



EMS System for Metropolitan Oklahoma City and Tulsa 2026 Medical Control Board Treatment Protocols

Approved 9/17/25, Effective 1/15/26, replaces all prior versions



16CC – MAGNESIUM SULFATE

PARAMEDIC

Class: Electrolyte

Therapeutic Actions/Pharmacodynamics: As an antidysrhythmic, reverses low circulating magnesium levels associated with ventricular arrhythmias, particularly polymorphic ventricular tachycardia, commonly called Torsades de Pointes. It is the anticonvulsant of greatest benefit for eclampsia.

Indications: Dyspnea - Asthma (3C)
Ventricular Fibrillation/Pulseless Ventricular Tachycardia (Torsades) (4G)
Tachycardia - Stable (Torsades) (5F)
Childbirth - Complicated (Eclampsia) (13B)
Complications of Pregnancy (Eclampsia) (13D)

Contraindications: Hypotension or Known Renal Failure (when treating asthma)

Pharmacokinetics: Onset of action typically within 1-2 minutes after IVP/IOP. Effects persist for up to 30 minutes.

Side Effects: None expected in indicated dosing. High doses (exceeding 4-6 grams) may cause sedation, muscle weakness, depressed reflexes, hypotension, bradycardia, and respiratory depression.

Dosage: **Dyspnea - Asthma - (Severe & Refractory to Nebulization) - Adult (3C)**
1 gram (add to 100 ml NS and infuse over 10 minutes)

Ventricular Fibrillation/Pulseless Ventricular Tachycardia (Torsades) - Adult (4G)
1 gram IVP/IOP

Tachycardia - Stable (Torsades) - Adult (5F)
1 gram slow IVP/IOP over 1 minute.
May repeat once.

Tachycardia - Stable (Torsades) - Pediatric (5F)
Consult with OLMCP for use and dosing.

Childbirth - Complicated (Eclampsia) (13B)
Complications of Pregnancy (Eclampsia) (13D)
1 gram IVP/IOP/IM. Reconstitute 1 gram with 2 ml NS and administer 1 mL IM via two unique injection sites if unable to establish IV/IO access. May repeat every 2-3 mins until seizure abates. Maximum cumulative dose is 4 grams.



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PROTOCOL 16CC: Magnesium Sulfate, cont.

How Supplied: 1 gram/2 mL (500 mg/mL in 50% solution) vials
5 grams/10 mL (500 mg/mL in a 50% solution) vials
5 grams/10 mL (500 mg/mL in a 50% solution) pre-filled syringes
(Always check concentration and dose per container at time of patient medication administration)