

MODIFIED PROCEDURE OF INDIRECT PATTERN FOR FABRICATING CAST POST AND CORE

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ABSTRACT

Taking impression for posts and cores involving several teeth and numerous root canals is a challenging task. Any degree of distortion at impression stage compromises the quality of work. A simple technique is described here that mostly results in an impression with perfect elasticity, and less deformation of the impression at the time of removal.

INTRODUCTION

A custom-made post and core can be casted from a direct or an indirect pattern. A direct technique is recommended for single canals with good clinical access, whereas an indirect technique is more appropriate for multiple canals (Fig 1) or when access is more problematic.¹ During the indirect technique, any elastomeric impression material will make an accurate impression of the root canal if a wire or paper clip reinforcement is placed to prevent distortion.² It is usually done by cut pieces of metal to a length, and shape them like letter "J".¹

Taking impression of many teeth with discrepancy between their root canal directions inside the arch bone, with using piece of metal placed in the canal, may cause permanent deformation during removal of the impression. This deformation occurs mostly due to the rigidity of metal.³

In such situations, it may be helpful using a technique that excludes the step of metal wire placing. This article describes a simple and effective method of taking an impression in indirect pattern procedure. This modified technique mostly results in an impression with perfect elasticity, which means less deformation of the impression at the time of removal.

PROCEDURE

1 Lubricate the canals to facilitate removal of the

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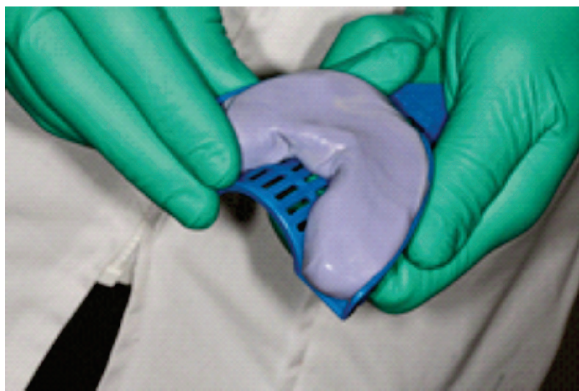
impression without distortion (die lubricant is suitable).

- 2 Using a lentulo-spiral, fill the canals with elastomeric impression material, with clock-wise rotation in an apical direction.³ Pick-up a small amount of material with the largest lentulo-spiral that fits into the post space.
- 3 Insert the lentulo-spiral with the handpiece set at low rotational speed to slowly carry material into the apical portion of the post space, then increase the handpiece speed, and slowly withdraw the lentulo-spiral from the post space.
- 4 Use a syringe to fill in more impression material around the prepared teeth.
- 5 The loaded impression tray is inserted. It is better to use "putty wash one step technique". In this technique, polyvinyl siloxane material is used with putty consistency utilized as a custom tray. Washing light body with putty material results in less than 1mm thickness of the light body, which is more accurate than custom tray. Putty wash technique is probably the most commonly used in dental practices (Fig 2a, 2b, 2c).
- 6 Remove the impression (Fig 3), evaluate it, and pour the definitive cast as usual.

One major disadvantage of using wire is when its fit is too tight, that the impression material strips away from the wire when the impression is removed.¹ Also, placing the wire is an additional procedure consuming more time. In addition, seating the wire reinforcement onto the orifices of the root canals may be difficult or impractical in cases with difficult clinical access particularly in cases where multiple teeth are involved. With Elastomeric Impression Material as Polyvinyl siloxane Impression Material, the concern about tearing of impression is addressed as Polyvinyl Siloxane one of the best impression material from elasticity aspect.



Fig 1: Upper anterior teeth with root canal treatment prepared for indirect technique to cast post and core



Figs 2a, b & c: Putty wash technique most commonly used in dental practices

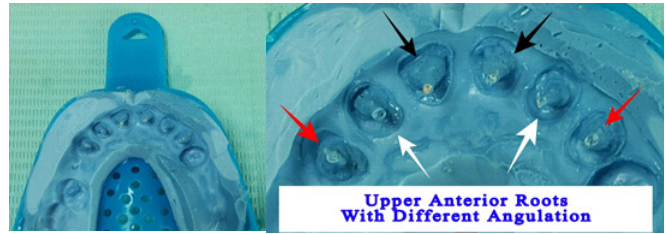


Fig 3. Impression for cast post and core using elastomeric material without wire reinforcement. The discrepancy in teeth directions can be clearly seen

Conflict of Interest Statement:

The 3M - ESPE - US impression material was used. The authors do not have any commercial interest in the technique described or the materials used in the technique.

REFERENCES

- 1 Rosenstiel SF, Land MF, Fujimoto J. Contemporary Fixed Prosthodontics. 4th Ed. ST Mosby. 2006. P. 371-72.
- 2 Shillingburg HT. Fundamentals of Fixed Prosthodontics. 3rd Ed. Quintessence; 1997. P. 365-83.
- 3 Taylor AG. Dowel Abutment Crown. Royal Canad Dent Corps Quart 1963; 4: 1-4.

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ADDITIONAL IMPORTANT INFORMATION FOR AUTHORS

When submitting an article for publication, please write on a separate paper the contributions made by each author, and must be signed by each. This information will be published at the end of the article.

— *Editor*