Mrs X

Severe tooth wear and loss of posterior support treated with anterior crown/bridge work incorporating features to facilitate CoCr denture

History

Presenting complaint

Mrs X presented 26/6/10 complaining of sensitivity relating to 23. This was her only issue.

Medical History

Mild Arthritis
Taking Anlodipne for HBP
Otherwise clear

Extra - Oral Examination

- no TMJ clicking/crepitus/pain
- no limitation/deviation on opening
- no swelling/asymmetry/tenderness
- no headaches

Intra - Oral Examination

- Soft tissues healthy
- Advanced toothwear of both upper and lower teeth evident, due to both erosion and attrition. Has an upper acrylic denture that she can not tolerate.
- all upper teeth respond positive to endo frost

Occlusion

It was not possible to determine if RCP = ICP as the the severely over erupted 17 interfered with the 46 when it was attempted to retrude the mandible

Wear facets were evident on nearly all the teeth with cupping indicative of acid erosion present on many teeth.

Group function was seen on both right and left lateral excursions with a working side interference on right lateral excursions seen on the 17.

Posterior occlusion unstable

Dental History

Mrs S had an acrylic denture that she found difficult to tolerate

Extra Oral shots 24/6/12



Intra Oral Shots 26/4/10


Radiographs - taken 24/6/10

Investigations

Periodontal findings

- No pockets >3mm were present with the exception of 37 and 38 where a 6 mm pocket was present
- no bleeding on probing

Radiographic findings

- Generalised bone loss was evident, 2mm of bone loss on the mandible and up to 7 mm on the maxilla.
- Some deposits of interproximal calculus were evident
- Generally the teeth had long roots
- no peri-apical pathology was noted

Aetiology of Toothwear

It emerged that this lady had a very high intake of fruit that would have contributed to the erosive component of her toothwear, she was advised to attend her GP to see if further investigations were warranted for intrinsic acid production though she reported no symptons.

While acid erosion was a key element the lack of posterior support was also felt to have contributed to the deterioration given the increased occlusal loading.

Study Models

Given the difficulty in achieving RCP treatment planning was carried out without the models being mounted in RCP, ICP was used instead

Treatment Planning

There were many different options to restore this lady's failing dentition. Perhaps in hindsight the wrong option was chosen!

This lady required posterior support superior to her existing acrylic denture. Given the extent of damage and surfaces affected this would be best done in RCP. Given this ladys budget, implants were out of the question, this left only the denture option. In an effort to improve tolerance it was decided to construct a denture with a metal framework that attached to crowns that had guide planes and suitable rest seats/contours for clasping. The toothwear on the lower arch was to be restored via composite build ups along with whitening.

To achieve this in RCP it was decided to prepare 17 for a metal crown and then record the jaws in RCP once space had been created.

In hindsight 18 and 17 were so over erupted that they should have been extracted to facilitate the construction of a full coverage acrylic denture possibly with the anterior teeth as overdenture abutments.

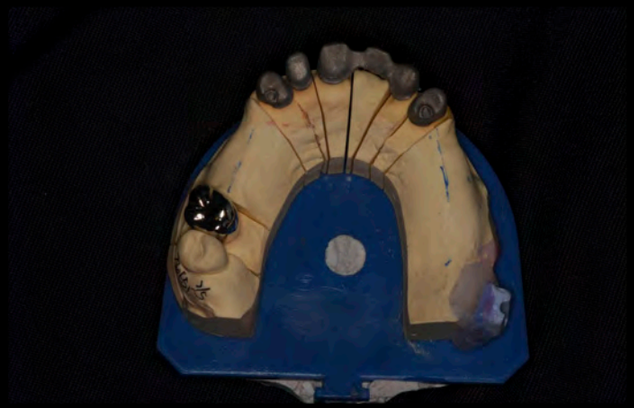
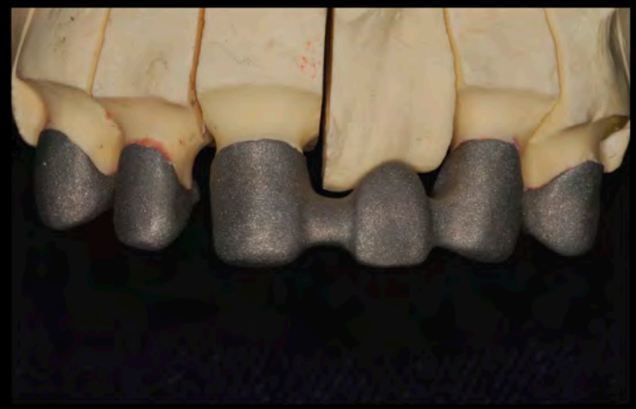
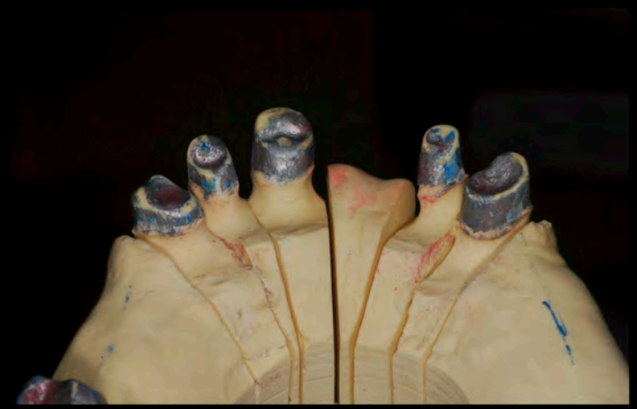
Treatment

- lower teeth were whitened
- 44 - 33 built up in composite
- Prepare 27 for full metal crown
- Articulate in RCP
- Wax up 13 - 23 to provide guidance for prep
- Prepare 13, 22, 23 for PBMCr
- Prepare 12,21 for conventional PBMBr
- Impression of 13,12,21,22,23,27 and reg in RCP
- Insert 27 and try in metalwork 13,12,21,22,23
- Insert Crowns 13,22,23 zinc phosphate
- Insert Bridge 12-21 zinc phosphate
- Master impression for denture
- Try in metal framework and registration
- Insert denture

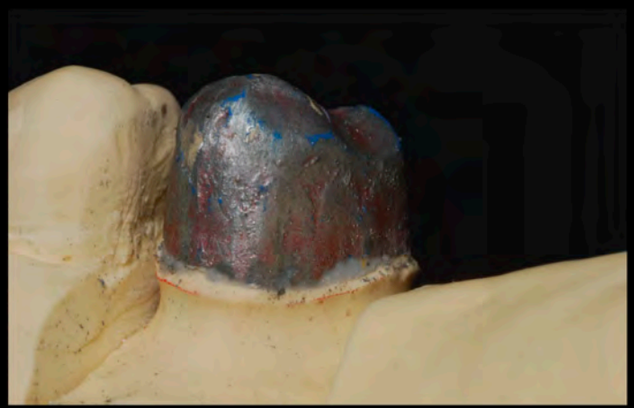
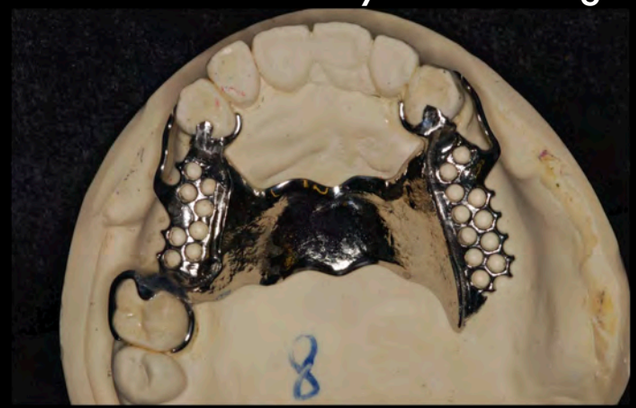
Reflection

While Mrs S is extremley happy with the result I feel that this case should have been treated differently as she has a WI on the metal framework around 27 in right lateral excursions. The design of the anterior crowns/ bridge should have incorporated metal palatal backings - mainly so that guidance could have been verified at the metal try in stage.

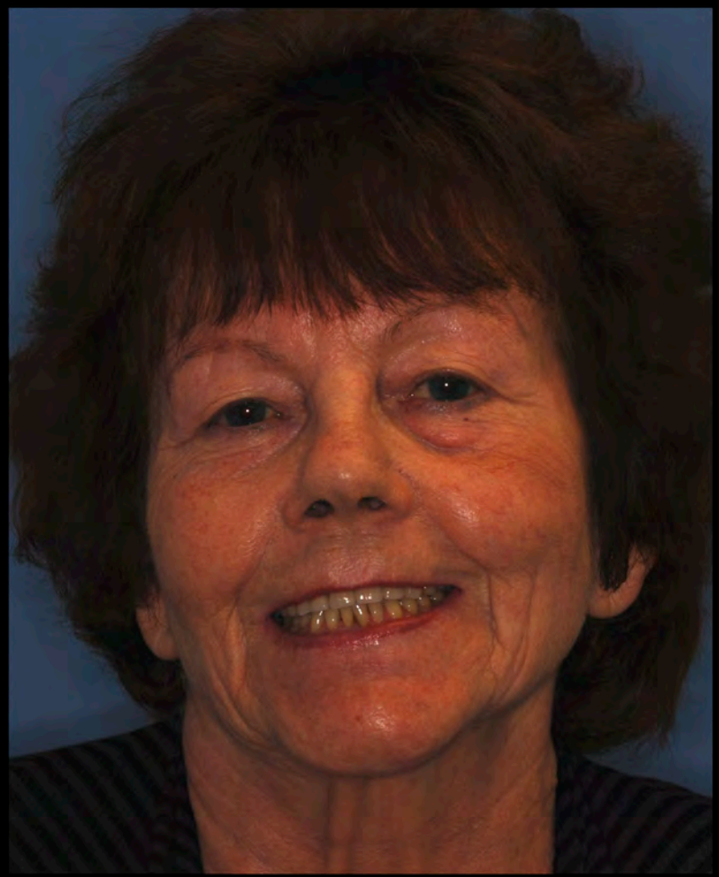
Photos of Labwork

The lab was instructed to construct a non precious metal crown 17 with a guide plane, mesial rest seat, and appropriate contours for clasping. Metal copings were also constructed for the crowns 13,12,23 and bridge 11- 22. These were to have distal rest seats on 13 and 23, be at the OVD described by the registraton rim, with a flat centric stop, canine guidance and gentle rises into anterior guidance. The fit of these copings was verified intra oraly before the porcelain was added. It would have been a good idea to have the palatal surfaces constructed in metal so that the guidance could have been verified at this stage. It was decided to cut the metal back buccaly at the margins for better aesthethics.

Despite not constructing the palatal surfaces in metal the guidance was good and the crowns were inserted with zinc phosphate. Unfourtunatley when the denture was constructed a WI occured on the metal framework where it clasped the 17. It was decided to go ahead and construct the denture and should the WI give trouble extract 17,18 and construct a new denture.



Extra Oral shots 9/8/11



Intra Oral Photos 9/8/11


Radiographs 29/5/12