Please Keep to Your Own Side
Peninsula Regional Medical Center

Program/Project Description.
Last year we had a near miss with heparin in our NICU. After a Root Cause Analysis, an action plan was developed and implemented. Unfortunately, there is usually more than one way in which an error can occur. Recently, our adult world contaminated our neonatal world and more lessons were learned. We learned that we needed to protect our neonates from contamination from the adjacent adult patient care area. During the process of preparing to place an umbilical line in NICU, a request from one of our NICU team members, a respiratory therapist, for heparin was verbalized. A nurse in the adjacent well-baby nursery, who is cross-trained to care for both mothers and babies in our well-baby nursery, overheard the request and wanted to help. She responded by obtaining heparin from where she knew it to be. Unfortunately, it was out on the post-partum floor, where they use adult concentration heparin flush for PICC lines in mothers. She quickly brought it back into NICU and handed it to a respiratory therapist. The therapist in turn handed it to a NICU nurse and working with the neonatologist, primed the umbilical line tubing. The line was placed and an x-ray was taken to confirm placement. It was during this time that another NICU nurse noticed the flush and questioned whether it was used. As soon as it was discovered that it was the wrong flush, she aspirated the fluid. Fortunately, the neonate's lab results verified that no further treatment was needed and the outcome was positive. A debrief was called that included pharmacy, the staff involved and leadership. The goal was to quickly determine how this happened and what immediate steps needed to be taken to prevent a recurrence.

Process.
An immediate debrief was done that included pharmacy, the staff involved and leadership. The goal was to rapidly determine how this happened and what steps needed to be taken at that time to prevent a recurrence. A full Root Cause Analysis, including all staff that were involved, was done a few days later. During this meeting, a new tactic was trialed. The attendees were divided into groups of about 4 people and were given the task of brainstorming ideas on how to keep this from happening again. It was suggested that we needed to keep from contaminating the neonatal world by the adult world, which is so close by. Then steps to accomplish this were identified and an action plan was developed. In addition to NICU, consideration of the other areas in which children are cared for in the same or adjacent clinical areas was given. Contamination of different populations can increase the risk of the wrong medication being available for inadvertent administration.

Solution.
Several changes were identified. Through policy and process changes, and staff education, the following has been done:
1) Floor stock heparin flushes were removed from our Mother/Baby and in-patient Pediatric units. Patient specific flushes are available in the patient’s individual cassettes
2) Created locked NICU central line supply cart that is housed in the NICU. This cart has all supplies, including the appropriate neonatal heparin flush, needed to place a central line.
3) Reviewed current policies to ensure clarity regarding expectations of a medication verification. While a heparin flush is not considered a medication, but a device, by the Joint Commission, our NICU policy states a nurse to nurse verification is still required.
4) Presentation to our Pharmacy/Nurse Liaison Committee to assess for the possibility of a neonate receiving an adult dosage of heparin in other areas of our hospital. A request was made to see if the adult population could utilize the neonatal concentration of heparin flushes or could they be heparin-free. Also exploring the house-wide use of adult heparin to see if it can be removed as a floor stock item.
5) Shared lessons learned with staff, including the role of communication in teamwork.

Measurable Outcomes.
Since this is a very recent event, we do not have data that shows errors have been reduced at this time. However, we firmly believe that the process changes made have reduced the chances of this same error recurring in NICU and reduced the chances that this could happen in a different clinical area where children and adults are cared for in the same or adjacent clinical areas.

Sustainability.
We have changed the process for the availability of adult concentrated heparin so that it is not available as a "stock" item on the postpartum unit. We are also exploring the house-wide use of adult heparin to see if it can be removed as a floor stock item, or eliminated altogether.
Role of Collaboration and Leadership.
Our NICU team is multidisciplinary, therefore the analysis of the event and the development of a solution had to have a multidisciplinary approach as well. Involved were nurses from both NICU and Mother/Baby, Respiratory Therapy, Pharmacy, Process Improvement, Risk Management, Clinical Education, and Administration. We discovered that we needed to clearly define our roles on the team and how communication impacted our teamwork. We have had full executive support from the very beginning. In addition to regular communication with executive staff beginning shortly after the error was discovered, we have had executive support at our Root Cause Analysis meetings and have kept them up-to-date with the implementation of our action plan.

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