The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

Patient Safety Checklist ✓

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MAGNESIUM SULFATE BEFORE ANTICIPATED PRETERM BIRTH FOR NEUROPROTECTION

Date_____ Patient _____ Date of birth_____ MR # _____

Physician or certified nurse–midwife _____ Last menstrual period _____

Gravidity/Parity_____

Estimated date of delivery_____ Best estimated gestational age _____

Criteria (1):

- ❑ Gestational age less than or equal to 31 6/7 weeks

and

- ❑ Singleton or multiple pregnancy at risk for delivery within the next 30 minutes to 24 hours

and either

- ❑ Active preterm labor with cervix 4–8 cm dilated or preterm premature rupture of membranes if rupture occurred later than 22 weeks

or

- ❑ Indicated preterm birth within the next 24 hours. (If the planned delivery is for severe preeclampsia or hemolysis, elevated liver enzymes, and low platelet count [HELLP], the full antiseizure magnesium sulfate regimen should be administered as minimal therapy.)

Exclusions:

- ❑ Unwillingness to intervene for the benefit of the fetus
- ❑ Maternal contraindications to receiving magnesium sulfate

Counseling:

- ❑ Temporary side effects of magnesium sulfate administration
- ❑ No documented benefit in neonatal survival
- ❑ Risk of moderate to severe cerebral palsy decreased by approximately 50%
- ❑ In all other ways, routine care will be provided (steroids, tocolysis, antibiotics, or induction for preterm premature rupture of membranes if indicated)

Specific considerations with therapy:

- ❑ Consider the effect of administering magnesium sulfate if any other tocolytic agent, such as a calcium channel blocker, is being given
- ❑ Adjust the dose of magnesium sulfate appropriately if administered to women with altered renal function

Suggested treatment regimens from large trials (1):

Crowther Regimen (2):

- ❑ Bolus 4 g magnesium sulfate intravenously (IV) over 20 minutes
- ❑ Follow bolus with magnesium sulfate 1 g/hr IV until birth or up to 24 hours

Rouse Regimen (3):

- ❑ Bolus 6 g magnesium sulfate IV over 20–30 minutes
- ❑ Follow bolus with magnesium sulfate 2 g/hr IV for 12 hours

(continued)

Rouse Regimen (3) *(continued)*:

- ❑ Discontinue maintenance dose if delivery has not occurred within 12 hours and is no longer considered imminent. Resume the maintenance dose if the risk of imminent delivery recurs within 6 hours.
- ❑ Repeat loading dose and subsequent maintenance therapy as listed previously if risk of imminent delivery recurs after 6 hours

Marret Regimen (4):

- ❑ Bolus 4 g magnesium sulfate over 30 minutes
- ❑ No maintenance dose administered

Modification of any of the aforementioned regimens:

- ❑ Detailed description of the modified regimen entered in patient's chart

Resource

Costantine MM, Weiner SJ. Effects of antenatal exposure to magnesium sulfate on neuroprotection and mortality in preterm infants: a meta-analysis. Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Obstet Gynecol 2009;114:354–64. [PubMed] [*Obstetrics & Gynecology*]

References

1. Magnesium sulfate before anticipated preterm birth for neuroprotection. Committee Opinion No. 455. American College of Obstetricians and Gynecologists. Obstet Gynecol 2010;115:669–71. [PubMed] [*Obstetrics & Gynecology*] ⇦
2. Crowther CA, Hiller JE, Doyle LW, Haslam RR. Effect of magnesium sulfate given for neuroprotection before preterm birth: a randomized controlled trial. JAMA 2003;290:2669–76. [PubMed] [Full Text] ⇦
3. Rouse DJ, Hirtz DG, Thom E, Varner MW, Spong CY, Mercer BM, et al. A randomized, controlled trial of magnesium sulfate for the prevention of cerebral palsy. Eunice Kennedy Shriver NICHD Maternal-Fetal Medicine Units Network. N Engl J Med 2008;359:895–905. [PubMed] [Full Text] ⇦
4. Marret S, Marpeau L, Zupan-Simunek V, Eurin D, Leveque C, Hellot MF, et al. Magnesium sulfate given before very-preterm birth to protect infant brain: the randomised controlled PREMAG trial. PREMAG trial group. BJOG 2007;114:310–8. [PubMed] [Full Text] ⇦

Standardization of health care processes and reduced variation has been shown to improve outcomes and quality of care. The American College of Obstetricians and Gynecologists has developed a series of Patient Safety Checklists to help facilitate the standardization process. This checklist reflects emerging clinical, scientific and patient safety advances as of the date issued and is subject to change. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed. Although the components of a particular checklist may be adapted to local resources, standardization of checklists within an institution is strongly encouraged.

How to Use This Checklist

The Patient Safety Checklist on Magnesium Sulfate Before Anticipated Preterm Birth for Neuroprotection should be completed by the health care provider during the patient's admission.

Magnesium sulfate before anticipated preterm birth for neuroprotection. Patient Safety Checklist No. 7. American College of Obstetricians and Gynecologists. Obstet Gynecol 2012;120:432–3.