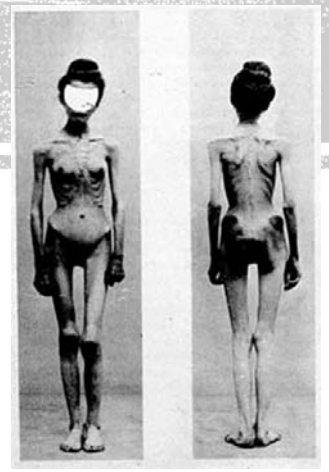
COMMON EATING DISORDERS IN ADOLESCENTS

Rosa Gomez De Jesus, MD

Assistant Professor

LVPG Adolescent Medicine

USF-Morsani College of Medicine



1900: "A case of hysteria anorexia"

OBJECTIVES

- Review the DSM V criteria for Anorexia Nervosa, Bulimia Nervosa and Avoidant Restrictive Food Intake Disorder (ARFID)
- Recognize clinical findings associated with Eating Disorders
- Plan the appropriate management for adolescents with an Eating Disorder
- Anticipate difficulties in the interaction with Eating Disorder patients during clinic encounter

EATING DISORDERS

- Serious mental illnesses
- Significant medical and psychiatric morbidity and mortality
- Anorexia Nervosa (AN): highest mortality rate of any psychiatric disorder
- Risk of premature death is 6-12 times higher in women with AN as compared to the general population

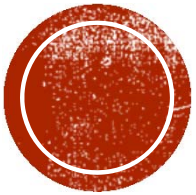
EATING DISORDERS

DSM IV

- Anorexia Nervosa
- Bulimia Nervosa
- Eating Disorders Not Otherwise Specified, including Binge Eating Disorder

DSM V

- Anorexia nervosa
- Bulimia Nervosa
- Avoidant/Restrictive Food Intake Disorder
- Binge Eating Disorder



DSM V CRITERIA

DSM V: ANOREXIA NERVOSA

A. Restriction of energy intake relative to requirements, leading to a significant low body weight in the context of age, sex, developmental trajectory, & physical health

B. Intense fear of gaining weight or of becoming fat, or persistent behavior that interfere with weight gain, even though at a significant low weight

C. Disturbance in which way 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

   A. Restricting type (ICD-10)
   B. Binge-eating/purging type (ICD-10)

SEVERITY

- Mild: BMI ≥ 17 kg/m^2
- Moderate: BMI 16-16.99 kg/m^2
- Severe: BMI 15-15.99 kg/m^2
- Extreme: BMI < 15 kg/m^2

Criterion	*DSM-IV-TR* 2000
Body weight	Refusal to maintain a body weight more than 85% of weight expected for height and age; failure to gain weight during a period of growth with body weight less than 85% expected for height and age.
Menstruation	In postmenarchal females, the absence of three consecutive menstrual cycles (hormonally induced menstruation is excluded).
Fear of weight gain	Although underweight, an intense fear of gaining weight or becoming fat.
Body image	A disturbance in the way one's body weight or shape is experienced; denial of the seriousness of low body weight; an undue influence of body weight or shape on self-evaluation.

AN: RISK FACTORS

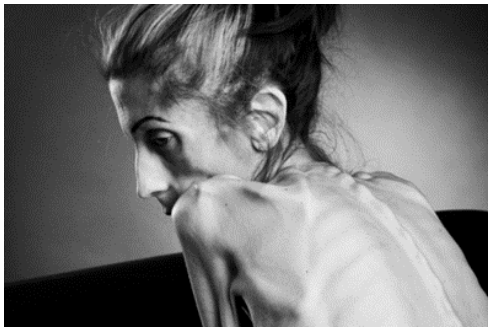
- Gender: female (1:8 < 14 y/o are boys)
- Early childhood eating problems (picky eating)
- Negative body image/ dieting
- Perinatal events (prematurity, SGA)
- Personality: perfectionism, anxiety, obsessive
- Early puberty
- Chronic illnesses (DM)
- Abuse (slightly higher incidence)
- Family history/family psychopathology
- Competitive athletics (ballet, gymnastics)

AN

- Prevalence: < 1%

- Psychopathology:
  - Introverted, obsessional, perfectionistic, rigid
  - Secretive about behaviors
  - Level of denial high

- Underweight, < 85% expected weight



AN: GOOD PROGNOSIS

- Short duration
- Early recognition & intervention
- Early onset (<14 y/o)
- No comorbidities
- No binging & purging
- Supportive family

"Don't step on it . . . it makes you cry."

AN

- Poor prognosis:
  - Lower body weight at diagnosis

- Sudden Death:
  - Prolonged QT
  - Hypophosphatemia
  - Ipecac cardiomyopathy
  - Severe emaciation (< 70% IBW)
  - Suicide

DSM V: BULIMIA NERVOSA (BN)

A. Recurrent episodes of binge eating.
   1. Eating an amount of food that is definitely larger than what most individuals would eat
   2. A sense of lack of control over eating

B. Recurrent inappropriate compensatory behaviors in order to prevent weight gain, such as self-induced vomiting; misuse of laxatives or diuretics; fasting; or excessive exercise

C. The binge eating and inappropriate compensatory behavior both occur at least 1/week for 3 months

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

E. Does not occur exclusively during episodes of anorexia nervosa.

SEVERITY

- Mild: 1-3 episodes or compensatory behaviors/week
- Moderate: 4-7 episodes/week
- Severe: 8-13 episodes/week
- Extreme: ≥ 14 episodes/week

BN

- Risk Factors:
  - Adolescent & female
  - Personality: negative affect, impulsivity, stressful life events, family conflict
  - Childhood sexual abuse
- Prevalence: 1-4%
- Psychopathology:
  - More outgoing, Impulsive
  - Prone to acting out behaviors: shoplifting, sexual promiscuity, self-destructive acts
  - Aware of problems; wants help
- Usually normal weight (can be normal, low or high)

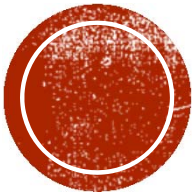
DSM V: ARFID

A. Eating or feeding disturbance as manifested by persistent failure to meet appropriate nutritional/energy needs associated with ≥ 1 of the following:
   1. Significant weight loss
   2. Significant nutritional deficiency
   3. Dependence of enteral feeding or oral nutritional supplements
   4. Marked interference with psychosocial functioning

B. Not better explained by lack of food or cultural practice

C. Does not occur exclusively during the course of AN o BN, and no evidence of a disturbance in the way one's body or shape is experienced

D. Not attributable to a concurrent medical condition or not better explained by another mental disorder



CLINICAL FINDINGS

KEEP IN MIND...

- In children and adolescents, failure to gain expected weight or height should be investigated for the possibility of ED
- EDs can be associated with significant compromise in every organ system of the body
- Weight is not the only clinical marker of an ED

EARLY RECOGNITION

- All instances of precipitous weight loss should be investigated for the possibility of an ED
- Also evaluate rapid weight gain or weight fluctuations
- Individual at weights above their natural weight range may not be getting proper nutrition
- Patient within their natural weight range may be engaging in unhealthy weight control practices

EARLY RECOGNITION

- Sudden changes in eating behaviors
  - New vegetarianism/veganism
  - Gluten-free, lactose-free
  - Elimination of certain foods or food groups
  - Eating "only" healthy foods
  - Uncontrolled binge eating

- Sudden changes in exercise patterns
  - Excessive or compulsive exercise
  - Involvement in extreme physical training

COMPLETE HISTORY

- Rate and amount of weight loss/change in past 6 months
- Nutritional history: dietary intake and restrictions
- Compensatory behaviors and frequency
- Exercise
- Menstrual history
- Current medications
- Family history
- Psychiatric history and trauma
- Growth Charts

PHYSICAL EXAMINATION

- Should include:
  - Height
  - Weight
    - blind
  - BMI
    - Body composition
  - Lying and standing heart rate and blood pressure
    - Orthostatic vitals
  - Oral temperature

DIAGNOSTIC EVALUATION

- Laboratory studies may be normal even with significant malnutrition

- Basic: CBC, CMP, ECG
  - Anemia
  - Glucose
  - Calcium
  - Renal function
  - Liver function

- Additional: Thyroid studies, Gonadotropins, ESR, DEXA

SIGNS & SYMPTOMS: GENERAL

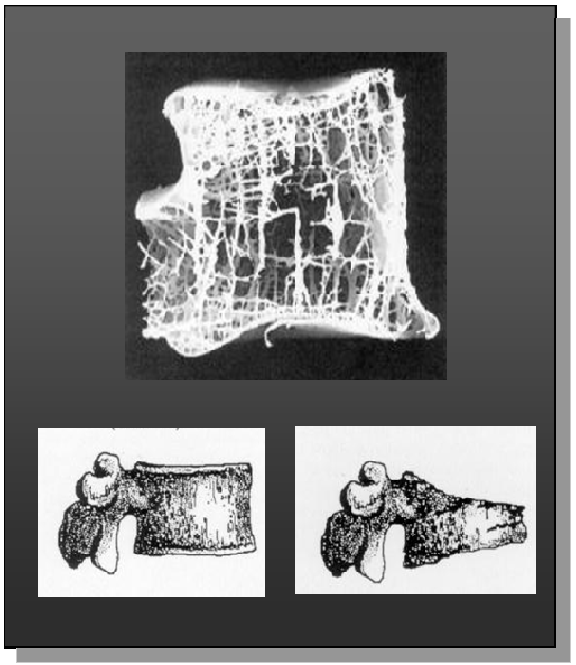
- Weight loss, weight maintenance or failure to gain expected weight
- Cold intolerance
- Weakness
- Fatigue
- Dizziness
- Syncope
- Hot flashes, sweating episodes

SIGNS & SYMPTOMS: DERMATOLOGIC

- Lanugo
- Hair loss
- Scalp hair thinning
- Yellowish discoloration
- Russell's sign (callus on the dorsum of the hands)
- Poor healing

SIGNS & SYMPTOMS: ENDOCRINE

- Amenorrhea, irregular periods
- Low bone mineral density
  - Female & Male
  - Increased fracture risk
  - May be irreversible
- Infertility



ENDOCRINE/GYN

- OCPs for amenorrhea or irregular periods are not indicated for most patients with EDs unless they require contraception

- Pregnancy can still occur despite possible suppressed ovarian function

- There is no current evidence to support the use of OCPs for treatment of low mineral bone density in a low weight patient with amenorrhea
  - Weight restoration and resumption of menses is the treatment of choice

ENDOCRINE

- Adolescent female with type I diabetes are at increased risk of Eds
- Underdose insulin, increased long-term complication of diabetes, early death
- Poor glucose intake and/or frequent episodes of DKA- evaluate
- Euthyroid Sick Syndrome- low weight patient with abnormal thyroid studies
  - Will resolved with weight restauration

SIGNS & SYMPTOMS: ORAL & DENTAL

- Oral trauma/lacerations
- Dental erosions
- Perimolysis
- Parotid enlargement

SIGNS & SYMPTOMS: CARDIORESPIRATORY

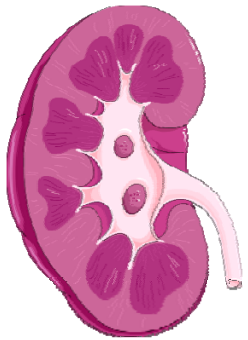
- Chest pain
- Palpitations
- Bradycardia
- Hypotension
- Prolonged QT_c
- Ipecac toxicity
- Sudden Death
- SOB
- Edema

BRADYCARDIA:

- Bradycardia is a physiologic, adaptive response to starvation
- Most common arrythmia in patients with EDs
- Should not be automatically attributed to athleticism or training in patients who are underweight, experienced rapid weight loss or have inadequate nutritional intake
- Arrythmias due to electrolyte abnormalities are a common cause of death in patients with EDs

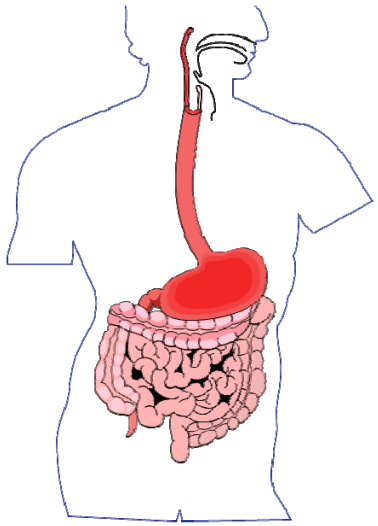
SIGNS & SYMPTOMS: ELECTROLYTES

- Hypokalemia
- Hyponatremia
- Hypomagnesemia
- Metabolic Alkalosis (vomiting)
- Metabolic Acidosis (laxatives)
- Inability to concentrate urine

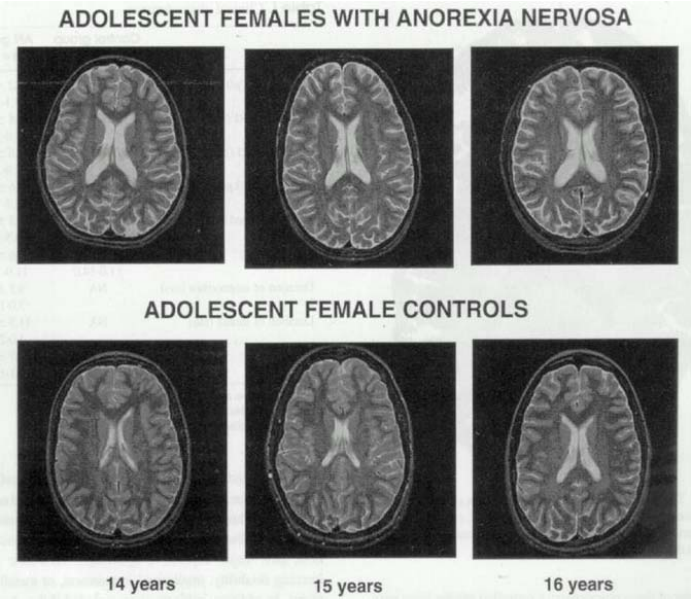


SIGNS & SYMPTOMS: GI

- Epigastric discomfort
- Early satiety, delayed gastric emptying
- GER
- Hematemesis
- Constipation
- Slightly elevated aminotransferases

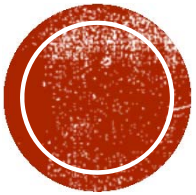


SIGNS & SYMPTOMS:



Katzman et al. J. Pediatr 1996;129:794-803

- Depression, Labile mood, Poor sleep
- Poor concentration
- Food preoccupation
- Social isolation
- Decrease in gray and white matter on MRI – unknown if reversible



MANAGEMENT

LEVELS OF CARE

- Medical Hospitalization
- Outpatient
  - Interdisciplinary Team Treatment
  - Family-Based "Maudsley" therapy
- Day-Treatment
  - Partial Hospital, IOP
- Inpatient Treatment Programs
- Residential

INDICATIONS FOR HOSPITALIZATION

- Severe malnutrition (≤ 75% median BMI for age, sex and height)
- Hypoglycemia
- Electrolyte disturbances
- Cardiac dysrhythmia
- Orthostasis (changes in pulse > 20 or blood pressure > 10)

INDICATIONS FOR HOSPITALIZATION

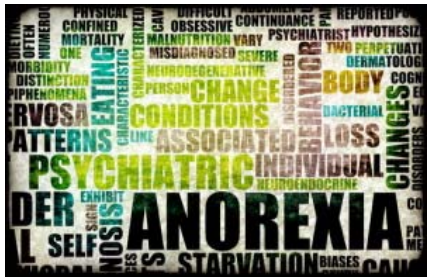
- Hemodynamic instability:
  - Bradycardia (< 50 daytime; < 45 night)
  - Hypotension (< 80/50 mmHg)
  - Hypothermia (< 96 F)

- Failure of outpatient treatment
- Acute food refusal
- Uncontrollable binging & purging

REFEEDING SYNDROME

- Potentially fatal shift of fluid & electrolytes when refeeding a malnourished patient

- Clinical features:
  - Edema
  - Cardiac and/or respiratory failure
  - Gastrointestinal problems
  - Profound muscle weakness
  - Delirium/ death



- Hypophosphatemia (most significant)

REFEEDING SYNDROME

- Risk Factors:
  - Degree of malnutrition at presentation (<70% media BMI)
  - Chronically undernourished and little or no energy intake > 10 days
  - History of refeeding syndrome
  - Rapid or profound weight loss (>10-15% of total body mass in 3-6 months)
  - Significant alcohol intake
  - Post-bariatric surgery
  - History of diuretic, laxative or insulin misuse
  - Abnormal electrolytes prior to refeeding

REFEEDING SYNDROME

- Use an inpatient medical unit to treat and monitor patients at risk
- Monitor fluid replacement & electrolytes
  - Phosphorus will reach its lowest point 3-7 days after initiation of nutritional rehabilitation
- Monitor vital signs, cardiac & mental status of all patients during refeeding

REFEEDING

- Underfeeding – weight loss, worse prognosis, slower response to treatment, death

- Methods for Refeeding:
  - "started low and go slow" recently challenged
  - Preferred method now- more rapid refeeding with close monitoring
  - Start 1600 kcal/day, increase by 300 kcal/day, 2-4 lb weight gain/week

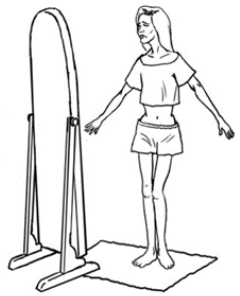
- Most patient will require high caloric intake (3500-4000 kcal/day) to achieve consistent weight gain once medically stabilized

- Oral refeeding always preferred!

IDEAL STANDARD OF CARE

- Early recognition & timely intervention

- Developmentally appropriate, evidence-based, multidisciplinary team approach:
  - Medical
  - Psychological
  - Nutritional
  - Psychopharmacologic



TIMELY INTERVENTIONS

- Patients may not acknowledge that they are ill and they may be ambivalent about accepting treatment.
  - This is a symptom of their illness
  - Minimize, rationalize or hide ED symptoms
  - Persuasive rationality & competence in other areas of life can disguise the severity of their illness

TIMELY INTERVENTIONS

- Parents are the frontline help-seekers for children and adolescents with EDs
  - Trust their concerns
- Help families understand that they did not cause the illness
- Neither did their child/family member choose to have it

TIMELY INTERVENTIONS

- Monitor physical health including vital signs & laboratory tests
  - Need to remember that physical exam and laboratory tests may be normal even in the presence of a life-threatening ED

- Always assess for psychiatric risk, including suicidal and self-harm thoughts, plans or intent
  - Up to 1/2 of deaths related to EDs are due to SUICIDE

ONGOING MANAGEMENT

- Failure to fully restore weight correlates with poor outcomes
- Restoration of an appropriate and healthy weight will improve their physical, psychological, social, and emotional functioning
- Weight restoration alone is not sufficient for full recovery

GOALS OF TREATMENT

- Medical stabilization
  - Prevention of serious medical complications & death
  - Resumption of menses

- Nutritional rehabilitation
  - Weight restoration
  - Restore meal patterns tat promote health and social connections

GOALS OF TREATMENT

- Normalization of Eating Behaviors
  - Cessation of restrictive or binge eating and/or purging behaviors
  - Elimination of disordered or ritualistic behaviors

- Psychosocial Stabilization
  - Evaluation and treatment of any comorbid psychological diagnoses
  - Re-establishment of appropriate social engagement
  - Improvement in psychological symptoms associated with ED
  - Improved body image

MAUDSLEY APPROACH/FAMILY-BASED THERAPY

- Alternative to traditional interventions
  - Children & adolescents (< 18 y/o) with early onset illness (3 years)
- Intensive outpatient program
  - Goal: prevent hospitalization by supporting caregiver effort to refeed the child
- Treats anorexia as a medical illness and uses food as the medicine
- Focus: weight restoration & normalizing eating

MAUDSLEY APPROACH

- Phase 1: rapid and complete weight restoration
- Phase 2: slowly transitions age-appropriate responsibilities back to the adolescent
- Phase 3: addresses any remaining issues that may interfere with achievement & maintenance of recovery

POTENTIAL DIFFICULTIES IN THE CARE OF PATIENTS WITH EATING DISORDERS

- Avoid "labeling" patients
- Avoid engaging in conversations about weight, calories or exercise
- Do not provide information about "numbers"
  - Let the patient know that the provider will discuss "numbers" with them
- If possible, note in the chart not to disclose weight
- Do not tell the patient that they look "great" or "healthy"
  - Limit comments to specifics: "your eyes are beautiful", "great hair", "beautiful makeup", "nice shoes"
  - No comments about weight or emotions

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THANK YOU!