EP9EO

Using the required empirical outcomes (EO) presentation format, provide one example of an education activity led or co-led by a nurse(s) (exclusive of the CNO) for an interprofessional team which led to an improved patient outcome.

Example: Follow Your Gut – ERAS Implementation in a NICU

Problem

The average postoperative length of stay (LOS) for neonates after a gastrostomy tube (G-tube) placement at WakeMed Health and Hospitals Raleigh Campus Neonatal Intensive Care Unit (NICU) was higher than acceptable.

Pre-Intervention

In 4th Quarter FY 2021 (July-September 2021) the average post-op LOS was 11.67. Postoperative average LOS for neonatal G-tube surgery patients is calculated by subtracting the date of surgery from the date of discharge for all patients in the time frame and dividing the total by the number of patient days.

Mary Elizabeth Armstrong, BSN, RN, RNC-NIC, Clinical Nurse IV, Neonatal Intensive Care Unit (NICU), learned about the Enhanced Recovery After Surgery (ERAS) program for neonatal patients and considered applying it to WakeMed's neonatal intestinal surgery patient population.

Armstrong gained support from Theresa Tyndall, BSN, RN, RNC-NIC, Nurse Manager NICU; James Perciaccante, MD, Neonatology Medical Director; and J. Duncan Phillips, MD, Chief of Pediatric Surgery, to implement Neonatal ERAS in the WakeMed NICU.

Armstrong created the multidisciplinary Neonatal ERAS Committee, which included key stakeholders such as clinical nurses, nursing leaders, neonatology physicians, pediatric surgeons, advanced practice providers, anesthesiologists, pharmacists, and the family navigator.

Goal Statement

Decrease the post-operative average LOS for neonatal patients following G-tube placement in the NICU at WakeMed Raleigh Campus.

Participants

Neonatal ERAS Committee			
Name/Credentials	**Discipline**	**Title/Role**	**Department**
Mary Elizabeth Armstrong, BSN, RN, RNC-NIC	Nursing	Clinical Nurse IV	Neonatal Intensive Care Unit
Jennifer Walton, BSN, RN, RNC-NIC	Nursing	Clinical Nurse IV	Neonatal Intensive Care Unit

Sharon Hershkowitz, MSN, RN, RNC-NIC, CNL	Nursing	Clinical Program Specialist, RN	Clinical Nursing Resource Services
Theresa Tyndall, BSN, RN, RNC-NIC	Nursing	Nurse Manager	Neonatal Intensive Care Unit
James Perciaccante, MD	Neonatology	Neonatologist, Medical Director	Neonatology
J. Duncan Phillips, MD	Pediatric Surgery	Pediatric Surgery, Medical Director	Pediatric Surgery
Gina McConnell, RN, ERAS Coordinator	Nursing	ERAS Coordinator, RN	Heart Center Administration
Julie Torsone, PNP	Pediatric Surgery	Pediatric Nurse Practitioner	Pediatric Surgery
Keliana O'Mara, PharmD	Pharmacy	Neonatal Clinical Pharmacist Specialist	Pharmacy
Kim Carr, NNP, RN	Neonatology	Neonatal Nurse Practitioner	Neonatology
Mallory Magelli McKeown, MDiv	Family Navigation	Manager, Family Navigation	Children's Hospital Administration
Justin Hauser, MD	Anesthesiology	Anesthesiologist	Pediatric Anesthesiology

Description of the Intervention

1st Quarter FY 2022

October 2021

- Armstrong reviewed and presented the evidence-based recommendations for pre-operative care to the Neonatal ERAS Committee:
    - Pre-operative antibiotic prophylaxis within 60 minutes prior to surgical incision
    - Conservative blood transfusions; resulted in standard criteria for packed red blood cell (PRBC) transfusions in the pre-operative phase
    - A standardized checklist for team communication

November 2021

- Armstrong reviewed the evidence-based recommendations for intra-operative care and presented them to the Neonatal ERAS Committee:
    - Use of scheduled IV acetaminophen, including a loading dose
    - Crystalloids as first line of fluid management
    - Prevention of intraoperative hypothermia
    - Primary re-anastomosis for uncomplicated atresia
    - A standardized checklist for team communication

December 2021

- Armstrong reviewed the evidence-based recommendations for post-operative care and presented them to the Neonatal ERAS Committee:

- Use of scheduled (as opposed to prn) IV acetaminophen, resulting in decreased opioid usage
- Refeeding using mucous fistula, when applicable
- Antibiotic stewardship— stop antibiotics within 24 hours after surgery
- Early enteral feeds within 24-48 hours, with maternal breast milk as first choice
- Parental involvement
- A standardized checklist for team communication

2nd Quarter FY 2022
January 2022

- The Neonatal ERAS Committee developed and finalized computerized provider order entry (CPOE) pre-operative and post-operative order sets highlighting the evidence-based interventions published by Brindle et al. (2020) throughout the perioperative continuum of care.

February 2022

- Armstrong and Kim Carr, NNP, RN, Neonatal Nurse Practitioner, Neonatology, began developing employee education on Neonatal ERAS.

March 2022

- Tyndall, Carr, and Sharon Hershkowitz, MSN, RN, RNC-NIC, CNL, Clinical Program Specialist, assisted Armstrong in delivering the education. This interactive education was developed in PowerPoint format and delivered through an oral and visual presentation as part of the biannual NICU education blitzes to NICU clinical nurses and Neonatology providers.
- The education covered included:
  - Specific qualifying patient population
  - History and evolution of ERAS
  - Interventions in the protocol with supporting evidence
  - Nursing implications and responsibilities of NICU clinical nurses
  - Required family education
  - Ways to engage parents in their infant's care
- Armstrong and Carr provided education to NICU advanced practice providers and neonatologists, with a focus on order entry and medical management of this patient population. Education was delivered via PowerPoint in provider staff meetings and communicated via email for future reference.

The interventions were fully implemented by the end of March 2022.

Armstrong co-led an educational activity for the Neonatal ERAS Committee and the NICU staff to decrease the post-operative average LOS following G-tube placement.

References:

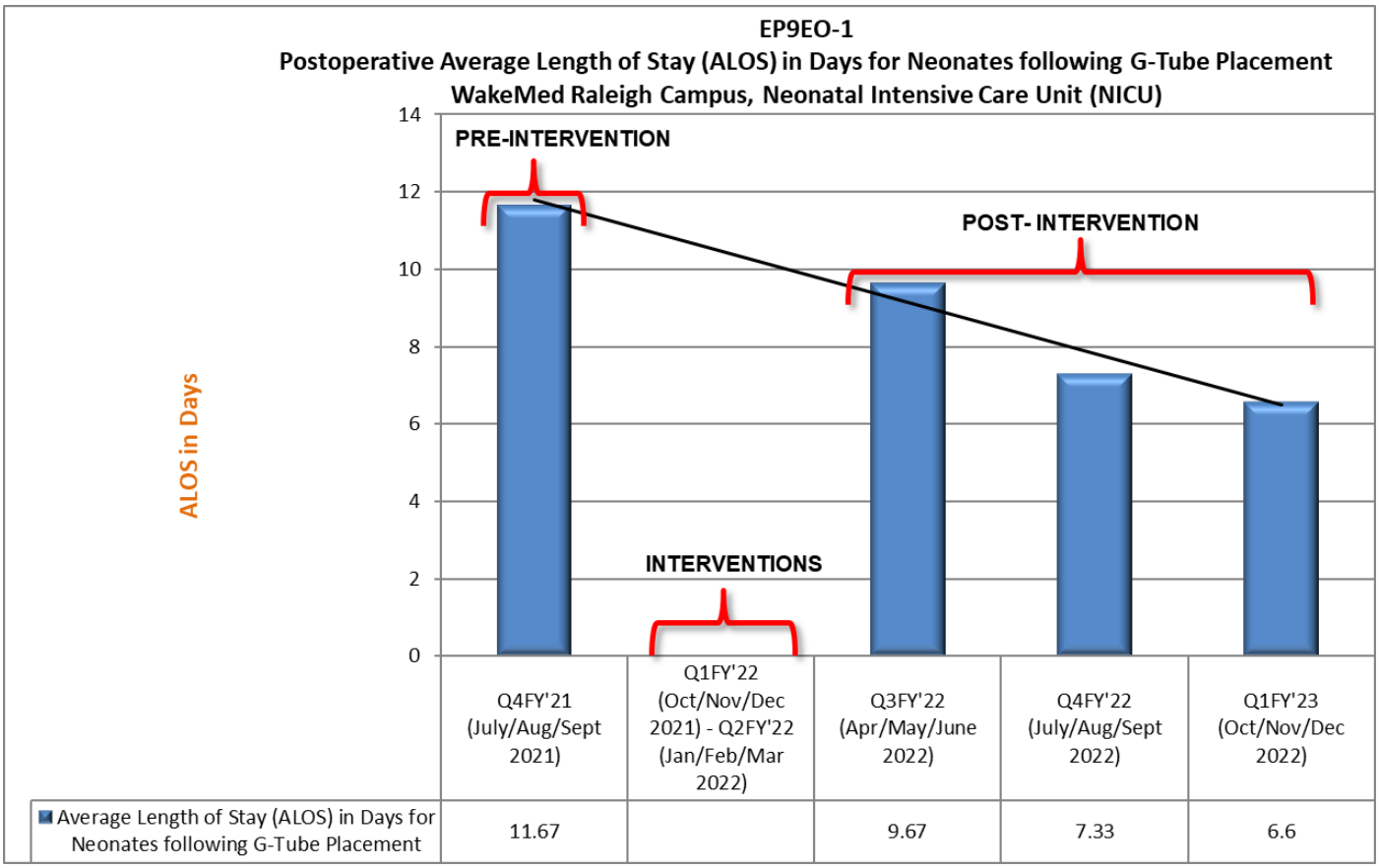
Arena, S., Di Fabrizio, D., Impellizzeri, P., Gandullia, P., Mattioli, G., & Romeo, C.

(2021). Enhanced Recovery After Gastrointestinal Surgery (ERAS) in Pediatric Patients: A Systematic Review and Meta-analysis. *Journal of gastrointestinal surgery: official journal of the Society for Surgery of the Alimentary Tract*, *25*(11), 2976–2988. https://doi.org/10.1007/s11605-021-05053-7

Brindle, M. E., McDiarmid, C., Short, K., Miller, K., MacRobie, A., Lam, J. Y. K., Brockel, M., Raval, M. V., Howlett, A., Lee, K. S., Offringa, M., Wong, K., de Beer, D., Wester, T., Skarsgard, E. D., Wales, P. W., Fecteau, A., Haliburton, B., Goobie, S. M., & Nelson, G. (2020). Consensus Guidelines for Perioperative Care in Neonatal Intestinal Surgery: Enhanced Recovery After Surgery (ERAS®) Society Recommendations. *World journal of surgery*, *44*(8), 2482–2492. https://doi.org/10.1007/s00268-020-05530-1

Yeh, A., Butler, G., Strotmeyer, S., Austin, K., Visoiu, M., Cladis, F., & Malek, M. (2020). ERAS protocol for pediatric laparoscopic cholecystectomy promotes safe and early discharge. *Journal of pediatric surgery*, *55*(1), 96–100. https://doi.org/10.1016/j.jpedsurg.2019.09.053

Outcome



(Evidence EP9EO-1, Postoperative Average Length of Stay [ALOS] in Days for Neonates following G-Tube Placement, WakeMed Raleigh Campus, Neonatal Intensive Care Unit)