

Student Prize Paper. **School achievement in a regional cohort of children born very low birthweight.** *EW Hagen, M Palta, A Albanese, M Sadek-Badawi (University of Wisconsin - Madison Medical School, Madison, WI, USA).

Children born very low birthweight (VLBW, ≤ 1500 g) have historically had lower average school achievement than their normal birthweight peers. However, perinatal care and survival have changed dramatically since prior cohorts accrued, prompting reassessment. Surfactant therapy became generally available 8/1/1990, and the use of pre- and postnatal steroids increased substantially around this time. Standardized test scores and teacher ratings in math, reading, science, and social studies were obtained at age 10 for a cohort of children admitted to six regional NICUs in Wisconsin and Iowa, 8/1/1988 – 6/30/1991. We compared achievement between the VLBW cohort and controls from the same school districts. Among VLBW children, we determined neonatal and early childhood factors associated with achievement on standardized tests (ordinal logistic regression) and teacher ratings (linear regression) and evaluated whether achievement differed by birth year. Compared with population controls, VLBW children's greatest deficits occurred in mathematics. Scores on the standardized math exam and teacher ratings of overall achievement were positively associated with birthweight, social function measured at age five, and socioeconomic status. VLBW children born in the post-surfactant era (after 8/1/1990) had lower achievement on the standardized math exam than children born during the pre-surfactant era of the prior two years. Post-surfactant era VLBW children showed lower math achievement than those born previously, perhaps due to greater survival among less healthy neonates or increased exposure to postnatal steroids. VLBW children more likely to struggle academically could be identified by early childhood measures, allowing for targeted interventions to mitigate their difficulties.