

HYPOCALCEMIA: Risk Factors

Hypoparathyroidism	Hypomagnesemia
Kidney failure	Vitamin D deficiency
Inadequate intake	GI loss (wound drainage, diarrhea)
Celiac disease	Lactose intolerance
Chron's disease	Alcohol use disorder

HYPOCALCEMIA: Manifestations

Tetany, cramps	Paresthesia
Dysrhythmias	Trousseau's sign
Chvostek's sign	Seizures
Hyperreflexia	Impaired clotting time

HYPOCALCEMIA: Nursing Interventions

Seizure precautions	IV calcium replacement
Daily calcium supplements	Vitamin D therapy
Monitor for orthostatic hypotension	Dietary increase and education

HYPOCALCEMIA: Notes

IV calcium must be administered slowly and the site monitored for extravasation.

It is diluted in D5W, NEVER normal saline.

Calcium has an inverse relationship with phosphorus.

HYPERCALCEMIA: Risk Factors

Hyperparathyroidism	Malignant disease
Prolonged immobilization	Dehydration
Vitamin D excess	Thiazide diuretics
Lithium	Glucocorticoids
Digoxin toxicity	Overuse of calcium supplements
Hyperthyroidism	

HYPERCALCEMIA: Manifestations

Muscle weakness	Hypercalciuria/kidney stones
Dysrhythmias	Lethargy/coma
Hyporeflexia	Pathologic fractures
Flank pain	Deep bone pain
Polyuria	Polydipsia
Dehydration	Hypertension
Nausea	Vomiting

HYPERCALCEMIA: Nursing Interventions

Increase mobility	Medications
Isotonic IV fluids	Furosemide
Dialysis	Calcitonin
Cardiac monitoring	Glucocorticoids
	Bisphosphonates
	Calcium chelators

