Abstract
Denture marking is now a universally undertaken means for identifying dentures and persons in geriatric institutions, during war, crimes, and civil unrest, natural and mass catastrophe, autopsy and medico-legal enquiry. This paper reviews the varied methods of denture labelling and its significance.

Keywords: Denture identification, Forensic odontology, Methods.
Methods of Denture Marking
Denture labelling can be broadly classified into either

1. Surface marking method
2. Inclusion method

Surface Methods
Scribing or Engraving the Denture: Two letters, that is initial letter of the name and of the cognomen, can be engraved with a small round dental bur on the fitting surface of the maxillary complete denture, which resulted in countersunk letters. Most typical area is distobuccal flange of maxillary and mandibular denture.  

**Advantages:** It is the simplest way of marking dentures.  
**Disadvantages:** Initials of name do not provide much information and may be confusing.

![Engraved denture](Fig. 1: Engraved denture)

Inclusion Method
Metal Identification Bands: Dentures have been marked in Sweden with a stainless-steel metal band incorporated into the acrylic, containing the personal ID of the patient and incorporated to dental plate post or prefabrication. The Swedish ID-Band is currently the international customary among ID bands.  

**Advantages:** It is resistant to very high temperatures, up to 1100°C.  
1. It is cheap  
2. Requires no special instrumentation.  
3. Radio-opaque  
4. Esthetically acceptable.  
**Disadvantages:** Metal insert will cause weakening of the dental plate at the point of insertion.

![Metal ID band denture](Fig. 2: Metal ID band denture)

Computer-printed Denture Microlabeling System: Berry et al (1995) suggested a post fabrication technique for identification of prosthetic devices. The identification label bearing the patient’s details was computer generated and placed in slot in the denture followed by saturated clear organic polymer applied to seal it & cured in an exceedingly pressure pot.

Similarly Ling (1998) suggested a computer-printed denture microlabelling system in which Patient’s details was computer written& then photocopied onto a transparency sheet in 50% reduced size. Once treating with cyanoacrylate acid esters adhesive solution the microlabel was then incorporated into the denture during the packing stage.  

**Advantages:** Can be done after fabrication of denture.  
**Disadvantages:** esthetically not much suitable.

![Denture with computer labelling](Fig. 3: Denture with computer labelling)

Writing on the Denture: In this technique, patient's identification details are written on the tissue-fitting surface of the finished dental plate with a fiber-tip pen. The mark is best protected against abrasion by a minimum of two layers of varnish.  

**Advantages:** Easy to work with.  
**Disadvantages:** It does not provide much information.

![Writing on the denture with fiber-tip pen](Fig. 4: Writing on the denture with fiber-tip pen)

Lead Paper Label and Radiograph: Mona Sayed et al (2009) explained employing a lead foil paper found within the intra-oral photographic film to type the patient's information with any manual ribbon typewriter.  

**Advantages:** This technique can be used during fabrication or after fabrication.  
1. Lead foil is radio-opaque when it is subjected to another IOPA, details are projected on IOPA film.
2. It is helpful in locating an aspirated temporary partial denture.\(^{19}\)

**Disadvantages:** It is complicated than previous techniques.

Radiograph is required as reading directly from lead foil is not easy.

**Fig. 5:** Lead foil in denture

**Denture Bar Code/quick Review Code (QRC):** Rajendran et al in 2012 devised a relatively simple 2-D bar-code technique with patient’s details such as name, and social security number employing a code generator.

In this technique with the assistance of bar code generating software which is available free of cost, a patient specific bar code with all patient details is fabricated and printed. This is often then covered with transparent adhesive tape or transparent sheet and inserted into denture and covered with clear acrylic and finished, polished. To decipher it, hold a code decoder-enabled mobile camera and is translated into text on the mobile phone display easily.\(^{20}\)

**Advantages:** It is the latest and advanced method.
1. It is easy and cheap to generate.
2. Full patient information can be uploaded.

**Disadvantages:** If not fabricated properly, scanning is not possible.

**Fig. 6:** Denture bar code

**Photographic Method:** In this methodology, patient’s photograph is embedded within the dental plate with the help of clear acrylic resin

**Advantages:** This method is especially useful in the countries with low literacy rate where a photograph is the easiest way of identification.
1. It is also helpful in countries with diverse scripts.

**Disadvantages:** It cannot be used in burn case victims or severe face injury cases.

**Fig. 7:** Denture with photograph

**Lenticular System:** Lenticular printing introduced by Colvenkar in 2010, in which a convexo-convex lens is employed to provide pictures with an illusion of depth, morph, or the power to alter or move as the image is viewed from different angles. Lenticular technology permits pictures to be written on the rear of a synthetic paper and laminated on the lens.

**Advantages:** It is an easy, low cost and fast technique.
1. It doesn’t need special glass or device to browse the information, like computer or handheld reader.

**Disadvantages:** Information can never be modified, and may not withstand a fire.\(^{21}\)

**Fig. 8:** Lenticular system

**RFID –TAGS (Radio-frequency Identification):** The RFID system consists of an information carrier, usually remarked as tag or transponder, and an electronic handheld reader. The information is kept within the chip itself, and therefore the hand-held reader can obtain all information from the chip.

**Advantages:** They are popular because of their small size (8.5x2.2 mm).
1. Unlimited amount of dental plate user data can be stored in them.

**Disadvantages:** High price of manufacture.
It isn’t fireproof.\(^{22}\)
Aadhar Number: This method is particularly useful in India, since government has connected aadhar number digitally.

In this technique, with the help of aadhar number patient detail can be obtained.

Advantages: Patient can be located easily. Easy and cheap to fabricate.

Fig. 9: RFID Tags

Fig. 10: Denture with aadhar number

Conclusion

In case of major disaster, the reliance on dental identification becomes more essential as teeth and restorations are the most lasting components of the human bodies.23,24 This paper reviews the varied approach of denture marking and also highlights the importance of putting identification marks on dental plate. Each technique has its own advantage and disadvantage. The key reasons for not marking dentures are cost, lack of awareness of the varied methods and a belief that it is of very little importance. Needless to say, that the worth of labeling dentures is enormous once a positive identity of an individual is desired. Hence, dental education is necessary to confirm that students, dentists and dental technician’s are exposed to varied denture marking technique providing aesthetically appropriate and efficient denture marking system that’s conjointly cheap, simple and permanent.

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