

Effect of magnesium sulfate during pregnancy on very preterm infants

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Magnesium sulfate given intravenously to pregnant women at risk of very preterm birth was not associated with benefit on neurological, behavioral, growth, or functional outcomes in their children at school age, according to a study in the September 17 issue of *JAMA*.

Rates of adverse long-term neurodevelopmental outcomes for infants born at less than 28 weeks' gestation remain high relative to full-term infants. Among the multiple uses for magnesium sulfate in obstetrics is as a neuroprotectant for preterm fetuses. Antenatal (before birth) magnesium sulfate given to pregnant women at imminent risk of very preterm delivery reduces the risk of [cerebral palsy](#) in early childhood, although its effects into school age have not been reported from randomized trials, according to background information in the article.

Lex W. Doyle, M.D., M.Sc., of the University of Melbourne, Australia, and colleagues randomly assigned magnesium sulfate or placebo to [pregnant women](#) (n = 535 magnesium; n = 527 placebo) for whom imminent birth was planned or expected before 30 weeks' gestation. The trial was conducted in 16 centers in Australia and New Zealand.

There were 1,255 fetuses known to be alive at randomization. Of 867 survivors available for follow-up, outcomes at [school age](#) (6 to 11 years) were determined for 669 (77 percent). The researchers found that receipt of antenatal magnesium sulfate was not associated with any long-term benefits or harms compared with placebo on measures of neurological, cognitive, behavioral, growth, and functional outcomes.

There was a nonsignificant reduction in the risk of death in the magnesium sulfate group.

The authors note that the absence of benefit does not negate the proven value of [magnesium sulfate](#) in reducing cerebral palsy, based on the collective evidence from all of the [randomized clinical trials](#).

They add that the lack of long-term benefit requires confirmation in additional studies.

More information: [DOI: 10.1001/jama.2014.11189](https://doi.org/10.1001/jama.2014.11189)

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