

### Pediatric Complicated Appendicitis During the COVID-19 Pandemic: A National Perspective



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**INTRODUCTION:** The COVID-19 pandemic has changed the public's perception of safety in accessing healthcare across common surgical emergencies, including acute appendicitis in children. Here, we aim to determine whether the COVID-19 pandemic is associated with poorer appendicitis outcomes and predict that there are higher complicated appendicitis (CA) rates during this time.

**METHODS:** A retrospective cohort study was conducted in patients younger than 19 years with a new diagnosis of acute appendicitis. Rates of CA were compared in the pre- (3/1/2019-5/31/2019) and post-COVID (3/1/2020-5/31/2020) timeframes using the Pediatric Health Information System national database. The primary end point of interest was CA rates. Secondary end point of interest was hospital length of stay. A  $p$  value  $< 0.05$  was significant.

**RESULTS:** Nationally, 6,212 patients had acute appendicitis pre-COVID compared with 5,372 post-COVID. The CA rate post-COVID was 33%, which was significantly higher than 30% CA rate pre-COVID, and the rate of uncomplicated appendicitis post-COVID was lower ( $p < 0.001$ ). An overall increase in hospital length of stay nationally was observed for all patients treated post-COVID ( $p < 0.001$ ), as well as in those with CA ( $p < 0.001$ ).

**CONCLUSION:** The COVID-19 pandemic is directly associated with higher disease burden in pediatric acute appendicitis. The healthcare system must understand its role in alleviating public fear in seeking healthcare for patients and their families to encourage timely medical care.

### Racial and Ethnic Disparities in the Post-Discharge Care of Children with Acute Appendicitis



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**INTRODUCTION:** Significant racial and ethnic disparities exist in the presentation of children with acute appendicitis; however, it is unclear if these disparities remain after hospital discharge.

**METHODS:** We performed a retrospective cohort study of children who underwent treatment for acute appendicitis in 49 US Children's Hospitals between 2010 and 2015. The primary outcomes were 30-day inpatient readmission and emergency department (ED) visit to the index hospital. Race and ethnicity was self-reported and categorized into non-Hispanic white (NHW), non-Hispanic black (NHB), Hispanic/Latino (HL), and other.

Hierarchical logistic regression models were developed to determine the association of race and ethnicity on the primary outcomes after adjustment for salient patient and procedure characteristics.

**RESULTS:** A total of 78,937 patients were included: 49.8% (NHW), 10.7% (NHB), 32.5% (HL), and 10.7% (Other). The majority had nonperforated appendicitis (86.8%) and underwent laparoscopic appendectomy (92.5%). Compared with NHW children, NHB and HL patients were more likely return the ED within 30 days. There were no significant differences in 30-day readmission rates between NHW and NHB or HL children. On multivariable analysis, compared with NHW children, NHB and HL children had a significantly increased odds of an ED visit within 30 days (Table). There was not a corresponding significant increase in risk of inpatient readmission among NHB children compared with NHW children.

**CONCLUSION:** Children of racial and ethnic minorities are more likely to use the ED after acute appendicitis without a corresponding increase in readmission. These data suggest a lack follow-up care can drive disparities in pediatric appendicitis care.

### The Impact of Extubation Setting on Operating Room Efficiency, Hospital Costs, and Patient Safety in a Children's Hospital



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**INTRODUCTION:** Operating room (OR) throughput and efficiency is a key driver of hospital costs. We sought to evaluate the efficacy, safety, and cost implications of a practice of post-anesthesia care unit (PACU) extubation for 4 common pediatric surgical operations.

**METHODS:** The records of 6,956 children who underwent inguinal hernia repair, laparoscopic appendectomy, pyloromyotomy, and tonsillectomy/adenoidectomy at a free-standing children's hospital between July 2018 and June 2020 were reviewed. OR flow time metrics and postoperative airway interventions were assessed. Based on a 2014 study, 1 minute of operative time was assessed at \$37. Exclusion criteria included PACU holds and direct transfers from the OR to an inpatient unit.

**RESULTS:** There were 5,245 procedures analyzed. All patients were extubated in the PACU except during periods of elevated COVID-19 transmission risk or when the PACU was understaffed. The mean time from procedure completion to leaving the OR was between 3.7 and 4.8 minutes for patients extubated in the PACU and 10.0 and 13.0 minutes for those extubated in the OR. PACU respiratory events were minor, infrequent, and of similar incidence after PACU or OR extubation.



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