

Anterior and posterior  
maryland bridge &  
posterior indirect  
restoration  
Mrs J



# History

## Presenting Complaint

Mrs J presented complaining of the poor appearance of her 12 which was congenitally missing and had been replaced by a Maryland bridge 20 years ago. She also disliked the space distal to 13

## Medical History

- 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
- Very heavily restored dentition
- 15,12,22 congenitally missing
- Evidence of grinding
- 16 has active decay

## Occlusion

First contact in RCP is MB cusp of 28

Slide is mostly vertical

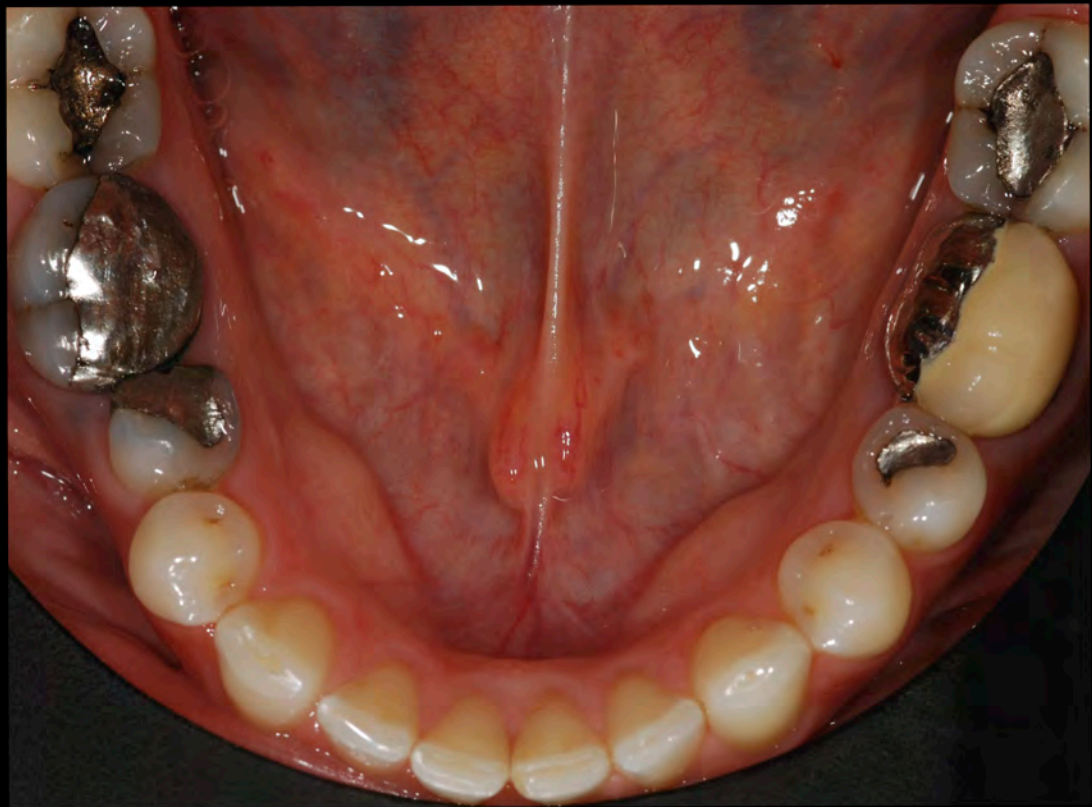
Wear facets seen on practically all the teeth  
Lateral guidance to the left hand side is group function on 23,24,25,26 with NWSI on 17,18  
Lateral guidance to the right hand side is group function on 13,14,16 with NWSI on 27  
Class I skeletal base

## Special Investigations

- 16 responds positive to endo frost







# Radiographs taken 21/3/12 & 2/1/09



# Treatment Planning

## Radiographic Findings

- Bone levels good
- very heavily restored dentition
- 46 RCT is very short though there is no associated peri apical pathology
- 36 RCT is short also with periapical pathology associated with the mesial roots
- Drifting of the roots has made the 14,12 and 22 spaces unsuitable for implants as it stands

## Treatment Planning

There may have been some merit in reorganising the occlusion in this case given the number of restorations required. This was however ruled out by the patient who only wanted her immediate issue sorted out and did not want her anterior bridge 22,23 replaced.

Her existing maryland had served her well however she had recently whitened her teeth leaving the pontic a different colour, she also felt that 11 was very grey due to the metal wing compared to 21. She had had a similar bridge replacing 22 removed 4 years ago and replaced with a conventional cantilever bridge off the 23.

There were many many options how to address her issues. The option that was decided upon was to remove the maryland bridge, change the shape of 13 with composite and construct a maryland to replace 14,12 carried only by 13. The 16 was to be restored with an E - Max crown as there was very little coronal dentine for retention. It was felt that this provided a very conservative solution to this lady's issues and avoided the need for a full crown preparation on 13. The success of the previous maryland was also a factor.



# Restoration of 16



Tooth 15 was heavily filled with thin walls and caries. All of the old amalgam and active caries was removed leaving very little coronal dentine and thin enamel walls. This vital tooth required full occlusal coverage preferably without requiring RCT. Based on Mrs J's aesthetic demands an e max ceramic onlay was chosen. The tooth was prepared with a 1mm chamfer and all the internal edges were rounded. The preparation was then immediately dentine sealed with optibond FL as per manufacturers instructions. Impressions were then taken and the provisional constructed using glycerine jelly to ensure it did not bond to the preparation



At the insert appointment anesthesia was administered, rubber dam applied and the provisional removed. the preparation was then lightly sandblasted to freshen the bond. The e max crown's fitting surface was etched with hydrofluoric acid for 3 minutes, then scrubbed with phosphoric acid for 30 seconds. Silane primer was applied and left to dry. The tooth was re etched and fresh optibond solo applied. The restoration was cemented with dual cure clear NX3, light cured for 5 seconds, excess removed and light curing completed. Proximals were flossed and rubber dam removed. No adjustment was necessary.

# Construction of maryland bridge



When removing the existing maryland the retainer on the 13 was sectioned off so that the remaining bridge could be used as a provisional restoration (an acrylic denture was constructed in case this did not work). The shape of 13 was then modified by the addition of composite to the MI so that the 12 pontic would be more anatomic and the metalwork would be better hidden. shades were then taken and a slight chamfer created to guide the technician. A putty wash impression was taken along with the 16 and a facebow registration taken.



The lab was asked to construct a maryland wing that would replace 14,12. They were also asked to construct a composite seating hook to aid in the accurate placement of the wing while being easier to remove than a metal seating hook. The bridge was placed using panavia F. Unfortunatley it was not possible to check the occlusion prior to cementation as the composite seating hook interfered with the bite. Post cementation it became obvious that the only centric stop was on the 14 pontic. The bridge was reduced in this area.



# Finished treatment photos 17/6/12



The bridge and crown have integrated well into this lady's smile and occlusion. As there had been a metal wing previously the occlusion was restored. Perhaps there is more cement evident between 13 and 12 than would be ideal. Obviously the porcelain on the 14 wing is at an increased chance of # as it appears realitively unsupported palatly, however the forces applied in this area should be minimal.



The E max crown has integrated well while preserving the vitality of 16.