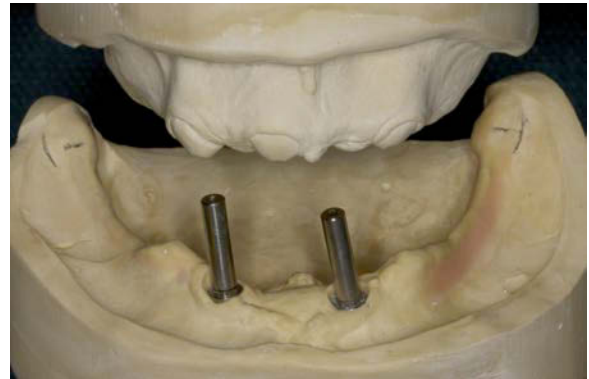


**CASE REPORT: Custom Abutments Fabricated Using Locator Bar Females To Correct Implant Angulation Outside The Extended Range Locator Male.**

***Eric ~ Villarreal, DMD***

Patient presented with implants placed at an angle outside the limits of the extended range locator male inserts. The patient had reduced manual dexterity. A solid bar was not practical for oral hygiene care. (Fig. 1)



(Fig. 1)

Another option was to fabricate custom abutments using individual Locator Bar Females (#8589-2) on a platform that is perpendicular to the desired path of insertion. In designing the custom abutments they were kept off the tissue and shaped to allow access with an electric toothbrush.

The denture wax up was duplicated using condensation silicone and poured in Type IV stone. A clear pressure form template was used and placed over the master cast using index notches on the cast. With the clear matrix in place the cast was surveyed using a survey table that could be used with both a traditional surveyor and a milling machine interchangeably to obtain an acceptable path of insertion with the final denture. (Fig. 2)



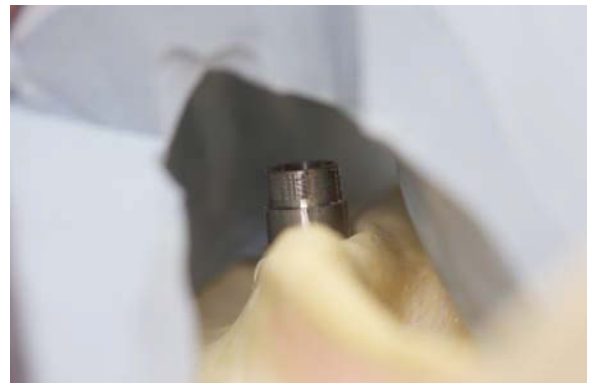
(Fig. 2)

The cast was marked to maintain the survey during the fabrication process. (Fig.3)



(Fig. 3)

A lab putty matrix was fabricated to section in a buccal/lingual direction over the area of each locator. The matrix was used during the fabrication process to ensure space over the locators to for adequate acrylic thickness. (Fig. 4)



(Fig. 4)

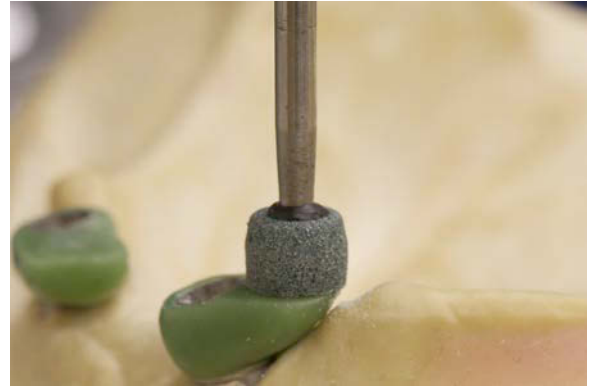
UCLA style abutments were used for the gold alloy implant interface by removing the plastic sleeve. Vertical retention grooves were cut into the gold to provide a mechanical mechanism of anti-rotation. (Fig.5) The anti-rotation grooves are marked with red pencil for viewing purposes.



(Fig.5)

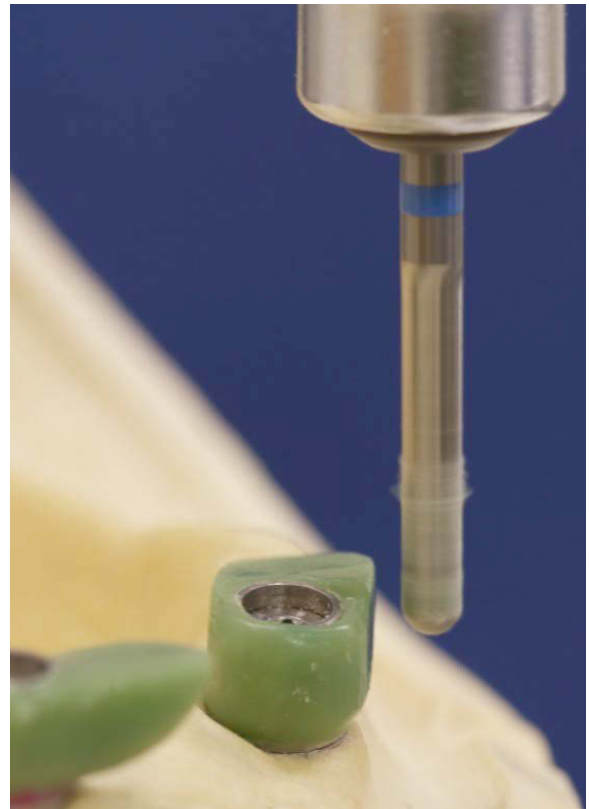


(Fig. 6)

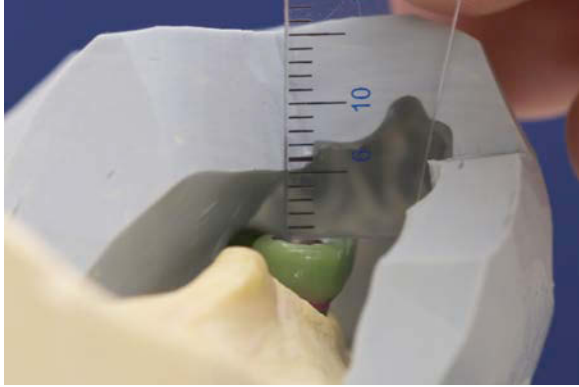


(Fig. 7)

The Locator bar females were measured to fabricate an adequate seating platform. The custom abutments were made in milling wax to the correct specifications using a milling machine. (Fig. 6, 7 and 8)

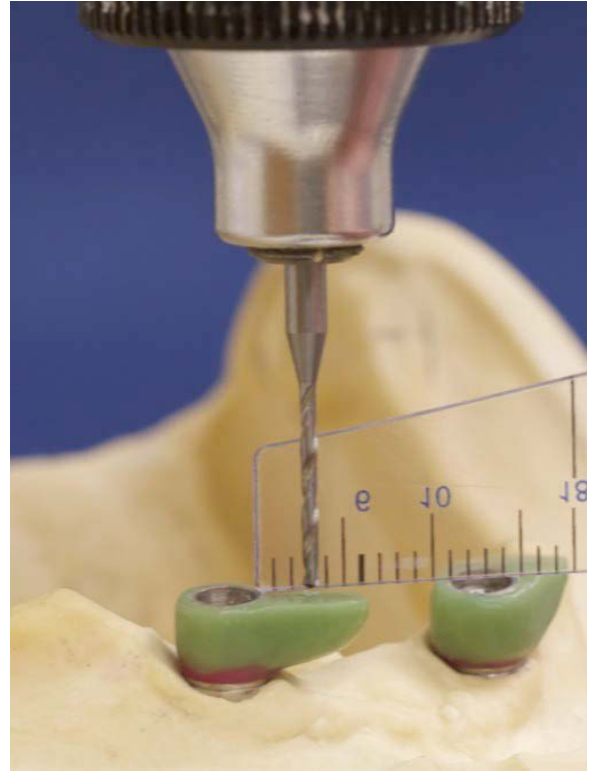


(Fig. 8)



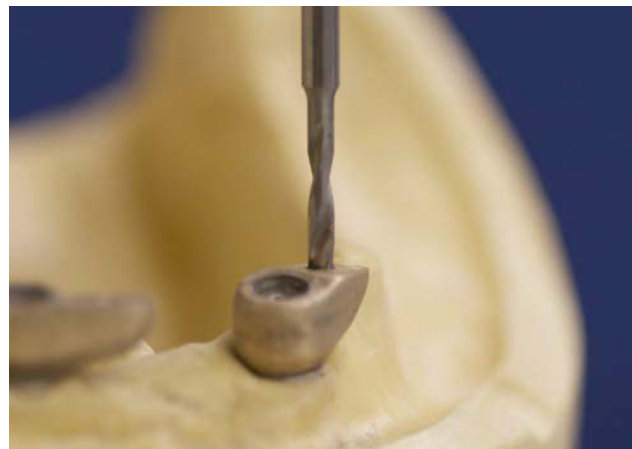
(Fig. 9)

A final clearance check was made using the putty cast of the final denture (Fig.9). Using the Drill and Tap Holder (#8016) a hole was drilled in the center of each platform using the Bar Tap Drill (#9102) (Fig. 10). The drilled hole will be tapped after casting.



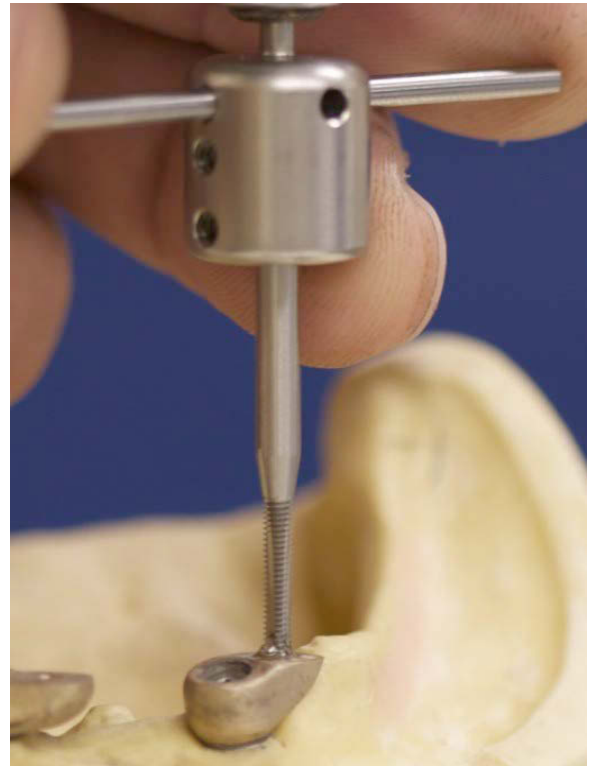
(Fig.10)

The custom abutments were cast in Type IV gold. Once divested the same Bar Tap Drill (#9102) was used to clean out the previously drilled holes to remove and casting imperfections (Fig. 11).



(Fig. 11)

When tapping the threads, the cutting rotations should be performed by hand using the 2.0mm Bar Tap (#9104). By inserting the cross bar through the Drill and Tap Holder, the operator can rotate the tap while simultaneously applying steady downward pressure with the milling machine or surveyor (Fig. 12)



(Fig. 12)

A light lubricant is recommended when cutting the threads to prolong the life of the tap and help carry the metal shavings out of the recess (Fig. 13).



(Fig. 13)

Once the tap begins to bind you must back the tap out to remove the metal shavings. If the shavings are not removed by reversing the tap you risk breaking the 2.0mm Bar Tap (Fig 14).



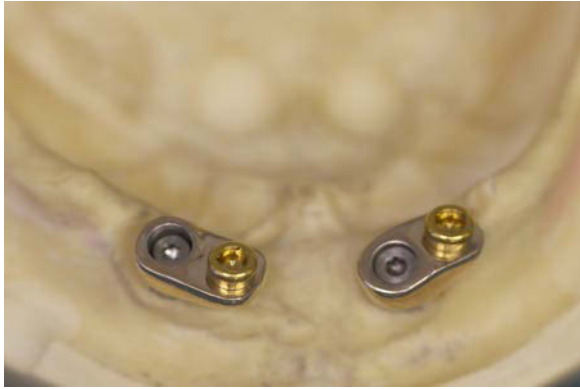
(Fig. 14)

Once the threads are cut to the desired length the Locator Bar Female is inserted to ensure a complete seating of the Locator Female. The Locator Bar Female is then removed to complete final polishing of the metal. If the Locator Bar Female is not removed there is a risk of damaging the coating (Fig. 15)



(Fig. 15)

To prevent loosening of the Locator Bar Female, Ceka Bond is used to lock the threads together. If the Locator Bar Female ever becomes damaged and needs to be replaced the Ceka Bond can be broken by heating the surrounding metal once removed from the implant.



At delivery Perma Block (#1153) was used to block out undercuts around the custom abutments (Fig.16)



(Fig. 16)