MAGNESIUM SULFATE

ACTION: Electrolyte/Antiarrhythmic

- Magnesium provides electrical stability in the myocardium.
- Affects impulse formation and conduction time in myocardium reducing incidence of dysrhythmias associated with hypomagnesemia or prolonged QT interval.
- Magnesium is effective in the prevention and management of seizures associated with eclampsia in pregnant people.

INDICATIONS:

- Treatment of Torsades de Pointes (polymorphic V-Tach).
- V-Fib/V-Tach cardiac arrest patients with poor dietary intake or at risk for hypomagnesemia (i.e., alcohol use, renal failure, or use of diuretics).
- Refractory V-Fib/V-Tach after use of cardioversion and amiodarone.
- Ischemic chest pain presenting with significant ventricular ectopy AND who have poor dietary intake or at risk for hypomagnesemia (i.e., alcohol use, renal failure, or use of diuretics).
- Elevated blood pressure in greater than 20 weeks gestational age or up to 6 weeks postpartum, defined as a systolic blood pressure greater than 160 and diastolic greater than 110, and any one or more of the following severe features below.
- Severe features include any of the following: Altered Mental Status, floaters or blurred vision, pulmonary/peripheral edema, and severe headache.

CONTRAINDICATIONS:

- In renal patients, use caution if giving additional doses of Magnesium sulfate.

POTENTIAL SIDE EFFECTS:

- Flushing and sweating
- Bradycardia
- Hypotension
- Respiratory and CNS depression

ADULT DOSE/ROUTE:

- **Arrest due to Torsades de Pointes:** 2 grams IV/IO push.
- **Polymorphic ventricular tachycardia WITH a pulse:** 2 grams in 100 ml D5W slowly IV/IO with target goal of infusing 100 ml over 10 minutes.
- **Eclampsia/preeclampsia with severe features:** 6 grams in 100 ml in 100 ml D5W slowly IV/IO with target goal of infusing 100 ml over 15 minutes or 10 grams IM administered as 5 grams in each buttock if no IV access.

PEDIATRIC DOSE/ROUTE:

- **Arrest due Torsades de Pointes:** 50 mg/kg IV/IO push.
- **Polymorphic ventricular tachycardia WITH a pulse:** 50 mg/kg in 100ml D5W slowly IV/IO with a target goal of infusing 100ml over 10 minutes.

NOTES:

- In Torsades de Pointes (polymorphic V-Tach), give magnesium sulfate as the first-line antiarrhythmic and doses higher than 2 grams may be required.
- Contact Base Hospital Physician for additional orders.
- Eclampsia/preeclampsia with severe features should be considered in third trimester pregnancy and up to 6 weeks postpartum if seizures occur or a SBP greater than 160mmHg or a diastolic blood pressure greater than 110mmHg with visual disturbances or altered mental status. History of preeclampsia is not required for development of eclampsia.