

AAP DISTRICT VIII SECTION ON NEONATAL PERINATAL MEDICINE

2021 ANNUAL CONFERENCE QUALITY IMPROVEMENT ABSTRACT SUBMISSION FORM

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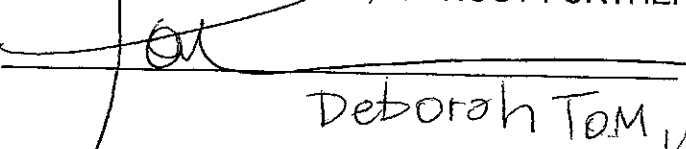
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Trainee? Yes No

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 Deborah Tom, MD

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DEADLINE FOR RECEIPT OF ABSTRACT IS FEBRUARY 19, 2021. Submissions will be accepted for either poster or oral presentation. Authors will be notified of acceptance and format for presentation (poster or poster symposium) by **March 12, 2021.**

Title: Adaptation of NICU Surgical Antibiotic Prophylaxis Guidelines

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Background: Phoenix Children's Hospital NICU patients are all out-born, with approximately 20% requiring surgery. Antibiotic utilization for surgical admissions (General, Urology, ENT, Neurosurgery) were reviewed to determine baseline. Variability in antibiotics and prolonged duration post-operatively were noted. Multi-disciplinary collaboration resulted in development of a standardized approach to antibiotic utilization post-operatively.

Aim/Objective The aim of this project was to examine adherence and effects of change to antibiotic selection and duration post-operatively during a one year study period post NICU Surgical Antibiotic Prophylaxis Guidelines implementation. Goal was decreased variability of agents used and decreased duration, with guideline adherence during the study period of 90%.

Planning/studying the intervention (PDSA cycles)

- 2016: Baseline data: service, antibiotic and duration post-operative
- 2016: Develop process for determination of antibiotic utilization rate (AUR) and establish baseline
- 2017: A literature review was conducted to determine best practice and information presented to hospital policy committee and stakeholders.
- 5/2018: Implementation of NICU Surgical Antibiotic Prophylaxis Guidelines
- 9/2018 – 8/2019: Monitoring of adherence and outcomes

Measures (Process and outcomes indicators)

Process Measures

- Monitor adherence to guidelines with a goal of 90% from September 2018 to August 2019
- Number of cases with a duration >24 hours that triggered an intervention by a Clinical Pharmacist by use of clinical surveillance tool
- Monitor NICU Antibiotic Use Rate (AUR)

Balancing Measures

- Presence of positive blood/wound culture within 7 days post-operative

Analysis/Outcomes/results

- 1) Duration of Post-Operative Antibiotic Use:
 - Overall decrease in antibiotic exposure
 - Cases that appropriately did not receive antibiotic post-operatively increased 12%
 - All cases with duration > 48hrs were deemed appropriate due to ongoing treatment of documented, pre-existing infection
- 2) Guideline Adherence: Overall 88% adhered to guidelines with a 12% deviation (n=160)
 - Duration adherence: 96%
 - Antibiotic adherence: 94%
- 3) Antibiotic Agent Used:
 - Variability in antibiotic selection decreased by 50%
 - Use of systemic prophylactic vancomycin eliminated during study period
- 4) Balancing Measure: 160 cases reviewed with zero positive blood or wound cultures within 7 days post-op

Summary/Discussion

- 1) Adaptation to guidelines was demonstrated with overall adherence approaching 90%
 - This standardized approach safely reduced the overall antibiotic exposure in surgical infants
 - Ongoing surveillance and feedback to providers will further promote adherence to the guidelines/assist in sustaining awareness
 - Future directions include focused review of homogeneity of surgical wound classification for similar procedures
- 2) Decreasing our post-operative antibiotic duration as well as a more standardized practice has positively impacted the overall NICU AUR