

**Extubation Readiness
Mechanical Ventilator Discontinuation in the Pediatric CVICU**

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Purpose: The aim of this evidence-based practice (EBP) study was to determine if in the Pediatric CVICU population, would an extubation readiness scoring tool, compared to current practice, prevent the incidence of invasive re-intubation?

Background: The pediatric CVICU is a 20 bed unit that provides advanced critical care to congenital and acquired heart disease. Surgical repair and recovery presents a challenge to the patient and CVICU team to adapt to the new physiology and to balance cardiovascular and pulmonary circulation. Pediatric ICU rates of re-intubations range from 6-15% and are as high as 29% in higher risk infants and children. The process of extubation is variable and is influenced mostly by a clinician's subjective assessment.

Methods: An Extubation readiness checklist was developed based on the recommendations of a collective task force facilitated by the American College of Chest Physicians, the American Association for Respiratory Care, and the American College of Critical Care Medicine. A retrospective chart review was conducted to find children that failed extubation. Extubation readiness was evaluated for all reintubated children using the extubation readiness checklist.

Results: A total of 16 out of 112 children were re-intubated. All 16 children failed the extubation readiness checklist. If the checklist had been used the patients might not have been extubated before they were ready.

Discussion: The use of the scoring tool would have prolonged ventilation but the risk of extubation failure and re-intubation would have been decreased. From the chart review, I found out that using the scoring tool would have prevented premature extubation and thus reducing the incidence of invasive re-intubation. Finally, the results also identified that the rate of re-intubation (13%) is still less than the national average (29%) for high risk infants and children.

References

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Key Words: Ventilator discontinuation, SBT, PICU, reintubation, evidence-based.

