

# EATING DISORDERS REVIEW

Current Clinical Information for the Professional Treating Eating Disorders



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## UPDATE

### The Effects of Eating Disorders on Siblings

So-called “backburner kids,” brothers and sisters of patients with anorexia nervosa or bulimia nervosa, often are afraid at first to ask questions or to learn more about their sibling’s eating disorder. As Dr. Cheryl Dellasega reported in her survey of 30 mothers and responses to phone interviews with 26 mothers and fathers, after the initial fears, anger and resentment arose as the illness progressed and attention was centered on their sister or brother with an eating disorder. Sometimes parents were accused of allowing the ill child to manipulate or take advantage of them, which caused discord in the family. Empathy and/or support occurred when some siblings tried to “rescue” their siblings or to “cure” the disorder. Brothers and sisters also felt like they were on the backburner as attention continued to be focused on their sibling and the disorder; this apparently also affected siblings who no longer lived at home. Dr. Dellasega recommended that after recovery, a negotiation of sibling relationships is often needed in order for the family to return to “normal” functioning. Dr. Sellasega reported the study at the 2006 International Conference on Eating Disorders in Barcelona.

## The Transition Phase of Treatment: A New Model – Part 2. Working with The Transition Team

By Mary K. Stein  
Managing Editor

### Preparing to Leave the Program

Even with all the preplanning and a careful structure to prepare the patient for leaving, it is never easy for a patient to move from treatment to home, said Dr. Kenneth Weiner, Director of the Eating Disorder Center of Denver (EDC-D). This is true even though patients in the partial hospitalization program go home each night, and even though they have continually worked on transitioning back to their lives from the moment they entered the EDC-D program.

Making the transition home is often even more difficult for patients from far away, out of the greater Denver area, who cannot stay connected to the program via the Center’s outpatient program. According to Dr. Weiner, the EDC-D outpatient program allows a full continuum of care as long as it is needed.

To help patients from outside the Denver area with transition, the staff is in touch with their referring clinician, and parents are encouraged to visit the program and to participate in programs in person.

examining all of the patient’s challenges and critical areas for growth, says EDC-D Clinical Director Tamara Pryor, PhD.

Dr. Pryor adds that the transition team also helps patients evaluate how they are going to take the new skills they have developed during treatment home, and how they are going to maintain their new motivation and commitment to staying well. Patients are very involved in the process, and are encouraged to work on goal-setting and analyzing their progress, she adds.

Patients can work on transition skills in a group setting and also have individual time with the transition therapist. They can thus apply what they are learning. For example, they may want to set a specific goal, such as going grocery shopping. During their individual session, they can work on what this will be like when they go home. To do so, they may plan a visit to a local grocery store. They can work on any type of area that will be challenging for them once they are back home, says Dr. Pryor. Using a transitions coaching sheet, patients list what they have accomplished during the week, for example, what they have set out to do and didn’t do, how they have worked on interpersonal and intrapersonal relationships during the week, skills they have practiced or acquired during the week, and how they have practiced acceptance in recovery. Patients also work on time management, healthy movement and exercise,

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### Working with the Transition Team

Whether the person is from nearby or elsewhere in the country, when the time to return home is drawing near, they are enrolled in a transition group. The goals are to help the individual patient successfully leave the program and to go back to real life. This also involves

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cooking for themselves, and developing new social support systems.

Dr. Pryor notes that just as there are different stages one goes through on the way to recovery, there are distinct stages patients go through while moving through transition.

**First, anticipation and fear of failure.** The first stage involves lots of anticipation and excitement, and focusing on the “what ifs,” and the fears of failure. At this stage the transition therapist and patient work on realistic goal setting and reviewing the skills she will take home. Program participants also work on practicing food preparation. For example, one young mother with two young children had never cooked for the family. The transition therapist helped her work on preparing meals so she could do this when she was back home.

**Then, disillusionment and obstacles.** The next stage involves some disillusionment when patients run into difficulties; for example, they may berate themselves when they don’t do a task “perfectly,” and they may fear they won’t have support once they are back home. After this, they show increased confidence and are proud of what they are learning. Their morale is high again.

**Uncertainty again.** In the next stage, the patient may be nervous about moving back into her former life. Even though the therapist feels the patient is ready, the patient may say, “I’m just not sure I am ready.” Patients also may compare themselves with others in the program, saying, “Life is hard for me, but not for her,” and need reassurance that recovery is hard for everyone. The therapist shows them what they themselves can do, and applauds this. It might be working with healthy movement, clothes shopping, or trying a new skill.

**Reassurance.** In the last stage, the therapist continues to stress what the individual can do rather than what she cannot do, and applauds the successes. There is also reassurance that the patient can stay in touch with the treatment team and contact them whenever she wishes.

**Keeping in Touch After Discharge**

Once the patient returns home, Dr. Weiner said the outpatient therapist can call in and talk to any of the staff members and get a “curbside consultation” about the patient and treatment. In addition, patients know that the staff believes they can take the new skills and succeed, but they also know that if they need help, they can always return to the program. One consideration is that their insurance may not allow a return. However, the emphasis for these patients is stressing what they accomplished the first time, and reminding them of that success. And, if needed, they can return for another episode of care at any time.

**Nationwide Study Puts New Focus on BED**

Binge eating disorder, or BED, may not yet be officially classified as a psychiatric syndrome, but it may be more common than anorexia nervosa (AN) or bulimia nervosa (BN), according to the results of the first nationally representative study of eating disorders in the U.S. This survey of more than 2,900 men and women showed a prevalence in the general population of 0.6% for AN, 1.0% for BN, but 2.8% for BED.

Dr. James I. Hudson and colleagues, who organized the study, also found that lifetime rates of eating disorders are higher in younger age groups, suggesting that the problem is increasingly common. In addition, eating disorders are about twice as common among women as among men (*Biol Psychiatry* 2007; 61:348). Also, according to Dr. Hudson and his colleagues, binge eating was associated with obesity, particularly severe obesity. The diagnosis of BED requires that a person eat an excessively large amount of food over a 2-hour period at least twice a week for 6 months, feel a lack of control over the eating episodes, and experience marked distress about the binge eating.

Another finding was that eating disorders are commonly accompanied by other psychiatric illnesses; in this study, more than half of people with BN, 56% of those with AN, and 79% of those with BED had at least one other psychiatric diagnosis.

The largest limitation of the study, according to the authors, was that it was based on self-reports, and people tend to underreport problems with eating disorders.

# Drive for Thinness Score: One More Way to Identify Athletes at Risk

Women with the female athlete triad often restrict their food intake in an attempt to achieve an ideal body weight or shape, and/or to improve their athletic performance.

Weight loss is only one of the many physiological effects that follow food restriction. A cascade of metabolic shifts also occurs as the body attempts to conserve energy, including a decrease in resting energy expenditure (REE), and changes in metabolic hormone concentrations, including triiodothyronine (T3), insulin-like factor, and ghrelin.

## Drive for thinness scale

Drive for thinness (DT), a subscale of the Eating Disorder Inventory (EDI), is a self-report measure of disordered eating attitudes about body image, weight, and shape. DT consists of perceptual, behavioral, and attitudinal parts, and is probably triggered when there is a discrepancy between actual and ideal body weight that exceeds the specific idealized preference of cultural thinness and involves body image dissatisfaction. In exercising women, disordered eating attitudes (which can be reflected by a high DT score) may contribute to behavioral changes leading to conscious restriction of food intake and or excessive exercise, potentially ending in the female athlete triad. Interestingly, differences in body weight between amenorrheic and eumenorrheic exercising women are often not seen, which suggests that endocrine and metabolic adaptations to conserve energy and reduce weight loss should be closely examined to better understand the physiology of the triad.

## A 'proxy indicator' of energy deficits

Researchers at the University of Toronto and Penn State University report that the DT score may serve as a "proxy indicator" of underlying energy deficiency and thus may be useful for identifying women at risk for the female athlete triad (*Appetite* 2007; 48:359).

Dr. Mary Jane De Souza and her colleagues evaluated psychometric and metabolic factors in 9 sedentary volunteers and 43 exercising women using a combination of psychological

and physiological tests. Dr. De Souza and other researchers used a large observational study over 2 to 3 months to examine the relationships between physical activity, metabolism, and reproductive function. Body composition, REE, and total body mass were measured, as was dietary energy intake. Energy intake was assessed from 3-day nutritional logs recorded for two weekdays and one weekend day during each week of REE determination. Volunteers also kept daily activity logs, and recorded their heart rates immediately after finishing 3 minutes or more of continuous physical activity.

Subjects took the entire EDI and the Three Factor Eating Questionnaire, a 51-item questionnaire that measures 3 dimensions of human eating behavior: dietary cognitive restraint, disinhibition, and hunger. Blood samples were collected between 7:30 and 10 a.m. during the early follicular phase of the menstrual cycle for menstruating exercising and sedentary volunteers. For amenorrheic and oligomenorrheic volunteers, blood samples were collected during the first 6 days of each 30-day monitoring period.

Exercise was defined as "sedentary" when purposeful exercise was less than 2 hours per week and "exercising" when purposeful exercise included more than 2 hours per week. A normal DT score was defined as less than or equal to 6 (and about 75% of college women have scores in this range). DT was defined as higher than normal when the score was 7 or greater.

This was the first study designed to evaluate whether the DT subscale of the EDI, used in conjunction with other EDI scores, can detect individual with signs of chronic energy deficiency. The authors' findings indicate that a clinical classification of high DT is significantly associated with reduced REE and hormonal indicators of compensatory adaptations to energy deficiency, and therefore can establish a link between this measure and the physiological base of the female athlete triad.

The average measured REE of the high-DT group was 86% of predicted

and is consistent with the clinical use of REE to assess metabolic status in anorexic women (a reduced REE of 60% to 80% is often reported in clinical models of starvation, such as AN, during period of low body weight, and prior to refeeding). The percentage of individuals who would be clinically classified as energy deficient was 66% in the group with an extra-high DT score and 27% in the normal DT score groups.

## Other hormonal indicators verified energy deficiency

Finding that a reduced REE is associated with a high DT score was reinforced by other hormonal indicators of energy deficiency. It is likely that the low T3-like syndrome seen in the high-DT group played a role in the energy-conserving reduction in REE. T3 levels were 17.7% lower than those reported in the exercising normal DT group and 26.6% lower than that observed in the sedentary normal DT group.

Ghrelin, an orexigenic gut-related peptide, is believed to be a primary peripheral metabolic signal for hunger, eating, and energy homeostasis. In this study, the authors found ghrelin levels were significantly elevated in the exercising women with a high DT score, indicating an adaptation to energy deficiency in these women.

According to the authors, future studies should be designed to test the efficacy of DT to identify individuals with energy deficiency and concomitant menstrual disturbances. A strong association between elevated DT scores and signs of energy deficiency in exercising women with subtle menstrual disturbances such as late luteal phase defects and anovulation might be very useful because it could lead to an intervention before more severe and obvious problems such as amenorrhea and oligomenorrhea develop.

The authors also note that the EDI is cost-effective, noninvasive, and easy to administer and interpret. However, the use of the DT scores needs to be studied in larger groups before the efficacy for using it in a single individual can be proved.

# Childhood Risk Factors for Preoccupation with Thinness: What Your Father Thinks Counts

Stanford researchers recently identified several risk factors for developing a preoccupation with thinness as well as disordered eating, which can begin in childhood and emerge during adolescence and young adulthood. One risk pathway involved parents' attitudes about their daughter's body size and weight.

W. Stewart Agras, MD and co-workers at Stanford University designed a study of body image that started literally at birth, when they recruited 216 newborns and their parents at several hospitals in the San Francisco Bay area (*J Am Acad Child Adolesc Psychiatry* 2007; 46:171). After screening more than 1,000 families, 134 infants and their parents entered the study; 22 were minorities (13 Asians, 6 Hispanics, 2 blacks, and 1 American Indian). The children were followed from birth to 11 years of age.

The study recorded infant feeding behaviors including sucking, length of breast and bottle feeding and difficulty weaning, then evaluated eating behaviors as the infant grew older, such as tantrums over food, over-interest in food, "picky eating," hiding food, and binge eating and vomiting (parents' questionnaire). During middle and late childhood, the researchers asked about instances of weight teasing, emotional eating, and the child's weight and dieting concerns. Activity levels were measured with an accelerometer, which the children wore for 24 hours when they were 3 and 5 years of age, and hours of watching television were recorded by parents on a questionnaire.

## Parents were studied, too

The parents themselves were interviewed by a psychiatrist at the beginning of the study to document any eating disorder symptoms and/or any histories of diagnoses of eating disorders. Beginning when the child was 2 years of age, parents filled out questionnaires each year about their concerns about their child's weight, any disagreements between parents about weight

food and feeding, and the use of food limits, for example. Both parents filled out the Eating Disorders Inventory, and the Parental Authority Questionnaire was used to measure parenting style.

## Girls whose fathers intervened to regulate their eating and weight were most at risk.

Later in the study, other questionnaires assessed controlling the child's weight, commenting on the child's eating habits, or restricting the child's eating. Parents' concern about their own weight was recorded. (See also "Fathers' Body Images," on the next page.)

After 11 years, 134 (62%) of the participants were still available for assessment.

## Results: Two pathways led to over concern about body size and image

Two major moderators emerged, outlining two different pathways to body dissatisfaction and preoccupation with having a thin body. The first group at greater-than-normal risk of body image disorders had fathers who had a high degree of dissatisfaction about their own bodies. The largest group at risk were females who had fathers who were concerned about their child's weight and who intervened in some way to regulate the child's eating and weight. Other risk factors included being teased about their weight by their friends and peers. Hours of watching television emerged as another risk factor (media influences on weight and shape). Independent risk factors included higher scores on drive for thinness and body dissatisfaction for fathers and a higher child activity level at age 5. Picky eating was negatively correlated with thin body preoccupation.

## Children with higher BMIs were also at risk

A second group at risk, smaller than the first, was characterized by low parental dissatisfaction and a child with a body mass index (BMI) higher than the 85<sup>th</sup> percentile at 5 years of age.

This subgroup included only 13% of the children in the study. Other independent risk factors were low activity level in early childhood and high eating speed in later childhood, and early parental control of their child's eating through discouraging comments about food. By late childhood, the independent risk factors, including rapid eating and teasing by parents and peers about weight and shape, predicted over-concern with a thin body shape.

## More concern about girls' shapes and weight

Actions taken by parents to control their child's weight and shape appear to be focused specifically on their daughters, according to the authors. The higher prevalence of bulimic symptoms in girls may be partly due to the girls' concerns and interventions to change their weight as a result of their parents' attitudes and actions. Although media images ordinarily receive a lot of attention as a possible cause of disordered eating, in the authors' study, the parental effects were far more powerful than any effect from media. However, vulnerable girls, already concerned about their weight and shape, had increased concerns when exposed to media in one study (Stice et al, 2001).

## Early intervention is warranted

Dr. Agras and his colleagues note that very early intervention may be helpful for preventing the development of an unhealthy body image because concerns about weight and shape emerge as early as the third grade. Early intervention may be more helpful for changing harmful behaviors than waiting until adolescence, when such behaviors can be more difficult to change. In addition, the results of this study showed that fathers are an important factor in the development of their daughter's views about their weight and shape (see box on the next page). Thus, both parents should be assessed because the father's role in the development of a child's eating disorder is easily overlooked.

# Fathers' Body Images: Territory to be Explored

Thus far, much more is known about the body image perceptions of mothers of patients with eating disorders than is known about how patients' fathers perceive their own bodies.

Researchers at the University of Schleswig-Holstein, Lübeck, Germany, used a computer program called the somatomorphic matrix (see box), which allows modeling of perceived and desired body images of patients and their relatives. The program runs on a laptop computer, and subjects select their desired body image.

Forty-two father-daughter pairs rated their own body images and, in addition, the fathers rated the body images of their daughters. Twenty-seven patients had anorexia nervosa (AN) and 15 had bulimia nervosa (BN). Selected images were compared with the subjects' anthropometric body data, including body fat and muscularity. The data from the fathers and daughters were then examined. Differences between both diagnostic groups were compared and associations between the fathers' and the daughters' body image perceptions were evaluated.

## A correlation with bulimic patients

As Dr. D. Benninghoven and the other researchers recently reported, patients with AN overestimated their bodies on the body fat dimension portion of the test (*Eat Weight Disord* 2007; 12:12). Patients with BN wished to have bodies with less fat. Fathers of both groups of patients perceived their own bodies correctly but wished to have less body fat and to be more muscular. The desire for a change in body fat expressed by AN patients was highly correlated with their fathers' body mass index (BMI). Among the BN patients, the wish for a change in body fat correlated with their fathers' distorted body images and desire for a more muscular body.

Thus, the body images of patients with eating disorders and their fathers are related, particularly among patients with BN. The authors suggest that fathers' body images should be included in family therapy with patients with BN.

## The Somatomorphic Index for Men

The computerized program, the somatomorphic index, has a male and a female version. The male version of the test contains a computerized library of 100 images of men, arranged in a 10 x 10 matrix, representing 10 degrees of fatness and 10 degrees of muscularity. A graphic artist constructed the images, using reference photographs of actual men who had been carefully measured. On the fatness axis, the images begin at a percentage of body fat of 4% (approximately the minimum figure attainable in men) and increase in increments of 4% to a maximum of 40% (a very obese man). On the axis of muscularity, the images are calibrated on the basis of a fat-free mass index (FFMI), an index of muscularity. For example, a typical 30-year-old man has an FFMI of approximately 20 kg/m<sup>2</sup>; a man with an FFMI of 18 kg/m<sup>2</sup> would appear somewhat frail, whereas a man with an FFMI of 22 kg/m<sup>2</sup> would appear distinctly muscular. A major advantage of the somatomorphic matrix is that the images vary along axes of both fat and muscularity, rather than along a single nonspecific axis of increasing size, as has been the case with earlier scales measuring body image perception.

## Predicting Weight Maintenance after Discharge for Teens with AN

The mean length of stay for inpatient treatment of anorexia nervosa (AN) is between 24 and 40 days. Trying to reduce hospital stay is a general trend in treatment for all psychiatric disorders in teens, since it is important not to interrupt school and family or social life longer than is necessary and because hospital costs are so expensive. However, shortening hospitalization may mean that the main part of psychological treatment is left to the day hospital or outpatient follow-up. Thus, it is important to know which variables may help predict a good outcome for the short- and the long term.

A team of psychiatrists and psychologists in Barcelona, Spain administered

a series of questionnaires to 49 patients with AN. The patients were from 10 to 17 years of age (mean age: 14.3 years) and were consecutively admitted to an eating disorder unit. The questionnaires were the Eating Attitudes Test, the Beck Depression Inventory, the Leyton Obsessional Inventory, and the Anorexia Nervosa Stages of Change Questionnaire. The girls were evaluated at admission, upon discharge from the hospital, and at a 9 months' follow-up session.

## Factors linked to successful weight maintenance

As Josephina Castro-Fornieles, MD reports (*Int J Eat Disord* 2007; 40:129), high motivation to change, low abnormal eating attitudes, depressive symptomatology at discharge, and high body mass index (BMI) at admission were all associated with weight maintenance in this group of teens with AN.

The authors note that among young adolescent patients, variables that affect weight maintenance after hospital discharge may differ from those identified in adult patients. The reason for this is that the teens present special characteristics of their own age group and in many cases treatment is not voluntary. The single best indicator of successful weight maintenance after hospital discharge was willingness to change, which the authors defined as the willingness of patients to introduce any change that leads to improvement of their disorder and to perform those actions necessary to achieve it.

As the authors predicted, the group with poor weight maintenance after discharge from the hospital had higher scores in abnormal eating attitudes, reflecting more serious eating disorders and more abnormal ideas and behaviors in relation to food intake, body weight and body image. There were no differences between the patients' ability to maintain weight after discharge and the type of AN or the type of pharmacologic treatment they were receiving. Also, BMI at discharge did not differ between teens with good or poor weight maintenance. This unexpected result might have been due to the fact that the patients' BMIs were very similar at discharge.

# Self-Serve Meals or Hospital-Style Meals: Which Do Inpatients Prefer?

In British Columbia, one goal among hospital-based eating disorder treatment programs is to help patients normalize eating behaviors in a safe and nurturing environment. Researchers at BC Children's Hospital's Eating Disorders Program, Vancouver, are using a cafeteria-style (self-serve) meal program aimed at helping patients learn to manage meals before they are discharged home.

Kristina J. Sandy, PhD and colleagues have reported that using an approach that lets patients select their own foods helps patients to be gradually reintroduced into normal meal-management activities and may also enable them to work toward overcoming difficulties handling food and toward making appropriate food choices (*JADA* 2007; 107:376).

## Patients serve themselves, under supervision

At BC General, the cafeteria-style meals are served in large bulk containers that arrive on kitchen trolleys outside the dining area about 30 minutes before the meals are served. The containers hold food prepared for each specific meal—meals for patients on level-one care are premeasured by meal support staff. Other patients are expected to serve themselves and are guided by color-coded serving utensils; the color indicates one serving or two, for example. After finishing the meal, the patients clear their dishes and place them in a dishwasher.

In contrast, hospital-style meals are served on a tray for each individual patient. All meals are preordered by the patients and the dietitian during the preceding week. After finishing their meals, patients with hospital-style meals clear their trays and place them back onto the kitchen trolleys.

## How did patients like the approach?

The researchers recently conducted a small study to see how patients liked the transition to cafeteria-style presentation of foods from the previous use of hospital-style meals. There was no

qualification as to how long the patients had been in the program, and most were between 13 and 18 years of age. Two were male and 10 were female.

All inpatients and day-treatment patients from the intensive treatment program at the hospital completed a series of four questionnaires during a 4-month period. The questionnaires explored general attitudes, including how patients felt about the way the food was presented and changes they would like to see implemented.

## Four main themes emerged

When the researchers reviewed the questionnaires, they found four main themes: trust and safety; presentation of food preferences; feelings of fear and apprehension; and increasing responsibility.

**Trust and safety issues.** Meal support staff members were initially viewed with suspicion and not trusted to measure the food accurately because patients believed they wanted them to gain weight. While some distrusted the staff members at first, at the end of the transition period most patients acknowledged that the cafeteria-style meals represented a normal style of eating, and many expressed hope that they could gain positive results from learning the new skills.

**Food preferences.** In the hospital-style presentation of meals, one patient liked the fact that the foods were separated, while others complained that they didn't like putting the trays away and that it took time to heat food, which left them feeling that hospital-style presentation felt less like home (where food is served hot).

**Fear and apprehension.** Even the thought of implementing a home-cooking, cafeteria-style eating arrangement left many patients feeling fearful at first. However, after a cafeteria-style breakfast had been served for several weeks, patients commented that the cafeteria-style meals felt more real and normal compared to the hospital-style meals.

**Increasing responsibility.** Patients seemed pleased with the in-

creased responsibility that cafeteria-style meals offered. They reported that this felt more "home-like" and normal, and commented that even loading the dishwasher, getting their own food, and learning the appropriate sizes of portions were helpful. After a while, the cafeteria-style presentation was not so frightening, and many of the patients were happy about the possibility of learning transferable skills they could use when they were discharged from the hospital. The only consistent complaint from patients was the lack of personal space where they prepared their meals, which contributed to feelings of chaos and anxiety. Some felt suspicious about other patients' abilities to take appropriate portions and "not to cheat." Overall, they much preferred the cafeteria style.

The researchers found that despite some initial anxiety, most patients accepted the transition to cafeteria-style meals and to date no negative impact has been seen on the rate of weight gain among patients.

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## Puberty and the Rise in Disordered Eating: Tracing the Genetic Impact

The arrival of puberty produces significant surges in disordered eating, including increased preoccupation with weight, elevated body dissatisfaction, and binge eating. Many studies have focused on the psychosocial impact of physical changes that occur during puberty, particularly increased body fat in girls. These theories postulate that additional adiposity leads to negative affect and body dissatisfaction, which in turn increase risk for eating disorders.

Kelly L. Klump, PhD, of Michigan State University, and colleagues at Cornell University and the University of Minnesota investigated whether puberty moderates genetic influences on disordered eating (*Psychol Med* 2007;37:627). This is the first study to examine the effects of puberty on disordered eating. Three years before, using data from the Minnesota Twin Family Study, the authors found that the heri-

tability of disordered eating symptoms increases during puberty. In the earlier study, most twins were 11 years old (age range: 10-13 yrs). Dr. Klump and colleagues found little genetic influence in twins before puberty but a substantial genetic effect (more than 50%) among twins who had begun puberty. At about the same time, a study by another group found no significant effects on puberty on the heritability of disordered eating (*Biolog Psychol* 2002;51:172).

The authors revisited the twins in the original study, who were now 13 to 16 years of age, to see if increases in heritability were influenced by puberty. The study included 510 adolescent female twins. The researchers used the Minnesota Eating Behavior Survey (MEBS), which was adapted from the Eating Disorders Inventory (EDI 1 and EDI 2). The MEBS total score includes items that assess body dissatisfaction, binge eating, weight preoccupation and the use of inappropriate compensatory means to lose weight. The Pubertal Development Scale was used to assess pubertal development; the subjects themselves rated their development on a 4-point scale, beginning with "Development has not yet begun" to "Development seems to be completed."

### Results

Dr. Klump and her colleagues found that genetic effects on disordered eating emerge during puberty and these effects increase linearly as development continues. Most of the twins were in mid-to-late puberty, although the scores showed considerable variability in disordered eating and pubertal development. The heritability of disordered eating was found to increase from 0% to 44% across the four pubertal stages. The authors stress that their findings show that puberty moderates genetic influences on disordered eating, not increases in the incidence of disordered eating.

### Ovarian hormones are suspected causal agents

The most likely causal agents are ovarian hormones activated during puberty in girls. Although other biological systems are also involved in puberty, such as stress hormones and

### *Self-Help Approaches for Obesity and Eating Disorders: Research and Practice*

(Edited by Janet D. Latner and G. Terence Wilson. New York: Guilford Press, 2007: 376 pp; \$38)

The past few decades have witnessed a significant ground swell in lay-led self-help programs and in increasingly well-researched, professionally guided, self-help approaches for various psychiatric and medical disorders. These trends have been quite notable in programs for obesity, anorexia nervosa, bulimia nervosa and binge eating disorder. Self-help approaches have been increasingly applied in both clinical and community settings, administered individually and in groups, in face-to-face encounters as well as by "tele-medicine" using telephone and the Internet. These developments have been facilitated by several motivations, including interests in fostering patients' self-efficacy and self-reliance, as well as ever-increasing concerns by both individuals and providers about the costs of care, the comparative cost-benefits of various approaches, and an increased interest among third-party payers in stepped-care programs.

In such a context, this excellent, extensive, thorough, and timely collection of chapters by well-selected experts is most welcome. The sections include reviews of "unguided" as well as partially assisted ("guided") self-help, computer-assisted self-help, and group self-help. For obesity, several chapters overview the available programs, including reviews of popular and fad diets for nutritional adequacy and safety. A companion chapter on commer-

cial and organized self-help programs lays out the philosophies, program characteristics and costs of the major programs you're likely to hear about from patients, including Weight Watchers, Overeaters Anonymous® the Atkins Diet, the South Beach Diet™, TOPS (Take Off Pounds Sensibly), and others. These chapters are complemented by several others considering the management of obesity within professionally administered and monitored programs, both for acute treatment as well as for maintenance and long-term care.

Guided self-help and computer-based programs for bulimia nervosa, binge-eating disorder and body-image dissatisfaction update the current state of the art and outcomes in these areas. Many major research studies are detailed, deconstructed and critiqued, and the quality of evidence in their outcomes is carefully presented. I found the chapters on the prevention and treatment of obesity in children to be practical, and the chapter on self-help for patients with the night eating syndrome to be novel and interesting.

While some programs being tested in Europe and elsewhere have not found their way into this volume, I hope that the editors will update this collection every few years and that they will include an even more extensive survey of programs. In the meantime, for readers interested in how self-help programs of various types may provide effective adjunctive care for patients, and in some instances first-line treatment options, this book offers an excellent jumping-off point.

— J.Y.

of genetic effects seen in their study. Although promising early results have been found for an estrogen receptor beta gene (*Psychol Med* 2006;36:539), replications are lacking and no studies have examined candidate genes for progesterone. Another possibility, according to Dr. Klump and colleagues, is that ovarian hormones may influence the congenital predisposition to eating pathology indirectly through their regulation of gene transcription. Future studies will help examine the role of ovarian hormones in regulation of serotonin, and the direct effects of ovarian hormone receptor genes on food intake, mood, and risk during puberty.

The researchers wondered if individual differences in the activation of ovarian hormones during puberty might account for the moderation

## QUESTIONS & ANSWERS

### Helping Parents Who are Caregivers

While meeting with parents of patients with anorexia nervosa (AN), several parents have described themselves as 'totally fried' by their attempts to care for their adolescents. What do we know about the burden on parents of caring for patients with AN, and how can we help them? (W. S., Plano, TX)

You've described an extremely common complaint of parents with a child with an eating disorder. This is particularly true for those who are dealing with adolescents still in the throes of AN who are living at home, and in whose care parents are intimately involved. Studies have shown that for parents, caring for an adolescent with AN is as trying and burdensome as it is for parents contending with psychotic adolescents (*Soc Psychiatry and Psychiatric Epidemiol* 2001; 36:343). Qualitative research has shown that parents, particularly mothers, often have degrees of anxiety that raise clinical concern, as well as overprotectiveness, emotional arousal, and both physical and psychological exhaustion. They may have significant degrees of self-blame and guilt on the one hand and extreme hostility and blaming of the patient on the other (*Brit J Psychiatry* 2005; 187:444).

Recommended strategies to help include providing parents with their own private time for therapy or counseling (scheduled apart from their adolescent), in which they can ventilate and correct any distorted thoughts and attitudes that may be perpetuating their distress. This may help them reduce their emotional arousal and possibly counterproductive patterns of interacting with their children (which do neither parents nor children any good). Other strategies include connecting them in person or via the Internet with other families who've gone through similar ordeals, referring them to websites and reading materials that families often find useful, and generally supporting their efforts at resourceful and more adaptive coping.

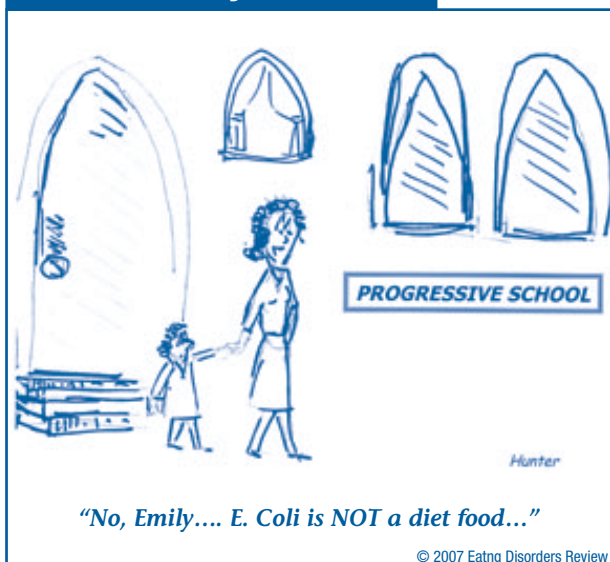
– J.Y.

### Anxiety Levels in Young Female Athletes

A Turkish study recently compared anxiety levels of young female athletes with disordered eating and those without. Both state and trait scores were higher in athletes with disordered eating behaviors than among athletes without such disorders (*Eat Behav* 2007; 8:143). The researchers also evaluated anxiety levels according to leanness and non-leanness sports. Leanness sports were those where specific weight was considered to be important, such as gymnastics, running, wrestling and taekwon do. Basketball, handball, and tennis were examples of non-leanness sports. Eating Attitudes Test (EAT-40) and State-Trait-Anxiety scores were similar for both types of sports. Nearly 17% of the athletes had some form of disordered eating.

According to the authors, high anxiety levels remained even after recovery from an eating disorder.

#### Nibbles by Hunter



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## IN THE NEXT ISSUE

### Highlights of the 2007 International Conference on Eating Disorders

More than 1,000 clinicians attended the International Conference, held May 2-5 in Baltimore. The IAED conference featured challenging teaching days, stimulating plenary sessions, new treatment approaches, advanced skills, and old treatment dilemmas.

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