

## Position of the American Dietetic Association: Nutrition Intervention in the Treatment of Eating Disorders

### ABSTRACT

It is the position of the American Dietetic Association that nutrition intervention, including nutritional counseling by a registered dietitian (RD), is an essential component of team treatment of patients with anorexia nervosa, bulimia nervosa, and other eating disorders (EDs) during assessment and treatment across the continuum of care. Diagnostic criteria for EDs provide important guidelines for identification and treatment. In addition, individuals may experience disordered eating that extends along a range from food restriction to partial conditions to diagnosed EDs. Understanding the roles and responsibilities of RDs is critical to the effective care of individuals with EDs. The complexities of EDs, such as epidemiologic factors, treatment guidelines, special populations, and emerging trends highlight the nature of EDs, which require a collaborative approach by an interdisciplinary team of mental health, nutrition, and medical specialists. RDs are integral members of treatment teams and are uniquely qualified to provide medical nutrition therapy for the normalization of eating patterns and nutritional status. However, this role requires understanding of the psychologic and neurobiologic aspects of EDs. Advanced training is needed to work effectively with this population. Further efforts with evidenced-based research must continue for improved treatment outcomes related to EDs, along with identification of effective primary and secondary interventions.

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### POSITION STATEMENT

*It is the position of the American Dietetic Association that nutrition intervention, including nutrition counseling by a registered dietitian, is an essential component of the team treatment of patients with anorexia nervosa, bulimia nervosa, and other eating disorders during assessment and treatment across the continuum of care.*

Eating disorders (EDs) are psychiatric disorders with diagnostic criteria based on psychologic, behavior, and physiologic characteristics. Diagnostic criteria from the fourth edition text revision of the *Diagnostic and Statistical Manual of Mental Disorders* provide important guidelines for identification and treatment of EDs (1). However, there is considerable variability in the severity and the type of EDs. A comparison of diagnostic criteria with proposed revisions for the newest *Diagnostic and Statistical Manual of Mental Disorders* edition (Figure 1) notes binge eating disorder as an independent condition and identifies diagnostic thresholds that reflect current research (1-3). Furthermore, disordered eating may exist along a range of symptoms from food restriction to partial conditions and then to full syndromes within the defined ED. Of special interest is the multidisciplinary approach in the clinical care of individuals with EDs and the significant role nutrition care plays in the prevention of EDs and related complications.

### ROLES AND RESPONSIBILITIES OF REGISTERED DIETITIANS

A registered dietitian's (RD's) role in the nutrition care of individuals with EDs is supported by the American Psychological Association, the Academy for Eating Disorders, and the American Academy of Pediatrics (4-6). RDs working with ED patients need a good understanding of professional boundaries, nutrition intervention, and the psychodynamics of EDs (Figure 2). An RD may be the first to recognize an individual's ED symptoms or be the first health care professional consulted by a patient for this condition. RDs apply the Nutrition Care Process to identify nutrition diagnoses and develop a plan for resolution (7). Key nutrition therapies require expertise in nutritional requirements for the life stage of the affected individual, nutritional rehabilitation treatments, and modalities to restore normal eating patterns.

Multiple components of nutrition assessment performed by RDs can contribute to treatment plans. For example, a food history may be more practical than laboratory tests and more accurate than current food intake for determining potential micronutrient deficiencies, specifically in anorexia nervosa and bulimia nervosa (8). Motivation or readiness to change, determined by motivational interviewing, can be used by an RD as a client-centered, collaborative approach to enhance intrinsic motivation to change (9). Lower readiness to change has been associated with low weight status (10). For individuals with anorexia nervosa, weight gain rate during inpatient treatment appears to be a potential predictor of outcome (11). Advanced training and alignment with team members assist RDs in meeting the challenges of caring for individuals with EDs (12).

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<b>Anorexia nervosa. Types: Restricting or binge-eating/purging</b>
<i>Diagnostic and Statistical Manual of Mental Disorders (DSM) IV</i> <ul style="list-style-type: none"> <li>● Exaggerated drive for thinness</li> <li>● Refusal to maintain a body weight above the standard minimum (eg, &lt;85% of expected weight)</li> <li>● Intense fear of becoming fat with self-worth based on weight or shape</li> <li>● Evidence of an endocrine disorder</li> </ul>
Proposed for DSM V <ul style="list-style-type: none"> <li>● Restricted energy intake relative to requirements leading to a markedly low body weight</li> <li>● Intense fear of gaining weight or becoming fat or persistent behavior to avoid weight gain, even though at a markedly low weight</li> <li>● Disturbance in the way in which one's body weight or shape is experienced</li> </ul>
<b>Bulimia nervosa</b>
DSM IV <ul style="list-style-type: none"> <li>● Overwhelming urges to overeat and inappropriate compensatory behaviors or purging that follow the binge episodes (eg, vomiting, excessive exercise, alternating periods of starvation, and abuse of laxatives or drugs)</li> <li>● Similar to anorexia nervosa, individuals with bulimia nervosa also display psychopathology, including a fear of being overweight</li> </ul>
Proposed for DSM V <ul style="list-style-type: none"> <li>● Recurrent episodes of binge eating with a sense of a lack of control with inappropriate compensatory behavior</li> <li>● Self-evaluation is unduly influenced by body shape and weight</li> <li>● The disturbance does not occur exclusively during episodes of anorexia nervosa.</li> </ul>
<b>Binge eating disorder</b>
DSM IV <ul style="list-style-type: none"> <li>● Classified under eating disorders not otherwise specified</li> </ul>
Proposed for DSM V <ul style="list-style-type: none"> <li>● Repeated episodes of overconsumption of food with a sense of a lack of control with a list of possible descriptors such as how much is eaten and distress about the episode</li> <li>● Frequency described as at least once a week for 3 months</li> </ul>
<b>Eating disorders not otherwise specified</b>
DSM IV <ul style="list-style-type: none"> <li>● Considered to be partial syndromes with frequency of symptoms that vary from above diagnostic criteria</li> <li>● Distinguishing feature of binge eating disorder is binge eating, with a lack of self-control, without inappropriate compensatory behaviors</li> </ul>
Proposed for DSM V <ul style="list-style-type: none"> <li>● Diagnostic criteria to be established for binge eating disorder</li> <li>● Possible descriptions of eating problems such as purging disorder and night eating syndrome</li> </ul>

**Figure 1.** Comparison of proposed revisions in diagnostic criteria for eating disorders. Data from references (1,2).

## EPIDEMIOLOGIC FACTORS

The frequency and distribution of individuals affected by EDs is unknown because the condition may exist for a considerable time period before clinical detection. Cases may go unreported due to the sensitive nature and secretive behaviors associated with the condition, and epidemiologic research is lacking from all population groups. Risk factors found to precede an ED diagnosis include sex, ethnicity, early childhood eating and gastrointestinal problems, elevated weight and shape concerns, negative self-evaluation, sexual abuse and other traumas, and general psychiatric morbidity (13). Prospective studies indicate risk for

eating pathology and include perceived pressure for thinness, thin-ideal internalization, body dissatisfaction, self-reported dietary restraint, negative affect, and substance use (14). Genetics and neurobiological vulnerabilities are emerging as predisposing factors (15,16).

The National Comorbidity Survey Replication study (17) reported lifetime prevalence rates for anorexia nervosa at 0.3% in men and 0.9% in women, for bulimia nervosa 0.5% in men and 1.5% in women, and for binge eating disorder 2% in men and 3.5% in women (17). As expected, a diagnosis of anorexia nervosa was associated with lower body mass index

status and the reverse pattern found for binge eating disorder (17). Despite consideration that homosexuality may be a risk factor for EDs among men, evidence is lacking (18). Age trends differ within conditions, with the greatest frequency of anorexia nervosa and bulimia nervosa occurring during adolescence, whereas binge eating disorder occurs well into adulthood. Evidence also suggests an increasing trend in EDs for middle-aged women (19). In longitudinal research of girls aged 12 to 15 years, Stice and colleagues (20) found that 12% of these adolescents experienced some form of ED. An important consideration for prevention of EDs and asso-

<p><b>Nutrition assessment:</b> Identify nutrition problems that relate to medical or physical condition, including eating disorder symptoms and behaviors.</p> <ul style="list-style-type: none"> <li>● Perform anthropometric measurements; including height and weight history, complete growth chart, assess growth patterns and maturation in younger patients (ages 20 years and younger)</li> <li>● Interpret biochemical data; especially to assess risk of refeeding syndrome</li> <li>● Evaluate dietary assessment; eating pattern, core attitudes regarding weight, shape, eating</li> <li>● Assess behavioral-environmental symptoms; food restriction, bingeing, preoccupation, rituals secretive eating, affect and impulse control, vomiting or other purging, excessive exercise</li> <li>● Apply nutrition diagnosis and create a plan to resolve nutrition problems, coordinate plan with team members</li> </ul>
<p><b>Nutrition intervention:</b> Calculate and monitor energy and macronutrient intake to establish expected rates of weight change, and to meet body composition and health goals. Guide goal setting to normalize eating patterns for nutrition rehabilitation and weight restoration or maintenance as appropriate.</p> <ul style="list-style-type: none"> <li>● Ensure diet quality and regular eating pattern, increased amount and variety of foods consumed, normal perceptions of hunger and satiety, and suggestions about supplement use</li> <li>● Provide psychosocial support and positive reinforcement; structured refeeding plan</li> <li>● Counsel individuals and other caregivers on food selection considering individual preferences, health history, physical and psychological factors, and resources</li> </ul>
<p><b>Nutrition monitoring and evaluation:</b> Monitor nutrient intake and adjust as necessary.</p> <ul style="list-style-type: none"> <li>● Monitor rate of weight gain, once weight restored, adjust food intake to maintain weight</li> <li>● Communicate individual's progress with team and make adjustments to plan accordingly</li> </ul>
<p><b>Care coordination:</b> Provide counsel to team about protocols to maximize tolerance of feeding regimen or nutrition recommendations, guidance about supplements to ensure maximum absorption, minimize drug nutrient interactions, and referral for continuation of care as needed.</p> <ul style="list-style-type: none"> <li>● Work collaboratively with treatment team, delineate specific roles and tasks, communicate nutrition needs across the continuum of settings (eg, inpatient, day treatment, outpatient)</li> <li>● Act as a resource to other health care professionals and the family, provide education</li> <li>● Advocate for evidenced-based treatment and access to care</li> </ul>
<p><b>Advanced training:</b> Seek specialized training in other counseling techniques, such as cognitive behavioral therapy, dialectical behavior therapy, and motivational interviewing.</p> <ul style="list-style-type: none"> <li>● Use advanced knowledge and skills relating to nutrition, such as refeeding syndrome, maintaining appropriate weight and eating behaviors, body image, and relapse prevention</li> <li>● Seek supervision and case consultation from a licensed mental health professional to gain and maintain proficiency in eating disorders treatments</li> </ul>

**Figure 2.** Roles and responsibilities of registered dietitians caring for individuals with eating disorders. Data from references (3-6,14,15).

ciated complications is early identification of altered eating patterns and distorted body image, which may be revealed through questions with pre-teens and adolescents, as well as with adults (6,18,20).

### Comorbid Illness and EDs

Patients with EDs often experience other psychiatric disorders (3,21). Axis I psychiatric disorders (including depression, anxiety, body dysmorphic disorder, or chemical dependency) and Axis II personality disorders (particularly borderline personality disorder) are frequently seen in the ED population (3,4,21). The characteristics of these conditions increase the complexity of treatment and necessitate additional counseling skills.

### Emerging Patterns of EDs

Two areas of research on the course of EDs include the range of ED symp-

toms and problems associated with unhealthy weight management practices that can be associated with increased risk of binge eating and purging behaviors (22). Proposed changes in diagnostic criteria for binge eating include the number of binge days (eg, subthreshold binge eating with at least two uncontrollable binge eating episodes or days per month for at least 3 months) (3,20). Further description of purging disorder and night eating syndrome is under review (2,20). The trend of orthorexia nervosa (not officially recognized in the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders*), an unhealthy fixation about eating so-called healthful foods, appears to be on the rise (23). The rise in hospitalizations affecting men, women, and younger-aged children and restrictive eating practices in athletes point to increased need for ED prevention and care (24,25).

### Insurance Coverage for EDs

Health care reimbursement and utilization affects availability, accessibility, and quality of care for EDs (4). Health care providers, including RDs, need to understand health insurance limitations to maximize the treatment benefits to individuals with EDs. National legislation such as the previously proposed Federal Response to Eliminate Eating Disorders Act would address treatment as well as prevention, research, and education needs. Ongoing priorities for RDs include educating insurance companies and policy makers about treatment needs for EDs, participating in cost-effectiveness analyses and outcome studies, and understanding how to navigate and guide families through the health insurance system.

### TREATMENT GUIDELINES FOR EDs

EDs require a collaborative approach by an interdisciplinary team of men-

tal health, nutrition, and medical specialists (4-6). RDs contribute to the care process across the continuum of acute care, recovery, and relapse prevention or treatment. RDs' messages and communication style (verbal and nonverbal) must match an individual's treatment plan.

### Types of Therapy

Cognitive behavioral therapy (CBT), a psychotherapeutic modality aimed at helping an individual identify maladaptive cognitions, involves cognitive restructuring. Faulty beliefs and thought patterns about the relationship between eating patterns and physical symptoms are challenged with more accurate perceptions and interpretations such as discriminating between bloating with resumption of food intake and body weight changes. As a leading therapy for individuals with bulimia nervosa (26), CBT has proven effective at lessening the frequency of binge eating behaviors, abnormal compensatory responses, and normalizing cognitions in individuals with bulimia nervosa. However, use of CBT with anorexia nervosa is challenging because disruptions in neurotransmitter secretions and functions limit a patient's response to treatment.

CBT for binge eating disorder places a primary emphasis on binge eating reduction and a secondary emphasis on weight loss if indicated. In a randomized controlled trial, interpersonal psychotherapy and CBT proved significantly more effective than behavioral weight loss treatment in eliminating binge eating after 2 years (8). Treatment for binge eating disorder has preliminarily shown equivocal outcomes for subthreshold binge eating disorder emphasizing the importance of using the diagnostic criteria as a guide to treatment modality and not strict rules. Modifications in psychotherapy are necessary in binge eating disorder treatments because these individuals show lower levels of dietary restraint, higher levels of overweight and obesity, and more chaotic eating patterns. Of note, one small CBT intervention study (27) for women who binge ate had positive results. In that study (27), RDs intervened through discussions, didactic information, reflection questions, and homework exercises. Following the interventions, measurements of

binge-eating severity and frequency, depression, body image, and self-esteem, showed improvement, although weight did not change significantly (27).

Dialectical behavior therapy (DBT) has become increasingly popular as an ED treatment wherein emotional dysregulation is considered an influencing factor for the ED and symptomatic behaviors to be maladaptive coping skills. Thus, new coping skills are taught and practiced. Therapeutic goals aim to replace these behaviors with more constructive ones and decrease high-risk behaviors while also enhancing respect for self. Evidence suggests that DBT holds potential for decreasing binge eating and purging symptoms in selected populations (26). Other psychotherapy for adults includes interpersonal therapy, psychodynamic therapy, family therapy, and group therapy. Self-esteem enhancement and assertiveness training may also be helpful (26).

### Special Populations

**Athletes.** Dieting typically precedes the full-blown ED as an athlete restricts eating to achieve lower body weight for enhanced performance. This tends to occur more often in sports that encourage a lean physique, such as running, wrestling, dance, and gymnastics (6). In female athletes, the interrelationships between energy availability, menstrual function, and bone mineral density may prompt the distinct symptoms of amenorrhea, disordered eating, and osteoporosis known as female athlete triad (25). An athlete does not necessarily need to exhibit all three symptoms to be at risk for compromised health and an ED; rather, the individual is assessed across a spectrum of abnormal behaviors. RDs play a role in the identification and treatment of disordered eating patterns in this vulnerable population.

**Adolescents.** The stage of adolescence, with its combined biological, psychological, and sociocultural changes in proximity to puberty, has been identified as a vulnerable period for ED symptomology (15). Body dissatisfaction, dietary restraint, and disordered eating may be influenced by peers and self-perception, thus influencing eating behaviors. For example, although not all adolescents consuming

vegetarian diets have EDs, this type of diet along with greatly limiting food choices can be a red flag of an ED (28). An emerging trend in adolescents with chronic diseases includes teens with type 1 diabetes, especially girls, who skip insulin as a means of weight control, commonly referred to as diabulimia. Health outcomes for adolescents with type 1 diabetes with ED behaviors include poor physical and psychosocial quality of life, poor metabolic control, and maladaptive coping skills (29).

Although not well studied, CBT, DBT, and dynamic therapy (30) may decrease ED symptoms in adolescents. A specialized intervention, family-based (Maudsley) therapy can be efficacious in adolescents with anorexia nervosa and is being investigated with bulimia nervosa treatment (6). Whereas family dysfunction is no longer seen as the main cause of ED symptoms, for some, family-based therapy can be effective. To facilitate an adolescent's transition to adulthood, RDs should consider eating patterns and perceptions of developmental changes in light of behaviors characteristic of EDs.

**Bariatric Surgery.** Although binge eating disorder often presents itself in those patients seeking weight loss surgery, it is a contraindication to surgery (31). Regardless, many of these individuals will continue with the surgery. Thus, RDs can be pivotal team members in screening for disordered eating and treating patients. A discussion must occur with these patients to help them understand the challenging role binge eating disorder plays in nutrition and lifestyle changes pre- and postsurgery.

### EMERGING SCIENCE

RDs are typically poised to address tertiary conditions and provide appropriate medical nutrition therapy. However, because EDs are such intractable illnesses, prevention may serve as the most logical and cost-effective treatment. Prevention efforts could emphasize concepts in the paradigms of health at every size and intuitive eating (32). Targeted prevention such as dissonance programs address thin-ideal internalization and challenge body distortions (33). Theory-driven approaches addressing high-risk groups appear most promis-



ing vs universal or primary prevention approaches (34). To promote body acceptance and lessen risk of disordered eating, RD messages should support health-centered behaviors, rather than weight-centered dieting (23).

### Alternative Therapy

Alternative therapy studies include both cost-effectiveness and clinical outcomes with alternative treatments in EDs. Researchers developed the Community Outreach Partnership Program (COPP) to address the needs of individuals who struggled with traditional interventions (35). COPP assists clients to enhance quality of life by fostering independence, increasing hope, and enhancing social skills in the context of a client's economic, social, and physical living environment using hospital and community services. Preliminary results revealed decreased ED and psychiatric symptoms with 4 or more months of COPP. In addition, interventions using yoga, stress management skills, spirituality, and religiosity may lead to alternative thoughts and behaviors to reduce food preoccupation, mealtime anxiety, and disorders related to food (7,35). Also, telemedicine and internet-based delivery offer potential for individuals with bulimia nervosa and eating disorders not otherwise specified short versions of CBT in conjunction with self-help (35).

### Pharmacotherapy

To date, no medications have Food and Drug Administration approval for the specific treatment of anorexia nervosa. Medication use for anorexia nervosa focuses on either reducing anxiety or alleviating mood symptoms to facilitate refeeding. Different proposed regimens relate to the treatment goals of weight restoration and weight maintenance phases. For example, evidence suggests that selective serotonin reuptake inhibitors may be efficacious during the maintenance phase of treatment, although not in weight restoration, due to the hypose-rotonergic state caused by starvation (36).

Pharmacotherapy appears to reduce eating disordered behavior and improve mood in patients with bulimia nervosa when augmented with

CBT. Currently, fluoxetine is the only medication with Food and Drug Administration approval for bulimia nervosa treatment (37). However, for patients who have not been previously treated and are not severely depressed, psychotherapy often is attempted and evaluated prior to initiating medication management. Research is ongoing with the role that medications play in the treatment of EDs.

### CONCLUSIONS

Ongoing efforts aim to identify evidenced-based therapies to improve treatment outcomes related to EDs and effective primary and secondary interventions. Essential priorities for RDs include collaboration and communication skills, advanced training, and an understanding of the complexities and sensitivities of eating behaviors. Also of note, risks for eating pathology increase with dietary changes and weight management efforts. As RDs participate in limiting the progression of EDs, they can support efforts for sustainable outcomes for ED prevention, intervention, and treatment.

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