

Magnesium sulphate effective neuroprotection for the foetus of women at risk of preterm delivery

Clinical question	How effective is magnesium sulphate as a neuroprotective agent when given to women considered at risk of preterm delivery?
Bottom line	Antenatal magnesium sulphate therapy given to women at risk of preterm delivery, substantially reduced the risk of cerebral palsy in their child (NNT* 63). There was also a significant reduction in the rate of substantial gross motor dysfunction. The loading dose given was 4g or 6g IV, with a maintenance dose varying from nil (2 studies) to 1g/hour (1 study) and 2-3 g/hour (2 studies). The magnesium sulphate was given 24 hours prior to delivery in 3 studies, with no specific time interval reported in 2 studies. No significant effect of antenatal magnesium sulphate therapy was detected on paediatric mortality or on other neurological impairments or disabilities in the first few years of life. *NNT= number needed to treat to benefit one individual.
Caveat	There were higher rates of minor maternal side effects (flushing, sweating, nausea, vomiting, headaches and palpitations) in the groups receiving magnesium sulphate, but no significant effects on major maternal complications.
Context	Preterm babies have a higher risk of dying in the first weeks of life than babies born at term, and those who survive often have damage in the form of cerebral palsy, blindness, deafness or physical disabilities. Magnesium is an important element, essential for normal body functions. Magnesium sulphate may help to reduce damage to a preterm baby's brain.
Cochrane Systematic Review	Doyle LW et al. Magnesium sulphate for women at risk of preterm birth for neuroprotection of the fetus. Cochrane Reviews 2009, Issue 1. Article No. CD004661. DOI: 10.1002/14651858. CD004611.pub3. This review contains 5 studies involving 6145 participants.
PEARLS No. 169, June 2009, written by Brian R McAvoy	

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