

## Introduction

While general anesthesia (GA) is commonly used in pediatric dentistry, children may have previously undergone GA for other medical or diagnostic procedures. Understanding prior anesthesia exposure is important when evaluating the broader medical experiences of children receiving dental treatment under GA. However, limited research has examined the prevalence and types of previous procedures requiring GA. This study aims to evaluate the incidence of prior GA exposure among pediatric patients receiving dental treatment under GA and to identify the most common medical or diagnostic procedures performed under GA before dental surgery.

## Hypothesis

Most patients requiring GA for dental treatment will have no prior GA experience.

## Purpose

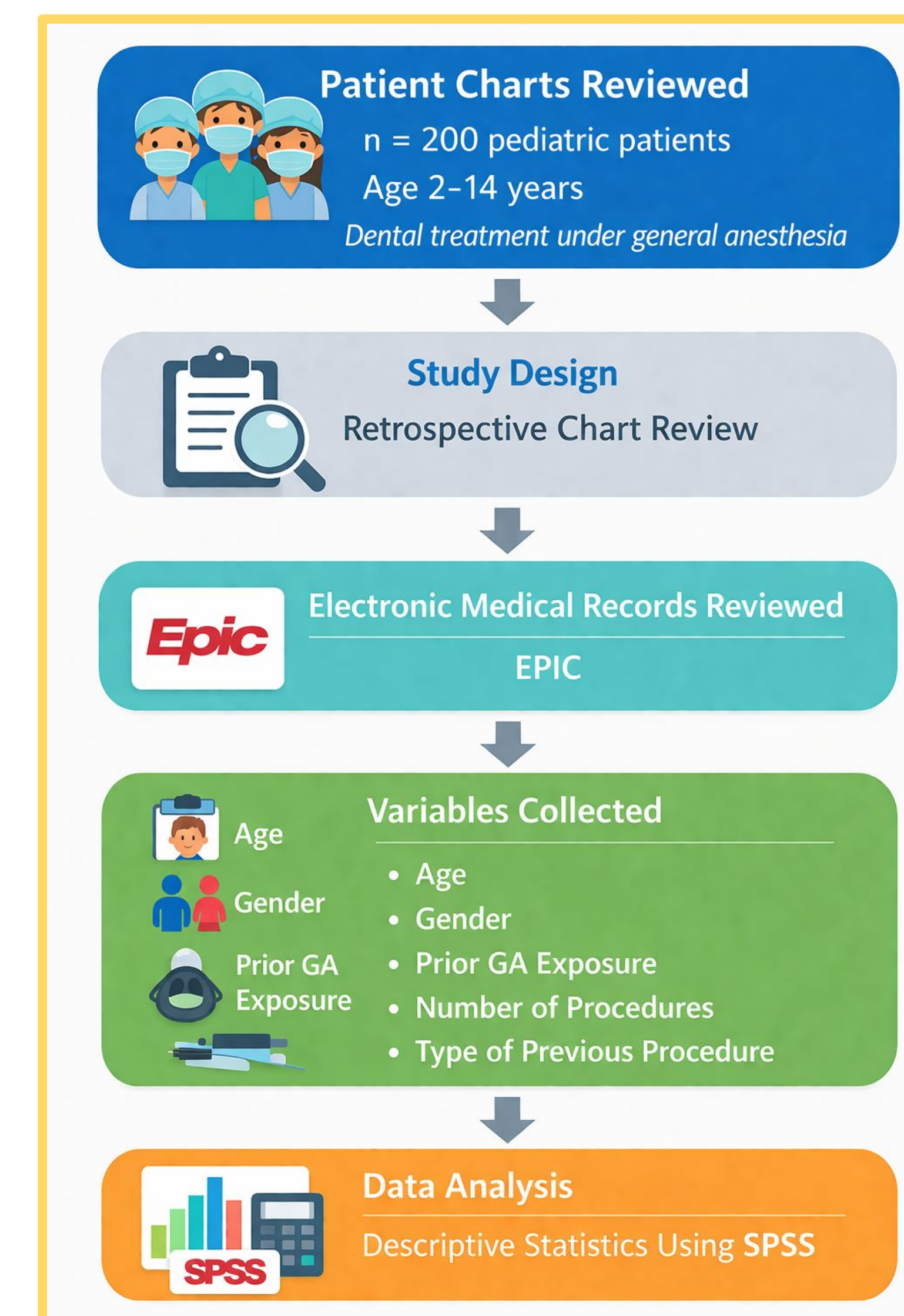
To evaluate the incidence of prior GA exposure in pediatric patients receiving dental treatment under GA and to identify the types of medical or diagnostic procedures previously performed under GA.

## Discussion

The findings of this study suggest that the majority of pediatric patients undergoing dental treatment under GA had no prior exposure to GA, indicating that dental rehabilitation often represents a child's first experience with GA. This aligns with previous literature demonstrating that extensive dental treatment under GA is frequently required in young or uncooperative children with severe early childhood caries when conventional in-office care is not feasible. However, the study population primarily consisted of Medicaid-insured patients treated within a pediatric dental service, and the data were evaluated from a dental perspective. As a result, the findings may reflect characteristics specific to this patient population and clinical setting and may not be fully generalizable to broader pediatric populations.

## Material & Methods

A retrospective chart review was conducted on 200 pediatric dental patients between the ages of 2–14 years who received dental treatment under GA at hospitals affiliated with the University of Toledo College of Medicine and Life Sciences Pediatric Dental Service. Electronic medical records were reviewed to identify prior exposure to GA for diagnostic or surgical procedures unrelated to dental care. Variables collected included age, gender, prior GA exposure, number of previous procedures requiring GA, and type of procedure performed. Descriptive statistical analysis was performed using SPSS.



## Results

Total of 200 pediatric patient charts were reviewed.

Age: mean age was 5.79 years, with ages ranging from 2.5 to 11.5 years.

Gender: 80 male patients and 73 female patients had no prior GA exposure, while 23 males and 24 females had a history of prior GA.

**153 patients (76.5%) had dental GA as their first GA exposure, while 47 patients (23.5%) had undergone at least one previous procedure requiring GA prior to their dental surgery.**

Among patients with prior GA exposure, 36 patients had one prior procedure, 6 had two prior procedures, and 5 had three or more prior procedures.

Most common medical procedures requiring GA were ENT surgeries (n = 21). Other procedures included genital/urologic (n = 10), general surgery (n = 9), cardiovascular (n = 4), respiratory (n = 3), gastrointestinal (n = 3), musculoskeletal (n = 3), neurological (n = 2), and dermatologic procedures (n = 1).

## Discussion

Among the patients who had prior exposure to GA, ENT procedures were the most commonly reported, including surgeries such as tonsillectomy, adenoidectomy, and tympanostomy tube placement. ENT-related surgeries are widely recognized as some of the most common pediatric procedures performed under GA.

Most patients with previous GA exposure had only one prior procedure, suggesting that repeated anesthesia exposure before dental surgery is uncommon in this population. Understanding prior anesthesia exposure is clinically relevant, as previous studies have raised concerns regarding the potential effects of repeated GA exposure on pediatric neurodevelopment and overall health outcomes. In the context of pediatric dentistry, the use of GA is often driven by the severity of oral disease, particularly in cases of untreated early childhood caries, as well as cooperation of patients.

These findings contribute to the growing body of literature examining the intersection between pediatric dental care, early childhood caries, and the role of GA in treatment delivery. Identifying patterns of prior GA exposure may help clinicians better understand the medical backgrounds of pediatric dental patients requiring treatment under GA and support improved treatment planning and risk assessment. Further research studying different populations may help clarify trends in anesthesia exposure and inform strategies aimed at reducing the need for GA through earlier preventive dental interventions.

## Conclusion

- Most pediatric patients undergoing dental treatment under GA had no prior exposure to GA (76.5%), suggesting that dental rehabilitation often represents a child's first experience with GA.
- Among patients with prior GA exposure prior to dental operating room treatment (23.5%) the majority had only one previous procedure requiring GA.
- ENT-related surgeries were the most common prior procedures performed under GA.

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