Caring for Adults With Eating Disorders in Primary Care

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ABSTRACT

Eating disorders are prevalent in adulthood and have high rates of morbidity and mortality. In many cases, primary care physicians (PCPs) are the first and/or only medical professionals to interact with individuals with eating disorders. However, PCPs often do not receive adequate training to confidently and appropriately care for these patients. This review includes up-to-date screening and treatment guidelines and relevant studies concerning the care of adult patients with eating disorders and provides concise guidance for PCPs regarding the outpatient management of these patients in primary care. Three case reports are also included to provide real-life examples of patients with eating disorders that PCPs may encounter. Although eating disorders can have grave consequences, recovery is possible and common, even after patients have been ill for many years. PCPs can play an integral role in promoting recovery by following evidence-based guidelines, by identifying when medical or psychiatric hospitalization is indicated, by monitoring for medical complications, and by referring early to evidenced-based therapies.

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Eating disorders are severe mental illnesses and represent a significant cause of morbidity and mortality worldwide.[1–4] In the United States, approximately 20 million women and 10 million men meet criteria for a lifetime eating disorder.[5] The current coronavirus disease 2019 pandemic is likely to exacerbate eating disorder behaviors in at-risk individuals across the globe.[6] To mitigate the sequelae of these illnesses, it is critical for health professionals to screen for eating disorders and to intervene as soon as possible.

Often, the first, and sometimes only, contact with the medical system for individuals with eating disorders is in a general medical setting such as primary care.[7–9] Although primary care physicians are in a unique role to identify and treat eating disorders, primary care physicians (PCPs) often lack adequate training[10] and report low self-rated confidence and competence in treating eating disorders.[11–13] In a national survey of US residency programs in internal medicine, pediatrics, family medicine, psychiatry, and child and adolescent psychiatry, 514 of 637 (80.7%) responding programs offered no formal training in eating disorders.[10] Among internal medicine programs that did provide formal training, a mean of only 1.9 hours total were provided across 3 years of residency.[10] Due to lack of adequate training and awareness, health professionals may inadvertently delay eating disorder diagnosis and treatment, as rates of eating disorder identification and diagnosis in primary care are low.[14,15]

Eating disorders affect individuals of all ages, genders, ethnicities, socioeconomic backgrounds, and weights. As many as 13% of US women over age 50 years engage in eating disorder behaviors.[16] Risk factors for eating disorders are complex and multifactorial—including biological factors (eg, genetics, gender, developmental stages, and neurobiological differences) and environmental factors (including idealization of thinness, diet culture, peer influence, and history of trauma).[17–19] High rates of eating disorders occur among marginalized populations, including individuals from minority racial and ethnic backgrounds,[20,21] sexual and gender minorities,[22,23] and individuals experiencing homelessness and/or food insecurity.[24–27] A lack of public awareness of eating disorders in men may delay or prevent them from seeking help.[28,29]

PCPs are most often on the front lines of screening and detecting eating disorders. As severity and treatment resistance increase with illness duration,[30–32] timely intervention is key. However, recovery from eating disorders is possible and common—even 20 years after initial diagnosis.[33]

This review includes up-to-date screening and treatment guidelines and relevant studies concerning the care of adult patients with eating disorders and provides concise guidance for PCPs regarding the outpatient management of these patients in primary care. Three case reports are also included to provide real-life examples of patients with eating disorders that PCPs may encounter.

Clinical Points

- Primary care physicians can promote recovery from eating disorders by referring adult patients to evidence-based treatments, including cognitive-behavioral therapy for eating disorders.
- Primary care physicians can use established criteria to guide management of patients with eating disorders who may need hospitalization for medical stabilization.
- Full weight restoration to a healthy weight range improves physical and psychological well-being; this target weight range is specific to each patient.
- Recovery from eating disorders is possible and common, even after patients have been ill for many years.

CASE REPORTS

Case 1

Patient 1 was a 25-year-old woman who first tried to diet when she was 11 years old. Her eating disorder symptoms evolved over time—including restriction, purging, and laxative abuse. She was hospitalized in high school when severely underweight and has had multiple psychiatric inpatient and residential admissions. Her medical complications included a history of amenorrhea, osteopenia, electrolyte disturbances, gastrointestinal dysmotility, repeated syncope, and 2 suicide attempts by medication overdose, including one that led to seizures and a prolonged medical intensive care unit stay. Her additional psychiatric diagnoses included severe depression, posttraumatic stress disorder, and borderline personality disorder. After 18 months of relative stability, she felt she had allowed herself to eat too much on vacation, and she started restricting, purging, and using laxatives again. Her mood worsened. Her outpatient team (consisting of a dietitian, therapist, psychiatrist, and PCP) became concerned, but she declined to pursue a higher level of care program or allow contact with her parents. She overdosed again, alerting her psychiatrist after taking acetaminophen and diphenhydramine. She was hospitalized for a few days for medical stabilization and then for less than 5 days on a general psychiatric inpatient unit and was subsequently discharged to her outpatient team.

Case 2

Patient 2 was a 51-year-old woman who had struggled off and on with anorexia nervosa since age 16 years. She had significant ambivalence about seeking care. At her first appointment with her new PCP, she arrived for vitals with the nursing staff and then left due to anxiety before being seen by the PCP. She had chronic transaminitis, neutropenia, osteopenia, and a body mass index (BMI) < 18 kg/m^2, with a long history of amenorrhea (attributed to early menopause). She interpreted prior comments from medical professionals to mean that she was "fine" and did not need help. She returned, however, for another appointment, and her new PCP carefully explored her history of disordered eating, assessed her medical complications, and referred her to evidenced-based cognitive-behavioral therapy (CBT). She established a care team with a PCP, therapist, and dietitian in regular communication. Her husband also attended some of her appointments. Over 6 months, she gained 10 lb and resumed her menstrual cycle. She continued to struggle with disordered thoughts but was on a road to further recovery.

Case 3

Patient 3 was a 23-year-old trans male patient (on testosterone for 6 months), who presented to establish primary care. Three years previously, he weighed 250 lb (BMI of 39 kg/m^2). He initially lost 50 lb through what he described as more "gradual changes," but then over the previous year he restricted his intake more severely, eventually down to 200–400 calories per day and began to purge daily by self-induced vomiting. He lost nearly 50% of his maximum body weight (BMI of 21 kg/m^2). He reported that he recently tried to increase his intake, but he developed chest pain, palpitations, abdominal pain, and dizziness and therefore felt he was "unable to eat." He had been seen multiple times in the emergency department for these symptoms. At his most recent emergency visit, he was bradycardic (at 39 bpm) and orthostatic. He had a normal echocardiogram and was discharged home and advised to pursue treatment for anxiety. His new PCP recognized that despite his "normal" BMI, he was at high risk for refeeding syndrome given the severe degree of malnutrition, abnormal vitals, and reported symptoms. His PCP arranged admission to a local hospital for 1 week of medical stabilization and nutritional rehabilitation, and he was then transferred to a residential eating disorder program for longer-term treatment.

ASSESSMENT AND DIAGNOSIS

Evaluation

Adult primary care patients with eating disorders present with varying severity. The 3 case examples presented here demonstrate how eating disorders may manifest in adult patients. Many patients may have been living chronically with disordered eating for years—even decades—and the acuity and specific behaviors fluctuate throughout the course of the illness. Other adults may develop incipient eating disorders later in life. Therefore, the intensity of monitoring and treatment, and the need for acute intervention, may change over time. While no current US Preventive Services Taskforce (USPTF) recommendation exists regarding screening for eating disorders in adolescents and adults, there is an ongoing USPTF research plan to answer questions about the potential benefit and harm of screening and the accuracy of primary care screening tools.[34] It is important to consider evaluating for an eating disorder with all patients, but particularly those who present with any of the "red flag" signs and symptoms listed in Table 1.[35]

Descriptions of short screening tools to assess eating disorders are provided in Table 2 (and in the Supplementary Material).[36–38] In particular, the SCOFF questionnaire is a

Table 1. Presentations Prompting Further Evaluation for Disordered Eating

Underweight (body mass index < 18.5 kg/m^2) or rapid weight changes in either direction
Substantial increase in amount of exercise or compulsive exercise behaviors
Concern with body size, negative body image or body dissatisfaction
New eating practices, restriction of entire food groups or specific food rules (eg, no sugar, no carbohydrates, gluten free, new vegetarianism/veganism, "clean" eating, binge eating)
Use of diuretics, caffeine, or weight-loss supplements or inappropriate use of laxatives
Nonspecific gastrointestinal complaints (including constipation, abdominal pain, and recurrent nausea), particularly if accompanied by weight loss
Laboratory abnormalities: anemia, electrolyte disturbances (eg, hyponatremia, hypokalemia, and hypoglycemia) without another medical cause
Bradycardia and/or orthostatic tachycardia/hypotension
Irregular menses or amenorrhea; infertility without explanation
Patients with type 1 diabetes mellitus who present with persistently elevated blood sugars and/or repeat episodes of diabetic ketoacidosis (may be intentionally underdosing insulin to lose weight ["diabulimia"])
Patients seeking stimulant prescriptions without a formal diagnosis of attention-deficit disorder
Report of isolation from friends and family, particularly around meals

[a]Adapted with permission from Academy for Eating Disorders.[35]

Table 2. Screening Tools in Primary Care

Questionnaire	No. of Items	Which Eating Disorder(s) Can It Screen For?
SCOFF Questionnaire[36]	5	Anorexia nervosa, bulimia nervosa, other specified feeding or eating disorder (may screen for binge-eating disorder, although it has not been validated for this use)
Eating Attitudes Test-26[37]	26	Anorexia nervosa, bulimia nervosa, binge-eating disorder, other specified feeding or eating disorder
Nine-Item Avoidant/Restrictive Food Intake Disorder Screen[38]	9	Avoidant/restrictive food intake disorder

5-item questionnaire designed to assess for eating disorder symptoms in a primary care setting.[36] Scores of 2 or higher (endorsing "yes" to 2 or more items) identifies an individual as likely to have an eating disorder. The SCOFF has been shown to have high levels of sensitivity and specificity for anorexia nervosa and bulimia nervosa.[36] It has not been validated for binge-eating disorder and is not likely to detect avoidant/restrictive food intake disorder. Given its precision and brevity, the SCOFF represents a highly scalable tool for primary care offices to screen for eating disorders. The SCOFF could be administered to all patients as part of annual examination questionnaires (often completed in advance of the visit), or it could be used to screen patients who present with concerning signs or symptoms (see Table 1).

Eating Disorder Diagnoses

Specific eating disorder diagnoses, defined by the *Diagnostic and Statistical Manual of Mental Disorders*, 5th Edition (*DSM-5*),[39] include anorexia nervosa, bulimia nervosa, binge-eating disorder, avoidant/restrictive food intake disorder, other specified feeding or eating disorder, and unspecified feeding or eating disorder. There are 2 more feeding disorders, pica and rumination disorder, that are beyond the scope of this review.

Anorexia nervosa. Anorexia nervosa is characterized by deliberate caloric restriction; significantly low body weight as a consequence of caloric restriction; prominent fear of weight gain, despite low body weight; and body dissatisfaction, strong influence of shape/weight on self-worth, and denial of gravity of one's illness/low body weight. When evaluating low body weight, PCPs should consider the patient's age, gender, developmental trajectory, and physical health. Amenorrhea is no longer a diagnostic criterion for anorexia nervosa, although many patients may experience irregular periods or loss of their period. Patients with anorexia nervosa may present with the restricting subtype (ie, engage only in caloric restriction) or the binge/purge subtype (ie, engage in binge eating [eating a large quantity of food in a small period of time, characterized by a sense of loss of control] and/or purging [self-induced vomiting, laxative or diuretic abuse, insulin misuse, excessive exercise, diet pills]).

Bulimia nervosa. Bulimia nervosa is characterized by binge eating with purging/compensatory behavior once a week or more for at least 3 months and strong influence of shape/weight on self-worth. Patients with bulimia nervosa are not at a significantly low weight (defined as less than minimally normal or for children/adolescents less than minimally expected). If patients present with bingeing and/or purging behavior and are at a low bodyweight, they likely meet criteria for anorexia nervosa.

Binge-eating disorder. Binge-eating disorder is characterized by binge eating, without compensatory behavior, associated with shame, eating until uncomfortably full, and depressed mood/guilt. The binge eating occurs, on average, at least once a week for 3 months.

Avoidant/restrictive food intake disorder. This disorder is characterized by avoidance of eating for reasons unrelated to shape/weight. These reasons may include a sensory aversion to tastes, textures, smells, and temperature of food; fear of aversive consequences from eating food (eg, choking, vomiting, gastrointestinal symptoms or allergic reaction); and/or lack of interest in food or eating. Avoidance of eating must also lead to impairment in one of the following domains: significant weight loss/low body weight/failure to grow (in children), nutritional deficiency, dependence on nutritional supplements (eg, vitamins, nutritional shakes), and/or marked psychosocial impairment.

Other specified feeding or eating disorder. This is an eating disorder that does not meet full criteria for one of the other categories but has specific disordered eating behaviors. Behaviors may include (but are not limited to) caloric restriction, purging and/or binge eating, marked picky eating, and marked guilt/shame around eating/body image. For example, in atypical anorexia nervosa (a specific

Table 3. Eating Disorders: Important Aspects of the History[a]

Weight and exercise • "What were your highest and lowest weights? When?" • "What would you like to weigh? Would gaining weight upset you?" • "What do you do for exercise? How much and how often?"
Nutritional history: review a detailed intake of the prior 24 hours, restriction of specific foods or food groups • "Do you have any strict food rules or restrictions?" • "Do you count calories? If so, do you try to stick to any particular amount?" • Binge eating: "Do you ever have episodes where you eat a very large amount of food and feel out of control while eating? How often?"
Compensatory behaviors: self-induced vomiting, exercise, laxative, diuretic or ipecac abuse, weight-loss supplements, insulin misuse
Growth history: including past growth charts when possible
Menstrual history: age of menarche, cycle pattern, use of oral contraceptive pills or other hormonal contraceptives
Substance use: • Screening tools: Alcohol Use Disorders Identification Test,[40] Drug Abuse Screening Test[41]
Psychiatric history: depression, anxiety, suicidal ideation, history of trauma • Screening tools: 9-item Patient Health Questionnaire,[42] 7-item Generalized Anxiety Disorder Scale,[43] Columbia-Suicide Severity Rating Scale[44]

[a]Adapted with permission from Academy for Eating Disorders.[35]

other specified feeding or eating disorder diagnosis), all other criteria for anorexia nervosa are met, but the patient's weight is within or above the normal range despite weight loss.

Unspecified feeding or eating disorder. This is a diagnosis reserved for when a provider does not have sufficient information on symptoms to specify any of the previously mentioned diagnoses, but eating disorder behaviors appear to be present and clinically significant for the patient.

History

Once an adult patient has been identified as at risk for disordered eating, the PCP should ask further questions to explore specific behaviors, weight, exercise, and nutritional history (Table 3).[35,40–44]

Psychiatric comorbidities are common in individuals with eating disorders.[45,46] These include mood disorders such as major depressive disorder, anxiety disorders, obsessive-compulsive disorder, and posttraumatic stress disorder. Childhood physical and sexual abuse have been associated with an increased risk of disordered eating.[45,46] Alcohol and other substance abuse disorders are also more common among a population with eating disorders than in the general population.[47–49]

PCPs should also assess for suicide risk among all patients with disordered eating. Individuals with eating disorders are at increased risk of suicidal ideation, suicide attempts, and death by suicide.[4,50–52] A meta-analysis by Preti et al[53] found that the suicide rate for patients with anorexia nervosa was 31 times higher than for the general population, and the suicide rate for individuals with bulimia nervosa was 7.5 times higher. Brief, validated screening tools already familiar to many PCPs, such as the 9-item Patient Health Questionnaire[42] and the Columbia-Suicide Severity Rating Scale[44] (if suicidal ideation is identified), can be used.[54]

Physical Examination

In addition to obtaining a detailed history, it is important for the PCP to perform a thorough physical examination. Vital signs should include an accurate height and weight. If possible, the patient should be weighed after a void, in a gown, and on the same scale at each visit. Some patients may prefer to be weighed while standing backward on the scale. They may not want to know their weight or may not want to receive this information in a public area or on an electronic or printed summary of the visit. However, if a patient is engaged in certain evidenced-based therapies for eating disorders (eg, CBT), the treatment team may recommend open weighing (for accountability and exposure).[55,56] Orthostatic heart rates and blood pressures (supine, sitting, and standing) should be obtained, along with temperature and urinalysis for specific gravity (to assess hydration status and possible water loading) and pH (as alkaline urine may be a sign of purging).

The medical evaluation should assess the degree of malnutrition. While current weight is only 1 component of this assessment, it is important to calculate the patient's percent of ideal or expected body weight or percent median BMI (using the 2000 CDC growth charts for ages 2 through 20[57]). It is important to note that clinically there is not a universal "ideal" body weight (or BMI) for all individuals, and the term *ideal body weight* is problematic. The calculation of ideal body weight or even median BMI should not be used as the default goal or target weight in recovery (further information regarding setting a target weight goal is included in the Recommendations for Primary Care Visits section), but it can be used as 1 of many factors to assess medical stability and to determine if a patient may need to be hospitalized (eg, if < 75% of calculated ideal body weight or median BMI). Ideal body weight can be calculated for adults using the Hamwi equation (females: 100 lb for the first 5 ft + 5 lb for each additional inch; males: 106 lb for the first 5 ft + 6 lb for each additional inch). The Hamwi equation may underestimate expected body weight for some individuals. There are many ways to calculate expected body weight, which can lead to different conclusions about whether an individual is underweight.[58] An alternative method for young adults is to use the CDC growth charts[57] to calculate percent median BMI. Percent median BMI can be estimated for a 20-year-old woman as patient's BMI divided by 21.7 (per CDC growth charts). Current weight should be reviewed in the context of earlier weight and height (using pediatric/adolescent growth curves if available, even for older adults). Child and adolescent growth percentiles can provide support for determining an individual's natural or premorbid weight trajectory. The degree of malnutrition can also be classified based on weight loss: mild (> 10% body mass loss), moderate (> 15% body mass loss), and severe (> 20% body mass loss in 1 year or > 10% body mass loss in 6 months).[59] Clinical consequences from malnutrition are not only seen in low-weight patients, as individuals with restrictive eating disorders who are not underweight may experience the same range of life-threatening complications.[60]

Table 4. Medical Complications and Physical Signs/Symptoms of Eating Disorders[a]

System	Complications/Signs/Symptoms
General	Marked weight fluctuations Arrested growth Hypothermia Cold intolerance, hot flashes Weakness, fatigue, lethargy Presyncope and syncope
Oral and dental	Oral trauma/lacerations Perimyolysis (dental erosion on posterior tooth surfaces) and dental caries (cavities) Parotid (salivary) gland enlargement
Cardiorespiratory	Chest pain Heart palpitations Orthostatic tachycardia/hypotension Myocardial atrophy, mitral valve prolapse Pericardial effusion Bradycardia and other electrocardiogram changes Edema
Gastrointestinal	Gastroparesis Constipation Hematemesis Abdominal bloating Hemorrhoids and rectal prolapse Hepatitis Superior mesenteric artery syndrome
Endocrine	Amenorrhea or oligomenorrhea Low sex drive Stress fractures Low bone mineral density Infertility Euthyroid hypothyroxinemia Hypoglycemia
Neuropsychiatric	Depression, anxiety, obsessive-compulsive disorder symptoms and behaviors Memory loss, poor concentration Cognitive impairment Insomnia Self-harm Suicidal thoughts, plans, or attempts Seizures Cerebral atrophy
Dermatologic	Lanugo hair (fine hair growth on the body and face), hair loss Carotenoderma (yellowing of the skin) Russell's sign (rarely seen calluses or scars on the back of the hand from self-induced vomiting) Dry, brittle hair and nails

[a]Adapted with permission from Academy for Eating Disorders.[35]

Table 5. Academy for Eating Disorders: Criteria for Hospitalization for Acute Medical Stabilization[a]

Presence of 1 or more of the following:
- ≤ 75% median BMI for age, sex, and height
- Hypoglycemia
- Electrolyte disturbance (hypokalemia, hyponatremia, hypophosphatemia, and/or metabolic acidosis or alkalosis)
- ECG abnormalities (eg, prolonged QTc > 450 ms, bradycardia, other arrhythmias)
- Hemodynamic instability:
  - Bradycardia (HR < 40–50 bpm)
  - Hypotension (SBP < 80/50 mm Hg)
  - Hypothermia
- Orthostasis: BP changes > 20 mm Hg or pulse > 20 bpm
- Acute medical complications of malnutrition (eg, syncope, seizures, cardiac failure, pancreatitis)
- Comorbid psychiatric or medical condition that prohibits or limits appropriate outpatient treatment (eg, severe depression, suicidal ideation, obsessive-compulsive disorder, type 1 diabetes mellitus)
- Uncertainty of the diagnosis of an eating disorder

[a]Adapted with permission from Academy for Eating Disorders.[35]
Abbreviations: BMI = body mass index, BP = blood pressure, ECG = electrocardiogram, HR = heart rate, SBP = systolic blood pressure.

Medical Complications

Eating disorders can affect every organ system, from dental and dermatologic complications to cardiac and neuropsychiatric symptoms (such as depressive, anxious, and compulsive behaviors). Table 4 provides a thorough list of medical complications and physical signs and symptoms of eating disorders per the Academy for Eating Disorders (AED).[35]

Medical Evaluation

The AED's new report *Eating Disorders: A Guide to Medical Care*[35] also includes a detailed list of the laboratory tests that are part of an initial assessment of a patient with active disordered eating. These diagnostic tests should include at minimum a complete blood count and comprehensive panel, including magnesium and phosphorus levels. An electrocardiogram is included, particularly for patients with vital sign abnormalities or concerning signs/symptoms (ie, hypotension, tachycardia, bradycardia, orthostasis, syncope, electrolyte abnormalities, chest pain/palpitations). Additional laboratories may be considered depending on specific behaviors and symptoms (ie, amenorrhea).

A basic metabolic panel and magnesium and phosphorus levels should be repeated at follow-up visits if there is a report of ongoing purging, laxative use, rapid change in weight (either increase or decrease), or orthostasis.

Management

The management of the adult primary care patient with an eating disorder depends on the severity and chronicity of the illness. While some patients may be medically unstable to the point of requiring hospitalization, others are medically stable but suffer from ongoing active eating disorder symptoms.

Medically Unstable Patients With Eating Disorders

Patients with eating disorders who are medically unstable may need hospitalization (Table 5). Hospitalization can take place in a specialized inpatient eating disorder unit within a psychiatric hospital or may require initial treatment/stabilization in a medical hospital.

Refeeding syndrome defines the clinical and metabolic abnormalities that can occur during refeeding of a severely malnourished patient and is another indication for hospitalization. It is caused by increased protein synthesis and uptake of potassium, magnesium, and particularly phosphate. The clinical signs of refeeding syndrome include edema, cardiac and/or respiratory failure, gastrointestinal problems, severe muscle weakness, delirium, and, rarely, death. Laboratory findings may include hypophosphatemia (most significant), hypoglycemia, hypokalemia, hypomagnesemia, and hyponatremia.[61,62]

Medically Stable Patients With Eating Disorders

Patients who are medically stable may still require a higher level of psychiatric and nutritional support and may pursue a higher level of eating disorder care (such as a residential or partial hospitalization treatment program), or they may remain with an outpatient team (eg, PCP/medical professional, therapist, and possibly dietitian and/or psychiatrist).

Some adult patients with disordered eating may not be interested in active treatment and may not be willing to see a therapist or dietitian. In these cases, primary care visits may serve as an opportunity to reduce harm, monitor for medical complications, and possibly engage in further treatment at a future time.

RECOMMENDATIONS FOR PRIMARY CARE VISITS

Although evidence-based treatment guidelines for adult patients with eating disorders within primary care are limited,[63] the following suggestions are based on expert consensus, including that of the AED,[35] which applies to patients of all ages, and the position paper of the Society for Adolescent Health and Medicine.[59]

Discussing an Eating Disorder Diagnosis

Patients with eating disorders may be hesitant to accept the diagnosis and the need for treatment. Even very ill patients may be reluctant to acknowledge that they are sick. PCPs should be understanding and compassionate but direct about the life-threatening complications of eating disorders. Recovery is possible, even after patients have been ill for many years. PCPs can use motivational interviewing to identify reasons that a patient might want to recover. Patients' goals and experience of their eating disorder may change over time, providing new opportunities for recovery; for example, patients desiring pregnancy may decide that they want to pursue additional treatment for a restrictive eating disorder causing amenorrhea.

Initial Evaluation

As detailed previously, the initial medical evaluation should assess for medical and psychiatric stability and complications by obtaining vitals, detailed history and physical examination, and indicated laboratory and diagnostic studies. This information will guide decisions regarding need for immediate hospitalization or stability for outpatient treatment.

Referral to Psychological Treatment

If stable for outpatient treatment, the patient should be referred to a therapist with specific eating disorder expertise that practices evidence-based treatments. Family-based treatment (or the "Maudsley method") is a promising approach for adolescents and young adults with restrictive eating disorders wherein parents (or another supportive adult) remain directly involved.[64–66] CBT for eating disorders (CBT-ED) is the leading evidence-based treatment for adults with eating disorders.[67–69] CBT-ED is usually a time-limited treatment that focuses on the role that thoughts and behaviors play in maintaining an eating disorder. CBT-ED can be effective for patients, regardless of the duration of their illness. Many patients make great progress with CBT-ED, even if they have experienced a chronic eating disorder.[70] PCPs can use resources such as the AED (www.aedweb.org)[35] or local eating disorder associations to identify therapists trained in evidence-based treatments such as CBT-ED and family-based treatment.

Nutritional Rehabilitation and Weight Goals

Although eating disorders are mental illnesses, initial goals of treatment involve medical stabilization and nutritional rehabilitation. Appropriate psychological recovery cannot occur if a patient is severely malnourished. The PCP should promote immediate nutritional recovery. While awaiting further recommendations from the therapist (and possibly also from a dietitian with eating disorder expertise), the PCP should encourage the patient to stabilize nutritional intake (nutritional supplements like Ensure or Boost can be used if needed). For underweight patients, the treatment team should focus initially on weight restoration—setting an explicit weekly goal for weight gain (eg, 1–2 lb per week is usually appropriate in the outpatient setting).

PCPs should advise full weight restoration (to goal weight range, based on either premorbid growth curves or healthy BMI range). There is no exact standard for setting a target weight for adult patients, as a person's healthy weight is unique to their genetics, their history of disordered eating, and other medical history. Adult patients with an eating disorder may have been sick for many years and therefore have never experienced their natural adult size and shape. Resumption of menses may be an indication of weight normalization for some patients, although a patient may have regular periods and still be weight suppressed. Attainment of an appropriate weight range improves physical and psychological well-being. Weight restoration is an important first step in allowing low-weight patients with eating disorders to regain cognitive flexibility, feel more comfortable with their bodies, and minimize eating disorder behaviors.[71] PCPs should discuss directly with patients whether or not they want to be aware of their weight. This decision should be coordinated with the patients' mental health team (if applicable), as certain evidence-based therapies involve patients knowing their weight.[55]

Medical Monitoring and Follow-Up

Frequency of follow-up visits will depend on acuity of symptoms. If a patient is working with a therapist or dietitian, regular medical weight/vital checks may be a required part of a treatment plan. Frequent communication with other members of the treatment team is essential. Patients may feel reluctant to follow recommendations (eg, expansion of diet, weight gain) that are anxiety provoking and not perceived as being supported by the entire team. The PCP should request permission from the patient and obtain release of

information forms for all team members. Adult patients may also have parents (or spouses/significant others) who remain involved in their care. It may be important to request permission from the patient to communicate with parents/spouse or to discuss specifically when they can be notified.

It is important for PCPs to assess emotional stability and ongoing eating disorder thoughts and behaviors and to validate the patient's experience. Physicians and office staff should avoid comments about a patient's appearance. PCPs should not equate normal laboratories and vitals with "health" or "recovery." Patient 1, a 25-year-old patient with a 14-year history of disordered eating described in the first case, shared the following (with permission to publish):

> *Really one of the scariest things for me going through my eating disorder wasn't dying or anything bad happening to me, it was opening up about how much I was struggling and not being validated. One of the primary reasons I feel like I am invalidated is because of my weight. Even experienced doctors seem to use it as a benchmark for if you're suffering or need treatment . . . "You look great now!" Okay, but I still feel dead inside. One of the other primary ways I could be invalidated is if all of my laboratories/vitals are normal and if my emotional stability is never even questioned. It makes me feel like I need to really step up my behaviors in order to be "sick enough" to deserve help.*

Medications

Evidence for the use of medications to treat eating disorder symptoms and behaviors is limited. In anorexia nervosa, there is no evidence to support the use of selective serotonin reuptake inhibitors (SSRIs) to target specific symptoms (weight loss, disordered body image), but SSRIs may be beneficial to treat comorbid anxiety and depression.[72] Olanzapine, a second-generation antipsychotic, appears to demonstrate some benefit for weight gain in anorexia nervosa but is not advised as a stand-alone treatment.[73] Fluoxetine is US Food and Drug Administration approved for treatment of bulimia nervosa.[74] Bupropion should be avoided if purging is present due to the lowered seizure threshold. The only other approved medication for treatment of an eating disorder is lisdexamfetamine for binge-eating disorder.[75] Other medications, including SSRIs, topiramate, and naltrexone, have been studied with some benefit for binge-eating disorder,[73] although pharmacotherapy alone is less effective than CBT alone.[76]

Gastrointestinal Complications

Gastrointestinal complications are common among individuals with eating disorders.[77] For example, anorexia nervosa often causes gastroparesis and constipation. Gastroparesis can usually be managed with conservative measures (dividing intake into 3 meals and 2 to 3 snacks, avoiding excess legumes and bulkier foods) and will typically resolve with weight restoration after 4–6 weeks. For patients not responding, a low dose (ie, 2.5 mg) of metoclopramide can be given before meals and at bedtime (while reviewing potential rare side effects such as tardive dyskinesia).[78] The addition of a macrolide (eg, erythromycin or azithromycin) may also be used. Constipation should also improve with weight restoration and regular eating. Polyethylene glycol powder can be used.[78] Stimulant laxatives that contain senna or bisacodyl should be avoided. Many patients with bulimia nervosa may experience laryngopharyngeal or gastroesophageal reflux, which may be treated with antacid medications such as H2 blockers (ie, famotidine and ranitidine) and proton-pump inhibitors. One observational study[79] of patients with bulimia nervosa found that irritable bowel syndrome was present in 69%. The management of additional gastrointestinal complications (such as esophageal tears from forceful vomiting) is outside the scope of this review and may require referral to a gastroenterologist.

Bone Health

Low bone density (osteopenia/osteoporosis) is a common and possibly debilitating complication of eating disorders.[80,81] A bone density scan (duel-energy x-ray absorptiometry or DEXA scan) should be obtained, particularly for patients with more than a 9-month history of amenorrhea. In premenopausal individuals aged < 50 years old, a diagnosis of osteoporosis requires a bone mineral density Z-score of ≤ 2.0 and presence of risk factors for fractures or secondary causes of osteoporosis.[81] Oral contraceptive pills have not been shown to improve bone mineral density in adult women with anorexia nervosa.[80] Nutritional rehabilitation, weight restoration, and resumption of endogenous sex steroid production are the preferred treatments.[81] It is reasonable to recommend calcium and vitamin D supplementation, despite no available direct evidence to support a causal increase in bone mass in anorexia nervosa.[81] Although exercise in healthy women has been shown to improve bone density,[82] the protective benefit of exercise does not exist in underweight patients with amenorrhea.[83] Indeed, continued exercise prevents weight gain and results in persistent amenorrhea, contributing to further bone loss.[81] For adolescents and young adults (bone age 15 years) with low bone density, an estrogen patch (100 mcg twice weekly with cyclic oral progesterone) has shown modest benefit.[84,85] Bisphosphonates have also shown promise for adults with osteoporosis due to anorexia nervosa[86] but should be used with caution in women of reproductive age.

Contraception

Individuals of reproductive age with eating disorders may be at risk of unintended pregnancies.[87] PCPs should discuss the need for effective contraception. Some patients have irregular menstrual cycles or amenorrhea, making it hard to predict when ovulation may occur. Underweight women are at increased risk of adverse pregnancy outcomes, including an increased risk of preterm delivery and low birth weight. Women with active eating disorders should be advised to delay pregnancy until their weight is restored (if applicable) and they are engaged in treatment and their purging behaviors are controlled.[88] Long-acting

reversible contraception methods, including intrauterine devices (IUDs) and the hormonal implant, remain the most effective methods of contraception. Vomiting or laxative use may reduce the efficacy of contraceptive pills.[89] Combined hormonal contraceptives may provide false reassurance of menstrual cycle resumption by causing regular, hormone-induced withdrawal bleeding (and have not been shown to protect bone mineral density). Progestin-only methods (such as the progestin-containing IUDs, Depo-provera injections, and the hormonal implant) may contribute to irregular menses or amenorrhea, potentially concealing the return of spontaneous menses. The copper intrauterine device does not contain hormones and therefore does not mask the return of regular menses, which is one possible indication of physical recuperation from an eating disorder.[90]

Ethical Concerns

Eating disorders are mental illnesses with life-threatening physical consequences. Many adult patients may decline recommended treatment. A patient can be sent to an emergency department for evaluation via an involuntary order (signed by a physician or other health professional) if failure to hospitalize would create a likelihood of serious harm by reason of mental illness, but the threat would need to be significant/life-threatening (ie, active suicidality, severe hypokalemia, < 70% median body weight with laboratory/vital sign abnormalities, etc). In cases that do not meet this threshold, it is important to clearly document the discussion of risk and medical recommendations and to encourage close follow-up. Parents (or spouses or other family members) of adults with eating disorders may consider pursuing guardianship if appropriate. There have been discussions about pursuing palliative care and hospice for patients with severe and enduring eating disorders—but when long-term recovery may still occur after 10–20 years, physicians, patients, and family members should be very careful when making a judgment that further treatment would be futile.[33,91]

CONCLUSIONS

Eating disorders are common, and most PCPs will care for many patients with these illnesses during their careers. While medical training about eating disorders has been lacking in primary care, there are best practices, as summarized in this article, that can guide management. Adult patients with eating disorders may be reluctant to seek care or accept help. PCPs often have the privilege of a long-term relationship with a patient and may be uniquely able to express concern, reduce feelings of blame or guilt, guide decision-making, and motivate the patient to pursue treatment. Individuals with eating disorders should be assessed for psychiatric comorbidities, self-harm behaviors, and suicidality. A prominent cause of death in patients with eating disorders is suicide.[2,53] PCPs should evaluate medical stability but should not always equate normal values with overall recovery or health. Primary care can play an integral role in promoting recovery for adults with eating disorders through screening, monitoring for medical complications, and connecting to evidenced-based treatments.

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Supplementary material follows this article.

THE PRIMARY CARE COMPANION
FOR CNS DISORDERS

Supplementary Material

Article Title: Caring for Adults With Eating Disorders in Primary Care

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List of Supplementary Material for the article

1. Screening Tools in Primary Care

Disclaimer

This Supplementary Material has been provided by the author(s) as an enhancement to the published article. It has been approved by peer review; however, it has undergone neither editing nor formatting by in-house editorial staff. The material is presented in the manner supplied by the author.

Screening Tools in Primary Care

The following represent tools that primary care physicians can use to screen patients for disordered eating:

SCOFF Questionnaire.[1] The SCOFF questionnaire is a 5-item questionnaire designed to assess for eating disorder symptoms in a primary care setting. A score of two or higher (endorsing "yes" to two or more items) identifies an individual as likely to have an eating disorder. The SCOFF has been shown to have high levels of sensitivity and specificity for anorexia nervosa and bulimia nervosa[1]. It has not been validated for binge-eating disorder (BED) and is not likely to detect avoidant/restrictive food intake disorder (ARFID). Given its precision and brevity, the SCOFF represents a highly scalable tool for primary care offices to screen for eating disorders. The SCOFF could be administered to all patients as part of annual exam questionnaires (often completed in advance of the visit), or it could be used to screen patients who present with concerning signs or symptoms (**Table 1**).

Eating Attitudes Test-26 (EAT-26)[2]. The EAT-26 is a 26-item questionnaire that assesses eating disorder symptomatology. The EAT-26 suggests that patients who score above a 20 or are underweight (Body Mass Index (BMI) $\leq$ 18.5) should discuss the results with a physician or therapist. The EAT-26 has been shown to have high levels of reliability and validity for anorexia nervosa and bulimia nervosa[2]. EAT-26 also includes questions that may detect bing-eating disorder, but it is not likely to identify avoidant/restrictive food intake disorder (ARFID). Although longer than the SCOFF, the EAT-26 may provide more detailed information to the PCP.

Nine Item Avoidant/Restrictive Food Intake disorder screen (NIAS).[3] The NIAS is a nine-item questionnaire that assess symptomatology related to ARFID. Therefore, it fills an

important gap for conditions that would not be identified through the SCOFF or EAT-26. For example, questions include prompts regarding food restriction due to picky eating, fear of choking/vomiting, and lack of interest in food. Higher scores on the NIAS indicate higher levels of avoidant/restrictive eating pathology (i.e., eating pathology unrelated to shape and weight concerns). The NIAS has been shown to have high reliability and validity.[3]

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