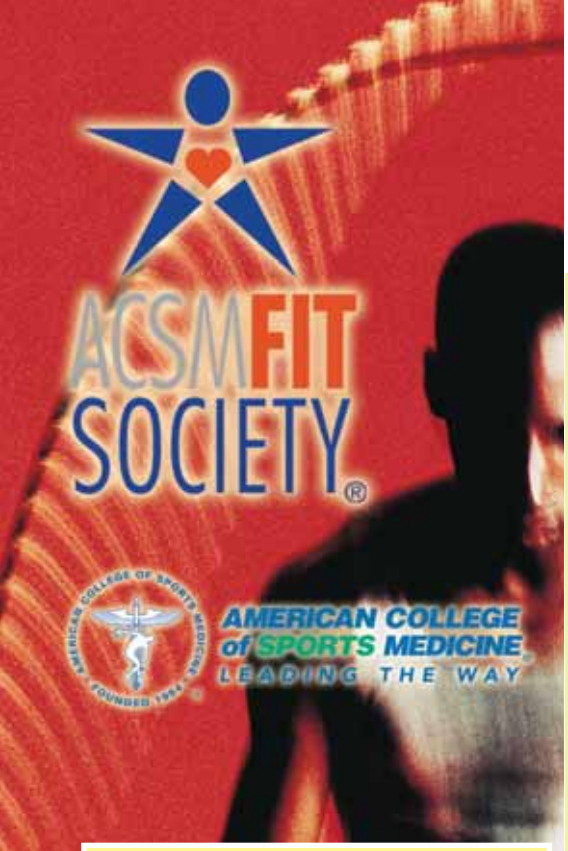
Summer 2010

AMERICAN COLLEGE OF SPORTS MEDICINE

ACSM FIT SOCIETY® PAGE



INSIDE THIS ISSUE:

Letter from the Editor

by Dixie Thompson, Ph.D., FACSM

Welcome to the Summer 2010 edition of *ACSM Fit Society® Page*! When discussing fitness, exercise and weight are often mentioned in the same breath. And despite all the methods and pills and diets out there, questions remain on the most effective ways to maintain or lose weight and how weight relates to health. This issue will, we hope, clear up some of those ambiguities with accurate information from our experts. Keep in mind, though, that physical activity is good for the body and the mind regardless of any number on the weight scale. Every person of every size needs exercise to be healthy. So keep moving, no matter what!

Dixie L. Thompson, Ph.D., FACSM
Editor, ACSM Fit Society® Page
E-mail: dixielee@utk.edu

To subscribe to the *ACSM Fit Society® Page*, please send an e-mail to publicinfo@acsm.org.

THEME: WEIGHT LOSS & WEIGHT MANAGEMENT

Weight Control and Maintenance as You Age

by Arlene Dalcin, R.D., L.D.N., and Meghan Oefinger, B.S., H.F.S.

Overweight and obesity affects more than 66 percent of the adult population and is associated with a variety of chronic diseases such as hypertension, dyslipidemia and type 2 diabetes.

Numerous studies have shown that among the overweight and obese, a weight loss as small as 3 percent can reduce a person's risk for cardiovascular disease by improving cholesterol, glucose tolerance and blood pressure profiles. Moreover, energy restriction in conjunction with physical activity will result in greater weight loss than diet restriction alone. As a cautionary note, those who recently lost weight may find it difficult to recover from even small (1-2 kg) weight regains. This level of maintenance requires close attention to caloric balance. Specifically, one must balance the energy (calories) taken in from foods and beverages with the energy the body expends through physical activity and other bodily processes. Difficulty maintaining this balance varies at different stages of our lives.

Daily caloric requirements fluctuate tremendously from individual to individual, based on a person's resting metabolic rate. Based on available scientific literature, ACSM recommends adults carefully monitor energy intake and participate in at least 150-250 minutes/week of moderate-intensity physical activity to prevent significant weight gain and to reduce chronic disease risk factors. While these lifestyle recommendations may appear deceptively simple, across the lifespan individuals experience different challenges with maintaining a healthy weight.

20s and 30s:

At this stage in life, it is important to establish and maintain healthy habits. This should include healthy eating patterns such as the DASH diet (http://dashdiet.org) and avoidance of excess calories from sugared beverages and alcohol. Starting a career and family creates new demands on time for exercise and cooking. Learning quick food preparation methods can prevent relying on high-calorie convenience and fast foods. You also need to learn how to prioritize aerobic exercise and strength training along with your other new responsibilities.

40s and 50s:

People may start to notice some of the physiological changes corresponding with age. The body is no longer in growth and development mode. There may be decreases in cardiovascular function and muscle strength. A program that includes both resistance and aerobic training is essential to maintaining lean body mass. The body may need longer to recover from vigorous bouts of physical activity, and to avoid increased chances for injury, it is best to avoid the weekend warrior approach to exercise.

Weight Control (continued from page 1)

This is a good time to watch calories more closely. Reducing food portions and maintaining a consistent eating pattern throughout the week can help keep calories in check. Eating lots of fruits and vegetables can provide the body with adequate fiber for fullness and proper digestive function.

60s and beyond:

Focus starts to shift away from wanting to run a five-minute mile toward maintaining functional capacity, independence, and the ability to engage in high quality of life activities such as playing with grandchildren. When chronic conditions prevent doing the recommended 150 minutes of moderate-intensity aerobic activity a week, the key is to remain as physically active as abilities and conditions allow. Choose activities that help maintain balance, flexibility and strength.

Social isolation from leaving the work force and/or the loss of a spouse can interfere with healthy eating behaviors. Learning to cook for one and having a limited budget may be deterrents to food preparation. Finding ways to share meals with others can prevent the reliance on prepackaged meals, which can be very calorie-dense and not very nutritious.

Managing the quality and quantity of foods consumed and staying active throughout the life cycle are essential to healthy weight maintenance. Routine self-weighing will allow for a quick reversal of weight gain. Rather than following extreme exercise or diet regimens, regularly adjusting calories consumed with energy expended will allow for a more balanced approach to weight management as you age.

AMERICAN COLLEGE OF SPORTS MEDICINE
ACSM FIT SOCIETY® PAGE

Q&A

by Anthony Luke, M.D., FACSM

Q: I read about special weight-loss energy drinks that are on the market. How do they work and do they work?

A: With the expansion of energy drinks and the need for weight loss options, several "thermogenic" drinks have become available. The marketing suggests that these drinks can coax your body to burn fat and calories through inducing a "shivering response." There are several stimulants contained in these drinks, such as caffeine, methylphenylethylene, yohimbine, tea extracts and many others. Researchers at the University of Oklahoma suggest that one's resting energy expenditure does increase with use of these drinks for seven days – but probably not enough to lead to significant weight loss. Previous studies have shown similar increases in resting metabolic rate with supplements including caffeine and other stimulants; however, the effectiveness and safety long-term are unclear issues. It should be noted that the studies done are often funded by the companies making the supplement. There is not much evidence that these supplements lead to performance improvements in athletes. These drinks are sold as supplements and contain many different active ingredients that may be prohibited in by sport governing bodies. Manufacturers commonly recommend that the drinks be used with caution under 18 years of age. Weight loss is still promoted by professionals through a natural combination of exercise and healthy nutrition.

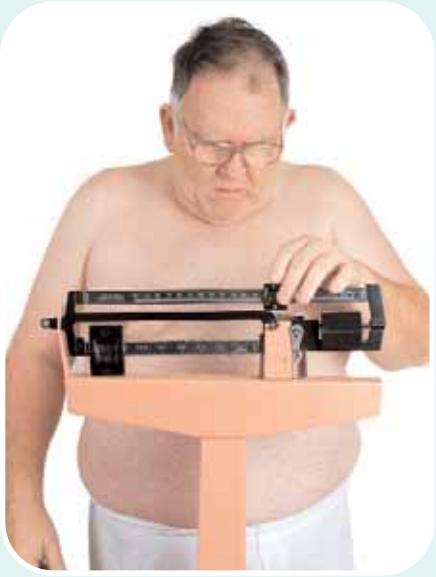
Q: My doctor tells me I need knee surgery but that I may have trouble after surgery unless I lose weight. She recommends that I have weight-loss surgery first. Is this a good idea?

A: In some cases, the success of surgery may be affected by your ability to recover quickly during the rehabilitation period. If it is medically necessary to reduce weight before performing surgery and an individual can't lose weight conservatively, bariatric surgery is sometimes recommended. Common surgical procedures for weight loss include gastric bypass surgery and banding surgery. Gastric bypass surgery involves reducing the size of the stomach and removing part of the intestines so that patients feel full after eating and lose their appetite. Banding surgery, which can be done using a laparascope or surgical tool without needing a large surgical incision, involves placing a band of tissue in an area that, again, makes people feel full and lowers appetite. Banding procedures can result in typical weight loss of approximately 40 percent in one year, rising to 50–60 percent (provided there is no complication) in two to three years. Gastric bypass patients lose around 60–70 percent excess weight in one year, and typically lose 55–65 percent long term. Consultation with a surgeon experienced with these procedures can advise if bariatric surgery is recommended for you. Evidence suggests that centers that perform a high volume of bariatric surgical procedures have less complications, though with any surgery there are always possible risks that should be discussed with the surgeon.

THEME: WEIGHT LOSS & WEIGHT MANAGEMENT

Measuring and Evaluating Body Composition

by Tiffany Esmat, Ph.D.



What does the number on the weight scale really mean? In regard to overall health, weight is not nearly as important as the composition of that weight. More important, rather than tracking weight, we should be aware of our body composition. Stepping on a weight scale simply tells us the combined weight of all our body's tissues. That weight may fluctuate throughout the day depending on the time of day, hydration status or what we are wearing. In contrast, body composition reveals the relative proportions of fat and lean mass in the body. Fat mass consist of two types of fat: essential and nonessential fat. The second component of body composition, lean mass, refers to bones, tissues, organs and muscle.

Essential fat is the minimal amount of fat necessary for normal physiological function. For males and females, essential fat values are typically considered to be 3% and 12%, respectively. Fat above the minimal amount is referred to as nonessential fat. It is generally accepted that a range of 10-22 percent for men and 20-32 percent for women is considered satisfactory for good health.

A body composition within the recommended range suggests you have less risk of developing obesity-related diseases such as diabetes, high blood pressure, and even some cancers. In addition, although we face risks when our body composition is too high, we face another set of risks when our body composition is too low. When we drop below the minimal recommended levels of essential fat, we negatively affect the delivery of vitamins to the organs, the ability of the reproductive system to function, and overall well-being.

How can you determine your body composition? Body composition can be estimated through various techniques from field-based tests requiring only a calculator or tape measure to advanced tests conducted in a clinical or laboratory setting performed by a trained technician. Common methods of exploring the levels of adiposity include body mass index (BMI), waist circumference, skinfolds, bioelectrical impedance analysis, and the BOD POD.

Two techniques that do not assess body fat percentage but that can be useful are BMI and waist circumference. BMI is used to assess weight relative to height and is calculated by dividing weight in kilograms (kg) by height in meters squared (kg m-2). A BMI of 25 or higher is classified as overweight while a BMI of 30 or greater is classified as obese. While BMI may give an individual a general idea of increased risk for obesity-related health problems, it fails to distinguish the composition of that weight. The measurement of waist circumference provides insight to increased risk of obesity-related illness due to the location of excess fat. Waist circumference can be measured by placing a cloth tape measure around the smallest part of the waist while standing relaxed. Waist circumference should be at or below 40 inches for men and 35 inches for women. Android obesity, classified as excess weight located in the trunk area, places an individual at greater risk for high blood pressure, metabolic syndrome, type 2 diabetes, high cholesterol, coronary artery disease and premature death.

Body fat percentage can be estimated via many techniques, some simple while others are more complex. This article describes three common techniques you may encounter: skinfold measurements, BOD POD measurements, and bioelectrical impedance analysis (BIA). Percent body fat can be estimated by using calipers to measure skinfold thickness at various body sites on the body. The sum of the skinfolds taken at various sites can then be converted to calculate percent body fat. This technique is fairly quick and can be accurate. However, it is important to find a trained technician to make the measurements. If the measurements are not taken correctly or an incorrect formula is applied, erroneous values can result. A fairly new and "high-tech" approach to assessment of body composition is the BOD POD. These fiberglass units are designed to measure body weight and body volume (i.e., the body's total size). Because fat is less dense than lean tissue, the weight-to-volume ratio can be used to predict percent body fat. Another technique that is frequently used in fitness facilities is BIA. The principle behind this technique is that fat contains little water; most of the body's water is in the lean compartment. Therefore, when an electrical current encounters fat, there is more resistance. By measuring how easily currents move through the body, body fat can be estimated.

Calculation of percent body fat through any of these techniques is best done by a trained health and fitness professional. These individuals will not only be able to make accurate assessments but will also be able to explain the results to you. Check with your local fitness facility to see what methods of assessment are available to you.

What can you do with your results? The results from your body composition assessment can be used to identify risks, personalize your exercise program or evaluate how well your current exercise and nutrition program is working for you. If you find that you are within a healthy range, continue your exercise and dietary behaviors. If you find that your body composition has room for improvement, take a closer look at what you can do to make positive changes to your current level of activity and diet. Use more than just the scale to assess body composition. Remember, it is possible for the number on the scale to remain constant but experience changes in fat mass and lean mass. Changes in body composition take time and a dedicated effort, but the positive impact on health and quality of life is worth the effort. Participation in regular exercise and physical activity along with a healthy balanced diet are the key to reaching and maintaining a healthy body composition.

THEME: WEIGHT LOSS & WEIGHT MANAGEMENT

Eating Disorders in Men and Women

by Melissa N. Madeson, Ph.D.

For a large majority of people in the United States, achieving optimal health means losing a few pounds and becoming more physically active. However, 50,000 people in America die every year taking this advice to the extreme. Dieting is the most common behavior that leads to developing a full-blown eating disorder, which affects one in five women and 24 million Americans overall. While the national waistline is getting larger, our culture continues to foster an obsession with thinness and maintaining a "perfect" body, plastering the message on television, Internet videos, advertisements and magazine covers.

People with eating disorders such as anorexia nervosa and bulimia nervosa are often stigmatized and placed into stereotyped categories. While it is true that the majority (90 percent) of these eating disorders occur in (mostly Caucasian) females between the ages of 12 and 25, 10-15 percent of people suffering from them are male. Due to the stigma placed on having this label, that figure is probably much higher but not reported. Further, what most people do not understand is that there are fine lines between disordered patterns of eating and having a diagnosed eating disorder. All behavior related to eating disorders, whether it is diagnosed or not, usually begins as a psychological/emotional issue and manifests itself as a physical problem.

Anorexia nervosa is characterized by an intense fear of gaining weight, a distorted body image, a low body weight and, in women, the absence of three or more menstrual periods in a row. Anorexics tend to be severely underweight and malnourished, which can lead to long-lasting physical issues such as osteoporosis and problems with the heart and brain. Individuals with anorexia may also suffer from psychological issues like depression, anxiety, obsessive behavior, and/or substance abuse. Signs of anorexia include not eating or eating very little, weighing food and an obsession with counting calories, eating only certain foods and moving food around the plate (playing with food) rather than eating it.

Individuals with bulimia nervosa also fear gaining weight, want desperately to lose weight and are very unhappy with their body size and shape. However, unlike anorexics, they can have a normal BMI (normal body size or possibly even overweight). Bulimics eat large quantities of food in a short about of time (binging) and then take drastic measures to get rid of the food (purging). This may be done by throwing up, taking laxatives or diuretics and/or excessive exercise. Signs of bulimia are swollen cheeks or jaws, calluses or scrapes on the knuckles (from inducing vomit), broken blood vessels in the eyes, and teeth that look clear. The bulimic may also go to the bathroom immediately after each meal (to eliminate food) and, like anorexics, may also suffer from depression, anxiety, and/or substance abuse.

Causes for both of these disorders may be related to cultural pressure to be thin, but life changes and stressful events are often triggers as individuals try to cope with emotional issues by gaining control of at least one part of their life (weight or food). Biology and family are also thought to play a role in developing these disorders. Hormones, chemicals in the brain, genetics and the importance that family places on looks, developing bodies, diet and exercise can contribute to many forms of disordered eating.

Based on the obesity epidemic in America, it is not surprising that binge-eating disorder is now the most common eating disorder in the nation, affecting three percent of U.S. adults. Like bulimics, people with this disorder eat large amounts of food in short periods of time. However, binge eaters do not purge and therefore tend to be overweight or obese which can lead to other health problems such as type 2 diabetes, high blood pressure, elevated cholesterol, gallbladder and heart disease and many types of cancer. People with binge-eating disorder eat when they are not hungry or when they are full. Eating is usually done to fill an emotional void or deal with a psychological stressor. They typically eat alone and feel disgusted and depressed for overeating, creating a vicious cycle. Unlike the other eating disorders, binge eating is most commonly seen in an older population (46 to 55 years old), affects all ethnic groups, and is seen almost equally among men and women.

Whether you or someone you know has an eating disorder, or some form of disordered eating related to the symptoms described above, it is important to know that you are not alone and help is readily available. Cognitive behavioral therapy, nutritional counseling, and drug therapy have all been effective methods treating eating disorders. Understanding that these are complex emotional, physical and psychological issues is the first step to overcoming disordered patterns of eating. As a nation, we need to overcome the stigma and stereotypes associated with eating disorders, stop obsessing with body image, dieting and thinness and focus on a well-rounded concept of health. Further, it is critical to understand the devastating health consequences that eating disorders can lead to for both men and women, and encourage people to seek education and treatment. More information on these eating disorders and treatment is available at www.nationaleatingdisorders.org and www.aedweb.org.

Dieting Gone Awry: When Food is Foe

by Nancy Clark, M.S., R.D., FACSM

I should be pencil-thin for all the exercise I do.

I don't keep cookies in the house. If they are there, I eat way too many of them.

I'm afraid if I start eating, I won't stop…

Too many athletes are at war with food and their bodies. In their quest to attain the "perfect body" – that is leaner, lighter and presumably faster and better – they have developed atypical eating patterns that are far from peaceful. As one client reported, "I'm trying so hard to lose five pounds but I'm getting nowhere. In fact, I'm even gaining weight. I'm 'good' at breakfast and lunch, but after I get home from the gym at night, I end up devouring everything in sight. On weekends, my eating is even crazier." Sound familiar?

The problems with dieting

The first three letters of diet are D-I-E. Dieting conjures up feelings of deprivation and denial. Dieting is unsustainable, no fun. Few dieters win the war against hunger. Even 50 percent of people who had gastric bypass surgery regained weight within two years.

Why does this happen? Because the body perceives a diet as a famine and strives to protect itself from starving to death by signaling hunger. Hunger leads to the overwhelming urge to binge-eat. Research with healthy, normal-weight men who cut their food intake in half (similar to what many dieting athletes try to do) reports most regained the weight they'd lost—plus 10 percent more—within three months. Another study with middle-school youngsters who were followed through high school indicates all efforts to lose weight resulted in disordered eating patterns five years later—but not leaner bodies. Dieting tends to create more long-term problems than it solves.

How to find peace with food

Let's take a look at some ways to transform blown diets into appropriate fueling (while you chip away at losing undesired body fat). A first step is to remember food is fuel, not the fattening enemy. Food not only enhances athletic performance but also prevents hunger and out-of-control food binges.

As a human, you are supposed to eat, even if you are overfat. If you restrict your food intake, you also restrict protein, carbs, fats, vitamins, minerals and other bio-active food compounds that contribute to good health and high energy. Bad idea. Your body needs those nutrients.

Calories: Current research suggests a sustainable way to lose undesired body fat is to knock off about 200 calories a day, such as 10 ounces of wine, 20 tortilla chips or one roll with butter. By eliminating the calories at the end of the day, you can lose weight when you are sleeping (as opposed to when you are trying to train and function during the day).

Carbs: Bread, bagel, pasta, rice, crackers—all those dreaded carbs—are not fattening. Your body does not readily convert carbs into body fat. Rather, your body preferentially burns carbs to fuel your workouts. If your muscles become carb (glycogen) depleted, you will feel an incessant, niggling hunger that can lead to non-stop snacking. You may believe you are eating because you are just bored, but your muscles are telling you they want carbs to recover and refuel.

Do not try to "stay away from carbs." Egg whites for breakfast, salad for lunch, and fish/broccoli for dinner leave muscles unfueled and your body unable to train and compete at its best. Oatmeal, whole grain breads, brown rice, and sweet potatoes are just a few wholesome suggestions. Enjoy them as the foundation of each sports meal.

Protein: Dieters need to consume protein to help protect their muscles. That is, when you restrict calories, you burn not just body fat but also muscle tissue. Protein is satiating; it helps keep you feeling fed and can curb your appetite. Dieters who eat protein (eggs) at breakfast stay full longer than those who eat just carbs (bagel, fruit, granola bar). By eating a enjoying a satiating breakfast, you'll be less likely to crave sweets and succumb to doughnuts or candy bars.

Fat: Fat (preferably healthful fat such as in nuts, olive oil, salmon, peanut butter) is an essential part of a sports diet. It's required to absorb vitamins A, D, E and K. A little fat gets stored right within the muscle cells and gets used during long workouts. It enhances endurance. Runners who switched from a low (16 percent) fat diet to a moderate (30 percent) fat diet improved their performance by 14 percent in one study. That's a lot! And they did not gain body fat.

The mantra "Eat fat, get fat" is false. Overeat calories and you will get fat, particularly if you overeat calories from fatty foods. Excess dietary fat easily converts into body fat.

Vitamins: The less fuel you ingest, the fewer vitamins you consume. Taking a vitamin pill might replace some of those losses, but a pill does not provide other bio-active compounds in foods that protect your good health. Strive to enjoy colorful vegetables and/or fruits at each meal.

By satisfying your hunger with wholesome sports foods at daytime meals, you will ruin your appetite for the evening "junk food" that contributes to fat gain. You will feel better during the day, have better workouts, be in a better mood—and be able to knock off 200+ calories of evening snacks so you can lose weight easily when you are sleeping. Experiment for just one day with front-loading your calories; the benefits will be obvious!

Easier said than done?

While food-binges can simply be the backlash from unrealistic efforts to lose a few pounds, they sometimes also serve the important job of distracting people from thinking about painful relationships and feelings of inadequacy. That is, if you incessantly think about food, you are not thinking about how sad, depressed or lonely you might be feeling. You'd rather focus on losing five pounds, believing weight loss will make you happy. Doubtful.

Instead of trying to find happiness from a number on the scale, the better bet is to appreciate your body for all the good it does. Do not compare your body to others. To compare is to despair. Practice mindful eating and ask yourself before you eat, "Does my body need this fuel?" Eat mechanically, on a time schedule, with even-sized meals that truly satisfy you, so you don't just stop eating because you think you should.

Rather than struggle with food and weight issues on your own, consult with a sports dietitian who can help you create a positive food plan. Life is too short to spend it fighting with food.

Q&A (continued from page 2)

Q: As a family physician, I find it difficult to discuss obesity with my patients. What should I be telling my patients?

A: An interesting survey published in the Journal of the American Board of Family Medicine in 2009 examined weight-loss recommendations of family physicians and internists. Physicians were asked what they would recommend to a hypothetical patient and rated the extent to which they recommended various weight control strategies to obese patients. They also rated the extent to which clinical experience, personal experience and medical literature were important in formulating their recommendations. Common strategies recommended by the responding physicians were increasing physical activity, reducing consumption of fast foods, reducing portion sizes, and reducing soda consumption. Physicians were less likely to recommended regular self-weighing, recording food intake, and decreasing television viewing. Meal replacements and weight-loss medications were rarely advised. It was interesting physicians reported that, from their perspective, a 21.5 percent weight loss would be felt to be an "acceptable" outcome for a hypothetical obese patient and a 10.6 percent weight loss would be "disappointing." Promoting less physical inactivity, such as TV-watching time, can give people the time to needed to increase physical activity. Weight loss is challenging for individuals and health professionals and it is valuable to work on the problem with strong willpower and sound medical advice.