



REGIONAL PEDIATRIC PARENTERAL DRUG MONOGRAPH

GENERIC NAME

magnesium sulphate

Effective Date: Jan 10-2018	CLASSIFICATION Anticonvulsant, miscellaneous	OTHER NAMES MgSO₄	PAGE 1 of 2
Revised Date: Nov 13 2019			

ADMINISTRATION POLICY:

- IV Infusion – May be administered by a nurse
- IM Injection – May be administered by a nurse
- IV Bolus – *Not recommended*

RECONSTITUTION/DILUTION/ADMINISTRATION:

Available as: 200 mg/mL, 10 mL vial

IV infusion: Dilute dose in 100 mL of normal saline
Infuse at 125 mg /kg/hour

IV Bolus: Administer undiluted over 150 mg/minute

Maximum concentration: IV Bolus: 200 mg/mL
IV Infusion: 60 mg/mL

Maximum rate: IV Bolus: 150 mg/minute
IV Infusion: 125 mg/kg/hour

DOSAGE:

1 mmol of Mg (elemental) = 2mEq Mg (elemental) = 24.7 mg Mg (elemental) = 250 mg magnesium sulphate

Hypomagnesemia:

		mmol Magnesium	mg Magnesium Sulphate
IV Intermittent	Neonate, Infant	0.1-0.2 mmol/kg/dose every 8 to 12 hour	25-50 mg/kg/dose every 8 to 12 hour
	Child	0.1-0.2 mmol/kg/dose every 4 to 6 hours x 3 to 4 doses as needed (maximum 8 mmol per dose)	25-50 mg/kg/dose every 4 to 6 hour x 3 to 4 doses as needed (maximum 2,000 mg per dose)
	Adolescent	4-8 mmol/kg.dose every 4 to 6 hour x 4 doses as needed	1,000-2,000 mg/dose every 4 to 6 hour x 4 doses as needed

Hypertension, Seizures, Encephalopathy:

		mmol Magnesium	mg Magnesium Sulphate
IM (uncommon)	Child	0.08-0.4 mmol/kg/dose every 4 to 6 hour as needed	20-100 mg/kg/dose every 4 to 6 hour as needed
	Adolescent	4-8 mmol/kg.dose every 4 to 6 hour x 4 doses as needed	1,000-2,000 mg/dose every 4 to 6 hour x 4 doses as needed

(dosage continued)



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DOSAGE cont'd:

Asthma (for bronchodilation; limited data; adjunctive to beta agonists):

- Status asthmaticus over 15 to 30 minutes.

mg Magnesium Sulphate

IV Bolus	Child	25-75 mg/kg/dose x 1 dose Maximum: 2,000 mg/dose
Intermittent (Preferred)		Adolescent

Torsades de Pointes, Ventricular Tachycardia (Pediatric Advanced Life Support):

mg Magnesium Sulphate

IV Bolus	Neonate, Infant,Child	25-50 mg/kg/dose x 1 dose Maximum: 2,000 mg/dose
Intermittent (Preferred)		Adolescent

- **Renal Impairment:** Decrease initial dosage by 50% in severe renal impairment, then adjust by serum Mg.

ADDITIONAL NOTES AND NURSING CONSIDERATIONS:

- Neuromuscular disease due to effects on muscular functions
- Required monitoring ECG and vital signs with rapid administration. No specific monitoring with infusion.
- Magnesium toxicity can lead to fatal cardiovascular arrest and/or respiratory paralysis.