Is this woman eligible for magnesium sulphate for neuroprotection of her fetus?

- < 30 weeks’ gestation
- Birth planned or definitely expected within the next 24 hours
- Regardless of
  - Plurality
  - Parity
  - Reason for preterm birth
  - Anticipated mode of birth
  - Whether antenatal corticosteroids have been given or not

Please see the poster overleaf “Antenatal magnesium sulphate (MgSO₄) prior to preterm birth for neuroprotection of the fetus, infant and child” for a quick reference on magnesium sulphate dosage, timing, monitoring and potential interactions.

28/03/2011
Antenatal magnesium sulphate ($\text{MgSO}_4$) prior to preterm birth for neuroprotection of the fetus, infant and child

When to give MgSO\(_4\)?
- **Gestational age < 30 weeks**
- Birth planned or definitely expected within 24 hours

Give MgSO\(_4\) regardless of:
- Preterm
- Placental reason at risk of preterm birth
- Anticipated mode of birth
- Whether antenatal corticosteroids have been given or not

What to administer?
MgSO\(_4\) intravenously using a dedicated intravenous line:
- Commence MgSO\(_4\) as close to four hours before birth as possible.
- Loading dose: 4g over 30 minutes.
- Maintenance: 1g/hour for up to 24 hours or until birth, whichever comes first.

When urgent delivery/birth needed:
- Do not delay delivery to administer MgSO\(_4\).

What if birth does not occur within 24 hours?
- Once 6 hours has transpired following the cessation of the 24 hour maintenance dose, further loading and maintenance infusion may be considered.

How to monitor women?
- Monitoring is essential for both loading and maintenance doses.
- Monitor pulse, blood pressure, respiratory rate and patellar reflexes:
  - Before loading infusion
  - 10 minutes after starting infusion
  - 30 minutes after loading infusion
  - Every 4 hours during the maintenance infusion.
- Resuscitation and ventilation support should be available during and after administration of both magnesium sulphate and calcium gluconate.

When to stop MgSO\(_4\) administration?
- Urine output < 100mL in 4 hours
- Absent patellar reflexes
- Respiratory depression (< 12 breaths/min)
- Hypotension (diastolic BP < 10 mm Hg below baseline)
- If magnesium toxicity occurs: Stop MgSO\(_4\) infusion and administer antidote of calcium gluconate (10mL of 10% solution slowly intravenously over approx. 10 minutes).

Potential interactions between MgSO\(_4\) and nifedipine may result in hypotension and neuromuscular blockade effects. If such interactions are evident, cease nifedipine and MgSO\(_4\) infusion and seek medical review.

March 26th, 2011