ACSM's
# Certified News

ACSM CERTIFIED

JANUARY/FEBRUARY/MARCH 2009 VOLUME 19, ISSUE 1

News You Need

## A Year of Progress

### Committees, titles, textbooks and partners

*by: Richard Cotton*

How time flies! I have already been with ACSM for a year and a half, yet it seems like only yesterday that I walked in the front door as a new employee. I am delighted to report the accomplishments of the past year.

First, here is a quick overview of our committee structure. The Committee on Certification and Registry Boards (CCRB) is made up of eight very dedicated volunteer committees, for a total of nearly 50 individual volunteers. Four of the eight committees oversee our four certifications. The other committees are continuing professional education, international, publications and ethics.

The exam development team is another working group that facilitates ACSM certification. They are a group of hard-working volunteers that actually write the examination questions. Technically, they are not a CCRB committee, because best practices in certification dictate maintaining a separation between exam development and those who are involved in the education of potential certified professionals.

Reviewing our committee structure is to give you an idea of where all of the accomplishments of the past year have evolved, for it is the ACSM member volunteer base that makes up the CCRB and our Exam Development Team. It is the quality of these established professionals that give ACSM certifications a distinct strategic advantage over other fitness industry certifications; now, on to accomplishments of the past year.

The CCRB Publications sub-committee oversaw the process for new editions of our certification titles. These include *ACSM's*

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# Bariatrics: An Overview

*By Paul Sorace, M.S., RCEP, CSCS,*D and Tom LaFontaine, Ph.D., FACSM, RCEP, CSCS, NSCA-CPT*

Bariatrics is the branch of medicine that deals with the causes, prevention, and treatment (e.g., lifestyle interventions, pharmaceuticals, and surgeries) of obesity. One of the treatments for obesity is bariatric surgery. The two most common bariatric surgeries performed are Roux-en-Y Gastric Bypass and Laparoscopic Adjustable Gastric Band (Lap Band).[5] Other bariatric surgeries include Biliopancreatic Diversion, Sleeve Gastrectomy with Duodenal Switch, and Vertical Banded Gastroplasty. These surgeries are either predominately malabsorptive procedures, restrictive procedures, or both. The number of people undergoing bariatric surgery continues to increase. From 1998 to 2004, there was an approximate 800% increase in bariatric surgeries performed.[7]

Bariatric surgery can be effective for treating obesity and obesity-related diseases. There is evidence to indicate that long-term total mortality from diabetes, heart disease, and cancer after gastric bypass surgery is substantially reduced.[1] Obese individuals with known obstructive sleep apnea who underwent gastric bypass surgery often improve to the point where they no longer use their continuous positive airway pressure (CPAP) or bi-level positive airway pressure (BiPAP).[4] It should be noted that this is the result of significant weight loss, by any method. Lap band surgery also has been shown to improve cardiac risk factors including impaired fasting glucose, insulin resistance, type 2 diabetes, hypertension, and dyslipidemia,[2] all components of the metabolic syndrome.

Regular exercise and physical activity remain essential for long-term weight loss and prevention of weight re-gain. It is important for post-bariatric patients to realize that the surgery per se is not a cure. Following surgery, they can still gain weight, be at risk for cardiovascular disease(s), and live an unhealthy lifestyle. Research indicates that noncompliance with behavioral modifications following bariatric surgery is common, with lack of exercise being among the most common areas of noncompliance.[3]

Exercise, physical activity, and other lifestyle interventions accomplish a number of things that bariatric surgery does not. Some of these include increased physical fitness and metabolic rate, and developing generally healthy habits and wellness. While weight loss from bariatric surgery often gives the patient a renewed sense of confidence and self-perception, exercise can amplify these benefits as well as increase their ability to perform acivities of daily living and even participate in athletic events.

This issue of *ACSM's Certified News* focuses on bariatrics and the role exercise professionals play in helping post-bariatric patients make their surgery a permanent success. Dr. LaFontaine and I authored a feature article entitled, *Lifestyle Intervention: A Priority for Long-Term Success in Bariatric Patients*, in the November/December 2007 issue of *ACSM's Health & Fitness Journal®*.[6] This article has been re-published in this issue and discusses: the basics of Roux-en-Y Gastric Bypass and Laparoscopic Adjustable Gastric Band (Lap Band), risks and complications with bariatric surgery, and most importantly, lifestyle interventions that are essential for long-term weight loss.

**An Overview... Continued on Page 2**

**An Overview... Continued from Page 1**

Susan Kraus, MS, RD addresses the nutritional needs of post-bariatric patients in her article, *Nutritional Care of the Bariatric Patient*. Susan discusses overall healthy eating, the progressive stages of the diet of a post-bariatric patient, the need for supplementation to avoid nutritional deficiencies, the importance of protein, and proper eating for long-term weight loss and prevention of weight regain. Lastly, Dierdra Bycura, MPE, ACSM HFS, CPT wrote a very good article entitled, *Psychological and Behavioral Implications for Exercise in Persons Undergoing Bariatric Surgery*. Dierdra discusses social and cultural issues, psychosocial needs, and our role as exercise professionals in helping post-bariatric surgery patients. Happy reading!

## About the Authors

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(Only the first three references are included here, for a full list of references, e-mail certification@acsm.org)

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**Implications Self Test... from Page 10**

## Self Test 3: Bycura – Psychological Implications, pp. 9 – 10

**Provide answers on form below.**

1. Average loss of excess weight as a result of bariatric surgery is cited as:
   A. 37% B. 45% C. 66% D. 72%
2. With regard to the health of those persons seeking treatment for obesity, the National Institutes of health recommend which of the following?
   A. Pre and Post surgical statement of physical health for provider information
   B. Pre and Post surgical psychological and behavioral identification and treatment
   C. Identification of psychological health for provider information
   D. Identification of behavioral readiness prior to surgery
3. Which of the following psychological factors do post bariatric surgery patients report?
   A. Increase in self-esteem, decrease in depression
   B. Increase in rigidity, decrease in depression
   C. Decrease in anxiety, increase in rigidity
   D. Decrease in self-confidence, increase in self-esteem
4. Which of the following are contributors to the recent increase in bariatric surgeries?
   A. Media influence and the increase in bariatric clinics in the U. S.
   B. Media influence and the rise in obesity in the U. S.
   C. The rise in obesity in the U. S. and public acceptance of surgical treatment
   D. The rise in obesity in the U. S. and the classification of obesity as an illness
5. Which of the following has the greatest impact on surgical success?
   A. A comprehensive education program
   B. A personal support system
   C. The adoption and maintenance of lifestyle changes
   D. The implementation of a structured exercise regimen

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*ACSM's Certified News* (ISSN# 1056-9677) is published quarterly by the American College of Sports Medicine Committee on Certification and Registry Boards (CCRB). All issues are published electronically and in print.



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ISSN # 1056-9677

## Lifestyle Intervention:

# A Priority for Long-Term Success in Bariatric Patients

*By Paul Sorace, M.S., RCEP, CSCS & Tom LaFontaine, Ph.D., FACSM, RCEP, CSCS*

### OVERVIEW OF OBESITY & ASSOCIATED RISK

In the past two decades, overweight and obesity have become health risks of epidemic proportions in the United States. Body mass index (BMI) is the most commonly used measure for classification of overweight and obesity, with obesity starting at a BMI of > 30 kg/m$^2$.[1] Recent data from the National Health and Nutrition Examination Survey (1994-2004 NHANES) reported that 34.1 percent of US adults are overweight and 32.2 percent are obese.[2] The prevalence of extreme obesity ( > 40 BMI) increased from 2.9 percent in 1988-1994 NHANES to 4.8 percent (1 in 20) in 2003-2004 NHANES.[2] The data suggested that extreme obesity was increasing at a faster rate in the 20 to 39 year old age group (from 4.5 percent in 1999 to 5.4 percent in 2003).[2] In 2003, the prevalence of extreme obesity was 6.9 percent among all women and 14.5 percent among African-American women.[2] Among youth, the prevalence of overweight (above the 95th percentile for age and gender on growth charts) was 17 percent and another approximately 15 percent were at risk for overweight (between the 85th and 95th percentile).[2]

The numerous chronic diseases and disorders associated with obesity are well-known. Also, there are negative social and psychological effects often associated with obesity. Studies have suggested that between 112,000 and 365,000 premature deaths in the United States are due to obesity.[3, 4] Extreme obesity has been estimated to shorten lifespan by 5 to 20 years).[5, 6] These disturbing statistics have led some authors to speculate that increases in life expectancy will soon cease because of the rising prevalence of obesity and that the present generation of youth and young adults may not live as long as their parents.[7]

It is important to note that lifestyle intervention alone (e.g., moderate exercise [30 mins., 5 d/wk], low fat/high fiber diet, and 5 to 10 percent weight loss) has profound effects on overweight (BMI 25.0- 29.9 kg/m$^2$), Stages 1 & 2 obesity (BMI 30.0- 39.9 kg/m$^2$), and associated risk factors and co-morbidities.[1, 8, 9] The side bar below summarizes the health benefits associated with a 10 percent weight loss among overweight and obese persons.[9] These effects can normalize metabolism and, in many cases, eliminate the need for bariatric surgery. The primary lifestyle goal should always be prevention of obesity and extreme obesity. However, for several reasons that are beyond the scope of this article, many obese persons are electing to undergo bariatric surgery. Between 1998 and 2002, there was a 450 percent increase in the number of bariatric operations performed in the United States.[10] This article will address the role of lifestyle intervention in the pre- and post-surgical management of persons undergoing bariatric surgery.

### BARTIATRIC SURGERIES

Bariatrics is the branch of medicine that deals with the causes, prevention, and treatment of obesity. Bariatric surgery is surgery on the stomach and/or intestines to help persons with extreme obesity lose weight. These procedures are performed either by making a large incision in the abdomen, known as an open procedure, or by making several small incisions and using small instruments with a camera to guide the surgery, known as laparoscopic surgery. While there are a number of different types of weight loss surgeries, this article focuses on gastric bypass and lap band procedures.

***Roux-en-Y Gastric Bypass*** (see Figure 1). A small upper stomach pouch is created by stapling (stomach stapling) or by vertical banding, causing a restriction in food intake. Then a Y-shaped section of the small intestine is attached to the pouch to allow food to bypass the rest of the stomach and portions of the intestines, reducing nutrient absorption.

***Laparoscopic Adjustable Gastric Banding*** (see Figure 1). This procedure, commonly called lap band, consists of placing an adjustable silicone band around the stomach to create a new small upper pouch that restricts the amount of food that can be eaten at a given sitting. The band contains a saline reservoir, which is placed just beneath the skin and allows it to be adjusted.

In 1991, a National Institutes of Health (NIH) consensus development panel endorsed bariatric surgery as appropriate treatment for patients with extreme obesity. Surgery is generally considered in accordance with criteria established by the NIH: BMI of 40 kg/m$^2$ or higher or BMI of 35 to 39.9 kg/m$^2$ but with life-threatening or disabling obesity-related conditions (e.g., diabetes, musculoskeletal or body size problems severely interfering with employment, family function, and/or ambulation).[11] The following conditions also may be required:

- Obesity has been present for at least five years.
- No history of alcohol abuse.
- There is no depression or another major emotional disorder.
- The patient is between 18 and 65 years of age (this age range is now relative).

A recent study suggested possible future guidelines for bariatric surgery could include those with BMIs between 30 to 35 kg/m$^2$.[12] This is very controversial given the fact that numerous studies show that just a 10 percent weight loss has profound health benefits on those with stages 1 and 2 obesity (see Side

**Lifestyle... Continued on Page 4**

### Estimated Metabolic and Vascular Benefits of 10 percent Weight Loss

- *Blood pressure – decrease of ~ 10 mm Hg in systolic and diastolic blood pressure in hypertensive and prehypertensive patients*
- *Diabetes - fall of up to 50 percent in fasting glucose for newly diagnosed patients or persons with pre-diabetes (fasting blood glucose between 100 & 125 mg/dL)*
- *People at risk for T2D such as those with Impaired Glucose Tolerance (IGT) or Impaired Fasting Glucose (IFG) show >30 percent fall in 2 hr insulin, >30 percent increase in insulin sensitivity, and a 40-60 percent fall in incidence of T2D*
- *Lipids - 10 percent decrease in Total Cholesterol, 15 percent in LDL (low density lipoprotein), 30 percent in Triglycerides, and an 8 percent increase in HDL (high density lipoprotein)*
- *Mortality - >20 percent fall in all cause mortality, >30 percent in DM related deaths, >40 percent in obesity-related deaths*

**Lifestyle... Continued from Page 3**

Bar). Bariatric surgery also is now being performed on extremely obese adolescents.[13, 14] However, initial treatment of the overweight/obese adolescent should involve a comprehensive approach with changes in diet, exercise, and behaviors that engage the entire family as participants and role models. Again, preventing obesity in the adolescent should be the primary goal.

Bariatric surgery-induced weight loss is associated with improvements in cardiovascular risk factors such as hypertension, hypertriglyceridemia, low levels of HDL-cholesterol, and glucose homeostasis.[15] Improvements in obesity-related respiratory comorbidities such as asthma and obstructive sleep apnea also have been observed.[15] It is important to note that these metabolic and cardiopulmonary improvements are associated with weight loss by any method. Research has indicated that gastric bypass surgery also has beneficial endocrine effects.[16] These effects can help with weight loss (e.g., increased state of being full).[17]

## BARIATRIC SURGERY COMPLICATIONS & RISKS

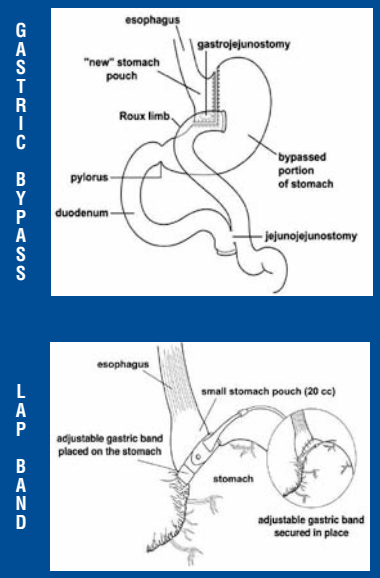
The mortality rate among patients undergoing bariatric operations is generally quoted as between 0.05 percent to 2.0 percent.[18, 19] However, studies that report mortality rate during hospitalization or within 30 days of surgery, underestimate the actual incidence, since deaths from surgery complications have occurred >1 year after surgery.[19]

Data regarding the safety of bariatric surgery for those over 65 years of age is conflicting. Some evidence suggests bariatric surgery is safe and effective for persons older than 65 years of age.[20] Other research reported that patients 65 years of age and older had two-to three-fold higher death rates after bariatric surgery compared with younger persons.[21]

There are significant nutritional risks associated with bariatric surgery.[11, 18, 22, 23] These risks can only be addressed and treated by a physician or Registered Dietitian (R.D.). There also are a number of surgical complications/risks with bariatric surgeries. These include anastomotic leaks (surgical joining of the intestine and stomach), wound-related problems, internal hernias, thrombotic disorders, and death.[24] Although the lap band procedure is considered safer, complications do arise. These include pouch dilatation and gastric prolapse (slippage).[25] These complications can result in solid food intolerance, gastroesophageal reflux and/or regurgitation.[25] A follow-up operation to correct the problem(s) is typically needed.

It also is important for health and fitness professionals to be aware that a low cardiorespiratory fitness level is associated with increased short-term complications after bariatric surgery.[26] Aerobic exercise training to increase cardiorespiratory fitness prior to surgery should be encouraged and may reduce post-operative complications.[26]

**Figure 1.**
**Gastric Bypass vs. Lap Band**
**Obesity Surgical Procedure Options**




Courtesy of Lucille Packard Children's Hospital at Stanford

## PRE- AND POST-SURGERY LIFESTYLE INTERVENTION

Obesity is a chronic condition that requires long-term lifestyle changes for successful management. Lifestyle intervention includes regular exercise/physical activity, nutritional therapy, and stress management. Anyone considering a surgical solution for weight loss needs to anticipate making and sustaining comprehensive lifestyle changes.

As time passes, the stomach pouch accommodates a greater intake and the intestines tolerate a larger amount of food. Increasing energy expenditure through structured exercise and lifestyle physical activity cannot be over-emphasized to maximize post-surgery weight loss and prevent weight regain.[27] Regular physical activity has been shown to have a favorable additive effect on weight loss at two years post surgery.[28] Also, regular physical activity is the best predictor of long-term weight maintenance.[8, 27, 29]

Nutritional therapy is obviously a very important part of lifestyle intervention for this population. It is important that health\fitness professionals refer bariatric patients to an R.D. for nutrional therapy. Stress management and social support also is critical to help avoid relapses and make lifestyle changes permanent. Bariatric surgery leads to many changes, positive and negative, which taken together can become stressful. Stressful issues include not losing enough weight, new eating habits, or lack of social support. Thus bariatric support and stress management groups can be very helpful for bariatric patients. Practicing stress management techniques also can be helpful. Examples include yoga, deep breathing, mediation, and hobbies.

## EXERCISE TESTING AND TRAINING CONSIDERATIONS

Medical clearance should be obtained prior to exercise testing and training with obese/post-bariatric patients.[1] It is important to assess their readiness to exercise as well as which types of exercise they prefer and are capable of performing. Also, most post-bariatric patients have co-morbidities (e.g., metabolic syndrome, arthritis) and may be taking a number of medications. Bariatric patients typically have routine follow-up appointments with their physician, making it easier for the fitness professional to get updates on exercise recommendations/restrictions (e.g., when to initiate resistance training).

A six-minute walk is an appropriate low workload exercise test for this population to provide an index of functional capacity.[30] It estimates aerobic exercise capacity for the obese and research has shown that weight reduction in the obese increases functional capacity during walking.[30] In a recent study, women who had the lap band procedure, improved during a six-minute walk, averaging 475.7 meters pre-operatively to 626.3 meters one-year post-operatively.[30]

Another exercise test option is a submaximal steady state test (e.g., treadmill walking at 2.0 mph-2 percent grade). Repeating this test 8 to 12 weeks later allows one to track changes in hemodynamics at a given workload. Leg or arm ergometry also are appropriate modes for exercise testing.[1] Follow-up testing to demonstrate improvements is particularly beneficial for this population, who typically have little confidence in their ability to exercise.

Resting and exercise blood pressure should be measured and monitored regularly, particularly in those with hypertension. Make sure the appropriate size cuff is used to ensure accurate readings. Body composition can be measured and monitored by body-weight, BMI, and waist circumference. Muscular strength testing may not be appropriate during the initial stages of exercise due to medical restrictions. When appropriate, a strength test such as a handgrip dynamometer can be easily performed and repeated with this population. Assessing joint flexibility can be performed using a sit and reach test. However, it is prudent to first determine

if the individual can get down and up from the floor without difficulty.

Exercise testing for children\adolescents will need to be modified according to their physiological differences from adults.[1] A treadmill test can be performed to assess aerobic capacity. For example, variations of the Balke protocol can be used, adjusting the speed to accommodate the ability of the child.[1] Although this protocol has no norms for test duration to age, repeating this test or another such as the six-minute walk, will show linear change and improvements over time. Cycling test also may be used to assess children's aerobic capacity. Popular protocols for children include the James and McMaster protocols.[1] Body mass can be measured and monitored using bodyweight, BMI, and waist circumference. Typical muscular fitness tests such as a push-up test and curl-up test will likely be inappropriate for obese children. Again, a handgrip dynamometer test is appropriate and can track progress over time. Joint flexibility can be measured with a sit and reach, considering the same issue as with adults.

The emphasis of the exercise training program should be large muscle group aerobic activities.[1] Over time, the total volume of aerobic exercise should increase. The loss of body weight and body fat from exercise seems to be proportional to the volume of aerobic exercise performed.[8, 31] Resistance training (RT) plays a particularly important role as the patient progresses and is usually permitted six to eight weeks after surgery. With substantial and rapid weight reductions comes the need to maintain as much lean body mass and muscular strength as possible. Increased lean muscle mass will add shape and tone to the body and this is important physically and psychologically for the bariatric patient. Due to the abdominal incisions (laparoscopic or open), abdominal exercises such as crunches are typically delayed the longest after surgery (e.g., four to six months). Crunches and other activities requiring significant abdominal work (e.g., swimming, resistance exercises on a stability ball) should be approved by the physician. Most obese persons lose joint range of motion (ROM) and therefore, proper stretching will be beneficial for enhancing joint flexibility and body awareness. See Table 1 for a summary of exercise & physical activity guidelines for obese/bariatric patients.

These guidelines may need modifying according to the individual. For example, some may initially only be capable of exercising aerobically three days per week, totaling 20 to 30 minutes per session. Or they may need to engage in multiple 5 to 15 minute bouts of aerobic exercise per day. Exercise progression should be gradual. An initial progression goal can be to increase aerobic exercise duration by 10 to 15 percent per week. Long-term, most individuals will need 200 to 300 minutes or more of moderate to vigorous intensity physical activity per week to maintain weight loss.[1, 8] Bariatric patients can be intimidated by exercise and exercise environments. It is important that health\fitness professionals are aware of this and make a conscious effort to make this population feel at ease. This will likely increase exercise compliance.

Walking is an appropriate type of activity for children. However, keeping the walks and all forms or exercise\activity interesting is important for younger children to prevent boredom.[1] Examples include having family and friends involved, participating in physically active games, and being active in entertaining environments (e.g., malls, playgrounds). For structured exercise, exercising aerobically three to five times a week is a good initial goal, gradually increasing exercise duration and frequency.[1] This will likely be more appropriate for adolescents. Stretching exercises will help increase joint flexibility and body awareness and should be included in the exercise program. Once cleared by the physician, resistance training should be incorporated into the exercise program to enhance muscular strength and endurance. See Table 2 for a summary of exercise and physical activity guidelines for youth obese/bariatric patients.

## Table 1. Summary of Exercise & Physical Activity Guidelines for Obese / Bariatric Patients

| | FREQUENCY | INTENSITY | DURATION | MODE |
|---|---|---|---|---|
| AEROBIC | 5-7 days per week | 40%-75% HRR | 45-60 minutes | Weight and non-weight bearing large muscle group activities |
| RESISTANCE | 2-3 days per week (nonconsecutive days) | 8-15 repetitions; near volitional fatigue to volitional fatigue (e.g., RPE 16-20) | 1 set per exercise; additional sets can be added as progression occurs | Free weights, machines, elastic bands / tubes, calisthenics; all major muscle groups |
| FLEXIBILITY | 3-7 days per week | Muscle tightness at the end ROM | 15-30 seconds per stretch; repeat at least once | Static stretches |

**EXERCISE TIPS**
- Aerobic exercise may need to be performed intermittently.
- Focus on increasing aerobic duration and frequency before intensity.
- Resistance machines (e.g., Nautilus) may need to be avoided due to large body size; adaptive equipment may be required (e.g., larger seats).
- Encourage adequate fluid intake, as tolerated, to avoid hyperthermia.
- Consider rotating lower / upper body and weight-bearing / non-weight bearing exercises to increase exercise tolerance.
- Be aware of orthopedic risks; use low impact exercises.

**LIFESTYLE \ RECREATIONAL PHYSICAL ACTIVITY**
Encourage more physical activity throughout the day.
Examples can include:
- Walking- lunchtime walks, mall walking, moving around the house / office more
- Climbing stairs- avoid the elevator / escalator as often as possible
- Housework, gardening, carrying groceries
- Purchasing a pedometer to track daily and weekly physical activity

## BARIATRIC REHABILITATION

The Bariatric Rehabilitation Program at Hackensack University Medical Center (HUMC) in New Jersey provides patients with exercise training, comprehensive education, and support groups. The rehabilitation program helps develop the lifestyle changes necessary for long-term success. The healthcare team consists of the bariatric surgeon, registered nurses, a registered dietitian, and an ACSM Registered Clinical Exercise Physiologist®. Together they help patients:

- learn proper and safe exercise techniques to promote additional weight loss, increase cardiovascular endurance, metabolic fitness, build muscle and muscular strength, and enhance joint flexibility;
- learn to be more physically active in daily living. For example, patients are encouraged to purchase a pedometer. Then daily and weekly step goals are set according to their current levels of physical activity;
- learn how to choose and eat nutritionally dense foods that are

**Lifestyle... Continued on Page 6**

**Lifestyle... Continued from Page 5**

well tolerated, can be incorporated into a daily schedule, and are easy to prepare;
- learn how to deal with situations and various factors which might lead to heightened feelings of stress and emotional responses. This helps to prevent relapses.
- obtain support from the staff and other bariatric patients. A free monthly support group provides bariatric patients the opportunity to share personal experiences and create personal bonds that help maintain consistent lifestyle changes.

If there isn't an opportunity to participate in a bariatric rehabilitation program, alternatives include joining a fitness center and/or hiring a qualified fitness professional (preferably with ACSM certification and/or a college degree), consulting with an appropriate R.D. or evidence-based weight-loss program, practicing stress management techniques, and seeking social support.

## SUMMARY

Despite the growing number of bariatric surgeries being performed in the United States, appropriate lifestyle intervention, primarily exercise/physical activity and proper nutrition, remain essential for long-term body weight management. The health and fitness professional's role is not diminished with bariatric surgery but rather amplified. As a result, health and fitness professionals should understand the basics of bariatric surgery, specific exercise needs and concerns with bariatric patients, and how to safely and effectively design, implement, and monitor exercise programs for this population.

## Table 2. Summary of Exercise & Physical Activity Guidelines for Youth Obese / Bariatric Patients

| | FREQUENCY | INTENSITY | DURATION | MODE |
|---|---|---|---|---|
| AEROBIC | 3-7 days per week | Use RPE (e.g., 12-16) | 20-60 minutes | Weight and non-weight bearing large muscle group activities |
| RESISTANCE | 2-3 days per week (nonconsecutive days) | 8-15 repetitions; avoid high-intensity RT; start with little or no resistance to learn proper form; only increase resistance when the desired number of repetitions can be completed with good form. | 1 set per exercise; additional sets can be added to progress | Free weights, machines, elastic bands \ tubes, calisthenics; all major muscle groups |
| FLEXIBILITY | 3-7 days per week | Muscle tightness at the end ROM | 15-30 seconds per stretch; repeat at least once | Static stretches |

**EXERCISE TIPS**
- Younger children will need more entertainment during exercise (e.g., television, group exercise).
- Intermittent bouts of physical activity may be favorable for young children (e.g., playing outside at a playground).
- Having fun is essential to keep young children consistent with exercise (e.g., gym class, physically active games).
- Older, adolescents will be more likely to participate in structured exercise sessions.

Refer to Table 1 for additional Exercise Tips and Lifestyle \ Recreational Physical Activity examples.

**LIFESTYLE \ RECREATIONAL PHYSICAL ACTIVITY**

Encourage more physical activity throughout the day. Examples can include:
- Parents should set the example of participating in regular exercise and being physically active.
- Offering a child a large number of activities will increase the possibility of being regularly active; examples include sports, dancing, hiking, "pick-up" games (e.g., stick ball), hide and go seek.
- Schools should offer activities for all children, regardless of skill and fitness level.
- Do physical chores at home.
- Reduce time watching television, playing video games, being on the computer, and /or any habit that is sedentary in nature.

**RECOMMENDED READING:**

Mayo Clinic Proceedings, Oct 2006; 81:S3-S46

**RECOMMENDED RESOURCE:**

The National Weight Control Registry
http://www.nwcr.ws/

**CONDENSED VERSION AND BOTTOM LINE**

With obesity being a national and global epidemic, more and more individuals who qualify are having bariatric (weight-loss) surgery in an attempt to obtain a normal body weight. While the surgery is proven effective, much more is needed to maximize and sustain weight loss. Lifestyle intervention, consisting of exercise/physical activity, healthy and appropriate nutrition, stress management, and social support remain critically important for long-term success with weight management, with or without surgical assistance.

*ACSM's Health & Fitness Journal®, 11:6 (Nov/Dec 2007); Reprinted with permission, ©American College of Sports Medicine 2007, Lippincott Williams & Wilkins, Baltimore*

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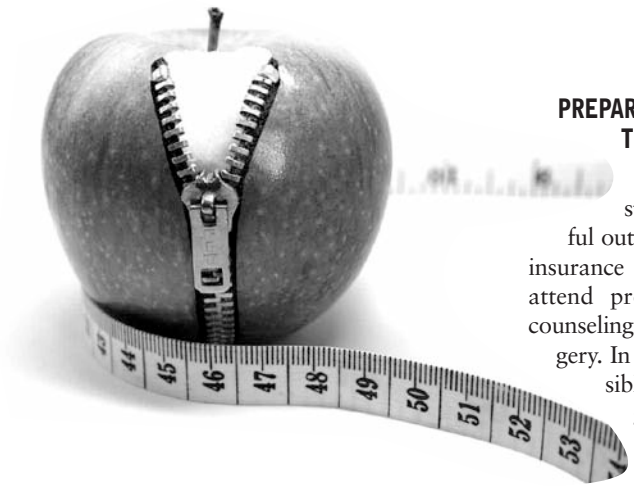
## Self Test 1: Sorace – Lifestyle Intervention, pp. 3 – 6. Provide answers on Self-Test Redemption form located on page 2.

1. Recent data indicates that _____ of U.S. adults are obese.
   A. 25.3% B. 27.6% C. 32.2% D. 34.1%
2. It is estimated that a 10% weight loss can result in a ____ decrease in total cholesterol.
   A. 8% B. 10% C. 15% D. 20%
3. Which of the following is NOT a criterion for bariatric surgery?
   A. A history of depression / emotional disorder.
   B. No history of alcohol abuse.
   C. Obesity has been present for at least 5 years.
   D. BMI of 40 kg/m$^2$.
4. Resistance training is usually permitted _____ weeks after surgery.
   A. 2-4 B. 4-6 C. 6-8 D. 8-10
5. An aerobic exercise duration of 60 minutes is a recommendation for _____.
   A. Obese / bariatric patients
   B. Youth obese / bariatric patients
   C. Neither a or b
   D. Both a and b

# Nutritional Care of the Bariatric Patient



*By Susan J. Kraus, MS, RD, Clinical Dietitian*

Obesity is considered an epidemic in both the United States (U.S.) and other developed nations. More than two-thirds of the U.S. population is overweight/obese, and one third is considered obese.[19] These data suggest there are currently more than 70 million obese U.S. adults.[20]

Complications from co-morbidities associated with obesity, including type-2 diabetes, cardiovascular disease, sleep apnea, and gall bladder disease have resulted in obesity being partially-attributable for premature death from many chronic conditions in the U.S.[13] Annually, $30 billion is spent for diet programs,[13] yet the safety of some, as well as the ability for people to show long-term results remains questionable. For this reason, many people are turning to surgical procedures to help them lose their unwanted weight and keep it off.

Bariatric surgery has gained popularity in recent years, becoming "main streamed" as an alternative to weight-loss diets. The first commonly used bariatric procedure in the 1960s, the jejunoileal bypass, led to substantial weight loss, but it had several adverse side effects, including diarrhea, and malabsorption of fat, nutrients and malnutrition.[5] This procedure was replaced with the three basic surgical procedures today, including gastric banding (vertical banding and adjustable banding), gastric bypass (the Roux-en-Y procedure), and a combination of gastric restriction and selective malabsorption (duodenal switch).[4] Although bariatric surgery appears to be the solution to some, there are concerns regarding the nutritional care of this patient population. Promoting a favorable nutritional intake must be emphasized prior to and for years following surgery.

## PREPARATION FOR THE PROCEDURE — THINK HEALTHY EATING

Maintaining optimal nutritional status can help in patients' successful outcomes with bariatric surgery. Some insurance companies require that patients attend programs that include nutritional counseling and exercise months prior to surgery. In doing so, these patients could possibly improve their current health, gain better understanding of required nutritional guidelines post- surgery, and possibly enable some pre-surgical weight loss. Although many patients going for this surgery have followed multiple "diets" previously, they still might be lacking knowledge of proper nutrition; programs like these, therefore, would be beneficial. Studies have shown that patients following pre-surgical multi-disciplinary programs that include nutrition, exercise, and stress reduction classes have shown overall better success post-op with long-term weight loss.[1]

Patients need guidance on how to follow healthful meal plans, consisting of fresh fruits, vegetables, and high fiber whole grains. High protein, in the form of lean cuts of meat, skinless poultry, fish, fat free or low fat milk, and sometimes protein supplements would be encouraged, in preparation for surgery. Fats, sweets and desserts would be limited to control calorie intake. A high-potency multi-vitamin-mineral, and other supplements, such as calcium, vitamin D, iron, and other B vitamins would also be recommended.[16]

## POST SURGERY- PROGRESSION OF THE DIET

Most bariatric surgeons have their patients follow similar diet transitional guidelines post surgery, although, there may be variation in the duration of certain stages, in addition to what particular foods are emphasized. Patients are initially started on clear liquids following surgery. Flavored gelatin, popsicles, broth, and any flavored non- carbonated, caffeine free beverages may be part of the post surgery diet. Sweetened products need to be sugar-free to avoid the "dumping syndrome" a phenomena that causes patients to have rapid evacuation of food through their bowels upon eating high sugar containing foods. Juices and sports drinks need to be diluted with water at a 1:1 ratio for better tolerance.[16] Fluids need to be sipped slowly, initially at the rate of one ounce per 30 minutes, and increased within a few days to one ounce every 15 minutes.

## MOIST, MUSHY AND SOFT STAGES

The next stage begins two to four weeks post surgery, depending on the patient's progress, and a physician evaluation. Foods permitted are of a smooth, pureed consistency. Some patient's process home made foods, while others will use jarred single ingredient baby foods of meats, vegetables and fruit. Low fat milk, no sugar added smooth yogurt, smooth ricotta or cottage cheese, tofu, and sugar free puddings/custards also can be used at this time. In addition to the types of foods that can be eaten during this stage, putting together complete meals also is an important process (see table 1).

This stage can last for one to two weeks, and based on tolerances, the transition will continue to soft solid foods. Foods that are usually easy to transition to include hot and cold cereals, soft fish, lean ground meats, soft skinless poultry, sliced low fat cold cuts, cheese sticks, soft scrambled eggs, tofu, soft cooked vegetables, soft fresh or canned fruit, well cooked pasta, and strained soups.[16] Table 2 provides transition meal examples.

## QUANTITY OF FOODS AT MEALTIMES / RATE OF CONSUMPTION

Throughout all stages, food needs to be chewed well, and at a slow pace, lasting for approximately 30 minutes. Fluids also need to be consumed separately from solids due to the limited pouch size created in the stomach that holds the food; with separating solids from liquids, this improves tolerance to meals, and helps prevent incidences of either nausea

### Table 1. Some Suggestions of Meals on the Moist/Mushy Stage

| | |
|---|---|
| AM: | 3 ounces lite vanilla yogurt |
| | 2 Tablespoons pureed or baby fruit |
| Lunch: | 1/3 cup ricotta cheese |
| | 2 Tablespoons pureed carrots |
| | 1 Tablespoons mashed banana |
| Supper: | 2 ounces pureed chicken |
| | 1 Tablespoon mashed sweet potato |
| | 1 Tablespoon creamed pureed spinach |
| | 2 Tablespoons sugar free pudding |

The estimated value of the daily moist mushy meal plan is: 280 kilocalories, 28 grams protein.

Care... Continued on Page 8

Care... Continued from Page 7

## Table 2. Some Suggestions of Meals on the Soft Solid Stage

| | |
|---|---|
| AM: | 3 ounces cooked oatmeal<br>1 ounce milk<br>4 slices banana |
| Lunch: | 2 ounces tuna mixed with 1 tablespoon non-fat or low fat mayonnaise<br>2 Tablespoons cooked pasta<br>3 pieces cut up melon |
| Snack: | 4 ounces lite yogurt |
| Supper: | 2 ounces ground turkey breast mixed with<br>1 Tablespoons cooked beans<br>2 Tablespoons tomato sauce<br>2 Tablespoons string beans |
| Snack: | 2 ounces ricotta cheese mixed with<br>1-2 Tablespoons applesauce |

The estimated value of the daily soft solid meal plan is: 495 kilocalories, 42 grams protein.

and vomiting (in gastric bypass patients), or hastened movement of the food into the lower stomach (in lap band patients). Usually a 30-45 minute time span needs to separate fluid from solid intake.

Most patients can tolerate a volume of two to four ounces per meal. Some suggest using small plates or bowls as well as using a baby spoon to help modify the speed of the meal.

### THE MEALS CONTINUE TO PROGRESS, BUT NEED TO REMAIN SELECTIVE AND CAUTIOUS!

If patients have no problem tolerating foods, food progression continues slowly, which will add variety and nutritional quality to meals. The emphasis in meal selection still needs to be based on choosing moist and easier to chew foods, eating slowly and thoroughly, choosing high nutrient dense foods and separating solids from fluids.

Some patients progress through the food stages smoothly, while others need to adjust to new choices more slowly. The meal volume could range from four to six ounces, depending on the type of food consumed. As patients' activities increase, intermittent two- ounce to four-ounce snacks are recommended.

### ATTENTION TO NUTRIENT DEFICITS- NEED FOR CONTINUED SUPPLEMENTATION

As noted in Table 2, post bariatric surgical patients will have limited calorie and nutrient consumption. Weight will come off quickly, yet there is high risk of nutritional deficiencies. It is estimated that at least 11% of those having gastric restriction and bypass surgery will show some evidence of nutritional inadequacies.[15]

Studies indicate that many patients show abnormal vitamin and trace mineral values even pre-operatively, possibly due to unbalanced eating habits, or due to the decreased bioavailability of some nutrients, like vitamin D3 because of their deposition in body fat compartments.[8, 11, 18] Therefore, it is essential for patients to have routine diagnostic measures done of some of these nutrients prior to and after surgery, so that these deficiencies could be corrected as soon as possible.

Deficiencies are commonly seen in all bariatric patients. Vitamin B deficiencies (i.e., B1 (thiamin), B6 (pyridoxine), folic acid, B12 (cobalamin)), as well as deficiencies in calcium and vitamin D have been seen in gastric band patients; deficiencies in these B vitamins, vitamins A, D, E, and K, calcium and iron, are frequently seen in those who have undergone the Roux-en-Y Procedure.[15]

A daily regimen of a multi-vitamin-mineral, iron, and calcium with vitamin D supplementation is necessary. There are several supplements specially designed for those who have undergone bariatric surgery, which are available in chewable, powdered or liquid forms. Gastric bypass patients also will require B12 in a sublingual form (dissolves under the tongue) due to diminished production of the intrinsic factor, an enzyme produced by the body to absorb vitamin B12 from food or other supplements.[16]

### PROTEIN

Protein is emphasized at meals and snacks, especially early in the meal plan. Protein's function includes promoting healing, maintaining muscle, and contributing to hormonal production. With limited meal plans following surgery, protein consumption could be compromised. By week four following surgery, the suggested amount of protein patients should try to consume is 30-40 grams/day. Protein should be continually increased while transitioning to more solid foods. The goal is 60 grams/day within two months of the procedure. Further changes in food variety and amounts should help the patient reach his / her individual needs.[16] Table 3 provides a list of the protein content in various foods.

Even with best intentions, protein intake can remain inadequate, due to the patient intolerances, lack of desire to eat, or lack of knowledge of their necessary needs. Many specially designed supplemental sources of protein are available, derived from whey or soy, in the form of low calorie shakes, or the protein itself could be found in a powdered or liquid form that could be dissolved into the foods consumed.[16]

### LONG TERM EFFORT FOR WEIGHT LOSS MAINTENANCE—LIFESTYLE CHANGES

#### EATING SELECTIVELY AND REGULARLY

The long term meal plan for the bariatric patient needs to be low fat, varied, and nutrient dense. Studies have shown those achieving long term weight control success make changes in their meal plan to include vegetables, fruits, low fat protein, whole grains and limited fats, and they will plan for special indulgences.[3, 9] Eating frequently for long-term success is also stressed.[10] Research has also shown that eating regularly may have an impact on weight control.[6] One study also showed that irregular eating habits may delay weight loss efforts, due to possible loss of the beneficial thermic effect of food and the possible relationship seen with lowered insulin sensitivity.[7] For those patients who have eaten irregularly for many years, this will be a big adjustment, but needs to be encouraged. Furthermore, more research is needed in the area of irregular eating patterns before any solid recommendations can be made regarding weight loss.

In conclusion, it is evident that providing on-going nutritional care is crucial for the health and success of bariatric patients. Patients need to understand that the procedure itself is not the "quick fix", but only a helpful "tool" to get started with weight reduction. They need to consider optimizing their nutritional status months before surgery, and continue to be mindful of the food choices and meal planning following surgery and for years afterwards. Regular physician visits are also important for assessing ongoing nutritional status. General vitamin and mineral supplementation needs to continue long term, and additional recommendations might be made, based on follow up medical visits.

Care... Continued on Page 9

## Table 3. Protein Content of Various Foods[2]

| FOOD | AMOUNT | GRAMS OF PROTEIN |
|---|---|---|
| Beef, Veal, Pork, Poultry, Seafood | 1 ounce | 7 |
| Cheese (hard) | 1 ounce | 7 |
| Cottage/ ricotta cheese | ¼ cup | 7 |
| Egg | 1 large | 7 |
| Egg whites | 3 | 9 |
| Egg beaters | ½ cup | 12 |
| Tofu | 4 oz. | 7 |
| Legumes | ½ cup cooked | 7 |
| Peanut Butter | 2 Tablespoons | 7 |
| Pasta | ½ cup cooked | 2 |
| Rice | ½ cup cooked | 3 |
| Cereals | 1 oz. Dry | 3 |
| Potato | 1 small (3 oz.) | 2 |
| Other grains | ½ cup cooked | 2-3 |
| Vegetables | ½ cup cooked/1 cup raw | 2 |
| Milk (all types) | 1 cup (8 oz) | 8 |
| Yogurt (plain, vanilla, fruited) | 1 cup (8 oz) | 10-12 |
| Soy Milk | 1 cup (8 oz) | 6 |
| Rice Milk | 1 cup (8 oz) | 2 |

## Psychological and Behavioral Implications for

# Exercise in Persons Undergoing Bariatric Surgery

*By Dierdra Bycura, MPE, ACSM HFS, cPT*

### INTRODUCTION

It is common knowledge that obesity is on the rise, not only in the United States but worldwide. Societal dietary changes and physical inactivity are touted as culprits with the examination into the role of genetics following closely behind. Of those, who were obese and have been successful in combating this chronic condition, how are they doing it? What role does the exercise professional play in helping these individuals succeed?

The World Health Organization suggests that an estimated 97 million adults are identified as "extremely obese" as defined by a Body Mass Index of > 40kg/m$^2$.[10] Extreme obesity (often referred to as morbid obesity) is associated with a variety of significant health conditions that include cardiovascular related problems, respiratory insufficiency (e.g., obstructive sleep apnea, and obesity hypoventilation syndrome), and metabolic complications such as diabetes mellitus, hypertension, dyslipidemia, and gallstones. Gastric procedures in the form of surgery for extreme obesity can render dramatic and long-term weight reduction, with an average loss of 66 percent of excess weight within one to two years depending on the procedure and the compliance of the patient.[8] Weight loss (especially of this magnitude) may rectify a variety of comorbidities associated with obesity. Weight loss therapy (surgical or non-surgical) has produced more durable and complete control of type 2 diabetes, reversal of hypertension, and the resolution of obstructive sleep apnea.[4, 8] Surgical treatment for obesity has rendered a larger amount of total weight loss sustained over the long-term.

As carefully explained by the authors that contributed to our understanding in last January's issue on weight management, behavior change and the psychological readiness to address behavior change are key factors contributing to the overall health of those choosing to undergo this life changing approach to weight loss.

What will change? How can physicians and clinicians best serve and meet the needs of the people who are interested in this method of weight loss? What is our role as exercise professionals in helping the post-bariatric surgery patient?

### SOCIAL CULTURAL ISSUES: WHAT IS EXPERIENCED AND WHAT WILL CHANGE?

What is everyday life like for those suffering extreme obesity? While this question cannot be answered in totality for all individuals, some shared experiences are documented. Many people with obesity experience prejudice due to their size indicated by rude behavior, social repulsion, and social exclusion by strangers, co-workers, even friends and family. Personal identity as "the fat person" affects how individuals might come to accept or view themselves. Sometimes this particular "view" is supported by family members and friends. Anecdotally, an individual attending a preoperative education session at a regional bariatric clinic in the southwest United States shared her story of telling her young daughter about her decision to have the surgery. Her daughter exclaimed, "How will I stay warm?" Another person shared that a member of her family said, "You won't be you."

Psychological health and social desirability are not inherently linked to weight, although societal norms, be they positive or negative, impact individual lives. Earvolino-Ramirez[3] conducted a case study examining the experience of an individual who underwent bariatric surgery. She uncovered three important themes she categorized as "sources of tension"; identity transformations, disruption in social life, and loss of relationship with food. An interesting finding was that the individual reported experiencing a stigma associated with her weight prior to surgery and then a stigma associated with how she chose to go about losing the weight (bariatric surgery) following her surgery. This supports the call for and need to help people address psychological and behavioral factors pre- and post-surgery as recommended by the National Institutes of Health.[4]

### PSYCHOSOCIAL NEEDS AND BEHAVIOR CHANGE

Due to sustained negative experiences that an individual may link to being overweight, a remedy for the problem is sought. Treatment has traditionally focused on reversing the obese state rather than recognizing the integral role psychological health plays in the ability for an individual to be successful in keeping the weight off, while experiencing positive psychological health.[5] For example, repeated attempts at weight loss without success (as defined by reaching a desired goal weight and maintaining that goal weight) is discouraging and impacts an individuals' belief system. Belief in their ability to be successful with weight loss is challenged and in turn, belief in weight loss programs in general to address their health and emotional needs may be in question for that individual. Although within the medical community, psychological health in people seeking bariatric surgery is a known challenge, thus, the solution of choice is to reverse the obese state.[5] This is supported by the documented positive psychological changes in individuals that successfully lose and maintain large amounts of weight.[4, 7] Pomerantz cites several studies reporting emotional improvement directly related to the amount of weight lost irrespective of the type of treatment undergone to lose weight.[7] Additionally, after bariatric surgery patients report an increase in self-esteem, self-confidence while depression, rigidity, and anxiety decrease.[6]

The number of people seeking bariatric surgery is growing.[1, 10] In addition to the rise in obesity in the United States, the classification of obesity as an illness by the Centers for

**Implications... Continued on Page 10**

**Care... Continued from Page 7**

On-going nutrition, exercise and lifestyle counseling can help patients make necessary changes to maintain weight loss, and help them manage their long term health.


### About the Author

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**Care Self Test... Continued on Page 12**

**SELF-TEST ANSWER KEY FOR PAGE 11**

| | QUESTION | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| TEST #1: | C | B | A | C | D |
| TEST #2: | FALSE | FALSE | D | C | TRUE |
| TEST #3: | C | B | A | D | C |

**Implications... Continued from Page 9**

Medicare and Medicaid Services also has impacted the interest in bariatric surgery.[7] This classification has allowed insurance providers to be reimbursed for treatments for obesity. Most providers now require that patients receive preoperative counseling that usually includes psychological evaluation, dietary counseling, and education regarding exercise and necessary behavioral change.[1] Some insurance providers deny or impede access to patients with psychosocial problems. The take home message that Pomerantz shares is the pre- and post-psychological evaluation and treatment should be used to compliment the physical changes that happen as a result of bariatric surgery, not to preclude persons from surgery.[7] Most importantly, by identifying and acknowledging patient psychosocial needs, the patients' ability to adopt and maintain a variety of significant behavior changes needed post-surgically is greatly increased.

## OUR ROLE AS EXERCISE PROFESSIONALS IN HELPING THE POST-BARIATRIC SURGERY PATIENT

Surgical success is largely dependent on the adoption and maintenance of significant lifestyle changes. Those lifestyle changes include implementation of a regular exercise program.

There are physical challenges that people with obesity face when attempting to engage in exercise. For example, joint pain, limited range of motion, physical impediments to breathing, back pain, numbness/loss of circulation in extremities and difficulties with thermoregulation are a few of the physical challenges people with obesity might identify.[5] Because of the amount of work required to move a large amount of body mass, low levels of exertion result in a high intensity physical demand. High intensity exercise is physically uncomfortable and unsustainable for even a short amount of time for persons trying to move a large amount of body mass.

Socially, many obese people are embarrassed to exercise in public, as they feel self-conscious. With exercise, there is an awareness of social situations initiating that self-consciousness such as the inability move well or at a pace that looks like exercise, or overt excessive sweating, to name a few. Because of physical and social barriers, many bariatric surgery patients have a limited or distant experience with exercise. Many report dislike or disdain for exercise. As exercise professionals, we need to help bariatric patients re-frame how they view exercise and allow for incremental and creative applications of physical activity until hopefully, they are able to meet the minimum ACSM guidelines[9] to improve cardiovascular health. In addition, health professionals need to provide education regarding how to increase physical activity outside of an exercise regimen. Sharing ideas for increasing daily physical activity such as taking the stairs, parking further away from the store, or mowing the yard would encourages action to improve daily functional capacity and increase daily caloric expenditure.

While weight loss is the goal of bariatric surgery, fitness on the other hand, can hardly be defined by body composition alone. It is important to help patients understand that health, and skill to maintain that health, are important outcomes of engaging in physical activity. In addition, feelings of self-efficacy and enjoyment as related to physical activity endeavors are valuable outcome goals.[2]

Flagstaff Medical Center houses a new, yet flourishing bariatric surgery clinic in the southwest United States. Of note is the patient success and compliance to required treatment visits considering most of the patients live in outlying areas. Rural communities often present another challenge to people wanting to exercise, as many of the rural towns are not designed for physical activity engagement. Driving to larger cities for goods and services will increase the amount of daily sedentary time. Safe walking areas, designated bicycle paths and a community conscious of planning for physical activity help to encourage activities of daily living. As exercise professionals, one of the ways we can aid the people we work with is to involve them in community activism toward a built-environment that supports physical activity. Having a social cause and altruistic goal can enhance the resolve of those promoting the social agenda, in this case, being physically active.

There are a number of bariatric clinics in the United States conducting informative and helpful education and treatment programs for people undergoing bariatric surgery. The role of exercise and increased levels of physical activity in patient success for continued weight loss and maintenance comprise a large piece of those education programs.

Below are some suggestions for exercise professionals working with bariatric surgery patients:

1. Give permission for persons to participate in short bouts of activity at a low to moderate intensity level.
2. Teach Rate of Perceived exertion (Borg's scale 6-20).
3. Ask patients to indicate what they think they might be able to do and advise them to start with half that amount.
4. Encourage very small increments when increasing exercise in one domain at a time (e.g., duration or intensity)
5. Educate patients on the benefits of maintaining muscle strength with regard to facilitating movement, decreasing pain, decreasing potential for injury and aiding metabolic rate.
6. Co-create a comprehensive program (e.g., muscular strength, flexibility and cardiovascular program) designed around a patient's written needs assessment.
7. Help patients identify barriers (physically, mentally, socially) and trouble shoot with patients for solutions.
8. Create social networks for physical activity that connect people who are going through the same life changing treatment.
9. Create both organized exercise sessions and "homework" to provide support and encourage self-regulatory skills.
10. Help patients set realistic, attainable, measurable goals.

Just as you would in working with any client requesting services for an exercise prescription, become familiar with health history of the individual, educate yourself to the specific concerns (physically and psychologically) of the client (in this case bariatric treatment), conduct a needs assessment with the client and most importantly, get to know the individual by listening. Support by cooperatively setting realistic, attainable, measurable goals and set timelines for meeting them. Enjoy your participation in their journey.

### About the Author

*Dierdra Bycura, MPE, ACSM HFS, CPT is an instructor at Northern Arizona University in the department of Health Sciences in Flagstaff, Arizona. Dierdra also is a doctoral candidate conducting research in the area of self-regulation and behavior change with regard to exercise. She a member of the Exam Development Team and prior to that appointment was a member of the cPT credentialing committee.* *The author would like to thank Celeste Hebets and the staff at the Flagstaff Medical Center Bariatric Clinic for sharing their insights and expertise.*

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**Implications Self Test... is located on Page 2**

# COACHING COMES OF AGE: Why Wellness Coaching Works

This is the 21st edition of the Coaching News column, sponsored by Wellcoaches Corporation in alliance with ACSM, and it appears regularly in *ACSM Certified News*.

While the coaching industry is dedicated to helping people take charge and reach their full potential in all walks of life, in medicine there is a huge need for coaches to help people take charge to not only prevent disease but also to thrive.

We face another financial crisis, one brought about by epidemics of preventable diseases. Treasury Office projections show that 20 years from now, we may need to spend nearly half of total government revenues on healthcare, 70 percent of which can be prevented. It is vital to build standards for professional coaches in healthcare and help establish a scientific foundation for coaching psychology as a path to making a dent in preventing disease.

Progress is being made in articulating a scientific foundation for coaching. A growing and diverse set of domains in psychology are adding to coaches' toolboxes. Coaching psychology—the science of coaching relationships designed to optimize health, well-being, and performance—is making significant strides.

We offer the following meta-frame to help coaches get a better grip on where their clients are at so they can help them "get it done." It is built on the premise that coaching is a *humanistic relationship* designed for *constructive* development.

## WHAT IS CONSTRUCTIVE DEVELOPMENT?

Constructivists believe that we make our own reality. We construct what we perceive, what we believe, what things mean, and what we value. Developmental psychologists study how we grow over our life span. Melding the two together, constructive development is the process of qualitative change over time in our constructions: perspectives, beliefs, and making-meaning. This meta-frame is ready-made for coaches. At the heart of coaching is the belief that helping clients shift assumptions and frameworks enables them to grow beyond problems and generate new perspectives and possibilities.

## COACHING IS A HUMANISTIC RELATIONSHIP

Coaches frequently describe their work as assisting clients to move from Point A to Point B. The question is: what is point B? The humanist would answer—our best self. Humanists have taught us that we are wired to be self-actualizers—that we yearn to fulfill our potential and achieve life satisfaction and happiness. Empathetic and accepting relationships foster self-actualization. Thus coaching relationships are *humanistic*—they enable growth and change. Character virtues, strengths, and talents are valued and encouraged to grow and flourish. Clients' efforts toward self-determination, autonomy, and choice are supported while the building of environmental supports is encouraged. Emotional intelligence increases. Physical health and vitality are strengthened.

## CONSTRUCTIVE DEVELOPMENT WITHIN A HUMANISTIC RELATIONSHIP

We assert that constructive development comes in two "sizes:" *Big Ds* and *Coaching Ds*. *Big Ds* are the large ways we develop new perspectives throughout our life-span, usually over years. Navigating an entire developmental change (a Big D) is not the work of coaches, however. While we might wish to have the wisdom of age 50 at age 40, this is not a reasonable coaching assignment. *Coaching Ds* are the primary focus of coaches—specific change cycles within Big Ds or at major transitions into new Big Ds.

An example of a *Big D* is the Transtheoretical model, developed by James Prochaska, which describes how people advance through stages of readiness to change. The model of Mount Lasting Change, developed by Margaret Moore et al (2005), is an outgrowth of this model, a pyramid of change that encourages clients to construct and aim for an optimal vision to achieve their "best self." Another example is Appreciative Inquiry, a 5-D cycle of change first proven in the corporate setting. The 5-Ds are: Define, Discover, Dream, Design, and Destiny. A third model is Hope therapy, which provides a change process for building efficacy by setting goals and defining pathways to change.

The coach toolbox also has various "constructive" tools that contribute to change cycles, such as developing more self-efficacy, autonomy, emotional intelligence, or flow.

## MAKING IT SIMPLE - AN INNOVATIVE CARTOON

To portray this process of constructive-development, we developed a 3.5 minute cartoon: "How Coaching Works" posted at YouTube: www.youtube.com/watch?v=UY75MQte4RU.

It demystifies the process of coaching as it brings alive its psychological foundations. This simple, clever video helps coaches better describe how coaching works and helps clients appreciate the potential that coaches offer. The cartoon depicts a client facing a challenging road ahead who engages a well-equipped coach to successfully navigate the journey—a cycle of change and growth—to reach his best.

When clients come to coaches for help in reaching their goals, they also get a bonus: they grow, develop, and change, self-actualizing through a process of constructive development. This process is facilitated by a supportive relationship where clients feel safe, understood, and appreciated, and are challenged to be their best. As clients grow closer to their "best self," they become healthier, happier, and energized to live life fully. We invite coaches to adapt this new meta-frame to their own specialty area, developing their own toolbox to inspire clients to "get it done."

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**Progress... Continued from Page 1**

*Guidelines for Exercise Testing and Prescription, 8th ed.; ACSM's Resource Manual for Guidelines for Exercise Testing and Prescription, 6th ed.; ACSM's Certification Review, 3rd ed.;* and *ACSM's Resource Manual for Clinical Exercise Physiology,* all of which will be available mid-February of this year. This fall, the third edition of *ACSM's Resources for the Personal Trainer* will also be available. Certifications for these publications will update on July 1, 2009.

In addition to the existing ACSM titles, we will add new textbooks: one on business practices for the fitness professional, and another for the group exercise instructor. This leads us to ACSM's most recent certification development, a credential for the group exercise instructor. A team of experts in the field have been working diligently since October to develop a job-specific certification for individuals leading group exercise. Beta testing is tentatively planned for late spring/early summer.

Certification participation far exceeded our projections for 2008. We projected a 5 percent increase above participation for 2007 and we surpassed that number by 15 percent. Overall, since 2004, we have increased our participation rates by almost 50 percent.

On Oct. 1, 2008, two historic changes were made for ACSM certification. The Health/Fitness Instructor name changed to Certified Health Fitness Specialist (HFS) and the Exercise Specialist name changed to Certified Clinical Exercise Specialist (CES). This change better reflects the qualifications of the professionals who these certification and provides a clearer image to clients and customers regarding the skills of the professional.

As the level of professionalism heightens in the health/fitness and clinical field, the HFS and CES committee are currently reviewing the eligibility requirements for their respective certifications. As a certified professional, you will be part of this review process. Watch your e-mail for a survey about your certification and also look on our website during the next four to six months for the public comment period.

Today's technology has made preparing for an ACSM certification more convenient than ever. While our in-person workshops will continue to provide the best interactive and hands on preparation, the introduction of virtual seminars (or "webinars") have allowed individuals to learn from their home or office via the internet. The first HFS webinar series was held last fall and continues every six weeks. The CES webinar series starts this April.

May 1, 2008, marked the launch of ACSM's first affiliate society, the Clinical Exercise Physiology Association (CEPA). The focus of CEPA is to advance the profession of clinical exercise physiology through advocacy, education and career development. On Dec. 15, ACSM's second affiliate society launched, the International Association for Worksite Health Promotion (IAWHP). IAWHP's primary purpose is to advance the global community of worksite health promotion practitioners through high-quality information, services, educational activities, personal and professional development and networking opportunities.

Remember, all of this was accomplished by committee volunteers. If you have any interest in leading the way in our fabulous field, please feel free to contact the ACSM certification department to express your interest in contributing. My thanks and appreciation goes out to the members of the ACSM Committee on Certification and Registry Boards because without your commitment and hard work, none of this would be possible.

Enjoy top-notch educational presentations and unmatched opportunities to network with fellow professionals. In addition, earn valuable continuing education credits to keep your certification current. Below is a list of ACSM Regional Chapter meetings:

- February 12–14, 2009 – Southeast Chapter Annual Meeting, Birmingham, AL
- February 20–21, 2009 – Northwest Chapter Annual Meeting, Seattle, WA
- February 26-27, 2009 – Texas Chapter Annual Meeting, Tyler, TX
- February 27–28, 2009 – Rocky Mountain Chapter Annual Meeting, Colorado Springs, CO
- July 7–11, 2009 – Alaska Chapter Annual Meeting, Sitka, AK

**FOR A COMPLETE LIST**
(including ACSM's Health & Fitness Summit & Exposition in Atlanta, GA—March 25–28, 2009)
**VISIT WWW.ACSM.ORG/EDUCATION**

**Care Self Test... Continued from Page 7, pp. 7 – 9.**
**Provide answers on Self-Test Redemption form located on page 2.**

**Self Test 2: Kraus – Nutritional Care**

1. Bariatric surgery is now considered a replacement for nutritional counseling for weight control.
   True. False.

2. Those considering bariatric surgery would benefit from nutrition and exercise counseling only after having the surgery.
   True. False.

3. People who have undergone bariatric surgery will need to take various vitamins and minerals for:
   A. Only the first 3 months after surgery.
   B. Before their surgery to optimize their nutritional status.
   C. For the rest of their lives after surgery.
   D. Both b and c.

4. The meal plan followed a month following surgery is usually:
   A. Liquids only.
   B. The original diet the patient had before surgery, only with smaller portions.
   C. Can be a combination of pureed, soft solids and some liquids.
   D. None of the above.

5. Of all the nutrients, protein is the one most emphasized in the early stages of the meal plan for bariatric patients.
   True. False.

**ACSM's Certified News**
**ISSN # 1056-9677**
**P.O. Box 1440**
**Indianapolis, IN 46206-1440 USA**

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