Eating Disorders

BY: JOSEPH GEORGE FARAJALLAH

5TH YEAR MEDICAL STUDENT

UNIVERSITY OF JORDAN

Definition:

Eating disorders are psychological conditions characterized by abnormal eating habits which disrupts health and psychosocial functioning.

Adolescent girls and young women are most commonly affected.

Eating disorders

- Anorexia nervosa
- Bulimia nervosa
- Binge-eating disorder
- Pica
- Other disorders

Anorexia nervosa

Anorexia nervosa
Definition

- Intense fear of weight gain, overvaluation of thinness and body image distortion leading to calorie restriction and severe weight loss which result in inappropriate low body weight (BMI<18.5 kg/m2).
- Increased mortality from malnutrition.
- Often co-exist with depression, anxiety, OCD, PTSD, substance abuse. (which may improve with weight restoration)
- Also may present with hypothyroidism, secondary amenorrhea, seizures, osteopenia and osteoporosis.

Anorexia nervosa
Epidemiology

- More common in females (F:M ratio = 10:1)
- Bimodal age of distribution: 13-14 years (due to hormonal influences) & 17-18 years (environmental influences)
- More abundant in industrialized countries where food is abundant and a thin body ideal is held
- Common in sports that involve thinness, revealing attire and weight classes (such as: running, cheerleading, ballet, modeling)

Anorexia nervosa
Etiology

- It is multifactorial and not entirely understood:
- Genetic factors: higher concordance in monozygotic than dizygotic twins.
- Psychosocial: traumatization, poor ability to handle/resolve conflicts, difficulty establishing autonomy and gaining control (e.g. separation from parents), high pressure careers and sports, unrealistic standards of beauty.

Anorexia nervosa

Types

1) Restricting type: no recurring purging behaviors or binge eating over the last 3 months and weight loss is achieved through diet, fasting and/or excessive exercise.
2) Binge-eating type/purging type: binge eating or recurring purging behaviors (such as laxatives/enemas/diuretics abuse, self-induced vomiting) over the last 3 months.

Anorexia nervosa

Diagnosis

- ✓ History
- ✓ Physical exam
- ✓ Labs
- ✓ Imaging

Anorexia nervosa DSM-5 criteria

Restriction of energy intake relative to requirements, leading to significant low body weight (defined as less than minimally normal or expected).

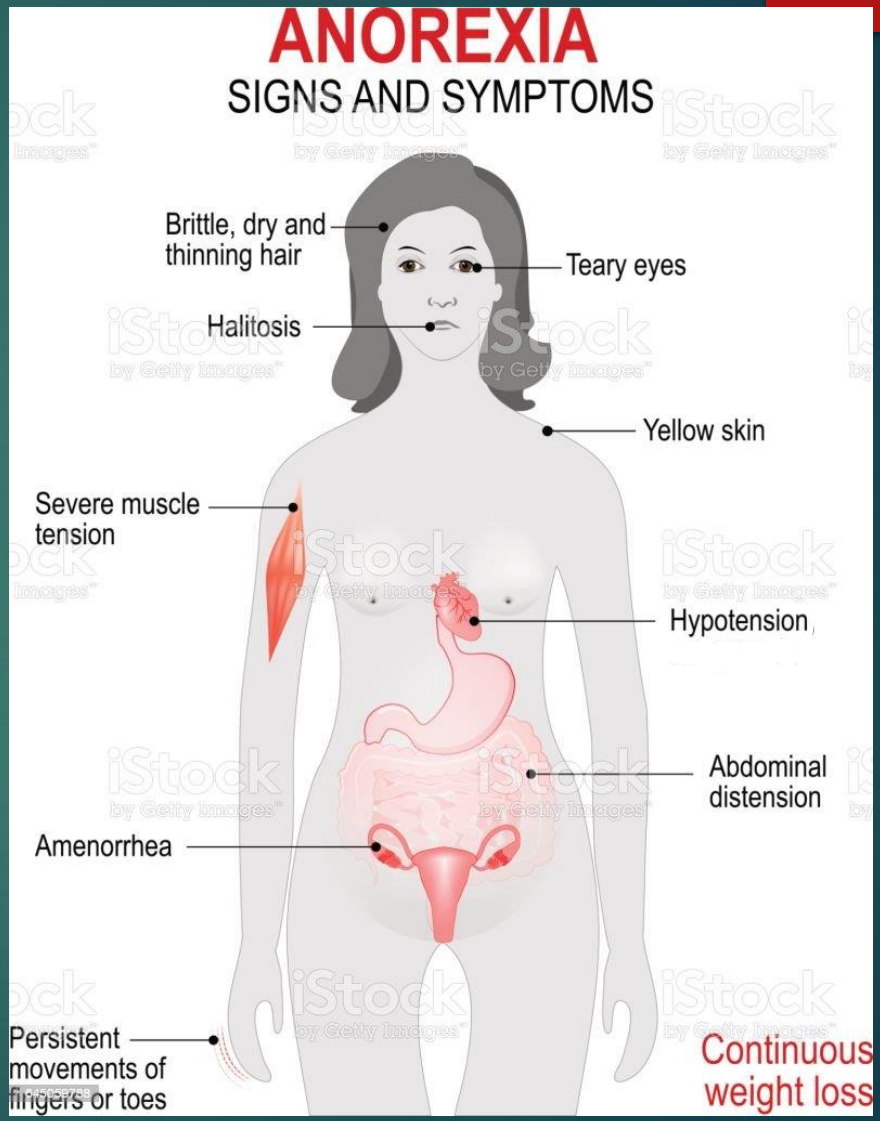
Intense fear of gaining weight or becoming fat, or persistent behaviors that prevent weight gain.

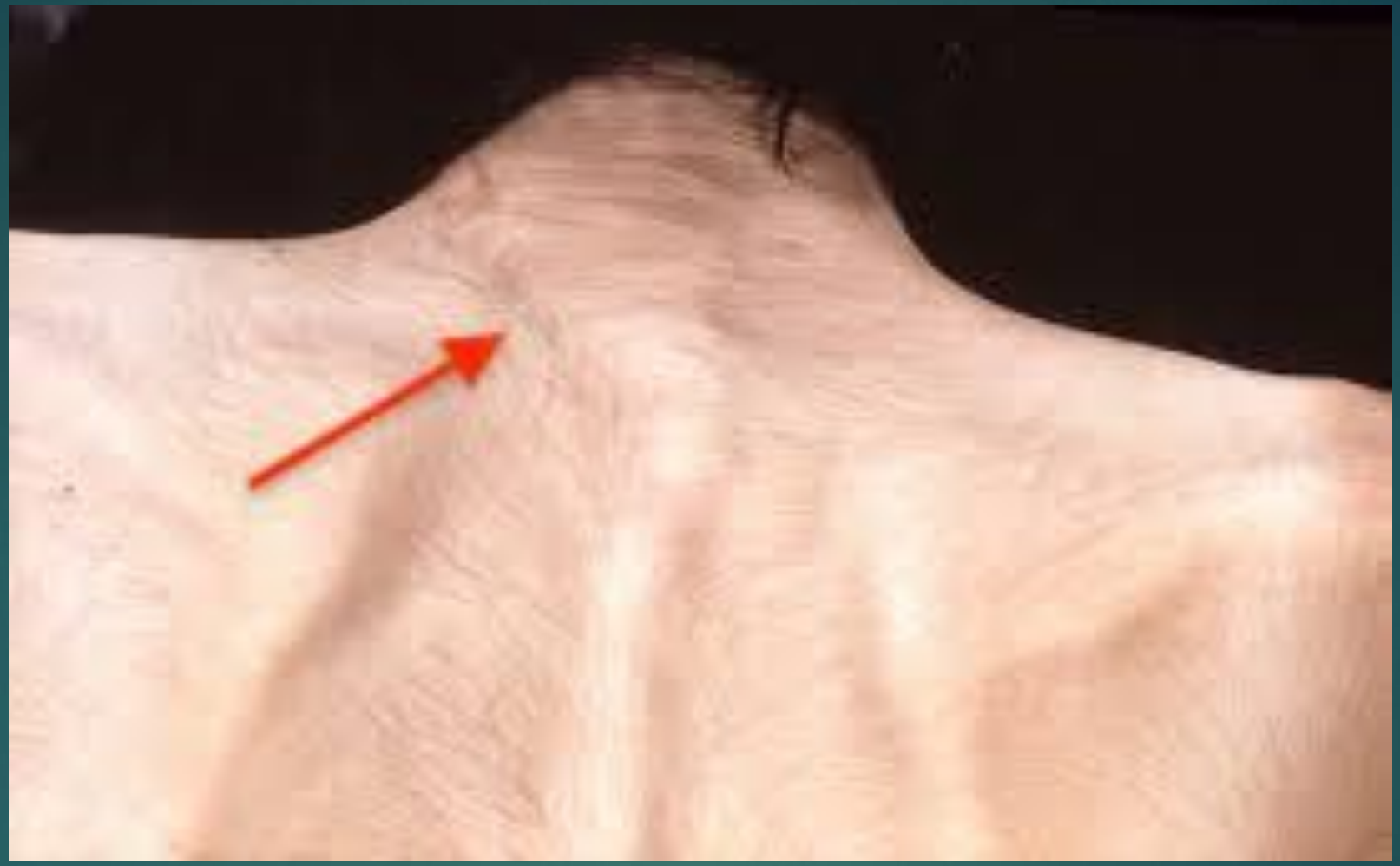
Disturbed body image, undue influence of weight or shape on self-evaluation, or denial of the seriousness of the current low body weight.

Anorexia nervosa

Signs & symptoms

- Bradycardia/arrhythmia
- Hypotension
- Mitral valve prolapse
- Reduced bowel sounds
- Constipation
- Dry, scaly skin (xerosis)
- Lanugo (soft, fine hair)
- Alopecia
- Peripheral neuropathy
- Cold intolerance
- Muscle wasting
- Edema
- Dehydration
- Loss of libido





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Anorexia nervosa

Labs

- Hyponatremia
- Hypochloremic hypokalemic alkalosis (if vomiting)
- Hypercholesterolemia
- Bone marrow suppression: anemia,leukopenia,thrombocytopenia
- Elevated BUN
- Low creatinine
- Increased GH
- Increased cortisol
- Reduced FSH/LH
- Reduced estrogen/testosterone
- Hypoglycemia
- hypothyroidism
- Elevated AST/ALT
- Elevated Serum a-amylase

Anorexia nervosa
Severity

- The severity is based on BMI:
- Mild: 17-18.4 kg/m2
- Moderate: 16-16.99 kg/m2
- Severe: 15-15.99 kg/m2
- Extreme: <15 kg/m2

Anorexia nervosa

Treatment

- Cognitive behavioral therapy
- Family therapy (e.g. Maudsley approach)
- Nutritional rehabilitation: monitor weight gain, provide nutritional education and support healthy eating habits.
- Antidepressants (SSRIs)
- Olanzapine (antipsychotics)
- Alprazolam (premeal anxiolytic)

Anorexia nervosa

Treatment

Indications for hospitalization:

- BMI<15 kg/m2
- Unstable vital signs: bradycardia (40bpm), hypothermia (<35.5 c), hypotension (SBP<80 mmHg)
- Acute medical complication (e.g. syncope, seizures, pancreatitis, liver failure)
- Arrhythmia
- Hypoglycemia
- Marked dehydration/electrolyte disturbances
- Severe refeeding syndrome

Anorexia nervosa
Refeeding syndrome

- A condition that often occur in significantly malnourished patients with sudden increase of calorie intake.
- Increase in glucose → increase insulin → increase metabolism.
- Decrease phosphate, potassium, magnesium (cellular uptake)
- Less ATP → cardiac and respiratory failure
- Heart failure, arrhythmias (torsades de pointes), seizures, ataxia, rhabdomyolysis, edema.
- ✓ Tx: electrolyte substitution.
- ✓ Prevention: slow refeeding (limit initial intake to 1000 -1500 kcal/day)

Anorexia nervosa

Prognosis

- It is a chronic and relapsing illness with various outcomes (may completely recover or have symptom fluctuation and relapses or progressive deterioration). Most remit within 5 years.
- **Mortality rate** is cumulative and approximately 5% per decade. Most commonly due to severe cachexia/starvation, cardiac failure, suicide.
- **Increased risk of comorbidities** such as mood disorders (bipolar), anxiety disorders (generalized/social anxiety disorder), personality disorder, growth retardation.
- **Increased risk during pregnancy:** miscarriage or premature birth, intrauterine growth retardation, hyperemesis gravidarum, postpartum depression.

Anorexia nervosa
Differential diagnosis

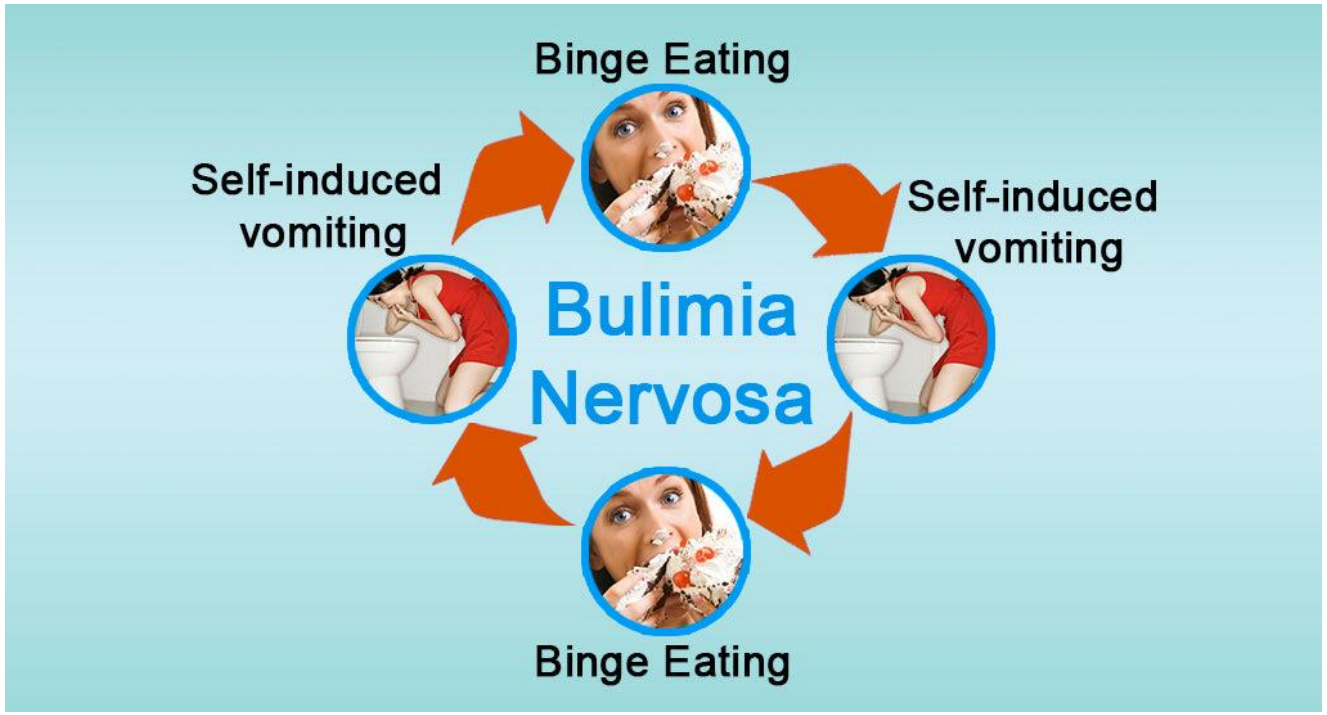
- Medical conditions:

1. Endocrine disorders (hypothalamic disease, diabetes mellitus, hyperthyroidism)
2. GI illnesses (malabsorption, inflammatory bowel disease)
3. Genetic disorders (Turner syndrome, Gaucher disease)
4. Cancer
5. AIDS

Anorexia nervosa
Differential diagnosis

- Psychiatric disorders:

1. Major depression: poor appetite, no/decreased interest in food.
2. Bulimia
3. Other mental disorders; such as: somatic symptom disorder or schizophrenia.



Bulimia nervosa

Bulimia nervosa

Definition

- Recurring episodes of binge eating with compensatory purging behaviors at least once a week for 3 months and BMI is often normal or slightly overweight.
- **Recurrent episodes of binge eating:** excessive food intake within a 2 hour period accompanied with sense of lack of control.
- **Inappropriate compensation to avoid weight gain:** self-induced vomiting, laxatives, diuretics, enemas, excessive exercise, fasting, severely restrictive diets.
- Patients are embarrassed by their binge eating and are overly concerned with body weight.

Bulimia nervosa
Epidemiology

- More common in women (F:M ratio=10:1)
- Onset is in late adolescence or early adulthood.
- Peak age: 20-24 years
- More common in developed countries.

Bulimia nervosa

Etiology

- Multifactorial with similar factors as for anorexia.
- Childhood obesity and early puberty increase the risk.

Bulimia nervosa

Diagnosis

- ✓ History
- ✓ Physical exam
- ✓ Labs
- ✓ Imaging

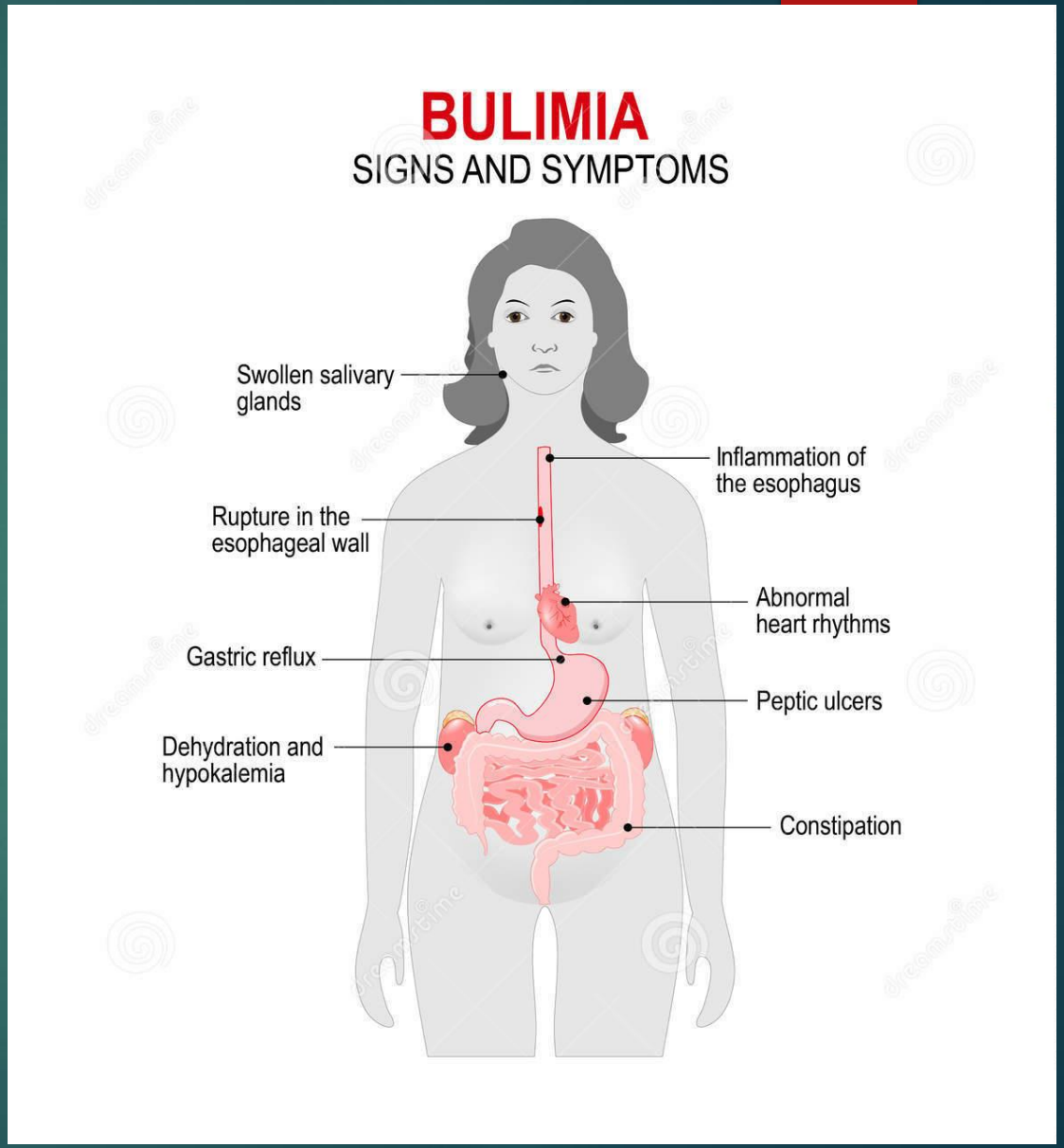
Bulimia nervosa DSM-5 criteria

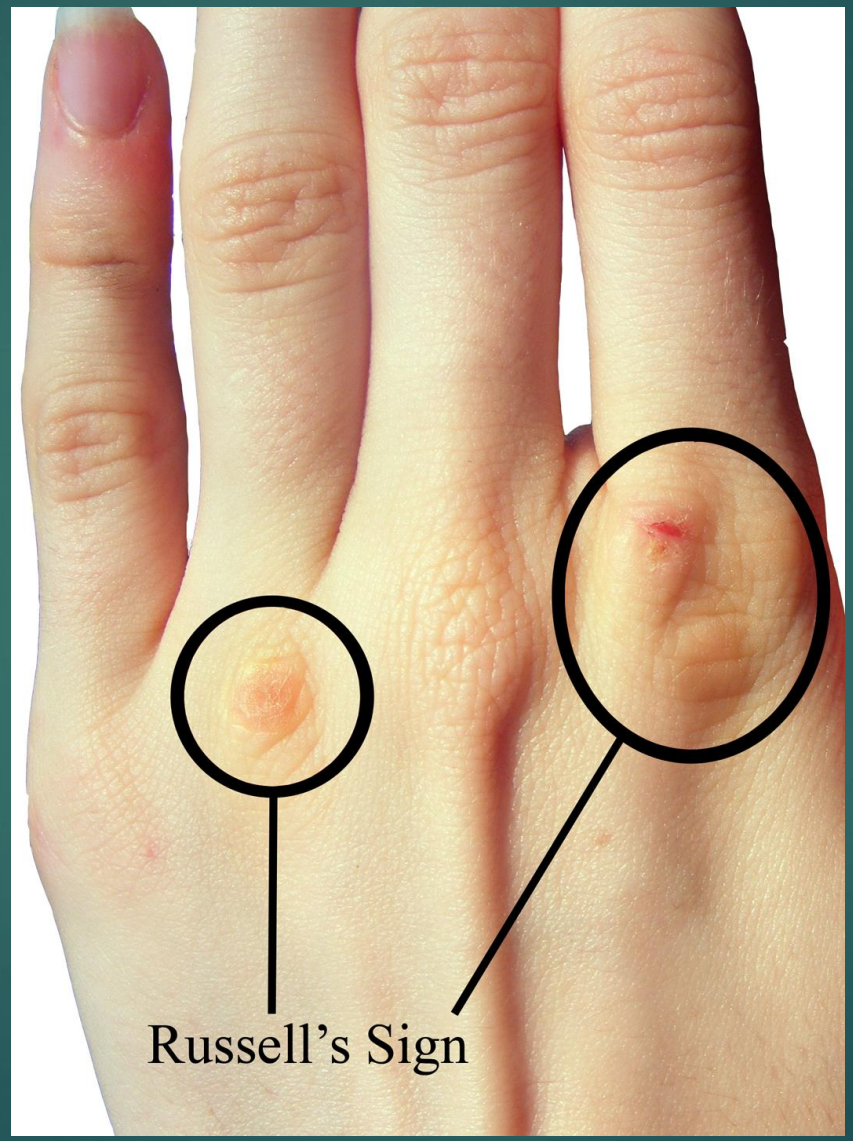
- Recurrent episodes of binge eating.
- Recurrent, inappropriate attempts to compensate for overeating and prevent weight gain
- The binge eating and compensatory behaviors occur at least once a week for 3 months
- Perception of self-worth is excessively influenced by body weight and shape
- Does not occur exclusively during an episode of anorexia nervosa

Bulimia nervosa

Signs & Symptoms

- Parotid gland swelling (sialadenosis)
- Dental caries & erosions
- Dorsal hand calluses (Russell's sign)
- Dry skin & brittle nails
- Petechiae
- Peripheral edema
- Arrhythmias
- Hypotension
- Seizures
- Esophagitis/gastritis
- Esophageal/gastric laceration (Mallory-Weiss syndrome)




Russell's Sign

Bulimia nervosa

Labs

- Hypochloremic hypokalemic alkalosis
- Metabolic acidosis (if laxative abuse)
- Elevated bicarbonate
- Increased amylase
- Increased BUN

Bulimia nervosa

Treatment

- Cognitive behavioral therapy
- Interpersonal therapy
- Group therapy
- Family therapy
- Nutritional rehabilitation
- SSRIs (first-line medication): e.g. Fluoxetine
- Avoid Bupropion (antidepressant) due to its potential side effect in lowering seizure threshold.

Bulimia nervosa

Prognosis

- Chronic and relapsing illness.
- Mortality is 2-8 times higher than general population.
- Elevated suicide rate compared to the general population.
- Better prognosis than anorexia nervosa.
- Symptoms usually exacerbated by stressful conditions.
- One-half recover fully with treatment , one-half have chronic course with fluctuating symptoms.
- Increased risk of psychological comorbidities such as anxiety disorders, PTSD, substance abuse, ADHD, mood disorders, borderline personality disorder.

Binge-Eating Disorder

Binge-Eating Disorder

Definition

- ✓ Recurring episodes of binge eating without compensatory purging behaviors at least once a week for 3 months.
- ✓ Occur with at least 3 of the following: eating very rapidly, eating until uncomfortably full, eating large amounts when not hungry, eating alone due to embarrassment, and feeling disgusted/depressed/guilty after eating.
- ✓ Severe emotional distress over binge eating.
- ✓ Does not occur exclusively during the course of anorexia or bulimia.

Binge-Eating Disorder
Epidemiology

- Most common eating disorder in adults in the US (2-5%).
- More common in females.
- Typically begins in adolescence or young adulthood.
- Increased prevalence among individuals seeking weight loss treatment compared to general population.

Binge-Eating Disorder

Etiology

- Multifactorial
- Genetic factors (family history is common)
- Strict dieting and having access to preferred binge foods
- Psychological issues (poor body self image, childhood bullying, stress)

Binge-Eating Disorder
Clinical features

- Pronounced obesity at young age.
- Often associated with hyperlipidemia, metabolic syndrome, type 2 diabetes, and cardiovascular disease.
- May occur with anxiety/depression.

Binge-Eating Disorder

Treatment

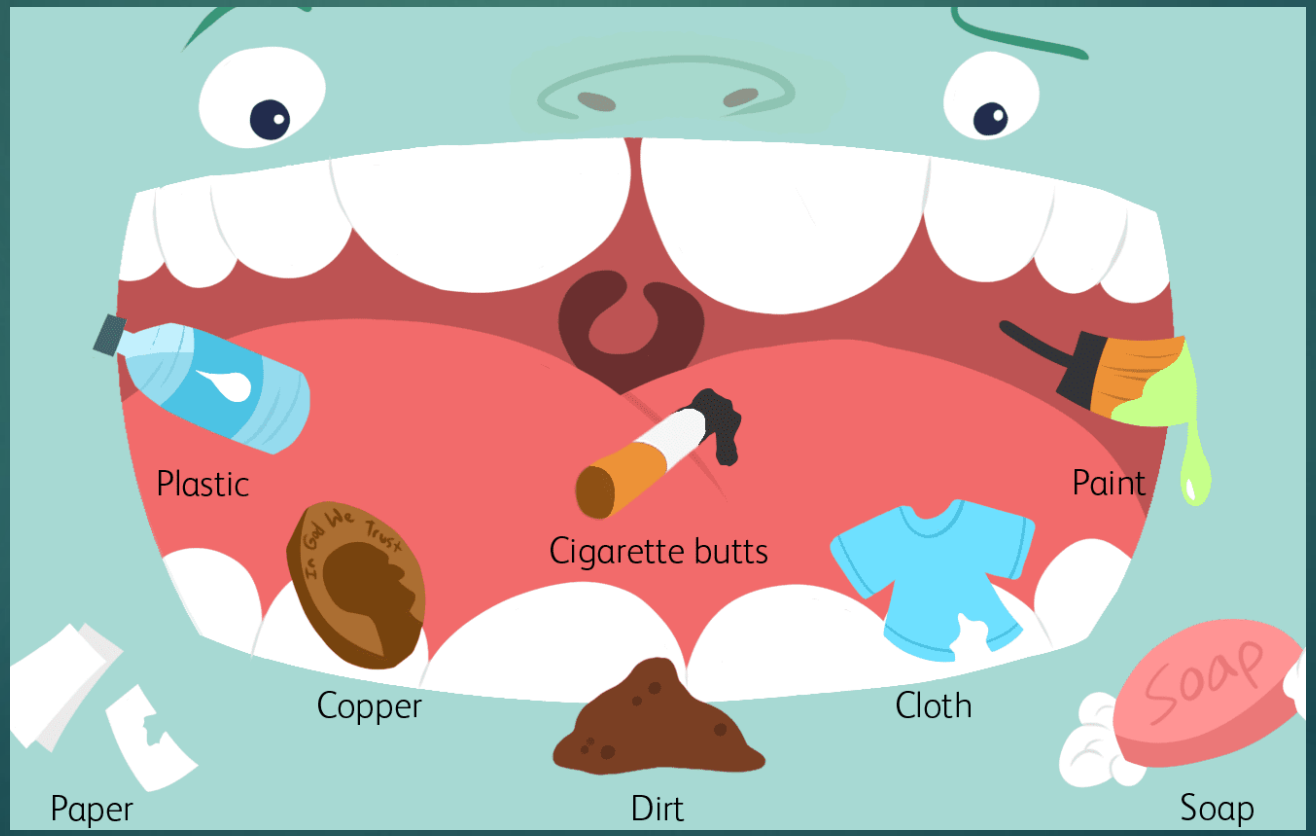
- Cognitive behavioral therapy
- Interpersonal psychotherapy
- Strict diet and exercise program
- SSRIs (first-line due to their efficacy and tolerability)
- Lisdexamfetamine: stimulant that suppresses appetite
- Topiramate & Zonisimide: antiepileptics associated with weight loss
- Orlistat: inhibits pancreatic lipase (decreasing fat absorbed)

Binge-Eating Disorder

Prognosis

- Appears to be relatively persistent, though remission rates are higher than for other eating disorders.
- Most obese individuals do not binge eat, those who do have more functional impairment, lower quality of life and more subjective distress.
- Higher rates of psychiatric comorbidities compared to obese people without the disorder.

Pica


Plastic
Paint
Cigarette butts
In God We Trust
Copper
Cloth
Soap
Paper
Dirt
Soap

Pica

Definition

- Recurring episodes of eating non-food substances (such as ice, dirt, paint chips, hair, paper…) with no nutritional value and are not culturally or developmentally recognized as normal.
- May provide temporary emotional relief. (example from emotional trauma)

Pica
Epidemiology

- Equal prevalence in males & females.
- Can occur in children, adolescents and adults
- Most commonly in children, in pregnancy and certain psychiatric patients.

Pica

Etiology

- Not entirely understood but associated with:
- Nutritional deficiencies (iron deficiency, zinc deficiency)
- Pregnancy
- Low socioeconomic status
- Psychosocial/emotional trauma (maternal deprivation)
- Intellectual/developmental disability
- Autism spectrum disorder
- Dementia
- Schizophrenia

Pica
Diagnosis

- The diagnosis requires persistent eating items or substances with no food or nutritional value for at least one month.
- Eating behavior should be inappropriate for the patient's developmental age (not diagnosed in children under the age of 2 years)
- The person does not have social or cultural background to explain the behavior.

Pica

Clinical features/Complications

- Anemia
- Ascariasis (roundworm infection)
- Constipation
- Electrolyte imbalance
- Arrhythmias
- Lead poisoning (paint)
- Bowel obstruction/perforation

Pica
Treatment

- Psychotherapy and nutritional rehabilitation (first-line)
- SSRIs (second-line)

Other disorders
Rumination disorder

- Rumination disorder involves the repeated regurgitation and re-chewing of food after eating whereby swallowed food is brought back up into the mouth voluntarily and is re-chewed and re-swallowed or spat out. Rumination disorder can occur in infancy, childhood and adolescence or in adulthood.
- To meet the diagnosis the behavior must:
- Occurs repeatedly over at least a 1 month period
- Not be due to a gastrointestinal or medical problem
- Not occur as part of the other behavioral eating disorders
- Rumination can also occur in other mental disorders (e.g. intellectual disability) however the degree must be severe enough to warrant separate clinical attention for the diagnosis to be made

Other disorders

Avoidant/restrictive food intake disorder

- Avoidant/restrictive food intake disorder (ARFID) is a recently defined eating disorder that involves a disturbance in eating resulting in persistent failure to meet nutritional needs and extreme picky eating. In ARFID, food avoidance or a limited food repertoire can be due to one or more of the following:
- Low appetite and lack of interest in eating or food.
- Extreme food avoidance based on sensory characteristics of foods e.g. texture, appearance, color, smell.
- Anxiety or concern about consequences of eating, such as fear of choking, nausea, vomiting, constipation, an allergic reaction, etc. The disorder may develop in response to a significant negative event such as an episode of choking or food poisoning followed by the avoidance of an increasing variety of foods.

Other disorders

Avoidant/restrictive food intake disorder

- The diagnosis of ARFID requires that difficulties with eating are associated with one or more of the following:
- Significant weight loss (or failure to achieve expected weight gain in children).
- Significant nutritional deficiency.
- The need to rely on a feeding tube or oral nutritional supplements to maintain sufficient nutrition intake.
- Interference with social functioning (such as inability to eat with others).
- ARFID does not include food restriction related to lack of availability of food; normal dieting; cultural practices, such as religious fasting; or developmentally normal behaviors, such as toddlers who are picky eaters

Other disorders

- **Night eating syndrome:** individuals with this syndrome frequently eat excessively at night, often after awakening from sleep.
- **Other specified feeding or eating disorder (OSFED):** while it is not found in the DSM-5, this category includes any other conditions that have symptoms similar to those of an eating disorder but don't fit any of the disorders above (e.g. orthorexia).

QUESTIONS ?

Sources

- First Aid for the Psychiatry Clerkship
- First Aid for the USMLE step 1
- Boards and Beyond
- Amboss.com
- Healthline.com
- Psychiatry.org

Thank you