Eating Disorders:
A Resource for Practitioners
Providing Community-Based Care

Jennifer Carroll RN (EP)
Nurse Practitioner
Provincial Eating Disorder Prevention & Recovery Program (PEDPRP)
Women’s Health Clinic
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**DSM IV-TR Criteria**

**Anorexia Nervosa**

- Refusal to maintain body weight at or above a minimally normal weight for age and height. Weight loss leading to maintenance of body weight <85% of expected.

- Intense fear of gaining weight or becoming fat.

- Disturbance in the way one’s body weight or shape are experienced or denial of the seriousness of the current low body weight.

- Amenorrhea (unintentional) of at least three consecutive cycles

**Types**

- **Restricting type**: the person restricts nutritional intake and has not regularly engaged in binge-eating or purging behavior (self-induced vomiting or misuse of laxatives, diuretics, or enemas).

- **Binge-eating–purging type**: the person restricts nutritional intake and has regularly engaged in binge-eating or purging behavior (self-induced vomiting or the misuse of laxatives, diuretics, or enemas).

**Bulimia Nervosa**

Recurrent episodes of binge eating characterized by both:

- Eating, in a discrete period of time (e.g., within any 2-hour period), an amount of food that is definitely larger than most people would eat and a sense of lack of control over eating during the episode.

In addition to:

- Recurrent inappropriate compensatory behavior to prevent weight gain.

- Compensatory behavior includes: self-induced vomiting, use of laxatives/diuretics/enemas, fasting, or excessive exercise.

- Binge eating and compensatory behavior both occur at least twice a week for 3 months.

- Self evaluation is influenced by body shape and weight.
**Types**

- **Purging Type:** The person has regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics, or enemas.

- **Non-purging Type:** The person has used inappropriate compensatory behavior but has not regularly engaged in self-induced vomiting or misused laxatives, diuretics, or enemas.

  Eg) fasting or excessive exercise
DSM IV-TR Criteria

Eating Disorder Not Otherwise Specified (EDNOS)

- All of the criteria for anorexia nervosa are met except that the patient has regular menses.
- All of the criteria for anorexia nervosa are met except that, despite significant weight loss, the patient’s current weight is in the normal range.
- All of the criteria for bulimia nervosa are met except that the binge eating and inappropriate compensatory mechanisms occur less than twice a week or for less than 3 months.
- The patient has normal body weight and regularly uses inappropriate compensatory behavior after eating small amounts of food (e.g., self-induced vomiting after consuming two cookies).
- Repeatedly chewing and spitting out, but not swallowing, large amounts of food.
- Binge-eating disorder is recurrent episodes of binge eating in the absence of compensatory behaviors associated with bulimia nervosa.
General Goals of Eating Disorder Treatment

In caring for clients with eating disorders, a multidisciplinary team approach is recommended. Care providers should include a mental health professional, a medical practitioner, and a dietician.

For clients who are below normal weight/BMI:
- Weight restoration
- Resumption of menses if experiencing amenorrhea
- Monitoring and correction of electrolyte abnormalities
- Prevention of osteoporosis
- Monitoring and management of physical complications (renal, gastrointestinal, hepatic, psychological, endocrine, and cardiac)

For clients who purge or use laxatives:
- Treat binge and purge behavior (set goals for normalization)
- Monitoring and management of physical complications as above; including esophageal tears, PUD, GERD, and gastritis
- Monitoring and correction of electrolyte abnormalities
- Prevention of dehydration secondary to fluid losses
- Promotion of healthy dentition, recommend biyearly dental exams

For all clients with eating disorders regardless of behaviors or weight:
- Develop rapport and a therapeutic alliance
- Normalization of eating behaviors/develop healthy eating habits
- Adequate caloric intake
- Healthy thinking regarding body shape, size, and nutrition
- Multidisciplinary approach: facilitation of coordination of care among other providers and services if applicable
- Identification, intervention, and support of comorbid conditions including self harm behaviors, substance abuse, depression, anxiety, OCD, and personality disorders
- Promotion of psychological health including cognitive and emotional function
- Especially with adolescents, promote involvement of family/support system to maximize compliance with treatment and behavior change
- Provide support to the family
- Enhance motivation to cooperate with treatment approach
- Prevention of relapse
Follow-Up

Initially, and as a general starting point, our team recommends follow-up with your client in office weekly or biweekly. Depending on the client’s behaviors and medical stability, medical visits can be gradually decreased based on your clinical discretion.

History Taking

We recommend taking a thorough history with special attention to:

- Eating habits/dietary history
- Presence and severity of food restriction
- Binge/Purge behavior
- Use of laxatives, diuretics, or weight loss supplements
- Degree of exercise
- Body image
- Current weight
- Highest and Lowest documented weight
- Current supports, presence of family dysfunction or abuse
- Previous eating disorder treatment/support
- Mental health status, presence of substance abuse, self harm behaviors
General Symptom Review

A general review of systems is recommended at visits. Asking similar questions at each visit can assist clients in understanding that their eating disorder behavior has negative consequences to both their physical and psychological health. Questions should be tailored to each individual client depending on their specific eating disorder behaviors.

- Dizziness/Syncope
- Fatigue
- LMP
- Peripheral Edema
- Cold intolerance
- GI status: presence of constipation, bloating, nausea, and abdominal pain
- Cardiac complaints: chest pain or palpitations
- Mental Health Status +/- suicidal ideation if applicable
- Presence of hematemesis if purging
- Symptoms of hypokalemia if purging or using laxatives
- Presence of tooth sensitivity, dental caries, and reduced enamel if purging
- Presence of seizures
- Symptoms of dehydration
- If applicable, symptoms associated with refeeding syndrome: peripheral edema, pulmonary edema, and symptoms associated with cardiac failure
Physical Examination

**Weight:** We recommend weighing your client each visit, and to ensure accuracy, the client should be wearing similar clothing and you should use the same scale. The client should be offered the option of being weighed with his/her back to the scale in order to conceal the number or weight, as we have found this to be quite distressing and detrimental to progress in some clients.

**Vital signs:** We recommend checking the client’s blood pressure and pulse after five minutes lying and then repeated after one minute standing. We also recommend checking temperature.

The remainder of the exam should be determined based on the client’s eating disorder behaviors and history. It is educational to the client to discuss abnormalities found on physical exam and history, as it assists the client in recognizing that their eating disorder behavior has negative physical health consequences.

**Physical Exam:** As a general rule, it is helpful to examine;

- Extremities: color, warmth, capillary refill, presence of peripheral edema
- The cardiac system: bradycardia, tachycardia, arrhythmia, MVP
- The abdomen if symptomatic or experiencing issues with bowel movements (constipation), or if considering other causes for weight loss/vomiting
- Parotid gland enlargement if purging
- Dentition if purging
- Skin and mucous membranes: hydration, dryness, lanugo, and Russell’s sign (abrasions/scarring on knuckles secondary to induced vomiting)
- Neurological exam: if you are considering other causes for weight loss/vomiting
- Psychological status including affect, speech, grooming, and eye contact
Investigations

We recommend laboratory studies as suggested by the Manitoba Health Eating Disorder Guidelines. Please see the below link for laboratory screening suggestions.

Manitoba Health: Eating Disorders
http://www.gov.mb.ca/healthyliving/mh/eatingdisorders/physicians.html

Frequency and type of laboratory investigations is based on the client’s behaviors, review of symptoms, physical exam, and of course; your discretion as a practitioner.

Initially and as a general guideline, you can consider:

- CBC with differential, ferritin, B12, electrolytes, BUN, Cr, AST, ALT, Total Protein, Albumin, Globulin, TSH, T4, T3, Ca, Mg, Phosphate, RBS, Amylase (if purging), urinalysis, and MSU.

- CBC, Ferritin, Folic Acid, and Vitamin B12 can be repeated every six months if clinically indicated.

If purging, we recommend weekly:

- Na, K, Cl, CO2, and BUN

If at risk for refeeding syndrome, we recommend weekly or biweekly:

- NA, K, Mg, Phosphate, Ca, and RBS

Re-feeding syndrome is a potentially fatal condition resulting in severe electrolyte changes as a result of refeeding, or renourishment, after a period of malnutrition.

BMJ Clinical Review: Refeeding Syndrome: What it is, and How to Prevent and Treat it
Miscellaneous Testing:

An EKG is of importance especially in clients with bradycardia, in order to rule out a prolonged QTc interval (normal <0.44). A repeat EKG is usually not required unless cardiac symptoms persist, new cardiac symptoms develop, or if abnormalities were noted on EKG previously.

For patients with Anorexia Nervosa, we suggest a bone scan every two years to monitor bone mineral density.

If your client is experiencing amenorrhea, we recommend ruling out other medical causes at your discretion with labs including:

- Quantitative Beta-hCG, estradiol, FSH, LH, prolactin, and TSH

If your client is experiencing weight loss and/or chronic vomiting, it is helpful to consider differential diagnoses including:

- New onset Diabetes
- Hyperthyroidism
- Adrenal Insufficiency
- Depression or other psychiatric illness
- Chronic infection
- Celiac Disease, Inflammatory Bowel Disease, & Malabsorption
- CNS lesions/tumors
- Abdominal mass (benign or malignant)

Additional laboratory testing is dependant on the differential diagnosis you are excluding.
General Recommendations

- Multivitamin once daily
- Potassium supplementation as needed
- Treat nutritional and mineral deficiencies (folate, B12, anemia, Mg, etc.)
- Calcium (1000-1500 mg daily) and Vitamin D (400-1000 IU daily) in accordance with Osteoporosis Canada & Health Canada
- Prevent and treat constipation
- Activity restriction in underweight clients
- Activity restriction with abnormalities in vital signs

- Awareness of pharmaceuticals that prolong the QTc interval
- Provide multidisciplinary care within a treatment team
- Emphasize treatment goals as previously discussed (p. 4)
- In Anorexia Nervosa: Estrogen replacement, including the use of hormonal contraception, is not a supported practice in the area of osteoporosis prevention.
Indications for Hospitalization:

Manitoba Health Eating Disorder Guidelines

Hospital admission should be considered in adults if:

- Heart Rate < 40 bpm
- Blood Pressure < 90/60 mm Hg
- Symptomatic hypoglycemia
- Potassium < 3 mmol per litre
- Temperature < 36.1 C

Hospital admission should be considered in adolescents if:

- Heart Rate < 50 bpm
- Orthostatic blood pressure resulting in an increase of heart rate > 20 bpm or a systolic drop in blood pressure of > 10 to 20 mm Hg
- Blood pressure < 80/50 mm Hg
- Hypokalemia or hypophosphatemia
- Symptomatic hypoglycemia or RBS < 3 mmol per litre

Hospital admission should be considered in all clients if:

- Dehydration
- Cardiovascular Abnormalities other than bradycardia
- Weight < 75% of expected weight
- Poor motivation or insight
- Poor cooperation in outpatient treatment
- Inability to eat independently; complete food refusal
- Requiring nasogastric feeding for weight restoration
- Anti-therapeutic support environment, especially if abuse present
- Symptoms of Refeeding Syndrome: peripheral edema, pulmonary edema, and symptoms associated with cardiac failure
- Medical instability (VS, glucose, dehydration, organ compromise)
- Lack of improvement of worsening of condition in outpatient treatment
- Rapid weight loss
- Suicidal plan or marked suicidal ideation
- Severe coexisting psychiatric disease including psychosis
Common Medical Complications:

Anorexia Nervosa

**Mortality Risk:** The risk of death, or mortality rate, with Anorexia Nervosa is estimated at 10 percent, which is primarily a result of cardiac arrest or suicide. Recovery rates are estimated at 44-76 percent.

**Electrolyte Disturbances:** Vomiting, laxatives, and diuretic use can result in hypokalemia, hypochloramia, hyponatremia, and metabolic alkalosis. Hypophosphatemia and hypomagnesaemia should also be ruled out. Electrolyte abnormalities can be extremely dangerous, leading to cardiac arrhythmias and sudden death.

**Endocrine Changes:** Hypoglycemia and euthyroid hypothyroxinemia are possible findings in a client with Anorexia Nervosa.

**Dehydration and Edema:** Vomiting, laxatives, diuretic use, and dietary restriction can result in dehydration with subsequent water retention. Water retention is visible in the form of peripheral or facial edema, and usually occurs after vomiting and laxative use has ceased after regular use.

**Cardiac Irregularities:** Anorexia Nervosa is associated with bradycardia, hypotension, mitral valve prolapse, QT prolongation, T wave inversion, myocardial atrophy, arrhythmia, and heart failure. A prolonged QT is often associated with electrolyte abnormalities, specifically hypokalemia, which is a precursor to cardiac arrhythmias and sudden death. Heart failure usually results from a combination of reduced cardiac contractility and refeeding edema.

**Bone Abnormalities:** Osteopenia and Osteoporosis is a potentially irreversible complication associated with Anorexia Nervosa. The pathogenesis of bone loss is likely multifactorial, and is thought to be associated with estrogen deficiency secondary to amenorrhea, inadequate calcium and vitamin D, in addition to low BMI. It is estimated that 40-60 percent of bone mass is accrued during the adolescent years. Osteopenia places clients at risk for fractures.

**Pulmonary Changes:** Anorexia Nervosa is associated with emphysematous changes (also called nutritional emphysema) on chest imaging although the complications and medical sequale of this finding remains unclear. It is suggested that decreased lung density is a reversible consequence of starvation/malnutrition. Clients with Anorexia Nervosa: Purging Type are also at risk for aspiration pneumonia (rare).
Renal Dysfunction: Renal abnormalities include electrolyte disturbances, inability to concentrate urine, elevated BUN (from intravascular depletion), decreased GFR, renal calculi, and polyuria secondary to abnormal vasopressin secretion.

Gastrointestinal Changes: In malnourished clients, delayed gastric emptying is common, resulting in complaints such as bloating, constipation, and stool changes. Superior mesenteric artery (SMA) syndrome is a rare finding that is associated with weight loss or low BMI, causing compression of the duodenum between the aorta and the vertebral column. Clients with Anorexia Nervosa: Purging Type may also experience dental erosion, parotid hypertrophy, esophagitis, Mallory-Weiss tears, esophageal/stomach rupture (rare), Barrett esophagus, fatty liver infiltration, acute pancreatitis, and gallstones.

Hematological Changes: Hematological changes include leukopenia, thrombocytopenia, and anemia. B12 deficiency can be a common finding in clients with a vegetarian diet.

Neurological Changes: Seizures can result from coexisting electrolyte abnormalities including hypoglycemia, hyponatremia, and hypomagnesaemia. Seizures can also be precipitated by decreased cerebral perfusion. Cerebral atrophy, cognitive impairment, and Wernicke’s encephalopathy (rare) are also associated with Anorexia Nervosa.

Cognitive/Emotional Changes: Malnutrition is linked with, or can exacerbate, depression, anxiety, irritability, mood swings, and personality changes.

Dental Erosion: If clients are experiencing Anorexia Nervosa: Purging Type, they are at risk for tooth sensitivity, loss of enamel, periodontal disease, and dental caries.

Hepatic Changes: Acute hepatic insufficiency can result from prolonged malnutrition.

Reproductive Changes: Menstrual irregularities, amenorrhea, and secondary fertility issues can result from caloric restriction and malnutrition.

Re-feeding Syndrome: Refeeding syndrome is a potentially fatal condition resulting from the rapid refeeding of a malnourished client. Refeeding syndrome can cause potentially fatal shifts in both fluids and electrolytes. Risk factors for refeeding syndrome include low BMI, little or no nutritional intake for five days, electrolyte disturbances before refeeding begins, and unintentional weight loss. Electrolyte abnormalities seen in refeeding syndrome include hypophosphatemia, hypomagnesium, hypokalemia, hypocalcemia, and hypoglycemia. A deficiency in phosphorus is the most dangerous as it is linked with acute pulmonary edema due to dilated cardiomyopathy.
Bulimia Nervosa

Mortality Risk: The risk of death from Bulimia Nervosa is approximately one percent. Long term follow-up shows recovery rates of around sixty percent.

Electrolyte Disturbances: Vomiting, laxatives, and diuretic use can result in hypokalemia, hypochlororamia, hyponatremia, and metabolic alkalosis. Hypophosphatemia, hypocalcemia, and hypomagnesaemia should also be ruled out. Electrolyte abnormalities can be extremely dangerous, leading to cardiac arrhythmias and sudden death.

Dehydration and Edema: Vomiting, laxatives, diuretic use, and dietary restriction can result in dehydration with subsequent water retention. Water retention is visible in the form of peripheral or facial edema, and usually occurs after cessation of regular vomiting and laxative use.

Cardiac Irregularities: Bulimia Nervosa can be associated bradycardia and hypotension, which is often a result of periods of restriction or dehydration. Palpitations are a common complaint and often a result of tachycardia post purging, hypokalemia, or dehydration. QT prolongation is often associated with electrolyte abnormalities, such as hypokalemia, which is a precursor to ventricular arrhythmias and sudden death.

Reproductive Changes: Menstrual irregularities or amenorrhea can result from caloric restriction, erratic nutritional patterns, and overall malnutrition.

Bone Abnormalities: Osteopenia and Osteoporosis is a potential complication of Bulimia Nervosa. The pathogenesis of bone loss is likely multifactoral, and is thought to be associated with estrogen deficiency if the client is experiencing amenorrhea, inadequate intake or absorption of calcium and vitamin D, and a low BMI which is a possible finding in clients with Bulimic Nervosa. It is estimated that 40-60 percent of bone mass is accrued during the adolescent years. Osteopenia places clients at risk for fractures.

Renal Dysfunction: Renal abnormalities include electrolyte disturbances, inability to concentrate urine, elevated BUN (from intravascular depletion), renal stones, and decreased GFR.

Gastrointestinal Changes: If malnourished, delayed gastric emptying is common, resulting in complaints such as bloating, constipation, and stool changes. Clients with Bulimia Nervosa: Purging Type may also experience parotid hypertrophy, esophagitis, Mallory-Weiss tears, esophageal/stomach rupture (rare), Barrett esophagus, fatty liver infiltration, acute pancreatitis (secondary to binge eating), and gallstones.
**Pulmonary Changes:** Although extremely rare, clients with Bulimia Nervosa: Purging Type are at risk for aspiration pneumonia.

**Neurological Changes:** Seizures can result from coexisting electrolyte abnormalities including hypoglycemia, hyponatremia, and hypomagnesaemia. Seizures can also be precipitated by decreased cerebral perfusion.

**Cognitive/Emotional Changes:** Malnutrition is linked with, or can exacerbate existing depression, anxiety, irritability, mood swings, and personality changes.

**Dental Erosion:** If purging, clients are also at risk for tooth sensitivity, loss of enamel, periodontal disease, and dental caries.