University Health™	**POLICY#: 2.6**
SUBJECT: High Risk – Magnesium Sulfate	**Effective: 10/01/13**
APPROVED BY: Pharmacy and Therapeutics Committee	Page 1 of 2

Purpose: To identify Magnesium Sulfate as a high alert medication and provide guidelines for the safe intravenous administration to patients.

Prescribing:

1. Order must be written for an authorized personnel

Appropriate indications for use include:

1. Adjunctive treatment for bronchoconstriction in moderate to severe acute asthma
2. Prevention of premature labor
3. Prevention and treatment of seizures in severe preeclampsia and eclampsia
4. Treatment and prevention of hypomagnesaemia
5. Torsade de pointes

Dispensing:

1. Maximum single dose is 2 grams for all general care areas
2. Maximum single dose is 4 grams for all critical care areas (Exception: perinatal care areas, NeuroICU, Bone Marrow Transplant unit)
3. Standard Concentration for pediatric patients: 40 mg/mL

Administration:

1. Magnesium Sulfate must be infused via an infusion device.
2. Maximum rate of infusion125 mg/kg/hour of magnesium sulfate for pediatric patients
3. Maximum rate of infusion 1 gram/hour for all general care areas
4. Maximum rate of infusion 2 grams/hour for all critical care areas (Exception: BMT)
5. In critical, life-threatening situations, 4 grams/hour may be given.
6. For perinatal care areas procedure see policy number 319 and 320

Specific Monitoring Parameters:

The patient should be monitored as listed in the package insert.

1. Serum Magnesium – these levels may be higher than normal. Notify the physician when the magnesium level is greater than 4 mg/dL. Exception: in perinatal care areas follow unit specific policies.
2. Blood Pressure
3. Level of consciousness
4. Respiratory Rate
5. Renal Function
6. Deep tendon reflexes
7. Stool output
8. Perinatal care areas
    a. All undelivered patients with have continuous electronic fetal monitoring.
    b. Blood pressure checked and documented every 30 minutes.
    c. I & O's will be checked and documented every hour.
    d. DTR's will be assessed every 2 hours.
    e. Magnesium levels will be drawn two hours after loading dose and at least every eight hours thereafter.

Adverse Effects:

The patient should be monitored for the following adverse effects:

1. Cardiovascular: Electrocardiogram abnormal, heart block, hypotension, vasodilatation
2. Endocrine & Metabolic: Hypermagnesemia
3. Gastrointestinal: Diarrhea, nausea, vomiting, abdominal cramps, gas formation
4. Hematologic: Blood coagulation disorder with prolonged bleeding time

5. Musculoskeletal: Hyporeflexia
6. Neurologic: CNS depression
7. Respiratory: Respiratory tract paralysis

References:

1. Thompson Micromedex. http://www.thomsonhc.com/hcs/librarian/ND_T/HCS/ND_PR/Main/CS/FB1BDB/DUPLICATIONSHIELDSYNC/4390C0/ND_PG/PRIH/ND_B/HCS/SBK/2/ND_P/Main/PFActionId/hcs.common.RetrieveDocumentCommon/DocId/354800/ContentSetId/100/SearchTerm/magnesium%20/SearchOption/BeginWith
2. Lexi-Comp Hanbook 18th edition.