Essential Training on Identification and Assessment of Eating Disorders for the Medical Community

The Alliance for Eating Disorders Awareness
Every 62 minutes someone dies as a direct result from suffering an eating disorder.
Eating Disorders Stats…

At least 30 million Americans suffer from an eating disorder in their lifetime.
Eating Disorders are brain-based, biological illnesses with a strong genetic component and psychosocial influences.
Eating disorders do not discriminate. They can affect individuals of all ages, genders, ethnicities, socioeconomic backgrounds, and with a variety of body shapes, weights and sizes.
DSM 5: Feeding and Eating Disorders
Anorexia Nervosa: (Self-Starvation)

Restriction of energy intake relative to an individual’s requirements, leading to a significantly low body weight in the context of age, sex, developmental trajectory and health status. Disturbance of body image, an intense fear of gaining weight, lack of recognition of the seriousness of the illness and/or behaviors that interfere with weight gain are also present.
Anorexia Nervosa: Statistics

- 9% of American women suffer from anorexia in their lifetime.
- 1 in 5 anorexia deaths is by suicide.
- Standardized Mortality Ratio (SMR) for Anorexia Nervosa is 5.86.
- 50-80% of the risk for anorexia is genetic.
- 33-50% of anorexia patients have a comorbid mood disorder, such as depression.
- About half of anorexia patients have comorbid anxiety disorders, including obsessive-compulsive disorder and social phobia.
Review of Symptoms: Anorexia

- Sizeable weight change
- Dizziness/fainting
- Loss/delay menses (Amenorrhea)
- Orthostatic hypotension
- Cold intolerance/hypothermia
- Brittle nails
- Thinning/dull hair
- Loss of muscle mass
- Constipation
- Sleep disturbance
- Cognitive impairment
- Disturbed body image
- Depressive symptoms
- Anxiety
- Self mutilation
Physical Findings: Anorexia

- Emaciation
- Hypotension
- Bradycardia
- Syncope
- MVP
- Edema
- Cyanotic extremities
- Hypothermia
- Lanugo hair
- Dry skin
- Hypercarotenemia
- Hyperkeratosis
- Anemia
- Hypoglycemia
- Gastroparesis
- Elevated hepatic enzymes
Mortality

- Anorexia Nervosa has the highest mortality rate among all psychiatric disorders.
- The risk of premature death is 6-12 times higher in women with Anorexia Nervosa (AN) as compared to the general population, adjusting for age.
Bulimia Nervosa (Binge-Purge)

Binge eating (eating a large amount of food in a relatively short period of time with a concomitant sense of loss of control) with compensatory behavior once a week or more for at least 3 months. Disturbance of body image, an intense fear of gaining weight and lack of recognition of the seriousness of the illness may also be present.
5% of American women suffer from bulimia nervosa in their lifetime.

- Standardized Mortality Ratio (SMR) for Bulimia Nervosa is 1.93.
- Nearly half of bulimia patients have a comorbid mood disorder.
- More than half of bulimia patients have comorbid anxiety disorders.
- 1 in 10 bulimia patients have a comorbid substance abuse disorder, usually alcohol use.
Review of Symptoms: Bulimia

- Average weight w/ weight fluctuation
- Dizziness and fainting
- Fatigue
- Sialadenosis
- Abdominal pain
- Bloating/Pyrosis
- Bowel paralysis
- Sleep disturbance
- Disturbed body image
- Depressive symptoms
- Anxiety
- Feelings of shame and guilt
- Self injury
Physical Findings: Bulimia

- Hypertensive
- Edema
- Hypokalemia
- Electrolyte imbalance
- Dehydration
- Pancreatitis
- Extremity weakness
- Russell's sign
- Sialadenosis
- GERD
- Dental erosions
- Sore throat
- Esophagitis
- Mallory-Weiss tears
- Boerhaave Syndrome
Binge Eating Disorder (Bingeing)

Binge eating, in the absence of compensatory behavior, once a week for at least 3 months. Binge eating episodes are associated with eating: rapidly, when not hungry, until extreme fullness, and/or associated with depression, shame or guilt.
8% of American adults suffer from binge eating disorder in their lifetime.

Approximately half of the risk for BED is genetic.

Nearly half of BED patients have a comorbid mood and anxiety disorder.

Nearly 1 in 10 BED patients have a comorbid substance abuse disorder, usually alcohol use.

Binge eating or loss-of-control eating may be as high as 25% in post-bariatric patients.

30 percent of higher weight patients attempting to lose weight in clinical settings meet diagnostic criteria for binge eating disorder (BED) and/or bulimia nervosa (BN).
Binge Eating Disorder: Physical Findings

- Overweight or obesity
- Gallbladder disease
- Increased BP
- Increased cholesterol
- Heart disease
- Type II diabetes
- Lipid abnormalities
- Osteoarthritis
- Sleep apnea
Avoidant/Restrictive Food Intake Disorder

Significant weight loss, nutritional deficiency, dependence on nutritional supplement or marked interference with psychosocial functioning due to caloric and/or nutrient restriction, but without weight or shape concerns.
ARFID is more common in children and young adolescents and less common in late adolescence and adulthood.

ARFID is often associated with psychiatric co-morbidity, especially with anxious and obsessive compulsive features.

ARFID is more than just “picky eating”; children do not grow out of it and often become malnourished because of the limited variety of foods they will eat.

The true prevalence of ARFID is still being studied, but preliminary estimates suggest it may affect as many as 5% of children.

Boys may have a higher risk for ARFID than girls.
Avoidant/Restrictive Food Intake Disorder

Contributing factors to ARFID

- Difficulty digesting certain foods
- Avoiding certain colors or textures of food
- Eating only very small portions
- Having no appetite
- Presentation with or without a medical condition
- Psychological disorders may be risk factor
- Afraid to eat after a frightening episode of choking or vomiting
Other Specified Feeding or Eating Disorders (OSFED)

An ED that does not meet full criteria for one of the above categories, but has specific disordered eating behaviors such as restricting intake, purging and/or binge eating as key features.
OSFED affects up to six percent of the population.

The mortality rate is estimated to be 5.2 percent for unspecified eating disorders.

Standardized Mortality Ratio (SMR) for OSFED is 1.92.

Nearly half of OSFED patients have a comorbid mood disorder.

1 in 10 OSFED patients have a comorbid substance abuse disorder, usually alcohol use.
Atypical Anorexia

All criteria for AN are met except, despite significant weight loss the individual’s weight is within or above the normal range.
Purging Disorder

Recurrent purging behavior to influence weight or shape in the absence of binge eating.
Chewing and Spitting

A condition in which a person chews up food, usually sweet or high calorie, then spits it out.
Medical Evaluation
Evaluation of patients with eating disorders

History:

- Weight/diet history
- Growth history
- Menstrual history & pattern
- Current & past medications
- Body image disturbance
- Nutritional history
- Compensatory behaviors: laxative, diuretic, diet pills/stimulants, ipecac use
- Exercise regimen
- Suicidal ideations
- Psychiatric history
  - including - family history of disordered eating, addictive disorders, depression, anxiety, etc.
- History of Trauma
Vitals:

- Supine and standing heart rate and blood pressure
- Respiratory rate
- Oral temperature (looking for hypothermia: body temperature < 96° F/35.6 °C).
- Measurement of height, weight, and determination of body mass index (BMI)
Renal Effects

- Renal/Fluids/Electrolytes
  - Fluctuations in fluid status with vomiting, laxatives, diuretic use, fluid restriction, or water loading
  - Aldosterone elevation leads to fluid retention
  - Erratic vasopressin release – excess causes fluid retention
  - Hyponatremia – caused by excessive water intake
    - May present with seizures
  - Hypokalemia – caused by purging
  - Hypomagnesemia
Gastrointestinal
- Epigastric discomfort
- Abdominal bloating
- Gastroesophageal reflux
- Hematemesis
- Hemorrhoids and rectal prolapse
- Constipation
Endocrine

- Genitourinary Effects: Anorexia
  - 80% of individuals with AN have amenorrhea
  - Excessive weight loss causes shrinkage of uterus/ovaries and testicles
    - Usually return to normal once healthy weight is attained
  - Menstrual cycles typically resume 1-6 months after achieving 90% of ideal body weight
  - Approximately 17% body fat is needed for menarche and 22% body fat is needed to maintain menses
Endocrine

- **Genitourinary Effects: Bulimia**
  - Amenorrhea - Occurs in up to 50% of women with bulimia nervosa
    - Significant proportion of remaining patients have irregular periods

- **Genitourinary Effects: BED**
  - High levels of androgens cause
    - Abnormal menstrual cycles
    - Block ovulation – difficulty getting pregnant
**Endocrine**

- Decreased bone density
  - Osteopenia and osteoporosis: chronic effects of starvation; not readily reversible with weight recovery
  - Bone loss influenced by:
    - More than 12 months since onset of disorder
    - More than 6 months of amenorrhea
    - Body mass index less than 15
Above, the bone scan of a healthy 25-year-old woman shows normal density.

A scan of this 25-year-old anorexic woman shows a loss of about one-third of her bone mass.

X-rays of this 30-year-old anorexic woman reveal the bone density of a 70-year-old.
Bradycardia/Arrhythmias
Orthostatic hypotension/tachycardia may reflect dehydration
Dyspnea
Edema
A starvation cardiomyopathy and heart failure may occur in severe and chronic AN
Electrocardiogram

- Typically normal
- Signs of hypokalemia
- Low voltage changes
- Prolonged QTc – Greater than 450
- Arrhythmias
Evaluation Continued

Heent:

- Perimyolysis
- Oral Trauma
- Dental caries
- Chipped teeth
- Mouth sores
- Sialadenosis
Skin

- Dry skin
- Carotenoderma
- Hair loss/thinning
- Lanugo hair
- Russell’s sign
- Poor wound healing
Labs/Studies

- EKG
- CBC w/ diff
- Full thyroid panel ($T^2$, $T^3$, $T^4$, TSH)
- Urinalysis; specific gravity, sodium
- Bone density scan
- Complete metabolic profile
- Full chemistry amylase
- Serum magnesium/glucose/electrolytes
- Amenorrhea evaluation
Special Circumstances (e.g. clients <15% IBW)

- Chest x-ray
- Complement 3
- 24 hour creatinine clearance
- Uric acid
- Brain scan
- Echocardiogram
- Skin testing for immune functioning
- DXA scan (amenorrhea 6+ months)
- Estradiol level (or testosterone in males)
- ANA, amylase, lipase, LH, FSH, prolactin
- UGI+/-SBFT
Most Common Lab Abnormalities

- Leukopenia
- Anemia
- Thrombocytopenia
- ↓ Glucose, Sodium, Potassium, Phosphate, Magnesium, Chloride
- Hormones
  - Low Estradiol (Females)
  - Low Testosterone (Males)
Most Common Lab Abnormalities

- “Sick euthyroid”
  - Low T4, low to normal TSH
- ↑ Amylase and Lipase
- ↓ ESR
- ↑ Creatinine
- ↓ Calcium
- ↓ Leptin
Alert:
Normal labs should not reassure the clinician that the patient is not severely ill.
Criteria for Acute Medical Stabilization

- Weight more than 25% below IBW/16 BMI
- Bradycardia < 50 BPM
- Temperature < 96 degrees F (< 35.6 C)
- Hypotension < 80/50 mm Hg
- Orthostasis > 20 BMP
- Hypoglycemia
- Hypokalemia < 3
- Syncope, seizures, cardiac failure, pancreatitis
- Renal failure
- ECG abnormalities
Refeeding
Refeeding Complaints

- Peripheral edema
- Bloating or discomfort
- GE Reflux
- Constipation
- Rare gastric dilatation
- Refeeding hepatitis
- Hypophosphatemia
Refeeding Syndrome/ Hypophosphatemia

- Rare, but can be fatal
- Anyone with negligible nutrient intake for more than 5 consecutive days is at risk
- Usually occurs within four days of starting to refeed
- All electrolytes, especially phosphorus and magnesium, MUST be checked regularly throughout initial phase of refeeding
Refeeding Syndrome/Hypophosphatemia

- Malnourished patient suddenly takes in glucose (sugar)
- Body reacts by releasing insulin into the blood
- Phosphorus suddenly goes from the fluid between cells to the inside of cells (therefore unavailable)
- Causes weakness, inability to breathe, seizures and convulsions, confused mental state and even cardiac arrest
Refeeding Complications

- Wernicke-Korsakoff’s syndrome can be a complication of refeeding in very low weight anorexia nervosa, especially when comorbid with alcohol abuse.

- Preventative thiamine supplementation is critically important in these cases.
Ways to Prevent Refeeding Syndrome

 Be informed about refeeding syndrome and aware of those patients who are potentially at risk.
 Be aware that refeeding syndrome can occur in patients of any age.
 Use an **inpatient** medical unit with expertise in eating disorders to treat and monitor patients who may have, or are at risk for, refeeding syndrome.
 Refeed slowly, adjusting to the age, developmental stage, and degree of malnourishment.
Ways to Prevent Refeeding Syndrome

- Monitor fluid replacement to avoid overload and check serum electrolytes, glucose, magnesium, and phosphorus prior to and closely during refeeding.

- For patients with electrolyte deficits, correct electrolyte and fluid imbalance alongside feeding. Oral repletion is preferable but IV supplementation may be necessary.
Ways to Prevent Refeeding Syndrome

- For those patients who do not present with electrolyte deficits, carefully monitor on an as electrolyte abnormalities may occur with refeeding.
- Monitor vital signs and cardiac and mental status of all patients during refeeding.
- Start a multivitamin prior to initiating and throughout refeeding.
Screening
1. Do you make yourself Sick because you feel uncomfortably full?
2. Do you worry you have lost Control over how much you eat?
3. Have you recently lost more than One stone (6.35 kg or 14 lb) in a three-month period?
4. Do you believe yourself to be Fat when others say you are too thin?
5. Would you say Food dominates your life?

*Two or more positive responses on the SCOFF indicates a possible ED and should prompt referral for further evaluation.*
Screening Questions for BED

- Do you often eat within any 2-hour period what most people would regard as an unusual amount of food?
- During these binges, do you eat:
  - Much more rapidly than normal?
  - Until you feel uncomfortably full?
  - Large amounts of food when you do not feel physically hungry?
  - Alone because you are embarrassed by how much you eat?
- Is it upsetting to you that you cannot stop eating or control what or how much you eat?
- How often do you binge?
Remember:
Early detection and treatment intervention can have a meaningful impact on symptom severity, quality of life, and mortality rates.
For more information, please contact:

Alliance for Eating Disorders Awareness  
(866) 662-1235  
www.allianceforeatingdisorders.com

Academy for Eating Disorders  
(703) 234-4079  
www.aedweb.org

National Eating Disorders Association  
(800) 931-2237  
www.nationaleatingdisorders.org

Binge Eating Disorder Association  
(855)855-2332  
www.bedaonline.com
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Canadian Pediatric Surveillance Program


