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**Title: *The conundrum of managing a compromised dentition.***

### **Introduction**

Compromised aesthetics, functionality and the onset of dental pain are the three most common reasons why patients seek advice from their GDP. In isolation, these issues may be relatively straightforward to assess and manage; however when presented in combination with each other and in varying degrees of severity, careful planning and consideration is essential.

### **Case Description**

A 60 year old partially dentate man presented with catastrophic failure of multiple fixed prosthesis, affecting the maxillary anterior region. This was in combination with generalised moderate tooth surface loss affecting the mandibular anterior region. The patient reported a history of recurrent pain episodes affecting the left maxillary canine region. At the time of initial presentation this was asymptomatic, however became symptomatic following subsequent visits. Peri-apical radiographs of the maxillary anterior region revealed peri-apical radiolucency associated with the UL3, UL2 and UR2. Sensibility tests indicated that the UL3, UL2 UL1 and UR2 were non vital. Since the UL1 and UL3 were symptomatic, extirpation and completion of the root canal treatment became a priority early on within the treatment plan. These teeth were root treated with the view to convert and utilise them as over-denture abutments in the future. Occlusal examination revealed an unstable occlusion, with the patient exhibiting habitual posturing forward into an edge-to-edge class 3 occlusion. Thorough assessment of the patient's freeway space (FWS) confirmed adequate inter-arch space for restoration of the mandibular anterior teeth and replacement of the maxillary anterior region with a removal prosthesis. The new occlusal vertical dimension (OVD) was decided after careful assessment of several parameters. Study casts articulated in the retruded contact position (RCP) aided occlusal analysis and a diagnostic wax up of the mandibular anterior teeth facilitated construction of the opposing prosthesis. From a periodontal aspect, a full periodontal examination was conducted following the initial BPE screening and the periodontal therapy was provided with the aim to stabilise the periodontal condition.

### **Diagnosis**

Altogether four main diagnosis were established:

- 1) Failure of fixed prosthesis affecting UL1, UL2, UL3, UR2 and UR3.
- 2) Generalised moderate tooth surface loss involving mandibular anterior teeth.
- 3) Apical periodontitis and pulp necrosis involving UL1, UL2, UL3 and UR2
- 4) Generalised chronic moderate periodontitis.

### **Treatment outcome**

On treatment completion, the patient's appearance, speech and function had significantly improved, and therefore the patient's principle concerns were addressed. The periodontal condition had stabilised and the patient had adopted good oral hygiene habits and has quit smoking. The patient's pain symptoms

have resolved since completion of the root canal treatment however these teeth will be continually monitored radiographically at the 1 year interval and subsequently if required.

### **Discussion**

Clearly defined treatment aims, set the basis for treatment planning. In this case, the overriding goal was to improve the patient's function, speech and aesthetics in a controlled manner, without risking further deterioration of oral health status. There were a number of complicating factors, such as patient habituation to class 3 occlusal scheme, ease of assessing and recording the RCP, determination of a suitable increase in OVD and the ability to plan and restore both arches simultaneously. Additionally another complicating factor was the need to manage pain in acute situations in a manner that does not impact the future treatment options.