

Modified Hall Technique to Reduce Discomfort: A Randomized Double-Blind Study

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Introduction

The Hall Technique is a minimally invasive approach for the treatment of carious primary teeth when ideal treatment is not feasible. Unlike traditional stainless steel crown placement, it eliminates the need for caries removal, tooth preparation, or local anesthesia. However, despite its advantages, studies have demonstrated that up to 80% of patients may encounter discomfort during the placement process (Innes, 2007).

Objective

The aim of this study is to investigate a modification to the Hall Technique, involving the application of topical anesthetic (benzocaine) into the gingival sulcus prior to crown placement. This modification is intended to mitigate potential discomfort experienced by patients during the procedure.

Materials and Methods

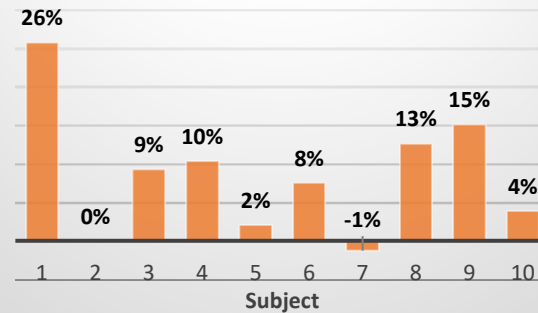
Children aged 5-8, with radiographic large or multi-surface lesions on bilateral primary mandibular molars were recruited. Each subject was assigned to either protocol A or B (differing only in the experimental quadrant) using block randomization. Operator performing the treatment was to be blinded to the group assignments to reduce experimental bias.

Experimental variables measured:

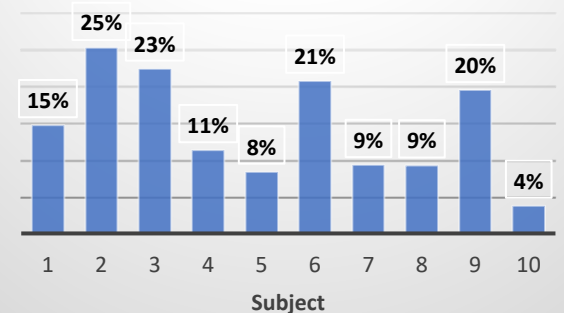
1. Heart rate recorded using pulse oximetry before and after crown cementation.
2. Perceived discomfort assessed using Modified Frankl Behavior Rating Scale (operator) and Wong Baker Faces Pain Scale (patient).

Preliminary Results

Percent Heart Rate Change
(Experimental Quadrant)



Percent Heart Rate Change
(Control Quadrant)



Conclusion

The preliminary data reflects a trend toward less discomfort experienced with the application of intrasulcular benzocaine prior to Hall Crown placement when compared to placebo. There exists a six percent difference in average heart rate change between the control and experimental quadrant in the preliminary data set. Further research and data collection is necessary to validate these initial findings.

References

Innes NP, Evans DJ, Stirrups DR. The Hall Technique; a randomized controlled clinical trial of a novel method of managing carious primary molars in general dental practice: acceptability of the technique and outcomes at 23 months. BMC Oral Health. 2007 Dec 20;7:18.