Oral Defense Announcement
University of Missouri – St. Louis Graduate School

An oral examination in defense of the dissertation for the degree
Doctor of the Nursing Practice with an emphasis in Pediatric Acute Care Nurse Practitioner

Mary K. Holyoke

B. S. Nursing, University of Missouri-St. Louis, 2010

Extubation Readiness Test in Pediatric Cardiac Intensive Care Unit

Date: July 12, 2023
Time: 3:30 p.m. to 4:15 p.m.
Place: Room 1 Seton Hall

Abstract

Problem: Prolonged mechanical ventilation and extubation failure is associated with significant implications and risk factors. Several studies found 5-15% of extubations result in extubation failure. Extubation readiness tests (ERTs) aid clinicians in deciphering patients that can be successfully extubated. ERTs have been shown to decrease length of mechanical ventilation and a decrease extubation failures.

Methods: The quality improvement (QI) project utilized a descriptive observational design to assess the effects of the implementation of an extubation readiness test (ERT) in a pediatric cardiac intensive care unit. This project used a convenience sample to include children aged neonate to 18 years of age admitted to the pediatric cardiac ICU who were mechanically ventilated and met inclusion criteria. Data collected during the period of this quality improvement project included cardiac defect/admission diagnosis, ERTs used, number of extubation failures, and length of intubation.

Results: Following implementation of ERT a total of 37 patients (n=37) post implementation met criteria for an ERT to be administered. One hundred percent of patients that met criteria had an ERT performed. Prior to ERT implementation there was a 5% extubation failure rate whereas there were zero extubation failures in the post implementation group. There was not a significant change in the length of intubation following implementation of the ERT.

Implications for Practice: ERTs should be used in the cardiac ICU to prevent extubation failure, potentially decrease length of mechanical ventilation, and aide clinicians in identifying patients’ ready liberation from mechanical ventilation earlier.

Defense of Dissertation Committee
Dr. Vanessa Loyd, DNP, PhD, RN - Committee Chair
Dr. Elise Schaller, DNP, MHA, APRN, CPNP-AC
Dr. Jessica Mann, DNP, CPNP-AC