

## Gastrostomy Tubes: Can They Wait In Those That Aspirate?

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As a pediatric hospitalist, I often care for children that aspirate while feeding.

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As a pediatric hospitalist, I often care for children that aspirate while feeding. Despite my familiarity with this clinical scenario, each encounter brings with it a unique set of circumstances and questions to consider: can the child feed safely with the support of speech therapy, or would my patient benefit from a more permanent feeding option such as a gastrostomy tube, and what are the factors I should consider when helping the child's caregivers make this decision? In this month's

*Pediatrics*, McSweeney et al share their success with standardizing how to approach these questions and more ([10.1542/peds.2019-0325](#)). Their work is predicated on a growing body of literature that suggest a careful balance must be struck between the risks and benefits of gastrostomy tube placement. Aspiration from feeding is a risk factor for both acute and chronic respiratory conditions, and the placement of a gastrostomy tube could help mitigate this risk. However, adverse events associated with gastrostomy tube placement extend beyond the perioperative period and include more frequent hospitalization<sup>1</sup>, post-procedural complications,<sup>2</sup> and increased healthcare costs<sup>3</sup>.

Using quality improvement (QI) methodology, the initiative's team developed an evidence-based guideline (EBG) that guided clinicians through the evaluation of a child that aspirates while feeding. Children were eligible for inclusion on the EBG if they were  $\leq 2$  years of age and had recurrent wheezing/stridor, periprandial cyanosis, coughing, or choking, chronic irritability, or episodes of apnea/bradycardia. Children with evidence of only benign gastroesophageal reflux or more serious bowel pathology such as bilious vomiting or hematemesis were excluded. The primary aim of the initiative was to reduce the number of gastrostomy tubes placed in eligible children by 10%. The EBG itself focused on standardizing the diagnostic evaluation of aspiration and trialing non-operative interventions such as thickened feeds, ongoing speech-language therapy, and nasogastric tube feeds prior to considering a gastrostomy procedure. Repeating a fluoroscopic swallowing study at later intervals from the initial time of abnormal findings were also encouraged, as many children show reduction in their degree of aspiration over time.<sup>4</sup> The primary outcome measure of this initiative was the frequency of patients with an abnormal videofluoroscopic swallow study (VFSS), defined as presence of aspiration or laryngeal penetration, that received a gastrostomy tube within 6 months.

The initiative involved nearly 1,700 patients with aspiration or penetration on VFSS from January 1, 2015 to December 31, 2018. McSweeney et al successfully reduced the percentage of patients with abnormal VFSS receiving gastrostomy tubes from a baseline of 10.9% to 5.2% in the year after rollout of the EBG. During that same time period, there was no significant change in emergency department visits per eligible patient, suggesting that the EBG intervention did not result in patients presenting with more frequent aspiration-related events. Furthermore, study authors found that repeat VFSS was ordered more frequently during the intervention period suggesting that providers were following the EBG recommendations to trial non-invasive management of aspiration with repeat studies to assess for improvement prior to gastrostomy tube placement.

McSweeney et al ultimately shared success standardizing the clinical approach to a historically common but complex clinical situation in pediatrics. As with all QI initiatives, the generalizability of their approach to other institutions must also be taken into context with the limitations of the initiative. Study authors point out that their work was executed in a setting where the faculty of a multidisciplinary team, focused on aerodigestive pathology, were on-call and available for immediate consultation. Furthermore, a team of nurse practitioners specializing in inpatient enteral tube consults were available to encourage oral feeding and nasogastric tube placement when appropriate. It is also important to note that a greater proportion of children with underlying gastrointestinal and neuromuscular comorbidities received gastrostomy tube surgeries, suggesting that the pathway may be most beneficial for children not at greatest risk for aspiration-related complications. Nonetheless, McSweeney et al shine a light on a pragmatic (and successful) approach to standardize a very complex clinical situation.

#### References:

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- [A Core Outcome Set for Children With Feeding Tubes and Neurologic Impairment: A Systematic Review](#)
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