**Gastrointestinal Health**

**Selenium**
Cofactor to glutathione peroxidase (GPx), which protects intestinal wall from inflammatory damage; Lower GPx activity due to selenium deficiency is very common in people with gut inflammation. [3,4,5]

**Glutamine**
Preferred fuel for enterocytes (small intestine cells), which use the most glutamine in the entire body; Keeps the junctions between intestinal epithelial cells tight so foreign proteins cannot enter bloodstream. [6,7,8]

**Zinc**
Decreases intestinal permeability; Maintains integrity of intestinal wall, especially when inflammatory chemicals (TNFα) compromise epithelial lining; Works with vitamin A in regenerating cells that line the gut. [9,10,11]

**Vitamin A**
Regulates growth of epithelial cells, including those that line the gastrointestinal (GI) tract; Reduces inflammatory proteins in the gut. [12,13]

**Vitamin C**
An inflamed gut uses up the antioxidant vitamin C faster than a healthy gut; Promotes tissue healing in GI tract; Reduces gastrointestinal inflammation. [14,15]

**Vitamin D**
Keeps gut flora healthy by protecting good bacteria; Activates adaptive immunity that originates in GI tract; Promotes gut barrier integrity; Deficiency linked to inflammatory bowel disease flare-ups. [16,17,18]

**Vitamin K**
Synthesized by intestinal bacteria; Deficiency common in chronic GI disorders; Bone demineralization that occurs with inflammatory bowel diseases (Crohn’s, etc) is caused by vitamin K deficiency since it is a required cofactor for bone formation. [19,20]

**Vitamin B12**
Improves gastrointestinal complaints in some patients with dyspepsia (indigestion); Antacids deplete B12. [21,22]

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