

[A-10] Tongue Protrusion as a Extubation Criteria in Pediatric Surgery

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Study Objective:

To study the use of tongue protrusion as a criteria for pediatric anesthesiologists for extubation, how it affects the time spent in operating room, and the incidence of post-extubation complications.

Design:

Single center, observational, pilot study.

Setting:

Operating room in University affiliated teaching hospital.

Patients:

50 patients in pediatric general surgery age from 1 day to 17 years who are underwent general anesthesia and endotracheal intubation with mechanical ventilation.

Interventions:

Anesthesiology cases were observed by an independent observer prior and during extubation of pediatric patients. The criteria that anesthesiologist used to predict safe extubation as well as the complications following the extubation were recorded.

Measurements:

The time of it took for extubation and exiting the patient out of the operation room were recorded. Any complications following extubation such as laryngospasm, desaturation, and apnea were also noted. The criteria that the anesthesiologist used to predict safe extubation such as purposeful movement, eye opening, coughing, tongue protrusion, and swallowing, were also recorded.

Main Results:

The use of tongue protrusion as a criteria for extubation led to lower complication rates. None of the cases where tongue protrusion was used as an extubation had any post-extubation complications. When compared to other criteria for extubation readiness such as purposeful movement, open eyes, and coughing, using tongue protrusion as an extubation criteria resulted in significant shorter time for extubation (differences were 6.4, 7.9, 3.06 minutes respectively, $P=0.05$).

Conclusion:

Using tongue protrusion as a criteria for extubation readiness results in safe and effective extubation in pediatric general surgery patients. It results in less complication rates and shorter time required for extubation.



Figure 1: Example of tongue protrusion demonstrated by pediatric patient prior to extubation.

Table 1: Comparison of tongue protrusion with other extubation criteria in terms of average time fo

	Tongue Protrusion vs Purposeful Movement	Tongue Protrusion vs. Eye Opening	Tongue Protrusion vs. Coughing	Tongue Protrusion vs. Swallowing
Difference in Average Extubation Time (minutes)	-6.93	-8.93	-2.83	-0.55
T-test value	-2.55	-2.51	-2.11	-0.65
p-value	0.02	0.03	0.04	0.5

Table 2: Comparison of tongue protrusion with other extubation criteria in terms of average excess

	Tongue Protrusion vs Purposeful Movement	Tongue Protrusion vs. Eye Opening	Tongue Protrusion vs. Coughing	Tongue Protrusion vs. Swallowing
Difference in excess OR time (minutes)	-1.4	1.03	0.11	1.02
T-test value	0.7	1.49	0.26	1.46
p-value	0.5	0.15	0.8	0.15

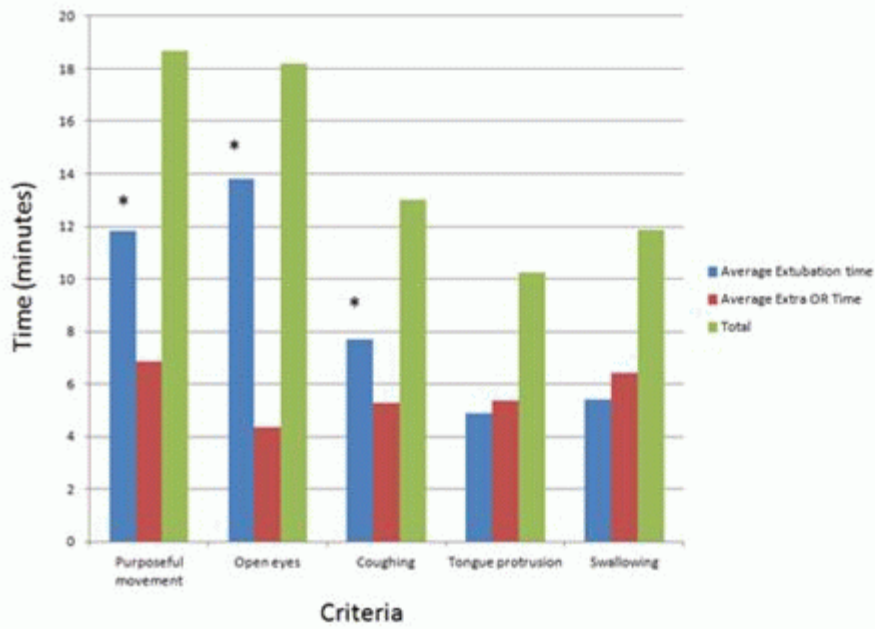


Figure 1: Comparison of average extubation time and average extra OR time after extubation between different criteria used for extubation readiness. Total number of cases was 50. Tongue protrusion was compared to other criteria used. * Indicate statisti