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The North American Society for Pediatric and Adolescent Gynecology endorses this document. This Committee Opinion was developed by the American College of Obstetricians and Gynecologists' Committee on Adolescent Health Care in collaboration with committee members Nancy Sokkary, MD and Anne-Marie E. Amies Oelschlager, MD, and committee liaison Laurie L. Hornberger, MD, MPH.

Gynecologic Care for Adolescents and Young Women With Eating Disorders

ABSTRACT: The *Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition, defines *eating disorders* as a "persistent disturbance of eating or eating-related behavior that results in the altered consumption or absorption of food and that significantly impairs physical health or psychosocial functioning." The correct diagnosis of and distinction between eating disorders are important because the course, prognosis, and treatment may be vastly different. Although the age at peak incidence can vary depending on the eating disorder, these disorders commonly arise during adolescence. Adult and adolescent females with eating disorders may present with gynecologic concerns or symptoms, including irregular menses, amenorrhea, pelvic pain, atrophic vaginitis, and breast atrophy. Although formal diagnosis and treatment of eating disorders in adolescents are complex and outside the scope of practice for most general obstetrician–gynecologists, it is important that health care providers be comfortable with recognizing and screening at-risk patients. Recognizing risk factors for eating disorders can help to identify patients who should be further evaluated. Simply asking the patient how she feels about her weight, what she is eating, how much she is eating, and how much she is exercising can help identify at-risk patients. A physical examination and laboratory tests are valuable in the diagnosis of an eating disorder. Because eating disorders are complex and affect psychologic and physical health, a multidisciplinary approach is imperative. Although obstetrician–gynecologists are not expected to treat eating disorders, they should be familiar with the criteria that warrant immediate hospitalization for medical stabilization.

Recommendations and Conclusions

The American College of Obstetricians and Gynecologists makes the following recommendations and conclusions:

- Adult and adolescent females with eating disorders may present with gynecologic concerns or symptoms, including irregular menses, amenorrhea, pelvic pain, atrophic vaginitis, and breast atrophy.
- Although formal diagnosis and treatment of eating disorders in adolescents are complex and outside the scope of practice for most general obstetrician–gynecologists, it is important that health care providers be comfortable with recognizing and screening at-risk patients.
- Recognizing risk factors for eating disorders can help to identify patients who should be further evaluated.
- Because eating disorders are complex and affect psychologic and physical health, a multidisciplinary approach is imperative.
- Although obstetrician–gynecologists are not expected to treat eating disorders, they should be familiar with the criteria that warrant immediate hospitalization for medical stabilization.
- Weight restoration is the best treatment for low bone mineral density (BMD) caused by disordered eating.

- Further research is needed to define best practices, including management of low BMD, menstrual irregularities, and pregnancy prevention.
- The American College of Obstetricians and Gynecologists recommends against the use of combined oral contraceptive pills (OCPs) solely for the treatment of amenorrhea associated with eating disorders.

Background

The *Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition (DSM-V), defines *eating disorders* as a “persistent disturbance of eating or eating-related behavior that results in the altered consumption or absorption of food and that significantly impairs physical health or psychosocial functioning.” When DSM-V was published in 2013, it broadened the definitions and expanded the number of diagnoses to include pica, rumination disorder, avoidant restrictive food intake disorder, anorexia nervosa, bulimia nervosa, binge-eating disorder, and other specified feeding or eating disorder (1) (Table 1). The correct diagnosis of and distinction between eating disorders are important because the course, prognosis, and treatment may be vastly different. However, all eating disorders typically share nutritional and mental health disturbances (2). This Committee Opinion focuses on the gynecologic implications of eating disorders among adolescents. For the purposes of this document, the term *eating disorder* will refer to any disturbances in eating as described in DSM-V; when evidence and recommendations are specific to the type of eating disorder, that will be noted. Currently, most data specific to gynecologic implications are related to anorexia nervosa.

The Role of the Obstetrician–Gynecologist

It is imperative that obstetrician–gynecologists be familiar with eating disorders. Although amenorrhea is no longer part of the diagnostic criteria for any eating disorder (1), eating disorders may result in menstrual disturbances, decreased BMD, and a disruption in reproductive function as well as overall health. The gynecologist can play a role in identification of and referral for eating disorders, as well as consultation for bone health, amenorrhea, and contraception. Although formal diagnosis and treatment of eating disorders in adolescents are complex and outside the scope of practice for most general obstetrician–gynecologists, it is important that health care providers be comfortable with recognizing and screening at-risk patients. Delay in diagnosis and treatment can have catastrophic outcomes, including growth restriction, pubertal arrest, increased fracture risk, structural brain changes, and death (2).

Prevalence and Trends in Eating Disorders

The exact prevalence of eating disorders is unknown because of the variation in different subsets of the

population and the recent change in the diagnostic criteria. Although the age at peak incidence can vary depending on the eating disorder, these disorders commonly arise during adolescence. However, eating disorders have been reported in patients as young as 5 years of age as well as older and middle-aged women; therefore, this diagnosis should be considered across a female’s lifespan (3, 4).

Historically, eating disorders have been considered a disease of white, affluent females. However, it is now understood to affect females and males across all racial, ethnic, and socioeconomic categories. A large population-based study found that Hispanic, Asian, and Native American girls reported similar, if not more, concerns and behaviors related to weight as their white counterparts; African American girls reported the lowest level of concern (5). Binge eating, in particular, has been reported among several racial minority groups (6). Lesbian, gay, bisexual, transgender, and questioning adolescents are emerging as an at-risk population for developing an eating disorder. Overall, one third of youth who identify as gay, lesbian, or bisexual, or who self-identify as heterosexual with a history of same-sex sexual contact have reported unhealthy attempts to control weight, such as fasting and use of laxatives or diet pills (7). A survey of college students who identify as transgender or who report feeling unsure of their sexual orientation found a higher risk of eating disorders relative to any cisgender group (8). Another survey found that lesbian and bisexual adolescents were more likely to report purging than were their heterosexual counterparts (9).

Signs and Symptoms and Risk Factors

Adult and adolescent females with eating disorders may present with gynecologic concerns or symptoms, including irregular menses, amenorrhea, pelvic pain, atrophic vaginitis, and breast atrophy. This section reviews some of these signs, symptoms, and risk factors.

Menstrual Cycle Disturbances

Although menstrual disturbance is no longer part of the DSM-V diagnostic criteria for any eating disorder, the menstrual cycle is considered a vital sign when evaluating young women and adolescents with eating disorders. A detailed history of pubertal development and of the menstrual cycle is critical and should be part of an assessment of overall health status for all adolescents and young adult women (10). Delayed puberty, amenorrhea, and oligomenorrhea may be the presenting symptoms in a patient with a previously undiagnosed eating disorder. The etiology of menstrual dysfunction in this population is related to the hypothalamic–pituitary–ovarian axis. In a patient with anorexia nervosa, energy and fat mass depletion combined with low levels of leptin and insulin-like growth factor 1 affect the luteinizing hormone pulsatility (11). Young women and adolescents with eating disorders and amenorrhea may have early or prepubertal

Table 1. Eating Disorders Diagnostic Criteria

| Diagnosis | Criteria |
|--|--|
| Pica | <ol style="list-style-type: none"> 1. Eating nonnutritive, nonfood substances for at least 1 month 2. Symptoms are developmentally inappropriate 3. Not part of a culturally supported or socially normative practice |
| Rumination disorder | <ol style="list-style-type: none"> 1. Repetitive regurgitation of food for at least 1 month 2. Rule out gastrointestinal or other medical condition 3. Does not occur exclusively with another eating disorder |
| Avoidant restrictive food intake disorder | <ol style="list-style-type: none"> 1. Avoidance or restriction of food intake resulting in failure to meet nutritional or energy needs. Associated with one (or more) of the following: significant weight loss or inadequate weight gain with age; significant nutritional deficiency; dependence on feeding tube or supplements; or marked interference with psychosocial functioning 2. Unrelated to cultural practices or food availability 3. Not because of excessive concern about body weight or shape 4. Not explained by medical or mental disorders |
| Anorexia nervosa | <ol style="list-style-type: none"> 1. Restriction of energy intake relative to requirements, leading to a significantly low body weight in the context of age, sex, developmental trajectory, and physical health. <i>Significantly low weight</i> defined as weight that is less than minimally normal or, for children and adolescents, less than that minimally expected 2. Intense fear of gaining weight or becoming fat, or persistent behavior that interferes with weight gain, even though at a significantly low weight 3. Distorted view of weight and shape |
| Bulimia nervosa | <ol style="list-style-type: none"> 1. Recurrent episodes of binge eating* 2. Recurrent inappropriate compensatory behaviors to prevent weight gain (eg, self-induced vomiting, misuse of laxatives or diuretics, fasting, excessive exercise) 3. Binge eating and inappropriate compensatory behaviors both occur, on average, at least once a week for 3 months 4. Self-evaluation is unduly influenced by body shape and weight 5. The disturbance does not occur exclusively during episodes of anorexia nervosa |
| Binge-eating disorder | <ol style="list-style-type: none"> 1. Recurrent episodes of binge eating* 2. Eating is done more rapidly than normal; until feeling uncomfortable; when not hungry; alone because of embarrassment, feeling disgusted, depressed, or guilty as a result 3. Marked distress regarding binge eating is present 4. The binge eating occurs, on average, at least once a week for 3 months 5. Not associated with compensatory behaviors to prevent weight gain |
| Other specified feeding or eating disorder | Symptoms of feeding or eating disorders, resulting in a clinically significant problem, that do not meet the full criteria for any disorders listed above. An example of a presentation that can be specified using the other specified designation includes atypical anorexia nervosa: all of the criteria for anorexia nervosa are met, except that despite significant weight loss, the individuals weight is within or above the normal range. |

*An episode of binge eating is characterized by both of the following: 1) Eating, in a discrete period of time (eg, within any 2-hour period), an amount of food that is definitely larger than what most individuals would eat in a similar period of time under similar circumstances; 2) a sense of lack of control over eating during the episode (eg, a feeling that one cannot stop eating or control what or how much one is eating).

Data from American Psychiatric Association. Feeding and eating disorders. In: Diagnostic and statistical manual of mental disorders. 5th ed. Washington, DC: American Psychiatric Publishing; 2013. p. 32954.

luteinizing hormone pulsatility resulting in hypogonadotropic hypogonadism (12).

Patients with bulimia nervosa also experience menstrual disturbances. Some patients with bulimia nervosa may have hypogonadotropic amenorrhea, much like patients with anorexia nervosa (13). An association between bulimia nervosa and polycystic ovary syndrome (PCOS) also has been suggested (14). Higher scores on the Bulimia Investigation Test, Edinburgh have been noted in patients diagnosed with PCOS (15, 16). It is possible that patients with PCOS are more likely to have bulimic behavior or that patients with bulimia nervosa may have increased androgen sensitivity that results in PCOS (15).

Altered Cognition

Although most patients will not report decreased concentration to their gynecologist, decreased cognitive function is associated with eating disorders, particularly anorexia nervosa. A study of 66 young women in whom adolescent-onset anorexia nervosa was diagnosed showed significant between-group differences in verbal ability, cognitive efficiency, broad reading, and broad math when compared with those without a history of eating disorders. Those with anorexia nervosa performed more poorly than control patients across all these domains and exhibited delayed verbal recall (17). The etiology of cognitive deficits in patients that remain amenorrheic is uncertain; changes in brain structure have been implicated but not well studied (17). The obstetrician–gynecologist may ask the patient with a suspected eating disorder (or her parent or guardian) during the initial history if she has noted difficulty in concentration and memory.

Risk Factors and Associated Conditions

Recognizing risk factors for eating disorders can help to identify patients who should be further evaluated. High-risk behaviors include severe dietary restriction (less than 500 kcal/day); skipping meals to lose weight; prolonged periods of starvation; self-induced vomiting; use of diet pills, laxatives, or diuretics; compulsive and excessive exercise; and social isolation, irritability, profound fear of gaining weight, and body image distortion (18). Patients with perfectionist or obsessive personality-types may be at increased risk of having an eating disorder (19). Participation in any athletic activities also may be a risk factor for disordered eating. For more information on the Female Athlete Triad see ACOG Committee Opinion No. 702, *Female Athlete Triad* (20). Simply asking the patient how she feels about her weight, what she is eating, how much she is eating, and how much she is exercising can help identify at-risk patients. Parents also can provide important insight into a patient's eating habits. Screening tools, such as the SCOFF questionnaire, have been developed to screen for eating disorders (Box 1). Patients should be screened for other mental health disorders (eg, depression and anxiety) and should be ques-

Box 1. The SCOFF Questions*

- Do you make yourself **S**ick because you feel uncomfortably full?
- Do you worry you have lost **C**ontrol over how much you eat?
- Have you recently lost more than **O**ne stone (14 pounds) in a 3 month period?
- Do you believe yourself to be **F**at when others say you are too thin?
- Would you say that **F**ood dominates your life?

*One point for every "yes"; a score of ≥ 2 indicates a likely case of anorexia nervosa or bulimia.

Reprinted from Morgan JF, Reid F, Lacey JH. The SCOFF questionnaire: a new screening tool for eating disorders. *West J Med* 2000;172:164–5.

tioned about suicidal thoughts (21). There is a high risk of suicidality in people with eating disorders, especially in those diagnosed with anorexia nervosa (22). When any risk of suicide attempt or serious self-harm is identified or admitted, the adolescent should be referred to a mental health crisis agency or emergency department for assessment by a mental health care professional. The obstetrician–gynecologist should notify those who need to monitor, protect, and ensure the safety of the patient, even if this means breaching confidentiality. This may include providing information to parents or guardians about securing weapons or medications that may be available to the patient.

Gynecologists should also be aware that patients may be learning about how to lose weight through pro-eating disorder websites and social media (23). There are several Twitter handles, Instagram pages, and websites dedicated to promoting eating disorders (24). These online sites are unlikely to cause an eating disorder, but they do promote an unhealthy body image and may be a barrier to recovery.

Evaluation

Patients with an eating disorder may manifest various signs and symptoms. A physical examination and laboratory tests are valuable in the diagnosis of an eating disorder.

Physical Examination

Obstetrician–gynecologists should be aware that no matter where a patient's weight or body mass index (BMI) falls on her growth curve, the presence of an eating disorder is possible. Rapid weight loss or fluctuations may be the first sign of an eating disorder. The most common finding in a patient with anorexia nervosa is weight loss, although her BMI may remain in the normal or overweight range. In the pubertal early

Table 2. A Proposed Classification of Degree of Malnutrition for Adolescents and Young Adults With Eating Disorders*

| | Mild | Moderate | Severe |
|--------------------|------------------------------|------------------------------|--|
| Percent median BMI | 80–90% | 70–79% | Less than 70% |
| Weight loss | More than 10% body mass loss | More than 15% body mass loss | More than 20% body mass loss in 1 year or more than 10% body mass loss in 6 months |

Abbreviation: BMI, body mass index.

*One or more of the terms would suggest mild, moderate, or severe malnutrition.

Modified from Golden NH, Katzman DK, Sawyer SM, Ornstein RM, Rome ES, Garber AK, et al. Position paper of the Society for Adolescent Health and Medicine: medical management of restrictive eating disorders in adolescents and young adults. *Society for Adolescent Health and Medicine. J Adolesc Health* 2015;56:1215.

adolescent, a relative weight loss may occur if she fails to maintain her anticipated growth trajectory for weight or BMI (25). Patients with bulimia nervosa and binge eating disorder are often of normal or increased weight, emphasizing the need for a screening history (1). Although the Centers for Disease Control and Prevention and DSM-V use a BMI of less than the fifth percentile for age as the cut off for the diagnosis of a patient as underweight, patients with eating disorders who have BMIs greater than this percentile may still be malnourished (1, 26). The Society for Adolescent Health and Medicine has outlined a classification system for severity of malnutrition based on BMI (Table 2).

The initial assessment should include vital signs, with orthostatics. Particular attention should be paid to a rise in pulse because it can help distinguish the malnourished cardiovascular system and is a key indicator for hospitalization. Other physical examination findings that are suspicious for self-induced vomiting include dental decay, parotid enlargement, and Russel's sign (calluses on knuckles). There are also several dermatologic signs of severe anorexia nervosa, including xerosis (dry skin) and lanugo-like body hair (27).

Laboratory Testing

All patients with a suspected eating disorder should receive an initial laboratory assessment, including the following components: a complete blood count; measurement of serum electrolytes; tests of calcium, magnesium, and glucose levels; liver function tests; urinalysis; and measurement of thyrotropin level (25). Evaluation also should include an electrocardiogram. If the patient presents with oligomenorrhea or amenorrhea, the laboratory assessment should include a urine pregnancy test, serum estradiol, follicle stimulating hormone, luteinizing hormone, thyroid-stimulating hormone, and prolactin levels (20, 25).

Bone Mineral Density Assessment

Eating disorders can affect bone health. Up to 85% of females with anorexia nervosa have low BMD, with one study reporting risk of fracture among adolescents with anorexia nervosa to be 59% higher than that of age-matched controls (28–30). Patients with bulimia nervosa

also have increased risk of low BMD, although it is not as frequent or severe as in patients with anorexia nervosa (31). Not only is there increased risk of serious fracture, the damage caused may be irreversible (31). Pain, physical limitation, height reduction, and postural defects have all been reported (32).

The exact mechanism of abnormal bone mineralization in patients with eating disorders is likely multifactorial and related not only to energy imbalance but also to vitamin D and calcium deficiencies, hypogonadism, decreased insulin-like growth factor 1, elevated glucocorticoids, elevated inflammatory markers, and decreased lean muscle mass (31, 33). The extent to which bone density is affected is most likely dictated by the timing and duration of the eating disorder (31). The effect may be even more profound in adolescents because they are losing bone mass at a time that is critical for normal bone growth.

Bone mineral density in adolescents with eating disorders should be evaluated with dual energy X-ray absorptiometry (DXA) using age-specific software (25, 34). Most studies evaluating BMD in adolescents use total body DXA or lumbar spine sites (28, 35, 36). The Pediatric Position Development Conference of the International Society of Clinical Densitometry defines *osteoporosis* in children as a Z-score less than -2 in addition to having secondary risk factors that reflect a short-term risk of bone mineral loss and fracture (36). The frequency and indication for assessment of bone health in this population has not been established but should be considered in patients who have amenorrhea for 6–12 months.

Approaches to Management

Because eating disorders are complex and affect psychologic and physical health, a multidisciplinary approach is imperative. All health care providers caring for these patients must collaborate and express the same clear and consistent messages. Obstetrician-gynecologists should make sure other health care providers are aware of the gynecologic management and treatment of these patients. Most teams include the patient's primary care provider, nutritionist, and behavioral health specialist with

experience or expertise in eating disorders (19, 37). In rural areas or communities that do not have access to health care providers with expertise in the treatment of eating disorders, telemedicine technology may be used (38).

Recovery and Treatment

There are several effective treatment settings for patients with eating disorders. Most patients can be treated successfully in the outpatient setting. Some medically stable patients will require residential treatment, particularly if they have failed other interventions (25). The exact treatment plan depends on the eating disorder and the individual but may include family therapy, cognitive behavioral therapy, and rarely pharmacotherapy. In addition to nutritional repletion, treatment plans should address any underlying psychiatric disorders.

Although obstetrician–gynecologists are not expected to treat eating disorders, they should be familiar with the criteria that warrant immediate hospitalization for medical stabilization (Box 2). For patients suspected of being at risk of an eating disorder who do not meet criteria for immediate hospitalization, the obstetrician–gynecologist should make the proper referral.

Weight Restoration

The mainstay of treatment for every eating disorder is to normalize eating patterns. Weight restoration is the primary goal of therapy specifically for anorexia nervosa and is imperative for resumption of menses and improvement in BMD. It is preferable that the primary care provider managing a patient's eating disorder—not the obstetrician–gynecologist—be the one to weigh the patient because the act of having her weight taken may trigger the patient and be detrimental to her recovery. If a patient's weight must be obtained, precautions should be taken to ensure that the patient cannot alter the result (eg, the patient should be weighed after voiding, either undressed or wearing only a gown) or cannot see the number (eg, position the scale so the number is not visible to the patient), or both. Because most data demonstrate a resumption of menses with a return to normative weight, a patient's menstrual recovery is used to track her progress and is associated with improvement in BMD (33, 39). The exact BMI and interval of time between weight restoration and onset of menses are variable (11, 40).

Weight restoration is the best treatment for low BMD caused by disordered eating. A large systematic review found nine high quality studies that showed improvement in BMD based on DXA with weight gain or weight restoration in patients with anorexia nervosa. Although the same review reported eight studies that did not show an improvement, the studies were deemed to be of fair or moderate quality (28). Some evidence suggests that weight gain without restoration of menses does not improve BMD (33, 39). However, even for patients

Box 2. Indications Supporting Hospitalization in an Adolescent With an Eating Disorder

One or more of the following justify hospitalization.

1. Less than or equal to 75% median body mass index for age and sex
2. Dehydration
3. Electrolyte disturbance (hypokalemia, hyponatremia, hypophosphatemia)
4. EKG abnormalities (eg, prolonged QTc or severe bradycardia)
5. Physiological instability
 - Severe bradycardia (heart rate less than 50 beats per minute in daytime; less than 45 beats per minute at night)
 - Hypotension (less than 90/45 mm Hg)
 - Hypothermia (body temperature less than 96 degrees Fahrenheit, 35.6 degrees Celsius)
 - Orthostatic increase in pulse (greater than 20 beats per minute) or decrease in blood pressure (greater than 20 mm Hg systolic or greater than 10 mm Hg diastolic)
6. Arrested growth and development
7. Failure of outpatient treatment
8. Acute food refusal
9. Uncontrollable bingeing and purging
10. Acute medical complications of malnutrition (eg, syncope, seizures, cardiac failure, pancreatitis, etc)
11. Comorbid psychiatric or medical condition that prohibits or limits appropriate outpatient treatment (eg, severe depression, suicidal ideation, obsessive compulsive disorder, type 1 diabetes mellitus)

Abbreviations: EKG, electrocardiogram; QTc, Corrected QT interval.

Modified from Golden NH, Katzman DK, Sawyer SM, Ornstein RM, Rome ES, Garber AK, et al. Position paper of the Society for Adolescent Health and Medicine: medical management of restrictive eating disorders in adolescents and young adults. *Society for Adolescent Health and Medicine. J Adolesc Health* 2015;56:121–5.

whose menses are restored, their BMD levels may not fully recover to normal levels (41).

In patients with low BMD, appropriate calcium (1,000–1,300 mg per day) and vitamin D (600 international units/day) intake can be recommended; however, there is no evidence that vitamin supplementation improves BMD (42). A patient's 25-hydroxy vitamin D level should be checked and, if less than 30 ng per mL, the patient should be given supplementation for 6–8 weeks in the form of 2,000 international units daily or 50,000 international units weekly (39). Data are lacking on the use of bisphosphonates in adolescents with eating disorders; therefore, the use of bisphosphonates in this population is not recommended (33).

Medical Management and Contraception

The best therapy to address amenorrhea and BMD, beyond weight resumption, is unknown. Alternative hormone combinations may play a role in future treatment, though data currently are lacking to support this approach.

Hormonal Treatment of Amenorrhea

In agreement with the American Academy of Pediatrics and the Society for Adolescent Health and Medicine, the American College of Obstetricians and Gynecologists recommends against the use of combined OCPs solely for the treatment of amenorrhea associated with eating disorders (25, 33). Studies involving combined OCPs have not resulted in improvements in BMD in patients with anorexia nervosa (25, 33). Additionally, combined OCPs result in withdrawal bleeding, so the return of menstruation cannot be used as a measure of clinical progression or improvement of a patient's eating disorder.

Pregnancy Prevention

Sexually active patients with eating disorders require individualized counseling for pregnancy prevention. Fertility rates among patients with anorexia nervosa are debated in the literature, but it is clear that patients with eating disorders can become pregnant. Pregnancy in patients with an eating disorder carries risks, including small fetal head circumference and increased rates of maternal postpartum depression and anxiety (14). Some studies suggest patients with anorexia nervosa are more likely to have an unintended pregnancy and have higher rates of abortion (43, 44). Higher rates of contraceptive nonuse, inconsistent use, use of less effective methods, and discontinuation also have been reported among women with symptoms of mental health disorders (eg, depression and anxiety) compared with asymptomatic women (45). Counseling about all methods, including long-acting reversible contraceptive methods, is appropriate in a shared decision-making approach to contraceptive choice.

Medroxyprogesterone acetate not only affects the menstrual pattern, it also can cause reduction in BMD (46) and, therefore, should be used with caution in patients with anorexia nervosa. However, these adverse effects should be balanced against the risk of unintended pregnancy. All hormonal contraception, including combined OCPs, progesterone-only pill, etonogestrel implant, and levonorgestrel-containing IUD, can lead to a regular withdrawal bleed, irregular menses, or amenorrhea, thereby masking resumption of spontaneous menses. The copper IUD has advantages because it is highly effective, long-acting, and does not suppress menses. If the patient chooses a combined OCP or other method that masks resumption of menses, other measures of clinical improvement may be necessary to track improvement or progression in the eating disorder.

Regardless of method chosen, all patients should be counseled regarding consistent condom use (dual method use) and routine testing for sexually transmitted infections.

Emerging Therapies

The use of hormone replacement has been investigated in adolescents and young women, although most information is based on small trials. Transdermal estrogen given at physiologic doses with cyclic progesterone was shown to increase BMD in adolescents with anorexia nervosa (47). Another study of 80 adolescent girls and women (aged 13–27 years) with anorexia nervosa demonstrated dehydroepiandrosterone given in combination with estrogen daily for 3 months and then with a 20-microgram combined OCP for 15 months maintained BMD over an 18-month study period (48). Insulin-like growth factor 1, either on its own or in combination with a combined OCP, also increased BMD (49). The exact dose and combination are yet to be determined, but it is possible that alternative hormone therapies may play a future role in bone mineral protection for adolescents with eating disorders. More research is needed to inform future treatment options.

Conclusion

Obstetrician–gynecologists can provide an important aspect of care for adolescents with eating disorders from recognition to work-up for amenorrhea and contraception. Further research is needed to define best practices, including management of low BMD, menstrual irregularities, and pregnancy prevention.

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