



P E R S P E C T I V E

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A Word from the Editor

This issue of *The Renfrew Perspective* addresses the role of exercise in the field of eating disorders. Several of the articles focus on excessive exercise or exercise "abuse," in order to illustrate the dynamic and often pernicious relationship between exercise and eating disorders. Other articles examine a different aspect of the exercise/eating disorders association. Here, the emphasis is on when and how exercise can be used in treatment as a tool to help in the process of recovery. Please send your thoughts and comments to bdavis@renfrewcenter.com.

William N. Davis, PhD
Editor ■

Excessive Exercise: Quantity, Quality, and More

Ron A. Thompson, PhD

Those of us who work with eating disorder patients are aware that many of our patients are using exercise in non-therapeutic ways. Generally, this exercise is referred to as "excessive." The term "excessive" sounds like "too much," but too much of what? Is quantity of exercise really the issue?

The literature in this area is difficult to decipher, in part because of the terminology used to describe the phenomenon. Other than excessive exercise, some theorists have used such terms as *obligatory* exercise (Pasman & Thompson, 1988) and *compulsive* exercise (Yates, 1991). The literature is further complicated by theories generated from animal models, such as *activity anorexia* (Epling & Pierce, 1996), and theories that appear to reflect an addictions model, such as *exercise abuse* (Morgan & O'Connor, 1989), *exercise dependence* (DeCoverley Veale,

1987), and *exercise addiction* (Morgan, 1979).

Steffen & Brehm (1999) suggested that part of the difficulty is that "excessive exercise" has always been investigated as a unidimensional concept. When they factor analyzed the responses of adolescent obligatory exercisers to the Obligatory Exercise Questionnaire (Pasman & Thompson, 1988), the factors Emotional Element of Exercise, Exercise Frequency and Intensity, and Exercise Preoccupation emerged, suggesting that excessive exercise may be multidimensional. These factors appear to be both quantitative and qualitative. Beumont et al. (1994) listed several factors they believed are important in assessing whether exercise is excessive, and many of these were suggestive of a quantitative emphasis. However, they also alluded to factors such as motivation, inability to refrain from exercising, anxiety

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associated with being prevented from exercising, and inflexible exercise schedules. In keeping with a non-quantitative focus, Siegel & Hetta (2001) suggested that eating disorder symptoms in young females were associated with obligatory attitudes about exercise rather than quantity of exercise.

With regard to "excessive exercise," DSM-IV (American Psychiatric Association, 1994) avoided quantifying the term and instead defined it, at least in part, in terms of what sounds like the qualitative factor of "appropriateness." It defined exercise as excessive when it "significantly interferes with important activities, when it occurs at inappropriate times or in inappropriate settings, or when the individual continues to exercise despite injury or other medical complications" (APA, 1994).

My associate Roberta Sherman and I have not found the term *excessive exercise* to be particularly helpful because it has not only been used generically, but it also connotes quantity of exercise, when in fact the exercise issues for patients appear to be more multidimensional, that is, qualitative and contextual, as well as quantitative. However, we should not get too concerned with what we call a behavior or even the quantity of the behavior, but rather the motivation for the behavior and how it is used. Most important is how we assess and treat these behaviors and their attitudinal and emotional components. That which follows is a synopsis of how we have integrated information from the literature and our clinical experience regarding an assessment process that includes quantitative, qualitative, and contextual factors.

Assessment

In assessment, we use general guidelines first. The first guideline in this regard is similar to the "appropriateness" criterion of DSM-IV (APA, 1994). That is, we try to determine if the exercise is "appropriate" given the patient's particular circumstances. For example, does the exercise place the individual at risk physically or psychologically? Certainly included here would be exercise that is performed despite injury, exercise that goes against sound medical advice, or exercise that places the individual in danger (i.e., exercising alone at night in a potentially dangerous area). Does it

interfere with the appropriate completion of everyday activities, such as school, work, or relationships? An answer in the affirmative to any of these questions suggests a problem in need of intervention.

Our second general guideline involves the relationship between exercise and eating. Problematic relationships in this regard are based on contingencies between exercise and eating. That is, one is somehow contingent on the other. These are usually of two types. The first type involves contingencies designed to "legitimize" eating. An example is the person who does not allow herself to eat (enough) because she has not exercised (enough). The second type involves contingencies that are designed to "compensate" for eating. An example might be the person who says that she must exercise "more" because she feels that she ate "too much." Typically, these two types of contingencies are designed to create a negative energy balance.

In addition to these general guidelines regarding assessment of exercise, we also make decisions based on more specific exercise characteristics. The terms that we find somewhat helpful are *excessive*, *compulsive*, and *obligatory*. We make distinctions between and among these and do not necessarily define or use them as others have defined or used them.

Excessive Exercise: "Excessive" exercise is exercise that is "too much," which may refer to a *quantity* of exercise, such as 1000 sit-ups. But "excessive" can also mean "too much" in terms of *frequency* or the number of times an individual exercises in a specified time period (i.e., two times during a 24-hour period). Unless the individual is a competitive athlete following a specific training regimen prescribed by appropriate sport personnel, exercising more than once per day is usually viewed as excessive.

Exercise can also be excessive in terms of *duration* or how long the individual exercises. We usually use a recognized standard in this regard. For example, for noncompetitive athletes, we use the standard recommended by the American College of Sports Medicine (ACSM, 1998). For competitive athletes, we might use a standard such as 20 hours per week and one day off as prescribed by the National Collegiate

Athletic Association (NCAA, 2003).

Exercise can also be excessive in terms of *intensity*. That is, does the individual exercise harder (i.e., 85% vs. 75% of maximum heart rate) than most others in his/her peer group? For the competitive athlete, does he/she exercise harder than his/her teammates? In this regard, we are interested in the patient's *motivation* for, and/or *emotional involvement* in, exercise. Again, we often use a standard for this comparison. For example, we might compare the individual's reasons (motives) for exercising with those provided by Corbin and Lindsey's (1997) list of reasons why people (nonclinical sample) exercise regularly. These include health/fitness, physical appearance, enjoyment, relaxation/release of tension, challenge/personal accomplishment, social experience/involvement, and competition. Do our patients exercise for the aforementioned reasons? Many tell us that they do, but on a closer look, they more often use these reasons to rationalize their exercise. Or, sometimes patients appear to begin exercising for healthy reason but their motivation to exercise eventually changed in an unhealthy direction.

Compulsive Exercise: Motivation to exercise is certainly related to *compulsive* and/or *obligatory* exercise. When we use the term "compulsive," we are referring to exercise that the individual feels a "need" or "compulsion" to do. That is, exercise that is driven by an emotion, usually fear and/or anxiety. The individual may begin the exercise initially to help manage his/her emotions. Over time, however, "negative" emotion, such as anxiety, fear, guilt, or depression, may be experienced if the exercise is not performed or if not performed in a particular way and/or at a particular time. The compulsive exerciser may or may not be exercising excessively in terms of quantity, frequency, duration, or intensity.

Obligatory Exercise: For the obligatory exerciser, there is no flexibility regarding whether to exercise. Not exercising is not an option. In fact, he/she feels that he/she cannot NOT exercise. Relationships are sacrificed for exercise. Work, school, and life are adjusted to allow for exercise. Exercise occurs

despite illness or injury. These individuals will often have a multi-year history of not missing one day of exercise as well as a history of overuse injuries. Like compulsive exercisers, obligatory exercisers may or may not be exercising excessively. Regarding eating, obligatory exercisers tend to have more eating disturbance than non-obligatory exercisers (Pasman & Thompson, 1988).

The aforementioned explanations and descriptions of exercise should not be misconstrued to suggest that assessment is a simple process. Unfortunately, it is often quite complex because as with most classification systems, real people seldom fit neatly into categories. Even though we do not use terms interchangeably, this does not mean that there is no overlap between and among *excessive*, *compulsive*, and *obligatory* exercise. I will use two nonclinical examples and a clinical case to demonstrate the possible complexity and overlap.

Example 1: I have a friend, who has to run every morning and his running has to be done first each day. He does not run far, fast, or long distances. He likes to run at the same time everyday, but can run at different times when necessary. Is he excessive? No. Is he obligatory? Yes. Is he compulsive? Maybe.

Example 2: Another friend does not exercise on a schedule. He goes for days without exercising. However, when he exercises his workouts are so intense that he is legendary at his gym. Others stop exercising in order to watch. His health is excellent, and his weight and eating are within normal limits. Is he excessive? Yes, in terms of intensity and perhaps in terms of duration and quantity. Is he compulsive? Possibly. Is he obligatory? No.

Example 3: One of my anorexic patients felt that she had to exercise before eating. The exercise usually involved doing 2 or 3 push-ups. Without the exercise, she felt anxious and believed that she could not eat. Once she completed her exercise, she was less anxious and able to eat. Is her exercise excessive? No. Is it compulsive? Yes. Is it obligatory? Perhaps.

Treatment

Treatment Goals and Strategies: Our first goal is to change the patient's attitudes and beliefs about exercise. This is based on research that suggests that many patients' difficulties with exercise are related to their attitudes and beliefs about exercise rather than the quantity of exercise. Our approach relies heavily on education. First, we provide patients with accurate information on "healthy" vs. "unhealthy" exercise, confront unhealthy beliefs, and help patients recognize that daily activities constitute exercise. We use ACSM guidelines to indicate what "healthy" exercise is, stress that exercise is for health and enjoyment, that it is not to be used to lose weight, undo the effects of eating, or manage emotion, nor is it excessive, compulsive, or obligatory. We stress that healthy exercise requires a healthy body, and that good nutrition is the primary contributor to good health.

Our second goal is to change the relationship (contingency) between eating and exercise. Many patients view exercise as a way to compensate for, or legitimize, eating. That is, they may increase their exercise to "undo" the effects of eating. They may not allow themselves to eat unless they feel that they have "earned" the calories. We work with them on establishing a new relationship between exercise and health. It is important that we not allow the patient to use eating as a reward for exercise or vice versa.

Our third treatment goal is to increase body awareness while decreasing body obsessiveness. To change body obsession with bodily awareness, we help patients focus on the changes in how the body feels and what it is able to do. That is, they will feel stronger with nutrition and weight. I also want them to notice the alleviation of bodily symptoms. For example, I want them to know what the body feels like when menstruation returns, when hypothermia is replaced with body warmth, and when the patient can stand without orthostasis. We teach patients to listen to their bodies and to recognize body signals (i.e., hunger, fatigue, pain, etc.). We also teach them to identify positive body changes that occur with good nutrition and healthy exercise (i.e., strength, endurance, warmth, etc.) and to *experience* the posi-

tive changes *positively*.

Our fourth goal is to assist patients in meeting needs previously associated with unhealthy exercise. We must determine what functions and purposes the exercise provided for patients and then assist them in meeting those needs in ways that do not involve exercise or other symptoms. If we do not, we cannot expect them to give up their unhealthy exercise.

Re-introduction of Exercise: Following successful completion of the aforementioned goals and strategies, we consider re-introducing exercise into the patient's life. We slowly re-introduce exercise when the patient has been medically cleared for exercise, is at least 90% of expected body weight, is willing to maintain an energy balance consistent with the treatment plan, and appears able to exercise "non-symptomatically." Exercise is varied and preferably non-aerobic, does not occur immediately after eating, occurs no more than one time per day (3-5 times per week) and for no more than 15-20 minutes, is performed at low intensity (less than 60% of maximum heart rate), and is accompanied/monitored by a friend or family member who is a healthy exerciser. Cautions related to re-introducing exercising include the fact that the exercise may get out of control, may trigger other eating disorder symptoms, may decrease appetite, and may increase appetite. ■

References

- American College of Sports Medicine. (1998). Position stand: The recommended quantity and quality of exercise for developing and maintaining cardio respiratory and muscular fitness, and flexibility in healthy adults. *Medicine and Science in Sports and Exercise*, 30, 975-991.
- American Psychiatric Association. (1994). *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.). Washington, DC: Author.
- Beumont, P., Arthur, B., Russell, J., & Touyz, S. (1994). Excessive physical activity in dieting disorder patients: Proposals for a supervised exercise program. *International Journal of Eating Disorders*, 15, 21-36.

Corbin, C., & Lindsey, R. (1997). *Concepts of Fitness and Wellness* (2nd ed.). Boston, MA: WCB/McGraw-Hill.

DeCoverley Veale, D. (1987). Exercise dependence. *British Journal of Addiction*, 82, 735-740.

Epling, W., & Pierce, W. (Eds.). (1996). *Activity Anorexia: Theory, Research, and Treatment*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Morgan, W. (1979). Negative addiction in runners. *Physician and Sportsmedicine*, 7, 57-70.

Morgan, W., & O'Conner, P. (1989). Exercise and mental health. In R. K. Dishman (Ed.), *Exercise Adherence: Its Impact on Public Health* (pp. 91-121). Champaign, IL: Human Kinetics.

National Collegiate Athletic Association (2003). *2002-2003 NCAA Division I Manual*. Indianapolis, IN: The National Collegiate Athletic Association.

Pasman, L., & Thompson, J. (1988). Body image and eating disturbance in obligatory runners, obligatory

weightlifters, and sedentary individuals. *International Journal of Eating Disorders*, 7, 759-769.

Raglin, J., & Wilson, G. (1999). *Overtraining in Athletes*. In Y. Hanin (Ed.), *Emotions in Sport* (pp. 191-207). Champaign, IL: Human Kinetics.

Seigel, K., & Hetta, J. (2001). Exercise and eating disorder symptoms among young females. *Eating and Weight Disorders*, 6, 32-39.

Steffen, J., & Brehm, B. (1999). The dimensions of obligatory exercise. *Eating Disorders: The Journal of Treatment and Prevention*, 7, 219-226.

Yates, A. (1991). *Compulsive Exercise and the Eating Disorders*. New York, NY: Brunner/Mazel Inc.



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Informing the Definition of "Excessive Exercise" in Eating Disorders Research: Findings from a Community-Based Study

Jonathan Mond, MPhil

The relationship between exercise behavior and eating-disordered behavior is of interest for several reasons. The use of exercise as a means of weight control is common among individuals treated for anorexia nervosa (AN) and bulimia nervosa (BN) (Beumont et al., 1996). Further, exercise is the most commonly employed method of weight control among individuals with bulimic-type eating disorders in the general population (Garfinkel et al., 1995). The prevalence of eating disorders is elevated among athletes participating in sports that emphasize leanness (Byrne, 2002), and participation in competitive sports or other strenuous exercise often predates the onset of

eating disorder psychopathology in clinical samples (Davis et al., 1994).

In the most recent edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), excessive exercise is listed, along with fasting, as a defining feature of BN, non-purging subtype (American Psychiatric Association, 1994). Estimates of the prevalence and characteristics of this disorder and its relationship to both purging BN and binge eating disorder (BED) depend on the way in which the term "excessive exercise" is defined. The DSM-IV suggests that exercise is excessive when it "significantly interferes with important activities, when it occurs at inappropriate times or in inappropriate

settings, or when the individual continues to exercise despite injury or other medical complications" (APA, 1994). These criteria presumably reflect the clinical experience of members of the expert panels that developed DSM-IV.

For a number of reasons, clinical samples are not an ideal population with which to inform the definition of excessive exercise in eating disorders research. First, it is known that only a small proportion of individuals in the community affected by an eating disorder present to specialists for treatment, and this sub-group is likely to be atypical in a number of ways (Fairburn et al., 1996). Second, exercise behavior is likely to be affected

by the decision to seek treatment and/or the treatment process (Davis et al., 1997). Third, levels of eating disorder psychopathology are uniformly high in clinical samples, detracting from the ability to examine relationships between exercise behavior and eating-disordered behavior. The use of a community sample to help define excessive exercise has an additional advantage. Knowledge of which exercise behaviors are most closely associated with elevated levels of eating disorder psychopathology among women in the community may be of benefit in creating prevention programs for eating disorders.

Recently we attempted to inform the definition of excessive exercise by examining which aspects of exercise behavior are most closely associated with eating disorder psychopathology in a community sample of women (Mond et al., 2004a). A review of the literature suggested that three dimensions of exercise behavior might be considered useful, namely frequency of exercise, obligatoriness of exercise, and motivation for exercise. Hence, attention was focused on the relationships between levels of eating disorder psychopathology and measures of each of these dimensions. In addition, a measure of quality of life was included because we were interested in knowing if certain exercise behaviors were also associated with reduced quality of life and if so, whether this effect would remain after controlling for eating-disordered behavior.

We found that the extent to which exercise was intended to influence weight or shape was a strong predictor of eating disorder psychopathology, while there was no relationship between frequency of exercise and eating disorder psychopathology. Perhaps the most interesting finding, however, was that scores on a specific item of the Commitment to Exercise scale (CES; Davis et al., 1993), namely, "Do you feel guilty that you have 'let yourself down' if you miss an exercise session?" were the best predictor of elevated levels of eating disorder psychopathology and reduced quality of life. Similarly, Ackard et al. (2002) found the items of the (20-item)

Obligatory Exercise Questionnaire (OEQ; Thompson & Pasman, 1991) that tapped emotional attachment to exercise correlated most highly with subscales of the Eating Disorders Inventory (Garner, 1991) in a sample of female college students. An additional finding of our research was that there was no association between excessive exercise and quality of life after statistically controlling for levels of eating disorder psychopathology, suggesting that in the absence of eating disorder symptoms, excessive exercise does not constitute a clinically significant syndrome (Veale, 1995).

More recently, we sought to replicate these findings in a much larger general population sample of women. Use of a larger sample would permit analysis of eating disorder psychopathology associated with more extreme sub-groups of exercisers. It was hypothesized that levels of eating disorder psychopathology among individuals exercising solely for weight or shape reasons and/or those experiencing a high level of guilt following postponement of exercise might approach those of eating disorder patients.

Confirmation of this hypothesis would provide a stronger argument for inclusion of these terms in operational definitions of excessive exercise. We also sought to confirm the hypothesis that there is no relationship between excessive exercise and psychosocial impairment independent of the effects of eating disorder psychopathology.

Participants for the larger study were 3,472 female residents of the Australian Capital Territory (ACT) region, ages 18 to 42, who engaged in exercise of some kind on average at least once per week over the past four weeks (Mond, et al., 2004b). The mean age of the sample was 29.9 years ($SD = 7.2$), and their mean BMI was 24.3 ($SD = 4.9$). The study sample was representative of the total population of females aged 18 to 42 in the ACT region with respect to marital and employment status, education, children, and first language.

Eating disorder psychopathology was assessed using the Eating Disorder Examination Questionnaire (EDE-Q; Fairburn & Beglin, 1994), while quality of life was assessed using the

Mental Component Summary Scale of the Medical Outcomes Study Short-Form (SF-12 MCS; Ware et al., 1996). Participants were asked to indicate the frequency of mild, moderate and hard exercise during the past four weeks, with response options scored on a seven point scale ranging from "0" (no exercise of this kind) to "6" (exercise of this kind every day).

Obligatory exercise behavior was assessed using the Commitment to Exercise Scale (CES), an eight-item measure developed by Davis and colleagues (Davis et al., 1993). For each item, participants were required to circle the number on a horizontal line between "0" and "10" which best indicated their level of agreement with the statement in question. Appropriate bipolar adjectives (e.g., never to always) appeared at each end of the line, with higher scores indicating more obligatory behavior.

Motivation for exercise was assessed with a single question concerning the extent to which exercise was intended to influence weight, shape or body tone. Responses were scored on a five-point scale, with a score of "1" indicating that exercise was "always or solely intended to influence weight, shape or body tone," and a score of "5" indicating that exercise was "never or not at all intended to influence weight, shape or body tone."

There were three main parts to the analysis. First, correlations were calculated between scores on each exercise variable and scores on the EDE-Q and MCS. The CES item "feeling guilty after missing an exercise session," and the extent to which exercise was intended to influence weight or shape were the exercise variables most strongly associated with higher levels of eating disorder psychopathology ($r = 0.53, p < 0.001$; $r = -0.54, p < 0.001$, respectively) and reduced quality of life ($r = -0.21, p < 0.001$; $r = 0.14, p < 0.001$, respectively).

Multiple regression analysis indicated that, after controlling for age and BMI, the occurrence of intense guilt following postponement of exercise was associated with an increase of 1.5 units on the EDE-Q Global scale ($B = 0.23, p < 0.001$), while exercising



solely for weight or shape reasons was associated with an increase of 1.1 units ($B = 0.26, p < 0.001$). The occurrence of both forms of excessive exercise was associated with an increase of 2.1 units ($B = 0.31, p < 0.001$) ($R^2 = 0.33$; $F(5,3022) = 301.80, p < 0.001$). Further analysis confirmed that excessive exercise behavior did not contribute significantly to the prediction of variance in scores on the MCS after controlling for age, BMI and scores on the EDE-Q Global scale ($R^2 = 0.001$; $F(3,2925) = 1.34, p = 0.26$).

Second, we examined levels of eating disorder psychopathology among participants identified as excessive exercisers, namely those who reported exercising solely for weight or shape reasons ($n = 322, 9.3\%$), those who reported intense guilt after missing an exercise session ($n = 136, 2.9\%$), and those who reported both of these behaviors ($n = 116, 3.3\%$). Mean scores on the EDE-Q Global scale among excessive exercisers (intense guilt: $M = 2.8$; exercising for weight/shape: $M = 2.6$) were markedly elevated compared to those of participants who did not engage in excessive exercise ($n = 2,898, 83.5\%$) ($M = 1.3$) ($F(3,3246) = 326.94, p < 0.001$). Further, among participants who engaged in both forms of excessive exercise, EDE-Q scores ($M = 3.6$) approached those of eating disorder patients receiving specialist treatment (Mond et al., 2004c).

The proportion of participants in each sub-group reporting the regular (i.e., weekly) occurrence of other eating disorder behaviors was also examined.

* The occurrence of subjective overeating, objective overeating, self-induced vomiting and laxative misuse were all far more common among participants who engaged in excessive exercise (details upon request). Again this trend was particularly marked among participants who reported both forms of excessive exercise. Close to 70% of these individuals reported one or more of these behaviors.

Finally, we examined the exercise behavior of participants with a high level of eating disorder symptoms. An operational definition of case status was employed for this purpose, namely extreme weight or shape concerns in conjunction with the regular occurrence

of any eating disorder behavior (other than "excessive exercise"). A total of 460 participants (8.8%) met these criteria. Cases were more likely than non-cases to report exercising solely for weight or shape reasons (41.9% vs. 2.4%), feeling intense guilt after missing an exercise session (33.7% vs. 5.1%) or both (19.5% vs. 1.9%).

The major findings of our earlier research were replicated. The degree to which guilt is experienced when exercise is missed and the extent to which exercise is intended to influence weight or shape were the exercise variables that best predicted higher levels of eating disorder psychopathology and in turn, reduced quality of life. Hence, the findings suggest that exercise is excessive when its postponement is accompanied by intense guilt and/or when it is undertaken solely or primarily to influence weight or shape. The finding that there was no relationship between exercise behavior of this kind and quality of life after controlling for levels of eating disorder psychopathology further suggests that in the absence of eating disorder symptoms, excessive exercise does not constitute a clinically significant syndrome.

As predicted, levels of eating disorder psychopathology among sub-groups of excessive exercisers, namely participants who reported exercising solely to influence weight or shape and those who reported intense guilt following postponement of exercise were markedly elevated relative to the total sample and approached levels of eating disorder patients presenting for specialist treatment. The significance of these findings relates not only to the close associations between certain forms of exercise behavior and eating disorder psychopathology but also the substantial proportion of women in the community reporting such behaviors. Information to this effect might be useful to include in prevention programs for the eating disorders.

Interestingly, there was only partial overlap between the two sub-groups of excessive exercisers, namely those who reported exercising solely for weight or shape reasons and those who reported extreme guilt after missing an exercise session. Hence, these sub-groups are not simply the same group measured in

two different ways. However, the combination of both forms of excessive exercise appears to indicate a particularly malignant form of exercise behavior. When this combination is observed, a clinical eating disorder should be suspected.

In sum, our findings suggest that in the context of eating disorders research, exercise is excessive when its postponement is accompanied by intense guilt or when it is undertaken solely or primarily to influence weight or shape. Operational definitions of "excessive exercise" might usefully include reference to these variables. It would also be helpful to include information of this kind in prevention programs for the eating disorders. Excessive exercise is unlikely to be associated with reduced quality of life in the absence of eating disorder symptoms. Such behavior, however, may be a useful indicator of eating disorder psychopathology. ■

References

- Ackard, D.M., Brehm, B.J. & Steffen, J.J. (2002). Exercise and eating disorders in college-aged women: Profiling excessive exercisers. *Eating Disorders: The Journal of Treatment and Prevention*, 10, 31-47.
- American Psychiatric Association. (1994). *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.). Washington, DC: Author.
- Beumont, C.C., Beumont, P.J.V. & Touyz, S.W. (1996). The problem of excessive physical activity in patients with anorexia nervosa. In W.F. Epling & W.D. Pierce (Eds.), *Activity anorexia: theory, research, and treatment*, (pp. 189-198). Hillsdale, NJ: Erlbaum.
- Byrne, S. (2002). Sport, occupation and eating disorders. In C.G. Fairburn & K.D. Brownell (Eds.), *Eating disorders and obesity: a comprehensive handbook* (2nd edition), (pp. 256-259). New York, NY: The Guilford Press.
- Davis, C., Brewer, H. & Ratusny, G. (1993). Behavioral frequency and psychological commitment: Necessary concepts in the study of excessive exercising. *Journal of Behavioral Medicine*, 16, 611-628.

Should Adolescents With Eating Disorders Be Allowed To Exercise?

Ronald S. Manley, PhD & Kit Standish, MA

Clinicians experienced with eating disorders agree that most eating disorder patients have serious issues with exercise. Typically, these take the form of over-exercise, with patients engaging in exercise behavior that is relentlessly driven in an effort to expend as many calories as possible. We see this in dramatic form with the patient who sets her alarm for 3 a.m. in order to perform hundreds of sit-ups or who continues to run for hours each day despite a stress fracture. More subtly, there is the patient who engages in nonstop pacing while on a hospital inpatient unit or incessantly jiggles her leg throughout a therapy session.

The phenomenon of over-exercise in the context of eating disorders was recognized as far back as 1874 when Sir William Gull wrote, "it seemed hardly possible that a body so wasted could undergo exercise so agreeably" (as cited in Bliss, 1982). In general, clinicians have been fearful that encouraging exercise in eating disorders patients will serve to promote the problem. On the other hand, the benefits of healthy exercise are widely acknowledged (Haskell, 1984), and there is some evidence that it may aid the eating disorders recovery process (Calogero & Pedrotty, 2003). This leads us to the question of whether eating disorders treatment programs should include opportunities for patients to exercise. This is a controversial issue (Rosenblum & Forman, 2003; Thien, et. al., 2000), which has not been resolved by professionals in the field. Our sense is that it is not common for treatment programs to allow patients to exercise, and that the question of what is best to do about exercise cannot be answered with a simple yes or no. Instead we need to be asking, what type of exercise and under what circumstances? This article will consider these issues as well as examine the risks and benefits of allowing adolescent eating disorder patients to exercise.

The Risks of Exercise

Until recently, the presumed risks associated with exercise have precluded the establishment of exercise programming in most eating disorder treatment centers. An obvious risk to any recovering patient is the potential for further weight loss or lack of weight gain when exercise is not carefully monitored (Michielli et al., 1994). In addition, patients with bulimia nervosa are susceptible to hypokalemia, which can lead to muscle cramps, weakness and cardiac rhythm disturbances (Silber & Mayer, 1995). Patients with anorexia nervosa may also experience manifestations of hypokalemia resulting in serious consequences such as inadequate cardiac output and death (Pomeroy & Mitchell, 1992).

Both anorexia nervosa and bulimia nervosa can predispose patients to dehydration, orthostatic blood pressure changes and hypotension, which can lead to serious balance problems during exercise. These problems can be counteracted by educating patients to move slowly from the prone to standing position, as well as by teaching them about the importance of remaining hydrated.

Disordered eating, amenorrhea, and osteoporosis highlight the effects and risks of excessive exercise (Otis & Goldingay, 2000). This phenomenon is known as the "female athlete triad." Female athletes with amenorrhea have decreased bone mineral density (BMD) and increased rates of stress fracture compared to female athletes with their menses. Gordon et al. (2002) studied young women with anorexia and found that "exercise, height and weight are positive predictors of BMD in anorexia nervosa, and duration of disease and amenorrhea are negative predictors." They suggested that cautiously prescribed exercise might be a factor that could augment bone density in adolescent girls.

The Benefits of Exercise

Well-planned, appropriate exercise for adolescents with eating disorders can have numerous physical and psychological benefits (Fox, 1999). One important factor is the incentive to eat and accordingly gain weight. In the Children's & Women's Health Centre of British Columbia Eating Disorders Program (CWEDP) we offer patients the opportunity to exercise in a structured group format. In general, patients report that being able to exercise helps to increase morale. Thien et al. (2000) found that patients in a supervised exercise program had increased quality of life in a variety of domains compared to a non-exercising control group. In addition, the exercise program participants gained more percent body fat compared to the control group. In another study, patients in a supervised exercise program were found to have gained twice as much weight as those patients who chose not to exercise (Calogero & Pedrotty, 2003). This result may have been due to increased comfort with gaining weight.

Iketani et al. (1999) investigated changes in regional body composition during weight gain. They reported that most of the weight gained by patients recovering from anorexia nervosa was due to fat mass, which was centralized in the trunk and pelvis rather than evenly distributed in the trunk and limbs as body weight returned to a pre-morbid level. This suggests that physical exercise, in particular strength training, may help improve body image and convey a sense of well-being during weight gain (Szabo & Green, 2002) because this kind of activity is likely to create more lean body mass than fat mass.

Within the general population the benefits of physical activity are well known (Gibbons, et al, 1999). Among many other things, exercise is known to buffer the effects of anxiety and depression, and it has been shown to positively affect how girls do in school in terms of memory, observation and problem-solving, as well as

attitude, discipline, behavior and creativity (Keays & Allison, 1995).

CWEDP aims to prepare adolescent patients to safely return to physical activity in their schools and communities. As such, our intent is to enable patients to reap the rewards of regular exercise and by doing so, reconnect to their bodies (Friedman, 2002). As a result, girls in particular begin to feel more secure with their bodies and experience them in a more functional manner, as opposed to being a difficult-to-control decoration.

What Type of Exercise?

In general, physical fitness is considered to consist of five components: cardiovascular fitness, muscular strength and endurance, flexibility, and body composition (Canadian Fitness Education Services Ltd., 1999). We feel that adolescents with eating disorders need to have psychoeducation about all of these components and direct supervised experience in the first four. We address patients' concerns regarding body composition. The rationale for teaching flexibility is that it promotes awareness of the body and encourages patients to experience bodily sensations in a mindful manner. This helps patients to reestablish a sense of connectedness with their bodies. We feel exercise abuse by definition entails a disconnection with one's self, which makes it impossible for someone to live "with" her body (Calogero & Pedrotty, 2003).

Several articles have appeared on strength training in children and adolescents (e.g. American Academy of Pediatrics, 1990; 2001), and even in the area of eating disorders (Szabo & Green, 2002; Calogero & Pedrotty, 2003). While there are concerns regarding possible growth plate damage (Beumont et al., 1994), it is generally recognized that children and adolescents can participate safely in weight training with proper supervision. At CWEDP, we feel weight training is very important with adolescent girls. Often, it is erroneously perceived as contributing to the development of "big" muscles, a myth that many of our patients subscribe to when they first enter our program.

Progress in strength training is concrete evidence to girls that they are becoming stronger, and we encourage them to focus on the wonderful things that their bodies are capable of doing, rather than concentrating only on their appearance.

What about cardiovascular training? Beumont et al. (1994) have reported that in their program "impact activities such as jogging are totally discouraged..." yet Silber and Mayer (1995) have indicated "...even some sprinting could be recommended." Cardio or aerobic training activities must be addressed during treatment because this is the main form of exercise female patients are likely to abuse. We feel it is very important to bring up issues about aerobic training early in treatment in order to challenge unhealthy attitudes and beliefs about exercise and encourage a graduated approach to undertaking any cardio activity. We have, for example, utilized aspects of a graduated walk/run program for patients who have expressed interest in learning to run a 10 kilometre race. We have also done walking, cycling, and swimming with patients, as well as various sports such as soccer.

Under What Circumstances?

The circumstances under which specific patients are allowed to participate in supervised fitness activities needs to be carefully considered. Empirically based guidelines are not available at this time. Screening is important, and patients need to be medically stable, although CWEDP has not found it helpful to have rigidly specified criteria in this regard. Clearly, patients who participate in exercise should not be experiencing orthostasis and should not have any metabolic and electrolyte disturbances. All patients need to be assessed for injury history, particularly those related to exercise or sports involvement, and their cognitive attitudes and beliefs about exercise need to be evaluated. CWEDP administers a "History of and Attitudes Towards Exercise Questionnaire" which we use as a basis for an individual clinical interview. We utilize a responsibility "level system" in the intensive treat-

ment service and patients typically join the fitness program within two to three weeks of a planned, voluntary admission. In order to continue with the program patients must be progressing in treatment, including making the required weekly weight gain as part of their broader nutritional rehabilitation and also be hydrating sufficiently. Progress in treatment is assessed through reports from members of the multidisciplinary team and includes evaluation of how everyone is doing in individual, family, and group psychotherapy.

The issue of a supervised and graduated exercise program is critical. Furthermore, from a risk management point of view, the staff involved need to have the skills to design a program that ensures patients will progress safely. This means staffing the program with individuals who have the appropriate certifications and clinical training. Patients should begin an exercise program with activities that encourage them to increasingly "sense" their bodily feelings (Calogero & Pedrotty, 2003), that is, develop greater body awareness through exercises that emphasize balance and mindfulness (Hayes, Follette, & Linehan, 2004). Patients who progress well in this area can then be assessed for their capacity to move on to more demanding cardiovascular and strength training activities (Manley, Standish, & Chemecki, 2004). This phase may include a walk/run program, swimming, and visits to a gym to help patients deal with the presence of mirrors and feelings of competition with others.

The Challenge for Programs

Beumont et al. (1994) have asked: "Is it realistic to expect our patients to be completely inactive when moderate exercise is generally accepted as necessary for a healthy lifestyle?" We would take this question a step further and ask: Is it ethical treatment to not offer a venue for learning appropriate exercise attitudes and behaviors as part of an overall eating disorders treatment program? Is there any basis to continue to restrict patients' physical activity if they are progressing well in treatment? The development

of exercise initiatives for individuals with eating disorders is a new field, and we stress that caution is a necessity. All programs will need to work on developing their own "bottom lines" and non-negotiables in the area of patient safety. However, we must recognize that the abuse of exercise is unlikely to remit spontaneously in the absence of treatment (Calogero & Pedrotty, 2003), and being driven to exercise has been reported to predict earlier relapse (Strober, Freeman, & Morrell, 1997). Consideration as to the most ethical way to address these issues is a responsibility for all programs in the service of delivering the most efficacious treatments to our young patients and their families.

Conclusions

In this paper we have reviewed what appear to be the main risks and benefits of having adolescents with eating disorders participate in a structured and graduated exercise program. We feel that the benefits exceed the risks although the latter need to be carefully considered and monitored. In our experience, patient satisfaction with a structured exercise program is high. Such a program can serve to increase motivation to modify and attenuate exercise and eating disordered behaviors, as well as encourage patients who do not typically exercise to take up a program of regular and appropriate physical activity.

Recommendations

- 1) It is important for any adolescent eating disorder program to consider the issues raised in this paper and this volume.
- 2) Adolescents in treatment for eating disorders should have the opportunity to participate in structured groups that deal explicitly with exercise issues. Such groups should have both a psychoeducational component and a practical, experiential component.
- 3) Patients need to be carefully screened before entry into structured exercise groups and throughout their participation.
- 4) Exercise programs/structured groups must be graduated, so that patients can learn body awareness and mindfulness skills before progressing

to more challenging fitness activities.
5) Exercise programs must attend to the major components of physical fitness and adhere to principles of exercise program design.

6) Exercise programs should include staff trained to help patients design a suitable, individualized exercise program during and after discharge from intensive treatment.

7) Further research is needed, especially in regard to the cardiac status of patients who participate in graded exercise activities and the psychological aspects of healthy and obligatory exercise. ■

References

- American Academy of Pediatrics. (1990) Strength training, weight and power lifting, and bodybuilding by children and adolescents. *Pediatrics*, 86, 801-803.
- American Academy of Pediatrics. (2001) Strength training by children and adolescents. *Pediatrics*, 107, 1470-1472.
- Beumont, P.J.V., Arthur, B., Russell, J.D., & Touyz, S.W. (1994) Excessive physical activity in dieting disorder patients: Proposals for a supervised exercise program. *International Journal of Eating Disorders*, 15, 21-36.
- Bliss, E.L. (1982) History of anorexia nervosa. In Gross, M. (Ed.). *Anorexia nervosa*. The Collamore Press, D.C. Heath and Company, Toronto, 5-7.
- Calogero, R. & Pedrotty, K.N. (2003) Targeting exercise abuse in women with eating disorders: A test of an innovative treatment program. *The Renfrew Perspective*, Summer, 12-14.
- Canadian Fitness Education Services Ltd. (1999) *The fitness knowledge classroom program, student resource manual*. Summerland, British Columbia.
- Fox, K. (1999) The influence of physical activity on mental well-being. *Public Health and Nutrition*, 2(3A), 411-418.
- Friedman, S. S. (2002). *Body thieves: Help girls reclaim their natural bodies and become physically active*. Salal Books, Vancouver, B.C.
- Gibbons, S., Higgon, J.W., Gaul, C. & Van Gyn (1999) Listening to female students in high school physical education. *Avante*, 5 (2) 1-20.
- Gordon, C.M., Goodman, E., Emans, S.J., Grace, E., Becker, K.A., Rosen, C.J., Gundberg, C.M., & LeBoff, M.S. (2002) Physiologic regulators of bone turnover in adolescents with anorexia nervosa. *Journal of Adolescent Health*, 30, 92.
- Haskell, W.L. (1984) Overview: Health benefits of exercise. In Matarazzo, J.D., Weiss, S.M., Herd, J.A., Miller, N.E., and Weiss, S.M. (Eds.). *Behavioral health: A handbook of health enhancement and disease prevention*. Chapter 28, 409-423. John Wiley & Sons, N.Y.
- Hayes, S.C., Follette, V.M., & Linehan, M.M. (Eds.). (2004) *Mindfulness and acceptance: Expanding the cognitive-behavioral tradition*. The Guilford Press, N.Y.
- Iketani, T, Kiriike, N., Nagata, T., & Yamagami, S. (1999) Altered body fat distribution after recovery of weight in patients with anorexia nervosa. *International Journal of Eating Disorders*, 26(3), 275-282.
- Keays, J.J. & Allison, K.R. (1995) The effects of regular moderate to vigorous physical activity on student outcomes: A review. *Canadian Journal of Public Health*, 86, 62-65.
- Manley, R.S., Standish, K., & Chernecki, L. (2004) The treatment of exercise abuse in adolescents with eating disorders through psychoeducation and graduated physical fitness programming. Workshop presented at the Academy for Eating Disorders 2004 International Conference on Eating Disorders, "Finding Common Ground: Integrating Clinical Practice & Research", April 29-May 2, Orlando, Florida.

Michielli, D.W., Dunbar, C.C. & Kalinski, M.J. (1994) Is exercise indicated for the patient diagnosed as anorectic? *Journal of Psychosocial Nursing and Mental Health Services*, 32, 33-39.

Otis, C. & Goldingay, R. (2000) *The athletic woman's survival guide: how to win the battle against eating disorders, amenorrhea and osteoporosis*. Human Kinetics: Champaign, IL.

Pomeroy, C. & Mitchell, J.E. (1992) Medical issues in the eating disorders. In Brownell, K.D., Rodin, J. & Wilmore, J.H. (Eds.). *Eating, body weight and performance in athletes: Disorders in modern society*, Chapter 14, 202-221, Lea & Febiger, Philadelphia.

Rosenblum, J. & Forman, S.F. (2003) Management of anorexia nervosa with exercise and selective serotonergic reuptake inhibitors. *Current Opinion in Pediatrics*, 15, 346-347.

Silber, T.J. & Mayer, N.S. (1995) Eating disorders. In Goldberg, B. (Ed.). *Sports and exercise for children with chronic health conditions*, Chapter 22, 323-334, Human Kinetics.

Strober, M., Freeman, R., & Morrell, W. (1997) The long-term course of severe anorexia nervosa in adolescents: Survival analysis of recovery, relapse, and outcome predictors over 10-15 years in a prospective study. *International Journal of Eating Disorders*, 22, 339-360.

Szabo, C.P. & Green, K. (2002) Hospitalized anorexics and resistance training: Impact on body composition and psychological well being. A preliminary study. *Eating and Weight Disorders*, 7, 293-297.

Thien, V., Thomas, A., Markin, D. & Birmingham, C.L. (2000) Pilot study of a graded exercise program for the treatment of anorexia nervosa. *International Journal of Eating Disorders*, 28, 101-106.

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Ron Manley, PhD

Let's Get Physical: Challenging Exercise Abuse in Two Case Studies

Kelly N. Pedrotty, MS & Rachel M. Calogero, MA

"Exercise is a dirty word... Every time I hear it, I wash my mouth out with chocolate."

- Lucy (Peanuts, Charles Schulz)

Exercise does not have to be a dirty word, but it can have detrimental effects when misused and abused, particularly for individuals with eating disorders. Exercise abuse has been described as a prominent and prevalent feature in women with eating disorders since the early 1970's (Bruch, 1973; Davis et al., 1997; Solenberger, 2001; Strober, 1997). However, despite the significance of this problem, exercise abuse has not

been systematically addressed in eating disorder treatment programs (Beumont et al., 1994). Part of the difficulty in treating exercise abuse involves a lack of clarity as to how it should be defined. Based on research and clinical observations, we consider exercise abuse to include any of the following patterns of behavior: exercising solely for weight loss; self-punishment; inappropriate regulation or avoidance of affect; acquiring "permission" to eat; identity maintenance; all-or-nothing exercise patterns; in obsessive, rigid patterns; to avoid social interactions; when sick, in pain, injured, physically

fatigued, malnourished/undernourished, and/or dehydrated. The exercise program at The Renfrew Center of Philadelphia (RCP) was created specifically to target and treat this broad conceptualization of exercise abuse in women undergoing residential treatment for eating disorders (Calogero & Pedrotty, 2004).

The women who participate in the program are provided with the opportunity to experience, practice, and process healthy exercise. The women progress through three different levels of the program with the guidance and supervision of Exercise Coordinators. Within a supervised group format that

meets 3-4 times per week, individuals are challenged to sense, support, and strengthen themselves through a variety of exercise-related activities. Each group is approximately 1 hour long and consists of a check-in and warm-up, exercise activities, cool-down, and process. A key focus of the program is to distinguish between what the women experience as fun and what the eating disorder "likes" or "tells" them to do. The women are consistently reminded about the fundamental principles for exercising. First, exercise should rejuvenate the body, not exhaust or deplete it. Second, exercise should enhance mind-body connection and coordination, not confuse or dysregulate the mind-body relationship. Third, exercise should alleviate mental and physical stress, not contribute to and exacerbate stress. And finally, exercise should provide pleasure and be fun, not provide pain and be dreaded.

The overarching goals of the exercise program are specified below:

- Redefine what is exercise.
- Provide practical, reality-based experiences with exercise in a safe, supportive environment.
- Enhance awareness of and sensitivity to the body's physical needs.
- Increase understanding of the anatomy of the body and what it needs to perform.
- Demonstrate exercise variation, moderation, functionality, and proper form.
- Reduce irrational beliefs and misinformation concerning health and exercise.
- Decrease anxiety and irrational fear over "feeling fat."
- Promote stress reduction.
- Encourage and support a kind, caring relationship with the body.

The Three Levels of the Program

The primary focus of *Level A*, or *Sensing the Self*, is connecting to the feelings and sensations experienced during exercise. Women are encouraged to listen to their body's signals telling them when to stop or come down from a position, focus on breathing, and work on not comparing themselves to others during exercise.

The activity portion of the group is designed to be enjoyable and moderately challenging. Exercise activities include partner work, yoga, Pilates, core strengthening, and recreational games. Talking during exercise is strongly encouraged to help create a comfortable, less competitive atmosphere. However, conversations may also serve to distract the women from how they feel exercising in the moment or contain triggering content. This is particularly true for women who are new to the program and begin to exercise in the groups the way they exercised before entering treatment. The Exercise Coordinators pay particular attention to the quality and frequency of conversations during the groups and identify when patients are engaging in distracting, disconnecting, or triggering behaviors. While explaining and demonstrating an activity, Exercise Coordinators stress the importance of proper form, the purpose of the movement, and rest.

In *Level B*, or *Supporting the Self*, the primary focus is utilizing exercise to support the body by achieving psychological and physical balance with exercise. Women are encouraged to practice making healthy exercise choices based on the new experiences and new information provided by the groups. Building on *Level A*, women are given more independence by not telling them when to stop doing an exercise, unless someone appears to be struggling, or by asking them what they would like to do in the group. Exercise activities include strength training circuits, walking/slow jogs, or outdoors games such as whiffle ball. The intensity level should be increased in *Level B*. Appropriate exercise equipment can be used in this group, such as dumbbells, medicine balls, jump ropes, and exercise balls. A demonstration should be given for every exercise and emphasis should be placed on proper form. Participants should always be corrected if they are doing an exercise incorrectly. If an Exercise Coordinator believes someone is dissociating or struggling with sensing her body, the Coordinator should bring this to the individual's attention.

The primary focus of *Level C* is to

help the women design ways to safely explore their exercise limitations. Women are encouraged to be more autonomous in selecting their exercise activities and to challenge their tendency to identify themselves solely in terms of exercise. In *Level C* group, participants may design a circuit for themselves, including exercises they have found enjoyable in previous groups, or those they have found triggering, which they want to challenge. Consequently, women practice certain exercises without going to excess, and then they have the opportunity to discuss how this feels during the process portion of the group. Sometimes participants find that these activities no longer trigger an urge to abuse exercise, and at other times, it becomes clear they need to avoid them after discharge. For women who have abused running, for example, the group might consist of doing a practice run. The Coordinator should help the patient to maintain a reasonable, enjoyable pace, and to experience it as such. This is critical to enable women to return home with a positive, healthy attitude towards their bodies and their exercise activities.

Case Illustrations: Ryan, Juliana and Beginning the Program

When Ryan* entered RCP she was 23 years old and had been struggling with an eating disorder for 6 years. She began to exercise in high school three or four hours a day, often in secret. She first began psychotherapy for her eating disorder one month before she was scheduled to enter college. As a result, she did not begin school until the spring semester. Upon starting school, she rapidly slipped back into disordered eating and unhealthy exercise habits. At that time, Ryan began to binge and purge, and she gained back a significant amount of the weight she had lost in high school. She was extremely uncomfortable and disgusted with her body. At this point she stopped exercising because she said, "It disgusted me to feel my thighs rub together. I am so out of shape that there is no point in exercising."

Ryan was diagnosed with bulimia and major depressive disorder when

she began treatment at RCP. Although she was eligible to attend the exercise groups after her first week of treatment, she did not participate for 3 weeks. Then Ryan's therapist encouraged her to try the program because it might help with her depression, anxiety, and body image.

Consequently, Ryan had a consultation with one of the Exercise Coordinators, Melissa, to discuss her exercise issues. She denied having any problems, based on her belief that since she was "fat" and "disgusting," she obviously didn't exercise and therefore couldn't have any exercise issues.

Melissa asked about Ryan's history with exercise and her past and present enjoyment of it. These are key questions that help to gauge the quality of a patient's relationship with exercise and her body. Ryan reported that she was not currently exercising because she was uncomfortable moving her body, and she felt guilty and ashamed of being "out of shape." Melissa validated Ryan's discomfort, but pointed out that avoiding exercise due to shame and negative body image does not constitute an exercise issue. The idea that balanced physical activity is a normal and necessary experience for mental and physical health is consistently emphasized to all the women. Ryan was encouraged to try the program for just one week, and she agreed. Due to Ryan's strong resistance Melissa and the rest of the treatment team made an effort to be as supportive as possible as she approached her first contact with the program. Without support, a number of women who agree to attend do not actually make it to the group because of intense body shame and a fear of what they will look like compared to others.

Juliana*, another participant in the exercise program, was 20 when she was admitted to RCP. She had been struggling with an eating disorder for 3 years. As a freshman in high school, she played varsity lacrosse, and at age 14, she was identified as a "star" player. Juliana played in a very competitive athletic environment throughout high school. In addition, her father was a former athlete, and he

placed additional pressure on her to excel in her sport. In her sophomore year, Juliana recalled learning that losing weight would increase her performance on the field. She asked her coach about it who agreed that her performance would be enhanced if she lost a few pounds. Juliana began cutting calories, and then entire meals, out of her diet, while also engaging in excessive physical training. As Juliana observed the changes in her body, and she received approval from both her father and coach, she felt increased pressure to be better and continued to eat even less and exercise more. Somehow, Juliana made it through her high school career without being hospitalized.

Upon entering college, Juliana learned that she would not be a starting player on the lacrosse team. She felt terrible about this and no longer wanted to play. The absence of her sport created a great void in her life, and Juliana said she did not feel that she could be as good a person without her sport. Further, she developed an increasingly intense fear of gaining weight and losing her "fitness" and "shape" because she was not playing lacrosse. She decided to begin running to maintain her fitness level and to fill the void. Juliana's running took over her life. She ran early in the morning, late at night, between classes, when she was sick, exhausted, and even in pain. She developed a stress fracture, but she continued to run even against the recommendation of her doctor.

Upon admission to RCP, Juliana was diagnosed with anorexia and generalized anxiety disorder. She had also developed osteopenia and amenorrhea. During Juliana's first week in treatment, staff found her power walking around the grounds and doing crunches in her room. When confronted about her behavior, she said she was just getting fresh air and needed to move. Since the staff member was aware of Juliana's previous history with exercise, she was referred to the Exercise Coordinators for a consult.

Juliana was anxious about attending the exercise program. She quizzed Laura, one of the Exercise

Coordinators, about when she would be able to begin and why she could not start right away. At RCP women can enter the program only after they have been medically cleared and only after completing a week of treatment. This protocol was reviewed with Juliana. Laura pointed out that a woman could not be symptomatic if she wanted to enter the exercise program groups. Therefore, Juliana must be able to follow her meal plans and not exercise outside any of the treatment groups. Juliana complained that it was killing her to just sit around and not exercise. Laura explained that when exercise controls a person, it becomes a destructive, rather than constructive, part of her life. In order to begin addressing both exercise and non-exercise issues, it is usually necessary to just sit with the anxiety and fear that is aroused when adhering to the program. When women use exercise to get rid of frightening, negative feelings it never helps them to get closer to identifying and understanding their relationship with exercise. Laura stressed to Juliana that the exercise program was not implemented for the sake of exercising itself, but to redefine and challenge their previous beliefs and behaviors associated with exercise. Juliana left the consult with the clear message that she could not exercise on her own and begin the program.

Nevertheless, that same week Juliana was seen walking the grounds alone, and she was placed on an exercise program restriction for 1 week. Her entry into the program was delayed. Juliana then adhered to the exercise program protocol and finally was admitted into the program in her third week of treatment.

Sensing the Self: The First Group

When Ryan and Juliana checked into their first group, they brought a signed consent form, which they gave to Melissa or Laura, the Exercise Coordinators who were facilitating the group. At the onset of the group, Melissa asked a woman at Level B to explain Level A philosophy to all the new patients. Then general expectations for the group were explained, and Laura led the participants on

walk around the grounds (25 minutes). Everyone was encouraged to pick a walking partner, which was meant to help women stay present and keep the activity social.

Juliana paired up with another patient, and they walked to the front of the group. Juliana and her partner began to share exercise stories, comparing how much and how hard they each exercised prior to treatment. Melissa redirected them to talk about something other than their exercise, food, and eating during this portion of the group. Juliana and her partner needed to be told several times not to walk ahead of Laura.

Ryan paired up with one of her friends in the program who was at level B. Ryan and her partner were towards the back of the group. Although Ryan was talking with her partner, she appeared uncomfortable. At the end of the walk, all of the group members had some water to rehydrate. Then the group returned to the exercise room to engage in some yoga and stretching activities. Relaxing music was played during this portion of the group.

The group closed with an opportunity to process. Laura encouraged members to share thoughts and feelings about their experience. A few of the women stated that it felt good to move their bodies. Juliana said she was feeling the urge to do more, as though she didn't feel this was enough or even really exercise. Laura challenged Juliana by asking her what exercise was to her. Juliana paused for a moment and then replied that exercise was sweating, painful, lasted at least an hour, involved a lot of cardio, focused on "problem areas," and burned a lot of calories. Laura questioned how Juliana came to define exercise in this way. Other women chimed in at this point and offered various sources that provided information about exercise for them including magazines, coaches, parents, and TV shows. Laura and Melissa encouraged the women to begin questioning these sources and why this narrow definition of exercise should be accepted as a fundamental truth. Throughout the groups the women are asked why their experience with exercise has to

be negative, and why they cannot redefine it for themselves.

Ryan had agreed with Juliana as her eyes welled up with tears. When some of the group members urged her to talk about her tears, Ryan described her disgust about feeling out of breath and sweaty after just walking because she used to be able to run 10 miles. Ryan's walking partner validated her feelings by sharing her first experience in the group. She explained to Ryan that sensing her body was the most difficult thing she had done since starting treatment. She had even vowed never to come back to the group because she was so embarrassed and frustrated with herself after that first group. Another woman in the group said that she was beginning to identify what she really enjoyed about exercise and how it could keep her healthy, not sick. Another woman commented that she had actually gotten stronger since she started the exercise program. At first she could only do a few modified push-ups, but now she could do full push-ups with correct form. Before beginning the program, the woman said that she never tried push-ups or any upper body exercises because they didn't burn enough calories. Melissa supported everyone who had risked disclosing her feelings, and she reiterated how important variety is for maintaining a healthy relationship with exercise.

Laura asked Ryan if there was anything about the group that she enjoyed. Ryan admitted she liked the yoga even though it was difficult, but she did not feel like it was exercise. She added that she had often avoided doing different types of physical activity because she wasn't good at them. Juliana confessed that the yoga was difficult for her because it required her to be so still. She was actually starting to feel different parts of her body, including her stomach, when she was holding certain positions. Melissa pointed out how Juliana had been trying to disconnect from how her body actually felt, just as she used to do when she exercised while injured, or nutritionally deprived. Then Juliana wondered if Laura had noticed her struggling during the

group because Laura had reminded the group to come down from their positions when they felt their form begin to falter or their minds wander. Juliana said she felt like it was ok to come down from the position because she watched as a couple of group members came down at the same time. Melissa reminded the group that a main purpose of the exercise experience in the Renfrew program was to maintain a focus on how *their* bodies *feel*, as opposed to how they look or compare to others.

Often, women with eating disorders don't identify the extent to which they compare themselves to others as a treatment issue. Consequently, when the issue is raised in the group process, it can become a hot topic for discussion. Ryan, Juliana and several other members of the group acknowledged how much the issue of bodily comparison was "an elephant in the room." Laura reinforced this observation and mentioned that the elephant begins to shrink when it is not ignored or avoided. Most people in the group nodded and several said it would be more comfortable returning to the group for the next session. The process ended as the women identified ways to channel their exercise urges in healthier directions, and they committed to further discussing their group experiences with each other.

Sensing the Self: The Second Group

Thursday morning at 7 am was the time for the second Level A group of the week. Most of the women walked in sleepily for the group, except Juliana who was the first at the door. Kara, Juliana's walking partner, was not in the group, and she did not continue her participation in the exercise program. She was overheard saying that the group was a waste of time because it was not real exercise. Ryan arrived late to the group. Melissa began by reviewing the purpose of the group and the philosophy of the program. The warm up consisted of a combination of cardio activities (e.g., kickboxing, calisthenics, and dancing). The women were encouraged to focus on how their muscles were feeling and the rhythm of their breathing, not calories.

Melissa slowed the pace down after about 15 minutes, and led the group in some partner work.

Partner work is valuable because it requires group members to work together and trust their partners. Partner squats involve holding each other at the forearms and simultaneously squatting down together, and then holding the position for several breaths. The movement is slow and controlled. This exercise creates intense anxiety for some women, due in part, to their fear that will pull their partner to the ground because they are heavier. It is also due, however, to the nature of the movement itself. In order to squat together, each person must let go and let the other person hold them up. It is this joint effort that allows them to move together without falling over. Ryan did not want to perform this exercise at first. She finally agreed to do it with Laura, but she had a hard time letting go and letting the movement flow. She kept holding herself up because she was afraid Laura would not be strong enough to hold her. Laura suggested that Ryan sit against the wall while she did the squat. This helped Ryan become more comfortable with the movement. On the last squat Ryan was able to trust herself and Laura enough to do the exercise properly. She couldn't believe how good it felt.

Juliana did not appear to have any difficulty with the squat movement, and she was doing many repetitions. She repeatedly asked Laura if she was doing it right because she wasn't feeling anything. This type of comment is not uncommon. Laura used this opportunity to ask Juliana what she thought she should be feeling. Juliana claimed that when her muscles were engaged she could feel them burn. Laura stressed that the muscles are engaged, even when they are not burning. She encouraged Juliana to try a wall sit and to keep her hand on her quadriceps to feel the muscle for herself. This suggestion is used cautiously because group members are often very uncomfortable touching their bodies in any real or positive way, or being touched by others. Juliana tried this and agreed that her muscle was engaged, but she

insisted she could not feel it working. Laura corrected her by saying that Juliana could not feel it *hurting*, and that there was a difference. She explained that many women condition themselves to the pain of exercise, and thus normalize that feeling. Now, when doing effective, but less excessive physical activity, it does not feel like "real" exercise to them, in the sense of burning, aching, sweating or draining.

A second partner exercise that is often utilized is the ball slap. This emphasizes upper body strength and endurance. One person firmly holds a large exercise ball in front of her. The second person tries to hit the ball out of her partner's hands by slapping the top, bottom, and sides of the ball at varying speeds and intensities. The women laugh and play around with this exercise, and report enjoying it very much. They are often surprised by how difficult it is to maintain their position and hold the ball. Melissa remarked how important it is to find fun ways to build a strong upper body, and to not be afraid to develop it, since a stronger upper body is involved in so many tasks of daily living. Both Juliana and Ryan seemed more relaxed and playful during this exercise.

The group tried one other partner exercise, kneeling on the ball. In modeling the exercise, Melissa stressed that the exercise was challenging and it was necessary to be patient. Laura overheard Ryan say that she can't kneel on the ball because she would pop it. In response Laura described the first time she tried kneeling on the ball and how quickly she fell off. Everyone in the gym was looking at her, and she couldn't stop laughing at herself. Ryan smiled and attempted to kneel on the ball. With the assistance of Laura, she was able to kneel on the ball for 5 seconds. After she was finished, it was obvious that she was proud of herself. Juliana appeared focused on the task, and was able to maintain her balance for short periods of time. She appeared frustrated when she started to waiver and finally lost her balance.

After the partner work, group members did some core work and

stretching. Core work helps women to strengthen their power center. Melissa reminded everyone that the core not only refers to the abdominals, but also the obliques, lower back, and hip flexors. Straight crunches are rarely done, but depending on the group, proper form for such an exercise is modeled so the women learn to protect their lower backs. For this group, Melissa showed them the boat pose, which requires balance and isometric core work to maintain the position. Juliana liked the exercise, but she could not hold the position for very long. She appeared frustrated by this experience and stopped trying after a short time. Ryan seemed uncomfortable because she kept looking around at how the other women were doing. She was not able to hold the pose for very long. Melissa went through the pose again but with several modifications for people at different levels. Melissa emphasized that the point was to be slow and controlled with a focus on breathing and maintaining a solid core. The exercise portion of the group ended with a game of musical pillows, which made everyone laugh.

During the process several women reported that this was the first time that they had not thought about food and calories since they started treatment. Juliana stated that she enjoyed the group and could not remember the last time she laughed when exercising, but still, it only felt like a warm-up. One woman claimed that she was feeling more energized. Laura asked the group if they felt more or less energized when they exercised before coming into treatment. Juliana said that sometimes she felt energized when she began to exercise, but she would end up barely able to walk up the stairs. She added that part of her wanted to sleep in that morning, but the voice in her head telling her that she would regret not going was stronger, and so she came. Laura challenged Juliana to sleep in the next time they had a morning group. This experience can be useful to process with the women because they see for themselves that missing one day of "scheduled" exercise does not lead to drastic changes in their bodies despite

their belief to the contrary. Other women added that they never really felt better after exercise, but they had to do it anyway. Laura asked them what it was about the group today that made them feel good. Several of the women emphasized the playfulness of the activities, and that laughing made them forget about food, weight, and numbers, at least temporarily. One woman reported the activities required her to focus on her form and how her body felt, which was different from just zoning out and doing the same thing over and over. Melissa reminded the group that exercise should feel good every time. She encouraged them to try and remember this feeling so they can use it as a guide when they are back in the real world. Ryan did not say anything in the process. Laura called Ryan over after the group and asked her how she was doing. Ryan said that she still felt embarrassed and ashamed of her body, but that this was the first time in a long time that she felt strong. She also said that she really wanted to have exercise back in her life, but she realized she had some serious issues that needed to be worked on.

Supporting the Self: The First Group

Both Ryan and Juliana were moved to Level B the following week. Although they were both struggling with different issues, they were moved up because staff felt they were open to feedback and willing to work on their struggles.

After the check-in and introduction, the group began with a brief process to see how the women were feeling. This is often useful at this level because the group can be geared toward what is most relevant that day. Juliana wanted to go for a walk, but she also expressed being aware that she just wanted more cardio. She reported that she had exercise urges over the weekend, but she had not acted on them. The group praised her for not colluding with the eating disorder. Ryan reported feeling excited about the group today and wanted to try something new. She confessed that she was focusing on her stomach, but she was trying to

think of it as working the core. Both women commented that they were sore even though they did not feel like they had done that much work in the last group. Laura explained that slow, focused, purposeful movements are very effective in strengthening the body. Long periods of cardiovascular work often ends up depleting the body, causing joint pain and injury, and muscle atrophy because the women are not properly caring for their bodies. This is not healthy exercise.

Laura began the exercise portion of the group with a circuit. Various exercises that involved weights, exercise balls, medicine balls, jump rope, and recess-like activities were set up around the room. Group members picked a station to begin and completed the circuit 2-3 times. Several minutes were spent at each station and the Exercise Coordinators told them when to move to the next station. One station involved doing push-ups on a medicine ball. This is quite challenging, especially when trying to maintain proper form. Whenever someone is breaking their form (e.g. lower back sinking when doing push-ups), they would be corrected as soon as possible. Form is often sacrificed in order to do more of an exercise and this is consistently challenged. Consequently, participants are reminded that they can, and should, stop and rest when they feel the need. At several points during the circuit, Juliana stopped the exercise on her own, instead of trying to continue until Laura or Melissa told her to stop.

Ryan appeared to be having fun with the different exercises. She liked the jump rope station because it reminded her of recess on the school playground when she was younger. She had forgotten what physical activity used to feel like when she used to engage in it for the mere pleasure of it. She commented that she was not focusing on how her body looked, but how good she felt just being active.

The group closed with the process. The women began talking about what they feared would happen with their exercise when they returned home. Ryan admitted that she was scared to

join a gym. Laura suggested that Ryan could join a yoga studio and take just one class per week. Ryan liked this idea because she had found true enjoyment in practicing yoga. Laura stressed to all the women at this point that the quality of the exercise, not just *doing* it, should be the focus when thinking about how to integrate it back into their lives in a healthy way. She also suggested that the group members remember which aspects of their exercise experience they found most helpful. Juliana commented that walking with a buddy helped keep her social and present, and that she felt revived after the walk, and less like she needed to do more. She admitted that she still felt the urge to run, but she was also beginning to understand that she could be stronger by not running. Laura attempted to probe a little more into why Juliana was so attached to running. After a few moments, Juliana said that she was journaling about her urges to run, and she felt like it was both a literal and symbolic way of running away from the difficulties in her life. When she felt bad, she ran it off. By completely depleting herself, she had no energy to focus on or even remember whatever pain she had been feeling, and the cycle just repeated itself. This was quite insightful of Juliana, and Laura praised her courage for sharing this with the group. Often a disclosure such as this helps other members of the group understand themselves better, because many of them have developed similar relationships with exercise.

Ryan added to the discussion by saying that she had begun to realize that her expectations for herself and her performance were unrealistic. Laura asked her what made them unrealistic. Ryan clarified by saying for a long time her reasons for exercising actually had prevented her from doing any exercise. She associated exercise with thinness, burning calories, long workouts, running, pain, and fatigue. At some point, she stopped exercising not just because of body shame, but because she was so drained she could not sustain the workouts. This all-or-nothing pattern of exercising is often overlooked and

can be incredibly debilitating on a physical and psychological level. Ryan said she was beginning to view exercise differently, and she felt real relief when she thought about it as being fun and revitalizing. Several other group members admitted they felt the same way and wanted to let go of how they used to exercise. The group's public acknowledgement that exercise should not be solely about weight loss, draining, or painful, but rather enjoyable, rejuvenating, and balanced, is tremendously powerful. It reduces the competitiveness and comparison considerably, and fosters individual acceptance of new beliefs. As Ryan and Juliana continued through the program, they continued to identify maladaptive attitudes and beliefs and worked toward changing them. Both women came to feel that exercise could, in fact, be done in a different, healthier way and still they could feel good, actually, even better.

Conclusion

An exercise plan should be developed for each patient before she leaves intensive treatment. This aftercare plan should include those activities the patient has enjoyed and explicitly not include any activities that might trigger exercise abuse. Nothing is framed as off limits forever, but the goal must be to create a slow transition back to regular, healthy exercise through discovering pleasurable activities. Women are encouraged to follow the specific plans for their workouts, and to continually check in with themselves regarding how strong they feel. If any particular exercise begins to consume their thoughts, that is a sign to slow down and relax. If anxiety about missing a day of exercise begins to grow, this is a sign it is not time to do more. On the contrary, it will be important to sit with the anxiety, as opposed to exercising through it. Each exercise plan will vary considerably depending on the history and current status of the individual. Exercise plans are always dependent on following an appropriate meal plan and not expressing any eating disordered symptoms.

There are two fundamental aspects of the relationship between Exercise

Coordinators and patients that contribute to real, positive change in the lives of the patients. First, the Exercise Coordinator has to bring an authentic self to the group and act as a true role model. If Laura or Melissa, for example, was uncomfortable with her body, or exercised for reasons that were incompatible with the philosophy of the program, or secretly believed that exercise was really about weight loss, then the patients in the program pick up these messages and do not trust the group experience. Instead, they are likely to use the group just to exercise, and disregard the role of the Coordinator in facilitating a different experience with exercise. Trust is earned, in part, by the Exercise Coordinators being comfortable with sharing personal exercise experiences and their current physical activities. Group members often ask Exercise Coordinators what they do about their own exercise. Honest answers increase the patients' responsiveness to the group and its message. Second, there needs to be a consistent message conveyed to the women. Many of the participants in the program are very resistant to challenging and changing their exercise behaviors, and any uncertainty or inconsistency in the messages sent by the Exercise Coordinators will feed into their belief that no one really practices what they preach. Consistently, Coordinators must not collude with an eating disorder. This happens when patients are allowed to do more than has been recommended, focus only on physical "problem areas", and aren't stopped when they compare, compete or push themselves too far. The multitude of media, peers, and family that transmit inaccurate and dangerous information about "healthy" exercise is difficult to challenge, but it is possible if the message is clear, consistent, and delivered by an authentic source.

**Real names have been changed for confidentiality purposes. ■*

References

- Beumont, P. J. V., Arthur, B., Russell, J. D., & Touyz, S. W. (1994). Excessive physical activity in dieting disorder patients: Proposals for a supervised exercise program. *International Journal of Eating Disorders, 15*, 21-36.
- Bruch, H. (1973). *Eating disorders: Obesity, anorexia nervosa, and the person within*. New York: Basic Books.
- Calogero, R.M. & Pedrotty, K.N. (2004). The practice and process of healthy exercise: An investigation of the treatment of exercise abuse in women with eating disorders. *Eating Disorders, 12*, 273-291.
- Davis, C., Katzman, D. K., Kaptein, S., Kirsh, C., Brewer, H., Kalmbach, K., Olmstead, M.P., Woodside, D. B., & Kaplan, A. S. (1997). The prevalence of high-level exercise in the eating disorders: Etiological implications. *Comprehensive Psychiatry, 38*, 321-326.
- Solenberger, S. E. (2001). Exercise and eating disorders: A 3-year inpatient hospital record analysis. *Eating Behaviors, 2*, 151-168.
- Strober, M., Freeman, R., & Morrell, W. (1997). The long-term course of severe anorexia nervosa in adolescents: Survival analysis of recovery, relapse, and outcome predictors over 10-15 years in a prospective study. *International Journal of Eating Disorders, 22*, 339-360.



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Seeking Balance for the Student-Athlete

Kimberly Wright Cover, RD, LDN

Contemporary American culture may predispose the student athlete to disordered eating and exercise, due to an overemphasis on athletic success and an infatuation with an unnaturally thin or over-muscled physique. Nutrition counseling for the student athlete can combine the various aspects of the mind-body connection to promote an active, developmentally appropriate environment for the child and adolescent athletic population.

Differentiating a healthy, active lifestyle from that of disordered eating or compulsive exercising can be thought of as both an art and a science. Knowledge of the spectrum and its extremities can guide a professional through the discernment process.

Optimal eating involves intuitive eating, and one could argue that optimal athletic performance includes internal or intuitive exercise. External exercise can be thought of as activity that is driven beyond one's training needs. Examples would include: a person who exercises merely for weight loss, the individual who uses exercise to cope in a way that interferes with basic physiological functioning, or when irrational thoughts of nutrition and exercise dominate the cognitive thought process. On the flip side, an athlete who engages in sound self-care and participates in a top-notch training program can reach her/his athletic potential without compromising overall health or wellness. The "wellness wheel" is a tool I

often use with my clients as a depiction of overall health, or the mind-body connection. The wheel itself is broken into slices that represent the physical as well as social, mental, psychological, emotional and spiritual domains. Identification of positive attributes for each slice of the wellness wheel form the foundation of internal or intuitive exercise and illustrates the point that exercise itself constitutes only one part of physical well-being.

The positive aspects of physical activity are well documented from a medical and psychological standpoint. In younger athletes active play can develop hand-eye coordination. A conditioned, active body has less risk for medical ailments including diabetes, obesity and cardiovascular disease. Several studies have shown exercise can sustain or increase bone mass and that athletes have higher bone density than non-athletes (Turner & Robling, 2003). With proper body care, including exercise, one may be able to stave off the effects of aging to a certain degree, as certain forms of martial arts have been known to improve balance, agility and strength. Physical activity can also contribute to the development of social functioning and skills, and contribute to psychological growth. For example, exercising or training with a group of individuals, or in a team context, can both teach and provide social support. A team atmosphere can also create a sense of belonging and safety, which

in turn can build self-esteem and self-confidence.

There are many components of a healthy exercise environment that can promote the medical and psychological benefits of exercise. At a minimum, every adult who works with child or adolescent athletes should possess a basic knowledge of the biopsychosocial developmental milestones for each respective age group. It is just as important to set appropriate limits and boundaries regarding the quantity and quality of exercise. This helps athletes to feel safe and supported. Everyone who exercises should be taught that the primary focus of all activity is enjoyment and involvement. With more competitive athletes, coaches should focus on strength, power, performance and endurance, as opposed to making comments about weight or size. It is best to teach internal exercise concepts via an awareness of kinesthetic sensation, rather than emphasizing that "no pain" is somehow equivalent to "no gain". A child or adolescent should be taught to listen to his or her body instead of ignoring it. All athletes, and especially younger ones, should be encouraged to communicate the experience of pain or fatigue, and made to feel as if they are being heard. The more a young voice is heard, the more conducive it is to the establishment of self-care and self-love.

The main issue for a child or adolescent athlete is to ensure normal devel-

opment. When a fitness environment endorses external exercise, this can lead to exercise dependence and/or an eating disorder. From a nutritional standpoint, adolescent athletes who are about to have a pubertal growth spurt require close attention, since they are most at risk for the development of an eating disorder. Sometimes, growth patterns begin to deviate from normal as a result of a frivolous athletic or fitness agenda, and overweight adolescents entering puberty frequently begin to zealously overemphasize diet or exercise to avoid getting even larger. Occasionally, overweight children start to restrict as early as eight or nine years of age, resulting in stunted growth (Pugliese et al. 1983). In order to ensure normal development and puberty it is important to have an advanced working knowledge of athletic activities, as well as an understanding of the nutritional and caloric requirements for age appropriate growth. The young athlete must be taught that eating needs to come before training and exercise, rather than thinking that eating can only take place once training has occurred, as if exercise serves to rationalize or "give permission" for eating (Pedrotty & Calgero, 2003).

A person who has an exercise or eating disorder experiences a disruption in every wellness domain. Coaches, educators, parents and healthcare providers have a responsibility to promote all the positive attributes of an active life, but they also need to be aware of, and look out for signs of potential problems. When a student athlete appears to be abusing exercise it is crucial to take immediate action.

The child or adolescent who is struggling with exercise or eating problems will illustrate cardinal signs. Parents and healthcare professionals should be on guard when an "athletic" girl or boy seems to fall off the growth curve for age. Similarly, the young athlete who abruptly starts to eat fewer foods or becomes a vegetarian to enhance his or her health should cue parents and professionals to have an honest dialogue with the child. Anyone who makes the deci-

sion to significantly alter their diet should be taught how to take in enough nourishment to support the chosen exercise without interfering with normal growth. For some athletes this can mean more than 4,000 calories, an exhausting task that often requires quite a bit of familial support. Parents should be wary of the young athlete who becomes so consumed with nutrition and exercise that it begins to preoccupy the majority of his/her time, resulting in few opportunities to relax and greater isolation from friends and family. Another warning sign for coaches, educators and healthcare professionals is the parent who becomes overly involved in the child's or adolescent's sports or fitness activity. Beumont et al. (1994) make this important point: "Perhaps most pernicious is the influence exerted by those parents who get vicarious gratification from their children's sporting or dancing achievements, often as a means of compensation for their own mediocrity. The child is enticed into meeting his or her parents' needs, perhaps in order to keep together a dysfunctional marriage by giving the parents a shared goal and sense of achievement." Many nutrition counseling clients are the "victims" of parents and/or grandparents who have struggled or continue to struggle with disordered eating and exercise behaviors, making it difficult to practice healthy parenting.

Troubled athletes can use a myriad of sports activities to express their difficulties. They may be involved with an aesthetic sport, such as gymnastics, body building, dance or figure skating, a resistance sport such as weight lifting, a sport that promotes rigid, compulsive training or even interactive games, such as DDR (Dance Dance Revolution), which is played on Play Station, X-Box or at an arcade.

In my own experience, cross-country has been a very high risk sport. Cross country runners present for counseling with multiple signs of excessive exercise. These include marked anxiety when unable to exercise, chronic fatigue, a rigid compulsiveness regarding training routines,

social isolation, a focus on running to gain self respect or parental approval, an overemphasis on meeting training goals regardless of physiological needs, a refusal to take rest days and a lack of internal concern regarding pain while training. Almost always there is trouble when an athlete reports he or she no longer enjoys exercise, but is continually sacrificing all other sources of recreation and pleasure (Beumont et al. 1994). Recently, a fourteen year old female runner told me she was glad to be running forty-five to fifty miles per week once more because it meant she *was* in pain again! The obvious cathartic aspect of her pain was an enormous red flag to her treatment team.

Regarding treatment it is extremely important to compose a multidisciplinary team whose members specialize in exercise and eating disorders. These should include a pediatrician or adolescent physician, a pediatric nutritionist, an individual therapist, a psychiatrist and a family therapist. Parents can also play a significant role in treatment. Parents who are empowered to set and maintain healthy limits and boundaries regarding eating and exercise can have a vital impact on the recovery process. During treatment a halt to all exercise is indicated only in the most extreme cases. An exercise component should be prescribed after team discussion and it should be holistic. Exercise must be contingent on appropriate self-care, including resumption of normal eating, maintenance of ideal weight for normal physiological functioning and a step wise, graduated program that gradually builds in intensity. For any healthcare professional working with an athletic client, care should be taken to encourage flexibility, self-care, self-respect, adequate nutrition and at least one rest day in the training program per week. The treatment team must do whatever is necessary to keep the young athlete medically safe, while promoting normal emotional, social, physical and spiritual development. ■

References

Beumont, P., Arthur, B., & Russell, J. (1994). Excessive Physical Activity in Dieting Disorder Patients: Proposals for a Supervised Exercise Program. *International Journal of Eating Disorders*, 15(1), 21-36.

Pedrotty, K., & Calogero, R. (2003). Targeting exercise abuse in women with eating disorders: A test of an innovative treatment program. *The Renfrew Perspective: A Professional Journal of The Renfrew Center Foundation*, Summer, 12-14.

Pugliese, M. (1983). Fear of obesity. A cause of short stature and delayed

puberty. *New England Journal of Medicine*, 309, 513-518.

Turner, C. & Robling, A. (2003). Designing exercise regimens to increase bone strength. *Exercise and Sports Sciences Reviews*, 31(1), 45-50.



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Please note that the correct title of Margo Maine and Joe Kelly's article featured in the Summer 2004 Perspective is Eating Disorders, Body Image Despair and the Shape of Women's Lives.