

Audit on UnPlanned Extubation in Neonates cared for at SSBCNN

Invasive mechanical ventilation via endotracheal tube is a common treatment modality in neonatal units. It has contributed to improved survival of sick neonates. Mechanically ventilated neonates are prone many adverse events such as Unplanned Extubation (UE). It has the potential to cause cardiorespiratory deterioration, airway trauma such as subglottic stenosis due to repeated reintubations and ventilator induced pneumonia.

Studies show variation in rate of UE from 1.14 to 5.3 per 100 ventilated days. Compared with data from PICUs, unplanned extubations in neonatal patients occur 2 to 3 times more frequently. Potential reasons for this increased incidence include longer duration of intubation, shorter length of the trachea in neonates compared with older children, the use of uncuffed endotracheal tubes in neonates, and less routine use of sedation and muscle relaxation, as well as time spent out of bed while being held by parents.

There are many factors that contribute to UE such as method of fixation of endotracheal tubes, procedures such as weighing and suctioning and agitation of the patient, resulting in rapid movement of the head

Greater emphasis has been placed in recent years on improving quality and patient safety. Given the frequency and importance of this potentially serious adverse event in the neonates, Unplanned Extubation rate should be monitored and considered as a quality metric.

The SSBCNN provides care for about 4,400 babies / year. It provides about 5,500 - 6,000 intensive care days every year across the network. All the 5 neonatal units provide neonatal care to variety of neonatal conditions.

The aim of the audit is to assess the incidence of UE across the network, its risk factors, rate of reintubation following UE and outcomes following UE. The results would help in developing quality improvement programmes to reduce the incidence of UE. The data is collected on all babies ventilated in neonatal units across SSBCNN in 2015.

The goal is to achieve 1 UE per 100 patient-intubated days. This rate has been identified as the benchmark for PICUs.

Thank you for participating in the audit

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