AAP DISTRICT VIII SECTION ON NEONATAL PERINATAL MEDICINE

2021 ANNUAL CONFERENCE **ORIGINAL RESEARCH** (BASIC SCIENCE or CLINICAL) ABSTRACT SUBMISSION FORM

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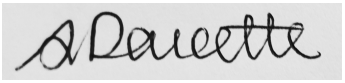
Signature:  Date: February 25 2020

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DEADLINE FOR RECEIPT OF ABSTRACT HAS BEEN EXTENDED TO MARCH 19, 2021. Submissions will be accepted for either poster or oral presentation. Authors will be notified of acceptance and format for presentation (poster or poster symposium) by **April 12, 2021.**

Title: Neurodevelopmental Outcomes at 21 Months Fail to Predict Neurodevelopmental Impairments at 36 Months Corrected Age for Preterm Infants <29 Weeks' Gestational Age

Authors: S Doucette, S Tang, H Kehler, D Creighton, A Lodha

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Background: There is significant variation in duration of neurodevelopmental follow-up of premature infants in Canada, ranging from 18 months corrected age (CA) to 5 years of age across centers. Due to financial constraints for most centers, follow-up of infants at 36 months corrected age (CA) is not feasible. Hence, it is important to determine what age provides the most accurate ND outcomes of infants.

Methods: A retrospective observational cohort study was undertaken to determine the association[DC1] between ND outcomes at 21 months and 36 months CA. Infants born <29 weeks GA between 2006 and 2015 who were followed up at both 21 and 36 months CA were included in the study. Sensitivity and specificity analyses were conducted by constructing a two-by-two table, setting the 36-month CA outcome as the gold standard assessment and the 21-month CA outcome as the screening assessment under investigation.

Results: A total of 1154 preterm infants <29 weeks GA were admitted to our level III NICU (Table 1) and 975 survived to discharge and did not have congenital or chromosomal anomalies. Of these, 713 (73%) were followed up at both 21 and 36 months CA and had complete data for inclusion in our analysis. The sensitivity of the 21-month CA assessment for predicting ND impairment (NDI) at 36 months CA was 81% (95% confidence interval [CI] 76-86%), with a positive predictive value of 61% (95%CI 56%-66%) (Table 2). Fifty-three (16%) of 339 infants who had normal ND outcomes at 21 months had NDI at 36 months CA. The specificity of the 21-month CA assessment for predicting NDI at 36 months CA was 66% (95% CI 62-71%).

Conclusion: Our results showed the 21-month CA assessment had low specificity and positive predictive value for predicting NDI at 36 months CA. As early diagnosis and of NDI can facilitate earlier intervention and possibly better long-term outcomes, a longer duration of follow up is required to ensure the diagnosis of NDI is not missed for surviving preterm infants.