

# Understanding Magnesium Malabsorption & Restoration

**From the Functional Medicine Perspective of Dr. Lisa Ballehr**

## Why Magnesium Matters

Magnesium is a master mineral involved in over 300 enzymatic reactions in the body. It supports:

- Energy production (ATP synthesis)
- Nervous system regulation
- Muscle and cardiovascular function
- Hormone balance
- Detoxification and mitochondrial repair
- Bone density and insulin sensitivity

Yet up to 80% of people are deficient, and worse—many are malabsorbing magnesium even if they supplement.

## What is Magnesium Malabsorption?

Malabsorption means your body can't absorb or utilize magnesium effectively—even when intake appears sufficient.

## Most Common Symptom of Magnesium Malabsorption:

**Developing loose stools at low doses of oral magnesium (100–200 mg)**

- This is a red flag that magnesium is passing through your system unabsorbed.

## Other Symptoms of Malabsorption:

- Fatigue or poor energy
- Muscle cramps or spasms
- Anxiety, irritability, or poor stress tolerance
- Constipation
- Heart palpitations or arrhythmias

- Insomnia or light, restless sleep
- Headaches or migraines
- PMS and hormonal imbalances
- Blood sugar instability or insulin resistance

## Root Causes of Malabsorption in Functional Medicine

- Low bile acid or poor gallbladder function
- Gut dysbiosis, leaky gut, or inflammation
- Medications: PPIs, diuretics, antibiotics
- Toxin exposure (e.g. glyphosate)
- Genetic SNPs affecting transport/metabolism
- High stress, which rapidly depletes magnesium stores

## Correcting Magnesium Malabsorption with Perque Choline Citrate

Magnesium requires healthy bile flow and membrane permeability for absorption. That's where Perque Choline Citrate shines.

### Perque Choline Citrate Protocol

- **Purpose:** Enhances magnesium uptake by optimizing bile flow and cell membrane transport
- **Dosage:**
  - Start with 1 tsp (5 mL) mixed with 200–300 mg of magnesium glycinate or citrate
  - Gradually increase to 2–3 tsp/day as tolerated
- **Duration:**
  - 6–12 weeks, with reassessment of labs and symptoms

This strategy allows magnesium to move from “pass-through” to “cellular fuel.”

## Magnesium Delivery Options

Not all forms are equal—each has unique uses based on symptoms and patient tolerance.

## Oral Forms (Systemic support)

Form	Use Case	Notes
Magnesium Glycinate	Anxiety, sleep, muscle tension	Highly absorbable, gentle on gut
Magnesium Citrate	Constipation, sluggish digestion	May cause loose stools
Magnesium Malate	Fatigue, fibromyalgia	Supports mitochondrial energy
Magnesium Taurate	Heart rhythm support	Cardioprotective
Magnesium Threonate	Brain fog, cognition	Crosses blood-brain barrier
Magnesium Orotate	Cardiac health	Used in athletic recovery

## Topical Magnesium (Bypasses GI tract)

Form	Use Case	Notes
Magnesium Oil	Cramps, restless legs, stress	Apply before bed
Creams/Lotions	Great for kids, sensitive skin	Daily use on arms/legs
Epsom Salt Baths	Detox, relaxation	1-2 cups in warm bath, 2-3x/week

## Other Forms

- Magnesium Chews or Gummies: For kids or those sensitive to pills
- Magnesium Powder Drinks: Easy mixing for calm and regularity
- Liposomal Magnesium: High bioavailability for sensitive patients

## Functional Medicine Clinical Pearls

- Loose stools = warning sign of poor absorption, not excess intake
- Use RBC or ionized magnesium tests, not serum
- Combine magnesium with choline citrate, B6, and taurine for optimal uptake

- Adrenal burnout, mold illness, and long COVID often present with deep magnesium depletion
- Focus on restoring cellular function, not just symptom relief

### Suggested Plan (Example)

Time Frame	Recommendation
Weeks 1–2	Begin Perque Choline Citrate (1 tsp/day) + magnesium glycinate 200–400 mg
Weeks 3–6	Increase Perque to 2–3 tsp/day as tolerated
Ongoing	Add Epsom salt baths 2x/week + topical oil at night
Monthly	Monitor sleep, stool changes, muscle tension, and energy

### Remember:

Supplementing without absorbing is like pouring gas on a closed tank.

Let's restore magnesium where it belongs—inside your cells, fueling your health.