Adolescent Eating Disorders

Arkansas Children’s Hospital Eating Disorders Team

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Objectives

• Define and recognize eating disorders using DSM-5 criteria.
• Discuss the epidemiology and etiology, as well as typical clinical presentation of eating disorders.
• Be able to recognize the eating disorder mindset.
• Review the medical complication.
• Discuss medical workup and admission criteria.
• Discuss typical inpatient management.
• Understand and recognize Refeeding Syndrome.
• Review assessment of eating disorders.
• Be able to identify and challenge myths associated with eating disorders.
• Understand the components of treatment and recovery.
What are Eating Disorders?

• Eating disorders are a group of psychological illnesses that involve abnormal eating habits which create medical complications.

• There are five DSM-5 eating disorders
  – Anorexia Nervosa *
  – Bulimia Nervosa *
  – Binge Eating Disorder
  – Avoidant-Restrictive Food Intake Disorder (ARFID)
  – Other specified feeding and eating disorder (OSFED)
Anorexia Nervosa

- Restriction of energy intake
- Significantly low body weight
- Intense fear of gaining/becoming fat
- Body image disturbance
- Weight/shape heavily influences self-evaluation
- May deny seriousness of symptoms
- Compensatory behaviors may be present*
Bulimia Nervosa

• Normal or overweight
• Recurrent episodes of bingeing*
• Recurrent compensatory behaviors to prevent weight gain
• Both occur 1x per week for 3 months
• Body shape/weight heavily influences self-evaluation
Binges

• Eating a lot more than most people under similar circumstances in an under 2 hour period.
• Sense of lack of control over eating during an episode.
• Binge characteristics
  – More rapidly than normal
  – Until feeling uncomfortably full
  – When not feeling physically hungry
  – Eating alone because of feeling embarrassed by how much one is eating
Binge Eating Disorder

- Normal or overweight
- Recurrent episodes of bingeing
- Exhibiting 3 or more binge-characteristics (previous slide)
- Binges occur 1x per week for 3 months
- Distress over bingeing
- No compensatory behaviors
Avoidant-Restrictive Food Intake Disorder (ARFID)

• Failure to meet appropriate nutritional and/or energy needs associated with one (or more) of the following:
  – Significant weight loss (or failure to achieve expected weight gain or faltering growth in children).
  – Significant nutritional deficiency.
  – Dependence on enteral feeding or oral nutritional supplements.
  – Marked interference with psychosocial functioning.

• May look a lot like Anorexia Nervosa
ARFID (Cont.)

• No evidence of AN or BN, body image/weight concerns, concerns about availability of food or symptoms being related to culturally sanctioned practice

• Examples: apparent lack of interest in eating or food; avoidance based on the sensory characteristics of food; concern about aversive consequences of eating such as choking or getting sick
Other Specified Feeding or Eating Disorder

• Disorders of eating that don’t fall into other categories

• Can be of equal or greater seriousness than anorexia or bulimia*

• Examples
  – AN without weight criteria
  – BN except frequency or duration criteria
  – Binge eating disorder except frequency or duration criteria
  – Purging behavior without episodes of bingeing
ED Symptom Relationships

- Anorexia Nervosa
- Bulimia Nervosa
- Binge Eating

- Avoidant-Restrictive Food Intake disorder
Related Conditions

• Body Dysmorphic Disorder
  • Unhappiness with the body/parts that causes distress and some behavioral change
  • No food anxiety, bingeing, and/or compensatory behaviors present in anorexia/bulimia

• Orthorexia
  – obsession with being “healthy” and eating “healthy” causing changes in dietary habits
  – Normal weight
  – Normal body image
Etiology

• Unknown: No single reason
• Genetic and biological predispositions
  – Relatives of E/D patients 7-12X higher risk
  – Personality traits
• Environmental Stressors
• Cultural/Psychosocial stressors/ Social Media
• Participation in sport that focuses on body
• Dieting is #1 risk factor
• Restricting usually triggers binge/purge cycle
Epidemiology

- 20 million women and 10 million men suffer from an eating disorder in the United States during their lifetime
  - 1 in every 100 people
- Anorexia Nervosa: 0.5-2%
  - 3rd most chronic illness among young adults
- Bulimia Nervosa: 0.9 %
- Binge Eating Disorder: 2.8%
- “Other” 4.6%
Epidemiology

- Males are 10% of eating disorder population
  - Higher reports of males in children and adolescents (6:1)
- Age at presentation: 15-19 years old
  - 119% rate of increase in children under 12
- 50% boys and 25% girls in elementary school report dieting in past year and/or concerns with their body
Why?

• Eating disorders are not typically about food, but about the emotional/behavioral problems the food issues are serving to mask.

• Other, more complex issues that the patient may be struggling with:
  – Low self-esteem
  – Depression
  – Anxiety
  – Perfectionistic tendencies
  – Family or social problems
Initial Eating Disorder Mindset

- Small, intentional changes in eating
- Moderate increase in activity
- Body unhappiness
- Increased interest in food, diets, weight, exercise
- Still focuses on many aspects of life
ED Mindset Over Time

• Excessive & rigid food/social rules
• Fat/weight/size talk
• Food resistance
• Food anxiety/ guilt
• Impaired judgment & decision-making around food
• Numbers obsession
• Focus reduced mostly to E/D
Eating disorders are psychological illnesses with medical complications.

Eating disorders have the HIGHEST mortality of ANY psychiatric illness.
• Type of Eating Disorder behavior determines medical complications
  – Restricting Complications
  – Purging Complications
    • Vomiting
    • Laxative Abuse
    • Diuretic Abuse
Restricting Complications

• Brain
• Cardiovascular System
• Gastrointestinal System
• Kidney and Electrolytes
• Endocrine System
• Reproductive System
• Musculoskeletal System
• Skin
Brain

- Brain atrophy
  - Ventriculomegaly
  - Cerebellar loss
- Increased cerebral spinal fluid space
- Reduction in gray and white matter
- Decreased attention span, mood swings
Heart: Structural Changes

- Atrophy of cardiac muscle
- Decreased cardiac mass
- Reduced cardiac chamber volumes
- Mitral valve prolapse
  - Heart muscle decreases but the structural tissue of valve stays the same → prolapse
- Pericardial Effusion
  - 10% of patients with anorexia nervosa
Functional Changes of Heart

- Bradycardia
- Hypotension, orthostasis
- Electrocardiogram changes
  - Increase risk for sudden death:
    - Prolonged QTc
    - Increased QT dispersion
  - Non specific EKG changes
    - ST and T-wave changes
  - Changes due to Electrolyte Abnormalities
- Diminished heart rate variability

- Symptoms reported include dizziness, headache, exercise intolerance, fatigue, CP
Stomach and Intestines

- Gastroparesis
- Reflux
- Constipation
- Elevated Liver Enzyme Tests
- SMA syndrome
Kidney and Electrolytes

- Decreased GFR
- Difficulty concentrating urine
- Low creatinine
- Electrolytes usually normal in AN
  - Potassium, Magnesium, Phosphorous important in refeeding syndrome
Reproductive System

• “Hypothalamic Amenorrhea Syndrome”
  – GnRH pulsation decreases → low LH, FSH
    • ALL sex hormones will be low
  – Infertility
    • Up to 10% infertility clinics AN
  – Not ovulating (but can)

• Pregnancy and Neonatal Complications
  – Miscarriage
  – Preterm Birth
  – Low birth weight

• Males:
  – Adrenal gland production male sex hormones diminished
Musculoskeletal System

• Low Bone Mineral Density
  – Peak bone mass occurs at 17-22 years
  – Arrest of bone development and increase in bone resorption
    • Estrogen and Progesterone deficiency
    • Low body weight
      – Males with malnutrition
  – Osteoporosis and Osteopenia
    • DEXA Scan amenorrhea >6 mos

• Muscle Wasting
Endocrinology

- **Thyroid:** “Euthyroid Sick Syndrome”
  - Low/low normal T3 and T4
  - Normal TSH
  - Increased reverse T3

- **Glucose**
  - Low
  - Depleted liver glycogen stores and disrupted gluconeogenesis

- **Increased cortisol levels**
Hematologic

- Leukopenia
- Anemia
- Thrombocytopenia

- Degree of cytopenia correlates with degree of malnutrition
Dermatologic

- Dry skin
- Lanugo
- Thinning hair/brittle
- Acrocyanosis
- Acne
- Carotenemia
Purging Complications

• Types of purging
  – Vomiting
  – Laxative Abuse
  – Diuretic abuse
  – Exercise

• All patients who purge
  need lab evaluation
  – Electrolyte Panel
  – U/A
Gastrointestinal: Vomiting

- Puffy, swollen cheeks
- Parotid or salivary gland hypertrophy
- Loss of gag reflex
- Abdominal pain
- Bloating
- Esophageal tears or rupture
  - Blood stained emesis
- Reflux
  - Barrett Esophagus
- Dysphagia, Odynophagia
Renal and Electrolytes

- **Dehydration**
  - Complain of dizziness/orthostasis

- **Vomiting**
  - Hypokalemia
    - Muscle weakness, cardiac arrhythmias, impair kidney function
  - Hypochloremia
  - Metabolic Alkalosis
Laxative Abuse

• Diarrhea
  – Dehydration, dizziness
• Electrolyte Imbalances
  – Metabolic alkalosis (chronic use)
  – Hypochloremia (chronic use)
  – Hypokalemia
• Reflex constipation
• Cathartic Colon Syndrome
Cardiac

• Hypotension and orthostasis
• Sinus tachycardia
  – Dehydration
• Palpitations
• Edema
• EKG changes
  – Electrolyte abnormalities
Skin and Teeth

- Russell Sign
- Dental enamel erosion
- Self injurious behavior
  - Quite common
Type 1 Diabetes and Eating Disorders

• Insulin misuse to control weight “Diabulimia”
  – 35% female patients in one study
• ¼ of Type 1 DM reported eating disorder behavior
• Leads to higher morbidity/mortality

Remember:

Hospitalization may be necessary to save someone with an eating disorder, even if they don’t “look” sick.
Admission Requirements

- Unstable Vital Signs
  - HR < 50 bpm
  - Hypothermia
    - Temp < 97 F or < 35C
  - Systolic BP < 80
- Continued weight loss
- Severe Malnutrition
- Arrhythmias
- Electrolyte Abnormalities
- Dehydration
- Continued vomiting
- Failure of outpatient treatment
- Suicidal Ideation
Nutrition Management

• Initial Assessment is important
  – 24 hr recall
  – History of eating behaviors
  – Exercise (Type, frequency, and duration)
  – Weight assessment (History, goal weight, fear of gaining weight)

• Education of healthy eating
  – Balance - Variety
  – Flexibility - Enjoyable
  – Metabolism - Hunger Cues
Nutrition Management

• Meal Planning
  – 3 meals and 3 snacks
  – Inclusion of all food groups
  – Variety is Key!
  – Reframing of portion sizes
  – “healthy” vs. “non-healthy” foods
• Remember to start with a realistic goal.
Nutrition Management

• Food records can be beneficial.
• Food challenges are important to challenge the eating disorder.
  – Dessert twice a week
  – Candy 3 times/week
  – Increased variety
• Exercise should be discussed throughout each visit and meal plans adjusted accordingly to exercise.
  – If possible limit correlation of exercise to food
Refeeding Syndrome

- Massive shift of electrolytes with refeeding, primarily due to changing phosphorous levels
  - Fluid overload: Edema
  - Heart Failure and arrhythmias
  - Respiratory Failure
  - Muscle Pain
  - Delirium, Tremors, Seizures
- Daily labs are extremely important
  - We are trending them – especially Phos, K, Mag
- Refeeding can be fatal and is 100% preventable
Refeeding Treatment

• Slow Down on Nutrition
• Replace Electrolytes
  – KPhos: 1 packet BID
  – Magnesium Oxide 500mg TID
Multidisciplinary Team Approach

- Medical Monitoring
- Nutritional Monitoring
- Psychotherapy
Treatment Levels

- Outpatient (AR)
- Intensive Outpatient (AR limited)
- Day Treatment (out of state)
- Residential (out of state)
- Inpatient medical stabilization (AR)
Assessment of Eating Disorders

• Gather specific E/D information
  – Food recall: Skipping meals, counting calories, measuring food, eating alone/with others
  – Bingeing/ purging
  – Weight loss/gain, onset, duration
  – Periods, if applicable
  – Changes in food preference/groups
  – Exercise habits
  – Rule-driven behavior (e.g., numbers, socially)
Assessment of Eating Disorders (Cont.)

- Listen for the “E/D mindset”
- Many people with E/Ds don’t believe they have a problem
- See any resistance as fear-based, not personal
- Wording matters—to reduce shame and defensiveness
Assessment of Eating Disorders (Cont.)

- Recognize the person might tell you more one-on-one
- Obtain feedback from supportive others (e.g., parents, spouses, etc.)
- Avoid closed-ended/accusatory questions (e.g., did/do you, why)
- Identify and challenge your own myths/judgements about eating disorders
Differential Diagnosis

• Weight
• Mindset—surrounding food, weight, and their body
• Motivation for diet changes
• Emotions post-eating
• Food compensation?
• Duration of symptoms
• Are behaviors consistent across settings (e.g., home, school, work, with friends)
• Give attention to changes in mood and eating habits
Recognize E/D Myths

• Males
• Must be/look underweight
• Only about weight/looks
• Sexuality
• Sexual abuse history
• Presence of purging equals bulimia
• Vomiting is only way to purge
• There are “good” foods and “bad” foods
Recognize E/D Tricks

- E/D is sneaky and manipulative (not the person)
- Buzz words to hide fear of gaining—“healthy, toned, fit”
- Focusing on physical state such as “I’m not hungry, my stomach hurts, etc.”
- Justifying E/D behavior with a cultural practice (e.g., vegetarianism, Lent, fad diets)
Recognizing E/D tricks

- Compensation
- Secretive behavior (water-loading, pockets, shower, hiding/throwing away, exercise)
- Excuses, excuses, excuses
- Splitting
- Conflict / Intense emotion/reactions
- Social media
Therapy for AN

• Traditional therapies are ineffective until the person is relatively nourished

• Weight restoration phase, if necessary, takes specialized therapy

• If/once weight restored, move onto more traditional therapies
Weight Restoration in Adolescents

Weight restoration, if applicable, is the number one goal initially for both therapists and doctors.

Specialized Therapy:
- Family-based treatment
Remember:

• Not all therapy is the same.
• Not all therapists have training in eating disorder treatment.
• Inquire!

Your patient/client/family may not be aware
Recovery

• Early intervention is key; prognosis is better the sooner treatment is implemented after onset of the disorder

• Adolescents have better prognosis compared to adults who have suffered from the illness for an extended period of time

• Full recovery is not guaranteed, but it is possible
Defining “Recovered”

• Four aspects of recovery:
  – Physical
    • Healthy weight, heart rate, etc.
  – Psychological
    • Little-to-no mental energy, obsession, anxiety/guilt, about food/weight
  – Behavioral
    • Not bingeing, purging, restricting, etc.
  – Social
    • Comfortable eating around others, re-engaged, etc.
Remember:

You may be the first person to recognize the problem. Do not try to do it alone.

Recovery is possible!
QUESTIONS?