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Quality Improvement
February 10, 2023

Quality Improvement Activity: Monitoring Bubble CPAP – Skin Breakdown

Born at 32 weeks gestation, a new baby girl was admitted to the Neonatal ICU. This new neonate was transported to the NICU due to prematurity, respiratory distress syndrome leading to the use of bubble CPAP, overall underdeveloped and needed sometime to grow and feed properly. Baby girl at this time has already been here for a week. During the morning assessments and monitoring the monitor was alarming, looking at the vitals- heart rate was dropping into the low 60's and oxygen was following. The day time nurse went into the room to assess the neonate, not wanting to stimulate right away to assess if baby girl will recover by herself, after a few seconds she did recover. After this situation, we followed up with the neonatologist. Then again, the same event happened baby girl recovered again. Following doctors order it was all hands on deck to get a follow work up. Between two NICU nurses and Respiratory therapist ABG's and lab work were taken. During this process the team assess the bubble CPAP mask, lifting the mask to ensure proper placement we find red and pink marks on the nasal area and top lip from the mask. This is something we were concerned about because we don't want another issue for this baby girl, an issue that is preventable. We continued to do the protocol in take pictures, measure and document the nasal pressure injury due to the bubble CPAP to monitor the progress.

Describe the scenario. In what way did the patient care or environment lack? Is this a common occurrence?

In this scenario the neonate was in bubble CPAP due to lung immaturity and respiratory distress syndrome. After the event of lowering heart rate and oxygen level with further assessment a nasal pressure injury was also documented. Proper skin assessment and prevention were missed in baby girl's patient care. Bubble CPAP is a respiratory device that is used very often in the NICU, being able to properly assess and skin prevention is important part of their daily and nightly care. Lots of neonates use this device and correction needs to be made to improve these finding.

What circumstances led to the occurrence?

The circumstance that directly impacted the occurrence of skin breakdown and the nasal pressure injury is due to improper skin assessments and skin care. This circumstance is preventable and needs improvement on the healthcare worker's role.

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In what way could you measure the frequency of the occurrence?

The frequency of skin breakdown and nasal pressure injuries is an issue that is always under review. Due to the pressure injuries being recorded often in the hospital setting. Being able to keep track and monitor the neonates that are on assistive breathing devices and ensuring skin assessments are being done will help ensure the frequency of the occurrence decrease. Hospitals around the world have adopted skin care protocol used to track the occurrence of skin breakdown and help with early recognition.

What evidence-based ideas do you have for implementing interventions to address the problem?

Evidence has shown with proper CPAP skincare protocol, reduction in nasal pressure injuries were prevented. Skincare protocol has been proven through tracking occurrences of skin breakdown is effective and prevents potential device related pressure injuries. Implementing the BCPAP skincare protocol and continuing documenting will reduce these occurrences. Bubble CPAP is effective because it monitoring for proper size of prongs, dressing to provide a barrier to skin, early recognition and when criteria is meet to end use of BCPAP done in a timely manner to help eliminate any further skin breakdown. To help ensure the skincare protocol is used we can help with education and how important it is to assess for any skin breakdown.

How will you measure the efficacy of the interventions?

To ensure the skincare protocol is effective to reduce the number of occurrences in BCPAP, tracking in monitoring occurrence by each month and updating as necessary. Being able to compare each month will help reflect on the progress and where improvement is needed. Providing the framework for the skincare protocol and early recognition is key to prevent any further injuries.