Cincinnati Children's | Innovation Ventures

Predictive Diagnostic Imaging

Predicting Preterm Infants' Cognitive and Language Outcomes

Brief Description of Technology

Quantitatively identifying diffuse white matter anomalies using MRI as a systematic approach provides early identification of the need for developmental deficit interventions in preterm infants.

TECHNOLOGY ID

2019-0307

BUSINESS OPPORTUNITY

Exclusive License

TECHNOLOGY TYPE

Diagnostic

PATENT INFORMATION

US Non-Provisional Filing

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Technology Overview

Premature birth is often associated with developmental deficits. Neonatal imaging is a common diagnostic tool used to assess neurologic abnormality and to determine the need for early intervention. Objectively analyzing medical image data for the presence of diffuse white matter abnormalities (DWMA) reproducibly identifies characteristics that are not readily apparent. The system of establishing a quantitative diagnostic score adds objectivity to determining DWMA characteristics that will impact one or more developmental scales, such as a time deficit, score deficit, or other value indicative of development deficits. Compared to subjective visual diagnosis of the image, that is typically used, objectively determined DWMA characteristics may be automatically compared at different times and associated with other assessment criteria used to measure infant development.

Applications

This approach can provide accurate, point of care identification of the need for early interventions in very preterm infants.

Advantages

The approach removes the qualitative scoring of the image and provides a more accurate diagnostic predicter. Earlier intervention points to better outcomes on patient developmental scores.

Market Overview

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Investigator Overview

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