

## Study of root canals filling on transparent blocks

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**ABSTRACT.** In this study "in vitro" I had in mind to technicalities "Wave continued condensation" of Buchanan, who won in our tests both ease of use and the effectiveness of tri-dimensional obstruction space endodontic visualization using plastic blocks designed for training in endodontic therapy. Cold lateral condensation technique, which we performed for comparison, fails to fulfill the desire to obstruct three-dimensional endodontic space. In addition, the apical third, the technique does not differ monocon as cones accessories can not get to the apex

**KEYWORDS:** filling three-dimensional, lateral condensation heat, gutta-percha, hand plugger.

### INTRODUCTION

The universal techniques used by the ones who use gutta-percha are of course condensation methods "lateral" and "vertical", around which are formed a lot of controversy over the years. However, both Frank, Simon Glick and Schilder believes this controversy as artificial.

They argue that it is unrealistic to discuss whether it is preferable to vertical lateral force, since the two methods are interrelated: "It is physically impossible to do just lateral condensation or vertical only."

Schilder noted that "softened gutta-percha mass that is compacted vertically tapered canal reparation automatically develops a lateral force component. This is according to the laws of physics and has no need to apply lateral forces on the instrument by the operator".

### MATERIAL AND METHODS

The device used for continuous wave condensation technique was E & Q Master of Meta Biomed-is actually a clone of two devices: System-B and blocked. Meta Biomed manufacturer peaks retained compatibility with the original.



Fig. 1. The device used- E&Q Master

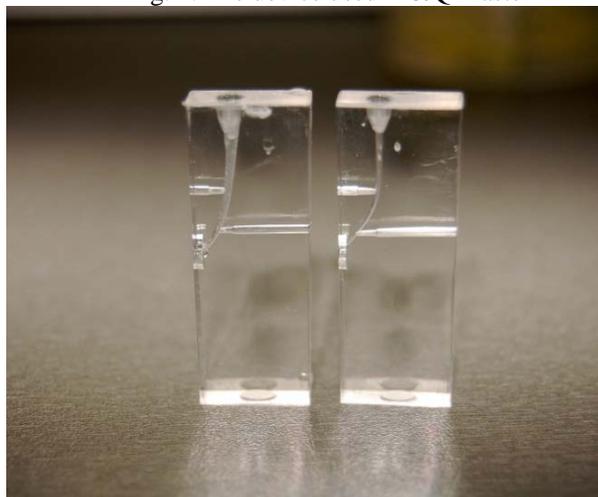


Fig.2. Plastic blocks – in the right is a new one, unprepared, and the left one prepared with the

ProTaper up to size F3so 30 apical diameter and large taper.

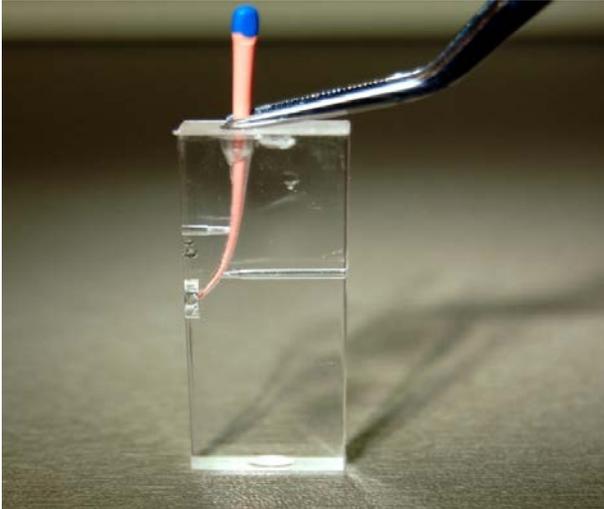


Fig.3. Place the cone corresponding canal last action used in our case F3 until the working length and check if their tug-back.

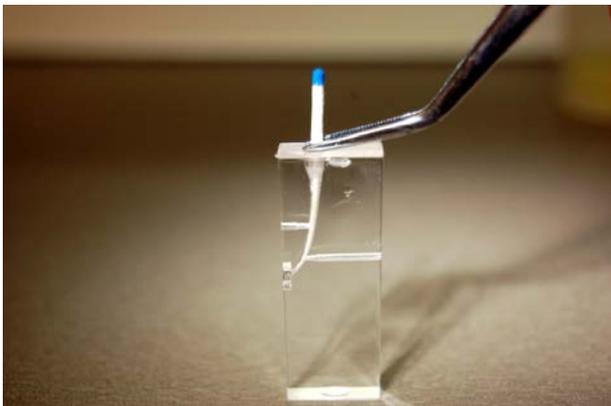


Fig.4. Dry the canal with paper points until they come out perfectly dry canal.

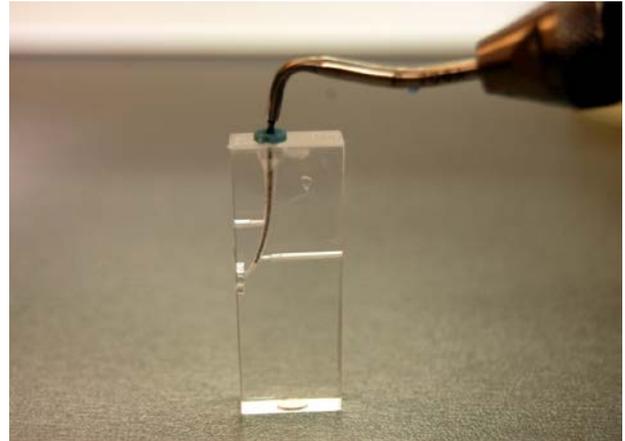


Fig.5. Peak heat carrier device is inserted into the canal and it should stop at 4-6mm, working length.

If you go too close to the apex, or too far, means you have selected a point that thicker or thinner.

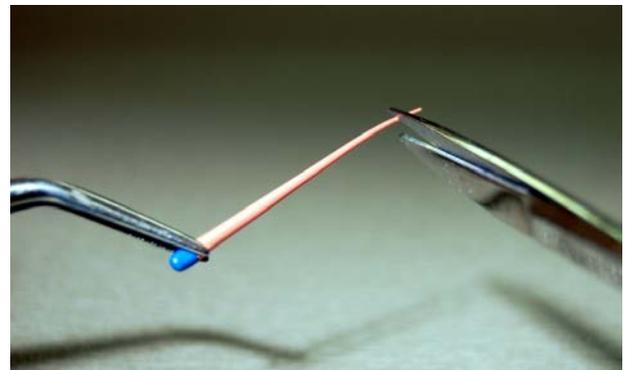


Fig.6. Cut the ½ - 1mm from the apex of the cone.

This difference will be offset by the heated gutta percha to be forced into the apical end by pluggers downpack phase.

In this phase the canal walls are lined with a layer of sealer, and the master cone is also introduced in the sealer.

To see what happens with gutta however, we preferred not to use sealer.

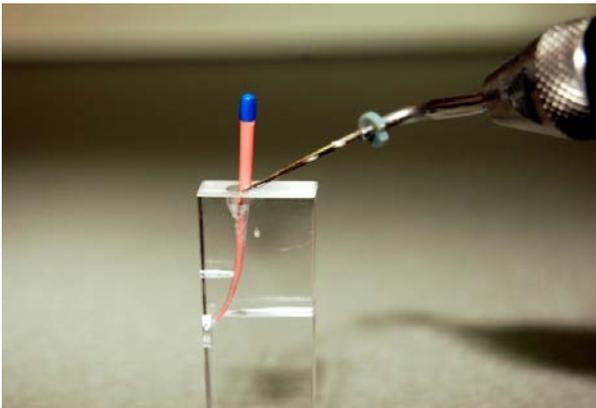


Fig.7. With the tip of the instrument heated, cut the cone in the pulp chamber floor.

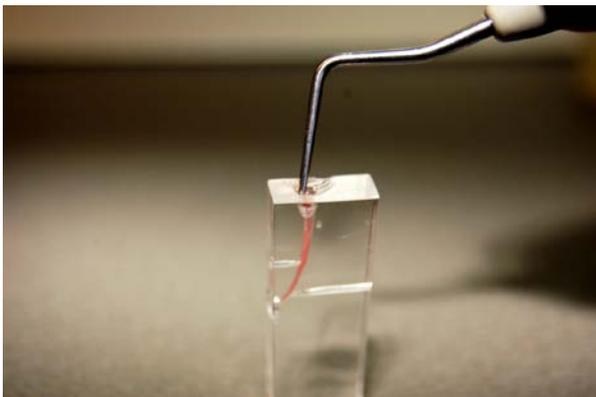


Fig.8. Immediately after cutting the cone, heated gutta-percha compacted the thickest of hand plunger.

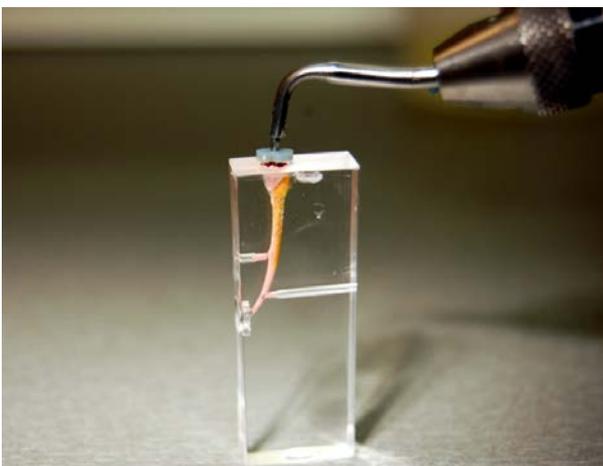


Fig.9. With the tip of the instrument heated to enter the gutta-percha mass of the apical end, maintaining the heat turned on at the top.

It thus advancing to 1-2mm depth to previously established, and then disconnecting heat,

pressure is maintained in the apical direction to compensate for shrinkage of gutta-percha when it cools. It can be seen already in this phase filling with gutta-percha accessory canals.

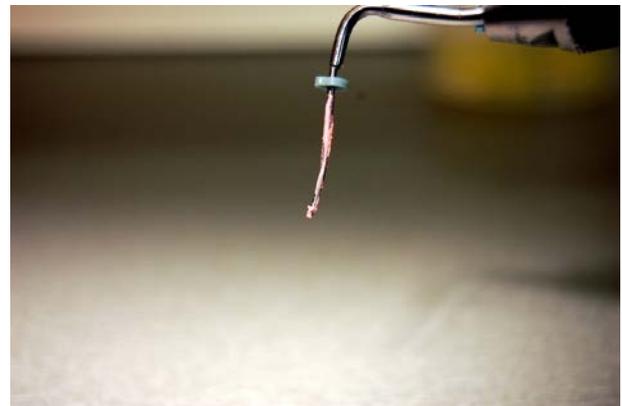


Fig.10. Operate heat one second waiting another second, and then withdraw the instrument of the canal. This will cause separation of the apical condensed gutta-percha adherent to the instrument.

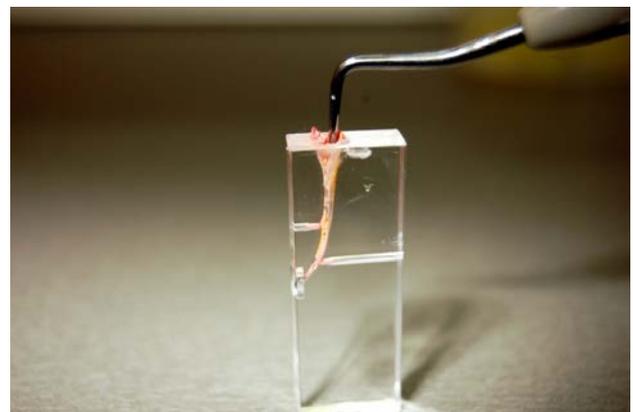


Fig.11. Immediately insert the thin tip of the hand plunger and continued compaction of gutta-percha apical cap.

It will try to create a surface as flat to prevent voids in the backfill phase.

When the backfill tool has reached the preset temperature, the piston is actuated to verify that the tip isn't blocked and gutta percha can flow unobstructed.



Fig.12. After checking the flow of the gutta-percha, enter backfill tool to get in contact with plug gutta obtained at the end of the previous stage.

Maintaining said contact for a few seconds to heat the apical cap and create adhesion to the heated gutta percha, after which it starts its expression.

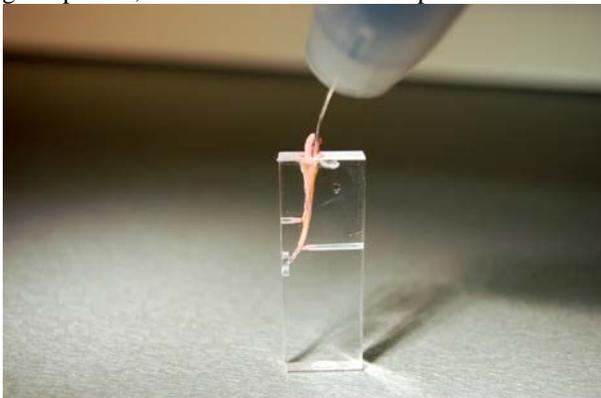


Fig.13. Heated gutta will push the tip back towards the coronary, but it must resist the temptation to withdraw the tip too quickly.

It should be allowed to be pushed out of the channel.

Once you reach the entrance to canal, expect another 5 seconds, then remove the tool.

Immediately move to compaction gutta-percha pulp chamber floor level with the top of thick hand plugger.

It is important that this last phase of compaction, to create a dense mass of gutta-percha in the coronal and middle thirds.



Fig. 14. As shown entering the canal at the end of root filling.

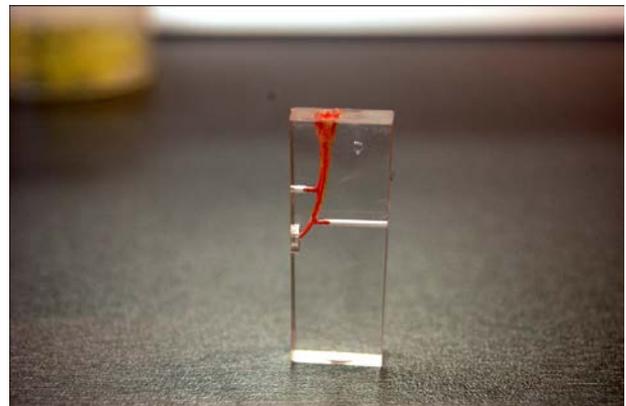


Fig. 15. Image contrast increased slightly to observe penetration gutta-percha side channels.

## RESULTS AND DISCUSSION

It can therefore verify the theory behind the techniques and continuous wave of condensation gutta-percha thermoplastified which are creeping into all the endodontic system anatomy. If cold lateral condensation, these spaces will be times we blocked or obstructed exclusive sealer.

## CONCLUSIONS

We have chosen to present this technique as others presented some drawbacks or disadvantages which we point out below:

- Cold lateral condensation technique, which we performed for comparison, fails to fulfill the desire to obstruct three-dimensional endodontic space. In addition, the apical third, the technique does not differ monocon as cones accessories can not get to the apex.

- Schilder conventional technique is far too time consuming and is only suitable in case that the clinician does not want to invest in the equipment described above. However, although it is time consuming and not necessarily easy, gives results superior cold lateral condensation.

- Thermocompactor McSpadden technique is a better alternative than cold lateral condensation, but produces a fairly high heat that is detrimental to the periodontium. In addition, quite often produce separations of thermocompactor hindered a possible retreatment.

- Thermafill technique involves purchasing ThermaPrep oven and individual dampers. In addition to higher cost per treatment compared to the other techniques, and the shutter Thermafil is very difficult to remove in the case of a retreatment. In addition, more canals can be used in thin or sharp curves.

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