

# Outcomes of Primary Molars Treated with Sealants Under General Anesthesia in Pediatric Patients: A Retrospective Chart Review



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## INTRODUCTION

- The preventive benefits of dental sealants are well established in the literature. When correctly placed, sealants are highly effective in preventing and arresting pit-and-fissure occlusal caries on permanent molars in children.
- Studies demonstrate that sealants could reduce up to 60% of occlusal caries in a nine-year follow-up when compared to unsealed molars.<sup>5</sup> Based on results of limited studies and systematic reviews, sealant placement on primary molars exhibits the same results as permanent teeth in terms of preventative benefits.
- Studies show that sealants placed under general anesthesia were retained 68.3% of the time.<sup>8</sup>
- On average, primary molars treated with sealants were less likely to develop caries within three years of placement.<sup>10</sup> This information advocates for the placement of primary molar sealants in high-risk dental populations undergoing general anesthesia.

## PURPOSE

The objective of this research was to determine the outcomes of primary molars treated with sealants under general anesthesia. A chart review was conducted amongst pediatric dental patients at El Rio Community Health Center. Outcomes of teeth treated with sealants were determined based on need for restorative treatment at 6-, 12-, 18-, and 24-month examination intervals.

## METHODS

Electronic chart records of pediatric dental patients that had primary molar resin sealants placed from 2015-2019 under general anesthesia at El Rio Community Health Center were assessed. Data points evaluating patient's age, sex, tooth number, recall interval, and if the tooth required future treatment were collected. Sealant success was determined by the lack of additional treatment needs identified at each recall interval.

## FIGURE

Patient Information and code D1351 used under X9224:

Patient Number: \_\_\_\_\_  
 Sex: M / F  
 Age at time of Sealant Placement: \_\_\_\_\_

Tooth Number	Sealant Placement Y/N	Restoration indicated at 6-month recall	Restoration indicated at 12-month recall	Restoration indicated at 18-month recall	Restoration indicated at 24-month recall
#A					
#B					
#I					
#J					
#K					
#L					
#S					
#T					

## RESULTS

- From 87 charts, 832 teeth were reviewed. Of these, 320 teeth had adequate follow-up to be included in our study.
- The study was comprised of 152 (49.2%) males and 157 (50.8%) females.
- The mean age of the patients was 4.06 years of age.
- The distribution of treatment needs at each interval was 7.5% at 6 months, 32.8% at 12 months, 34.3% at 18 months, and 25.4% at 24 months.
- Overall, 1.6% needed treatment at 6 months, 6.9% at 12 months, 5.3% at 18 months, and 5.3% at 24 months.
- Success was higher with older patients than younger patients.

## CONCLUSIONS

- Success of resin-based sealants was greatest at the 6-month recall.
- Success continued to decrease until the 24-month recall.
- There was no sex predilection.
- Patients who had sealants placed at a younger age had higher failure rates than older patients.
- Success of sealants increased overtime, but the results were not statistically significant.

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