

**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-agonists 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  $\leq$  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)