

Magnesium Sulfate

Effective: 03/01/2021

Supersedes:
N/A**Approved Provider:** Paramedic**Referenced Protocols:** [Breathing Difficulty](#) | [Dysrhythmias](#) | [OB / GYN Emergencies](#)

DOSING AND ADMINISTRATION

ADULT	PEDIATRIC (Refer to Handtevy)
<u>Torsades:</u> 1-2 g IV/IO push	<u>Torsades:</u> 25-50 mg/kg IV/IO push
<u>☎ Refractory VT/VF:</u> 1-2 g IV/IO push	---
<u>☎ Pre-Eclampsia:</u> 4 g IV/IO over 20 minutes (50gtts/min in 100cc NS w/10gtt set)	---
<u>Eclampsia:</u> 4 g IV/IO over 20 minutes (50gtts/min in 100cc NS w/10gtt set)	---
<u>Breathing Difficulty:</u> 1 g IV/IO over 20 minutes (50gtts/min in 100cc NS w/10gtt set)	<u>Breathing Difficulty:</u> 25-50 mg/kg IV/IO over 20 minutes (50gtts/min in 100cc NS w/10gtt set)

Pharmacology and Actions:

- Seizures, toxemia of pregnancy:** Exact mechanism is not clearly understood. Magnesium may decrease the amount of acetylcholine released at the myoneuronal junction, resulting in depression of neuromuscular transmission. Magnesium also may have a direct depressant effect on smooth muscle and may CNS depression
- Antiarrhythmic effect:** Magnesium may decrease myocardial cell excitability by contributing to the re-establishment of ionic equilibrium and stabilizing cell membranes. Magnesium also appears to modulate the sodium current, the slow inward calcium current, and at least one potassium current

Indications:

- S/S of severe pre-eclampsia and seizures associated with eclampsia
- Torsades de pointes
- Status Asthmaticus
- ☎ Refractory VF/VT**

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Contraindications:

- Heart block

Precautions:

- Monitor for signs of magnesium toxicity (absent patellar reflexes, respirations < 12/min, chest tightness, dyspnea, ECG changes.)

Administration:

- Acceptable routes include IV/IO

Side Effects:

- Respiratory depression and paralysis of respiratory muscles
- Depress reflexes
- Hypotension
- Heart block
- Hypocalcemia