

CLINICAL POLICIES AND PROCEDURES

**NEWBORN USE ONLY
GIVEN ON DOCTORS ORDER ONLY****MAGNESIUM SULPHATE**

DESCRIPTION	An essential body electrolyte. It is a co-factor in numerous enzyme systems and is involved in phosphate transfer, muscle contractility and neuronal transmission. Half of all hypocalcaemic infants also have hypomagnesaemia. Failure to treat hypomagnesaemia may cause a lack of response to administration of calcium.	
USE	<ol style="list-style-type: none">1. Hypomagnesaemia2. Refractory hypocalcemia	
PRESENTATION	2.47g/5ml ampoules of 49.3% magnesium sulphate. (1ml contains 500mg = 2mmol = 4mEq of magnesium.)	
DOSE	ACUTE	25-50mg/kg/dose (0.2–0.4mEq/kg/dose) 6hrly if required. May go up to 100mg/kg/dose in acute cases such as neonatal seizures.
	MAINTENANCE	30-60mg/kg/day (add to maintenance IV infusion)
RUTE	IV infusion, IV bolus, IM injection	
ADMINISTRATION	IM INJECTION	Painful and sometimes cause haematomas. Dilute the dose 1.5 times using water for injection.
	IV BOLUS	Dilute the dose 1.5 times using water for injection. Give at a rate not exceeding 150mg/minute. Monitor patient for adverse effect.
	IV INFUSION	Dilute 1ml of injection with 0.9% sodium chloride or 5% dextrose to make a total of 50ml solution.
STORAGE	Discard unused portion	
MONITORING	Continuous cardio-respiratory monitoring. Monitor blood pressure and renal function. Serum Mg and Ca levels should be measured at least once daily.	
ADVERSE EFFECT	ANTIDOTE FOR IV MAGNESIUM IS 10% CALCIUM GLUCONATE. <ol style="list-style-type: none">1. Hypotension, respiratory depression, and hypermagnesemia.2. Mg intoxication can cause circulatory collapse, CNS depression, and respiratory paralysis.3. Caution when used with digoxin.4. Necrosis can occur with extravasation.	
COMPATIBLE FLUIDS	5% dextrose, 0.9% sodium chloride	
COMPATIBLE DRUGS	calcium gluconate, cephalothin, hydrocortisone, potassium phosphate, verapamil.	

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COMPATIBLE VIA Y-SITE acyclovir, amikacin, amphotericin, ampicillin, cefazolin, cefotaxime, cephalothin, cyclosporin, erythromycin lactobionate, famotidine, gentamicin, heparin, insulin, metronidazole, morphine, ondanesetron, pethidine, pieracillin, potassium chloride, ticarcillin, tobramycin, trimethoprim-sulphamethoxazole, vancomycin.

INCOMPATIBLE DRUGS amphotericin, calcium chloride, ciprofloxacin, dobutamine, folic acid, phytomenadione, sodium bicarbonate.

REFERENCE

Cloherty JP et al. Manual of Neonatal care. 4th Ed 1998.
Australian Injectable Drugs Handbook. 1st ed 1997. Pages 238-9.