

## Quality Report

# Standardizing Umbilical Catheter Usage in Preterm Infants

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### ABSTRACT

**BACKGROUND AND OBJECTIVE:** Absence of guidelines on **umbilical** arterial **catheter** (UAC) and **umbilical** venous **catheter** (UVC) use and inability to predict the hospital course may sway the frontline staff to overuse **umbilical catheters** in preterm infants. Our objective was to evaluate the feasibility of implementing guidelines **standardizing** the use of **umbilical catheters** and its impact on the incidence of sepsis and resource use.

**METHODS:** All inborn infants delivered at <33 weeks' gestation and admitted to the NICU were included in this quality improvement study. The primary outcome was proportion of infants receiving **umbilical catheters**. Secondary outcomes were central venous **catheter** (CVC) use and central line-associated bloodstream infection (CLABSI).

**RESULTS:** The proportion of infants receiving UACs and UVCs was significantly lower in postintervention (sustainment) phase than in the preintervention phase (93 [42.3%] vs 52 [23.6%],  $P = .0001$ ) and (137 [62.6%] vs 93 [42.3%],  $P = .0001$ ), respectively. There was no corresponding increase in the proportion of infants receiving peripherally inserted central **catheters** (PICCs) or surgical CVCs (SCVCs) during the sustainment phase. There was a significant reduction in the proportion of infants receiving CVCs (UVC, PICC, and SCVC) in the sustainment phase. The incidence of CLABSI was similar in the preintervention and sustainment phases.

**CONCLUSIONS:** Implementation of guidelines **standardizing** the use of **umbilical catheters** in the NICU is feasible. Fewer infants were exposed to the risk of UVC or UAC, and fewer resources were used.

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### Key Words:

newborn **umbilical catheter** infection ventral line

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