Anorexia nervosa (“anorexia”) is a disturbance in body perception that results in fear of gaining weight and refusal to maintain a minimally normal body weight. Bulimia nervosa (“bulimia”) is an obsessive self-evaluation of body shape and weight that leads to a characteristic cycle of binge eating and subsequent actions that prevent weight gain.

Though similar in their relationship with food, these diseases represent two separate psychiatric entities with distinct clinical sequelae. Distinguishing features include the body mass index or height-matched weight and, in women, the presence of regular menstruation. Amenorrhea is a key finding of anorexia in postmenarchal women. Diagnosis requires fulfillment of all criteria listed in the text revision of the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) (Box 200.1). These diseases do not coexist in the same patient; a patient has either anorexia or bulimia, but never both simultaneously.¹

Anorexia can be divided into the restricting or binge eating–purging subtypes. Restricting patients commonly eat only 300 to 700 calories each day, or they engage in excessive exercise to ward off weight gain. Binge-purging behavior involves intentional vomiting or the inappropriate use of laxatives, enemas, or diuretics in response to even small amounts of consumed food. Bulimia is similarly divided into purging and nonpurging. The subtypes are based on the behavior occurring at the time of diagnosis.²

Anorexia and bulimia are diseases nearly exclusively encountered in North America, western Europe, and Japan. Childhood anxiety disorders may increase the likelihood of these disorders, although no clear cause has been identified for either illness. Women suffer from anorexia and bulimia more frequently than men do. The lifetime prevalence of anorexia varies from 0.3% to 1% for women; men are estimated to have one tenth of that prevalence. Bulimia is more common than anorexia, with a lifetime prevalence of 1% to 3% in women. Similarly, only 10% of bulimic patients are male; these men are more likely to suffer from premorbid obesity. The incidence is further increased in male wrestlers.³

Emergency department (ED) patients with anorexia or bulimia generally complain of symptoms related to associated disease states or complications; they rarely seek primary treatment of their psychiatric illness. ED visits provide an opportunity for both intervention and education. Recognition of these under-diagnosed diseases creates an opportunity for early consultation and referral. Medical care alone is often of transient utility. Successful cure of both anorexia and bulimia requires intensive individual or family psychotherapy.

### DEFINITIONS AND EPIDEMIOLOGY

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### PRESENTING SIGNS AND SYMPTOMS

Emergency department (ED) patients with anorexia or bulimia generally complain of symptoms related to associated disease states or complications; they rarely seek primary treatment of their psychiatric illness. ED visits provide an opportunity for both intervention and education. Recognition of these under-diagnosed diseases creates an opportunity for early consultation and referral. Medical care alone is often of transient utility. Successful cure of both anorexia and bulimia requires intensive individual or family psychotherapy.

### CLASSIC PRESENTATION

The typical patient with anorexia is an otherwise successful mid- to late-adolescent girl exhibiting marked cachexia. The patient may demonstrate a remarkable lack of insight regarding her appearance. Common complaints include fatigue, cold intolerance, abdominal pain, and amenorrhea. Weakness, especially symptomatic orthostasis, features prominently in the patient’s review of systems. Emaciation is the most notable clinical feature. Bradycardia and hypotension are common findings. Lanugo, or the fine body hair commonly seen on the extremities and trunk, may be present. Signs of nutritional deficiency may be present in patients with the food-restricting subtypes.

Patients with the purging subtypes of both bulimia and anorexia share physical findings, although bulimic patients may have a more normal-appearing body habitus. Purging through vomiting often results in erosion of dental enamel, particularly on the lingual (“back”) side of the teeth. Manual induction of vomiting leads to calluses on the dorsal aspect of the fingers as a result of recurrent contact with the teeth, a finding known as the Russell sign. Benign parotid salivary enlargement is common.
### ANOREXIA NERVOSA AND BULIMIA NERVOSA

#### ATYPICAL PRESENTATION
Advances in the management of severe anorexia and bulimia have extended life expectancy for those afflicted. Long-standing anorexia or bulimia affects normal physiology, as with any chronic disease. Notably, gastrointestinal motility may slow and lead to chronic nausea, gastroparesis, impaction, or obstruction. Rare complications of these eating disorders that may be encountered in the ED are discussed in the following section.

“Late-onset” eating disorders are increasingly being recognized in elderly patients; the clinical features and diagnostic criteria are the same, with the exception of amenorrhea in postmenopausal women.4

#### COMPLICATIONS
- Arrhythmia: Disruption of normal cardiac conduction is the most life-threatening medical complication of anorexia. Prolongation of the QTc interval is ominous. Cardiac arrest resulting from conduction delays or ventricular dysrhythmias is the most common cause of death from anorexia.5
- Elevated abdominal pressure: Patients engaging in binge eating may experience severe gastric dilation that significantly increases intraabdominal pressure, either with or without intestinal obstruction. This increased pressure may ultimately result in cardiac arrest from direct mechanical force or decreased venous return.6,7
- Dehydration and renal insufficiency: Insufficient fluid intake may occur with anorexia. With bulimia, prerenal hypovolemia arises from fluid losses as a result of excessive vomiting or laxative abuse.
- Starvation and vitamin deficiency: These conditions result from inadequate caloric intake.
- Osteopenia: Pubescent anorexia or severe bulimia may cause hypoestrogenemia and resultant undermineralized bone. Bone pain or pathologic fractures may ensue.
- Electrolyte abnormality: This condition results from either insufficient intake or excessive gastrointestinal losses.
- Esophageal and gastric trauma: Repetitive, forceful vomiting may lead to Mallory-Weiss tears or Boerhaave syndrome. Gastric distention occurs with binging.
- Nausea and constipation: Gastrointestinal motility decreases with starvation. Native colonic contraction decreases with laxative abuse, thereby leading to colonic distention and constipation.
- Rectal prolapse: This condition results from muscle weakening secondary to laxative abuse.
- Congestive heart failure: Cardiomyopathy may be caused by starvation states or by ipecac abuse.
- Refeeding syndromes: Peripheral edema, hypophosphatemia, and dysrhythmias are common features associated with resumption of appropriate caloric intake.
- Inattention and changes in mental status: Chronic disease may lead to decreases in both gray matter and white matter along with concurrent ventricular enlargement. Starvation-associated hypoglycemia or other electrolyte abnormalities may affect mental status.

#### ASSOCIATED COMORBID CONDITIONS
- Anxiety disorders: The lifetime prevalence is 64% in eating-disordered patients versus 13% in the general population. Obsessive-compulsive disorder and social phobia are common.8
- Depression.
- Substance abuse: This is often seen in patients with binge-type bulimia.9
- Personality disorders: Obsessive-compulsive personality disorder is associated with anorexia; cluster B disorders are more frequently identified in patients with bulimia.9

#### DIFFERENTIAL DIAGNOSIS
Evaluation of a patient with cachexia must be thorough. A notable lack of subjective complaints in an emaciated patient may be cause to suspect anorexia. The differential diagnosis of anorexia and bulimia is narrow because the patient’s behavior is an essential component of the disease. Catabolic states associated with increased caloric consumption, such as infection or hypermetabolism, should be differentiated from inadequate caloric intake (Box 200.2).

#### DIAGNOSTIC TESTING
No ancillary tests are available to confirm the diagnosis of anorexia or bulimia. The diagnosis is made by following the
the QTc interval is the most concerning electrocardiographic abnormality and may be present despite normal electrolytes. Intracranial imaging reveals loss of gray matter. Such imaging studies are indicated only for patients with altered mental status or trauma (see the “Priority Actions” box).

**TREATMENT**

ED management should focus on correcting any abnormalities detected during the medical evaluation. Cardiovascular compromise requires immediate intervention. Arrhythmias are managed according to standard advanced cardiac life support guidelines. Electrolytes and glucose should be normalized, and body temperature should be regulated. Aggressive fluid resuscitation should be avoided because it may result in sudden congestive heart failure. The mechanical sequelae of purging (esophageal rupture, Mallory-Weiss tears, or rectal prolapse) respond to conventional treatment discussed elsewhere in this text.

Nutritional support is not a priority in the ED. For outpatients, the intake goal should be 1200 to 1500 kcal/day with weekly increases; weight gain should be limited to 0.5 to 0.9 kg (1 to 2 lb) each week. Inpatient feeding has been associated with life-threatening arrhythmias and transient edematous states; such refeeding is best managed in a monitored medical unit.

Sophisticated and concurrent psychologic, social, dietary, and medical support is crucial for both inpatients and outpatients. Selective serotonin reuptake inhibitors, in particular fluoxetine, have been associated with increased compliance in the outpatient treatment of bulimia and may also address the anxiety states commonly encountered with eating disorders. Antidepressants should not be initiated in the ED without the collaboration of the treating psychiatrist or primary physician.

**DISPOSITION**

Patients generally consent to hospital admission for the treatment of symptomatic somatic complaints. Voluntary admission for psychiatric treatment is often more difficult to arrange. Lack of insight into the disordered eating clouds a
patient’s appreciation of the severity of the disease. Adult patients whose weight is at least 25% less than that expected for their height are candidates for admission.

Telemetry monitoring is indicated when arrhythmias or QTc abnormalities are present. Additionally, refeeding may promote cardiovascular complications, for which continuous monitoring is required. Critical care admission should be reserved for patients with unstable vital signs or dangerous metabolic abnormalities.

Current guidelines suggest psychiatric or medical admission for any child or adolescent with rapid weight loss. Parents or guardians may request inpatient admission when outpatient management has failed. Psychiatric admission for minors is typically easier to accomplish than for adults. Early inpatient treatment is associated with a decreased risk for both arrhythmias and loss of cortical volume. Admission should be advocated for all patients who lack home support or who are otherwise at risk for failure of outpatient treatment (Box 200.3).  

Barring clear impairment of decision-making capacity, involuntary admission of adults is rare. The judicial system in the United States generally recognizes that a patient’s actions supersede stated intent, thus supporting hospitalization of patients who are at significant risk for self-harm. For example, an anorexic patient may deny suicidality despite behavior that clearly resulted in a life-threatening dysrhythmia. Involuntary admission should be considered for patients with such profound lack of insight, as well as for those who lack decision-making capacity.  

**SUGGESTED READINGS**


**REFERENCES**

References can be found on Expert Consult @ www.expertconsult.com.
REFERENCES