

Magnesium Sulphate prior to Preterm Birth - Improving long term child health

INTRODUCTION

Pregnancy and childbirth can be a stressful time for some families, especially if your baby is born preterm. Important decisions often need to be made very quickly and it is common to feel overwhelmed.

This pamphlet aims to provide you with information about a new therapy, magnesium sulphate, which may improve your baby's long-term health. This medication has been shown to improve survival free of cerebral palsy in children born very preterm.

This pamphlet summarises the recent National Clinical Practice Guidelines on *Antenatal Magnesium Sulphate Prior to Preterm Birth for Neuroprotection of the Fetus, Infant and Child*, as well as other recent research, so that you can make an informed decision regarding your child's care.



WHAT ARE THE RISKS OF BEING BORN PRETERM?

Preterm birth is quite common – worldwide, the chance of being born before 37 completed weeks is about 10%. In Australia and New Zealand, around 1% of babies are born 'very preterm' (before 30 completed weeks).

Babies can survive outside the womb from 24 weeks, but there is an increased risk of lifelong problems such as visual and hearing impairment, learning difficulties and cerebral palsy. The earlier the child is born, the greater the chance of disability.

WHAT IS CEREBRAL PALSY?

Cerebral palsy is a permanent physical condition that affects the movement and coordination of a child's arms and legs. Some children experience only mild awkwardness of movement, but around one third may suffer severe disabilities including epilepsy (where a child has seizures or 'fits') or be unable to walk or talk.

Cerebral palsy is caused by an injury to the child's developing brain, with almost half of all cases of cerebral palsy occurring in babies born preterm.

Although there is no known cure for cerebral palsy, there is growing evidence that the chance of developing it in the first place can be reduced.

MAGNESIUM SULPHATE – A NEW THERAPY

Magnesium is an element found naturally in the body and it is necessary for the body to function normally.

Magnesium sulphate is a medication that has been widely used in pregnancy for decades. However, in the 1990s, it was discovered that it might also reduce illness in preterm babies. It is important that new medical treatments are not adopted until there is enough evidence to suggest they are safe and that they really do work.

Recently, enough good quality research has shown that magnesium sulphate offers 'brain protection' to babies born very preterm.

If magnesium sulphate is administered to you shortly before the birth of your very preterm baby, the chance of your baby surviving without disability is significantly increased.

WHAT DO THE GUIDELINES RECOMMEND?

- Magnesium sulphate should be used when very preterm birth (less than 30 completed weeks) is planned or expected within 24 hours.
- Magnesium sulphate should be given intravenously (through the mother's veins) and continued until the baby is born (or for 24 hours, if the baby is not born).
- Magnesium sulphate should be given regardless of:
 - *the number of babies (e.g. singleton, twins, triplets)*
 - *the reason why the birth is occurring*
 - *the number of times the mother has given birth before*
 - *the type of birth (e.g. vaginal birth or caesarean section)*
 - *whether the mother has received antenatal corticosteroid injections*

When should Magnesium Sulphate be given?

- When very preterm birth is planned, magnesium sulphate should be started approximately 4 hours before birth. Magnesium may still provide a benefit even if birth occurs sooner than 4 hours.
- When urgent delivery is necessary however, birth should not be delayed for magnesium sulphate treatment.

What about if my baby is born at 30 weeks or more?

- The use of magnesium sulphate for babies born preterm, but at 30 weeks or more of pregnancy requires further study before it becomes routine. This research is underway.

COULD MAGNESIUM SULPHATE CAUSE ANY HARM?

Best evidence has shown that when using the recommended doses of magnesium sulphate, there are no harmful effects on the developing baby, infant or child.

Mothers receiving magnesium sulphate may experience some unwanted effects, but they are usually mild and temporary. Reported symptoms include flushing, sweating, nausea/vomiting and headaches. Serious reactions are rare, however magnesium sulphate may affect blood pressure and breathing rate and so women are carefully monitored by the medical team.

WHAT ARE THE BENEFITS OF USING MAGNESIUM FOR MY BABY?

There is now a lot of good quality evidence, based on large studies, to show that magnesium sulphate decreases the risk of cerebral palsy. This is a very important discovery and given the benefits of magnesium sulphate administration before preterm birth, many hospitals and health professionals have started to use this new therapy. The guidelines for use of this treatment, which were developed by an expert panel, were published in 2010. The use of magnesium sulphate and its outcomes is being carefully monitored across Australia.

WHERE CAN WE GO FOR MORE INFORMATION?

- Your doctor and midwife
- Hospitals and community support groups
- The Antenatal Magnesium Sulphate for Neuroprotection Guideline Development Panel. Antenatal magnesium sulphate prior to preterm birth for neuroprotection of the fetus, infant and child: National clinical practice guidelines. Adelaide: The University of Adelaide, 2010
The guideline can also be accessed from
www.nhmrc.gov.au/guidelines/publications/cp128 or
ARCH website: www.adelaide.edu.au/arch/
- Cerebral Palsy Alliance www.cerebralpalsy.org.au
- Cerebral Palsy Society of New Zealand www.cpsoc.org.nz/