

Table 2. Odds of Mortality Univariate and Multivariate Analysis

Variable	Odds Ratio (Confidence Interval)	P-value
Univariate Analysis		
Age	1.032 (1.007-1.058)	0.0133
ICU	10.239 (5.48-19.133)	<0.001
Intubated	12.406 (6.854-22.456)	<0.0001
CKD History	2.891 (1.749-4.778)	<0.0001
mSOFA score	1.405 (1.264-1.562)	<0.0001
Central Venous Catheter	3.285 (1.737-6.212)	0.0003
BSI	2.890 (1.832-4.559)	<0.0001
Multivariate Analysis		
Age	1.070 (1.058-1.083)	<0.0001
mSOFA	1.285 (1.125-1.468)	<0.0001
ICU stay	7.908 (5.752-10.871)	<0.0001
BSI	1.686 (0.986-2.884)	0.0564

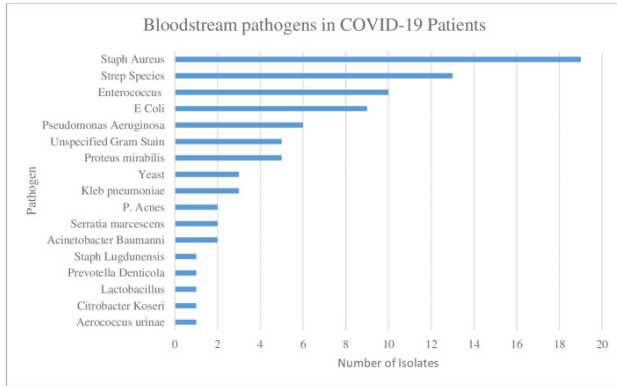


Figure 1. Cumulative Number of Bloodstream Pathogens in COVID-19 Patients

Conclusion: Although more than half of hospitalized COVID-19 pts had BC done, the number of BSI were low suggesting overutilization of BC. BSI was associated with older age and disease severity. Mortality was not affected by BSI but was primarily driven by age and severity of illness.

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408. Evaluation of the negative predictive value of the SARS-CoV-2 PCR respiratory assays in asymptomatic children undergoing surgery

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Background: Universal pre-operative screening with SARS-CoV-2 PCR has been adopted by institutions to mitigate risk to healthcare workers (HCW) during aerosol-generating procedures such as intubation. However, there remains uncertainty regarding rates of false negative results and optimal sampling type. The objective was to determine the reliability of single, pre-operative SARS-CoV-2 testing from the nasopharynx in children undergoing general anesthesia.

Methods: Children < 18 years of age who underwent intubation for a procedure received pre-operative testing 24–48 hours prior with a nasopharyngeal (NP) swab or wash, in conjunction with intra-operative nasal wash (NW) and tracheal aspirate (TA) sampling. All paired samples underwent testing using the Simplex2a platform or a modified Centers for Disease Control assay. Cohen's Kappa was used for interrater reliability of each sample result. McNemar's Test was used to compare result proportions by sample type. Positive and negative predictive values (PPV, NPV) were calculated based on the intraoperative NW as the reference standard. Analyses were conducted using SAS (v 9.4).

Results: We collected full sample sets from 364 children from April 14 to May 15; 66% of pre-operative samples were NP swabs. The median age was 6 years (IQR 2,13), 55% were male, 68% were white and 41% of children had a high-risk comorbidity. Most surgeries were conducted by general surgery (23%), followed by orthopedics (19%). Only 2.5% of children had respiratory symptoms, and 4.8% had a documented fever within a week of the procedure. SARS-CoV-2 positive samples occurred in 4/364 (1%) of pre-operative samples, 8/363 (2.2%) of intra-operative samples, and 8/348 (2.3%)

of TA samples. The pre-operative test had 100% PPV and 99% NPV, and the TA had 100% PPV and 98.6% NPV (Table 1). There was very good agreement (Figure) between pre- and intraoperative upper respiratory sampling, with a Kappa of 0.66, (95% CI 0.35–0.97). There was no statistical difference in results by sample type.

Table 1. Comparison of intra-operative and pre-operative nasopharyngeal sample results, test characteristics and test concordance

		Intra-operative nasopharyngeal wash		
		Positive	Negative	Total
Pre-operative nasopharyngeal swab/wash	Positive	4	0	4
	Negative	4	355	359
Total		8	355	363

Kappa 0.66 (95%CI 0.35-0.97)
Sensitivity 50% (95%CI 16-84%)
Specificity 100% (95%CI 99-100%)
Positive Predictive Value 100% (95%CI 40-100%)
Negative Predictive Value 99% (95% CI 97-100%)

Table 2. Comparison of intra-operative nasopharyngeal and tracheal aspirate sample results, test characteristics and test concordance

		Intra-operative tracheal aspirate		
		Positive	Negative	Total
Intra-operative nasopharyngeal wash	Positive	3	5	8
	Negative	0	340	340
Total		3	345	348

Kappa 0.54 (95%CI 0.18-0.90)
Sensitivity 37.5% (95%CI 9-76%)
Specificity 100% (95%CI 99-100%)
Positive Predictive Value 100 (95%CI 29-100%)
Negative Predictive Value 98.6% (95% CI 97-100%)

Figure 1 Percent agreement between pre-operative and intra-operative samples

	NPW	TA	Pre-op NP/NW
Pre-op NP/NW	98.8%	99.7%	100%
TA	98.6%	100%	99.7%
NPW	100%	98.6%	98.9%

Conclusion: There is a high PPV and NPV of pre-operative SARS-CoV-2 PCR testing among children undergoing anesthesia. These data can help inform guidelines regarding appropriate precautions for HCW performing high risk procedures in asymptomatic pediatric patients.

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409. Rapid Development of a Multiplexed PCR Prototype Method that Offers a Syndromic Diagnostic Option by Integrating Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Detection with Twenty-One Other Common Respiratory Pathogens

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