Patients with anorexia nervosa and NI will generally have two types of behaviors: restrictive and/or purging. Restrictive behavior is characterized by a marked caloric reduction (which may be as low as approximately 300 to 700 calories per day), with or without a component of compulsive exercise. Individuals with anorexia nervosa may also vomit, but the defining features remain restrictive behavior and body discontent.

The hallmark of bulimia nervosa, in contrast, is bingeing, with compensatory purging or non-purging behaviors. The binge may be large, with documented reports of intake exceeding 20,000 calories, or it may be a relatively normal meal accompanied by disproportionate guilt or negative feelings. The line between anorexia nervosa and bulimia nervosa may blur; as many as one in four individuals with anorexia nervosa go on to a binge-and-purge phase later.

Many studies classify patients at one point in time, so it may be more useful to conceptualize clinical manifestations as problems of restricting, problems of purging, and problems of bingeing (1-7). A classic phenotype that encompasses the endocrine manifestations of NI is the “female athlete triad,” which includes the presence of amenorrhea, disordered eating and osteopenia (8, 9).

Patients with chronic emesis and use of cathartics present with classic metabolic disturbance: hypokalemia, hypochloremia, and metabolic alkalosis. Dehydration and prerenal azotemia are not uncommon; in addition, other electrolyte abnormalities such as hypocalcemia and hypomagnesemia can be present. Parotitis may flare when the patient is trying to quit purging, similar to a smoker’s cough worsening in the time period when he or she is quitting.

In patients with chronic emesis, the development of esophagogastric erosions (Mallory-Weiss tears), esophageal perforation (Boerhaave syndrome) and aspiration pneumonia has been described. The presence of gastric acid in the mouth can cause gingivitis, a characteristic pattern of dental erosions on the lingual and occlusal surfaces, parotid enlargement and oral ulcerations. The increased pressure associated with emesis can cause supraventricular petechiae and subconjunctival hemorrhages. A careful examination of the hands can show Russell sign, or calluses over the knuckles due to the recurrent trauma of teeth on that area during self-inflicted emesis (10).

In patients who chronically use syrup of ipecac to purge, the emetine alkaloid toxicity may be irreversible, with subsequent development of potentially irreversible myositis and myocardial damage. All other medical complications of eating disorders should be fully reversible with proper treatment. Ipecac has been discontinued and is not available for purchase in the United States to prevent iatrogenic harm; however, this is not uniform across all countries (11, 12).

Patients with chronic laxative use can have colonic hyperpigmentation (melanosis coli). The abrupt discontinuation of laxatives has been associated with rapid weight gain (up to 5 kg in 24 hours) due to compensatory absorption of water by the colonic mucosa. Chronic laxative abuse alone may be sufficient reason to admit a patient with NI for medical stabilization, to manage fluid shifts after acute termination of laxatives and to prevent refeeding syndrome.

Patients with bulimia nervosa may appear healthy and have entirely normal laboratory results despite repeated purging behaviors, yet still be at risk of sudden cardiac death. Consider admission for persistent and recurrent emesis alone (10 to 20 times a day), especially in the face of bradycardia or orthostatic