

Abstract Title:

Implementation of a Standardized Feeding Guideline in the NICU Setting

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Background: Preventing postnatal growth failure in VLBW infants is a challenge. Recent data have shown that a standardized feeding protocol for this population improves nutrient intake and growth by reduction in the time to reach full-enteral feeds (150/k/day), shorter TPN days, reduction in central-line-associated bloodstream infections (CLABSI), decreased risk for NEC, decreased rate of extra-uterine growth restrictions (EUGR) at the time of discharge, and an overall reduction in the length of hospitalization.

Goals: Achieve 80% compliance of Feeding Guidelines by the end of June 2015 for infants < 1500g (VLBW).

Method: The Memorial Care Health System Neonatal Best Practice Team developed feeding guidelines for infants < 1000 g (ELBW) in 2012. In 2014, the guidelines were expanded to all infants < 2500 g (LBW). A gastric residuals management algorithm was adopted at the same time to aid in clinical evaluation of feeding intolerance. A 4-month pilot study showed poor compliance. To improve adherence to the guidelines, education was provided to all neonatologists, fellows, residents, and nurses throughout the duration of the project (January 2014 - June 2015). Laminated copies of feeding

guidelines and gastric residuals algorithm were placed in every infant's chart for easy reference. Dietitians provided oversight and auditing.

Results: Compliance during the prospective period was compared to a sample of historic data. For all infants, DOL for first feeding declined from 4 days to 2.4 days (pre-guideline was 6.4 days). Rate of compliance for first feeding improved from 73.3% in Q1 to 86.5% in Q4. Time to reach full feeding goal was reduced from 18.6 days to 14.3 days. The goal of 80% compliance was achieved. NEC rates declined from 5.9% in 2012 to 3.8% in 2014. A cost analysis showed a \$1.33 M savings via less TPN days, CLABSI, and NEC cases.

Conclusions: Implementing an evidence-based feeding protocol encouraged practice consistency among clinicians. The challenges in achieving the goals were overcome by team vigilance and continued communication between dietitians, physicians, and nurses through re-education and reminders during bedside rounds and department meetings. Barriers to earlier initiation of feedings, as well as indications requiring NPO status, should be clearly defined. Continued updates to feeding guidelines to reflect current evidence should be an ongoing priority.