Eating Disorders:
Causes, Signs, & Treatment

Jason Schweitzer, MD

Tamara Maginot, PhD and

Rady Children's Hospital San Diego

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Agenda

- Review of types of Eating Disorders
  - Assessment and warning signs
- Neurobiology of eating disorders
  - Symptoms and Causes
- Treatment for Eating Disorders
  - Referrals and community resources

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Truth

Eating Disorders affect people of all genders, ages, races, ethnicities, body shapes, weights, sexual orientations, and socioeconomic statuses.

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Prevalence

- General population about 1-4%
- Majority are women
- About 10% of people with anorexia and bulimia are male
- Primary risk is from puberty through 20s.
- Mortality rates are as high as 10%
  - Cardiovascular
  - Electrolyte abnormalities
  - Suicide

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Truth 2

Many people with eating disorders look healthy, yet may be extremely ill.

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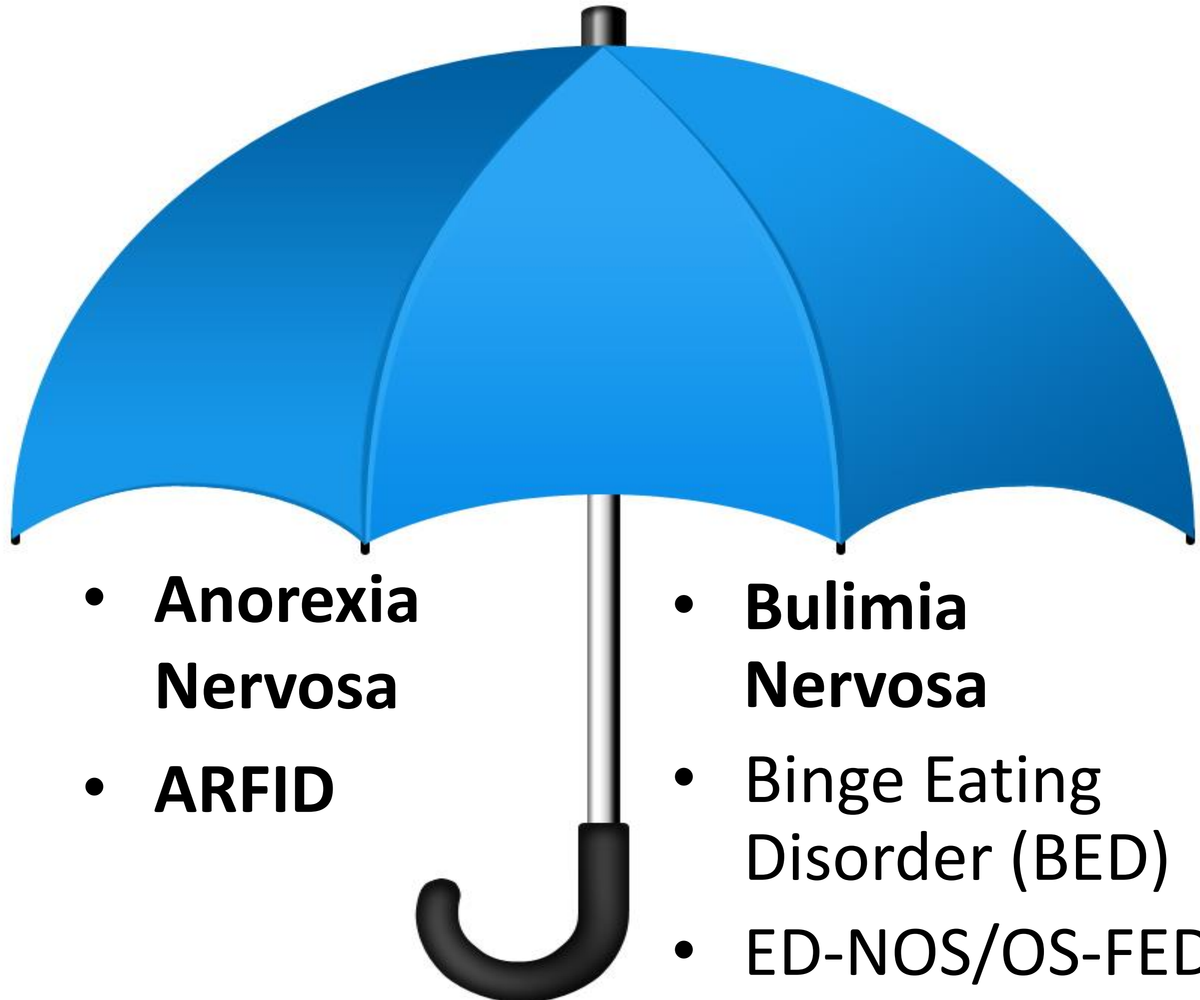
Types of Eating Disorders



- **Anorexia Nervosa**
- **ARFID**
- **Bulimia Nervosa**
- Binge Eating Disorder (BED)
- ED-NOS/OS-FED

Is it an eating disorder?

- Thoughts
  - Monopolized by food and/or body
- Behaviors
  - Want to stop but can't
  - Harmful to your health and/or functioning
- Functioning
  - Occupational/academic
  - Social
  - Athletic

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How EDs may present

Physical symptoms reflect degree of malnutrition

- Amenorrhea
- Stomach pain/Constipation
- Fatigue
- Cold intolerance
- Light-headedness
- Signs of emotional/cognitive blunting

- Other psychiatric symptoms may appear primary

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Anorexia

A. Relative restriction of energy intake; relative to requirements leading to a markedly low body weight in the context of age, sex, developmental trajectory, and physical health. Markedly low is defined as less than minimally normal, or, for children and adolescents, less than that minimally expected for age and height.

B. Intense fear of gaining weight or becoming fat, even though underweight OR persistent behaviors that prevent weight gain, even though at a significantly low weight.

C. Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or persistent lack of recognition of the seriousness of the current low body weight.

Subtypes:

- Restricting (AN-R)
- Binge eating/purging (AN-BP)

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Warning Signs AN

- Rigid, restricted eating patterns
- Food rituals
- Avoidance of social situations involving food
- Excessive, compulsive exercise, working or studying
- Water loading

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Warning signs AN

- Checking weight frequently
- Comments about weight and body shape
- Wearing oversized clothing

- Poor concentrate, increased isolation and reactivity

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Determining Body Weight

- HAMWI formula for **IBW** for individuals over 5 feet tall:
  - Men: 106 + **6 lb** for every inch over 60 in.
  - Women: 100 + **5 lb** for every inch over 60 in.
  - Add 10% if person has large frame
  - subtract 10% if person has small frame.

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Bulimia Nervosa

A. Binging- Recurrent episodes of binge eating including both:

- Eating an amount of food that is definitely larger than most people would eat during a similar period of time and under similar circumstances
- A sense of lack of control over eating during the episode

B. Purging- Recurrent inappropriate compensatory behavior

- Self-induced vomiting
- Misuse of laxatives, diuretics, enemas, or other medications
- Fasting
- Excessive exercise

C. The binge eating and purging both occur at least once a week for 3 months.

D. Self evaluation is unduly influenced by body shape and weight.

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Warning Signs of BN

- Secretive eating
- Refusal to eat with friends
- Disappearance to the bathroom after meals
- Ability to eat large amount of food without weight gain
- Compulsive exercise
- Emotion dysregulation

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ARFID

Avoidant Restrictive Food Intake Disorder

ARFID
Avoidant Restrictive Food Intake Disorder

A. An **eating or feeding disturbance** as manifested by persistent failure to **meet appropriate nutritional and/or energy needs** associated with one or more of the following:
   A. Significant **weight loss** (or failure to achieve expected weight gain or faltering growth in children).
   B. Significant **nutritional deficiency**.
   C. Dependence on **enteral feeding or oral nutritional supplements**.
   D. Marked **interference with psychosocial functioning**.

Three types of “picky” eaters:

1.) Limited palate

2.) Low hunger cues

3.) Food/eating phobias

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Truth

Eating disorders carry an increased risk for both suicide and medical complications

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Psychiatric Comorbidities

- Affective disorders
  - Depression
  - Bipolar
- Anxiety disorders
  - OCD
  - Social Anxiety
  - Generalized Anxiety (GAD)
  - PTSD
- Personality disorders
  - Borderline Personality Disorder (BPD)
- Substance abuse
- Suicidality

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Medical Consequences

- CNS (Brain changes)
- Cardiovascular (heart)
  - Cardiac dysfunction, arrhythmias, prolonged QT interval
  - Bradycardia <45 beats/minute
  - Hypovolemia/ hypotension
- Renal/Metabolic (kidney)
  - Electrolyte disturbance – hypokalemia, hypoglycemia
- Musculoskeletal
- Reproductive
- Endocrine/metabolic
- Gastrointestinal
- Oropharyngeal
- Severe malnutrition - <75% IBW
- Rapid weight loss despite interventions
- Intractable binge-purge episodes

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Medical Consequences

- When To Seek Emergency Services?
- Restriction, purging, laxative abuse, over-exercising
  - Falls
  - Mental Status Change
  - Significant weight loss in short time
  - Chest pain, shortness of breath
  - Symptomatic Orthostasis
  - Abnormal Electrolytes

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Medical Consequences

- Call 911
- Reach out to primary care team
- Reach out to psychiatry team

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Screening and Assessment

- Eating Disorder Examination Questionnaire (EDE-Q)
- Eating Attitudes Test (EAT-26)
- Eating Disorder Inventory (EDI-3)

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Truth

Environment and GENES play important roles in the development of eating disorders.

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Powerful neurobiology

- Family studies (Kendler, 1991; Walters 1995; Lilenfeld, 1998; Strober, 2000)
  - Increased rate of AN, BN, ED NOS in first degree relatives
- Twin studies (Kendler, 1991; Treasure 1994; Berrettini, 2000; Bulik, 2006)
  - Approximately <u>50 to 80% heritable risk</u>
  - Genes more powerful than culture
- Genes cause childhood (pre-morbid) behaviors (Anderluch 2003; Stice 2002; Lilenfeld 2006; Kaye 2009)
  - Anxiety, harm avoidance, perfectionism, inhibition, compliance, obsessive personality, drive for achievement

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Starvation Study

- Minnesota Starvation Study (1950)
  - 36 health men
  - 3 month observation, 6 months restricted intake
- Dramatic increase in food preoccupation
- Emotional / personality changes
- Social changes
- Cognitive Changes
- Physical Changes

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Truth

Eating disorders are not choices, but serious biologically influenced illnesses.

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Temperament Traits

Great Students and Athletes.....
And Overlap with Eating Disorders

- Achievement oriented; pursuit of excellence
- Sensitive to consequences = high compliance; very teachable/coachable
- Altered interoceptive awareness = denial of discomfort; performance despite pain
- Intense volume and level of exercise; commitment to training
- High attention to detail; high error detection rate

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Truth

Families are not to blame, and can be the patients' and providers' best allies in treatment.

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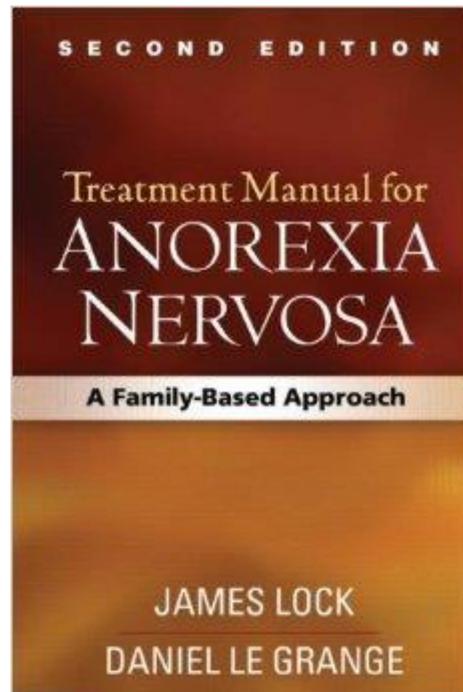
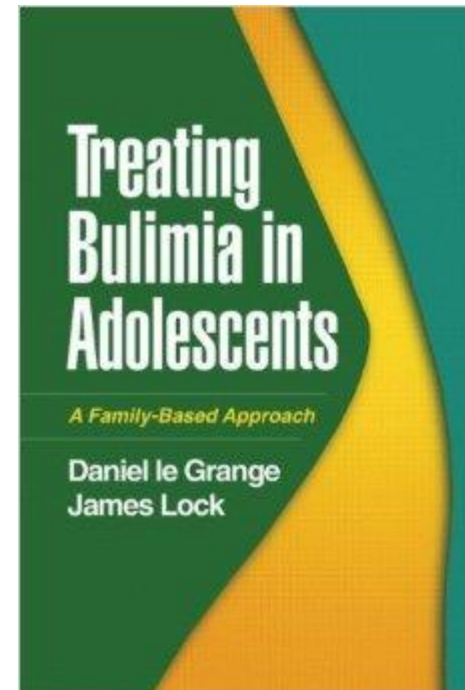
Family Therapy for Adolescents





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Treatments

Cognitive Behavior Therapy and Eating Disorders

Christopher G. Fairburn

- CBT-E (Fairburn et al., 2009)
  - Leading treatment for Bulimia in adults
  - Treats the ED psychopathology rather than the diagnosis (Murphy et al., 2010)
    - Providing education, establishing regular eating, involving significant others
- DBT
  - Originally developed for borderline personality disorder by Marsha Linehan (Linehan, 1993)
  - Mindfulness Skills, Interpersonal Effectiveness Skills, Emotion Regulation Skills, Distress Tolerance Skills

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Medications

- Family based treatment 1st line for AN; outcome measure is full weight restoration; 41.8% vs. 22.6% compared to individual therapy
- CBT, Interpersonal Psychotherapy, CBT based self help and Prozac – 1st line for BN; higher success rate vs. nonspecific therapy, behavior therapy and placebo (pill)
- CBT, Topiramate and CBT based self-help 1st line for Binge Eating Disorder; higher success rate vs. Behavioral weight loss, Pill Placebo and Wait List

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Medications : Anorexia Nervosa

- Affects ~ 0.3% of US adolescents
- Associated with multiple medical complications and has the highest mortality rate of any psychiatric disorder
- No medication is approved by the FDA for the treatment of AN
- Despite initial promise with SSRI and Atypical Antipsychotic open label studies, Double Blind Placebo Controlled trials have been disappointing for both classes

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Medications : Anorexia Nervosa

- SSRI’s
  - Initial reports suggested that SSRI’s were effective for the core sx’s of AN, even that Prozac may prevent relapse
  - Subsequent studies have shown NO benefit of SSRI’s for the treatment of AN in the acute phase or for prevention of relapse.
  - SSRI’s also not very effective for the treatment of depression in acutely ill patients with AN – suggests the anti-depressant effect depends on adequate intake of tryptophan
  - SSRI’s MAY play a role when patient is weight restored and is making progress with nutritional

Medications : Anorexia Nervosa

- Antipsychotics
  - Early case reports and open label studies suggested Olanzapine and Quetiapine were effective; double blind PC studies were less positive. Adult study showed Olanzapine helped with faster weight gain and less obsessive features, but study with adolescents did not find same benefit
  - Quetiapine and Risperidone studies also negative
  - Case reports of Aripiprazole promising

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Medications : Anorexia Nervosa

- Antipsychotics – reason to think they should help
  - Common body image distortions associated with AN, fixed belief that one is fat when actually emaciated, meets criteria for a psychotic symptom; scores on Positive and Negative Syndrome Scale are elevated similar to pts with schizophrenia.
  - Individual patients may find success – most promising Olanzapine and Aripiprazole; patients with odd thinking, blunted affect, CAH telling patient not to eat

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Medications : Anorexia Nervosa

- Other Agents: no evidence, only case reports
  - Small doses of benzo’s prior to meals, initial refeeding
  - Bone loss begins soon after the onset of the illness, can be more severe than postmenopausal osteoporosis
    - Estrogen? Menses may return, which can confuse the dx
    - Hormonally induced menses may reinforce denial in patients that nothing is wrong
    - Recommend Calcium and Vit D for AN patients
  - Delayed gastric emptying; rx with metoclopramide (central and peripheral dopamine antagonist), stimulates GI tract motility; risk of EPS or TD is high in semi starved patients; use fluids for nutrition early on in refeeding phase

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Bulimia Nervosa

- CBT 1st line treatment
- SSRI's first choice for medication management of BN; Fluoxetine only medication FDA approved – mechanism unclear

Bulimia Nervosa

- Recommend using Fluoxetine for at least 6 months after a response is achieved
- Fluoxetine should be 1st line treatment if medications are used for BN; also FDA approved for MDD/OCD
- Single 8 week open trial with 10 adolescents aged 12-18 yrs with Fluoxetine, 60 mg/day, plus supportive psychotherapy
  - Average weekly binges decreased from 4 to 0, purges decreased from 6.4 to 0.4
- Other SSRI's likely effective but no trials in adolescents

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Bulimia Nervosa

- Other Agents:
  - Topiramate is FDA approved for the treatment of partial onset or secondarily generalized seizure disorders in children > 2 yrs.
    - Associated with appetite suppression and weight loss likely mediated by blockade of AMPA in the hypothalamus has led to several trials in adult patients with BN. Positive studies exist in adult patients in reducing binge eating/purging episodes, weight and overall psychopathology; can induce weight loss, use carefully in low weight individuals with BN and binge/purge AN.
  - Opioid Antagonists: decrease stress induced eating; Naloxone and Naltrexone; higher doses needed, risk of hepatotoxicity
  - Zofran; 5-HT-3 antagonist, approved for prevention of N/V with chemo or anesthesia; single small randomized trial showed efficacy in patients with BN who did not respond to Thx/SSRI's.
  - Also looking at GABA and Glutamate systems, reward process and regulation of food intake; Light Therapy

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ARFID

- Some case studies for SSRIs and Olanzapine
- Overall, much more study is needed

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Comorbidity

- Diagnosis and Treatment
  - Many psychiatric diagnosis are comorbid with eating disorders
    - Mood Disorders – 50%
    - Anxiety Disorders – 66%
    - Substance Abuse - 19%
  - Need to accurately dx these conditions
  - Starvation alone can produce anxiety, depression, cognitive dulling and OCD symptoms
  - Despite being at normal weight, patients with BN can have clinical symptoms of starvation, which can produce depression and mood lability in combination of chaotic eating patterns

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Pharmacokinetic Issues

- Delayed gastric emptying, can lead to prolonged absorption and time to peak drug concentrations
- Purging increases risk for malabsorption
- Following gastric bypass surgery, patients are at risk for decreased absorption of medications
  - 50% of patients had depressive relapses following gastric bypass surgery; SSRI levels returned to baseline by 6 months

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Levels of Care

- Inpatient
- Residential
- 10-hour PHP
- 6-hour PHP
- IOP 5-day
- IOP 3-day
- Outpt

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Truth

Full recovery from an eating disorder is possible. Early detection and intervention are important.

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SUMMARY

- Ask about Behaviors!
- Review warning signs
  - Mental status change, chest pain, shortness of breath, falls, seizures
- Consider eating disorder targeted treatment
- Medications are not first line

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Websites

- FEAST
  - http://www.feast-ed.org
- NEDA
  - The NEDA Helpline can be contacted at **(800) 931-2237**, **info@nationaleatingdisorders.org**, and through our **click-to-chat** feature at **www.nationaleatingdisorders.org**

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