

## **Anorexia Nervosa (AN) and Bulimia Nervosa (BN) in Pediatric Primary Care**

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Anorexia Nervosa (AN) and Bulimia Nervosa (BN) represent serious illnesses and result in significant mortality and morbidity. It is important to diagnose these illnesses early and to provide appropriate treatment.

### **Definition**

AN is a serious illness with both physical and psychological characteristics. Physically, patients meet criteria for AN when they are of low weight (less than 85 percent of ideal body weight) and have amenorrhea of at least three months duration. In pediatrics, one often sees primary amenorrhea when the illness onset is prior to puberty. Symptoms may include: restricting food; fasting; avoiding “risk” foods; taking diet pills, laxatives, or diuretics; and compulsive exercise. The psychological characteristics are quite prominent and include: fears of weight gain (although low weight); preoccupations with weight, shape, food, and calories; excessive influence of weight/shape on self esteem; body image disturbances; and often poor insight into the seriousness of the illness. There are two subtypes of Anorexia Nervosa: restricting AN (no binge or purge) or AN binge eating/purging (which includes symptoms of binge and/or purge).

BN is defined as episodes of bingeing (eating large amounts of food in a short amount of time in a way that feels out of control) at least twice a week. Patients also have compensatory behaviors including restricting eating (when not bingeing), vomiting, using laxatives or diuretics, taking diet pills or stimulants, or exercise. Patients also have body image concerns but are usually at normal weight.

### **Epidemiology and Etiology**

The prevalence of AN is approximately 1 percent of the population, however significantly more patients have subsyndromal AN (i.e. their weight is higher than 85 percent but they are still clinically symptomatic). BN is more common, with a prevalence of about 2 percent. These illnesses have multifactorial causes with biological, psychological, and social influences. Risk factors include a family history of eating disorders, obesity or mood disorders, premorbid anxiety and depression, personality traits such as perfectionism and need for control, prepubertal obesity, early puberty, and trauma. Certain sports that promote a drive for thinness, such as cheerleading, gymnastics, ballet, or horseback riding place patients at particular risk for AN. AN often begins as a diet in an overweight patient. Approximately 60 percent of patients who start out with AN switch into BN.

### **Detection**

As patients with AN often want to keep their eating disorder a secret, there may be attempts to pad their weights or waterload. Weight loss may be blamed on other medical illnesses, and the psychological characteristics are often initially denied. A high level of suspicion must be maintained, and patients should be seen weekly or referred

to a specialist for close follow-up. BN may also go undetected as patients are often ashamed of their symptoms of vomiting and bingeing, and their weights are normal.

### **Assessment**

The medical workup includes a measurement of height and weight (and a calculation of percentile of ideal body weight) and a thorough medical workup including comprehensive metabolic profile, phosphorus, TSH, amylase, a complete blood count, urine toxicology screen, and an EKG. Medical consequences of restriction affect multiple organ systems including: 1) bones (causing osteopenia and osteoporosis); 2) cardiac (bradycardia, hypotension, MVP, CHF (during refeeding) and arrhythmias); 3) brain (low serotonin); 4) skin (dry skin, edema, lanugo); 5) GI (constipation, delayed gastric emptying); 6) hematology (pancytopenia); and 7) endocrine (sick euthyroid syndrome, hypoglycemia, low LH, FSH, estrogen and testosterone). Medical consequences of purging also affect multiple organ systems: cardiac (arrhythmias, bradycardia, orthostasis); dental (caries and enamel loss); GI (tears, gastritis/tears, GERD); lab abnormalities (low potassium, elevated bicarbonate, elevated amylase); or enlarged parotid/salivary glands.

The psychological assessment includes screening for frequent comorbid psychiatric issues (such as depression, anxiety, trauma, and suicidality) and the impact of the eating disorder on functioning at home and school.

### **Triage for Danger Zone**

Patients with AN or BN must be triaged for the danger zone of low body weight (mortality increases when weight is below 65 percent of ideal body weight), low blood pressure or bradycardia, low potassium, phosphorus or magnesium, prolonged QTC, refeeding, or suicidality. Death from eating disorders is most frequently due to cardiac complications, although a significant number of patients also die by suicide.

### **Levels of Care**

Patients who are medically unstable need emergency room treatment or hospitalization. Patients who are acutely suicidal need psychiatric hospitalization.

Patients with AN can be treated at several levels of care. For outpatient treatment, close collaboration is advised between the therapist and primary care physician. If available, a registered dietician, family therapist, and psychiatrist may also be helpful members of a treatment team. It is also important to have an outpatient contract, i.e., a clear agreement to gain weight and a plan to hospitalize if the patient cannot progress in a timely fashion as an outpatient. Weight restoration, the mainstay of treatment, is targeted at 0.5 to 1 pounds a week outpatient to 3-4 pounds a week in the hospital.

Children and adolescents may benefit from Maudsley family therapy, an outpatient treatment approach based on family intervention that avoids hospitalization. In the Maudsley approach, parents are initially very involved in weight restoration. As weight

is restored and eating normalized, autonomy over eating is transferred back to the patient, and adolescent issues are addressed.

Many patients benefit from more intensive treatment with inpatient, residential, or partial hospitalization to regain to a healthy weight range, treat the psychological characteristics of their eating disorder and comorbid psychiatric disorders, target family issues, and help a patient get back on their developmental trajectory. There are no psychiatric medications that are recommended for weight restoration or maintenance for patients with AN. On the other hand it is important to avoid medications with potentially deleterious side effects of prolonged QTC, hypotension, appetite suppression, nausea, weight loss or gain.

The treatment of choice for BN is outpatient cognitive behavior therapy with an experienced therapist. Fluoxetine at 60 mg has been shown to be helpful to reduce binge/purge frequently at least in the short term. Patients who are unable to stabilize with outpatient care, who have serious psychiatric comorbidities, or who are at medical risk may benefit from residential or partial hospitalization.

### **Prognosis**

Approximately 5 percent of patients with AN will succumb to their illness. BN has been reported to have a lower mortality rate, although a recent study suggests a higher mortality rate, mainly from medical causes. While some eating disorders will turn into chronic conditions, many patients recover and do well.

### **How to find treatment**

Call your local MCPAP region:

Baystate Medical Center	Western MA	(413) 794-3342
UMass Medical Center	Central MA	(508) 334-3240
North Shore Medical Center	Northeast	(888) 627-2767
Massachusetts General Hospital	Boston I	(617) 724-8282
Tufts Medical Center-Children's Hospital	Boston II	(617) 636-5723
McLean-Brockton	Southeast	(508) 894-8484

[Multi Service Eating Disorders Association \(MEDA\)](#) – This is the number one resource for Massachusetts.

[National Eating Disorders Association \(NEDA\)](#)

**For more information**

[AAP Parenting Corner Q & A: Anorexia](#)

[AAP Parenting Corner Q & A: Bulimia](#)

[AACAP Facts for Families - Teenagers with Eating Disorders](#)

**Book for family**

*Helping your Teenager Beat an Eating Disorder*, by James Lock and Daniel LeGrange,  
2005