

# Hypomagnesaemia

**10mls of Magnesium Sulphate equivalent to:**

20mmol of Magnesium Sulphate

5g of Magnesium Sulphate

## EXCLUSIONS

- Magnesium being used as a pharmacological treatment for an acute asthma attack, tetanus or pre-eclampsia
- No ECG monitoring (see notes below)\*

## Dosing and Administration

Route	Preparation	Notes
Enteral/oral	Magnesium aspartate, 2 sachets daily.	In symptomatic patients use IV route. May cause diarrhoea.
Peripheral	Add 10mls of Magnesium Sulphate 50% to 250mls of glucose 5% or sodium chloride 0.9% and mixed thoroughly.	Administer over 30 minutes*. The infusion should be mixed thoroughly to avoid layering.
Central venous	Add 10mls of Magnesium Sulphate 50% to 100mls of glucose 5% or sodium chloride 0.9% and mixed thoroughly.	

Magnesium Level	Action	Monitor
>0.8mmol/L	Nil	24 hourly unless otherwise directed
0.5-0.8mmol/L	Administer 20mmol of magnesium <b>OR</b> <b>SHDU only:</b> 2 sachets magnesium aspartate daily	Check level in 24 hours
0.3-0.5mmol/L	Administer 20mmol of magnesium	Check level in 12 hours
<0.3mmol/L	Administer 20mmol of Magnesium and inform medical staff. Follow instruction given by medical staff for monitoring.	

## Additional information

- Enteral magnesium may cause diarrhoea and take longer to restore levels. Consider IV replacement as first line if access available.
- In fluid restricted patients the minimum volumes that can be given are:
  - Central line: Add 15mls of diluent to 20mmol of Mg. Total volume equals 25mls (20% w/v solution). Given over 30minutes\*
  - Peripheral line: Add 40mls of diluent to 20mmol of Mg. Total volume equals 50mls (10% w/v solution). Given over 30minutes\*
- A maximum of 40mmol magnesium per day should be given. Higher doses should be given at the instruction of consultant only.
- \*In patients without ECG monitoring, infuse over 2.5hours as maximum infusion rate is 8mmol/hr

Written by: Daniel Fairley	Date written: April 2022
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- Risk factors for developing magnesium deficiency include surgery, hypercalcaemia, hypophosphatemia, diuretic phase of acute renal failure, malabsorption, diabetes, alcoholism, pancreatitis, thiazide and loop diuretics, gentamicin, amphotericin, GCSF.
- Toxicity is most likely to occur in patients with impaired renal function.
- Magnesium equilibrates slowly within intracellular components so restoration of magnesium stores may take up to 5 days.

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