Denture labeling: A new approach

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Abstract

The need for denture labeling is important for forensic and social reasons in case patients need to be identified individually. The importance of denture marking has long been acknowledged by the dental profession. Over the years, various denture marking systems have been reported in the literature, but none till date fulfills all the prescribed ADA specifications. A simple, easy, inexpensive procedure for marking accurate identification marks on dentures with a lead foil is described here. The label caring the patient information is incorporated in the acrylic resin during the denture processing.

Keywords: Denture labeling, denture marking, forensic dentistry

Introduction

Identification is an essential requirement of any medicolegal investigation, because a mistaken identity may pose a problem in delivering justice. Forensic dentistry is one of the most recent branches of dentistry which deals with medicolegal cases. Labeled dentures can be important in identifying people who have lost their memory or in identifying the bodies of those who died in disaster.[1,2]

The importance of placing identification marks on dentures has long been acknowledged by the dental profession, although no standard method has been developed.[3,4] Majority of the surface marking and inclusion methods are expensive, time consuming, and do not permit the incorporation of large amount of information. A procedure for marking accurate identification marks is described in this article, which is easy, quick, and esthetically acceptable.

Materials and Methods

Step-by-step procedure is described below:

- Complete denture trial is done in a routine manner and then laboratory procedures are initiated.
- Seal the trial denture to the master cast [Figure 1] and do the flasking till the dewaxing stage [Figure 2].
- Take a used IOPA radiographic film and cut a piece of lead foil from it with the dimension 2.5-0.6 cm. Write the patient detail (name, hospital/OPD no., name of the hospital, and the place where the work is done) with a ball tipped pen [Figure 3].
- Mix small amount of heat-cure acrylic resin and place it in the posterolateral region of the palate (in maxilla), in the lingual flange (in mandible).
- Place the lead foil (carrying patient detail) in the specified areas and again cover it with mixed acrylic.

Figure 1: Wax-up denture

Figure 2: After dewaxing

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The idea is to sandwich the lead foil in layers of acrylic [Figure 4].

- Lightly chip blow the acrylic 2 to 3 times with the blow torch. Care should be taken so that the acrylic is not burnt or overheated. This is done to prevent the shifting of the acrylic and lead foil during the trial closures [Figure 5].
- Measured polymer/monomer mixture should be packed into the mould in the dough stage.
- Do the trial closures till no flash appears.
- Bench cure/polymerize the dentures.
- Deflask, trim, and polish the dentures to a good finish [Figure 6].
- An IOPA radiograph is exposed in the area where the lead foil is placed. The radiograph will reveal the complete detail of the patient [Figure 7].

Discussion

Denture labeling was introduced in prosthetic dentistry due to the necessity of forensic experts. Should an edentulous individual be involved in a disfiguring disaster, it might be difficult to identify him unless his dentures were uniquely marked.

Various techniques have been devised and reported in the literature till date and are broadly divided into surface marking or inclusion methods. The surface marking methods include engraving the cast, scribbling on dentures/writing on the denture surface, while the inclusion methods involve incorporation of microchips, lenticular cards, and radio-based tagging transponders into the dentures .of the many options considered, but none fulfills all the prescribed ADA specifications.[5] The surface markers (spirit pens, various sealants) were rapidly removed by one or more abrasive, denture cleansers, antiseptic/mouthwash agents. Inclusion methods like lenticular cards, transponders, and plastic chips are not economical, are time consuming, and also not simple.[6-10] The Swedish identification band was found to be of international standard accepted by FDI, researchers have shown that the metal band is not resistant to very high temperatures.

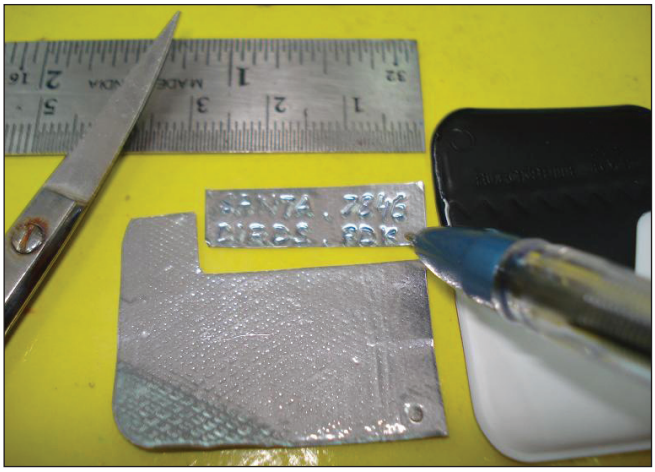

Figure 3: Armamentarium

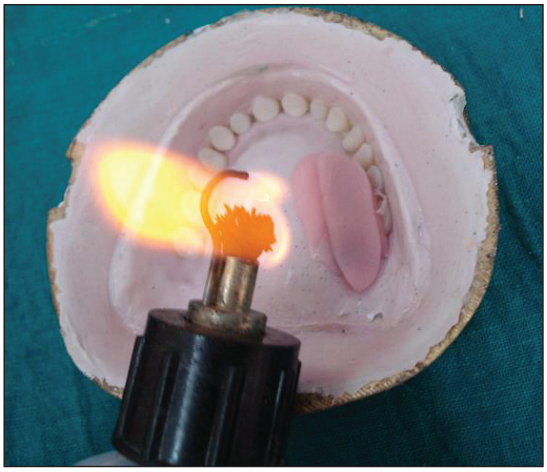

Figure 5: Chip blow the acrylic

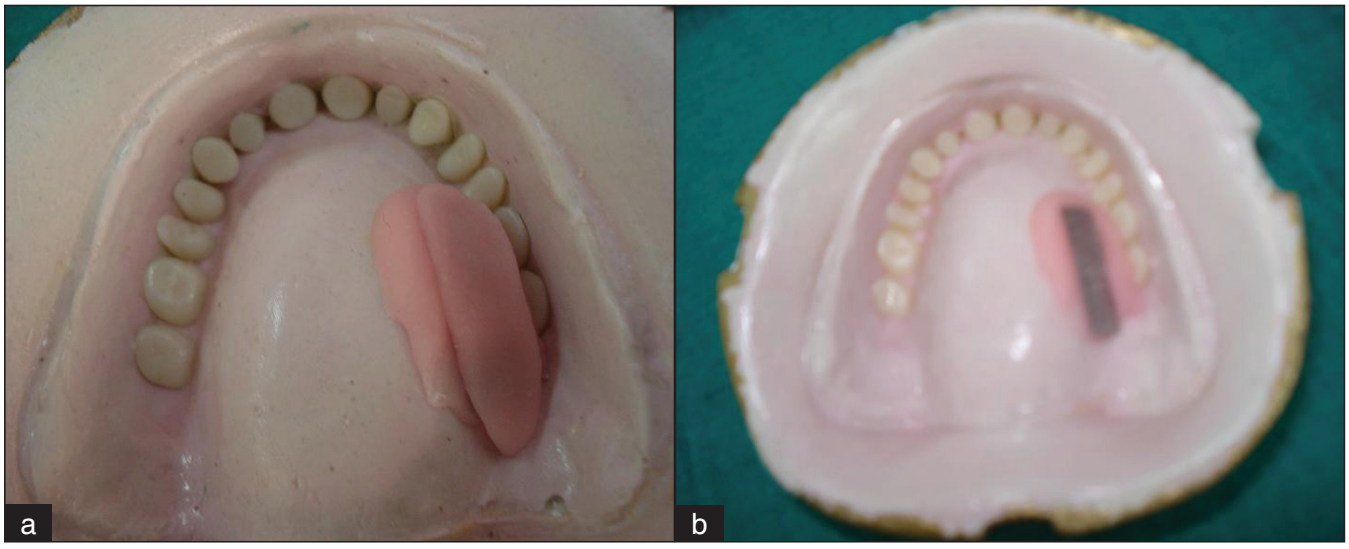

Figure 4: (a) Label sandwiched in layers of acrylic, (b) label positioned

Figure 6: Finished denture

Moreover, these methods require equipments not readily available in the dental laboratories.

The technique described in this article requires no additional armamentarium, apart from the one that are readily available in a dental laboratory. An additional benefit is the incorporation of a radiographic substance to help locate an aspirated temporary partial denture.

Conclusion

An easy and inexpensive method fulfilling all the required ADA specifications for denture marking has been proposed in this article. The label here is durable and can withstand high temperature also. The label shows no sign of deterioration/ fading, is cosmetically appealing, and can satisfy all the forensic requirements of a suitable prosthesis. The routine marking of all dentures by this method is advocated.

Figure 7: Exposed IOPA radiograph showing patients detail

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