

Issue number: Version (1)

Subject: Guideline for Treating and Monitoring Hypomagnesaemia for non-critical areas of Trust

Objective: The objective of this guideline is to provide a clear quick reference guide to support clinicians in the treatment and monitoring of patients with hypomagnesaemia as well as how to investigate causes (serum magnesium <0.7mmol/L)

Target Level: Trust-wide

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'CG Approved' logo will be added by CG Dept.

Evidence Base: Rank: A, B, C or D (CSG/CG Dept will categorise evidence base)

Associated Documents:

Information Classification Label

Unclassified

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Review Date: month & year + 3

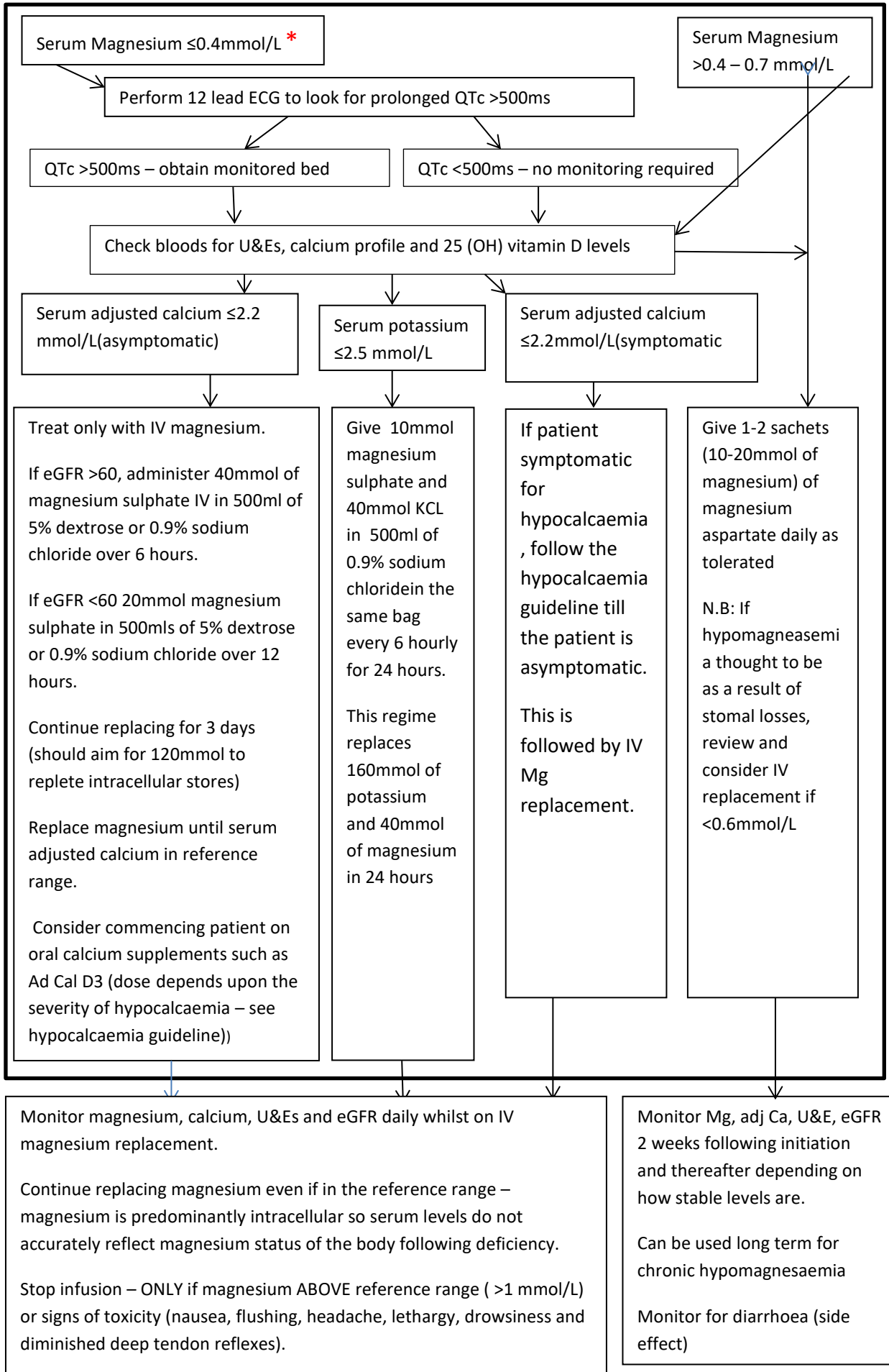
REVIEW HISTORY			
Issue No.	Page	Changes made with rationale and impact on practice	Date

All patients presenting with hypomagnesaemia should undergo a full clinical history and clinical examination to identify the risk factors contributing to hypomagnesaemia. Symptoms can be non-specific and may be attributable to other electrolyte deficiencies that often co-exist with hypomagnesaemia. Symptoms are more likely \leq 0.4mmol/l and include muscle twitching, tetany, cramps, tremor, tachycardia, and arrhythmias.

Once serum magnesium result obtained see flow chart to interpret the severity of hypomagnesaemia and on-going management.

Exclude spurious causes of hypomagnesaemia

If an unexpectedly low magnesium is reported, rule out EDTA contamination or IV drip contamination by urgently sending a repeat sample.



Step 1 - Investigate

Step 2- Treatment

Step 3 - monitoring

* All of these patients should be managed in a monitored bed until their electrolyte balance has resolved. Please look for and treat other metabolic abnormalities. Please contact on call endocrinology or on call biochemists (through switch board) to ensure plan and prescription is appropriate.

Hypomagnesaemia as a result of ostomy losses

If hypomagnesaemia due to stomal losses (eg. Jejunostomy/ileostomy); do not stop PPI or use magnesium aspartate (as aspartame can increase stomal losses); in this case replace IV Mg even if not severe as below.

Causes of Hypomagnesaemia

To successfully treat hypomagnesaemia it is important to know the cause. Causes of hypomagnesaemia can be broadly split into 3 categories – drugs (most commonly PPIs and loop diuretics), renal causes and gastrointestinal causes.

Drugs	Renal Causes	GI causes
PPIs	Alcohol excess	Chronic diarrhea
Loop diuretics	Poorly controlled diabetes mellitus	Laxative abuse
Aminoglycosides	Volume expansion	Malabsorption
Cisplatin	Hypercalcaemia (primary hyperparathyroidism)	Vomiting
Forscarnet	Acquired tubular dysfunction	Refeeding syndrome
Ciclosporin	Recovery from acute tubular necrosis	Bowel fistula
Amphoterecin B	Post-obstructive diuresis	Short bowel syndrome
Tacrolimus	Post-renal transplant	Acute pancreatitis
Theophylline	Gitelman's syndrome	Dietary deficiency
Salbutamol	Bartter syndrome	

References

Mishra V. Hypomagnesaemia. Royal Liverpool University Hospitals Foundation Trust. March 2018.

Jones C, Jones A. Hypomagnesaemia Assessment & Management in Primary care. York University Hospitals NHS Trust Nov 2019. Assessed 15/12/20.

Pham P, Pham PA, Pham S, Pham PT, Pham PM, Pham PT. Hypomagnesemia: a clinical perspective. Int J Nephrol Renovasc Dis 2014 Jun 9;7:219-30.