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Increase Staff Utilization of Occlusive Interface in Micro-Premie Babies on BCPAP

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Project: Increase Staff Utilization of Occlusive Interface in Micro-Preemie Babies on BCPAP

Last Updated: 7/19/19

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Problem/Impact Statement:

A micro-preemie characterizes any baby born before 26 week gestation. Before 26 weeks, neonates are incredibly fragile as their digestive systems are immature, their skin is thin and gelatinous, their lungs are not fully developed, and a myriad of other issues resulting from decreased development before birth. Premature neonates present many challenges to care as they need many special precautions taken to overcome their fragility. Intubation is commonly needed for long term respiratory support as micro-preemie's lungs are not fully developed. An alternative mechanism to support lung development is non-invasive ventilation. However, respiratory failure, positioning, and their high susceptibility for skin break down create problems for non-invasive ventilation. By increasing staff buy in for use of an occlusive interface, while providing various forms of non-invasive ventilation in the NICU, it is shown that there will be fewer complications for micro-preemies needing this support.

Scope:

In Scope: Any baby admitted to NICU who is below 28 weeks gestation and requiring non-invasive ventilation within the first 2 weeks of life.

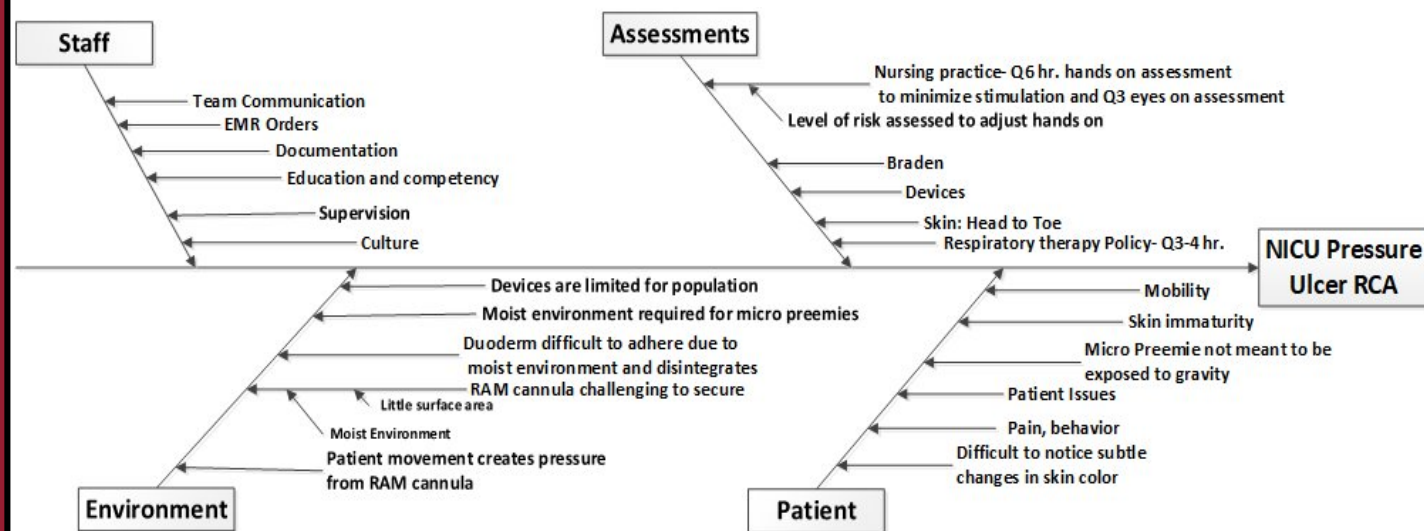
Goal/Objective:

Objective for this project is to increase the use of the chosen non-invasive interface on babies below 28 weeks gestation for non-invasive ventilatory support while rotating the interface between nasal mask and nasal cannula to protect skin integrity.

Baseline Metrics/Current State:

Chart reviews of all babies born <28 weeks gestation that did not require immediate intubation and were placed on CPAP. In the delivery room all are started on the original interface, RAM, and should be changed to the new interface (F&P) within one hour of admission to the NICU. We reviewed data 4 months prior and 4 months after project start.

Root Cause Analysis:

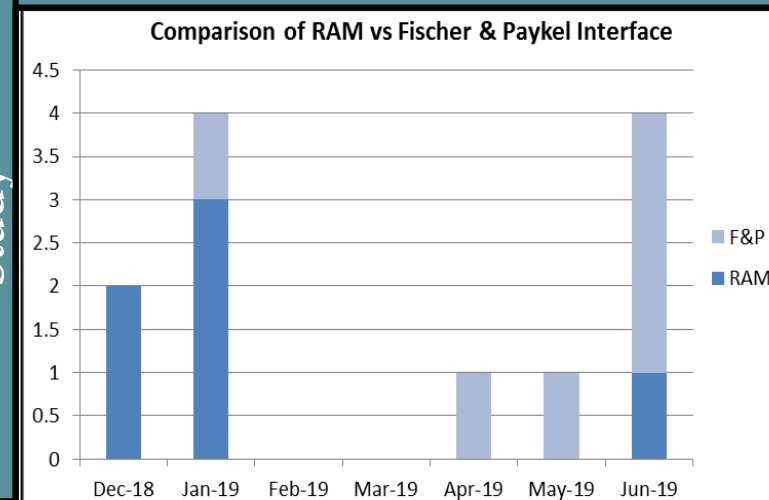


Countermeasures

Action	Owner	Completion Date	Status
Build survey to send to NICU staff to identify barriers to using an occlusive interface	DI/KK	3/28/2019	Complete
Survey NICU RN and RRT staff	DI/KK	4/22/2019	Complete
Analyze survey data collected from NICU staff	DI/KK	4/25/2019	Complete
Revise neonatal non-invasive ventilation policies to include use of occlusive interface system and get appropriate approvals	DI/KK	5/30/2019	Complete
Develop educational tools to address concerns raised by the survey results, including a competency check off	DI/KK	5/17/2019	Complete
Provide education to 100% of NICU RN and RRT staff, including completion of the mandatory competency	DI/KK	6/14/2019	Complete
Resurvey NICU staff to compare comfort level with using occlusive interface	DI/KK	6/29/2019	Complete

Do

Outcomes



Compared the use of the two interfaces available, RAM and F&P, for the four months prior to and after education focused time. We focused on all babies < 28 weeks gestation age changed from RAM to F&P within one hour of life. Once using the F&P system, the interface (Mask/Cannula) rotated Q6 hours to prevent skin injury.

Study

Next Steps

Our next steps include continued monitoring of compliance and education. Compliance and Education will include:

- Interface/BCPAP and NIPV policies have been approved and posted online
- Skills Fair Station is scheduled for the NICU Respiratory Therapy staff
- Skills Fair Station for the NICU Nursing staff will be requested by RT to include this interface

Act

Plan