Eating Disorders In Adolescents
<table>
<thead>
<tr>
<th>Anorexia Nervosa (AN)</th>
<th>Bulimia Nervosa (BN)</th>
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<tbody>
<tr>
<td>Refusal to maintain normal body weight (&lt; 85%)</td>
<td>Recurrent episodes of binge eating, marked by loss of control</td>
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<tr>
<td>Intense fear of weight gain</td>
<td>Recurrent inappropriate compensatory behavior</td>
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<tr>
<td>Disturbance in the way weight/shape is experienced</td>
<td>Self-evaluation is unduly influenced by body shape and weight</td>
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<tr>
<td>Amenorrhea</td>
<td>Person does not have AN.</td>
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<tr>
<td>• Restricting type</td>
<td>Nonpurging type</td>
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<tr>
<td>• Binge-eating/purging type</td>
<td>Purging type</td>
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Distinguishing AN from BN

AN and BN can be differentiated in three ways:

1. All individuals with AN show unusually low body weight. In contrast, low body weight is not required for the diagnosis of BN

2. All postmenarcheal females with AN show amenorrhea. In contrast, females with BN usually do not show amenorrhea

3. All individuals with BN show recurrent binge eating. In contrast, not all people with AN binge

The differentiation of AN and BN is *not* based on whether the person fasts or purges. In fact, some people with AN binge and purge while some people with BN seldom purge at all
Problems Diagnosing Adolescents

Most experts use DSM-IV-TR criteria when studying and treating adolescents with eating disorders. However, the diagnostic criteria are somewhat problematic when they are applied to adolescents:

1. Most adolescents who have eating disorder symptoms do not actually meet diagnostic criteria for either AN or BN
2. Establishing amenorrhea in adolescent girls is sometimes difficult and may not be essential for planning treatment
3. Experts do not know agree on how much food actually constitutes a “binge” and many people who report bingeing do not consume a large number of calories when they do
Associated features and conditions

Psychiatric disorders:  Depression and suicide  
                        Anxiety disorders  
                        - Social Phobia  
                        - OCD  
                        Substance use disorders

Personality:  Perfectionism  
              Cognitive rigidity  
              Behavioral over-control

Health problems:  Electrolyte imbalance  
                  Hypokalemia  
                  Osteopenia  
                  Hormone and endocrine dysregulation  
                  Disturbance in appetite, physical growth, heart rate, and temperature regulation  
                  Lanugo on the trunk, limbs, and face  
                  Problems with concentration, memory, and problem solving
Suicide attempts among individuals with eating disorders. Suicide attempts are more common among people who binge and purge, regardless of whether they have AN or BN. Impulsivity might underlie the tendency to binge-purge and attempt self-harm. Based on Milos and colleagues (2004).
Family functioning

Adolescents with AN often come from highly rigid, overprotective homes; parents typically adopt authoritarian childrearing strategies.

Adolescents with BN often come from tumultuous families marked by high conflict.

Diet, weight, and body shape are given considerable attention in the families of girls with eating disorders.

Parents’ comments about weight and body shape are associated with adolescents’ body satisfaction, self-esteem, and eating habits.
Epidemiology

Prevalence & Gender:

It has been difficult to estimate the prevalence of eating disorders among adolescents.

The best estimates indicate that the lifetime prevalence of AN is between 0.5% and 1% for females and less than 0.3% for males.

The lifetime prevalence of BN is between 1.5% and 4% in females and less than 0.5% in males.

An additional 1% to 2% of adolescent girls show subthreshold levels of AN, while an additional 2% to 3% of adolescent girls show subthreshold symptoms of BN.
Eating disorders in other countries

AN and BN appear to be universal phenomena, existing across countries and cultures.

Globalization has spread eating disorders from industrialized counties to developing nations.

Experts disagree as to how western culture or industrialization might contribute to an increase in eating disorders.

Eating disorders among ethnic minorities in the United States

Eating disorders exist across all ethnic groups in the U.S.; culturally specific preferences regarding weight and shape may not protect minority girls from developing eating disorders.

Most recent studies have found no differences in BN between African American and white adolescents.

Native American adolescents appear to have the highest rates of eating disorders among all ethnic groups in the U.S. (including whites), while Asian Americans appear to have the lowest rates.
Course

Recent longitudinal research indicates that the peak age of onset for AN is between 16 and 19 years; peak age of onset for BN is usually between 18 and 20 years.

The reasons for adolescents’ maladaptive eating behaviors vary with age.

The course of AN is variable.
   - Approximately 50% of individuals with AN recover from the disorder.
   - Approximately 30% improve but continue to meet diagnostic criteria for either AN or BN.
   - Approximately 10%–20% have chronic symptoms of AN.

The prognosis of BN is somewhat better than for AN; however, many youths with BN develop other disorders instead, especially depression.
<table>
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<th><strong>Etiology</strong></th>
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<td><strong>Genetics:</strong></td>
<td>Genetics research indicates that AN and BN are heritable conditions. Twin studies indicate that the heritability of AN is between 48% and 74%, depending on the sample and the definition of AN that the researchers use. Twin studies indicate that the heritability of BN is between 59% and 83%.</td>
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<tr>
<td><strong>Serotonin:</strong></td>
<td>Elevated serotonin may make certain individuals prone to psychological distress, anxiety, and perfectionism. Restrictive dieting can temporarily decrease serotonin levels, causing a reduction in negative affect. Thus, dietary restriction is negatively reinforced and maintained over time.</td>
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<td><strong>Hormones:</strong></td>
<td>Some people with BN show low levels of a hormone called colycystikinen (CCK) which regulates appetite.</td>
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Cognitive-behavioral theory of eating disorders:

Based on the notion that thoughts, feelings, and actions are closely connected; eating disorders are caused by a disturbance among these three factors

- An affective disturbance characterized by low self-esteem;
- A cognitive disturbance characterized by distorted perceptions of weight, shape, and body image;
- A behavioral disturbance marked by dietary restriction.

Low self-esteem and dysphoria form the basis for the cognitive behavioral model of eating disorders.

Dietary restriction causes a temporary reduction in dysphoria (negative reinforcement) but long-term feelings of frustration and hunger.

Binge eating reduces feelings of hunger (negative reinforcement) but produces guilt and anxiety about weight gain.

Fasting and purging can alleviate guilt and fears of weight gain (negative reinforcement) but exacerbate feelings of low self-worth.
Maladaptive weight loss methods used by high school students in the last 30 days. Data are based on a sample of approximately 14,000 adolescents in 9th through 12th grades. Although most youth do not have eating disorders, many (especially girls) show use risky methods to lose weight. Based on the Youth Risk Behavior Surveillance System (Centers for Disease Control, 2006).
Socio-cultural theories:

According to the dual pathway model, eating disorders develop through two pathways
1. When girls are dissatisfied with their bodies, they may engage in dietary restriction to lose weight and achieve their ideal size and shape
2. Dieting usually produces feelings of hunger, irritability, and fatigue.

According to the tripartite influence model, three sociocultural factors influence adolescent girls’ eating behavior: peers, parents, and the media
1. Peers can influence adolescent girls’ eating when they place importance on weight and body shape, tease other girls about their weight or appearance, or diet themselves.
2. Parents affect a girl’s eating behavior when they make comments about their own weight, shape, or appearance, when they diet, or when they criticize their daughter’s appearance or urge her to lose weight.
3. The media can provide girls with maladaptive ideas about dieting, exercise, and weight loss.
Socio-cultural theories:

Girls who adopt masculine gender roles may be at lower risk for eating disorders whereas girls who endorse feminine characteristics may be at slightly greater risk.

Gilligan (1982) argues that before puberty, girls are as assertive, outgoing, and self-confident as boys; however, during early adolescence, girls suppress some of their assertiveness; lack of autonomy can contribute to eating problems.

Advocates of objectification theory assert that western culture values women primarily for their appearance and sexual identities; girls develop body dissatisfaction and eating pathology when they internalize society’s standards of beauty and come to see themselves primary as sexual objects to be viewed by others.

Data supporting sociocultural theories are largely correlational in nature; causal inferences are tentative at this time.
Inpatient treatment for AN

Inpatient treatment for AN initially focuses on changing the adolescent’s eating behavior, rather than on providing relief for the adolescent’s emotional distress; the primary goal is to monitor the adolescent’s physical health and to help her gain weight.

To help girls gain weight, the treatment team administers a behavioral protocol that reinforces caloric intake and participation in the treatment program.

In most inpatient treatment programs, adolescents participate in group therapy; supportive confrontation between patients may be encouraged by the group therapist.

Group therapy often targets adolescents’ cognitive distortions:

- Self-worth is directly associated with weight
- Dichotomous (i.e., black-or-white) thinking

Because inpatient treatment is expensive, many hospitals have developed day treatment or partial hospitalization programs for patients with eating disorders.
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<th><strong>Group therapy for adolescent eating disorders</strong></th>
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<tr>
<td>Psychoeducation</td>
<td>Provides adolescents with information about eating disorders</td>
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<tr>
<td>Behavioral recovery</td>
<td>Teaches adolescents to recognize and challenge cognitive distortions that lead to eating problems; promotes weight gain and healthy eating using supportive confrontation between group members</td>
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<tr>
<td>Relaxation training</td>
<td>Teaches adolescents relaxation and emotion-regulation skills, such as deep breathing, imagery, yoga, and meditation</td>
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<tr>
<td>Nutrition</td>
<td>Teaches adolescents about basic nutrition, the risks associated with dieting, and alternative ways to manage weight and consume healthy foods</td>
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<tr>
<td>Meal planning</td>
<td>Helps adolescents select balanced meals and healthy portions; teaches social skills while eating</td>
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<tr>
<td>Body image</td>
<td>Teaches adolescents to correct maladaptive beliefs about their bodies, to critically evaluate images of women’s bodies on TV and in magazines</td>
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<tr>
<td>Self-esteem</td>
<td>Provides adolescents with assertiveness training and communication skills training to improve self-confidence</td>
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<tr>
<td>Family issues</td>
<td>Helps adolescents understand how family relationships can lead to healthy or problematic eating, allows adolescents to develop more healthy patterns of interaction with family</td>
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<tr>
<td>Relapse prevention</td>
<td>Teaches adolescents to recognize and avoid environmental events or mood states that trigger problematic eating; helps adolescents plan for their return to family and school</td>
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Family therapy for AN

Structural family therapy, developed by Salvador Minuchin, focuses primarily on the quality and patterns of relationships between family members.

1. Therapists place little emphasis on the adolescent’s eating behavior, per se.
2. The adolescent’s AN symptoms are believed to serve a diversionary function.
3. Therapists focus instead on family relationships and communication.
4. Family therapists see their “client” as the entire family system, not just the adolescent with the eating disorder.

The Maudsley Hospital approach to treating AN:

1. The therapist encourages parents to take control of their adolescent’s eating behavior and develop a plan for helping her gain weight; the goal is to help parents feel empowered.
2. Parents are encouraged to shift responsibility for refeeding to their adolescent; the goal is for parents to grant the adolescent greater autonomy.
3. Parents and adolescents negotiate rights and responsibilities within the family that satisfy all family members.
CBT for BN

The goal of CBT is to break the cycle of negative reinforcement that maintains BN

1. Girls are exposed to normal amounts of food and prohibited from purging or engaging in other maladaptive means of avoiding weight
2. Clients initially experience considerable discomfort ingesting food and avoiding weight loss strategies
3. Over time, anxiety is gradually reduced and compensatory behaviors are no longer negatively reinforced

Early in CBT, the therapist asks the adolescent to identify situations or events that do and do not trigger binging or purging; the adolescent later learns to avoid or cope with these triggers

Another early goal of CBT is to increase the adolescent’s motivation to change her eating behavior; this is sometimes accomplished by conducting a cost-benefit analysis

CBT focuses primarily on identifying and challenging dysfunctional thoughts that contribute to the adolescent’s eating disorder; adolescents learn to change their ways of thinking
Cost-benefit analysis of bingeing and purging.

### Continue Bingeing & Purging

**Benefits**
- I’ll lose weight.
- I’ll get compliments from friends, boyfriend.

**Costs**
- I feel guilty and out of control for bingeing.
- I feel guilty (disgusting) after purging.
- I don’t like lying to my family.

### Changing Eating Behavior

**Benefits**
- I won’t feel guilty about bingeing and purging.
- I might feel better about myself – more in control.

**Costs**
- I will gain a lot of weight.
- People might criticism me (parents) or make fun of me (friends) if I get heavy.
Effectiveness of CBT for BN. CBT is most effective in reducing purging and dietary restraint and least effective at reducing weight concerns and frequency of binges. Based on Lundgren and colleagues (2004).
Interpersonal therapy for BN

Interpersonal therapists recognize that eating disorder symptoms are usually closely connected to adolescents’ social functioning; they focus primarily on the adolescent’s relationships with family members and friends, rather than on her eating disorder symptoms.

Interpersonal problems frequently coincide with (and sometimes elicit) maladaptive eating; 75% of people with eating disorders experience a significant interpersonal stressor shortly before the onset of their eating problem.

Interpersonal therapists help adolescents cope with four types of problems that might be associated with their symptoms of BN:

1. Loss or separation of a loved one
2. Interpersonal role transitions
3. Interpersonal role disputes
4. Social skills deficits
Comparison of CBT and IPT in treating BN. Immediately after treatment, more people improved after receiving CBT. One year later, people who received CBT and IPT showed similar outcomes. Based on Wilson and colleagues (2002).
Medication

Randomized controlled trials of tricyclic antidepressants and selective serotonin reuptake inhibitors (SSRIs) have shown them to be largely ineffective in treating anorexia; however, they may be useful in alleviating comorbid depression or anxiety or in preventing relapse.

Antidepressant medications have been shown to be effective in reducing BN symptoms; however, 75%–80% of patients remain symptomatic even while taking the medication.

Combining SSRIs and psychotherapy (especially CBT) is slightly more effective in reducing BN than using therapy alone; using medication alone results in poorest outcomes since relapse is extremely common among adolescents and young adults.
Comparison of medication and psychotherapy in treating BN. Combining SSRIs and psychotherapy (especially CBT) was slightly more effective in reducing BN than using therapy alone. Medication alone resulted in poorest outcomes. Based on Bacaltchuk and colleagues (2000).