

Clinical Pearl: Do Apgar Scores Reflect Long Term Neurodevelopmental Outcomes in Extremely Preterm Infants at School Age?

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“The original Apgar scoring system, a pivotal medical innovation, was conceptualized by Dr. Virginia Apgar in 1953. (1) This system, which has become a cornerstone of neonatal care worldwide, initially had a one-minute Apgar score that served as an immediate indicator of the need for resuscitative measures and a five-minute Apgar score, which offered insights into the effectiveness of the resuscitation efforts. (1, 2)”

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Beyond their immediate clinical utility, the Apgar scores were viewed as predictive tools for both short-term and long-term outcomes, particularly for term infants. Despite extensive research in this domain, questions lingered regarding the accuracy of these scores as predictors, especially in the case of preterm infants, specifically those born at gestational ages of less than 28 weeks.

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A remarkable cohort study by Earnhardt and a team of colleagues expanded our understanding of the Apgar scoring system’s predictive power. This study examined the predictability of the five-

minute Apgar score concerning neurodevelopmental outcomes. The investigation encompassed a vast geographic scope, spanning 19 regions across 11 European countries. It focused on a cohort of 996 infants born at gestational ages less than 28 weeks who were evaluated at the age of five, or as articulated by Dr. Michael Msall, a Developmental-Behavioral Pediatrician at Comer Children’s Hospital at the University of Chicago, at school age. (3)

“These infants, born between 22 and 27 weeks gestation, underwent comprehensive cognitive and motor development assessments. These assessments included the utilization of the Weschler Preschool and Primary Scale of Intelligence test, with IQ scores derived from locally normed versions specific to each country. The Movement Assessment Battery for Children-second Edition”

These infants, born between 22 and 27 weeks gestation, underwent comprehensive cognitive and motor development assessments. These assessments included the utilization of the Weschler Preschool and Primary Scale of Intelligence test, with IQ scores derived from locally normed versions specific to each country. The Movement Assessment Battery for Children-second Edition was also employed to evaluate motor skills. (3) Furthermore, parents contributed valuable information regarding their children’s communication and problem-solving abilities, as assessed through the Ages and Stages Questionnaire (ASQ-3). (3)

The study’s findings unveiled a significant revelation: low Apgar scores at five minutes of age failed to serve as reliable predictors of neurodevelopmental outcomes at the age of five in extremely preterm infants. (3) This groundbreaking research challenges established assumptions and underscores the need for continued exploration in neonatal care and predictive assessment tools for long-term outcomes in this vulnerable population. (1-3)

References:

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