely to go well and be non-destructive.

The single unit, single retainer, cantilever resin-bonded bridge.

9 The reasons for failure of metal- and resin-bonded bridges
Fibre-reinforced composite RBBs

Fig. 10 The reasons for failure of fibre-reinforced composite resin-bonded bridges
All-ceramic RBBs

Fig. 11 The reasons for failure of all-ceramic resin-bonded bridges
Kojet
Hydrofluoric Acid
Silane-Coupling
Creative thinking – how else can I use the technology?