

Magnesium Sulphate for Preterm Birth

Whānau Information

What is magnesium sulphate?

Magnesium sulphate is a treatment given to wāhine/people just before birth when birth happens before 30 weeks of pregnancy. This treatment helps to protect preterm pēpi brains (sometimes called a 'neuroprotectant').



Magnesium sulphate is given as **an infusion through a drip via a vein in your arm**. The magnesium sulphate passes from your blood stream through your whenua/placenta to pēpi.

It is given as a **loading dose** over 20–30 minutes and then continues at a lower **maintenance dose** for up to 24 hours (or until pēpi is born). Ideally pēpi should receive at least four hours of the maintenance dose, but it starts to be effective as soon as the loading dose is given.

If you have not given birth within 24 hours, the magnesium sulphate infusion can be stopped and restarted at a later time, if birth again seems likely and you are still less than 30 weeks.

What are the benefits of magnesium sulphate for preterm pēpi?

Clinical trials show that for preterm pēpi less than 30–34 weeks, using magnesium sulphate as a neuroprotective treatment:

- Lowers the chance of Cerebral Palsy (CP)

The chance of CP at <28 weeks:

- with magnesium sulphate was **8.0%**
- without magnesium sulphate was **11.2%**

Magnesium sulphate reduces the chance of CP by 31%

The chance of CP at 28–31 weeks:

- with magnesium sulphate was **3.2%**
- without magnesium sulphate was **4.7%**

Magnesium sulphate reduces the chance of CP by 31%

What is Cerebral Palsy?

Cerebral Palsy (CP) is a physical disability affecting how well tamariki/children can move. It can affect muscle control, co-ordination and tone making it difficult to balance and move around. CP is a permanent life-long condition caused by damage to the developing brain during pregnancy or soon after birth. It is more common for pēpi who are born preterm at very early gestations.

Most tamariki/children with CP are able to attend school as usual and live independent and happy lives. People with CP may also have problems with their vision, hearing, speech and learning. These are all things that may be more common after preterm birth.



There is a wide range of severity for Cerebral Palsy. The Cerebral Palsy Society of New Zealand provides some excellent resources if you wish to learn more.

<https://cerebralpalsy.org.nz/wp-content/uploads/2017/11/WhatisCerebralPalsy.pdf>

Assessing the neuroprotective benefits for babies of antenatal magnesium sulphate (2017) doi.org/10.1371/journal.pmed.1002398

Are there any side effects/risks of magnesium sulphate for wāhine/people?

Overall, magnesium sulphate is a safe medication for use in pregnancy, but some wāhine/people may experience side effects. If given at the wrong dose or if your kidney function is impaired, blood levels can become too high and this could be dangerous. For this reason, wāhine/people on magnesium sulphate treatment are monitored very closely in hospital. Specific medication is available to reverse the effects of magnesium sulphate if required.

Common

- Flushing
- Sweating
- Increased heart rate

Less Common

- Nausea and vomiting
- Headaches
- Sensation of your heart racing or beating irregularly (called palpitations)

Rare

- Fluid in your lungs (called pulmonary oedema)
- Low blood pressure
- Slowing of your breathing

When should magnesium sulphate for preterm birth be used?

Magnesium sulphate is recommended for almost all births before 30 weeks of pregnancy:

- when birth is anticipated at any time in the next 24 hours or planned in the next 4 hours
- for a vaginal birth or a caesarean section
- if pēpi is being born very early including at 23 and 24 weeks
- for all reasons for early birth.



When should magnesium sulphate for preterm birth not be used?

- if you are more than 30 weeks. In some countries, magnesium sulphate may be given at 30–34 weeks. However, recent high-quality research undertaken in Aotearoa and Australia has shown that when given at these later gestations it does not have the same effect protecting pēpi brains
- if you have myasthenia gravis or other rare neuromuscular disorders
- if māmā/person and/or pēpi is sick and immediate birth is recommended.

Other questions you may have?

Are there ways to manage the side effects of magnesium sulphate?

Anti-nausea medication and pain relief can help the uncommon side effects of nausea, vomiting and headache. To reduce the chance of harm from rare effects, your healthcare team will monitor your heart rate, blood pressure, breathing rate and reflexes, as well as monitor pēpi heartbeat.

Are there any other reasons for using magnesium sulphate in pregnancy?

Magnesium sulphate is also used to treat or reduce the chance of seizures in wāhine/people who are very unwell with preeclampsia. For this purpose, magnesium sulphate may be used at any time in pregnancy, including beyond 30 weeks.

This Carosika Collaborative Whānau Information tool should be provided and used to support conversations between whānau and healthcare providers.

For more information including access to Taonga Tuku Iho (national best practice guide), you can access the Carosika Collaborative website here www.carosikacollaborative.co.nz or by using the QR code.



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Preterm birth care across Aotearoa: whānau-centred, equity-driven