

MAGNESIUM SULFATE

Description

Magnesium sulfate reduces striated muscle contractions and blocks peripheral neuromuscular transmission by reducing acetylcholine release at the myoneural junction. In cardiac patients, it stabilizes the potassium pump, correcting repolarization. It also shortens the Q-T interval in the presence of ventricular arrhythmias due to drug toxicity or electrolyte imbalance. In respiratory patients, it may act as a bronchodilator in acute bronchospasm due to asthma or other bronchospastic diseases. In patients suffering from eclampsia, it controls seizures by blocking neuromuscular transmission and lowers blood pressure as well as decreases cerebral vasospasm.

Indications**Antiarrhythmic**

Torsade de pointes associated with prolonged QT interval

Respiratory

Severe bronchospasm unresponsive to continuous Albuterol, Ipratropium and IM Epinephrine.

Obstetrics

Eclampsia: Pregnancy >20 weeks gestational age or post-partum with seizures.

Adverse Reactions

- Bradycardia
 - Hypotension
 - Respiratory depression
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Dosage and Administration**Torsades de Pointes suspected cause prolonged QT interval:**

- 2gm, IV/IO bolus, slowly

Refractory Severe Bronchospasm:

- 2 gm, IV/IO bolus, over 2 minutes

Eclampsia

- 2 gm, IV/IO bolus over 2 minutes
 - After bolus then initiate drip: Mix 4 gm, diluted in 100 ml of Normal Saline (0.9 NS), IV drip over 15-30 minutes
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Precautions

- Bradycardia
 - Hypotension
 - Respiratory depression
 - Extravasation causes tissue damage or necrosis. Ensure patent IV.
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