

## A Simple Technique of Denture Labeling

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### ABSTRACT:

Marking denture has been considered as an important part of forensic dentistry, although no standardized method is followed. The more contemporary methods use hi-tech equipment and are expensive and may not be suitable for all practitioners to use. This article describes a simple laboratory technique for denture marking using micro-motor and round bur then filling up the engraving by tooth colored self cure acrylic.

**Keywords:** Guided tissue regeneration, Maxillary lateral incisor, Palatogingival groove, Platelet rich fibrin,

### INTRODUCTION

Denture labeling is universally recommended by almost all the international dental associations and the forensic odontologists. Some countries like USA, the labeling of dentures is regulated by legislation.<sup>1</sup> Identification of people who have lost their memory or the bodies of those who died in disaster can be achieved by labeling the dentures.<sup>2,3</sup>

The denture marking should be biologically inert when incorporated into the denture, inexpensive, easy and quick to apply, readable, durable without jeopardizing the strength of the prosthesis.<sup>4</sup>

#### Various techniques used for denture labeling:

##### Surface marking

The surface marking method consists of the marks that are located on one of the denture's surface and that can be achieved by "scribing or engraving" on the denture itself. In this technique letters or numbers are engraved with a small round dental bur on the fitting surface of the maxillary complete denture.<sup>5</sup>

##### Surface embossing

In this technique the initials of the name and the surname of the patient are scratched on the

master cast with the help of a dental bur.<sup>5</sup> This helps in producing embossed lettering on the fitting surface of the denture but it is associated with frequent irritation to the mucosa.<sup>6</sup>

##### Marking using fiber tips.

Another type of surface marking includes writing on the tissue-fitting surface or the polished surface of the finished denture surface with a fiber-tip pen. The patient's identification details are then covered by at least 2 thin coats of varnish which prolong the life of the marking.<sup>5</sup>

##### ID bands

A stainless steel metal band can also be used for marking the dentures. Fire-resistant materials like titanium foil and Ho Matrix Band containing an identifiable coding system representing patient details are the most commonly used.<sup>5</sup> A shallow recess for the metal band is prepared in the denture base in the desired location, to a length 6 mm longer than the identification band. The preparation is 3 mm deeper than the thickness of the metal band.<sup>7</sup>

##### Paper strips

It is a less expensive alternative method utilizing a piece of "onion skin" paper. Usually placed at acrylic resin fitting surface situated adjacent palatally between the ridge and the

center of the palate, Clear or pink polymethyl methacrylate (PMMA) is then placed over the paper before final closure of the denture flask.<sup>8</sup>

#### T-Bar

A T-shaped clear polymethyl methacrylate resin bar can be constructed by cutting baseplate wax and then flasking, packing, processing, and finishing in clear PMMA. Against the flat section of the bar, is fixed an identification printed label (reduced in size, print-face inward) which is then surface polished to produce a clear window which facilitates displaying the ID label.<sup>9</sup>

#### Laser etching

The metal surface of a partial denture of the patient can be etched with the patient's identification with the help of specially equipped laboratories which can provide a copper vapor laser (CVL).<sup>9</sup> The cobalt-chromium components of dentures can be easily labeled using a CVL, legibly reducing the font size of the data. A two-axis scanner mounted with mirrors delivers the focused CVL beam to the material surface.

#### Electron microchips

It is high end technology tried for labeling the dentures with a chip measuring 5×5×0.6 mm containing the patient's information. This technique has evolved with the value of denture markings gaining better understanding.<sup>10</sup>

#### RFID-Tags

This is a cosmetic, effective labeling method which permits a rapid and highly reliable identification of the wearer by the inclusion of radio-frequency identification (RFID)-tags within dentures. Their small size (8.5×2.2 mm) and large storage capacity for the data of denture user make its use more preferable.<sup>10</sup>

#### Lenticular system

Another method in which lenticular lens is used to produce images with an illusion of depth, morph or the ability to change or move as the image is viewed from different angles is known as Lenticular printing.<sup>11</sup>

#### Denture barcoding

A bar code applicable to dentures consists of a machine-readable code of a series of bars and

spaces printed in defined ratios. One gets exact information by Denture barcoding and also resistance to high temperatures. However, expensive special equipments are required.<sup>12</sup>

## METHOD AND MATERIALS

### Armamentarium

- A round TC bur 0.5mm (Figure 1)
- Tooth colored self autopolymerizing acrylic resin (Figure 2 ) (DPI self -cure tooth moulding powder).



Figure 1: round TC bur 0.5mm

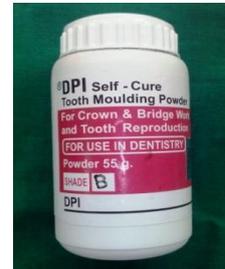


Figure 2: Tooth colored self autopolymerizing acrylic resin

### Technique:

After complete denture trimming and finishing, just prior to the polishing denture marking is done.

-A marker is used to write the patient name and age on the denture base flange area.(Figure 3)

-A small 0.5mm round TC bur is taken and scribing or engraving is done following the markings.(Figure 4 )

-Engraving is filled using auto polymerizing tooth colored acrylic resin and make sure its not spread to adjacent areas.(Figure 5)

-Finishing done using sand paper and polish the entire denture as usual.



Figure 3: A marker is used to write the patient name and age on the denture base flange area



Figure 4: A small 0.5mm round TC bur is taken and scribing or engraving is done following the markings



Figure 5: Engraving is filled using auto polymerizing tooth colored acrylic resin

## DISCUSSION

There are several situations which demand the identification of an individual and when all the other methods fail to reveal the positive identity of a person, it is obvious that only marked dentures can reveal it, this itself is the reason enough to justify the implementation of ID marking of dentures.<sup>13</sup>

The dentist should always inform the patient the obvious benefits of denture labeling and motivate the patient for the same however; a patient owes the right to refuse it. Some of the procedures for dental labeling may be too expensive for the patient.<sup>14</sup> The inclusion methods of denture labeling are definitely more permanent and provide a positive result, but it tends to weaken the denture structure and also create minute porosity. It was also found to be more expensive and trained personnel in well equipped dental laboratories were needed.<sup>5</sup>

Surface marking methods are easy to apply and relatively inexpensive, the disadvantage of wearing off can be managed by following the technique appropriately.<sup>5</sup>

## CONCLUSION

This article describes easy and very cost effective way of denture labeling, the

equipment required are easily available in many institutes, dental laboratory or dental clinic. The simple engraving method in denture labeling may attract food particles and microbes thereby hinder the denture hygiene. But the technique used in this article will not interfere with maintenance of denture hygiene because of highly polished surface of tooth colored acrylic. By this method denture labeling could be done in existing prosthetic devices which were not labeled previously or it could be very well incorporated into the newly constructed prosthesis.

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