



# Emergent Needs Prior to General Anesthesia: Variations for SHCN

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## ABSTRACT

Pediatric patients often require full mouth dental rehabilitation (FMDR) under general anesthesia (GA) due to the severity and extent of dental disease, complex medical histories, behavioral limitations, or pre-cooperative age.<sup>1,2</sup> Among this population, children with special health care needs (SHCN) present particularly unique challenges in outpatient dental settings, frequently necessitating more comprehensive planning and intervention.<sup>3</sup> Delays in access to GA services may further increase the risk of acute dental complications, leading to emergent care needs prior to definitive treatment.<sup>4</sup>

The aim of this study was to evaluate differences in emergency dental treatment among patients awaiting FMDR under GA, comparing those with SHCN to those without SHCN. Specifically, the study assessed the emergent interventions required during the waiting period. By identifying patterns in preoperative emergency care utilization, this study seeks to highlight disparities in disease progression and access to care. Understanding these differences may inform improved clinical management strategies, prioritization protocols, and resource allocation to better support vulnerable pediatric populations awaiting comprehensive dental treatment under GA.

## METHODS

This retrospective chart review following IRB approval (IRB2025-00519) evaluated emergency treatment need of patients aged 7 years 3 months or younger with non-contributory medical histories compared to those with SHCN while on the waitlist for FMDR under GA at Stony Brook Dental Care Center. A total of 182 patients were included in this study: 129 patients with a non-contributory medical history and 53 patients with special health care needs. Patients included were ages 7 years and 3 months or younger.

Data collected included date added to the waitlist, date of FMDR under GA, patient age, length of time on the waitlist, dates of emergency extractions in the clinic or emergency room. The data analysis plan included appropriate parametric and nonparametric analyses including descriptive statistics, chi square test of independence, Cramer's V. Phi coefficient, Independent t-test, and One Way ANOVA.

## RESULTS

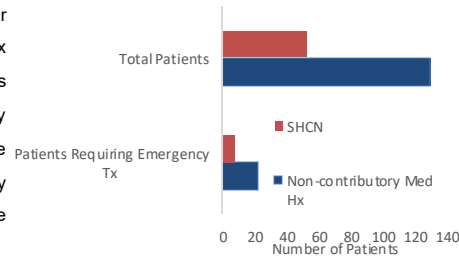


Figure 1: Patients Requiring Emergency Treatment

Of 182 patients on the waitlist to be treated under GA, 30 (16.5%) experienced acute dental infection requiring emergency treatment.

Of the patients who had an emergency extraction while on the waitlist, 22 (73.3%) had non-contributory medical history and 8 (26.7%) had SHCN.

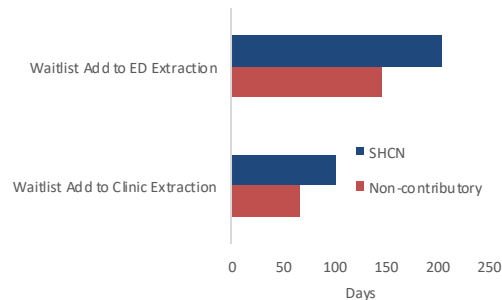


Figure 3: Time Between Waitlist Add and Emergency Treatment

The mean time between being added to the waitlist to an extraction in the ED was 145.67 days for patients with non-contributory medical history and 204 days for patients with SHCN.

From waitlist add to clinic extraction, 66.63 days passed for patients with non-contributory medical history and 102 days for patients with SHCN.

Year	Mean No. of Days on Waitlist	Med Hx	Mean No. of Days on Waitlist
2023	269.1	Non-Contributory	186.5
2024	192.1	SHCN	202.7
2025	108.0		

Figure 2: Waitlist Lengths Based on Year and Medical History

For all patients with and without SHCN, there was a significant difference in waitlist times between 2023 to 2025 ( $p < .001$ ). The average time on the waitlist was 186.5 days for patients with non-contributory medical history and 202.7 days for patients with SHCN.

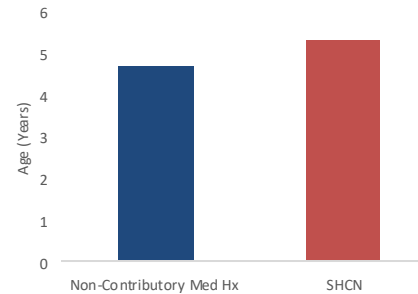


Figure 4: Age at Time of FMDR under GA

Age at time of FMDR under GA for non-contributory medical history was 4.7 years compared to 5.3 years for those with SHCN, respectively ( $p < .001$ ).

## DISCUSSION AND CONCLUSIONS

Prolonged wait times for GA were associated with acute odontogenic infections that required emergency intervention. 16.5% of pediatric patients awaiting FMDR under GA required emergency treatment prior to GA, indicating a measurable burden of dental emergencies.

Emergency treatment rates did not differ significantly between those with and without SHCN, suggesting that all patients are vulnerable to disease progression during delays. Patients with SHCN were significantly older at the time of treatment, which may reflect unique barriers to accessing care and warrants further investigation.

Mean wait times decreased from 2023 to 2025, indicating improved access; however, delays remained substantial and continued to contribute to acute infections. Longer wait times in 2023 may be related to reduced access to care during the COVID-19 pandemic.

Untreated odontogenic infections can progress to serious complications, including deep space infections, airway compromise, and sepsis.

Future research should evaluate the systemic and social determinants of prolonged GA wait times, including geographic location, insurance status, and other barriers.

Improving timely access to GA is critical to reducing emergency interventions and optimizing outcomes for pediatric patients requiring comprehensive dental care.

## LIMITATIONS

Data for this study are limited to the period beginning at the official CDC end of the COVID-19 pandemic and ending at the start of the SBDCC academic year. Due to the unequal distribution of time across the three distinct years, analyses based on monthly frequency are not able to be concluded.

Variables not included in this study are patient gender, zip code, or dental insurance. These variables were not included in the IRB-approved inclusion criteria, but do serve as important variables to study in future research.

## REFERENCES



The investigators thank Yang Zhou, Senior IT Analyst, for assistance with electronic dental record data.