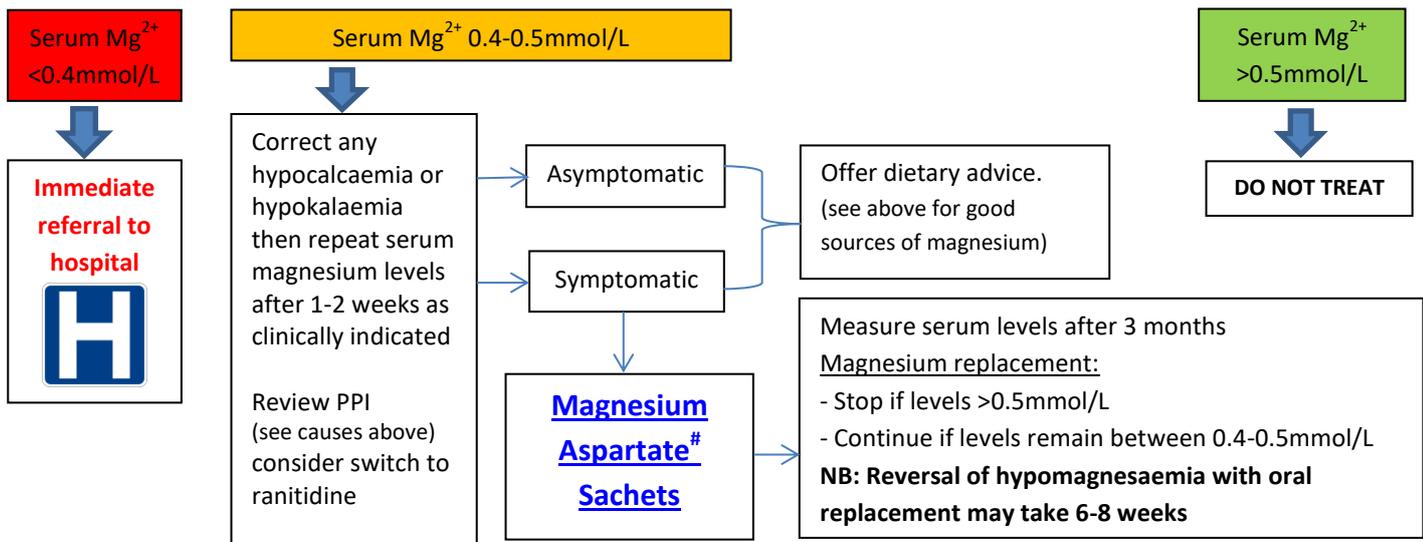


Management of Hypomagnesaemia in adults in primary care

<p style="text-align: center;">Definition</p> <p>Severe deficit: Serum Mg²⁺ <0.4mmol/L</p> <p>Moderate deficit: Serum Mg²⁺ 0.4-0.5mmol/L</p> <p>Mild deficit:</p> <ul style="list-style-type: none"> Magnesium is largely intracellular so mild deficiency can occur with a normal serum concentration, but urine excretion will be reduced Urine Mg²⁺ / urine creatinine <0.1 = deficiency; <0.05 = severe deficiency, except if secondary to renal loss 	<p style="text-align: center;">Signs & Symptoms</p> <p>Most of the symptoms of hypomagnesaemia are non-specific and often attributed to hypocalcaemia or hypokalaemia but may include:</p> <table border="1"> <tr> <td>Musculo-skeletal</td> <td>Muscle twitching, tremor, tetany, cramps</td> </tr> <tr> <td>CNS</td> <td>Apathy, depression, hallucinations, agitation, confusion, fits</td> </tr> <tr> <td>Cardio-vascular</td> <td>Tachycardia, hypertension, arrhythmias, digoxin toxicity (even at digoxin concentrations within target range)</td> </tr> </table>	Musculo-skeletal	Muscle twitching, tremor, tetany, cramps	CNS	Apathy, depression, hallucinations, agitation, confusion, fits	Cardio-vascular	Tachycardia, hypertension, arrhythmias, digoxin toxicity (even at digoxin concentrations within target range)	<p style="text-align: center;">Good Sources of magnesium</p> <ul style="list-style-type: none"> green leafy vegetables – such as spinach dairy foods nuts bread (especially wholegrain) fish meat brown rice
Musculo-skeletal	Muscle twitching, tremor, tetany, cramps							
CNS	Apathy, depression, hallucinations, agitation, confusion, fits							
Cardio-vascular	Tachycardia, hypertension, arrhythmias, digoxin toxicity (even at digoxin concentrations within target range)							

Causes		
Gastrointestinal loss	Renal loss	Other losses
Diarrhoea Stoma Fistula Malabsorption states	Phosphate or potassium depletion Drug-induced (e.g. PPI's, loop and thiazide diuretics, aminoglycosides, ciclosporin, cisplatin) Genetic syndromes (e.g. Gitelman's, Bartter's syndrome) Tubular damage Chronic acidosis Diabetes mellitus Hyperparathyroidism	Alcoholism Insulin administration Critical illness



#Magnesium Aspartate sachets are licenced for the treatment and prevention of magnesium deficiency in adults and children >2years.

Each sachet contains 10mmol Mg²⁺ and can be dissolved in 50-200mL water, tea or orange juice.

Guide to converting magnesium preparations	
glycerophosphate	aspartate
4mmol or 5mmol	4.5mmol
12mmol	10mmol
24mmol	20mmol

Magnesium aspartate dose for treatment and prevention of deficiency	
Child 2-3 years	4.5mmol daily (1 level spoonful of powder)
Child 4-9 years	4.5 - 10mmol daily (1 level spoonful of powder or 1 sachet)
Child 10-17 years	10mmol daily (1 sachet)
Adult	10 - 20mmol daily (1-2 sachets daily in divided doses)

References: Shrewsbury and Telford Hospitals NHS Trust. Hypomagnesaemia Ref 1708 Version2
EMC Magnesium aspartate. Last updated 13/06/17 <accessed 18/04/19>
Pathology Shrewsbury and Telford Hospitals NHS Trust <03/01/18>