



Home NG Feeding Educational Module

2025

Learning Objectives

This module will review the current state of gastrostomy tube placement and the transition to nasogastric tubes (NGT) being placed prior to discharge.

Objectives:

- Review current state of feeding premature infants with feeding difficulties
- Introduce criteria for NGT placement for discharge home
- Review required discharge education for NGT

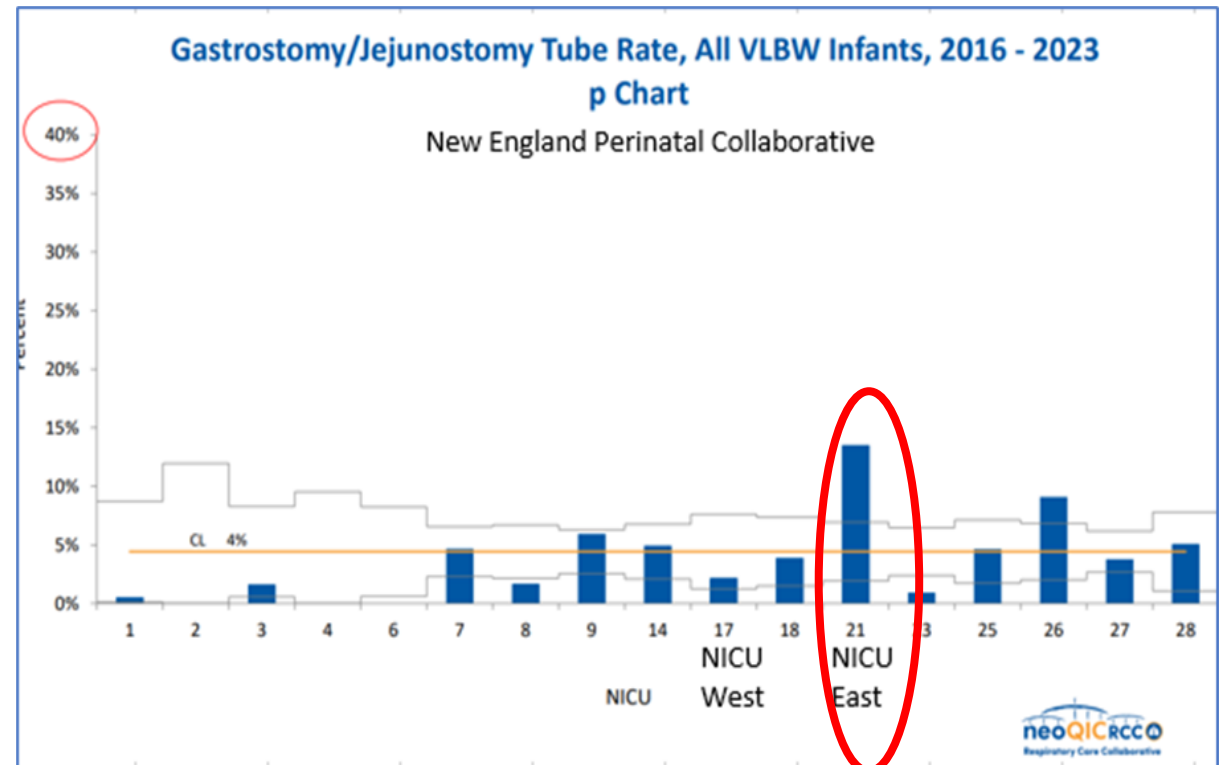


Background: Infant Gastrostomy Tube Rates

Hartford NICU gastrostomy tube placement rate is higher than regional peers

Factors Contributing to Extended Hospital Stays for Former Preterm Infants

- **Feeding Challenges:** Inability to feed fully by mouth
- **Variability in Practices:** Differences in approaches across hospital subspecialties
- **Outpatient Support Issues:**
 - Inadequate regional support for infants requiring partial NG tube feedings
 - Frequent NG tube replacements after discharge
 - Limited supplies and follow-up with subspecialists
- **National Best Practices:** Other NICUs have developed more effective systems for home NG tube feeding post-discharge



Opportunity for Improvement in Care for Infants with Delayed Oral Feeding Skills

- **Current Challenge:** Infants with slow progression to full oral feeding
- **Opportunity:** Standardize and improve care by discharging select infants with NG tubes for home use
- **Goal:** Enhance continuity of care and support home feeding management



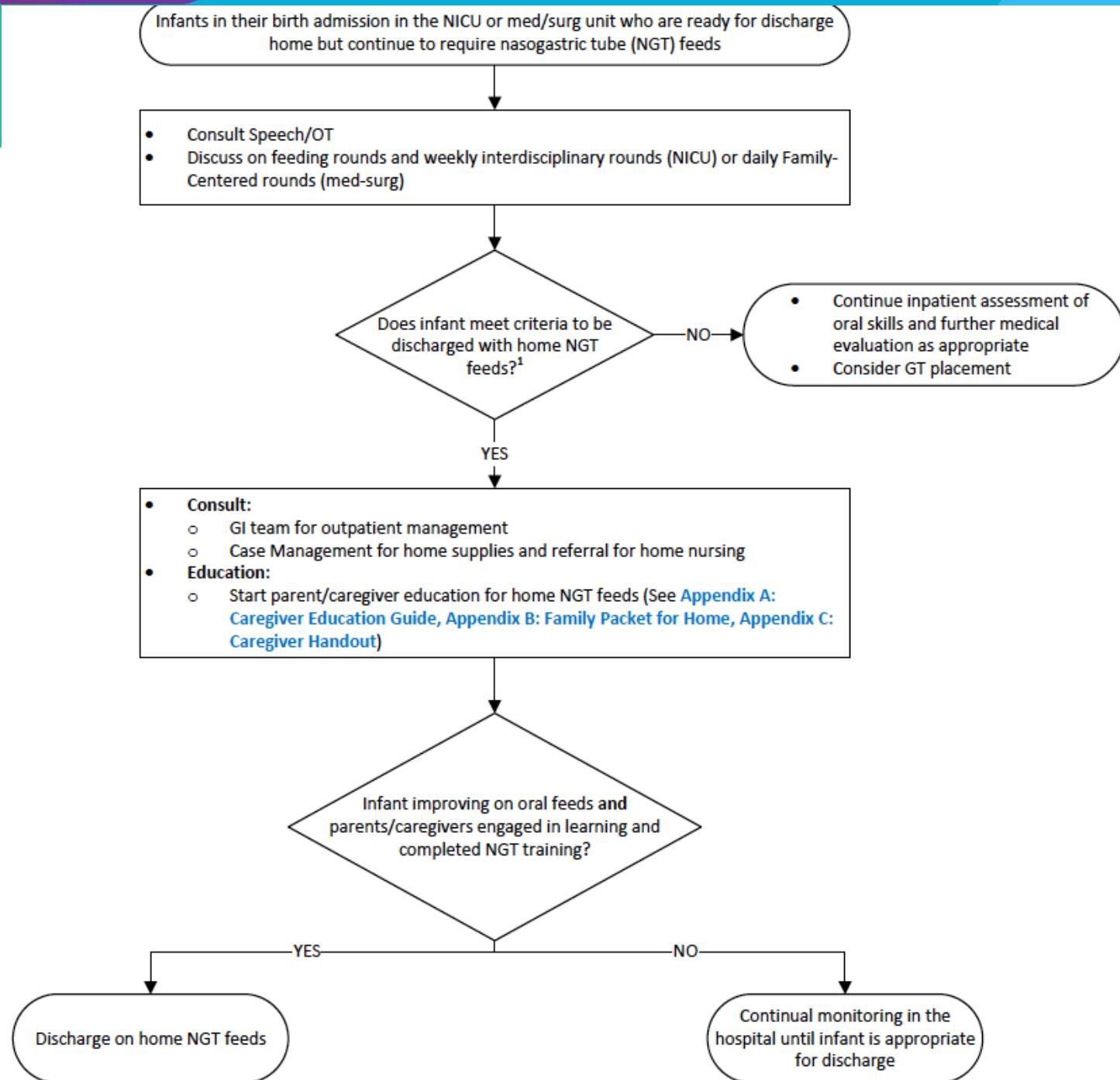
Criteria for Discharging Neonates with NG Tube for Home Feeding

Criteria	Details
Gestational Age & Weight	At least 40 weeks PMA and weight > 2 kg within their birth admission
Oral Feeding Progress	Making progress in oral feeding as determined by medical provider & SLP team
Time to Full PO Feeds	6 months
Feeding Volume	6 months, or per clinical judgement (overnight for replacement)
Special Circumstances for Lower Volume	<ul style="list-style-type: none"> - Palliative care patients - Cardiac patients needing surgery - Infants with volume restrictions - Infants with aspiration (micro or silent) per modified barium swallow
Other Discharge Criteria	Meets apnea/bradycardia/desaturation, temperature regulation, and other relevant criteria
Parental Readiness	Parents demonstrate willingness and ability with reasonable expectations for NG tube duration

Must meet all inclusion criteria

NGT Algorithm

Pathway can be found on the Internet with additional resources.



Exclusion Criteria for Discharging Neonates with NG Tube for Home Feeding

Criteria	Details
Airway Compromise Concerns	Significant tachypnea, desaturations, or other airway issues during oral feeds despite appropriate interventions (positioning, nipple type, feeding volume caps, etc.)
Supplemental Oxygen Requirement	Requiring supplemental oxygen at home
Continuous Feeding Needs	Needing 24-hour continuous feeds
Family Engagement	Family not engaged in learning or demonstrating ability to manage NG tube feeding at home

Steps for Discharge Planning: NG Tube Feeding at Home

Step	Details
GI Team Consult	Initiate transition from inpatient to outpatient nutrition care. More details on following slide
SLP Setup for Outpatient	Setup with Speech-Language Pathology (SLP) for outpatient care
Clearance from Teams	Involved sub-specialists
Supply Del	Staff; used to teach
VNA Sched	(VNA) visit, if
Parent Training	Complete parent training (at least two caregivers)
Parent Education	Educate parents on risks/benefits of NG tube vs G tube for home feeding
Social Work Consult	Complete social work consultation as needed
Sign-Out to Pediatrician	Sign-out to pediatrician completed and appointment scheduled

Be sure to verify that all steps have been completed before discharge of a patient!

Transition from Inpatient to Outpatient Care for NGT Feeding



Background	GI Team manages outpatient care, including feeding plan adjustments and NGT management (replacement, troubleshooting, etc.)
Discharge Planning	GI Consult <u>must</u> be completed prior to discharge <ul style="list-style-type: none">- Dedicated Clinic: Developing a clinic for NG/G tube patients, with resources (RN, RD, GI provider)- Patient-Specific Plan: Instructions on handling a dislodged NG tube- Individualized Plan: Varies based on geography, available resources, transportation, and medical needs
Outpatient Appointment Schedule	<ul style="list-style-type: none">- <u>First Month:</u> Up to weekly appointments, based on child's needs- <u>Next 2 Months:</u> Up to twice monthly appointments- <u>Ongoing:</u> Monthly appointments until NGT is no longer needed or frequency is reduced
Post-Discharge Care Considerations	<ul style="list-style-type: none">- GI Follow-Up: Continuous care to address feeding issues and NGT management- Flexible Scheduling: Adjust based on child's condition and progress

Key Metrics for Goal Evaluation

Goal	Outcome Measure
NICU Stay for PO Feeds	Days in NICU waiting solely on progression to full oral feeds
G Tube Placement	Percentage of G tubes placed before 48 weeks PMA
Parent Satisfaction	Parent satisfaction with home NGT or G tube feeds (survey at GI visit)
NGT Liberation	Days to liberation from NGT feeds
Length of Stay	Total LOS in NICU
Transition to G Tube	Percentage of home NGT fed patients needing an eventual G tube
Weight Gain in Tube-Feed Patients	Percentage of home tube-fed patients with adequate weight gain (20-30 g/day)

Metrics for Discharge and Follow-Up Outcomes



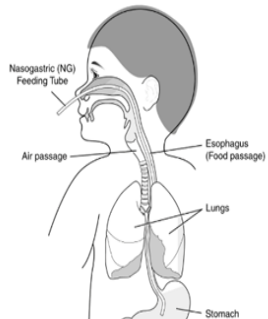
Goal	Outcome Measure
Home NGT Feeds	Percentage of babies meeting criteria who go home on NG tube feeds
Parental Decline of Home NG	Percentage of parents who decline home NG when offered
G Tube Discharge	Percentage of babies discharged with a G tube
GI Consult	Percentage with GI consult prior to discharge
VNA Established	Percentage of babies discharged with VNA (Visiting Nurse Association) established
Parental Education & Rooming In	Percentage of babies transferred to pediatric floor for parental education and rooming in
GI Follow-Up	Percentage of babies with GI outpatient follow-up within 2 weeks of discharge
Enteral feeding	Percentage of enteral feeding volume based off 160ml/kg/day
ER Visits & Hospital Re-admissions	Percentage of babies with ER visits or hospital re-admissions due to feeding issues
NG Replacements	Frequency of NG tube replacements per patient
Tube Complications	Percentage of babies experiencing NG or G tube complications (e.g., dislodgement, infection)
Failure to Thrive	Percentage of babies diagnosed with failure to thrive at follow-up

Resources Shared with Families for Education

FEEDING TUBES

Learning how to care for a child with a feeding tube takes time, education, and practice. Your child's nurse will discuss the topics in this book with you, and you will practice the skills many times throughout your stay. This will ensure that you are comfortable and confident with all aspects of care.

There are many types of feeding tubes. A nasogastric tube is a thin, flexible, soft tube that is passed through your child's nose, down the back of the throat, through the swallowing tube (esophagus), and into the stomach. It is taped under the nose to stay in place. A nasogastric tube is sometimes called an NG or a feeding tube.



Educational Packet



Educational PowerPoint



Integrated Care Plan - Discharge Home with Nasogastric Tube

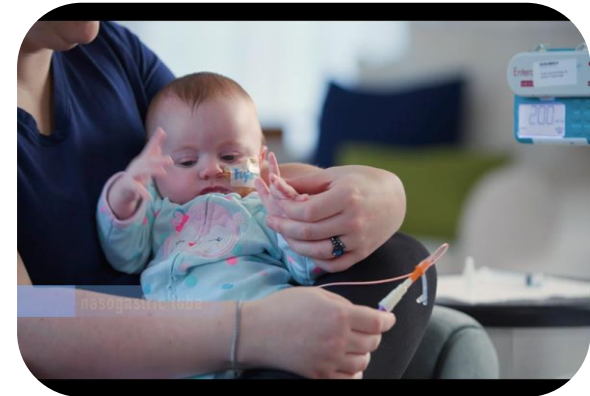
(Patient Identification)

Tentative date of discharge: _____ NGT packet given to parents: _____ Parents instructed to sign up for CPR class. _____
 CPR completed: _____

DISCHARGE CRITERIA 1. Infant is at or greater than 40 weeks PMA and at least 2 kg. y/n _____ 2. Anticipate full PO intake within 6 months of discharge. y/n _____ 3. Able to take at least 100ml/day PO. y/n _____ If no to any of above, discuss case with Dr. Pyle/Prasad/Golota/McDemott GI consult completed. y/n Date: ____/____/____	EQUIPMENT NEEDS 1. Enteral, Inc.® Infinity Enteral Feeding Pump _____ 2. Formula bags to use with the pump _____ 3. Prescription for formula (check with DME company) _____ 4. NG Tubing _____ 5. Tape/Ducterm/Tegaderm (check with nurses/DME company) _____ 6. pH strips _____ 7. Syringes _____ 8. IV pole for pump (if needed) _____	NUTRITION 1. Discharge feeding plan is determined and initiated _____ 2. Caregivers given instructions on preparing milk safely. _____ 3. Arrangements made for special formula. _____ 4. Recipe for formula provided and reviewed with parents. _____ 5. WIC papers completed as needed. _____ 6. Lactation Consultant consultation. _____ 7. Developmental feeding consultation. _____ 8. Speech consultation. _____
INFANT CARE 1. Parents demonstrate the ability to provide basic infant hygiene and safety. _____ 2. Parents verbalize developmental needs of the infant. _____ 3. Parents verbalize indications of when to call the doctor. _____ 4. Parents schedule extended staytime for teaching. _____ 5. Parents complete the Discharge Check-Off Sheet. _____	DISCHARGE NEEDS 1. GI follow-up scheduled _____ 2. Speech follow-up scheduled _____ 3. Visiting Nurse scheduled _____ 4. Equipment ordered _____ 5. Resources obtained for non-business hour needs _____ 6. Equipment teaching completed _____ 7. Birth to Three referral _____ 8. NGT discharge checklist completed _____ 9. KidsHealth videos completed _____	SOCIAL WORK 1. Contact made with family per Social Work/department practice. _____
INFANT SAFETY 1. Parents are able to demonstrate ability to check placement of tube. _____ 2. Parents can successfully troubleshoot equipment issues. _____ 3. Parents can draw up correct feeding volume _____ 4. Parents secure NGT properly _____ 5. Parents can utilize pump properly _____ * Parents know who to contact if NGT comes out _____	PEDIATRICIAN 1. Parents instructed to identify a pediatrician. _____ 2. Pediatrician's name: _____ 3. Pediatrician in agreement with home tube feeding POC _____ 4. First pediatrician appointment scheduled for: _____	CASE MANAGER 1. Assigned case manager is _____ 2. Case manager contacts family _____ 3. Case manager talks with family about home care agency and equipment needs _____

*Please sign/date here if patient is transferred to another facility prior to completion of NGT/IGT teaching: _____

Integrated Care Plan for Discharge



Kids Health Videos On Get-Well Network

- Getting an NG Tube
- Handling problems with your child's NG tube
- Using your child's NG tube

Documentation in Epic & Nursing Teaching Points

“Discharge Home with NG” Epic Patient/Family Education

The screenshot shows the Epic Education interface. On the left, there is a sidebar with a list of topics under 'Education'. The 'Caring for a Feeding Tube' category is expanded, showing sub-topics like 'General Information', 'Skin Care', 'Checking placement', 'Flushing the Tube', 'Giving Medications', and 'Cleaning of Tube'. The 'Feeding' category is also expanded, showing 'Intermittent or bolus feed', 'Continuous feed', 'Feeding Pump', and 'Gravity Feed'. The 'Potential Problems' category is expanded, showing 'Leaking', 'Discomfort', 'Aspiration', 'Clogging', 'Skin Breakdown', 'Equipment problems', 'Tube dislodgement or Malp...', and 'When to call the doctor'. The main content area shows a detailed view of the 'Flushing the Tube' topic, including a description and a 'History' section.

Review bullets with caregivers and document education

Education Category	Educational Topic
Caring for a Feeding Tube	<input type="checkbox"/> What is an NG <input type="checkbox"/> Why does my child have an NG Tube <input type="checkbox"/> General Information <input type="checkbox"/> Skin care/ breakdown <input type="checkbox"/> Checking placement <input type="checkbox"/> Flushing the tube <input type="checkbox"/> Giving medications
Feeding	<input type="checkbox"/> Intermittent or bolus feeds <input type="checkbox"/> Continuous feeds <input type="checkbox"/> Feeding pump use <input type="checkbox"/> Gravity feeds
Potential Problems	<input type="checkbox"/> Leaking <input type="checkbox"/> Discomfort <input type="checkbox"/> Aspiration <input type="checkbox"/> Clogging <input type="checkbox"/> Equipment problems <input type="checkbox"/> Tube dislodgement or Malposition <input type="checkbox"/> When to call the doctor

Checking the pH of a Nasogastric Tube

Checking the pH – Nursing Education



1 Gather supplies, including syringe and pH strips.



2 Wash your hands with soap and water

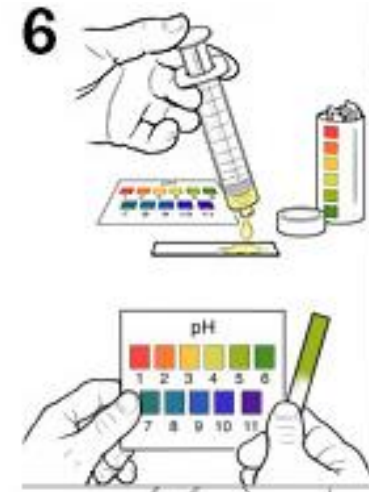
3

RN Skills Verification will be scheduled for pH testing of NG fluid soon. Refer to your Unit Based Educator for more information

4



5 Remove syringe from the feeding tube.



6 Check the pH of the fluid using the provided pH paper (should be < 6)*.

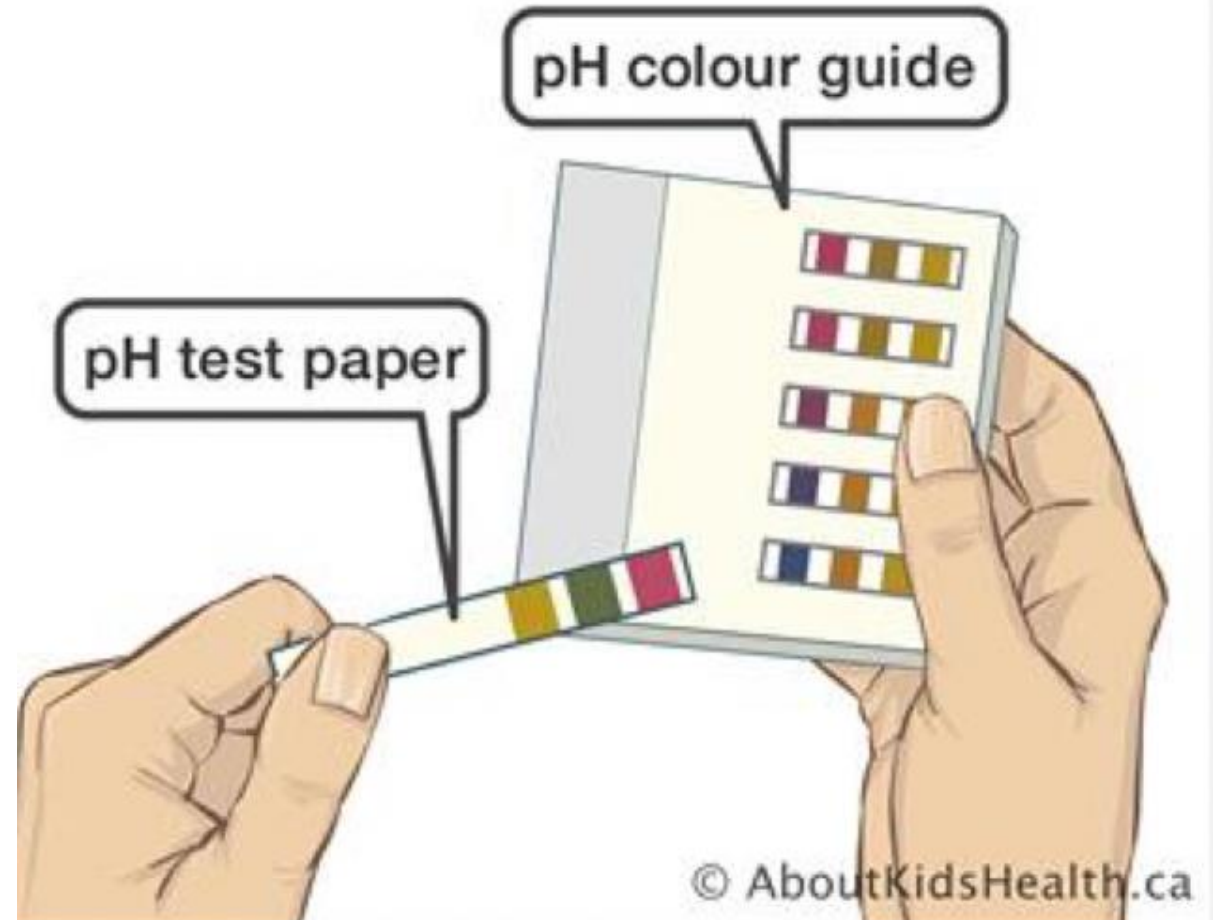
pH Test Strips found in Omni

*The pH strips vary based on home care companies. Families are advised to follow the instructions that the home care company provides.

Trouble Shooting pH Checks for Families

If pH above 6, **do not** use the tube and call your provider.

If your child is on continuous nighttime feedings, the pH value might not be accurate (the pH will be from the feeding) In this case, you can confirm that the aspirate is formula/breastmilk.



Decreasing Oral Feeds after Discharge

Some infants may decrease oral intake of breastmilk or formula after leaving the hospital

- **Action for Families:**

- **Call the GI Clinic or Pediatrician** if oral intake decreases



Thank you to this Collaborative Workgroup!



Name	Specialty/Area	Role	Name	Specialty/Area	Role
Kathleen Kellerman	Cardiology	Cardiology APRN	Mariann Pappagallo	NICU West	Neonatologist at NICU West
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Pam Wheelock	Case Management	NICU West Case Manager	Alaina Pyle	NICU East	Neonatologist at NICU East and Danbury
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Kate Haines	Clinical Nutrition	NICU East	Kristi Zuniga Aguilar	NICU East	NICU Practitioner
Anmarie Spizzoucco	Clinical Nutrition	NICU East	Courtney Conlan	NICU East	Assistant Nursing Manager
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David Sink	NICU	Physician Quality & Safety Officer, NICU West Medical Director	Kerri Byron	Speech Therapy	Speech Language Pathologist
Brett Citarella	NICU	Neonatologist, Medical Director at Danbury	Kamie Chapman	Speech Therapy	Speech Language Pathologist
Shabnam Lainwala	NICU and NICU Follow Up	Medical Director for NICU Follow up Clinic	Virginia Van Epps	Speech Therapy	Speech Language Pathologist
			Katerina Dukleska	Surgery	Pediatric Surgeon



**For questions, please
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