

Magnesium Sulfate**Classification:** Electrolyte, Anticonvulsant, CNS Depressant**Actions:**

1. Blocks peripheral neuromuscular transmission by reduction of acetylcholine release
2. Reduces striated muscle contraction

Indications:

1. Status asthmaticus unresponsive to beta-antagonists or anticholinergics
2. SOB due to COPD exacerbation or asthma

Contraindications:

Heart blocks – can slow cardiac conduction through the AV node
Acute MI
Hypotension
Hypermagnesemia

Precautions:

Renal Insufficiency
Recent History of MI

Adverse Effects:

Hyporeflexia (decreased reflexes)	Diaphoresis
AV Block/Complete Heart Block	Itching/Rash
Bradycardia	Drowsiness
Respiratory Depression – see notes	Facial Flushing

Administration:**ADULT DOSE****Refractory in Severe Respiratory Distress and Bronchospasm:**

2 Gm IV in normal saline over 20 minutes

- Mixing Instructions: Give 1 Gm in 100 mL normal saline over 10 minutes with immediate repeat for a **total** dose of 2 Gm over 20 minutes
- May repeat once 5 minutes after initial dose has been completed

Pregnant patients or up to 6 weeks post-partum presenting with active seizure (concern for eclampsia) – Contact Base Hospital for Magnesium Sulfate

4 Gm IV in normal saline over 20 minutes

- Mixing instructions: Give 2 Gm in 100 mL normal saline over 10 minutes with immediate repeat for a **total** dose of 4 Gm over 20 minutes

PEDIATRIC DOSE

Refractory in Severe Respiratory Distress and Bronchospasm:

50mg/kg max of 2Gm

Repeat doses – base order only

Mixing instructions: appropriate weight-based dosing of ≤ 1 Gm in 100 mL of NS over 20 minutes. If patient appropriate weight-based dose is > 1 Gm, administer 1 Gm in 100 mL NS over 10 minutes followed by remaining Magnesium Sulfate in additional 100 mL bag over 10 minutes. TOTAL should not exceed 2 Gm

Onset: IV - immediate

Duration: IV - 30-60 minutes

Notes:

- Respiratory depression is more likely with a too-fast IV infusion rate - ensure proper drip rate
- If patient presents with hyporeflexia, discontinue Magnesium Sulfate immediately
- If overdose is suspected consult with Base Hospital immediately to give Calcium Chloride to reverse effects.
- Magnesium Sulfate Overdose Indications:
 - New onset altered mental status
 - New onset of cardiac rate and rhythm changes
 - Respiratory depression
 - Hyporeflexia (Indicated by decreased or loss of deep tendon reflexes)