Medical Control Guideline: DRUG REFERENCE – MAGNESIUM SULFATE **Ref. No. 1317.24**

Classification

Mineral / Electrolyte supplement

LA County Prehospital Indications

≥ 20 weeks pregnant up to 6 weeks postpartum with:

1) Preeclampsia
   SBP ≥140 or DBP ≥90 and any of following: Severe headache, blurred vision, upper abdominal pain,
   OR
   SBP ≥160 or DBP ≥ 110mmHg, regardless of symptoms, **OR**
2) Eclampsia, i.e., seizure in the absence of other causative conditions

Other Common Indications (Not authorized for EMS administration in LA County)

Magnesium deficiency

Adult and Pediatric Dose

4g in 100mL Normal Saline or Sterile Water IV infused over 20 minutes, or
10g IM (5g in each buttock) if vascular access cannot be established

Mechanism of Action

Magnesium is a cofactor for enzymatic reactions and plays an important role in muscular excitability, preventing or controlling convulsions by blocking neuromuscular transmission of motor nerve impulses.

Pharmacokinetics

Onset is immediate; duration of effect is typically 30 minutes

Contraindications

Known heart block
Myasthenia gravis
Caution in severe kidney disease / end-stage renal disease

Adverse Effects

Skin flushing
Sweating
Hypotension
Depressed reflexes
Respiratory paralysis (in magnesium overdose)

Prehospital considerations

There are no data on IO administration for pre-eclampsia/eclampsia; if IV access cannot be obtained, IM administration is preferred over IO.
Other clinical uses for Magnesium Sulfate include treatment of bronchoconstriction (Asthma/COPD) and polymorphic ventricular tachycardia (e.g. – Torsades de Pointes); it may be indicated, only with Base Physician order, in select cases.