

A Comprehensive Approach to Weight Management

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Over the past several years, the prevalence of both diabetes and obesity has greatly increased in the United States, as well as worldwide. Current statistics indicate that over 35% of the adult U.S. population is obese (1) and an additional 33% are overweight. The vast majority of those with type II diabetes are obese. Given the scope of this problem, it is more important than ever that we have effective methods for diagnosing and treating obesity.

Medical bariatric (obesity) specialists are physicians, nurse practitioners, and physician assistants who have completed specialized training in obesity medicine and have advanced knowledge about the medical management of obesity and its comorbidities. The American Society of Bariatric Physicians (ASBP) is a professional association for these medical professionals, and as such, provides clinical education and training for these practitioners. (2). The Obesity Society (TOS) is a professional organization of clinical researchers and medical professionals. (3)

The American Board of Obesity Medicine (ABOM) is a newly formed organization that offers board certification to physicians with advanced training in obesity medicine. The formation was a collaborative effort between ASBP and 11 other professional organizations, including TOS, The American Heart Association, and the American Society for Metabolic and Bariatric Surgery. (4)

Prior to this, board certification was provided by the American Board of Bariatric Medicine, a sister organization to ASBP, which has now been dissolved. ABOM was created to unite the bariatric community and provide a standardized procedure for

physicians to be trained and certified. It is hoped that in the near future, obesity medicine will become a medical specialty that is recognized by the American Board of Medical Specialties.

In 2009, ABBM began offering the board certification exam to nurse practitioners and physician assistants. A passing score on the exam and completion of one hundred CME hours earned a Certificate of Advanced Training in Bariatric Medicine. This certification is now provided by ASBP.

Medical obesity specialists, also known as bariatricians, treat obesity, insulin resistance, and type II diabetes in a manner that is safe and sustainable. They use a comprehensive approach that includes dietary guidance, exercise prescriptions, behavior modification, and, when appropriate, medications. (5). Bariatricians help patients make sustainable change. They make specific recommendations and help patients change habits. Their main focus is on health gain, rather than pounds lost (6).

Type II diabetes is a chronic condition that compromises the body's ability to metabolize glucose. It takes place in a setting of insulin resistance. Similarly, obesity is a chronic metabolic disease with an underlying state of insulin resistance. It is characterized by excessive adiposity, abnormal hunger, and lack of satiety. Common co-morbidities include type II diabetes, hypertension, dyslipidemia, obstructive sleep apnea, GERD, osteoarthritis, and depression.

Given the complexity of this chronic metabolic state, it is important to make an accurate assessment of the extent of an obese individual's disease state and his/her health risks before making a treatment recommendation. Noting that a person is obese is not enough to determine the most appropriate intervention. (7) Simply stated: If the focus is on weight only, the treatment will not be as effective.

Medical obesity specialists use a comprehensive approach to evaluate obesity. Initially, a thorough review of medical history, medications, patterns of weight gain, prior weight loss attempts, eating and exercise patterns, functional ability, stressors, and current motivators is done. Laboratory studies, physical exam, vital signs, height, weight, and anthropomorphic measurements are also completed. If indicated, an ECG may be done. (8)

A common method used for obesity assessment is the Body Mass Index (BMI). The BMI is widely used by clinicians to place individuals on a spectrum that ranges from healthy weight to severe obesity. Although it is helpful for tracking populations, BMI focuses only on weight, and does not give enough information to assess the extent of the disease or the health risks for a particular individual, and therefore cannot fully direct the treatment.

Knowledge of the role of adipose tissue has grown significantly in the last decades. Visceral fat, the fat that surrounds the major organs, is an active endocrine gland that produces numerous hormones that interact with other hormones in the brain, gut, liver, and other tissues in the body. Many of the hormones produced by visceral fat are inflammatory hormones that increase systemic inflammation, which is associated with cardiovascular disease, organ dysfunction, and cancer.

Additionally, these hormones affect appetite regulation, causing obese individuals to have abnormal hunger and lack of satiety. Because of the systemic effects of central adiposity, measurement of the waist circumference is an important component of a thorough assessment. (9)

One of the key players in the regulation of visceral fat stores is insulin. High levels of insulin signal the body to store fat. As more fat is accumulated, insulin resistance becomes worse, which results in further accumulation of adipose tissue, and the cycle continues. A fasting insulin level provides information about where an individual is on the continuum of insulin resistance. (7) It is frequently elevated in

an obese person, even when other indicators of glucose metabolism are normal. This is often followed by elevations in other laboratory measurements. Additional labs used to assess the metabolic status of obesity are hemoglobin A1c, fasting glucose, oral glucose tolerance test, lipid panel, liver & kidney function tests, and thyroid function tests. (11,12)

Clinicians now have a relatively new tool for assessing obesity. Researchers at the University of Alberta recently developed the Edmonton Obesity Staging System (EOSS). The rationale behind this staging system is that BMI, even when combined with a waist circumference, does not adequately inform us about the severity of the disease or the health risks. (13) Staging systems are often used to diagnose and treat cancer because an assessment of the stage—how much of the body is affected by the cancer—is needed before making any treatment recommendations. This is also true for obesity. The EOSS is used to place a patient into one of five stages based on co-morbidities (organ involvement), psychological symptoms, and functional limitations. (14)

With their knowledge of insulin resistance and central adiposity, medical obesity specialists target their treatments towards fat loss, rather than strictly focusing on weight loss. In addition to improving co-morbidities and reducing health risks, goals of treatment are to prevent further weight gain, reduce body weight, and maintain a lower body weight over the long term. (15)

Bariatricians use a variety of dietary approaches, including carbohydrate restricted diets, low carbohydrate diets, calorie restriction, very low calorie diets (VLCD), or combinations of these methods. Recommendations are based on the individual's metabolic state. (16)

An exercise prescription is given with the goal of helping the patient develop a sustainable pattern of regular activity and improving the underlying mechanisms of disease. Aerobic activity, including walking, is insulin sensitizing, and recent

research suggests that strength training may have an insulin sensitizing effects as well. (17,18) Information gathered from the National Weight Control Registry indicates that exercise is vital to weight maintenance; which is also why it is recommended. (19)

Behavior modification is fundamental to success. Due to the chronic nature of obesity, it is imperative that patients make permanent lifestyle changes, rather than temporary changes followed by a return to their previous patterns. Coaching and counseling help patients transform initial change into lifelong change. There are many bumps on the road to change; expert guidance and support from an experienced professional is needed. (20)

Medications may be used if appropriate. (21) When indicated, metformin is used to decrease insulin resistance. It also has some appetite suppressing effects, providing additional benefit. Anorectic medications such as phentermine may be used as well. The risks and benefits of these medications are carefully considered and discussed with each patient. Responses and side effects are closely monitored.

Other medications, such as topiramate, 5-HTP, and carbadopa may also be used. (22) Given the abnormal hunger and lack of satiety that many who are obese experience, these medications can be highly effective. New medications are on the horizon and may be in clinician's hands in the near future.

Regular follow up visits are an important component of treatment. Visits are often more frequent at the beginning of treatment, with decreased frequency as the treatment progresses. A comprehensive approach to weight management includes a maintenance phase. (23) As difficult as weight loss is, maintaining the loss is a far more challenging endeavor. For this reason, it is important that follow up visits continue during this phase.

Once patients have reached a weight that is healthy for them and are successfully maintaining their loss, they may no longer require clinic visits. However, they are encouraged to return if they begin to gain weight or have difficulty following their routine. Because obesity is a chronic disease, the changes made by patients need to be continued. As with other chronic diseases, if the treatment stops, the disease returns. (24)

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