

A Novel Sandwich Technique of Removable Prosthesis (Denture) Labelling

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ABSTRACT

Background: There is a need to identify patients individually for forensic and social reasons. The importance of denture labelling has long been acknowledged by the dental professions. Over the years, various denture labelling systems has been reported in the literature. A novel and inexpensive procedures of removable prosthesis (denture) labelling using patients own photograph, name inscription on the matrix band and incorporation of QR code using sandwich is being described here.

Keywords: Denture labeling, sandwich technique, Matrix Band, QR code, QR code soft ware.

INTRODUCTION

Denture labelling is a well-accepted mean of identifying both persons and dentures. The identification of edentulous individuals by means of denture labelling is a very successful method in forensic investigation. Following major disasters such as earthquakes, fires, floods or aviation disasters, a definitive and early identification of the dead and injured becomes, of the utmost importance.^{1,2} Denture labelling is also useful to locate the misplaced dentures in hospitalized patients, patients in long term care facilities, in dental laboratories and in patients who suffer from unconsciousness or psychiatric problems such as traumatic or senile loss of memory. Forensic dentistry is one of the most recent branches of dentistry which deals with medicolegal cases. A novel technique of labeling dentures for accurate identification is described in this article which is easy quick and aesthetically acceptable^{3,5}. The present article describes the incorporation of

denture markers such as patient photographs, name inscribed matrix bands, and QR codes, using sandwich technique. Step by step procedure are given below.

1. Complete denture trial is done in a routine manner and then laboratory procedures are initiated.
2. The trial denture base is sealed to the master cast and do the flasking till dewaxing stage (fig:1&2).
3. The patient stamp size photograph is taken for incorporation in the maxillary denture in the palatal region.
4. Initially a small Mix of clear heat cure acrylic resin is made and placed in the posterior part of the palate in the maxillary model (fig:3).
5. The patient stamp size photograph is placed over it with photo facing the model.
6. Later entire mould space is placed with pink heat cure acrylic resin in dough stage (fig:4).

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Fig1: Maxillary mould space after dewaxing.



Fig2: Mandibular mould space after dewaxing.



Fig 3: Patient photo on the maxillary model over the initial mix of heat cure acrylic.



Fig 4: Packing of heat cure resin in to the mould space.



Fig 5: Bench pressing.



Fig 6: Labelled maxillary denture with patients photograph.



Fig 7: Patient name written on the matrix band with straight fissure bur.



Fig 8: Labeled mandibular denture with patients name on matrix band.

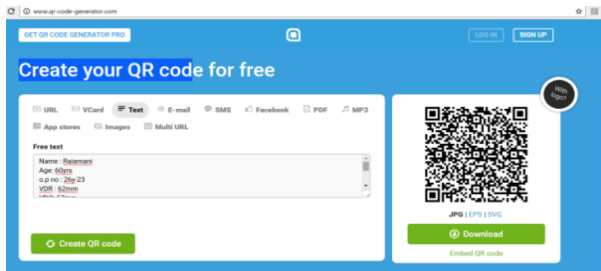


Fig 9: Generation of QR code in the QR code software with patient details.



Fig 10: QR code lamination.



Fig 11: Labeled maxillary denture with QR code.



Fig 12: Denture identification by scanning of QR code.

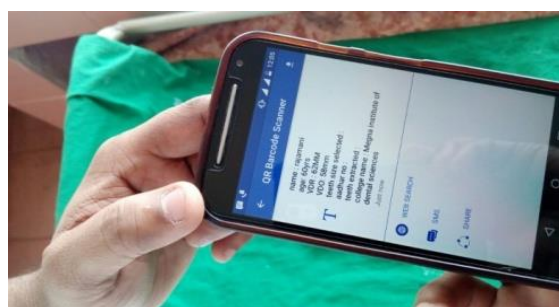


Fig13: Display of patient details after QR code scanning.

7. The photograph is sandwiched between the layers of clear and pink coloured acrylic.
8. Bench curing and polymerization of the dentures is continued (fig:5).
9. Deflasking, trimming and polishing of the dentures is made.
10. Finishing is done until the photo is clearly visible (fig:6).
11. Similarly another denture marker is prepared inscribing the patients name on the tofflemere matrix band with a straight fissure bur (fig:7).
12. It is incorporated in to the lingual flange of the mandibular denture by sandwiching between layers of pink and clear heat cure acrylic resin (fig:8).
13. QR code labelling of dentures, A QR code software is used.
14. A specific QR is generated with the patient details using the software QR code generator (fig:9).
15. Later, print of the QR code is made (properly covered in sellotape) Laminated (fig:10).
16. It is incorporated in the posterior palatal of maxillary denture in a similar manner by sandwiching it between clear and pink acrylic resin.
17. Finishing of the processed denture is done till the QR code is clearly Visible (fig:11,12).
18. Scanning the QR code on the denture using QR scanner will show the display the patient details (fig :13).

DISCUSSION

Denture labelling is accepted as a means of identifying recovered bodies of those killed in accidents, and aviation disasters. It also helps in identifying an unconscious person as well as identifying misplaced dentures in geriatric institutions^{10,11}. Over the years, various methods of denture labeling have been reported in the literature. These include surface marking and inclusion techniques using metal or non-metal materials, microlabels and electronic chips. Automatic identification using bar codes incorporated into dentures has been developed^{1,3,4}.

One of the important criteria of any denture labeling in the present technique is the protection of the label-ink or toner. It has to be protected from the monomer of the denture base resin, the high

temperatures of denture processing, finishing and polishing of dentures, and wear of the dentures⁶. In the suggested technique, the toner is properly covered in two sheets of sellotape. Thus, the longevity of the denture label is obtained. The procedure is easy to use and very cost effective, as it uses equipment that is available in any institution or office⁹.

SUMMARY AND CONCLUSION

This article describes easy-to-use and very cost effective way of denture labelling. The equipment required are easily available in any institution, dental laboratory, or dental clinic. By this method, denture labelling could be done in existing prosthetic devices which were not labeled previously or it could be incorporated in newly constructed prosthesis. The procedure could be easily performed by dental auxiliary personnel, thereby reducing workload for the dentist.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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