



ADULT Medication Monograph

MAGNESIUM

(Oral, IV injection and IV infusion)

This document should be read in conjunction with this [DISCLAIMER](#)

[Formulary: Unrestricted](#)

 **[HIGH RISK Medication](#)**

Class	Electrolyte / Mineral
Presentation	<p>IV Infusion Bag: Magnesium Sulphate 8g in 100mL WFI (8%) (contains approx. 32mmol Magnesium)</p> <p>Ampoule: 10mmol/5mL (2.47g MgSO₄ in 5mL) (each 5mL contains 10mmol Magnesium & 10mmol Sulphate ions)</p> <p>Oral Tablets:</p> <p><i>Mag-Sup®:</i> Magnesium aspartate dehydrate 500mg (contains 1.55mmol Magnesium or 37.4mg)</p> <p><i>BioMagnesium®:</i> Magnesium oxide - heavy 440mg, Magnesium phosphate 175mg, and calcium ascorbate 50mg, pyridoxine B6 50mg, cholecalciferol 2.5microg, manganese 4mg. (contains 12.3mmol Magnesium or 300mg)</p>
Storage	Store at room temperature, below 25°C
Dose	<p><u>Pre-eclampsia/Eclampsia/Neuroprotection of the Fetus (use 32mmol Infusion Bag)</u></p> <p>IV infusion:</p> <p>Refer to Hypertension in pregnancy: Magnesium anticonvulsant therapy and Magnesium Sulfate for neuroprotection of the fetus</p> <p><u>Recurrent seizures/eclampsia occurring during prophylaxis (use 32mmol Infusion Bag)</u></p> <p>IV infusion:</p> <p>Refer to Hypertension in pregnancy: Magnesium anticonvulsant therapy</p> <p><u>Advanced Life Support (use ampoules)</u></p> <p>IV injection:</p> <p>5mmol (2.5mL) bolus. May be repeated once. An infusion of 20mmol over 4 hours may follow.</p>

	<p><u>Blunting of Pressor Response to Intubation (use ampoules):</u></p> <p>IV injection: 5 - 10mmol (2.5mL to 5mL) as part of induction sequence</p> <p><u>Leg cramps in pregnancy</u></p> <p>Oral: <i>Magnesium Aspartate (Mag-Sup®):</i> 2 to 6 tablets daily <i>BioMagnesium®:</i> 1 tablet daily</p> <p><u>Management of Hypomagnesaemia</u> Please refer to the SCGH Hypomagnesaemia guideline</p>
Administration	<p><u>Oral:</u> Should be taken with food.</p> <p><u>IV infusion (32mmol infusion pre-mixed bag)</u> Infusion must be administered via a controlled infusion device. <i>Concentration is 80mg/mL (0.32mmol/mL of magnesium)</i></p> <p><u>IV Infusion (using ampoules):</u> <i>Dilution:</i> Dilute 5mL (10mmol) in 100mL of Sodium Chloride 0.9%, Glucose 5% or Hartmann's. <i>Concentration is 25mg/mL (0.1mmol/mL of magnesium)</i> <i>Administration:</i> Infuse over 30 to 60 minutes</p> <p><u>IV Injection:</u></p> <p>Option A (as per anaesthetics) Inject undiluted SLOWLY at a maximum rate of 150mg/minute (0.6mmol/minute of magnesium). For example, 5mL bolus is given over 15 minutes (0.3mmol/minute)</p> <p>Option B (to facilitate slow administration) <i>Dilution:</i> Dilute 5mL ampoule with at least 7.5mL of Sodium Chloride 0.9%, Glucose 5% or Hartmann's. Concentration is 200mg/mL (0.8mmol/mL of magnesium) <i>Administration:</i> Inject SLOWLY at a maximum rate of 150mg/minute (0.6mmol/minute of magnesium).</p> <p>Refer to The Australian Injectable Drug Handbook for more information.</p>

Pregnancy	<p>1st Trimester: Safe to use</p> <p>2nd Trimester: Safe to use</p> <p>3rd Trimester: Safe to use</p>
Breastfeeding	Safe to use
Monitoring	<p><u>IV:</u></p> <p>Blood pressure, heart rate, respiratory rate, oxygen saturation, urine output and deep tendon reflexes.</p> <p>Cease infusion if:</p> <ul style="list-style-type: none"> • Absent patella reflexes • Urinary output <30mL/hour • Respiratory depression ≤12 breaths/minute • Respiratory arrest <p>Monitor for signs of magnesium toxicity: nausea, vomiting, flushing, hypotension, muscle weakness, muscle paralysis, blurred or double vision, CNS depression and loss of reflexes.</p> <p>More severe hypermagnesaemia may result in respiratory depression, respiratory paralysis, renal failure, coma, cardiac arrhythmias and cardiac arrest.</p> <p>Treatment of toxicity:</p> <ul style="list-style-type: none"> • Calcium gluconate 1g/10mL IV over 3-10 minutes <p>Concurrent use with nifedipine may increase the risk of hypotension</p>
Clinical Guidelines and Policies	<p>KEMH Clinical Guidelines:</p> <p>Hypertension in Pregnancy: Medical Management</p> <p>Hypertension in pregnancy: Magnesium anticonvulsant therapy</p> <p>Magnesium sulfate for neuroprotection of the fetus</p> <p>Preterm Labour</p> <p>Recognising and Responding to Clinical Deterioration</p> <p>Adult Resuscitation Protocols</p> <p>KEMH Pharmaceutical & Medicines Management Guidelines:</p> <p>KEMH Pharmaceutical & Medicines Management Guideline: Medication Administration</p> <p>Injectable Drugs Handbook - Procedure for Reconstitution and Administration of Intravenous Medications</p>
References	<p>Australian Medicines Handbook. Magnesium Sulphate. In: Australian Medicines Handbook [Internet]. Adelaide (South Australia): Australian Medicines Handbook; 2020 [cited 2020 Apr 7]. Available from:</p>

	<p>https://amhonline-amh-net-au</p> <p>Australian Medicines Handbook. Magnesium. In: Australian Medicines Handbook [Internet]. Adelaide (South Australia): Australian Medicines Handbook; 2020 [cited 2020 Apr 7]. Available from: https://amhonline.amh.net.au/</p> <p>The Royal Women's Hospital. Magnesium. In: Pregnancy and Breastfeeding Medicines Guide [Internet]. Parkville (Victoria): The Royal Women's Hospital; 2020 [cited 2020 Apr 7]. Available from: https://thewomenspbmg.org.au/</p> <p>MIMS Australia. Mag-Sup. In: MIMS Online [Internet]. St Leonards (New South Wales): MIMS Australia; 2020 [cited 2020 Apr 7]. Available from: https://www.mimsonline.com.au</p> <p>Society of Hospital Pharmacists of Australia. Magnesium Sulphate. In: Australian Injectable Drugs Handbook [Internet]. [St Leonards, New South Wales]: Health Communication Network; 2020 [cited 2020 APR 7]. Available from: https://aidh-hcn-com-au.</p> <p>SCGH Hypomagnesaemia guideline</p>
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