

# Subsequent Dental Treatment Under General Anesthesia Following Initial Oral Rehabilitation



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## INTRODUCTION

Pediatric dental treatment under general anesthesia (GA) is utilized for various reasons including, but not limited to, patients with very young age, complex medical/physical/mental conditions, need for extensive treatment, and safety considerations<sup>1</sup>. Full mouth rehabilitation under GA can be more efficient and cost effective than repeated dental visits utilizing other sedation methods.

It has been shown that children diagnosed with early childhood caries (ECC) are at high risk for developing new decay after oral rehabilitation despite being placed on increased recall intervals<sup>2</sup>. Familial factors can place a significant factor in developing decay. The stresses of life often take priority over oral health as demonstrated by lack of oral hygiene, convenience of high-sugar drinks, and poor recall retention rates<sup>3</sup>.

Contemporary literature is insufficient in identifying factors related to future caries experience for children who have previously undergone dental treatment under general anesthesia. This retrospective chart review is necessary to supplement existing data to elucidate factors contributing to future caries experience.

## PURPOSE

The purpose of this study is to determine the incidence of subsequent treatment under general anesthesia for patients who have untreated primary molars immediately following their initial oral rehabilitation under general anesthesia.

## METHOD

A retrospective chart review was performed on patients who had initial treatment of ECC or S-ECC via complete oral rehabilitation under general anesthesia. Treatment groups included patients who had future dental treatment in office or under general anesthesia. Inclusion criteria consisted of patients two to 12 years of age, who had completed initial treatment under GA at JVCHC and which treatment included one or more posterior primary molars left untreated.

Data was de-identified and entered into REDCap (Research Electronic Data Capture) tools hosted by NYU-Langone Hospitals. Data was analyzed by statisticians employed by NYU-Langone Hospitals for statistical significance.

Table 1: Patient Demographics

		n	%
Gender	Male	165	47
	Female	186	53
Age	2-3	195	56
	4-5	122	35
	6+	34	9

Figure 1- Age and Subsequent Behavior Management

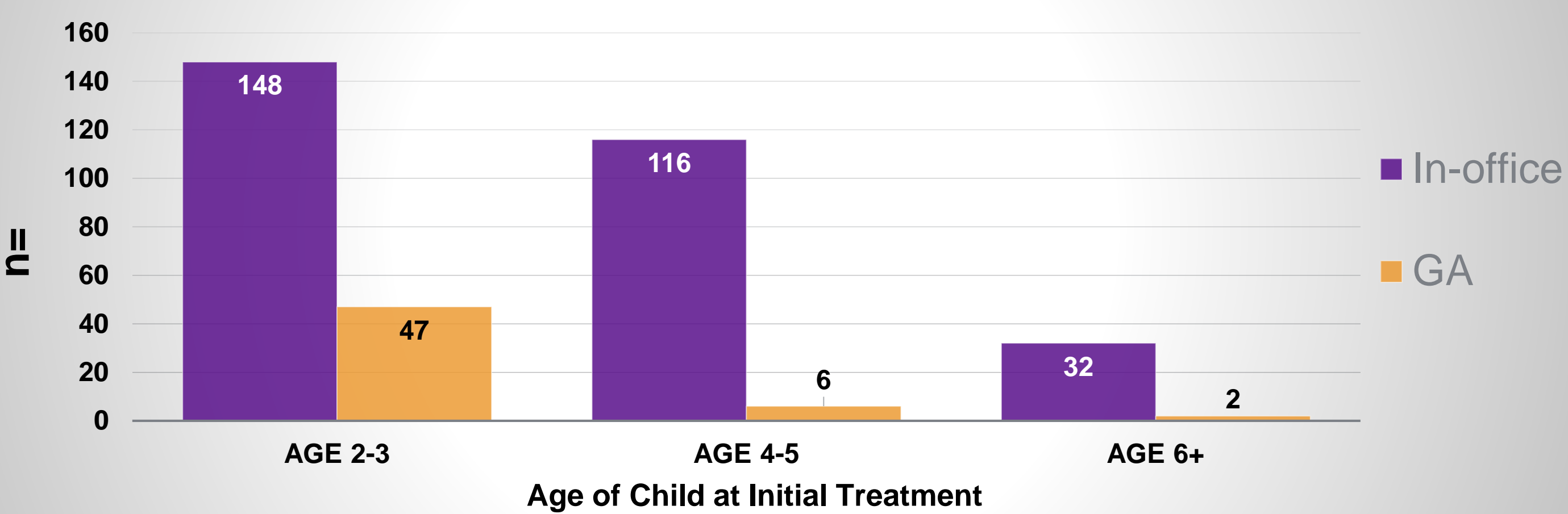
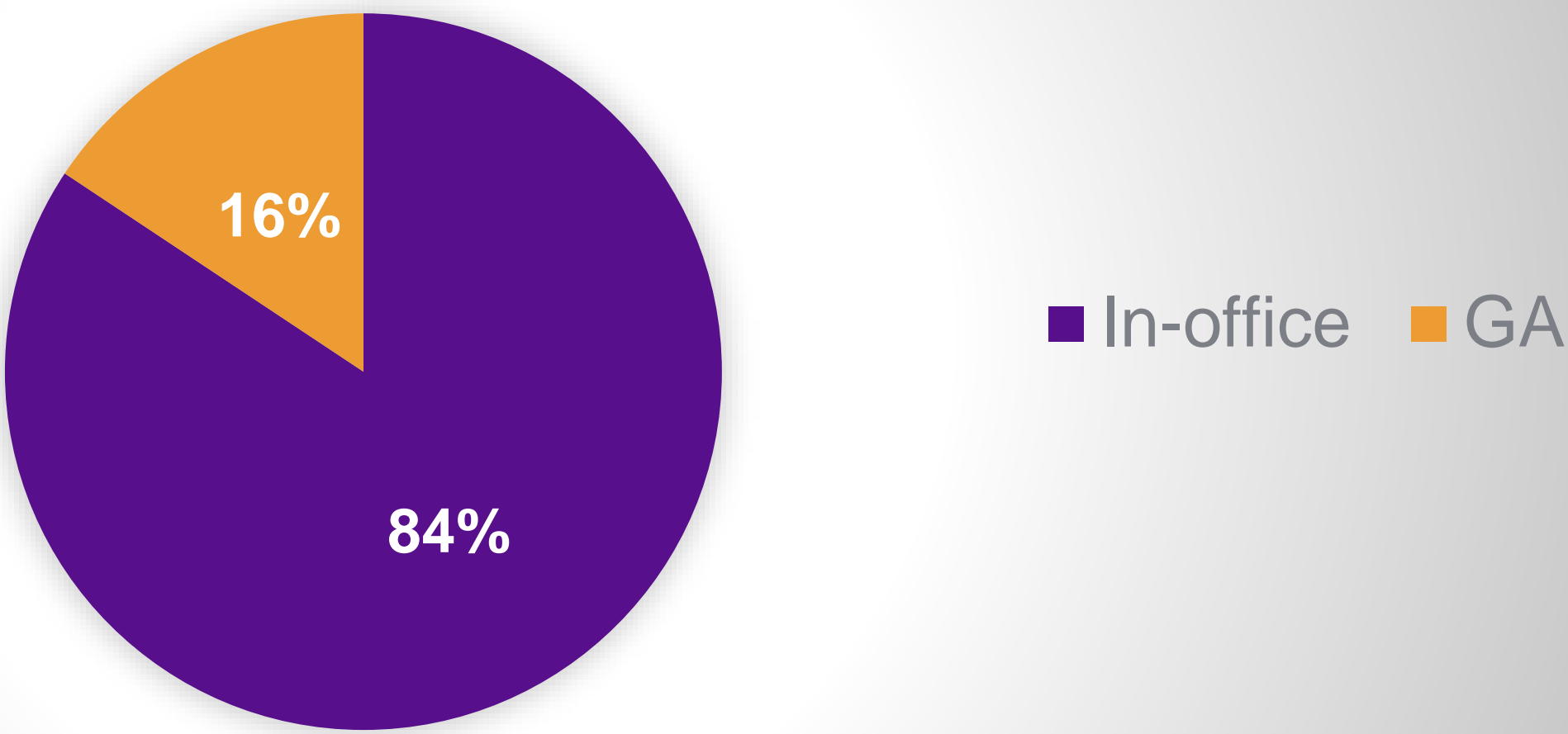


Figure 2- Treatment Modality for Subsequent Treatment



## RESULTS

Groups defined by demographic variables were approximately equal (M=165, 47%, F=186, 53%). A majority of the patients that had complete oral rehabilitation under general anesthesia received future treatment in office (n=296, 84%). The vast majority of children that had subsequent treatment under general anesthesia were between the ages of 2 and 3 (n=47, 86%). According to the chi-square test for independence, there is an association between age group and type of treatment (P<0.001). There is no association between gender and subsequent treatment modality.

## CONCLUSIONS

The majority of patients in this study received complete oral rehabilitation under general anesthesia at Jordan Valley Community Health Center and subsequently were able to complete future dental treatment in a traditional office setting (n=296, 84%). These future treatments included extractions, resins and placement of stainless steel crowns. Children that receive treatment under general anesthesia often have high levels of fear and anxiety prior to their initial treatment. Because of these emotions, it is difficult for these children to receive treatment in a traditional in-office setting. The findings from this research show that the future psych of a child may be preserved after original treatment under general anesthesia. This also points to the importance of age-appropriate expectations of patients requiring treatment of the primary dentition.

Some children (n=55, 16%) did require GA for subsequent treatment, indicating that increased dental needs and acute situational anxiety or behavior issues may persist after the pre-cooperative age range. Of the 55 children treated under general anesthesia with primary molars left untreated, 47 (85%, p<.0.001) were between the ages of 2 and 3 at their initial procedure. This indicates that younger age is significantly associated with treatment under general anesthesia. This conclusion supports prior findings that younger children are likely to benefit from more aggressive treatment options in the OR setting and that stainless steel crowns and full coverage restorations are beneficial from a cost and preventative dentistry standpoint.

Future research should continue to investigate treatment that can prevent the need for initial or subsequent GA exposures utilizing aggressive treatment planning for high risk children, minimally invasive dentistry for minor cases, and effective prevention strategies for all children and families.

## REFERENCES

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