



Protocol for Magnesium Sulphate (MgSO₄) Administration

MgSO₄ is the drug of choice for the prevention of seizures in patients with imminent eclampsia or prevention of recurrent seizures in patients who have had an eclamptic fit.

1. INDICATIONS:

- 1.1. Eclampsia
- 1.2. Threatening signs of eclampsia during labour
- 1.3. Threatening signs of eclampsia during initial stabilisation in labour ward
- 1.4. Threatening eclampsia / severe pre-eclampsia during transfer to Tygerberg

2. RELATIVE CONTRAINDICATIONS

- 2.1. Renal failure, severe renal compromise or oliguria
- 2.2. Hypocalcaemic states
- 2.3. Myasthenia gravis
- 2.4. Cardiac conditions with conduction problems or myocardial damage
- 2.5. Respiratory depression
- 2.6. Seizures not due to eclampsia

NB! REMEMBER MgSO₄ may

X Lower BP

X Decrease FHR variability

X Should be used cautiously in presence of calcium channel antagonists

X Have Tocolytic effect

X Cause loss of reflexes

3. LOADING DOSAGES:

3.1. Loading dose - Pritchard Regime [For transfer]

- 4g MgSO₄ (20ml of a 20% solution) slowly intravenous (3-5 minutes)*

[Alternate loading dose is 4g MgSO₄ in 200ml normal saline over 10-15 mins]

- 5g undiluted in left buttock (intramuscularly)
- 5g undiluted in right buttock (intramuscularly)
- Repeat 5g IM in alternative buttock every 4 hours if transfer delayed

NB! → Poor urinary output is not a contra-indication for administering a loading dose.

3.2. Loading dose and maintenance – Zuspan Regime [for ward use]

3.2.1. Loading:

- 4g MgSO₄ (20ml of a 20% solution) slowly intravenous (3-5 minutes)*

[Alternate loading dose is 4g MgSO₄ in 200ml normal saline over 10-15 mins]

3.2.2. Maintenance:

- 1g hourly intravenous.
- Continue with 4g MgSO₄ in 200ml N/S IVI at a rate of 1g per hour (i.e. 50ml/h) until 24 hours after delivery or since the last fit.
- Alternative, if no IVAC available use 12g (12 ampoules) MgSO₄ in 1 liter Ringers lactate. Give 80 ml per hour intravenous using an in-line flow regulator.

4. SUPPORTIVE CARE FOR PATIENTS ON MgSO₄

- 4.1. All patients on MgSO₄ must have a Foley's catheter in with hourly monitoring of urinary output
- 4.2. Hourly observations (BP, reflexes, urinary excretion, respiratory rate) must be done using the appropriate documentation.
- 4.3. Start with maintenance directly after the loading dose
- 4.4. Continue for 24 hours after delivery or after the last fit (or less if the patient is well sedated, e.g. after Caesarean section)
- 4.5. If a patient has further convulsions during maintenance, administer a further 2g (20% solution) MgSO₄ slowly intravenously. IV dose can be increased to 2g/hour if needed (increase the concentration and not the fluid volume)

***20% solution: Dilute 4 ampoules (one ampoule is 1g diluted in 2 ml water) in 12 ml water; that is 4g in (8ml+12ml)=20ml water which is a 20% solution.**

NB! Stop administration if any of the following occur:

- Suppressed reflexes*
- Respiration rate <15/min*
- Urinary output < 30ml/uur*

***ANTIDOTE: 10ml of a 10% Calcium Gluconate solution intravenously
[i.e. 1 gram] slowly over 5-10min***

AUTHORISED BY	GS Gebhardt
COMMITTEE RESPONSIBLE	GS Gebhardt, L Geerts, JL van der Merwe
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EVIDENCE	Evidence basis for the above decision is available on request



Signed: GS Gebhardt

Head: general specialist services; Obstetrics and Gynaecology