2.05 FEEDING TUBES

Introduction

Feeding tubes are used in pediatric patients to deliver enteral nutrition, hydration, and medications. Common indications for tube feedings include the inability to meet metabolic demands through oral intake alone and oromotor dyscoordination with risk for aspiration. The need for gastric or transpyloric feeds, the anticipated duration of need, and preferences of patients and the family/caregivers are important factors in the selection of the type of feeding tube placed. Orogastric (OG), nasogastric (NG), and nasojejunal (NJ) tubes are commonly used for short-term needs, typically up to 12 weeks duration. Long-term options include gastric (G), gastrojejunal (GJ), and jejunal (J) tubes. Pediatric hospitalists often encounter children with or in need of feeding tubes and should understand the indications, limitations, and complications associated with their use.

Knowledge

Pediatric hospitalists should be able to:

- Describe basic gastrointestinal anatomy and physiology and how this relates to commonly used feeding tubes.
- Compare and contrast the indications, limitations, and complications of various types of feeding tubes, including OG, NG, NJ, G, GJ, and J tubes.
- Discuss the risks and benefits of short-term enteral feeding compared to intravenous fluid or parenteral nutrition use.
- Compare and contrast the risks and benefits of surgical, endoscopic, and percutaneous techniques for placement of feeding tubes.
- Describe the correct procedure to replace each type of feeding tube, including the associated potential complications.
- Review commonly encountered nonemergent complications of feeding tubes, such as leakage, local irritation, granulation tissue, cellulitis, dislodgement, and clogging.
- Describe potential emergent complications associated with enteral feeding tubes, such as accidental nasal tube placement into the lungs, tube migration, bowel obstruction, visceral puncture, peritonitis, and intussusception.
- List the indications, risks, benefits, and alternatives for surgical gastrostomy with Nissen fundoplication.
- Anticipate discharge needs for patients with feeding tubes, including replacement supplies, education/teaching for care providers, and contingency plans for tube issues, including dislodgment.
- Discuss the role of primary care providers, home health care, subspecialists, registered dieticians, and the family/caregivers in the home management of feeding tubes.

Skills

Pediatric hospitalists should be able to:

- Identify patients requiring alternative feeding modalities and prescribe appropriate short or long-term enteral tube placement, as determined clinically.
- Articulate the risks and benefits of combining Nissen fundoplication with G tube placement vs. GJ tube placement to patients and the family/caregivers.
- Prescribe enteral formula choice as well as feeding and advancing regimens (including bolus, continuous, and combination feeds), in collaboration with appropriate subspecialists and registered dieticians.
- Collaborate with subspecialists and registered dieticians to manage tube feeding regimes for patients with feeding intolerance.
- Collaborate with wound care specialists to preserve feeding tube site skin health.
- Monitor nutritional outcomes, such as linear growth and nutritional laboratory values, in children who receive tube feeding.
- Assess the necessity of existing feeding tubes in patients during each inpatient encounter, regardless of the reason for hospitalization.
- Initiate appropriate treatment for common complications associated with feeding tubes, in collaboration with appropriate subspecialists.
- Identify serious complications of tube feedings and prescribe appropriate evidence-based interventions, including ordering appropriate radiological studies and obtaining expeditious subspecialty consultation.
- Demonstrate basic proficiency in the interpretation of radiographic studies commonly performed to assess correct tube placement.
- Collaborate with occupational therapists and/or speech and language pathologists to determine appropriate timing for introduction and/or advancement of oral feeding regimes in children with feeding tubes.
- Educate patients and the family/caregivers about the use and care of feeding tubes, including replacement of dislodged tubes if appropriate, prior to discharge home.

Attitudes

Pediatric hospitalists should be able to:

- Realize the importance of collaborating with patients, the family/caregivers, hospital staff, subspecialists, and the primary care provider in making decisions regarding feeding tubes.
- Prioritize education to patients and the family/caregivers regarding the use and care of feeding tubes in the home environment, including basic troubleshooting, resources and directions on where to seek care if tube dislodged, and appropriate contact information for subspecialists.
- Exemplify empathy when exploring and addressing concerns of patients and the family/caregivers regarding the long-term impact of tube feedings, specifically regarding future oral feeding.
- Recognize the role that home health care, care coordinators, school-based providers, occupational therapy, and registered dieticians play in the discharge planning and long-term care of children with feeding tubes.
- Maintain literacy in current evidence-based best practices in enteral tube feedings.

Systems Organization and Improvement

In order to improve efficiency and quality within their organizations, pediatric hospitalists should:

- Lead, coordinate, or participate in the development and implementation of cost-effective, safe, evidence-based care pathways to standardize the evaluation and management of feeding tubes for children.
- Collaborate with hospital administration and community partners to develop and sustain local systems that improve access to feeding tube supplies and related services for children.
- Lead, coordinate, or participate in efforts to develop strategies to minimize institutional complication rates from feeding tube placement and use.
- Lead, coordinate, or participate in multidisciplinary efforts to develop an education and hospital discharge protocol to ensure that patients with feeding tubes experience a safe transition to the outpatient setting.
- Lead, coordinate, or participate in quality initiatives that enhance patient safety and improve patient experience, such as reducing feeding tube related complications, best practices for NG/NJ placement, and family centered home management plans for feeding related problems.

References

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2. Soscia J, Friedman JN. A Guide to the management of common gastrostomy and gastrojejunostomy tube problems. *Paediatr Child Health*. 2011;16(5):281-287. https://doi.org/10.1093/pch/16.5.281.