

# Neonatal and infant feeding disorders program saves infants from lifetime of feeding tubes

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An innovative approach to treating neonatal feeding problems at Nationwide Children's Hospital has allowed infants who were struggling to feed orally to be discharged earlier and without feeding tubes, subsequently saving millions of annual healthcare charges.

According to American Academy of Pediatrics guidelines, in order for [premature infants](#) to be discharged from the hospital, they must establish safe oral feeding methods. The prevalence of feeding problems in once-premature infants is twice that of full-term infants and often prolongs hospitalization for these babies. Infants who fail to gain skills necessary to feed orally often receive gastrostomy tubes, tubes placed within a baby's stomach through which he/she can receive nutrition. For the first year, home gastrostomy feeding methods cost nearly \$47,000.

The study, appearing in the *Journal of Pediatric Gastroenterology and Nutrition*, details outcomes for 100 [neonatal intensive care](#) unit (NICU) infants referred to the Neonatal and Infant Feeding Disorders Program at Nationwide Children's for a feeding strategy in an effort to avoid gastrostomy placement. Their feeding capabilities were detailed at birth, at the time of feeding evaluation, at discharge and at 1 year of age.

Because they received an individualized feeding strategy, 51 percent of these infants were feeding successfully upon discharge and 84 percent at 1 year of age. Even among the gastrostomy infants, the vast majority of

patients went on to recover significant oral motor skills.

The integrated feeding strategy led to a higher feeding success than traditional methods. Of 50 infants who received conventional treatment in years prior to the Neonatal and Infant Feeding Disorders Program, 10 percent were feeding orally at discharge and 42 percent at 1 year of age.

"Being able to successfully develop feeding strategies for these infants provides them a greatly improved [quality of life](#), improves parental satisfaction and leads to a reduced [economic burden](#)," said Sudarshan Jadcherla, MD, FRCPI, DCH, AGAF, Nationwide Children's Hospital neonatologist and principal investigator in the Center for Perinatal Research, medical director of the Neonatal and [Infant Feeding](#) Disorders Program at Nationwide Children's and lead author of the study. Among the 100 infants in this study, there was an estimated \$3.8 million cost savings over one year – \$2.1 million in savings from avoided gastrostomy tube placement, \$1.7 million in savings because of earlier discharge from the [hospital](#).

Dr. Jadcherla, also professor of Pediatrics at The Ohio State University College of Medicine and Public Health, says the strength of the feeding strategy described in this study lies in the fact that it is multidisciplinary, individualized and evidence-based. First, clinicians documented each infant's feeding difficulty symptoms and noted any underlying disease. Each infant underwent specialized pharyngo-esophageal manometry and swallow studies to evaluate the structure and function of his/her aerodigestive system. Further studies and input from a multidisciplinary team helped characterize the mechanisms of each infant's feeding difficulty and their symptoms. These findings were discussed with parents. An individualized feeding management strategy was developed for each infant with special emphasis on feeding mechanics, feeding methods, co-morbidities, nutrition and growth. Finally, nurses, feeding therapists and parents were educated on the baby's feeding plan.

"This is the first study to describe an innovative approach to diagnose feeding problems and implement management strategies to improve oral feeding outcomes at discharge and followed at 1-year, among complex NICU [infants](#) expected to receive gastrostomy tubes," said Dr. Jadcherla.

Provided by Nationwide Children's Hospital

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