VANDERBILT UNIVERSITY

CTTC Center for Technology Transfer & Commercialization

Intrauterine Growth Charts

Summary

Inventors at Vanderbilt University have developed universal gender-specific growth charts that can be used to continously track weight, head circumference, and length of prematurely born infants while in and after discharge from the neonatal intensive care unit (NICU). While there are no current consistent feeding guidelines for infants after discharge from the NICU, there is increasing data that indicates over-nutrition during critical periods may affect metabolic programming, leading to metabolic syndrome, obesity, hypertension, and type 2 diabetes.

Addressed Need

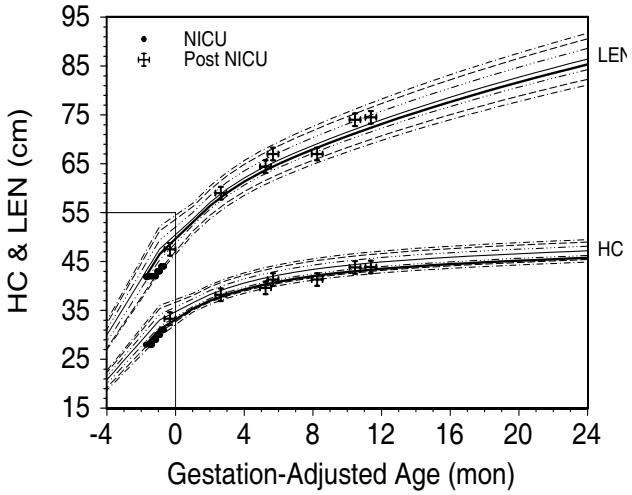
- Current studies lack cultural diversity in their infant sample data
- Current charts do not sufficiently account for infants with gestational ages less than 28 weeks
- Current charts are not gender-specific
- Existing charts do not track growth after discharge the NICU
- The data points used to create the existing charts lack precision in estimating gestational age
- Worldwide, there are 12.9 million preterm births every year.

Technology Description

The universal growth chart synthesizes a great deal of historical clinical data around individual best-fit equations for intrauterine weight, head circumference, and length to provide a single chart for use in all infants, including prematurely-born infants. This chart incorporates the specific growth patterns of each of these tracked characteristics within this time period to establish a seamless monitoring tool.

Unique Properties and Competitive Advantages

- Continuously tracks gestation-adjusted growth from 22 weeks through 24 months
- Incorporates growth data from over 10 million infants, from 9 countries over 5 continents and a highly diverse set of ethnic groups
- Eliminates the need for multiple growth charts in patient medical record
- Suitable for individualized spreadsheets, tracking app development, and/or electronic medical records



Additional Information

- Click names below for inventor bios
- Publication, Growth Charts and Z-Scores

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