Primary Care Early Career Case Report Award

Alexander Ribera Edwards BSc (Hons) BDS

Grays Dental Centre

Patient present complaint and history

A 57-year-old, male, came to the clinic with the following presenting complaint:

"I have a boil on the left side of my mouth. I am not currently in pain, however I would like to have a denture, save as many teeth as possible and a clean."

In terms of history, the patient noted the following:

Medical history: The patient had a fall and had fractured their skull and wrist, no other outstanding medical conditions, medications or allergies were noted.

Past dental history: The patient was an irregular attender, brushes two times a day, uses a manual brush, fluoridated toothpaste, mouthwash and interdental cleaning infrequent.

Social history: No smoker, non-drinker. Works as a builder.

Examination

Front view of the patient taken at the examination appointment. Patient consented to have photographs taken.

Right and left hand side views of the patient dentition pre operation.

Upper and lower occlusal views of the patient's dentition pre-operation. Note that patient had gross calculus present on the lower anterior sextant. Gingivae is red and inflamed.

On examination the following was noted:

Extra oral: TMJ- slight click on the Left handside, Lymph nodes, muscles of mastication and facial symmetry: nothing abnormal detected

Intra oral: lips, palate, floor of mouth, buccal sulcus and tongue: Nothing abnormal detected. On the buccal mucosa bilateral linea alba was present. However, it was noted that there was a sinus present adjacent to the LL7.

BPE:

4*	**4**	**4**
x	**3**	**4**

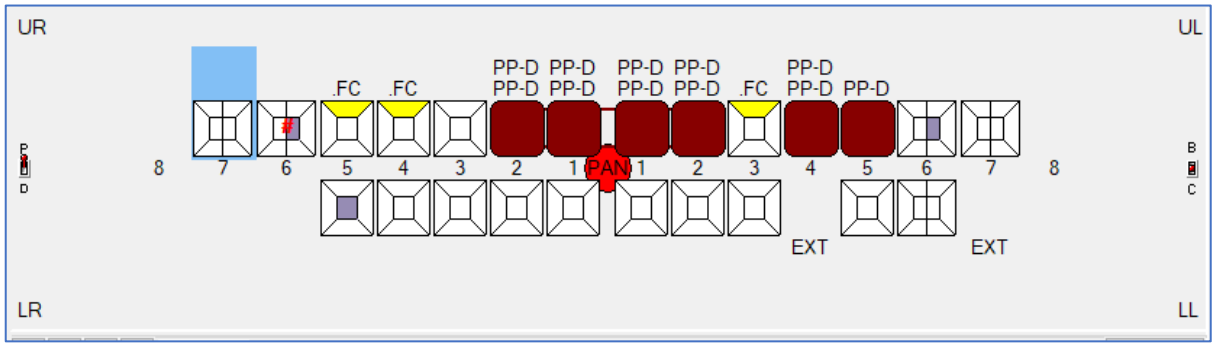
From this BPE screen, it was noted that this patient would be a complex case, which would require an intervention starting as soon as possible.

BEWE:

2	**1**	**2**
x	**1**	**1**

When checking the patient's dentition, there were multiple observations that were noted. These were detailed as follows:

- Molar class: R lost, L class 1
- Patient has unilateral posterior crossbite on the right handside
- Chronic apical periodontitis: LL7
- Retained Roots: UL4 and LL4
- Tooth wear localised to lower anterior associated with attrition
- Generalised inflammation and swollen gingivae
- Patient has heavily restored dentition
- UL1 porcelain crown outer surface lost
- UL1 grade 3 mobile
- Patient has upper abfraction UR4,5 cavities
- Fractured UL6, UR6 and LR6 amalgam restorations



The charting was updated, this is a post treatment chart. Note, that the UL5 is present and was a mistake from a previous clinician.

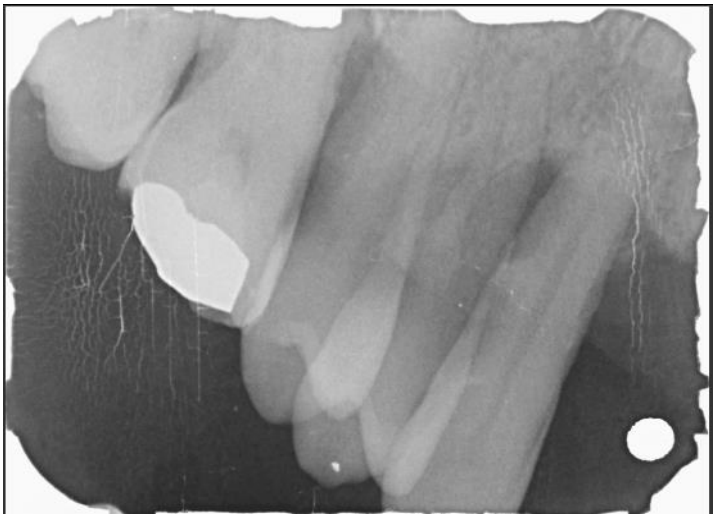
From these dental observations BPE, BEWE and history, the patient was put on the risk levels:

Caries: High
Periodontal: High
Tooth wear: Moderate
Cancer: Low

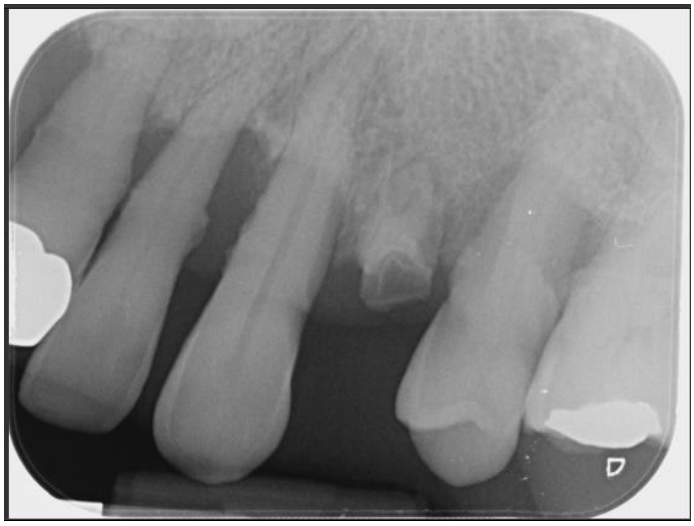
Special tests and investigations

As part of the examination, which was guided by the relevant screening tools, a full mouth dental panoramic tomography, periapicals which focused on the UL3 and UR3 canines were taken.

Full mouth DPT
Justification: apical pathology and assess bone levels in regards to extent of periodontal disease (as per FGDP (UK) selection criteria
Verbal consent obtained: yes
Acceptable
Radiolucency: LL7 LL4 and UL4
Periapical: LL7
Radio opacities: UR6 UL6, LL5, UL1
Teeth present:
UR7,6,5,4,3 UL1,2,3,4,6,7
LR5,4,3,2,1 LL1,2,3,4,5,6,7
Bone levels: 100% bone loss in the worse affected area
Other: subgingival calculus present



PA radiograph UR3
Justification: to assess periapical pathology of UR3
Verbal consent obtained: yes
Acceptable
Radiolucency: NA
Periapical: NA
Radio opacities: UL6 (O)
Teeth present: UL3,4,5,6,7
Other: NA



PA radiographs UL3
Justification: to assess periapical pathology of UL3
Verbal consent obtained: yes
Acceptable
Radiolucency: UL4 (MOD)
Periapical: UL4
Radio opacities: UL1 (MOD) UL6 (O)
Teeth present: UL1,2,3,4,5,6
Bone levels: 90% bone loss
Other: subgingival calculus present

After performing the above examination, the following diagnosis were presented to the patient:

- Generalised Periodontitis Stage IV Grade C Currently Unstable Risk Factors: NA
- LL7 Chronic Apical periodontitis due to caries
- UL1: Grade 3 mobile due to advanced periodontal disease
- UL2: Grade 2 mobile due to advanced periodontal disease
- UL4 and LL4- retained roots
- Missing teeth UR1,2, LR7,6
- Abfraction cavities: UL4,5
- UR6 and UL6: Fractured amalgams

From there we then decided to discuss the various treatment options that were available for this patient:

Generalised Periodontitis:

-Complete periodontal treatment using s3 BSP guidelines

Risks: Pain, bleeding, sensitivity, tenderness and increase in interproximal spaces as the gingiva recedes.

Benefits: reduce mobility of teeth, improve gingival health, allow for the placement of prosthodontic appliances

No treatment and monitor

Risks: periodontal disease will continue to progress and result in tooth loss/ increased tooth mobility

Benefits: not required to attend appointments/ commit time

LL7 Chronic Apical periodontitis due to deep caries and UL4 and LL4- retained roots

XLA: pain, bleeding, bruising, damage to adjacent teeth, risk of dry socket, due to location of the tooth, there is increased risk of ID nerve damage in LL7. Progressive bone loss.

No treatment and monitor

Risks: continual source of pain and infection

Benefits: LL7 area can maintain occlusal stop for opposing teeth.

UL1,2 increased mobility due to advanced periodontal disease

XLA UL1,2

Risks: pain, bleeding, bruising, damage to adjacent teeth, risk of dry socket, due to location of the tooth, gaps after XLA.

Benefits: due to the mobility of the teeth and significant bone loss, the long-term prognosis of the teeth is poor/ hopeless. Hence may be lost in the future. This can be added onto the denture; however, this would be more difficult w CoCr. Progressive bone loss.

No treatment and monitor

Risks: could be lost in the future which would mean that additional teeth will need to be added onto the denture, at cost to the pt. If fitting a CoCr this would be more difficult. Choking hazard due to mobile teeth.

Benefits: Patient will not have space in that area while the denture is being made.

UR6 and UL6 fractured amalgam restorations

Risks: patient could return in pain due to the proximity of the restoration to the pulp and require further treatment, pulp exposure

Benefits: prevent further breakdown of existing restoration

No treatment and monitor

Benefits: currently not in pain, could flare tooth up by having restoration.

Risks: potentially the restoration could continue to break down

UR5,4 and UL3 abfraction cavity restoration

Benefits: Will be more aesthetically pleasing, reduced sensitivity, improved strength of the tooth and prevention of further damage.

Risks: risk restoration could be lost, increased sensitivity after restoration.

The following treatment plans were created:

Emergency: NA
Stabilisation:
PiBi
6PPC
Supra/ subgingival PMPR- periodontitis
FV
XLA- LL7, UL4 (RR), LL4 (RR) UL1

Restorative
upper and lower partial acrylic denture
Upper immediate acrylic denture
Lower partial denture

Maintenance
NICE: 3 months
FGDP: 6 months
Endo: NA
Periodontal: 3 months

3 months after initial visit
Emergency: NA

Stabilisation
3 month periodontal recall- check whether periodontitis has stabilised
PiBi
OHI

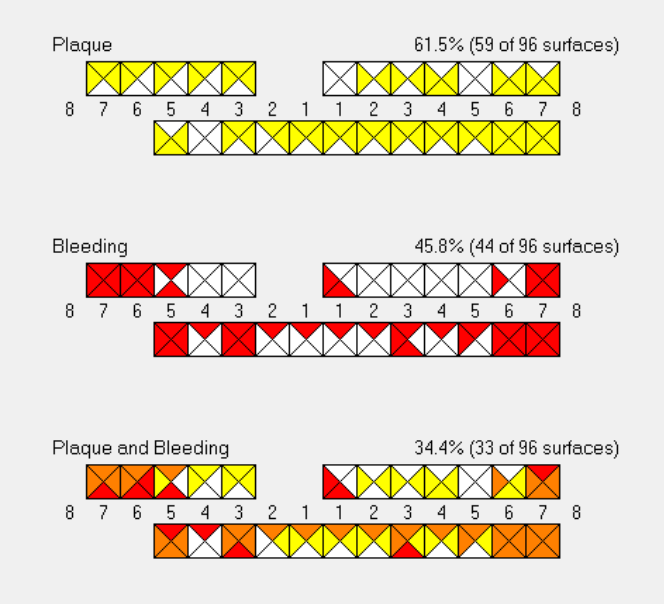
Restorative:
Upper CoCr denture
UL4,5 composite restoration on abfraction cavities

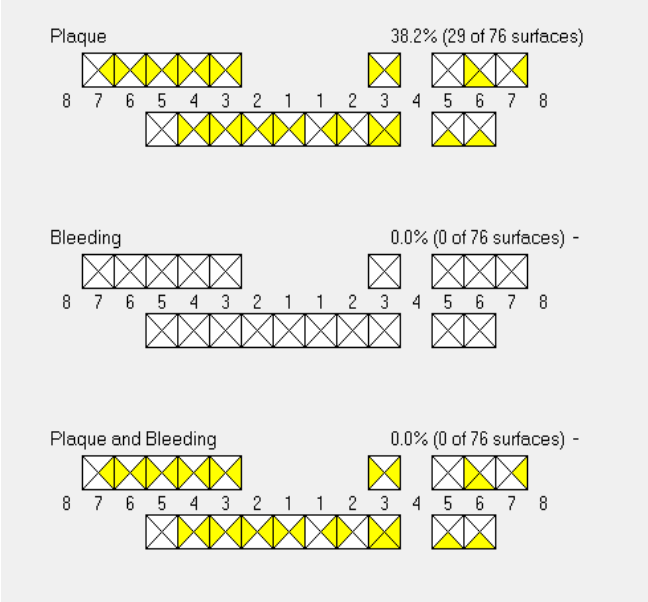
Maintenance
3 mouth recall

Treatment

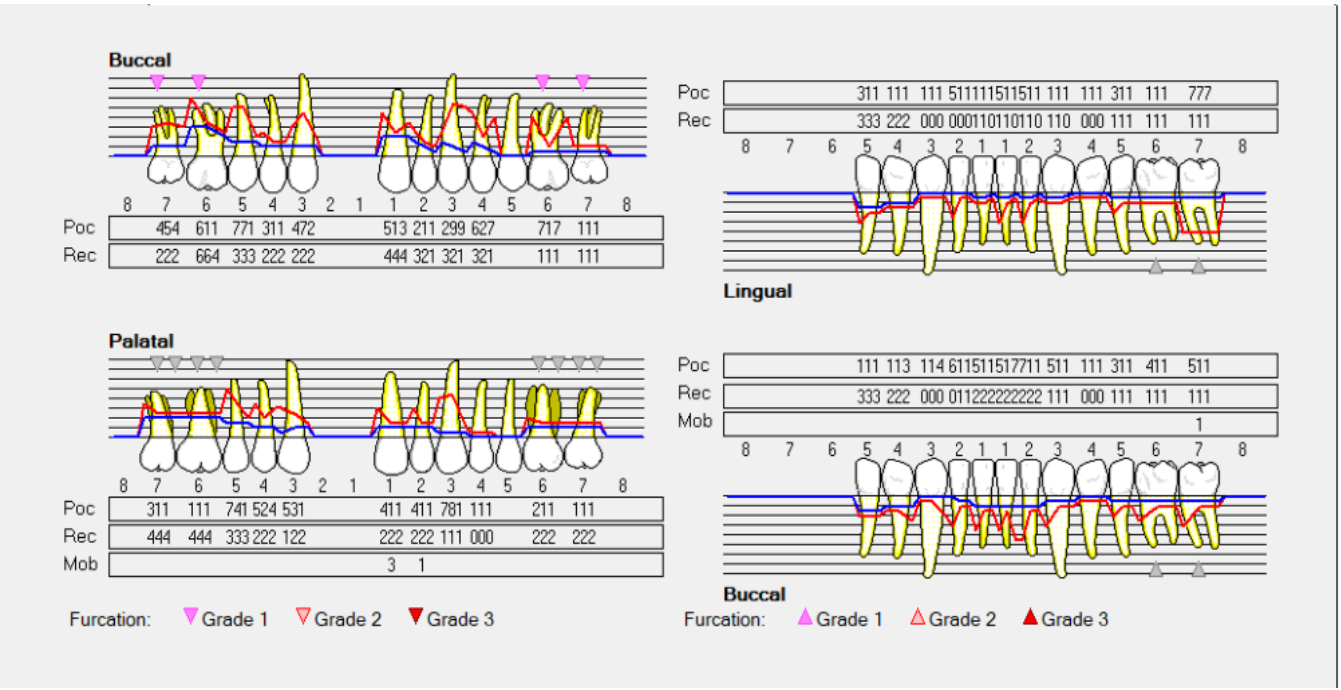
Appointments 1,2,3,4

Initially, plaque and bleeding scores were taken and tailored oral hygiene instructions were given. The LL7, LL4, UL1,2 and 4 were extracted as were poor/ hopeless prognosis. These were then reviewed 2 weeks later to check that the patient was compliant. Afterwards, a full mouth subgingival PMPR was conducted, targeting 6mm pocket depths or more and where subgingival calculus is present on radiographs.





Initial Plaque and bleeding charts and then at subsequent review appointments.



Initial baseline periodontal chart, performed before commencing of treatment

Appointments 5,6,7

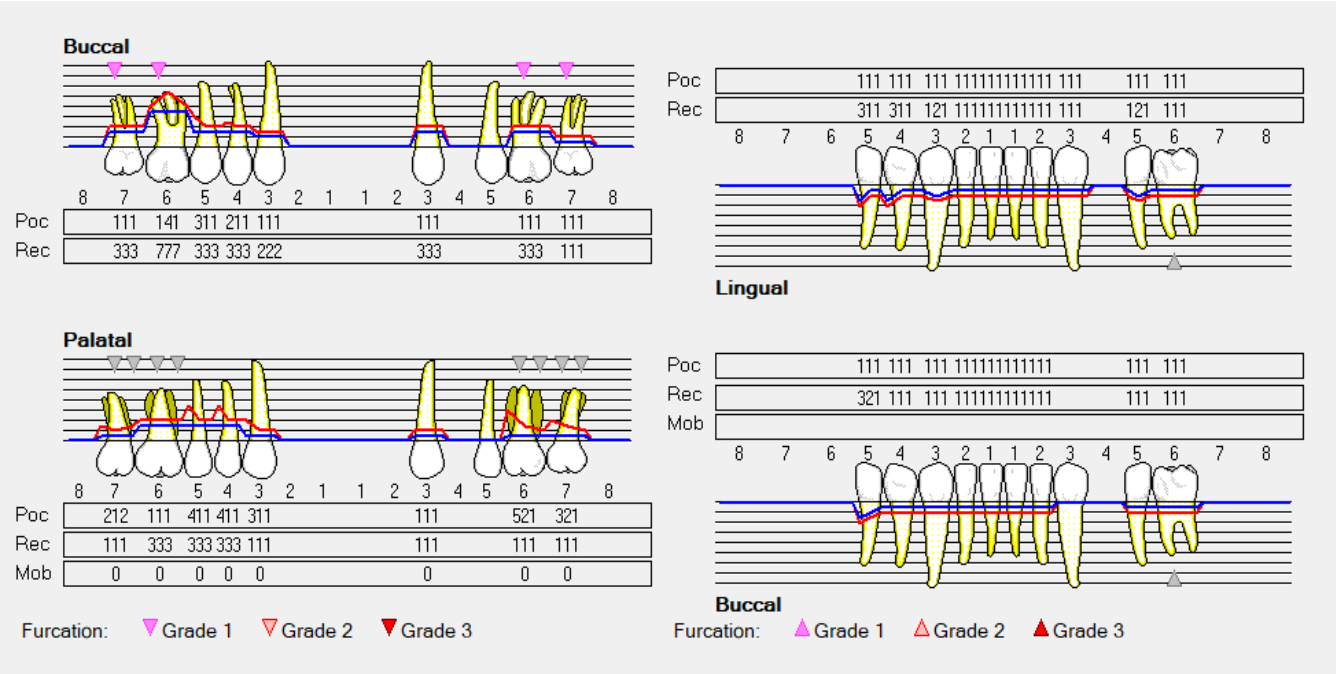
Extractions sites were checked and assess to ensure areas were healing well. Reconfirmed patient decision to have an immediate denture. Decided that, due to lack of space and first-time denture wearer,

to only create upper partial denture. Wax try in was created and then immediate denture was fitted. Denture hygiene instructions given and patient set to be reviewed in 2 months' time.

Immediate denture fitted last appointment before Christmas

Appointment 8

At this periodontal review appointment another 6-point pocket chart was carried out. On examination 6 mm or more pockets no longer present. Noted that the periodontal disease has stabilised and we were able to move onto a definitive denture. Patient was asked whether he wanted to replace fractured amalgams, was happy to leave and monitor.



3-month review appointment. Note, that 6mm points had resolved.

Appointment 9,10,11,12

Discussed acrylic and CoCr. Patient happy to proceed with CoCr. Created denture design. Patient happy with design. Primary impression taken. Wax try in created. After checking patient was happy with wax try in. Denture was sent for flask, pack and finish. Upper partial CoCr was fitted and oral and denture hygiene was reinforced.

Upper CoCr denture in and CoCr denture fitted.

Upper occlusal view of CoCr denture fitted.

Right and left views of patients mouth after treatment.

Appointment 13

Patient failed to attend the review appointment. Reviewed patient by phone instead. During this I discussed with the patient regarding his periodontal treatment

"This condition had made me feel really conscious when talking. Now, I'm no longer conscious and embarrassed of my teeth. I am flossing every day and brushing twice a day as I understand how important it is to look after your gums. Through regular cleaning this has prevented the condition from getting worse. The denture is really comfortable and I use a tiny amount of denture grip"

Reflection

This was a challenging case with many different aspects of dentistry combined into one patient. Initially, I felt quite overwhelmed as this was one of the most advanced cases of periodontal disease that I had treated since leaving dental school. However, through following the teaching that I had at dental school, and following the relevant guidelines, I was able to deliver a good result for my patient. One aspect that made this such an enjoyable case was that I was able to motivate the patient to take ownership of their own oral health. This meant that I was able to deliver the treatment.

Words: 1500

References:

- BSP (2016) *The good practitioner's guide to periodontology*. Available at: https://www.bsperio.org.uk/assets/downloads/good_practitioners_guide_2016.pdf (Accessed: 08 May 2025).
- BSP (2021) *BSP treatment flow chart*, *BSP UK Clinical practice guidelines for the treatment of periodontal disease*. Available at: https://www.bsperio.org.uk/assets/downloads/BSP_Treatment_Flow_Chart_17_SCREEN_READY_ytube_link.pdf (Accessed: 08 May 2025).
- Quereshi, K. (2020) *RPD Basic Design principles*, *Bremadent Dental Laboratory - London UK*. Available at: https://www.bremadent.co.uk/news/rpd-basic-design-principles#/ (Accessed: 08 May 2025).
- Office for Health Improvement and Disparities (2021) *Delivering Better Oral Health: An evidence-based toolkit for prevention*, *GOV.UK*. Available at: https://www.gov.uk/government/publications/delivering-better-oral-health-an-evidence-based-toolkit-for-prevention (Accessed: 21 May 2025).
- SDCEP (2024) *SDCEP prevention and treatment of periodontal diseases in ...*, *Prevention and treatment of periodontal disease in Primary care*. Available at: https://www.periodontalcare.sdcep.org.uk/media/1g4npqml/sdcep-prevention-and-treatment-of-periodontal-diseases-in-primary-care-2nd-edition.pdf (Accessed: 01 July 2025).