

SCOPE: ALS, CCT	
MEDICATION:	MAGNESIUM SULFATE
INTERVENTION:	<p><u>Classification:</u> Anticonvulsant, electrolyte supplement</p> <p><u>Actions:</u> Decreases acetylcholine in motor nerve terminals and acts on myocardium by slowing rate of S-A node impulse formation and prolonging conduction time; necessary for the movement of calcium, sodium, and potassium in and out of cells, as well as stabilizing excitable membranes; smooth muscle relaxant</p> <p><u>Contraindications:</u></p> <ul style="list-style-type: none"> • Hypersensitivity • Myocardial damage • Pre-eclampsia/eclampsia during the 2 hours prior to delivery (see Special Considerations) • High-degree heart block (see Special Considerations) <p><u>Precautions:</u></p> <ul style="list-style-type: none"> • Myasthenia gravis or other neuromuscular disease (adverse effects on neuromuscular function may occur at lower concentrations) • Renal impairment may lead to accumulation and toxicity • In OB patients, monitor mother and fetus closely for toxicity • Pregnancy Risk Factor: D <p><u>Concentration:</u> Dilute to ≤20% in a compatible solution (eg, D5W, NS) for IV infusion</p> <p><u>Dosage:</u></p> <ol style="list-style-type: none"> I. <u>Preterm Labor:</u> <ol style="list-style-type: none"> a. Adult OB: <ol style="list-style-type: none"> I. IV/IO: 6gm loading dose over 20 minutes <ol style="list-style-type: none"> 1. After loading dose continue at 2-4gm/hr 2. Total IV fluid intake to equal 125ml/hr II. <u>Pre-Eclampsia:</u> <ol style="list-style-type: none"> a. Adult OB: <ol style="list-style-type: none"> I. IV/IO: 4-5 gm bolus over 20minutes <ol style="list-style-type: none"> 1. After loading dose continuous 1-2 gm/hr 2. Total IV fluid intake to equal 125ml/hr III. <u>Pre-Eclampsia with Severe Features (Severe Pre-Eclampsia):</u> <ol style="list-style-type: none"> a. Adult OB: <ol style="list-style-type: none"> I. IV/IO: 4-5gm loading bolus over 3-4 minutes <ol style="list-style-type: none"> 1. After loading dose continuous 1-2gm/hr 2. Total IV fluid intake to equal 125ml/hr IV. <u>Eclamptic Seizure:</u> <ol style="list-style-type: none"> a. Adult OB: <ol style="list-style-type: none"> I. IV/IO: Additional 2 gm bolus over 15-20 minutes (pt should have received 4-5gm bolus prior to seizure for Pre-Eclampsia treatment) or II. IM: 50% 5-10 g (5g to each buttocks), if unable to obtain IV access V. <u>Asthma unresponsive to beta agonists, epinephrine, and glucocorticoids:</u> <ol style="list-style-type: none"> a. Adult:

If this is a patient care policy, the information contained herein is used to provide guidance in the care of patients, but should not, and does not replace or preclude the use of clinical judgment.

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- I. 2 gm over 15-30 min
- b. Pediatric:
 - I. 25-75 mg/kg, max dose 2 gm over 15-30 min

Onset of Action: Immediate

Duration: 30 mins

Adverse Effects: Flushing, hypotension, vasodilation, hypermagnesemia

Special Considerations:

- I. Stopping magnesium sulfate prior to cesarean delivery in these patients is not recommended and increases the risk of seizure. Instead, magnesium should be continued prior to and during the delivery
- II. The use of magnesium is appropriate in patients with serious conditions requiring magnesium therapy who either have mild degrees of heart block (eg, first degree) or more severe forms of heart block with a temporary or permanent cardiac pacemaker