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## Research Article

### CAST MARKERS USING TWO DIMENSIONAL BAR CODE - AN INNOVATIVE TECHNIQUE

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#### ABSTRACT

Dental laboratory which are not fully computerized, marking the cast using bar code may provide a way to communicate to the technicians for fabrication of the prosthesis. It can also be used a way of maintaining dental record for future references. This article describes a new method of communicating the patient details through the use of 2 D bar code on the cast. Lack of clarity in communication can lead to failure in quality prosthesis. Proper communication between the dentist and the technician can bring optimum dental services.

##### Key words:

Cast Markers, Dental Records,  
Communication to Technician

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#### INTRODUCTION

Maintaining a comprehensive and accurate records are fundamental for good clinical practice (Charangowda B K, 2010)<sup>1</sup>. Success in providing a quality dental prosthesis to the patient depends on factors related to the dentist, the technician or both.

The importance of this communication has been well-documented in the literature (D. Henderson, 1996)<sup>2</sup> (Z. Afsharzand, 2006)<sup>3</sup>. Lack of communication can lead to failure in providing optimum dental services. Proper communication can also avoid unnecessary delays and remakes (T.D. Taylor, 1982)<sup>4</sup> (R. Leith, 2000)<sup>5</sup>. Variation in dentist's instruction to the laboratory technicians can bring differences in the performance of the prosthesis.

Sometimes the cast are misidentified and delivered to the wrong destination by the technician. It is the dentist's responsibility to provide clearly information to the technician. Success in this task will also assist the dentist in maintaining dental record for forensic purposes (Mohammed S. Bin, 2017)<sup>6</sup> (Madhusudan Astekar, 2011).<sup>7</sup>

A bar code applicable to cast consists of a machine readable code of a series of bars and spaces printed in defined ratios to aid in maintaining dental records and to give detailed instructions to technicians (Venkateshwaran Rajendran, 2013)<sup>8</sup>. A 2-D bar code can hold a large amount of information as data is coded across both length and width. A 2-D bar code with details can be saved and generated. This article describes the procedure for incorporating the bar codes on the cast.

#### Procedure

1. Data entry is made of a particular patient and a 2 d bar code is generated. 2-D bar code label- 10\*10mm of size is made and printed on paper and Laminated. The

laminated label is positioned in recess 1mm deep created on the base surface or in suitable site.

2. The recess is filled with clear auto polymerizing resin and code is placed over it. (Fig1)
3. A mobile installed with QR Decoder Application is hovered over the label for the code to be deciphered and decoded result can be retrieve (Fig 2).



Fig 1 2-D bar code the label is laminated and label is then positioned in recess and filled with autopolymerizing resin

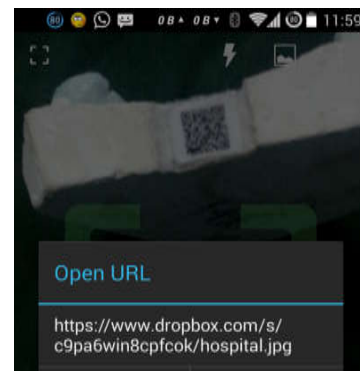


Fig 2 A mobile installed with QR Decoder Application is hovered over the label for the code to be deciphered and the result is decoded.

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## DISCUSSION

Effective and clear communication between the dentist and dental technician plays an important role in providing the patient with a quality prosthesis (R.M. Basker, 2002)<sup>9</sup>. Inadequate information can lead to unsatisfactory result (Hana M. Al-Sheikh, 2012)<sup>10</sup>

This technique can be easily followed in dental laboratory as a mobile camera can encrypt and decode the information in and from the code. It is less expensive and can hold large information. The main limitation is that the data can be detected only with aid of a reading device. Preparation of the laminated bar code mandates accessibility to specific software and hardware; it is more time-consuming as data needed to be entered through the software programme and the printed bar code required lamination. Lamination prevents the ink of the bar code from scattering/blotting on contact with the methylmethacrylate. Barcoding is a technique sensitive but it provides exact information.

Written paper can be easily misplaced or marking directly on cast with marker pen may get disappeared with time. Other forms of communication that are mentioned are verbal, personal or photographic and web-based communications (Madhusudan Astekar, 2011)<sup>7</sup>

Thus fabrication of a clinically acceptable dental prosthesis requires a proper communication between the dentist and the dental technician. This can be achieved with the use of bar code in day-to-day identification in dental laboratory as well as in forensic scenarios. Thus the use of bar code cast labeling should be encouraged.

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