MAGNESIUM SULFATE

Additional Names:	$MgSO_4$
Classification:	Antidysrhythmic, Electrolyte, Smooth Muscle Relaxant
Indications:	Asthma, Reactive Airway Disease Eclampsia Torsade de Pointes
Contraindications:	Known Hypersensitivity Heart blocks, Bradycardia, Myocardial damage (relative) Hypotension, Shock
Dosages:	**Adult:** Wheezing/Bronchospasm: Severe 2g IV/IO over 10min (mixed in 100mL NS/D5W) Seizure in pregnancy > 20 weeks gestation 4g IV/IO in 100mL NS/D5W infusion over 10min or 10g IM (5g in each buttock) if unable to obtain IV access Cardiac Arrest – Torsade de Pointes / Polymorphic VT 2g IV/IO Tachycardia – Torsade de Pointes / Polymorphic VT 1-2g IV/IO over 10min. **Pediatric:** Asthma/Wheezing > 2yo: Severe 50mg/kg IV over 10min, max 2g Cardiac Arrest – Torsade de Pointes / Polymorphic VT 50mg/kg IV/IO, max 2g Tachycardia – Torsade de Pointes / Polymorphic VT 50mg/kg IV/IO over 20min
Infusion Set-Up:	Waste 150mL of 250mL NS/D5W leaving 100mL in bolus. Add 2-4g of $MgSO_4$ to bolus. Using a 15gtt/mL macro drip set, administer infusion at a rate of *2.5gtts/sec* (aka 150 gtt/min) to deliver over 10 minutes.
Side Effects:	Hypotension, flushing, drowsiness, respiratory depression/paralysis, CNS depression and paralysis

MAGNESIUM SULFATE (continued)

Physiological: Effects	Magnesium Sulfate reduces striated muscle contractions and blocks peripheral neuromuscular transmission by reducing acetylcholine release at the myoneural junction. Magnesium Sulfate effectively decreases the risk of preeclampsia progressing to eclampsia and effectively terminates seizures. The anticonvulsant activity is suspected to be due to magnesium's role as an N-methyl-D-aspartate (NMDA) antagonist.
Additional Info:	Administer with caution if flushing and sweating occurs. Use with caution when co-administered with barbiturates, narcotics, other hypnotics, or systemic anesthetics. CNS depressants may be additive; dosages often require adjustments. Because Magnesium is removed from the body solely by the kidneys, the drug should be used with caution in patients with renal impairment. Consider the risk and benefit of its use prior to administering to patients with renal failure. High levels of magnesium can cause sinus bradycardia and blocks. Consider the risk and benefits of its prior to administering to patients with cardiac disease.