

AAP DISTRICT VIII SECTION ON NEONATAL PERINATAL MEDICINE

2021 ANNUAL CONFERENCE QUALITY IMPROVEMENT ABSTRACT SUBMISSION FORM

Presenting Author: Hellen Ko Title (MD, DO, NP, other): MD

Institution University of New Mexico

Street Address 2211 Lomas Blvd NE, Albuquerque, NM, 87106

Telephone: 505-272-2127 E-Mail: heko@salud.unm.edu

Trainee? Yes No

If yes, type and year of training Neonatal-Perinatal Medicine, PGY-V

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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: Development and Implementation of a Neonatal Massive Transfusion Protocol

Authors: Hellen Ko, MD¹, Joseph Griggs, DO², Jay Raval, MD², Tara Zamora, MD³

Institution: ¹Division of Neonatology, Department of Pediatrics, University of New Mexico

²Division of Transfusion Medicine, Department of Pathology, University of New Mexico

³Division of Neonatology, Department of Pediatrics, Children's Minnesota Hospital

Background: A Massive Transfusion Protocol (MTP) is an institutional plan created to expedite the allocation and delivery of blood products to patients with active bleeding. When run as designed, the MTP facilitates communication, ensures timely lab monitoring, and reduces delays/errors when ordering and administering blood products. Adult and pediatric MTPs have been developed, and their utility has been well-established for patients involved in trauma, major surgery, or extracorporeal membrane oxygenation (ECMO). However, these same MTPs are ill-suited for use in the neonatal population. Evidence-based guidelines for neonatal MTPs are lacking for infants, including those born preterm. Given the unique nature of the neonatal population, this population could benefit from a neonatal-specific MTP.

Aim/Objective: In this single center quality improvement initiative, we aimed to create a standardized process for ordering and transfusing multiple blood products to infants and neonates at the University of New Mexico Hospital (UNMH) with active bleeding or hypovolemic shock.

Planning/Studying the Intervention (PDSA)

Plan: Work with a multi-disciplinary team to develop a neonatal MTP including clinical staff in the NICU, Transfusion Medicine, UNMH transfusion committee, and other large children's hospitals.

Do: Literature search, obtain background information on neonatal MTPs followed by creation of a neonatal-specific MTP.

Study: Pre-implementation survey sent out to physicians, nurse practitioners, physician assistants, and nurses in the NICU.

Act: Approval for use within the Children's Hospital and creation of order set in the hospital's electronic medical record system.

Measures (Process and outcomes indicators): Use of neonatal-specific MTP.

Analysis/Outcomes/results (run or control charts, changes in delivery process, outcomes, balancing measures): Prior to implementation of a neonatal-specific MTP at UNMH, a survey was sent out to physicians, nurse practitioners, physician assistants, and nurses in the NICU. Fifty responses were recorded to 5 questions. Of the 50 surveyed, 64% were aware of MTPs in general. Almost all participants (96%) correctly identified that MTPs were generally used for any patients requiring large blood volume replacements and/or multiple blood products. Forty-six percent responded that they had previously experienced a clinical situation in which there was difficulty obtaining blood products. Of the 46% who experienced difficulty getting blood products, 67% identified that the delay was mostly attributed to waiting for blood products to arrive.

Summary: Our multi-disciplinary group collectively developed a neonatal-specific MTP to allow for a safer, timelier, and standardized approach to administering multiple blood products. Massive transfusions are rare but high-risk events in the NICU setting thus this study will hopefully improve patient outcomes related to transfusions. Our pre-implementation survey shows educational and practical barriers exist when attempting to order multiple blood products and further work will need to be done to address these barriers. In future PDSA cycles, we plan to complete mock codes within the NICU as well as offer educational videos.