A technique to prepare silicone transfer index using a custom made cutting tool for obtaining parallel guide planes

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Abstract

This technique allows the operator to prepare guide planes on the diagnostic cast and to transfer the same to the mouth with the help of a silicone transfer index and a custom made cutting tool.

Key words: Guide plane, silicone transfer index, custom made cutting tool

Technique

1. A typodont jaw (Confident, India) was used which represented patient’s jaw. The jaw had a missing left mandibular 1st molar. So it represented a case of Kennedy’s class III. (fig 1)

2. A primary impression was made with irreversible impression material (Algitex, India). Impression was poured in type III dental stone and diagnostic cast was obtained. (fig 2)

3. The diagnostic cast was positioned on the surveying table (Williams’s surveyor) and oriented at the tilt used during survey and design procedures. The analyzing rod was used to locate the position of guide planes on the abutments. (fig 3)

4. The analyzing rod was replaced by a carbon marker and the guide planes were marked. Guide planes were extended gingivally onto land area of cast both buccally and lingually. (fig 4). The cast was then left on the surveying table.
5. An index on the diagnostic cast was made using putty consistency addition polyvinylsiloxane impression material (Affinis, Switzerland). The silicone index extended onto the abutments along with atleast one adjacent teeth on both sides of the edentulous area.

6. Guide plane marks were transferred to the silicone index buccally, lingually and occlusally. (fig 5)

7. A blade from a paper knife was sealed to the chisel tool of the surveyor with cyanoacrylate to fabricate the custom made cutting tool. (fig 6)

8. The marked area on the silicone index was cut using the tool attached to surveying arm (fig 7). The tool, cut the index vertically and along with that prepared the guide plane on the abutment.

9. Trimmed silicone index was placed intraorally (fig 8). Tooth area to be prepared projected out of the index and was marked with a permanent marker. (fig 9)

10. Colored area on abutment teeth was removed using parallel sided rotary instrument to obtain parallel guide planes. (fig 10)

**Conclusion**

This is a simple technique to prepare parallel guide planes using silicone index. No tooth or soft tissue block out are required because of the flexibility and tear resistance of silicone material used for preparing the index. The custom made cutting tool can easily be fabricated and can be used to cut silicone index along with preparation of guide planes on the diagnostic cast. The silicone index can be placed easily for intraoral observation and the color applied to the preparation surface prevents overreduction of the tooth. The technique provides reasonably good accuracy.

**References**


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