



## EMS System for Metropolitan Oklahoma City and Tulsa 2023 Medical Control Board Treatment Protocols



Approved 9/14/22, Effective 1/16/23, 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.



## EMS System for Metropolitan Oklahoma City and Tulsa 2023 Medical Control Board Treatment Protocols



Approved 9/14/22, Effective 1/16/23, replaces all prior versions

### **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)