



## TECHNICAL REPORT

### Modified Special Tray and Impression Technique for Restricted Mouth Opening Patient

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**ABSTRACT:** Fabrication of complete denture for patients with microstomia, using conventional method is a challenging task. To treat such patients, conventional methods need to be modified. This article describes modified method of special tray fabrication and impression technique for a completely edentulous patient with restricted mouth opening.

**Key words:** *Microstomia, modified special tray, sectional tray*

Normal mouth opening is approximately 40 mm. When it is only 20 mm maximum, then it denotes restricted mouth opening. This may be due to sub mucous fibrosis, ankylosis, scleroderma, trauma, burns etc<sup>[1]</sup>. Recording impression with normal stock tray and special tray is impossible in these patients<sup>[2]</sup>. In the past several modified methods were described to record the impression in a microstomia patient. Two most common method were,

1. Recording the impression of the oral cavity in two section by using sectional trays, later the sectional trays were made into single piece extraorally<sup>[3]</sup>.

2. The sectional trays with impression material were placed into oral cavity in two halves, made into single piece intraorally, once material was set impression were sectioned along the junction of two halves and removed<sup>[4,5]</sup>

Retention of the complete denture was compromised in such methods<sup>[6]</sup>. This article describes the fabrication of a sectional tray and modified impression method for a restricted mouth opening patient due to sub mucous fibrosis, without reducing the retention of the denture.

#### TECHNIQUE

**Step 1:** Restricted mouth opening of 19mm is evident.(Fig-1)

**Step 2:** Primary impression was recorded with elastomeric impression material (Dentsply, Aquasil

putty consistency) using small size (size 0) stock tray which were altered by trimming and bending the flanges with plier and trimmers.

**Step 3:** Cast was made with Plaster of Paris (Dental Grade, Plaster of Paris)

**Step 4:** The spacer (Hindustan Modeling Wax No.2) was adapted with four tissue stops and special trays were fabricated with self-cure acrylic resin (DPI Cold Cure Denture Material) by sprinkle on method along with handle for both maxillary and mandibular arch.

**Step 5:** Impression compound was softened and adapted over the handle of the special tray which acted as an anterior lock(Fig-2)

**Step 6:** The special trays were sectioned into right and left halves along the midline for both maxillary and mandibular arch.(Fig-3)

**Step 7:** Two halves were joined with help of acrylic resin block along with snap fit pins as posterior lock and anterior lock.

**Step 8:** Border molding was carried out for each halves separately with green stick compound (DPI Pinnacle Tracing sticks, Bombay, India).(Fig-4)

**Step 9:** Final impression was made by loading the right and left halves with monophasic impression material (Aquasil Smart Wetting Monophasic) which was placed into the patient mouth separately. The two halves were then joined intraorally to form a single unit with the help of the anterior and posterior locks.(Fig-5)

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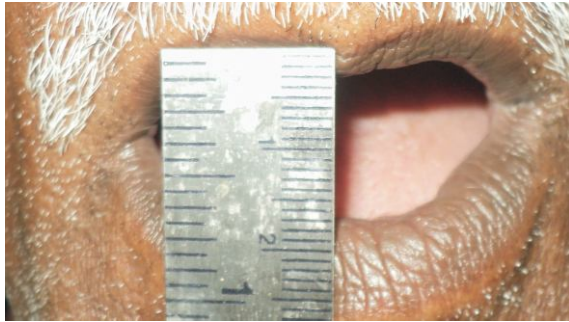


Fig 1: Reduced mouth opening



Fig 2 : Sectional trays

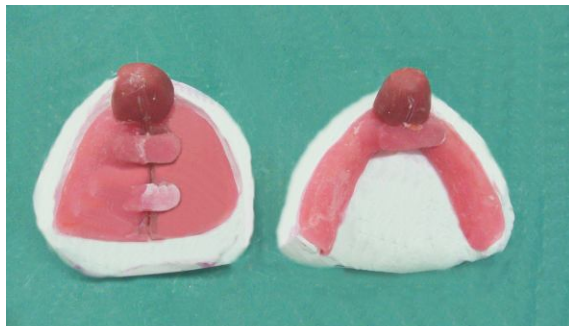


Fig 3: Trays with anterior and posterior locks



Fig 4 : Border moulded sectional trays



Fig 5: Recording of impression



Fig 6: Sectional trays bent and removed



Fig 7: Impression tray removed



Fig 8: Completed impressions

**Step 10:** Once the material was set, anterior lock was removed and the snap fit pin was loosened. The special tray was then bent and removed from the patient mouth in single piece. (Fig-6-8)

## CONCLUSION

The monophasic impression material is an elastic material. Thus it helped in removing the impression from the mouth through the restricted mouth opening in a single piece along with sectional tray, without compromising the retention.

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