Characterization of tracheal intubation process of care and safety outcomes in a tertiary pediatric intensive care unit.

Goals/Objectives:

To characterize tracheal intubation process of care and safety outcomes in a large tertiary pediatric intensive care unit using a pediatric adaptation of the National Emergency Airway Registry. The investigators hypothesized that tracheal intubation is a common but high-risk procedure and that the novel pediatric adaptation of the National Emergency Airway Registry is a feasible tool to capture variances in process of care and outcomes.
Characterization of tracheal intubation process of care and safety outcomes in a tertiary pediatric intensive care unit.

Methods/Inclusion:

Critically ill children who required intubation in the pediatric intensive care unit were included. Airway management data were prospectively collected for all initial airway management from July 2007 through September 2008 using the National Emergency Airway Registry tool tailored for pediatric application with explicit operational definitions.
Characterization of tracheal intubation process of care and safety outcomes in a tertiary pediatric intensive care unit.

Major Findings:

One hundred ninety-seven initial intubation encounters were reported (averaging one every 2.3 days). The first course intubation method was oral intubation in 181 (91.9%) and nasal in 16 (9.1%). Unwanted tracheal intubation-associated events were frequently reported (n = 38 [19.3%]), but severe tracheal intubation-associated events were rare (n = 6 [3.0%]). Esophageal intubation with immediate recognition was the most common tracheal intubation-associated event (n = 22). Desaturation <80% was reported in 51 of 183 (27.7%) and more than two intubation attempts in 30 of 196 (15.3%), both associated with occurrence of a tracheal intubation-associated event (p < .001, p = .001, respectively). Interestingly, patient age, history of difficult airway, and first attempt by resident were not associated with tracheal intubation-associated events.
Characterization of tracheal intubation process of care and safety outcomes in a tertiary pediatric intensive care unit.

Conclusions:

Unwanted tracheal intubation-associated events occurred frequently, but severe tracheal intubation-associated events were rare. Our novel registry can be used to describe the pediatric intensive care unit tracheal intubation procedural process of care and safety outcomes.

Link: