

# HNE AREA Intensive Care

Approved For: JHH and CMN ICU's

## MAGNESIUM SULPHATE

**Trade Name:**

**Presentation:**

**Indications:**

Prevention and/or control of convulsions in severe **Pregnancy induced hypertension** (pre-eclampsia/ eclampsia).

- **Treatment of atrial tachyarrhythmias.** (Atrial Fibrillation)
- **Prophylaxis for cerebral vasospasm.**
- **Emergency treatment of Torsades**
- **Acute severe asthma**

(2.5 mls 50% magnesium sulphate as bolus)

**Administration; Loading Dose:**

**Atrial Fibrillation and Asthma:** 5 mls of 50% magnesium sulphate are infused over 15 minutes via the CVP line. (can be given peripherally in an emergency).

**Cerebral Vasospasm:** To be used only following discussion with Intensivist and neurosurgeons. Should be commenced before symptomatic vasospasm and infused for 10 - 15 days. **No loading dose required.**

**Maintenance Infusion:**

25 mls of 50% magnesium sulphate is made to 50 mls with normal saline and infused at 6 mls per hour

**FOR ARRHYTHMIA, CEASE AFTER 24 HOURS OR ON REVERSION TO SINUS RHYTHM.**

**PIH:** 8 mls of 50% magnesium sulphate are infused over 15 minutes via the CVP line. (can be given peripherally in an emergency).

**Dose**

**Precautions**

**Monitoring:** Magnesium and potassium levels should be measured at 8 hours after commencement of infusion and every eight hours after that. Decrease in potassium levels should be expected and managed as required.

The therapeutic magnesium ranges are:

- PIH(1.7 - 3.5 mmol/l)
- ARRYTHMIA , ASTHMA(1.4 - 2 mmol/l)
- CEREBRAL VASOSPASM (1.5 - 2.0mmol/L)

The patellar reflex should be tested second hourly and recorded. If this reflex disappears, the magnesium level is greater than 5 mmol per litre and the infusion should be ceased immediately. The antidote, 10 mls of 10% calcium gluconate should be given slowly IV after blood has been drawn for magnesium level estimation. Magnesium is renally excreted. **Cease infusion if urine output is less than 0.5 mls/kg.**

**CLINICAL EFFECTS TABLE**

CLINICAL SIGN	Level mmol/L
NORMAL	0.7 - 1.1
DROWSINESS	4.0
ABSENT PATELLAR REFLEX	5.0
HEART BLOCK	7.5
RESPIRATORY PARALYSIS	7.5
CARDIAC ARREST	13.0

Inform anaesthetist if going to theatre. Magnesium interferes with paralyzing agents.

**Compatibilities:** **INCOMPATIBILITIES:** CALCIUM (direct antidote) ,CHLORPROMAZINE ,POTASSIUM PHOSPHATE , SODIUM BICARBONATE