

**TABLE 349-8 CLASSIFICATION OF MALABSORPTION SYNDROMES**

Inadequate digestion
Postgastrectomy <sup>a</sup>
Deficiency or inactivation of pancreatic lipase
Exocrine pancreatic insufficiency
Chronic pancreatitis
Pancreatic carcinoma
Cystic fibrosis
Pancreatic insufficiency—congenital or acquired
Gastrinoma—acid inactivation of lipase <sup>a</sup>
Drugs—orlistat
Reduced intraduodenal bile acid concentration/impaired micelle formation
Liver disease
Parenchymal liver disease
Cholestatic liver disease
Bacterial overgrowth in small intestine:
Anatomic stasis
Afferent loop
Stasis/blind loop/strictures/fistulae
Functional stasis
Diabetes <sup>a</sup>
Scleroderma <sup>a</sup>
Intestinal pseudo-obstruction
Interrupted enterohepatic circulation of bile salts
Ileal resection
Crohn's disease <sup>a</sup>
Drugs (binding or precipitating bile salts)—neomycin, cholestyramine, calcium carbonate
Impaired mucosal absorption/mucosal loss or defect
Intestinal resection or bypass <sup>a</sup>
Inflammation, infiltration, or infection:
Crohn's disease <sup>a</sup>
Amyloidosis
Scleroderma <sup>a</sup>
Lymphoma <sup>a</sup>
Eosinophilic enteritis
Mastocytosis
Tropical sprue
Celiac disease
Collagenous sprue
Whipple's disease <sup>a</sup>
Radiation enteritis <sup>a</sup>
Folate and vitamin B <sub>12</sub> deficiency
Infections—giardiasis
Graft versus host disease
Genetic disorders
Disaccharidase deficiency
Agammaglobulinemia
Abetalipoproteinemia
Hartnup's disease
Cystinuria
Impaired nutrient delivery to and/or from intestine:
Lymphatic obstruction
Lymphoma <sup>a</sup>
Lymphangiectasia
Circulatory disorders
Congestive heart failure
Constrictive pericarditis
Mesenteric artery atherosclerosis
Vasculitis
Endocrine and metabolic disorders
Diabetes <sup>a</sup>
Hypoparathyroidism
Adrenal insufficiency
Hyperthyroidism
Carcinoid syndrome

<sup>a</sup>Malabsorption caused by more than one mechanism.**TABLE 349-9 PATHOPHYSIOLOGY OF CLINICAL MANIFESTATIONS OF MALABSORPTION DISORDERS**

Symptom or Sign	Mechanism
Weight loss/malnutrition	Anorexia, malabsorption of nutrients
Diarrhea	Impaired absorption or secretion of water and electrolytes; colonic fluid secretion secondary to unabsorbed dihydroxy bile acids and fatty acids
Flatus	Bacterial fermentation of unabsorbed carbohydrate
Glossitis, cheilosis, stomatitis	Deficiency of iron, vitamin B <sub>12</sub> , folate, and vitamin A
Abdominal pain	Bowel distention or inflammation, pancreatitis
Bone pain	Calcium, vitamin D malabsorption, protein deficiency, osteoporosis
Tetany, paresthesia	Calcium and magnesium malabsorption
Weakness	Anemia, electrolyte depletion (particularly K <sup>+</sup> )
Azotemia, hypotension	Fluid and electrolyte depletion
Amenorrhea, decreased libido	Protein depletion, decreased calories, secondary hypopituitarism
Anemia	Impaired absorption of iron, folate, vitamin B <sub>12</sub>
Bleeding	Vitamin K malabsorption, hypoprothrombinemia
Night blindness/xerophthalmia	Vitamin A malabsorption
Peripheral neuropathy	Vitamin B <sub>12</sub> and thiamine deficiency
Dermatitis	Deficiency of vitamin A, zinc, and essential fatty acid

**SUMMARY**

The many conditions that can produce malabsorption are classified by their pathophysiology in [Table 349-8](#). The pathophysiology of the various clinical manifestations of malabsorption is summarized in [Table 349-9](#).