

Causes

- ↓ **Dietary intake of Mg⁺** (Alcoholics; Prolonged IV, TPN, enteral feedings; DM)
- **Poor Mg⁺ absorption by the GI tract** (Colitis, Crohn's disease, bowel resection)
- **Excessive Mg⁺ loss from the GI tract** (Prolonged diarrhea, Laxative abuse, NG tube suctioning, Acute pancreatitis)
- **Excessive Mg⁺ loss from urinary tract** (Aldosteronism, Hyper/Hypothyroidism, DKA)
- **Other** (Hemodialysis, Pregnancy, Hypercalcemia, Hypothermia, SIADH, Sepsis, Burns, Wound debridement)

Hypomagnesemia

< 1.5 mEq/L
Relatively common –
affecting 10% of all hosp pts,
mostly critically ill.

S/S

- **Seizures**
- **Tetany**
 - Chvostek's sign & Trousseau's sign
- **Anorexia, Arrhythmias**
- **Rapid HR**
- **Vomiting**
- **Emotional lability**
- **Deep tendon reflexes** ↑

Tx

- **Change in diet**
- **Oral supplement**
- **IV or IM injections of magnesium sulfate** (assess renal fx)

Associated Drugs

- **Aminoglycoside antibiotic** (amikacin, gentamicin, streptomycin, tobramycin)
- **Amphotericin B**
- **Cisplatin**
- **Cyclosporine**
- **Insulin**
- **Laxative**
- **Loop or Thiazide diuretics**
- **Pentamidine isethionate**

Labs/Diagnostics

- **Serum Mg⁺ < 1.8 mEq/L** (possibly c a ↓ albumin level)
- **Other electrolytes abnormalities** (↓ K⁺ or ↓ Ca⁺⁺)
- **EKG changes**
- **↑ levels of digoxin**