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“Monday Morning Pearls of Practice by Bobby Baig”

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Single implant restoration: Customization of a stock impression coping to record the emergence profile.

Introduction: In esthetically demanding areas after implant temporization the optimized soft tissue volume can be recorded by customizing the stock impression coping.

Maturation and stabilization of the peri-implant mucosa around a provisional crown takes place within the first three to twelve months after insertion (Grunder 2000, Ek Feldt et al 2003). It is therefore recommended that the provisional crown remain for at least three months.

With the desired shape and emergence profile are achieved the impression for the master cast and the final crown fabrication is made. The contours of the mucosa for a natural emergence profile which were shaped by the provisional can now be captured with the impression.

Case Presentation: Patient in for an evaluation of tooth #12. This tooth has a root canal treatment, P&C, and crown (Fig 1 and 2). After clinical and radiographic evaluation and discussing the risks and benefits of the treatment and the long term prognosis, the plan is to extract the tooth and replace it with a single implant restoration. The tooth in question is biologically and biomechanically compromised (Fig 3-5).



1) Retracted smile view



2) Occlusal view.



3) Radiograph with the crown and debonded post



4) Facial view.



5) Occlusal view with secondary caries

After the implant surgery and osseointegration, a final impression (Fig 6) was made and a screw retained provisional restoration was fabricated using the dynamic compression technique to create an ideal emergence transition profile. (See issue one for more details about dynamic compression theory) (Fig 7) (Implant surgery by Dr. C Ercoli).

Using this technique, ideal soft tissue architecture is achieved and this is compared to the contra lateral side (Fig 8 and 9).



6)



7)



8)



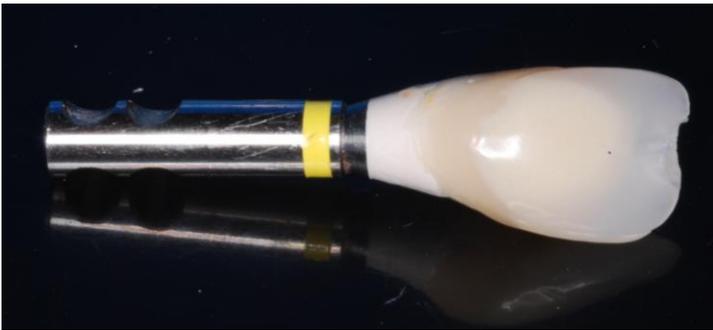
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Customization of stock impression coping technique:

The advantage of this technique is to capture the emergence profile of the final provisional crown and accurately communicate to the dental technician about the clinical situation.

Step 1: The provisional crown is removed and connected to an analog (Fig 10), Vaseline is applied to the

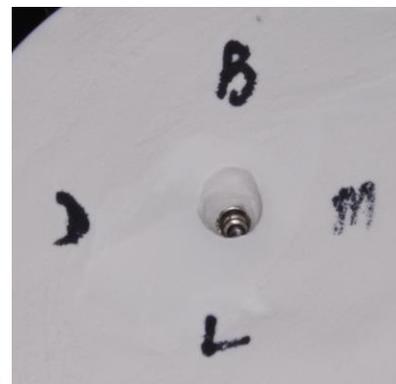
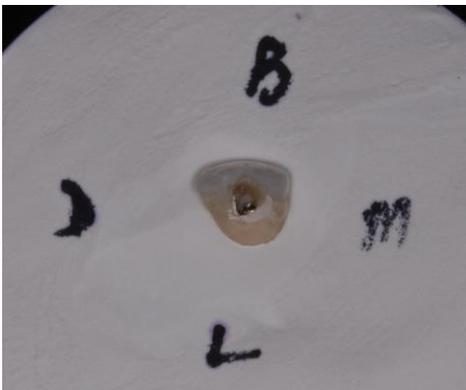
crown up to the level of the analog-provisional interface. Section water plastic/paper cup to less than half mix dental stone, with appropriate water/powder ratio add it to the cup, submerge the analog in the stone (Fig 11).



10) The Temporary crown connected with the analog

11) The analog is submerged in a dental stone box

Step 2: After the stone is completely set. Label all the four sides on the dental stone model. Before the provisional restoration is removed (Fig 12). At this point the emergence profile is recorded in the stone model. (13)



(12)

(13)

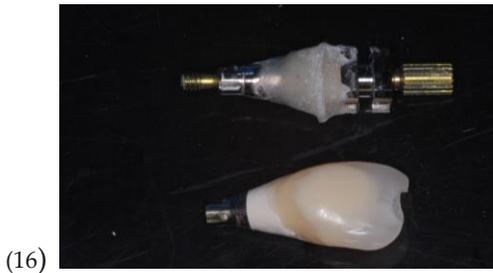
Step 3: Apply Vaseline on the walls of the stone only, connect the impression coping to the analog (Fig 14), add flowable composite resin in the space between the analog and the stone and light cure the resin (Fig 15).



(14)

(15)

Step 4: The transition zone i.e the emergence profile created is replicated on to the impression coping, (Fig 16), as compared to the provisional restoration, the impression coping is connected to the implant to take the final impression (Fig 17).

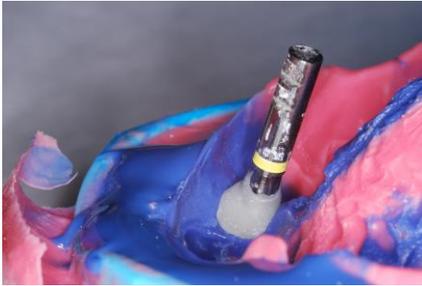


(16)



(17)

Step 5: The transition zone is recorded along with the implant position in the final impression (Fig 18) and master cast is created. (Fig 19).



(18)



(19)



(20)



(21)

Conclusion: The precision capturing of the transition zone of the final provisional crown (Fig 20) helps the dental technician to create the desired anatomy in the final restoration which help to preserve the interproximal tissues and create an ideal esthetic outcome. (Fig 21).

Reference:

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