NICU Safety Equation: Staying at Zero CLABSI = Staying Alive Without Infection

NICU Central Line Infection Prevention “NICLIP” Task Force
Beth Israel Deaconess Medical Center, Boston MA USA

SMART AIM
Decrease CLABSI from 4% to 0% within 1 year and maintain at 0% for as long as possible in all NICU infants

Chartered Task Force Members:
Chairs: Rosanne BucK NP, Brenda Sheridan RN
RN: Radka Arnold, Susan Bryant, Sarah Farrell, Jon Harris
NPs: Rachel Coperman, Mary Quinn, Laura Tannenbaum
Nursing Leadership: Jane Smallcomb RN, Susan Young RN, Kathy Tolkand RN
MDs: Dmytry Dukhovny, Munish Gupta, Wendy Timpson
Infection Control: Fatima Muriel MT (ASCP), David Yassa MD

CVL CNS: Melissa Morley NICU Parent Advisor
Radiology QI Tech: Alicia Zakos RS RT(R)
Melinda Morley NICU Parent Advisor

BACKGROUND
• 48 bed Level III NICU, Academic Medical Center
• PICCs placed by NNP/PA Team; Umbilical catheters by Neonatology MDs/Fellows and NNP/PA team
• From 2009 to 2011 we saw our CLABSI rate rise to 4/1000 line days
• No Central Line Bundle until 7/15/11

ASSEMBLING ALL DISCIPLINES AND STAKEHOLDERS TO FOCUS ON ALL ASPECTS OF CVLS/CARE HAS MEASURABLE AND SUSTAINABLE RESULTS

RESULTS
Central Line-Associated Bloodstream Infection (CLABSI) Rates, BIDMC NICU
12-month Rolling Average, Jan 2009 to Current

CONCLUSIONS
• Assembling all disciplines and stakeholders to focus on all aspects of CVLs care has measurable and sustainable results
• Any NICU can convene a similar task force
• Major investment by Pharmacy Department
• Root Cause Analysis can be valuable in determining special cause
• Cost savings of $4-5k for switch from IV bags to syringes
• Reducing CLABSI impacts Late Onset Sepsis And Survival in our NICU
• As of 9/23/2014, we are 1086 days without a CLABSI.
• Next step: improving securment of umbilical catheters, current 15-20% rate of inadvertent dislodgement

Checklists
• Monthly meetings commencing 6/2011 now quarterly prospective data collection on > 7500 CVL days
• Initial steps: CVL Bundle, Insertion/Maintenance checklists, Central Line Carts, Scrub-the-Hub, Hand Hygiene Awareness, CVL “Assistant/Observer” Role
• Addition of “Tringe” RN to staffing pattern for help at time of admission/umbilical line placement
• Maintenance checklist completed during daily patient care rounds
• Online Root Cause Analysis tool for RNs/NPs/MDs
• New CVL tubing configuration with closed-system dedicated med line, Daily tubing change for TPN, addition of Curocaps, ClearLink connectors, sterile Fluid Connectors
• TPN Pump move to East Campus for timely delivery of TPN to NICU, Initial TPN tubing spike under pharmacy hood
• Foster a culture of safety for CVLs including parents
• Cost analysis of IV bags vs. syringes for clear fluids for arterial lines
• NICLIP Meeting for RCA of 2 CLABSI that occurred within 12 days successful in identifying a special cause
• Introduction of Digital Radiology Plate for final position confirmation at time of CVL insertion

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