Using *Mindful of Preemies* - A Quality Improvement Initiative to Improve Neurodevelopmental Positioning of Preterm Neonates

**PURPOSE**

The focus of the quality improvement (QI) initiative was to improve the consistency of maintaining neurodevelopmental positioning (NDP) in neonates deemed at high risk for developing intraventricular hemorrhage (IVH). A NDP protocol was developed to guide NICU nurses with evidence-based positioning techniques found to decrease cerebral blood flow impairment in infants less than 32 weeks of gestation, and less than 1,500 grams during the first week of life.

**BACKGROUND**

Extremely premature infants with very low birth weight are at highest risk for developing IVH within the first week of life. Seminal research studies support NDP of high-risk preterm neonates as a preventive approach to reduce the risk for cerebral blood flow impairment and IVH. In addition, hospitals with low IVH rates utilized NDP.

**METHODOLOGY**

Meetings were held with key stakeholders to discuss the feasibility of the project. An evidence based NDP protocol was developed to guide positioning techniques of high-risk neonates during the first week of life. The QI initiative involved a mandatory education session for NICU registered nurses (RN). Random observational audits were performed before project implementation to obtain baseline data, and after project implementation to evaluate the percentage of neonates who were positioned in NDP. A core team of RNs formed a NDP expert team known as the developmental champions and assumed responsibility with data collection, audits, and peer motivation.

**RESULTS**

The percentage of high-risk neonates in NDP increased from a baseline of 58.2% to 93.5% over a 3-month period (Fisher’s exact test p<0.001). Additionally, the average total percentage of high-risk neonates with IVH reduced from 19.9% to 17.2% over a 6-month period after the implementation of the NDP protocol (p = 0.422). Subsequent observational audits indicate project sustainability since 91% of the neonates deemed at high risk for IVH were positioned in NDP 1-year after the QI initiative.

**IMPLICATIONS**

The role of RNs in reducing the risk for IVH is substantial. Although positioning techniques alone cannot reduce IVH rates, health care providers should utilize evidence from literature to optimize patient positioning. Additionally, other evidence-based approaches in conjunction with NDP to reduce the risk for IVH should be explored.