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## Effects of Neonatal Abstinence Syndrome on Long-Term Growth Parameters

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## SI/CTR Abstract

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### Effects of Neonatal Abstinence Syndrome on Long-Term Growth Parameters

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**Introduction:** Past studies have shown that babies with Neonatal Abstinence Syndrome (NAS) have lower weight, head circumference, and height at birth. This study aims to compare their growth at 9 and 18 months of age, and to compare growth parameter of NAS infants below 10th percentile to those above 10th percentile at birth.

**Methods:** In this retrospective review, 260 infants admitted to Jefferson Neonatal Intensive Care Unit between 2006 and 2018 were included. The weight, height, and head circumference at birth, 9 months, and 18 months were collected and correlated by Pearson correlation. The growth parameters of infants below 10th percentile at birth were also compared with those above 10th percentile by appropriate statistical tests.

**Results:** There was a significant but weak correlation between birth and 9 month weight, head circumference, and length ( $r=0.28$ ,  $p < 0.001$ ;  $r=0.22$ ,  $p = 0.001$ ; and  $r=0.13$ ,  $p = 0.048$ ; respectively) which persisted at 18 months for weight and head circumference but not for length. There were significant differences in weight ( $p = 0.01$ ), head circumference ( $p = 0.02$ ), and length ( $p = 0.02$ ) between infants below 10<sup>th</sup> percentile and those above 10<sup>th</sup> percentile at 9 months, but not at 18 months. .

**Discussion:** The results implicate that NAS infants who were small for gestational age at birth catch up to their counterparts in physical growth parameter. Further studies on longer term follow-up and underlying factors that allow for this growth could help design interventions that enhance their growth.