Rapid Development of Antenatal Magnesium Sulphate for Infant Neuroprotection Guidelines and their implementation

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For the Antenatal Magnesium Sulphate for Neuroprotection Guideline Development Panel
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Cochrane review (Doyle 2009):

- Antenatal magnesium sulphate prior to preterm birth can prevent cerebral palsy (NNTB 42 for combined death or cerebral palsy)

Clinical practice guidelines urgently needed:

- Who, when, how much magnesium sulphate?
Guideline development

- Evidence-based guidelines developed to national and international standards in 6 months (September 2009 to March 2010)
- Multidisciplinary bi-national panel
- Public meeting December 2009
- Public consultation
Overall evidence for benefit of magnesium sulphate (and potential harms) is clear

- Less clear for individual components such as window for gestational age window
- Different views
  - not enough evidence to use yet
  - broaden to less than 34 weeks (versus < 30)
- How to respond to the urgent need for practical guidance?
In women at risk of early preterm* imminent birth#, use magnesium sulphate for neuroprotection of the fetus, infant and child:

*when gestational age is less than 30 weeks
#when early birth is planned or definitely expected within 24 hours
7 areas – includes:

- Prevention of cerebral palsy
- Audit (to measure appropriate uptake of magnesium sulphate for neuroprotection)
- Data linkage with cerebral palsy registers
- Further RCTs (different regimens, timing)
- Follow-up of existing RCTs
Dissemination and endorsement

- Draft guidelines presented at the key annual meetings of our main constituencies in March 2010
- Very well received
- In Australia, guidelines are not commissioned by a single national body
- Developers may choose to seek endorsement from NHMRC in Australia
- Current tension between rapid guideline development and NHMRC processes
Need to begin planned and staged implementation building on existing hospital protocols for preventing eclampsia

Some hospitals and individual clinicians are starting to use magnesium sulphate for neuroprotection

Obstetric college (RANZCOG) supporting the draft guidelines
Implementation research, other research and updating

- Packages of academic detailing, alerts and reminders
- Audit and data linkage
- Planned RCT
- Individual patient data analysis of existing RCTs (underway)
- Anticipate guideline update in 2 years
Choices

- Continue passive dissemination and haphazard implementation and implementation research?
- Move into planned implementation phase?
- Any delays cost babies’ lives and futures