

Nemours Children's Health, Florida Researchers Receive NIH R01 Grant to Study Infants Health

The proposed research will evaluate the connectedness between body composition, oral feeding ability, and hormone levels in infants

ORLANDO, Fla. (Oct. 16, 2023) – The National Institutes of Health ([NIH](#)) recently awarded Sreekanth Viswanathan, MD, attending neonatologist, Nemours Children's Hospital, Florida a 3-year \$832K R01 grant titled: *Oral Feeding Difficulty in Large for Gestational Age Infants: Defining Interrelationships between Body Composition, Oral Feeding Ability, and Appetite-Regulating Hormones*. This is the first NIH R01 grant for both Dr. Viswanathan and Nemours Children's Hospital, Florida. Dr. Viswanathan and his team, which includes Babu Balagopal, Ph.D., Head of the Obesity and Cardiovascular Disease Laboratory at Nemours Children's Health, Jacksonville, Jessica Woo, PhD, Cincinnati Children's Hospital and Kera McNelis, MD, Cincinnati Children's Hospital, will work to evaluate the interrelationship between body composition, oral feeding strategies and hormone levels. The study will include 60 larger babies over a 3-year period. Investigators anticipate positive outcomes including a shortened length of hospital stay and enhanced quality-of-life for the infants.

Health systems nationwide, including Nemours Children's, have seen an uptick in infants admitted to the neonatal intensive care unit (NICU) due to oral feeding difficulties. A potential reason is the number of pregnant women with obesity and gestational diabetes increased by more than 30%, producing nearly half a million infants each year in the United States who are born large for gestational age. These infants have feeding difficulties, prolonged hospital stays and are at increased risk for obesity in the future.

"If you look at body composition, larger babies often have a higher fat tissue deposition at birth compared to average-sized babies, while their fat-free tissue or lean mass is somewhat comparable. Our preliminary data suggests that a higher fat mass can potentially reduce oral feeding ability, with reports indicating reduced hunger and early satiety in such cases. Standard feeding strategies in NICUs promote weight gain, regardless of the infant's birth weight or body composition," said Dr. Viswanathan. "I believe that this one size fits all approach may not be optimal for larger babies. In this study, the team will tailor feeding volumes according to an infant's lean mass rather than total weight in an effort to enhance their oral feeding ability."

Study methods include using a non-invasive, quick and radiation-free technology device called PEA POD to determine body mass. In addition, the team will compare a new nutrient delivery approach based on body composition with the standard feeding strategy.

Dr. Viswanathan and his team anticipate that this innovative approach could foster healthier 'catch-down' growth, or the natural slowing of weight gain, by reducing fat mass, potentially reducing their chance of developing obesity later in life and significantly improving well-being while reducing healthcare costs.

About Nemours Children's Health

Nemours Children's Health is one of the nation's largest multistate pediatric health systems, which includes two free-standing children's hospitals and a network of more than 70 primary and specialty care practices. Nemours Children's seeks to transform the health of children by adopting a holistic health model that utilizes innovative, safe, and high-quality care, while also caring for the health of the whole child beyond medicine. Nemours Children's also powers the world's most-visited website for information on the health of children and teens, Nemours [KidsHealth.org](#).

The Nemours Foundation, established through the legacy and philanthropy of Alfred I. duPont, provides pediatric clinical care, research, education, advocacy, and prevention programs to the children, families and communities it serves. For more information, visit [Nemours.org](#).

About the National Institutes of Health (NIH): NIH, the nation's medical research agency, includes 27 Institutes and Centers and is a component of the U.S. Department of Health and Human Services. NIH is the primary federal agency conducting and supporting basic, clinical, and translational medical research, and is investigating the causes, treatments, and cures for both common and rare diseases. For more information about NIH and its programs, visit <https://www.nih.gov/>.

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