

Preemie: Transforming Neonatal Care with Data-Driven Nutrition

Premature birth is a global health crisis. With 15 million annual cases, it is the leading cause of infant mortality and places an immense strain on healthcare systems.

Preterm infants miss the critical placental nutrient transfer of the third trimester, resulting in higher nutritional needs than full-term infants. While maternal breast milk is the preferred nutrition due to its immune-protective properties, its composition is inherently variable and often lacks the nutrient density required to meet a preterm infant's high demands.

Furthermore, each infant's needs are unique, influenced by evolving clinical conditions during their NICU stay. These infants are frequently diagnosed with complex conditions, each potentially requiring specialised nutritional protocols.

Current targeted human milk fortification relies on cumbersome milk analysis and calculations based only on weight and gestational age, ignoring the infant's dynamic clinical status. The inability to create truly personalised fortification is a technological and data problem, not a clinical failure. The market lacks a data-driven guidance system to empower clinicians and manufacturers.

Preemie Technology bridges this gap by delivering precision nutrition for preterm infants through data-driven care.

The Preemie System

Preemie Sensor	A portable NIR spectrometer that scans the human milk and delivers its composition
Milk Analysis Software	Runs on an Android tablet and operates the Preemie sensor
NutriNTrack Software	Enables the complex calculations of targeted fortification from data received from milk analysis, chosen nutritional guidelines, and infant clinical data, including disease-risk scores
Preemie Analytics Platform	Supports the development of AI predictive models by the NICU for preterm-associated diseases like BPD, NEC, and Sepsis

Analytes Measured

Total Protein	the value contributing the most to the infant's growth
Total Fat	crucial for the development of the infant's neurological system
Total Energy	key for overall infant development
Arachidonic Acid (ARA)	critical for infant growth, brain development, and health
Docosahexaenoic acid (DHA)	critical for cognitive and visual development, as well as immune function
Linoleic acid (LA)	essential for brain and retinal development
α-Linolenic acid (ALA)	contributes to maintaining adequate levels of DHA

Key Features

Compliant with GDPR and HIPAA
Utilizes an AI-federated learning framework to overcome data acquisition challenges without compromising data privacy
Allows for a fast calculation of milk fortification
EMR (Electronic Medical Record) integrated clinical support software
Portable, rapid, and affordable
No consumables needed
Just 40 μL of milk is needed

Why Choose Preemie?

Pioneering Innovation: Leading the way in data-driven neonatal care.

Improved Outcomes: Reduced early-life health and disability risks.

Economic Benefits: Alleviating the societal burden of prematurity.

Expert Support: Our team of specialists is committed to your success.



Unleash the clinical adoption of data-driven neonatal nutrition optimisation