

Preterm birth associated with higher risk of death in early childhood, young adulthood

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In a study that included more than 600,000 individuals born in Sweden between 1973-1979, those born preterm (less than 37 weeks gestation) had a higher risk of death during early childhood and young adulthood than persons born at term, according to a study in the September 21 issue of *JAMA*.

Preterm birth is the leading cause of perinatal (pertaining to the period immediately before and after birth) illness and death in [developed countries](#). "Although the early effects of preterm birth are well documented, less is known about the longer-term outcomes in adulthood. These outcomes have a growing clinical and public health importance because of the high prevalence of preterm birth and improved early survival," the authors write. In the past 3 decades, the prevalence of preterm birth in the United States has increased to more than 12 percent. "As a result, [large numbers](#) of individuals who were born preterm are now surviving to adulthood. A comprehensive understanding of their outcomes in adulthood is needed to enable earlier prevention, detection, and treatment of the long-term health sequelae."

Casey Crump, M.D., Ph.D., of Stanford University, Stanford, Calif., and colleagues conducted a study to examine the association between [gestational age](#) at birth and mortality in young adulthood. The study included a national cohort of 674,820 individuals born in Sweden in 1973 through 1979 who survived to age 1 year, including 27,979 (4.1 percent) born preterm, followed up to 2008. A total of 7,095 deaths occurred in follow-up from age 1 year to the maximum attained ages of 29 to 36 years.

The researchers found a strong inverse association between gestational age at birth and mortality in [early childhood](#) (ages 1-5 years), no association was observed in late childhood (ages 6-12 years) or adolescence (ages 13-17 years),

and an inverse association reappeared in young adulthood (ages 18-36 years). In early childhood as well as young adulthood, preterm birth was associated with increased mortality even among individuals born late preterm (34-36 weeks), relative to those born full-term.

"In young adulthood, gestational age at birth had the strongest inverse association with mortality from congenital anomalies and respiratory, endocrine, and cardiovascular disorders and was not associated with mortality from neurological disorders, cancer, or injury," the authors write.

The researchers write that, to their knowledge, this is the first study to report the specific contribution of gestational age at birth on mortality in adulthood. "The underlying mechanisms are still largely unknown but may involve a complex interplay of fetal and postnatal nutritional abnormalities; other intrauterine exposures, including glucocorticoid [a steroid hormone] and sex hormone alterations; and common genetic factors."

"Although most survivors have a high level of function and self-reported quality of life in [young adulthood](#), our previous and current findings demonstrate the increased long-term morbidities and [mortality](#) that may also be expected. Clinicians will increasingly encounter the health sequelae of [preterm birth](#) throughout the life course and will need to be aware of the long-term effects on the survivors, their families, and society."

More information: *JAMA*. 2011;306[11]:1233-1240.

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