While the term eating disorders is familiar to most people, the group of conditions that fall under this diagnostic label are often misunderstood by the general public and often underrepresented in popular culture.

Eating disorders constitute a category of serious, even life-threatening, mental health disorders including but not limited to the following:

- Anorexia nervosa
- Bulimia nervosa
- Binge-eating disorder
- Other specified feeding or eating disorder (OSFED)
- Avoidant/restrictive food intake disorder (ARFID)

And various unspecified or subclinical eating disorder behaviors fall into the eating disorder category too.

Altogether, the impacts of eating disorders are widely felt throughout society. Of the U.S. population in 2018–2019, an estimated 28.8 million will have an eating disorder at some point in their lifetimes, according to a 2020 Deloitte Access Economics report.

This report, published in conjunction with the Strategic Training Initiative for the Prevention of Eating Disorders (STRIPED) and the Academy for Eating Disorders, found the overall lifetime prevalence of eating disorders was estimated to be 8.6% among females and 4.1% among males. Notably, eating disorders are linked to “substantial excess premature mortality,” with approximately 10,200 deaths in 2018–2019 linked to anorexia nervosa, bulimia nervosa, binge-eating disorder, and OSFED.

Undoubtedly, eating disorders impact a diverse cross section of the U.S. population because they exist among individuals of any age, gender, ethnicity, body weight, and socioeconomic group. While eating disorders primarily constitute a serious mental health or psychiatric illness, they are influenced by a mix of psychological, biological, and genetic factors.

“We talk about eating disorders as biopsychosocial illnesses,” says Claire Mysko, MA, CEO of the National Eating Disorders Association. "As such, treatment for eating disorders is multidisciplinary. It’s a multi-faceted treatment approach. With eating disorders, there are underlying psychological issues, but there’s also a high rate of co-occurring conditions. Most people who have an eating disorder diagnosis are also dealing with other issues, including anxiety and depression. There is also a strong link with past trauma. There may also be a significant crossover with other substance use disorders. We also know that eating disorders can have very serious medical consequences. Typically, the overall treatment plan includes both psychological counseling and a medical consultation.”

**Aptitude in appetites**

How are eating disorders defined? The following criteria describe some of the main features that are characteristic of the major eating disorders.

**Anorexia nervosa.** Individuals with anorexia nervosa have significantly low body weight and are very fearful of gaining weight. The disease is essentially a form of self-starvation. Notably, these individuals often have trouble recognizing their low body weight or related health consequences as a health risk. The diagnostic criteria is that the person weighs less than what is considered normal for their age, sex, height, and other health measures.

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The eating behaviors of those with anorexia nervosa may vary and may be comparable to other eating disorders:

Some individuals with anorexia nervosa engage in binge eating (i.e., eating large amounts of food while feeling out of control) and/or purging (i.e., trying to compensate...
for calories consumed through self-induced vomiting or inappropriate use of laxatives, diuretics, or other medications). Others do not binge or purge but consume a very limited diet that does not adequately support their nutritional needs.5

**Bulimia nervosa.** Individuals with bulimia nervosa experience recurring cycles of binge eating, accompanied by compensatory behavior such as self-induced vomiting, using laxatives or diuretics, fasting, or exercising excessively. Typically, bulimic behavior includes eating large amounts of food within a certain time frame (e.g., two hours). Often, the person feels out of control during these episodes. The diagnostic criteria includes that the behaviors associated with bulimia nervosa occur—on average—at least once a week for three months.6

**Binge-eating disorder.** Some people engage in binge eating without the harmful compensatory behaviors that are characteristic of bulimia nervosa. Like bulimia nervosa, binge-eating disorder is characterized by recurrent episodes in which a person eats excessive quantities of food within a particular time frame. The individual may eat food alone, quickly, and usually to the point of physical discomfort. Notably, binge-eating disorder can occur even if the person is not physically hungry. As with bulimia nervosa, the person often feels out of control while binging. The disorder is also frequently associated with feelings of shame and distress. The frequency of the behavior required for a diagnosis is the same as for bulimia nervosa: an average of at least once a week for three months.7

**Other specified feeding or eating disorder (OSFED).** This category represents eating disorder behaviors that do not meet strict diagnostic criteria for anorexia nervosa, bulimia nervosa, or binge-eating disorder. Even if sometimes considered a catch-all category, an OSFED diagnosis is no less serious than any other eating disorder. In 2013, OSFED replaced *eating disorder not otherwise specified* (EDNOS) in the American Psychiatric Association’s *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (*DSM-5*).8 And the increased mortality rate for individuals diagnosed with OSFED compared with the general population (1.92 times higher) is close to that for bulimia nervosa (1.93 times higher).2

**Avoidant/restrictive food intake disorder (ARFID).** This eating disorder is like anorexia nervosa, with people severely limiting the amount or types of food they eat. Unlike anorexia nervosa, ARFID patients tend to not share the same distress about body shape or size. Notably, ARFID is more than being a picky eater. In fact, children with this condition do not consume enough calories for healthy developmental growth. Similarly, adults with ARFID do not eat enough to maintain basic body function.9

**Miscellaneous.** The *DSM-5* covers several additional feeding and eating disorders, including rumination disorder. A defining feature of rumination disorder is that a person repeatedly regurgitates food after eating.10 The regurgitation is considered voluntary and often accompanied by re-chewing, re-swallowing, or spitting out the ingested food.10 All in all, “unhealthy eating behaviors exist on a continuum,”1 as the Academy for Eating Disorders describes, and these behaviors can have a serious impact on a person’s health, even if the behaviors do not meet the formal criteria for a diagnosis.3

**Made to order**
Certainly, eating disorders are complex conditions. For this reason, as Mysko notes,
eating disorders typically require a comprehensive, multifaceted treatment approach. The pillars of treatment are mental health care, nutritional care, and medical management of the physical consequences of the eating disorder or disorders.

The Eating Disorders Program at the University of California San Francisco (UCSF), which treats minors, adolescents, and young adults up to age 25, exemplifies the range of patient care resources now available. “The UCSF Eating Disorders Program, like many programs, is interdisciplinary,” says Jason Nagata, MD, MSc, an assistant professor of pediatrics in the Division of Adolescent and Young Adult Medicine at UCSF. “Our team members include people from adolescent medicine, pediatrics, family medicine, and internal medicine who help with the medical management. We also have a mental health team that includes psychologists and psychiatrists, a nutrition team with registered dieticians, social workers, occupational therapists, nurses, and medical assistants. Most patients will have, at a minimum, medical, mental health, and nutrition follow-up integrated into our program.”

With its family-based treatment model, UCSF also offers the Intensive Family Treatment program for adolescents with eating disorders. This five-day, all-day program invites patients and their families or caregivers to participate in various therapeutic interventions and activities designed to address a young person’s eating disorder. Up to six families at a time participate in the week-long program.

To note, most eating disorder patients are treated on an outpatient basis. Mental health providers use a variety of treatment approaches, including cognitive behavior therapy, interpersonal psychotherapy, family therapy, and behavioral therapy. For some patients, therapy is relatively short-term, lasting an average of four months or so. Others, however, may be in treatment on a long-term basis. Resources such as group therapy and guided self-help are also options for some patients.

Because many patients with an eating disorder may also have a diagnosis of depression, an anxiety disorder, or a substance use disorder, these issues are usually addressed in conjunction with therapy for the eating disorder. In more severe cases, patients with anorexia nervosa or bulimia nervosa,
9 truths about eating disorders

The Academy for Eating Disorders shares myth-busting facts:

1. Many people with an eating disorder look healthy yet may be extremely ill.
2. The families of those with an eating disorder are not to blame for the eating disorder and can be the patients’ and providers’ best allies in treatment.
3. An eating disorder diagnosis is a health crisis that disrupts personal and family functioning.
4. Eating disorders are not choices but serious biologically influenced illnesses.
5. Eating disorders affect people of all ages, genders, sexual orientations, ethnicities, body shapes and weights, and socioeconomic statuses.
6. Eating disorders carry an increased risk for medical complications and suicide.
7. An individual’s genes and environment play important roles in the development of eating disorders.
8. An individual’s genes alone do not predict the development of any eating disorder.
9. Full recovery from an eating disorder is possible. Early detection and intervention are important.
for example, may require more intensive treatment, such as a day-hospitalization program or inpatient hospitalization. Many treatment programs offer a step-up and step-down approach to care, adjusting the appropriate level of care depending on the patient’s progress or ongoing clinical needs.²

When a patient is first referred to an eating disorders program, the assessment begins with a comprehensive review of the patient’s history and symptoms. “We usually give the person a structured clinical interview,” says Jennifer Thomas, PhD, codirector of the Eating Disorders Clinical and Research Program at Massachusetts General Hospital in Boston. “We ask about all the different diagnostic criteria to rule in or rule out whatever the diagnosis might be. If somebody comes in and their primary concern is binge eating, it’s possible they could have an eating disorder. But if they’re also underweight, it’s possible they could have anorexia nervosa. If they’re also vomiting, they could have bulimia nervosa. If they’re binge eating but not very often, they might have OSFED. Just knowing one or two symptoms wouldn’t usually be enough information for a diagnosis.”

Further, the patient is asked to fill out self-report questionnaires before the visit; then their responses can be followed up during the clinical interview. A consultation with a physician accompanies the interview, says Dr. Thomas, a psychologist in the psychiatry department at Harvard Medical School. “We’ll take the person’s weight at our visit on the mental health side, but we would also want the patient to be screened by a medical provider for any kind of medical complications. This might include blood tests for nutrition deficiencies or an electrocardiogram for bradycardia, for example. The medical evaluation follow-up is to determine whether the person is safe for outpatient care or whether they might need a higher level of care.”

Fine (detail) dining
What other concerns or focuses might guide the medical evaluation? “From the physician’s side, we like to do a complete medical evaluation to make sure there’s not another underlying medical cause that could mimic eating disorders,” says Dr. Nagata. “Based on the complete history, we might decide then to do additional testing. So, we might consider any kind of endocrine problem, for example, like thyroid issues that can lead to weight loss. Or there could be issues with the gastrointestinal tract, like inflammatory bowel disease, celiac disease, Crohn disease, or ulcerative colitis. Sometimes autoimmune diseases can also lead to weight loss. Depending on the clinical picture, we’ll usually run additional laboratory tests or other testing to make sure there’s not another issue involved.”

For patients with eating disorders, Dr. Thomas agrees that providers must clarify any differential or co-occurring diagnoses responsible for or contributing to the patient’s symptoms. “You don’t want to be doing too many invasive tests,” she says, “but the medical evaluation can be helpful. The challenge here is that even if a patient has a gastrointestinal condition, like celiac disease or gastroparesis, it wouldn’t necessarily rule out an eating disorder. Sometimes the patient’s primary complaint or presentation will have to do with physical symptoms, but they still really do have an eating disorder.”

Dr. Thomas describes one scenario in which a patient’s symptom presentation requires this differential diagnosis. “A patient with [ARFID] might have a bona fide food allergy, such as being allergic to tree nuts. But then they’re also avoiding eating other foods they are not allergic to, like maybe peanuts, dairy, meat, or other foods. If the change in their eating is above and beyond what is needed to manage a bona fide medical condition, they could still have an eating disorder in addition to that medical condition.”

One special concern with eating disorders is the risk of malnutrition, especially to the heart and brain, explains Dr. Nagata. “Being in a state of malnutrition can basically affect the entire body, including the gut, kidneys, liver, skin, and circulation. From a medical standpoint, the first question we have to answer is, Is the person medically stable? That is usually guided by vital signs such as heart rate and blood pressure. Are they in a place where their blood pressure and heart rate, or other vital signs, are dangerously low? Weight is also considered a vital sign—to see how much the weight and amount of weight change have been. This assessment will dictate the level of care. Do they need to be hospitalized or to go into a more intensive program?”

Notably, the medical assessment can include an orthostatic examination. This involves checking the patient’s blood pressure and heart rate while lying down and then standing. “Sometimes when you’re in a state of malnutrition, your body can’t accommodate changes in position, so people who are malnourished may be at a higher risk of fainting and passing out,” explains Dr. Nagata.

Accordingly, getting accurate blood pressure and heart rate readings when recording vital signs is essential. For this reason, medical assistants at UCSF play a key role in the eating disorder clinic’s front lines of care, says Dr. Nagata: “There are national criteria that dictate, for example, if a patient’s blood pressure or heart rate is below a certain threshold, then they need to be hospitalized. The vital signs help providers determine whether a patient can be managed as an outpatient in a clinic, needs to go to a more intensive program, or needs to be hospitalized in an inpatient setting. This [taking vitals] is actually one of the most important tasks because getting accurate vital signs does really dictate the patient’s [health care] management.”

Notably, getting accurate vital signs among some younger patients is not always as straightforward as might be assumed, adds Dr. Nagata. “For some of our young people with eating disorders who have had the disease for a long time, they can become kind of savvy as to what numbers they need to avoid being hospitalized,” he says. “There are actually ways they can try to manipulate their vitals to artificially inflate them. Our medical assistants have a really crucial role...
“There’s every reason to be optimistic about the identification and treatment of eating disorders. We have many very helpful treatments available, and we’re working hard to disseminate them and make them more easily accessible with self-help versions and via mobile apps. Through the COVID-19 pandemic, teletherapy has increased access. There’s research now on how to make treatment shorter, so instead of 20 or 40 sessions, we can make it 10 sessions so that we can then offer treatment to more people with the same amount of resources. There is also ongoing research about the neurobiology of eating disorders that points toward directions for future treatments, in addition to the behavioral treatments we already have.”

—Jennifer Thomas, PhD
were the patients who could show up for research and treating the illness, those many years ago, when people first started an eating disorder patient being a young, professional eating disorders treatment has evolved stereotype of eating disorders as a woman's question have typically been more about and more men are dealing with body image female-centric criteria, but I do think more has traditionally been focused on more eating or other behaviors. on pounds or acquiring added muscle mass pressured to lose weight. Notably, another feminine appearance. But men can also feel faced unique body image issues related to risk for eating disorders. ing, and football have also been at greater bodybuilding, crew, running, cycling, climbing, and football have also been at greater risk for eating disorders.3

Of course, women historically have faced unique body image issues related to cultural pressures to stay thin, lose weight, or otherwise adhere to various ideals of feminine appearance. But men can also feel pressured to lose weight. Notably, another category of males want to bulk up, aspiring to a masculine body type that involves putting on pounds or acquiring added muscle mass and doing so in ways that involve unhealthy eating or other behaviors. “The history of eating disorder disease has traditionally been focused on more female-centric criteria, but I do think more and more men are dealing with body image concerns,” says Dr. Nagata. “We miss some of these men because a lot of the screening questions have typically been more about weight loss and don’t really get at some of the muscularity concerns.”

Interestingly, what accounts for the stereotype of eating disorders as a woman’s issue is linked to the history of how professional eating disorders treatment has evolved within medicine. “I think the stereotype of an eating disorder patient being a young, white woman comes from the fact that many years ago, when people first started researching and treating the illness, those were the patients [who could] show up for treatment,” observes Dr. Thomas, referring to both economic factors and gender expectations. “As a result, they started being the group studied. Everybody then got the idea that this is who gets eating disorders. … People would recognize eating disorders in this group and ignore the symptoms in other groups or [ignore how] the symptoms might look different in other groups.”

While female patients are still more likely to be diagnosed with anorexia nervosa, Dr. Thomas notes this gender disparity is less likely with some of the newer eating disorder categories. “With newer disorders that we’ve recently discovered in the field, like ARFID, it’s more 50-50 boys and girls [and] men and women,” she says. “I think now that we know more about the diversity of symptoms, we see that eating disorders are [closer to] equal in terms of the gender distribution [as well as among] different ethnicities.”

Dr. Nagata remarks that a related misconception is that a person must be very skinny to have an eating disorder. “In fact, we know that people who are at higher weights or are considered to have high body mass indexes actually have the highest rate of disordered eating behaviors, like vomiting or taking laxatives or diuretics to try to control their weight,” he notes.

With concerns for the obesity epidemic prevalent in U.S. society, Dr. Nagata raises a word of caution for providers. “If primary care providers have patients who are considered obese by body mass index, they may counsel their patients about weight loss. But we have sometimes seen in our clinic that some patients will be told by their primary care doctor, or by teachers or parents, that they need to lose weight, and so then they start doing unhealthy behaviors to try to lose the weight, like vomiting or using laxatives or diuretics, taking nonprescribed weight-loss pills, just skipping a lot of meals, or fasting for really long periods.”

This behavior can then become an eating disorder, cautions Dr. Nagata. “Unfortunately, if their physician or family don’t really know how the patient is losing weight, [the patient] can actually get some positive reinforcement for their unhealthy behavior. They hear, ‘Oh, great, you’re losing all this weight! Keep up the hard work,’ and so on. The behavior can then spiral out of control. If providers are going to counsel about weight loss, I would also recommend they counsel about specific behaviors for healthy weight loss.”

Recipe for success

In her experience working for a family medicine clinic in Greenville, South Carolina, Claudia Watkins, CMA (AAMA), says she has learned how staff can and why they should foster a considerate, welcoming environment for patients with eating disorders. As she notes, patients who are too underweight or overweight often feel very self-conscious or anxious about their appearance. They may have had past experiences in school or elsewhere in which they felt ostracized or shamed for their weight or appearance. Consequently, the clinic should feel like a safe space for them. “These patients might come to the office already with a lot of anxiety about their weight or appearance,” says Watkins. “In my experience, I have always felt what these patients needed from me was just a supportive and positive person. You also want to keep your emotions in check. You don’t want to show if you feel pity or sadness or negative feelings for them. If you’re bringing a patient back to the examination room, and they are just skin and bones, don’t show your fear for that person. Keep yourself professional and courteous, and don’t be abrupt with them because they are already sensitive and afraid of what’s going on. I believe compassion for patients in this situation is just so important.”

This sensitivity extends to taking each patient’s weight, says Watkins. For example, she might suggest to an anorexic patient to stand with their back to the scale so they do not see their weight before having the chance to discuss it with the physician. With overweight and obese patients, there should be no criticism if there is weight gain. “I wouldn’t even praise them if there is a weight loss,” she adds. “You want to be a safe person for them when you ask them to stand on the scale, and [you want to] not betray their confidence by commenting on
their weight in some way. Our role should always be to keep the anxiety [levels] down.”

While much progress has been made in our understanding of eating disorders and how providers treat them, the treatment community—in general—recognizes that eating disorders continue to be underdiagnosed and undertreated. “We believe the majority of people with eating disorders are not currently in treatment,” reports Mysko. “In the last two years, we’ve had over 200,000 people take the [National Eating Disorders Association] screening tool on our website. Notably, the majority of those who screened ‘at risk’ or had answers that would indicate that they would meet the diagnostic criteria for an eating disorder also indicated they were not currently in treatment.”

Some barriers to care include costs and geography, reports Mysko. The specialized care many eating disorders patients need can be limited or unavailable outside of larger metropolitan areas. Further, insurance benefits can be insufficient for the course of recommended treatments. Other factors are also at work, such as the need for improved public health screening and the reluctance of those with eating disorders to seek care.

“We know that early intervention does make a big difference in the treatment outcomes,” concludes Mysko. “I believe screening for eating disorders is critical in health care. Having frontline providers, primary care providers, and those who are in a position to screen and refer at an early point can make a difference. The sooner a person can get into treatment, the more effective and cost-effective that treatment can be.”

References
5. Frequently asked questions about eating disorders.

The purple book
Often referred to as “the purple brochure,” Eating Disorders: A Guide to Medical Care from the Academy for Eating Disorders’ Medical Care Standards Committee is intended as a resource to promote recognition of and risk management in the care of those with eating disorders.3