

Evidence-Based Precision Nutrition

NICUbiome® is a digital solution that leverages machine learning on a proprietary and extensive preterm infant dataset to provide quantification of gut health, allowing clinicians and microbiome researchers to standardize measurements of gut health and its developmental trajectory to easily measure both intra- and inter-individual level variability, enables risk stratification and personalized interventions for improved health outcomes. The solution consists of three modules: Classifier, Prognostic Dx and Therapeutic Rx.

NICUbiome® Classifier, measures gut maturity, classifies community types, and tracks stability. NICUbiome® Prognostic Dx predicts growth failure of an infant in clinically actionable time windows to allow for earlier interventions based on machine learning using clinical and/or microbiome data. Finally, NICUbiome® Therapeutic Rx uses machine learning to identify optimal, precision nutrition interventions, such as diet, feed rate, and pre or probiotics.

KEY BENEFITS

- Standardized gut health measurements enable comparison of variability across preterm infants based on nutritional or microbial phenotypes
- Gut development trajectory establishes a personal baseline for a preterm infant and enables personalized interventions
- Integrated longitudinal display of microbial risk factors and microbiome analysis creates novel insights regarding impact of clinical decisions on a preterm infant's gut transitions
- Provides predictive measures of growth failure to allow for risk stratification and early interventions

CLASSIFIER

Standard Gut Health Measurements

Classifier provides standard gut health measurements of maturity, community type classification, stability, and changes and progression over time, enabling microbiome researchers to evaluate the impact of care decisions on gut health.



- Longitudinal feeding, growth, and clinical event tracking
- Proportion of microbial species
- Gut community type
- Gut maturity: Microbiota for Age Z-score (MAZ)

PROGNOSTIC Dx

Risk Stratification for Early Interventions

Prognostic Dx provides real-time predictions to enable risk stratification of preterm infants so clinicians can allocate care and resources appropriately. By utilizing machine learning on clinical and/or microbiome data, it identifies infants at risk of growth failure in the first days and weeks of life, to allow for early interventions and tailoring of nutritional approaches to optimize outcomes.

5 Machine-learning predictions of clinical outcomes in real-time



THERAPEUTIC Rx

Actionable Recommendations for Precision Care

Therapeutic Rx actionable recommendations allow clinicians to create personalized feeding and treatment strategies for maximizing successful infant health outcomes. These recommendations may provide insights on when to initiate feeds, at what rate and frequency to advance, and utilization of microbial interventions.

CO-DEVELOPMENT OPPORTUNITIES

Astarte Medical has developed a large, longitudinal dataset to accelerate the advent of new microbial-driven interventions. Interested parties should contact:

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For more information or to schedule a demonstration, email: arti@astartemedical.com