

Pre-Surgical Screening and Incidence of COVID-19 Infection at the Shriners Hospitals for Children — Honolulu

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Introduction

As the COVID-19 pandemic continued to impact healthcare facilities across the United States during the spring of 2020, and with the implementation of Centers for Disease Control and Prevention (CDC) precautions, Shriners Hospitals for Children—Honolulu (SHC HON) resumed elective surgeries in May 2020. In an effort to provide further insight into the efficacy of infection control measures, best care practices, and the well-being of our pediatric patient population and larger community, the incidence of COVID-19 was examined among asymptomatic patients scheduled for elective outpatient or inpatient surgery.

On March 23, 2020 (effective 12:01 am, March 24), Governor Ige issued the statewide stay-at-home/work-at-home order due to the rising number of COVID-19 cases.¹ On that day, Hawai'i's total number of confirmed coronavirus cases was 77 (37.5% increase from previous day) and the first COVID-related death had occurred three days before.¹ There was an average of 1.0 newly reported cases per day for every 100 000 residents statewide for the 7-day period ending on March 23.² Consequently, on May 5, 2020, COVID-19 restrictions were eased and some essential businesses were allowed to reopen as the average of newly reported cases per day for every 100 000 residents statewide decreased to 0.2 (625 confirmed cases and 17 deaths).^{1,2}

Pre-Surgical COVID-19 Testing

Accordingly, SHC HON ceased having elective surgeries on March 24, which resumed on May 11. Prior to admission for elective surgery, all scheduled patients were tested for COVID-19 and their results were recorded. If a patient had a positive test result and/or was symptomatic before or after testing, his/her surgery was rescheduled for a later date in accordance with CDC guidelines (eg, asymptomatic for 14 days, negative test result before rescheduled surgery).

The electronic medical records of patients who had a COVID-19 test between May 18 to July 22, 2020 and were scheduled for elective orthopedic or dental surgery were reviewed. The variables of interest included the result, type (eg, polymerase chain reaction [PCR]) and date of the patient's COVID-19 screening test, age, sex, race, ethnicity, date, and type of surgery, and COVID-19-related symptoms (ie, if positive test result). There were 131 patients tested for COVID-19 and/or scheduled for elective surgery during this 10-week period, and none of them tested positive. Table 1 presents the patients' demographic and related information.

Conclusion

The finding of 0 COVID-19 positives suggests that these patients and families are to be commended for keeping the prevalence of COVID-19 low among our hospital's pediatric population, which is comprised of children from various racial and socioeconomic backgrounds, as well as within the larger community. For example, for every 100 000 residents statewide aged 0-17 years, there were averages of 0 and 6 new coronavirus cases during the weeks ending on May 16 and July 25, respectively.² During this 10-week period, and across all ages, the total number of cases increased from 637 to 1490 (1.2% positivity rate based on 73 009 tests) and related deaths went from 17 to 26.² In addition, over 45% of the patients reviewed were of Native Hawaiian/Pacific Islander descent, who, as a group, was reported to be disproportionately impacted by COVID-19 in contrast to other racial groups in Hawai'i.^{2,3} However, the incidence rate found herein is very much lower, and infectivity appears to be similar, or non-existent, among these pediatric patients despite racial differences.

Previous studies of patients from other children's hospitals located on the continental United States have reported high variability in the prevalence of COVID-19 dependent on geography, with an average rate of 0.65%.⁴ Comparable data from

Table 1. Elective Surgery Patients Demographic and Related Information (N = 131)			
	Mean	St. Dev.	Range
Age (years)	7	5	0.3 to 20
	n	%	
Gender			
Female	63	48%	
Male	68	52%	
Race			
American Indian / Alaska Native	3	2%	
Asian	62	47%	
Black	3	2%	
Native Hawaiian / Other Pacific Islander	53	41%	
White	7	5%	
Other	2	2%	
Unknown	1	1%	
Ethnicity			
Hispanic Latino (HL)	7	5%	
Non-HL	117	89%	
Other	7	5%	
Surgery Type			
Orthopedic	56	43%	
Dental	75	57%	
COVID-19 Screening			
Test type			
PCR	131	100%	
Test Results			
Negative	131	100%	
Positive	0	0%	
Symptoms			
No	131	100%	
Yes	0	0%	

other Shriners hospitals located in states with very high rates of COVID-19 will be analyzed with regard to geographical differences, or the possibility that pediatric patients (and their families) might be locally unique in (dis)similar ways.

From a public health perspective, Hawai‘i’s overall response to COVID-19 was proactive given our state government’s timely enactment of restrictions (eg, face mask wear, social distancing, no/limited social gathering, and monitored travel) and Hawai‘i residents’ civil adherence to them, due to increasing COVID-19 positivity rates statewide and the evolving pandemic across the United States. Within the control and prevention milieu that emerged in response to the COVID-19 pandemic, it is conceivable, perhaps expected, that certain regions and/or groups will vary in their ratification of and adherence to government-mandated restrictions. The 0 positivity rate provided support for the effectiveness of the public health initiatives authorized by local officials in response to COVID-19, which, in turn, was dependent upon the statewide community’s endorsement of them.

Comparable information about Hawai‘i’s general pediatric patient population or that from other children’s hospitals were limited and/or not readily accessible, which reduced the extent to which contrasts with the current data could be made. This finding of 0 positives may have been solely due to the fact that the children presenting for elective surgery at SHC HON during this time period represented an exception with regard to their observance of COVID-19 precautions. Or, it could purely be reflective of the cautious demeanor of these children, or moreover, the protective efforts of their parents given their vulnerable health condition(s) (typically comorbid), as witnessed at SHC HON on a daily basis.

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