

## Assessment of different methods of delivering Hall crown for caries control (1 visit vs 2 visit)

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### BACKGROUND

- Dental caries is a preventable and reversible infectious disease process, yet it continues to be the single most common chronic disease of childhoods. Since children are anxious and apprehensive of dental treatment, their uncooperative behavior might cause hindrance in the treatment.
- Hall technique (HT) is a biological approach where decay is sealed under preformed metal crowns without any caries removal, tooth preparation or local anesthesia.
- In instances when there's a tight contact between two primary teeth an orthodontic separator is placed by dentist to create adequate space for cementation of crown. This can be achieved by leaving the orthodontic spacer for 15-20 minutes then trying the appropriate size of the crown. However, this can also be done in two appointments where after placement of spacers patient will come back 3-5 days for crown cementation.

### Objectives

- The goal of this study was to assess whether pediatric dentist have different preference of Hall crown method delivery (1 visit vs 2 visit)

### METHODS

- There will be a survey sent via a hyperlink in e-mail to pediatric residents and pediatric dentists who have e-mail addresses available in the ADA and AAPD directories, respectively.
- There will be an online survey software be used. The survey will be modeled after the survey utilized in McKnight-Hanes's 1991 study.
- It will include two cases. Survey respondents will first be asked some demographic questions including their 1) type of practitioner, 2) years in practice and 3) primary location of practice (region).
- Two pictures of intraoral radiographs associated with each case including age of patient will be provided. There will be a brief statement indicating that all patients are healthy, asymptomatic, semi cooperative, and that payment for services should not be considered a factor in treatment.
- In each case, a tooth will be specified and the dentist will be asked to recommend methods of treatment and reason (if electing for two visits treatment) from a list consisting of 4 options.
- Abstracts and full texts were explored to identify studies that described the Hall technique and its indication, contraindication, advantages, disadvantages, success, and failure in pediatric dentistry.

### RESULTS

- 3000 survey were sent, and 171 responses were received. 115 responses were from pediatric dentists, and 56 responses from pediatric dental residents for both cases.

#### Case 1

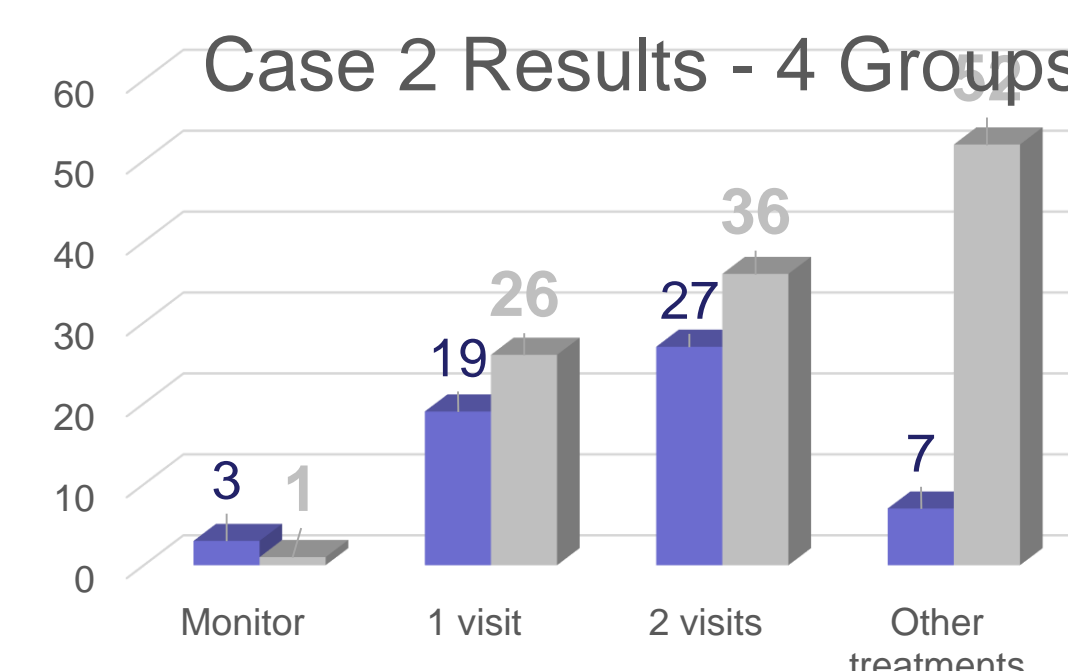
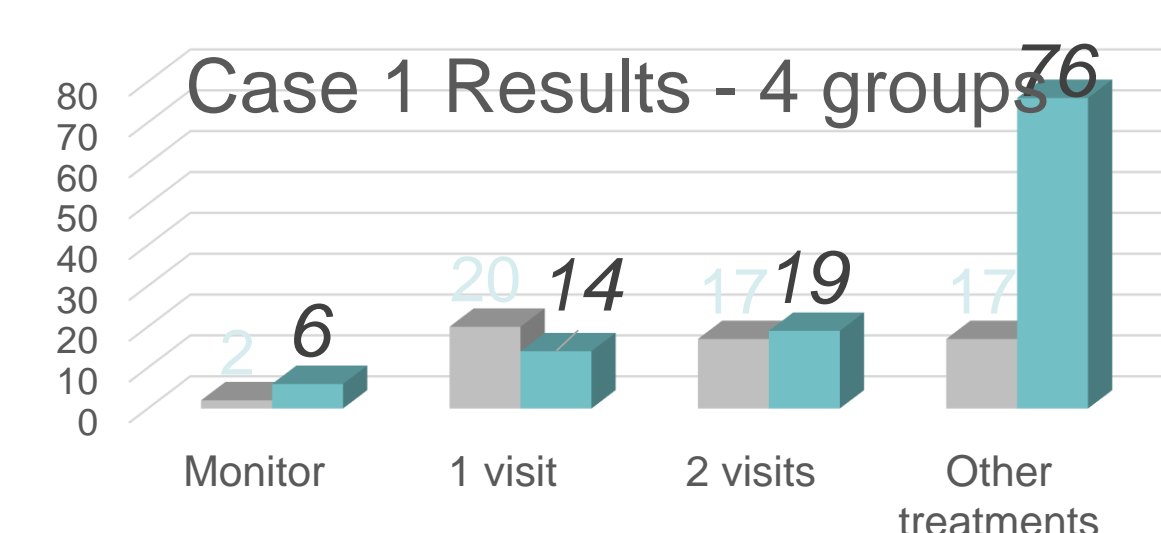
- 56 Pediatric dental resident**
- 2 response 3.57% Monitor
  - 20 response 1 visit (35.7%)
  - 17 responded 2 visit due (30.0%) of which 11 of the responded were due to space (19.6%), and 8 of the responses were due to behavior (10.7%)
  - 17 responded other treatments (30%)

- 115 Pediatric dentists**
- 6 responded Monitor (5.2%)
  - 14 responded 1 visit (12.17%)
  - 19 responded 2 visit (16.5%) 11 responded due to spacing (9.5%) 8 responded due to behavior (6.9%)
  - 76 responded other treatments (66%)

#### Case 2

- 56 Pediatric dental resident**
- 3 Responded Monitor (5.35%)
  - 19 Responded 1 Visit (33.92%)
  - 27 responded 2 visit, 20 of the responses were due to spacing (35.71%), and 7 response were due to behavior (12.5%)
  - 7 responded other treatments (12.5%)

- 115 Pediatric dentists**
- 1 Responded monitor (8%)
  - 26 Responded 1 visit (22.6%)
  - 36 Responded 2 visit, 28 of the responses were due to spacing (24.34%), and 8 of the responses were due to behavior (6.95%)
  - 52 Responded with other treatments (45.21%)



### DISCUSSION

This study aimed to understand if there are different methods of delivering Hall crown (1 visit vs 2 Visit). An online survey was sent, and 171 responses were received. 115 responses were from pediatric dentists, and 56 responses from pediatric dental residents. This focus was on responses to the two cases contained in the survey. In each cases there was 2 additional treatment options as well, Monitor the lesion, or other treatment choices (respondent had to type their treatments), in addition to 1 visit vs 2 visit)

For the 1<sup>st</sup> case, within pediatric dental resident group 35.7% of the respondents selected 1 visit (place separator wait 15-20 min then cement Hall crown). 30.2% of respondents selected 2 visits (19.6% due to spacing, 10.7% due to behavior), other responses were for monitoring the lesion (3.5%), and numerous other treatment choices (30%). Evaluating the percent differences in these responses, for case 1 there was 5.7% difference in method of delivering hall crown (35.7% elected for 1 visit vs 30% for 2 visits). Within Pediatric dentist groups 12.17% respondent elected for 1 visit, 16.5% respondent opted for 2 visits (9.5% due to spacing and 6.9% due to behavior), 5.2% elected to monitor the lesion, and 66% elected for other treatment of choice. Results suggest that for hall crown delivering method among pediatric dentist only a 4.33% difference (12.17% elected for 1 visit versus 16.5% for 2 visits). The Chi-Sq value for 1 visit was 22.9788 df=3 p-value=0.0000408. The Chi-Sq value was for 2 visit was 0.0001167 df=4 p=0.0001.

### Discussion Cont

- For the second case, 33.92% of the respondents within the pediatric dental resident group selected 1 visit (choice B. place separator wait 15-20 min then cement Hall crown). 48.2% of respondent elected for 2 visits (35.71% due to spacing, 12.5% due to behavior), other responses were monitoring the lesion 5.35%, and other treatment choices 12.5%. Therefore, for case 2 there was 14.28% difference in method of delivering hall crown (33.92% elected for 1 visit vs 48.2% for 2 visits).
- Within Pediatric dentist groups however 22.6% respondent elected for 1 visit, 31.30% respondent opted for 2 visits (24.34% due to spacing and 6.95% due to behavior), 0.86% elected to monitor the lesion, and 45.21% elected for other treatment of choice. The results suggest that for hall crown delivering method among pediatric dentist only an 8.7% difference (22.6% elected for 1 visit vs 31.30% for 2 visits). The Chi-Sq value was for 1 visit was 0.00001974 df=3 p=0.0002. The Chi-Sq value was for 2 visit was 0.0005437 df=4 p=0.0005.

### KEY POINTS

- More pediatric dental resident prefers hall crown technique compare pediatric dentists.
  - For the both cases within pediatric dental resident group there was not significant difference in method of delivering hall crown 1 visit vs 2 visit
  - These results were similar as well among pediatric dentists 1 visit vs 2 visit
- .Further research to be done to assess whether years of experience has any influence on treatment options

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