

# Extremely preterm infants and risk of developing neurodevelopmental impairment later in childhood

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A meta-analysis of previously reported studies by Gregory P. Moore, M.D., F.R.C.P.C., of The Ottawa Hospital, Ontario, Canada, and colleagues examined the rate of moderate to severe and severe neurodevelopmental impairment by gestational age in extremely preterm survivors followed up between ages 4 and 8 years, and determined whether there is a significant difference in impairment rates between the successive weeks of gestation of survivors.

The search of English-language publications found nine studies that met inclusion criteria of being published after 2004, a [prospective cohort study](#), follow-up rate of 65 percent or more, use of [standardized testing](#) or classification for impairment, reporting by gestation, and meeting prespecified definitions of impairment. Researchers then extracted data using a structured data collection form and investigators were contacted for data clarification.

According to the study results, all extremely preterm infant survivors have a substantial likelihood of developing moderate to severe impairment. Wide confidence intervals at the lower gestations (eg. at 22 weeks, 43 percent) and high [heterogeneity](#) at the higher gestations (eg. at 25 weeks, 24 percent) limit the results. There was a statistically significant absolute decrease in moderate to severe impairment between each week of gestation.

"Knowledge of these data, including the limitations, should facilitate discussion during the shared decision-making process about care plans for these infants, particularly in centers without their own data," the study concludes.

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