



New Opportunities for Verification of
Enteral Tube Location Project

LETTER FROM THE CHAIR

A little over twelve years ago, a small group of professionals were discussing the issues surrounding safety of nasogastric tube (NGT) placement and verification in children. After reaching out to various professionals and organizations, the NOVEL project was created. This team is comprised of nurses, medical professionals, and a parent partner. Since its inception, the project has been dedicated to disseminating information through research, publications, and presentations. The work during the earlier years focused more heavily on inpatient and home care issues related to NGT placement and verification. The last couple of years have been focused on two major facets: (a) disseminating information to management level personnel as demonstrated by the recently published article in *Nursing Administration* (see info below); (b) NGT verification challenges in the neonatal population; and (c) issues around replacement of balloon gastrostomy tubes in pediatric patients. The NOVEL Project team remains committed to ongoing efforts through research, publications, and presentations to address concerns and findings related to safety issues with NGT placement and verification in infants and children.

Current members include:

- LaDonna Northington, RN, DNS, ANEF; Chair, representing the Society of Pediatric Nurses
- Kim Cooley, DNP, APRN, NNP-BC, CCNS, C-ONQS; representing neonatal nurses
- Peggi Guenter, PhD, RN, FASPEN; representing ASPEN
- Cheri Hunt, BSN, MHA, NEA-BC; representing nurse administrators
- Sharon Irving, PhD, CRNP, FCCM, FAAN, FASPEN, representing the American Association of Critical Care Nurses
- Carol Kemper, PhD, RN, CPHQ, CPPS, FAAN; representing CHA Patient Safety Organization
- Beth Lyman, MSN, RN, CNSC, FASPEN, FAAN; representing ASPEN
- Leslie Parker, PhD, ARNP, NNP-BC; representing neonatal nursing
- Kim Osbourne, DNP, RN, CPNP-PC and Kathleen Carr, DNP, MBA, APRN, CPNP-PC, FNP-C; representing the Association of Pediatric Gastroenterology and Nutrition Nurses
- Gina Rempel, MD, FRCPC, FASPEN; representing ASPEN
- Deahna Visscher; parent partner and Safety Advocate

*LaDonna Northington, RN, DNS
Chair, ASPEN NOVEL Project*

NICU NG TUBE VERIFICATION GUIDELINES PROJECT

This newly formed group has the same mission as the original NOVEL project; to define and disseminate best practice through guidelines, if possible, related to NG/OG tube placement verification, and to work with industry to develop technology to give real time bedside tube placement verification. However, it is not clear to us that pH measurement is reliable in Extremely Low Birth Weight Infants (ELBW) and in the first few days of life. We are planning to do a large study to compare pH with a radiograph and to discern if there is a maturational aspect to development of gastric acid. We also want to look at confounding variables around the birth process such as swallowing amniotic fluid. To be clear, we do think there is data to support use of pH measurements in larger and older NICU patients. We are submitting a proposal on enteral feeding safety for the 2024 National Association of Neonatal Nurses meeting to address NG tube placement verification along with other topics related to safety and enteral feeding. For more information on this project, contact [Beth Lyman](#).

PEDIATRIC BALLOON GASTROSTOMY TUBE REPLACEMENT AND VERIFICATION GUIDELINES

An interdisciplinary work group has been working on balloon gastrostomy tube (GT) placement verification guidelines. This group, led by Beth Lyman, has pulled together representatives from interprofessional associations and disciplines to work on this issue. Representatives come from pediatric GI, pediatric surgery, emergency department medicine and nursing specialties. It is anticipated that a best practices document and some educational offerings will come from these efforts. This group is in the process of finalizing PICOT questions to guide a comprehensive literature review. This group is very interactive as there are many questions around how to best verify low profile and standard balloon GTs such as defining situations when placement verification should be escalated. For more information on this project, contact [Beth Lyman](#).

2023 PUBLICATION

Hunt CE, Kemper C, Pauley R, Rempel G, Visscher D, Northington L, Lyman B, Irving SY. Reducing the risk of nasogastric tube misplacement: Nurse leader responsibility in implementing evidence-based practice. *Nurs Manage*. 2023 Oct 1;54(10):34-41.

We intentionally published this article in a journal that reaches nurse leaders and educators because of their significant and critically important influence in changing nurses' clinical practice. The article provided an historical overview of the NOVEL team's efforts at disseminating research and evidence-based best practice information related to NG tube placement verification. It also described the challenging and complex process of de-implementation of traditional unsafe and unnecessary practices when implementing evidence-based practice. The article recommended three broad strategies for nurse leaders/educators to facilitate de-implementation of non-evidence-based practice methods of NG tube location verification; investigate current organizational practice; implement practice change; and create a learning culture.

The article emphasized the urgency for policy and practice change to discontinue the use of a potentially harmful method of NG tube verification to prevent another patient complication or death. It stressed the importance of nurses advocating for safe evidence-based practice and leading the change movement within their organization.

A NOTE FROM OUR PARENT PARTNER, DEAHNA VISSCHER

In 2008 my son Grant Lars Visscher died because an NG tube was misplaced into his lungs. Since that tragic day I have been on a mission to make feeding tube placement verification safer for all patients. My journey led me to being a member of the patient safety team at the hospital he died at, to becoming a member of the NOVEL project, to presenting a safety issue with the Patient Safety Movement Foundation in hopes that they would champion my cause. In 2018 they filmed my son's story so that all can see the importance of finding a solution for better verification of feeding tube placement. Please use my video to help communicate the importance of NG tube safety. I know if we all work together, use evidence-based practices, and support technological advances, our future can have zero harm when it comes to NG tube placements. You may also reach out to me if you'd like me to speak with your organization: 720-201-0311. [Watch Grant's story.](#)

PLANS FOR 2024

When the NOVEL project started, we set out with the primary goals to work with innovative technology engineers; collaborate with specialty nursing organizations to determine best practices for determining NG tube verification and procedures; foster discovery of new knowledge and science in the field of nutrition support therapy; disseminate knowledge of improved clinical practice pertaining to NG tube placement verification; advocate on behalf of the field of NS to improve patient outcomes and clinical practice; and to promote consistency of practice among individual nurses and pediatric acute care centers. As we look back on the past 12 years, we are proud to state that we have reached our primary goals. We have worked diligently to explore the literature, conduct research, publish, and present findings related to safety in NGT placement and verification in the pediatric population. Moving into 2024 we will continue our work with the NICU NG Tube Verification Guidelines Project and the Pediatric Balloon Gastrostomy Tube Replacement and Verification Guidelines. We will also be available to all that want to help continue to promote the consistency of practice among individual nurses and pediatric acute care centers. We will continue to communicate, share, and explore issues related to best practices as they arise.

ACCOMPLISHMENTS SINCE NOVEL PROJECT INCEPTION

Publications

- Hunt CE, Kemper C, Pauley R, Rempel G, Visscher D, Northington L, Lyman B, Irving SY. Reducing the risk of nasogastric tube misplacement: Nurse leader responsibility in implementing evidence-based practice. *Nurs Manage*. 2023 Oct 1;54(10):34-41. DOI: [10.1097/nmg.000000000000059](https://doi.org/10.1097/nmg.000000000000059)
- Northington L, Kemper C, Rempel G, Lyman B, Pauley R, Visscher D, Moore C, Guenter P; NOVEL Project, ASPEN Enteral Nutrition Committee. Evaluation of methods used to verify nasogastric feeding tube placement in hospitalized infants and children - A follow-up study. *J Pediatr Nurs*. 2022 Mar-Apr;63:72-77. DOI: [10.1016/j.pedn.2021.10.018](https://doi.org/10.1016/j.pedn.2021.10.018)
- Lyman B, Guenter P. Feeding tube placement and verification: best practices needed now. *Adv Neonatal Care*. 2019 Apr;19(2):82. DOI: [10.1097/ANC.0000000000000589](https://doi.org/10.1097/ANC.0000000000000589)
- Northington L, Lyman B, Moore C, Guenter P. Pediatric nasogastric tubes in the home: recommendations for practice. *Home Healthc Now*. 2018 May/June;36(3):148-153. DOI: [10.1097/NHH.0000000000000650](https://doi.org/10.1097/NHH.0000000000000650)
- Irving SY, Rempel G, Lyman B, Sevilla WMA, Northington L, Guenter P; American Society for Parenteral and Enteral Nutrition. Pediatric nasogastric tube placement and verification: best practice recommendations from the NOVEL Project. *Nutr Clin Pract*. 2018 Dec;33(6):921-927. DOI: [10.1002/ncp.10189](https://doi.org/10.1002/ncp.10189)
- Northington L, Lyman B, Guenter P, Irving SY, Duesing L. Current practices in home management of nasogastric tube placement in pediatric patients: a survey of parents and homecare providers. *J Pediatr Nurs*. 2017;33:46-53. DOI: [10.1016/j.pedn.2017.01.005](https://doi.org/10.1016/j.pedn.2017.01.005)

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- Lyman B, Rempel G, Windsor K, Guenter P. Use of nasogastric feeding tubes for children at home: a template for caregiver education. *Nutr Clin Pract*. 2017 Dec;32(6):831-833. DOI: [10.1177/0884533617735833](https://doi.org/10.1177/0884533617735833)
- Lyman B, Kemper C, Northington L, Yaworski JA, Wilder K, Moore C, Duesing LA, Irving S. Use of temporary enteral access devices in hospitalized neonatal and pediatric patients in the United States. *J Parenter Enteral Nutr*. 2016;40(4): 574–580. DOI: [10.1177/0148607114567712](https://doi.org/10.1177/0148607114567712)
- Lyman B, Guenter P, Northington L, Kemper C, Irving S, Wilder K, Duesing L, Yaworski JA, Rempel G, Sevilla WM, Visscher D. Verifying NG tube placement in children. *Nursing*. 2015;45(10):8-9. DOI: [10.1097/01.NURSE.0000471417.42130.7c](https://doi.org/10.1097/01.NURSE.0000471417.42130.7c)
- Kemper C , Northington L, Wilder K, Visscher D. A call to action: the development of enteral access safety teams. *Nutr Clin Pract*. June 2014; 29(3):264–266. DOI: [10.1177/0884533614531626](https://doi.org/10.1177/0884533614531626)
- Irving SY, Lyman B, Northington L, Bartlett JA, Kemper C; NOVEL Project Work Group. Nasogastric tube placement and verification in children: review of the current literature. *Nutr Clin Pract*. 2014 Jun;29(3):267-76 and copublished in *Critical Care Nurse* 2014; 29(3):267–276. DOI: [10.1177/0884533614531456](https://doi.org/10.1177/0884533614531456)

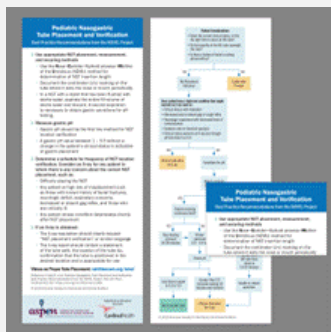
Videos

- [Pediatric Nasogastric Tube Placement and Verification: An Instructional Video for Professionals](#)
- [Pediatric Nasogastric Tube Placement and Verification: An Instructional Video for Professionals](#) (Spanish Version)
- [Pediatric Nasogastric Tube Placement and Verification: An Instructional Video for Caregivers](#)
- [Pediatric Nasogastric Tube Placement and Verification: An Instructional Video for Caregivers](#) (Spanish Version)
- [Patient Safety Movement Foundation: Misplaced Feeding Tube Kills 11-day Old Baby](#)
- [INOVA Patient Safety Movement Foundation Mid-Year Meeting](#)
- [The Impact of a Serious Clinical Incident Involving a Nasogastric Tube](#)

Podcasts

- [United Kingdom to Compare How NG Tube Placement is Verified in the US Versus the UK](#)

NOVEL Lanyard/Pocket Cards



This small, laminated reference card summarizes the recommended best practices from the NOVEL Project. It also includes a decision tree on when gastric pH measurement should be used and when X-ray is indicated. These quick reference cards have been designed to fit into a clinician’s badge holder, pocket, or wallet.

[Download a PDF of the card](#)

[Download a printer-ready version](#)

CONTACT US

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NICU NG Tube Verification Guidelines Project

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Pediatric Balloon Gastrostomy Tube Replacement and Verification Guidelines

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Parent Voice for the “Why” Evidence Based NG Tube Practice is Needed

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