

# EATING DISORDERS REVIEW

Current Clinical Information for the Professional Treating Eating Disorders



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## UPDATE

### Post-Traumatic Stress and Eating Disorders

Clinicians who treat women with post-traumatic stress disorder (PTSD) should be alert to the possibility of underlying eating disorders, according to a recent study by Boston clinicians. One-third of the 242 women veterans enrolled in the Veterans Administration Cooperative Study, a randomized clinical trial that is evaluating cognitive-behavioral therapy for PTSD, also had a lifetime diagnosis of an eating disorder. While treating the women for PTSD, the researchers discovered the following underlying eating disorders: anorexia nervosa (1 case); current bulimia nervosa (BN) (5); a past history of BN (21); eating disorder not otherwise specified (EDNOS) (27); past history of EDNOS (21); and a history of any eating disorder (67). The veterans who had both PTSD and an eating disorder had significantly greater symptoms of depression and anxiety than those with PTSD alone. In addition, a lifetime diagnosis of an ED was significantly associated with other diagnoses, particularly anxiety and personality disorders. The study results were reported at the International Conference on Eating Disorders in Montreal in April.

### International Conference on Eating Disorders in Montreal

## Managing Weight Across the Spectrum of Eating Disorders

By Mary K. Stein  
Managing Editor

During a plenary session, four eating disorders experts explored the many challenges weight and weight management pose for eating disorders patients and clinicians alike. Anne Becker, MD, who chaired the discussion, said, "New data suggest that dieting may have a very different role and place in the treatment of eating disorders than we originally thought."

The problem, she said, is that "clinicians must now navigate weight management in the context of both medical compromise and psychological distress. In addition, they must evaluate the risks and benefits of weight management in the context of radically shifting recommendations on dietary guidelines, physical activity and what even is a "healthy body weight." To make it even more challenging, clinicians must add what Dr. Kelly Brownell has described as our 'toxic food environment,' she said. Finally, Dr. Becker added, "No matter which side of a healthy body weight our patient is on, and no matter how much we think we know where we want that patient to be, it often seems impossible to get the patient there."

Often what is valid for one ethnic group is invalid for another, she said.

Rivera noted that with patients with binge eating disorder (BED), a question often arises—is body weight or binge frequency the primary outcome measure? In this patient group, the treatment team should determine the chances of successful weight loss, she said. If chances of success are minimal, then dieting will have a negative effect on the patient. She added that useful anthropometric measurements to determine fat distribution include: waist circumference or waist-hip ratio and body mass index (BMI) to determine the degree of obesity.

"Whether the primary goal in treatment is binge cessation or weight loss, we have to be aware of health risks associated with obesity," Rivera said. She added that body mass index (BMI) measurements are useful in adults, children, and adolescents. A cutoff value above the 95<sup>th</sup> percentile of normal weight is a useful screening tool for medical problems, and can help identify children who need further medical assessment, she added. Standard BMI values are, however, not necessarily valid for all ethnic groups, she said, adding that among non-Caucasian populations, a higher-than-normal prevalence of comorbidities is seen at BMI values considered normal for Caucasians. This has been described in populations with a high prevalence of short stature, she added. For example, 30% of Mexico's

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### Using Anthropometric Measurements

Maria Teresa Rivera, RD, offered guidelines and suggestions for using anthropometric measurements to track treatment progress for individual eating disorders and patients of all ages.

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**Editorial questions** should be addressed to Joel Yager, MD or Mary K. Stein c/o MD Communications, 302 S. Pinto Place, Tucson AZ 85748-6902, 520/296-6400, fax 520/296-6464; marykaystein1@aol.com.

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population is short in stature. Thus, BMI is a less sensitive tool for detecting cases of obesity-associated comorbidities in shorter subjects than among people of standard heights.

Waist circumference is a better discriminator than BMI for use in public health screening, according to Rivera. She also pointed out that the risk for diabetes and hypertension starts at lower levels of waist circumference than those suggested by the World Health Organization, and the suggested guidelines are only somewhat helpful for measuring waist-hip ratios in some populations. She said, "We have to be alert to the need to begin screening for obesity-associated comorbidities. Uniform definitions are useful but the issue is at what point should clinicians be alerted to the need for further medical assessment?" BMI, waist-hip ratio, and waist circumference are all useful measurements to include at the initial assessment and if the patient is ready for change, these might be used to help monitor progress, she added.

Among patients with bulimia nervosa (BN), treatment is not focused on maintaining a particular weight, but rather aimed at finding a healthy weight patients can maintain, according to Dr. Rivera. For these patients, regular exercise and eating a healthy diet can work once patients are ready to challenge cognitive distortions and to identify weight-food situations, she said.

For patients with anorexia nervosa (AN), Rivera advised clinicians to remember that when initially assessing weight, the standard criteria of 85% of healthy BMI may not have equivalent biological significance at all stages of development, and can lead to misclassifications in adolescents. Although the 70<sup>th</sup> percentile of the BMI has been proposed as a cutoff point for underweight, Rivera advised that an important issue to consider about weight at initial assessment is its prognostic significance. She noted there are no good guidelines for determining a target weight, and weight range should be established on an individual basis. Among adolescents, there are wide variations in what constitutes a 'healthy weight,' she said.

If clinicians want to establish a target

weight at the beginning of treatment, there are three good reasons for trying to attain 100% of healthy estimated weight, she said. First, setting targets lower than 100% results in persistent amenorrhea in a large percentage of adolescent girls. Second, the impact of adequate weight restoration is important in bone health. Patients discharged at BMIs below 19 are more likely to relapse.

Skinfold thickness is based on fat mass and fat free mass, which have theoretical implications in relation to target weight and outcome in AN, according to Rivera. "Fat mass, as we all know, is the energy reserve and is related to endocrine dysfunction—but we don't know the exact amount of fat needed for restoration of menses," she said. And low fat free mass has been implicated as a major risk for osteoporosis. She added, "In clinical practice, we could determine the percentage fat and other markers of muscle mass or fat mass used in skinfolds and circumferences, but usefulness and validity of skinfolds will depend on the use of proper standards. Not all skinfold equations are valid for every population—and marked edema will confound its accuracy," she said.

**Refeeding AN Patients**

Janice Russell, MBB, MD, told the audience that working with an AN patient is reminiscent of a Russian doll, which contains a doll within a doll within a doll. Treating persons with AN involves dealing with many layers of psychological problems, psychological changes, physiologic factors, and behaviors, she said.

Among the challenges is restoring endocrine function. Primary and secondary amenorrhea is another challenge, and BMIs aren't useful in all groups; for example, among boys, BMIs can't be used to predict the percentage of fat.

How fast should weight be regained? At her hospital, Royal Prince Alfred Hospital, the clinicians aim for a gain of 0.7 kg a week. While this might seem slow, Dr. Russell pointed out that it is more important to balance weight gain so it doesn't occur too quickly.

Most of her patients spend much more time as outpatients than as inpatients, she said, mostly in day

programs and in the care of their family physicians.

Dr. Russell stressed the importance of talking with patients and their families about target weight goals, and emphasized that the real goal is to restore body function. She added that it is important to periodically reassess the family's situation. For example, although the parents may have been able to handle the situation when their daughter was 12 or 13 years old, when she is 15 and they no longer feel in control, it might be more appropriate to find a more developmentally appropriate treatment setting.

Parents also have many questions, including whether their daughters can continue in ballet or run marathons, even when the girls are very emaciated. Parents need to know that this is not healthy, said Dr. Russell. [Note: The International Olympic Committee, IOC, and the American College of Sports Medicine each have useful guidelines for healthy exercise for patients with eating disorders.] Parents and clinicians also need to discuss medications and the impact of alternative medications.

Dr. Russell told the audience that AN can create a vicious cycle when a patient reaches a BMI of 17 or 17.5. At this point, appetite is poor, constipation occurs, and patients can become hyperactive, interfering with weight gain. Dr. Russell also noted that at this point a significant number of patients find themselves binge eating, and they have to be advised to try to not fight this. Getting patients to eat is all about rewards and eating sensibly, she said. Parents can be good role models at the table, she added.

Dr. Russell and colleagues try to avoid enteral-parenteral feeding unless it is absolutely necessary. Many have peripheral edema, particularly if they have abused laxatives and secondary hypoaldosteronism has developed. It may take as long as 6 weeks to get the antidiuretic hormone (ADH) levels back to normal, she said.

An important part of refeeding AN patients involves metabolic repair, Dr. Russell added. Diet-induced thermogenesis means higher daily requirements for patients. Many of these patients

## The panel:

### **Caroline Apovian, MD**

Director, Nutrition and Weight Management Center, Boston, MA  
Boston Medical Center

### **Michael Devlin, MD**

Co-Director, Eating Disorders Research Unit, New York State Psychiatric Institute;  
President, Academy for Eating Disorders;  
Associate professor of Clinical Psychiatry, Columbia University

### **Anne E Becker, MD**

Director, Adult Eating and Weight Disorders Program, Boston, MA  
Massachusetts General Hospital

### **Maria Teresa Rivera, RD**

Grupo Medico Rio Mayo  
Cuernavaca, Mexico

### **Janice Russell, MBB, MD**

Clinical Associate Professor of Psychological Medicine, University of Sydney; Director, Eating Disorders Program, Royal Prince Alfred Hospital

exercise excessively and have higher resting energy expenditure, probably due to metabolic repair. They have a metabolic inflexibility and are unable to turn off fat-burning. Thus, exercise is not a good option in this population, she added. In addition, diet-induced thermogenesis suggests that they should only eat once or twice a day to conserve energy, but this is impractical, of course, she said.

In her follow-up surveys, patients report they like having their meals supervised and like to talk with other patients and the nursing staff. "They never indicate that they like family therapy, medications, or individual therapy," she laughed.

Dr. Russell stressed the importance of matching patients to treatment and working to rearrange reward systems. When the body's needs for active rewards, such as food, rest, or water aren't being met, Dr. Russell theorizes that patients turn to substance abuse, alcoholism, or shoplifting. All are perverse methods of gaining 'rewards' when the body's needs aren't met, she said.

### **Do the New Fad Diets Work?**

Caroline Apovian, MD, noted that at any one time from 40% to 50% of women in the U.S. are dieting and that many are looking for a "quick fix." Dr. Apovian evaluated the four most popular diets: the moderate-fat, reduced-calorie diet, the low-fat, high carbohydrate diet (Ornish diet), the low-carbohydrate, high-fat diet, such as the Atkins, South Beach, and Zone diets, and the Mediterranean diet ("good fat versus bad fat diets").

Each of the fad diets has drawbacks, she said. With low-fat, high-carbohydrate diets, even though there are fewer calories in plant-based foods, nutrient intake is lower than the recommended daily amounts. In high-protein, low-carbohydrate diets, most of the initial weight loss is water loss due to increased ketosis and decreases in insulin levels. Another drawback is that the lack of carbohydrates translates to low fiber intake, she said, adding that fiber is important in cardiovascular health, and can decrease the incidence of certain cancers. Fiber is also essential for colon health. The added increase in iron stores may also increase the risk of atherosclerosis. The South Beach Diet is probably the best of the high-protein fad diets, she said, adding that it includes three phases, which increase carbohydrates and also includes olive and canola oils.

### **How Well Do They Work?**

Dr. Apovian cited a recent article in *JAMA* that evaluated the long-term success of the four diets. The researcher concluded that all diets had similar rates of success—from 20% to 25% of subjects maintained their weight loss over 1 year.

The work of Friedman and colleagues with the Weight Control Registry provides some guidelines for successful dieting, she said. In this study, 5,000 participants have lost at least 30 lb and have kept it off for one year. "The structured program is the key," Dr. Apovian said. To keep the weight off,

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# Bulimia Nervosa: Working Toward Better Definitions of Remission and Relapse

Relapse rates in bulimia nervosa (BN) range from 30% to 63%. The definition of remission in BN also is broad, spanning 2 to 8 weeks of abstinence from binge eating and purging. The least-stringent definitions of remission and relapse overlap, with 1 episode per week for 4 weeks qualifying as remission in some studies, but as relapse in others. Establishing a better definition of remission is particularly important because residual symptoms have been associated with an increased risk of relapse.

## A study to better define remission and relapse in BN

In an attempt to better define remission and relapse in patients with BN, Marion Olmsted, PhD, Allan S. Kaplan, MD, and Wendi Rockert, MEd designed a study to compare the relapse rates obtained when definitions of remission and relapse were systematically varied (*Int J Eat Disord* 2005;38:1). In their uncontrolled, naturalistic, prospective follow-up study, 54 women were recruited one month after completing treatment and were asked to attend follow-up interviews every 3 months for up to 19 months. All the women had completed one of the treatment programs at the Toronto General Hospital Eating Disorders program and met *Diagnostic and Statistical Manual of Mental Disorders*, 3<sup>rd</sup> revision (*DSM-III-R*) criteria for BN. All subjects weighed at least 85% of matched population mean weight.

In the last month of treatment, the women had a maximum of two episodes of binge eating and/or vomiting and one month later they had a maximum of 3 episodes of binge eating and vomiting. Thirty-three of the women had been treated in a day hospital program, 11 had received outpatient psychoeducational group treatment, 9 had undergone individual psychotherapy or pharmacotherapy, and 1 had been treated as an inpatient. Eight refused to attend the first follow-up interview, and the final study group included 46 women (mean duration of BN: 9.4 years).

At each follow-up visit, eating disorders symptoms were assessed and the women completed a calendar for each

of the preceding 3 months, indicating significant social or vocational events and/or mood states to help them recall possible bulimic episodes. The researchers used four definitions of remission, 0, 1, 2, or 3 episodes of binge eating or vomiting in the month after the end of treatment.

## Relapse rates depended on definitions

The relapse rates varied widely depending on the definitions for remission and relapse. By 19 months of follow-up, the lowest relapse rate, 21%, occurred among patients who were abstinent at baseline, with relapse defined as at least twice-weekly symptoms for 3 months. The highest relapse rate, 55%, occurred among patients who had the most symptoms at baseline—up to 3 episodes—and those who had the least strict definition of relapse. At 19 months, relapse rates ranged from a low of 21% to a high of 55%. Adopting consistent definitions is a prerequisite to more informative and useful comparisons across studies, they reported. For example, the authors noted that in two previous retrospective studies they conducted on independent samples of patients, relapse rates were 29% and 31%. The comparable relapse rate is 40% in their current study.

## Suggested definitions

The authors recommend that partial remission be defined as low-level symptoms (a maximum of 2 episodes per month) over a 2-month period, and that relapse be defined as meeting the full diagnostic criteria for BN (such as an average of 2 symptom episodes per week for 3 months), as described in the *DSM-IV*.

Dr. Olmsted and colleagues believe that future research could benefit from shared definitions of relapse and remission. Also, establishing such a reference point related to the primary behavioral criteria for BN might help clarify relapse, including quality of eating, weight-focused self-esteem, social functioning and the incidence of relapse from BN into other eating disorders.

# Overtime, Overtired, and Overweight: Workplace Can Affect Weight Gain

Just as in many other parts of the world, the prevalence of obesity has steadily increased in Finland. Researchers there have turned their attention to the workplace as another factor that may be contributing to this trend.

Dr. Tea Lallukka and colleagues at the University of Helsinki report that work fatigue and working overtime are the greatest risk factors for weight gain (*Int J Obesity* 2005; 29:909). They concluded this from responses on questionnaires mailed to 40- to 60-year-old women (7093) and men (1799) employed by the City of Helsinki during 2000-2002. The subjects are participants in the ongoing Helsinki Health Study (for more about this study, see [www.kttl.helsinki.fi/hhs](http://www.kttl.helsinki.fi/hhs)).

## The questionnaires

The questionnaire included a work fatigue index, a mental stress index, and an evaluation of conflicts between work and home, and also asked about weight changes during the previous 12 months. The variables describing job demands and control of the job environment were based on Karasek's 1979 model of job strain. (Dr. Karasek is the author of the Job Content Questionnaire, an instrument used in measuring stress in Europe, Japan, and the U.S.) The work fatigue index from the questionnaire included six items on stress and exhaustion at work, such as "I feel totally worn out after a day at work," and "I worry about my work even when I'm off duty." If the respondent answered 4 of the 6 items in the affirmative, this was counted as high work fatigue. Working overtime was defined as working more than 40 hours per week, and mental stress at work was determined by how mentally straining the respondents considered their work to be. If they reported it was very hard, this was categorized as "high."

To quantify stress between work and home life, respondents were asked how satisfied they were with combining paid

employment and family life. Social support was divided into three categories of low, medium, and high, based on positive responses to questions about support at home and at work.

### **Weight gain followed work stress and fatigue**

During the previous year, 24% of the women and 19% of the men had gained weight. Differences in the prevalence of past weight gain by working conditions were minor. However, a statistically significant difference between the extreme categories was often found, especially among women. More than 30% of women with high work fatigue or those dissatisfied with their work-home situation had gained weight during the past year.

Working overtime was also associated with weight gain in women. Women who were not happy with their work-home situation were also more likely to have gained weight than were their satisfied counterparts. Among men, weight gain was most common among those who reported work fatigue (26%), very high job demands (24%), or those with high mental strain at work (24%).

### **Why did the workers gain weight?**

One of the explanations for the association between working overtime and weight gain could be as simple as an increased intake of snacks and fast food. These foods are usually high in energy and fat and workers might eat them instead of regular meals because of lack of time. Those reporting work fatigue might also be too tired to consider or plan a healthy diet and to prepare healthy meals instead of replacing them with fast foods. In addition, this same group might be too tired from work to exercise, and thereby could gain even more weight because of low activity.

The authors did not find any associations between job demands, a sense of control on the job, and weight gain among women. Dr. Lallukka and her colleagues suggest that because obesity is such a serious health issue, worksite health promotions by public health groups should focus on ways to counteract unhealthy conditions at work.

## **Refeeding Edema— Looking Beyond the Symptoms**

Refeeding edema in patients with anorexia nervosa is still a poorly understood condition. A recent case of edema in a Singapore patient demonstrated the need for further investigation of the condition (*Singapore Med* 2005;46:308).

A 19-year-old college student with restricting type AN was being seen on follow-up visits to her psychiatrist. Because her weight had fallen from 48 kg to 36 kg over the past year, she was referred to the medical unit for nutritional rehabilitation and medical stabilization. She had symptomatic sinus bradycardia, with a heart rate of 40 beats per minute.

As she was started on nutritional rehabilitation, she developed edema in both feet. Then the edema became moderately severe and the patient was very upset because of the physical discomfort and her inability to walk without pain. Her physicians ruled out hypoalbuminemia, renal failure, liver failure, cardiac failure, proteinuria, hypothyroidism, and obstruction to venous drainage due to an abdominal mass. CT scans showed no abdominal masses, and chest films were normal. She did have low levels of estradiol (24.9 IU/l), leutinizing hormone (0.1 IU/l), and follicular stimulating hormone (0.5 IU/l). Urine cortisol (24 hr) and prolactin measurements were within normal ranges.

The patient was treated with multivitamins and thiamin—with little improvement. Furosemide was given and her legs were elevated, but little change was seen. As she was continued on nutrition, she slowed gained weight and the swelling in both feet eventually resolved spontaneously about a month after it first appeared.

### **What leads to edema during refeeding?**

According to the authors, two basic mechanisms cause edema formation, namely a change in capillary hemodynamics that favors the movement of fluid from the vascular space into the interstitium, and the retention of

sodium and water by the kidneys. During refeeding, insulin secretion normally increases and it has been proposed that insulin release can result in significant edema.

Glucagons have also been implicated in edema formation. Increased levels of glucagons during starvation have a natriuretic effect, whereas decreased levels during refeeding enhance antinatriuresis in the distal tubule.

The authors suggest that it is important to rule out possible causes of edema when an anorexic patient undergoing treatment develops edema. One of the most important conditions to rule out with refeeding edema is cardiac failure. Patients with anorexia nervosa lose a large amount of body mass during starvation and this, coupled with the reduced demand, can lead to reduced ventricular mass and myofibrillary atrophy. During refeeding, the sudden ingestion of relatively large amounts of nutrients can overwhelm the diminished capacity of the cardiovascular system and result in heart failure.

Other patients may abuse diuretics and the resultant hypovolemia activates the rennin-angiotensin-aldosterone system. This may not reverse as quickly when diuretics are stopped abruptly and can cause initial edema with spontaneous resolution.

### **In most cases edema will resolve without treatment**

Most patients will not need treatment and their edema will resolve spontaneously as refeeding continues. However, when the edema is severe, the authors suggest low doses of diuretics given in the early morning (since edema usually accumulates during the day when the patient is upright. Another benefit of this treatment is that it confers psychological reassurance to patients who are already finding it difficult to cope with the changes that have occurred in their body shape.

Even though most cases of edema in patients with anorexia nervosa will resolve with refeeding, the authors note that it is important to rule out possibly serious underlying causes of edema, such as cardiac failure, and to prepare the patients psychologically by directly addressing the problem.

## Monitoring Appetite Instead of Food May Reduce Food Preoccupation

Daily food records are a fundamental part of cognitive behavioral therapy for eating disorders. Food records or diaries help track treatment progress and also provide essential information about eating behaviors. However, food monitoring can also increase preoccupation with food, and some patients may be reluctant to comply. Appetite monitoring may provide an alternative way to monitor food that takes attention away from food and instead stresses the individual's internal signals of hunger and fullness, according to a team of Colorado clinicians.

As reported at the International Conference on Eating Disorders in Montreal, Linda Craighead, PhD and colleagues at the University of Colorado, Boulder, designed a study in which 290 college women completed a series of questionnaires assessing eating-related pathology. The women were shown the procedures for food monitoring and appetite monitoring and then were asked to rate the acceptability of each method.

### Participants preferred appetite monitoring

Participants in the current study predicted food monitoring would produce significantly more restriction (289 women), thoughts about food (287 women), and distress about weight and shape (287 women). Both the level of eating pathology and past experiences with monitoring food intake affected their choice. As eating pathology decreased, participants indicated a greater preference for appetite monitoring. For those who had monitored food intake in the past, (66% of participants), the less helpful they viewed the experience, the less likely they were to use food monitoring in the future.

The authors noted that in an earlier randomized study of 38 women with shape and weight concerns, seven to 10 days of food monitoring produced significantly greater increases in preoccupation with food and weight and significantly more guilt about food intake

than did appetite monitoring.

Given concerns that food monitoring may increase preoccupation and guilt about food, appetite monitoring may be a better option for early intervention and prevention of eating disorders, according to the authors.

## Body Checking and Avoidance in BED

Overweight patients with binge eating disorder (BED) may be overconcerned with body shape and weight, as shown by two alternate behaviors--frequently checking their bodies yet paradoxically avoiding their bodies at other times.

An example of body checking is pinching or measuring specific body parts to judge "fatness." Body avoidance is an opposite behavior, where a person avoids tight-fitting clothing or tries to avoid looking in mirrors. Body avoidance may prevent patients from overcoming their irrational beliefs about shape and weight, and may interfere with enjoyment of any successful weight loss.

For patients with bulimia nervosa and anorexia nervosa, the frequency of checking and body avoidance is positively and significantly related to the degree of over-evaluation of shape and weight. Furthermore, weight checking appears to lead to further dietary restraint regardless of a net loss, gain, or stable weight. These results lend support to the hypothesis that checking and avoidance may maintain eating disorders.

### A recent study

According to Dr. Deborah L. Reas and colleagues, clinical lore holds that overweight patients with BED often use body avoidance behaviors, but are believed to check their bodies less than normal-weight BED patients (*Int J Eat Disord* 2005;37:342). Dr. Reas and colleagues recently studied a group of overweight adults seeking treatment (BMI>25). The 80 men and 297 women all met *Diagnostic and Statistical Manual of Mental Disorders*, 4<sup>th</sup> revision (DSM-IV) criteria for BED. The authors used the

Body Shape Questionnaire (BSQ) the Eating Disorder Examination-Questionnaire (EDE-Q), and the Three-Factor Eating Questionnaire (TFEQ), a 51-item self-report questionnaire with three subscales reflecting 3 eating-related domains. Two of the three subscales in the TFEQ, the Cognitive Restraint and Disinhibition subscales, were used to measure the relationship between dieting behavior and the tendency to overeat with body checking and body avoidance.

### More than half were affected

More than half (57.4%) of the participants reported that they often, usually, or always pinched areas of their bodies to check for fatness. The majority (53.8%) always avoided wearing clothing that made them particularly

**Body checking was associated with dietary restraint and body avoidance was associated with binge eating.**

aware of their body shape. There weren't any marked differences between men and women on the body-checking item; however, men and women differed significantly on their scores for body avoidance. Women reported greater avoidance of clothing that made them particularly aware of their shapes than did men.

Body checking and body avoidance were not mutually exclusive; instead, the behaviors either occurred at the same time or alternated. A significant pattern of relationships reemerged between checking and restraint and conversely between body avoidance and binge eating, according to the authors. These patterns lend support to the potential role of checking and avoidance behaviors and maintenance of eating disorders.

### Transient mood swings may explain the alternating behaviors

The authors speculate that patients swing back and forth between feelings of being in or out of control, marked either by periods of intense body checking accompanied by dietary restraint or conversely, body avoidance accompanied by disinhibition and binge eating. Those transient mood states might help explain why a patient might vacillate between the two behaviors.

## Bone Density in Teens with Anorexia Nervosa

Osteoporosis is one of the most serious complications of anorexia nervosa, and some teenagers with AN may have permanent loss of bone mass. The process of losing bone density is still not clearly defined.

To chart changes in bone density, a team at Cambridge School of Clinical Medicine, Cambridge, UK, measured bone mineral density, total body composition and biochemical indices of bone turnover over 1 year in a group of 26 anorexic women 13 to 20 years of age (J.B. Bolton et al, *Osteoporosis Int* July 2005).

### Weight and height increased but bone density did not

At the end of the year, the young women had a mean weight gain of 10 kg and there was a significant gain in height. Mean body mass index changed from 14.2 kg/m<sup>2</sup> at baseline to 17.6 kg/m<sup>2</sup>. Despite the weight gain and growth, no significant increases were seen in bone density in the spine or proximal femur during the study.

At 3 months and again at 12 months, total body bone density was significantly higher than at baseline. In contrast, at 3 months, total body bone density was significantly lower than at baseline.

Serum osteocalcin and bone-specific alkaline phosphatase values increased significantly and remained higher than baseline values at all measurements. However, urinary N-telopeptide/creatinine excretion at 12 months was significantly lower than at baseline. At 6 months, mean serum-25-hydroxyvitamin D levels were significantly lower than baseline levels, but moved upward toward baseline after this. Serum parathyroid hormone levels significantly increased at all measurements compared to baseline.

Thus, although the women regained weight and also had an increase in height, bone mineral density did not increase over the year. Whether this loss of bone density can be corrected is not yet known, and the answer will require much longer-term studies, according to the authors.

### Self-Harm Behavior and Eating Disorders: Dynamics, Assessment and Treatment

(John L. Levitt, Randy A. Sansone, and Leigh Cohn, Eds. New York: Brunner/Routledge, 2004; 272 pages; \$39.95)

Clinicians are well aware of how frequently self-harm behaviors occur in patients with eating disorders. The spectrum of self-harm short of suicide, usually taken as “para-suicidal behaviors,” includes such actions as self-inflicted cutting and burning, and extends to a myriad of other ways in which individuals inflict pain, mutilation, scarring, and other forms of physical damage on their bodies. Here impulsivity and other deficits of emotional self-regulation, masochistic vulnerabilities, and other personality features intersect with eating disorders and substance-abuse-related psychopathology and cultural contributions, among other factors, to produce wrenching combinations of psychic anguish, self-hate and self-harm. Some, but not all, of these manifestations may erupt from backgrounds of abuse, mistreatment, and borderline personality disorders or disorganization. But just attributing all occurrences to these factors alone is likely to be overly simplistic.

In this welcome volume, the editors have assembled well-researched chapters from authoritative writers on virtually all aspects

## BOOK REVIEW

of this story. The collection begins, suitably, with a touching anonymous first-person story of a young woman suffering from cutting and eating disorders.

Then, chapters on epidemiology include first-rate reviews regarding the prevalence of self-harm behaviors in eating disorders and offer a very helpful multicultural and historical perspective on self-harming behaviors (as well as gruesome related practices inflicted on people by others). Chapters on psychodynamic and other clinical aspects consider impulsive and compulsive, suicide attempts, borderline personality, feminist perspectives and their assessment.

The majority of the book concerns treatment, approached from several points of view. Excellent therapy descriptions amplified by detailed case descriptions provide detailed vantage points for understanding dialectical behavior therapy, integrated cognitive therapies, and eclectic approaches using both individual and group therapies. A final chapter summarizes current thinking about the use of psychotropic medications with these patients and provides helpful guidelines in that regard.

Overall, any clinician treating eating disorders patients who also demonstrate self-injurious behaviors—and that’s a very large number—will benefit from reading this book.

—J.Y.

## Short- or Long-term Family Therapy for Teens with Anorexia Nervosa

Family therapy is often effective for adolescents with anorexia nervosa. But is there an optimal length of treatment?

James Lock, MD, and his colleagues at Stanford University School of Medicine, Stanford, CA, designed a study to determine whether long-term or short-term family therapy is most effective for adolescents with anorexia nervosa (AN) (*J Am Acad Child Adolesc Psychiatry* 2005;44:632). Eighty-six teenagers with AN, who were 12 to 18 years of age, were randomly assigned to either short-term treatment (10 sessions over 6 months) or long-term treatment (20 sessions over 12 months). At the end of the year all the teens were evaluated with the

Eating Disorder Examination (EDE). The study was conducted between 1999 and 2000.

### One group benefited from longer-term therapy

Using an intent-to-treat analysis, Dr. Lock and colleagues found no significant differences between the short-term and long-term treatment groups. Subjects with severe eating-related obsessive-compulsive features or those whose families were not intact were an exception to the rule, and responded best to long-term therapy.

The authors concluded that a short-term course of family therapy seems to be as effective as a long-term course for most teens with short-duration AN. For those with more severe disease, particularly when obsessive-compulsive behavior is present, a longer course of treatment is much more beneficial.

## QUESTIONS & ANSWERS

### Anorexia Nervosa and Emphysema-Like Syndromes?

**Q** I've heard that, among other long-term health problems, patients with anorexia nervosa may be more vulnerable to developing chronic lung diseases such as emphysema-like disorders. Is that true and, if so, how does that come about? (B.L., San Francisco, CA)

**A** The idea that patients with anorexia nervosa may be more prone to emphysema-like disorders is currently a matter of some debate. There is clearly evidence that low-weight patients with anorexia nervosa may have decreased values for maximal inspiratory and expiratory pressures, but these seem to be a direct reflection of malnutrition rather than due to anorexia nervosa per se (Pieters T. et al, *J Intern Med* 2000; 248:137). It also seems evident that any "emphysema-like" syndromes are most likely associated only with very-low-weight patients, and may reflect the effects of concomitant decreases in muscle mass rather than to a specific change in lung structure (Coxson H.O. et al, *Am J Respir Crit Care Med* 2005; 172:398).

However, measurements of diffusing capacity and computed to-

mographic lung measurements have also been interpreted in patients with very low body mass indexes (BMIs) as consistent with patterns seen in patients with emphysema (Coxson H.O. et al, *Am J Respir Crit Care Med* 2004; 170:748). The exact significance of these findings awaits further clarification. Furthermore, these studies do not address whether pulmonary changes that occur in patients with very low weights persist after weight is recovered or whether they confer additional long-term health risks, or whether they resolve. These studies also don't identify whether those who develop pulmonary findings with severe weight loss carry additional pulmonary vulnerabilities prior to developing anorexia nervosa.

—J.Y.

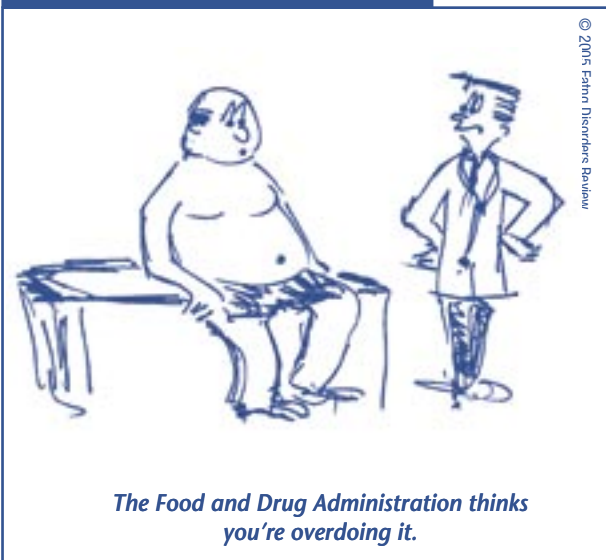
*SPECTRUM continued from page 3*

eat a low-calorie diet, and 78% eat breakfast every day. Participants have found they need to burn 400 kcal with exercise each day. She added that most diets fail because people don't follow the structure of reduced calories and increased activity. Without this combination, any diet will fail, she said.

A final panel discussion and question and answer session was led by Dr. Michael Devlin. Dr. Devlin pointed out that each person has a different vulnerability to obesity, as shown by undernourished children in the same family as overweight mothers. He also

pointed to the decline of subsistence farming and increase of energy-rich nutrient foods as an underlying reason for the increase in obesity. Body weight is only one part of the equation, he said.

### Nibbles by Hunter



*The Food and Drug Administration thinks you're overdoing it.*

## IN THE NEXT ISSUE

### Rethinking the Definition of Anorexia Nervosa

By Arnold Andersen, MD

The current DSM definition of anorexia nervosa is badly in need of updating. Here are some thoughtful and helpful suggestions.

### PLUS

- **Self-Injurious Behaviors and Personality Traits**
  - **Glucose Tolerance: A Helpful Marker for Refeeding?**
  - **Resting Tachycardia: a Helpful Warning Sign in Anorexia Nervosa**
  - **Alcohol Abuse in Bulimia Nervosa**
- and much more...

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