The Obesity Challenge

Weight Management for Older Adults

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The Obesity Challenge: Weight Management for Older Adults

Acknowledgements

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Thank you to the following professionals for their time, effort and dedication to this project. We hope that your residents will benefit as a result of their hard work.

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We Welcome Your Comments!

In our constant effort to serve your needs and improve this manual, your comments are always appreciated. Please send them to:

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The Obesity Challenge: Weight Management for Older Adults

Letter to Our Readers

Thank you for purchasing this guide to weight management for older adults. I'd like to provide a little history on how this publication came about… My consulting company, Becky Dorner & Associates Consulting, had the privilege of working with the staff and residents at Andover Village in northeast Ohio a number of years ago. At the time, this facility had approximately 80 extremely obese residents with ages ranging from mid-twenties to mid-fifties, and older. The majority of the residents were in their forties and fifties. In our work with the residents and staff, our role was to develop a total interdisciplinary team program that would include screening and admission into the weight management program, all policies, procedures, protocols and forms to be used by staff, training for staff, and educational materials for residents in the weight management program. Although this book was originally developed for use with long term care facilities, it has evolved into a guide for health care professionals which can be used in any health care setting.

The book has been revised to reflect current information related to obesity in adults in the U.S. Typically the term "older adult" refers to people who are 65 and older. However, the information in this book could apply to any adult, particularly those who are 50 years of age or older. This encompasses a wide variety of people with various levels of obesity and various diseases and conditions.

We hope that the information in this book will assist you in providing the best possible treatment for those in your care. Best of luck to you as you pursue your mission to assist others to live healthier lives. Please let us know if we can be of support in any way.

Sincerely,

Becky Dorner, RD, LD
President, Becky Dorner & Associates, Inc.

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Aging, Obesity, and Long Term Healthcare

Introduction

There has been a dramatic increase in obesity in the United States (U.S.) since 1985 (1), leading experts to declare that obesity is a national epidemic which is the greatest threat to public health in this century. In 2011, more than two thirds of American adults were overweight or obese, and for the first time, the percentage of obese people actually outnumbered the percentage of those considered overweight (2). Almost 6% of U.S. adults are considered extremely obese (BMI of ≥40).

Childhood obesity in the U.S. has risen to a staggering 17%, almost tripling since 1980 and creating major health concerns for future generations (3).

Obesity is a disease of excess body fat or adiposity which results from excessive accumulation of fat that exceeds the body's skeletal and physical standards. Currently, healthcare professionals define obesity by body mass index (BMI). BMI is a quick, inexpensive, and reliable measure of body fatness. It is measured using height and weight and is calculated the same way for both adults and children (excluding pregnant women). The calculation is based on the following formulas (4):

Measurement Units	BMI Formula and Calculation
Pounds and Inches	Formula: Weight (lb.) / [Height (in)] ² x 703 Calculate BMI by dividing weight in pounds (lbs) by height in inches (in) squared and multiplying by a conversion factor of 703. Example: Weight = 150 lbs, Height = 5'5" (65") Calculation: [150 ÷ (65)2] x 703 = 24.96
Kilograms and Meters (or Centimeters)	Formula: Weight (kg) / [Height (m)]² With the metric system, the formula for BMI is weight in kilograms divided by height in meters squared. Since height is commonly measured in centimeters, divide height in centimeters by 100 to obtain height in meters. Example: Weight = 68 kg, Height = 165 cm (1.65 m) Calculation: 68 ÷ (1.65)² = 24.98

Definitions: Overweight and Obese (5)

Body weight status can be categorized as underweight, healthy weight, overweight, or obese. The terms overweight and obese describe ranges of weight that are greater than what is considered healthy for a given height. Underweight describes a weight that is lower than what is considered healthy for a given height. These categories are a guide. Refer to the chart Classification of Obesity by BMI on the next page.

Note: Because children and adolescents are growing, their BMI is plotted on growth charts for sex and age. The percentile indicates the relative position of the child's BMI among children of the same sex and age.

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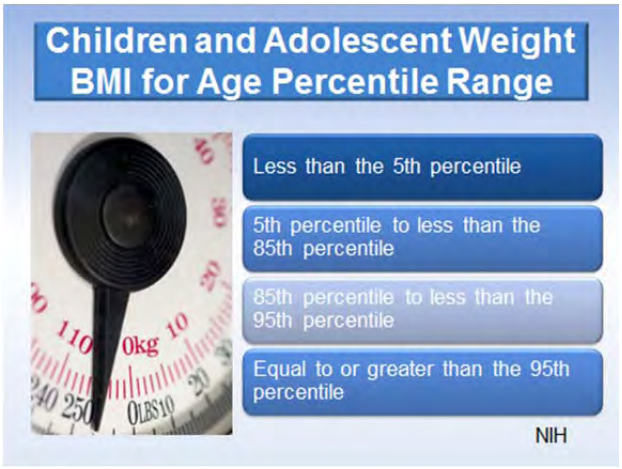
Classification of Obesity by BMI



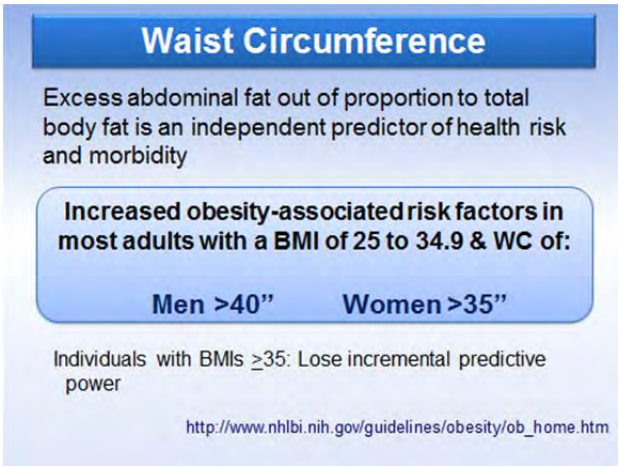
The National Institute of Health (NIH) further classifies obesity levels as outlined below (6).

Obesity Class	BMI (kg/m^2)
Obesity I	30.0 to 34.9
Obesity II	35.0 to 39.9
Extreme Obesity III	≥40

Waist Circumference

Excess abdominal fat out of proportion to total body fat is an independent predictor of health risk and morbidity. A large waist circumference in mid-life has been shown to increase the risk of diabetes, stroke, coronary heart disease and dementia. There is an increase in obesity-associated risk factors in most adults with a BMI of 25 to 34.9 and waist circumference of greater than 40 inches for men, and greater than 35 inches for women.

Note: For individuals with BMIs greater than or equal to 35, this formula loses incremental predictive power (6).



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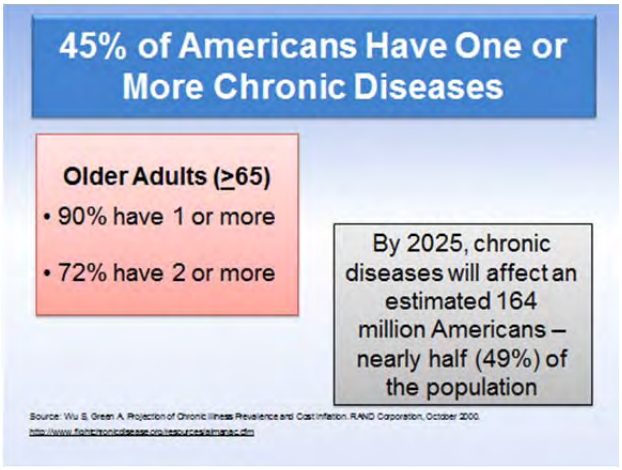
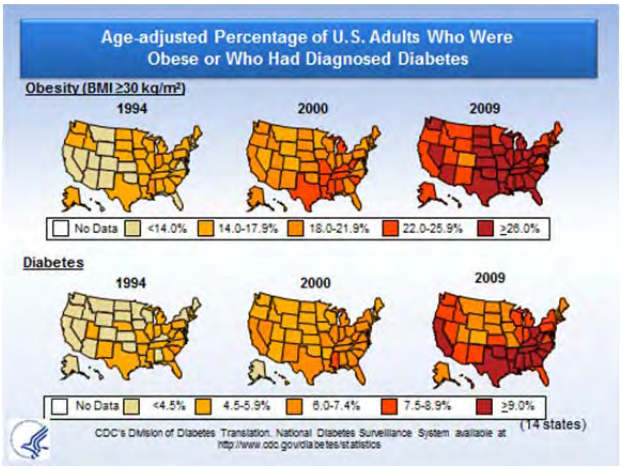
Health Effects of Obesity

Almost half of American adults have one or more chronic diseases, and incidence is expected to rise dramatically by 2025 due to the effects of obesity and an aging population (7,8).



Obese individuals have the highest risk for developing numerous illnesses that often reduce mobility and quality of life, including hypertension, dyslipidemia, diabetes, coronary artery disease, stroke, gallbladder disease and osteoarthritis (9). Individuals who weigh 20% or more than their ideal body weight have much greater weight-related health risks, including an increased risk of dying, estimated at 5 to 10 times higher than that of people of normal weight (10,11).



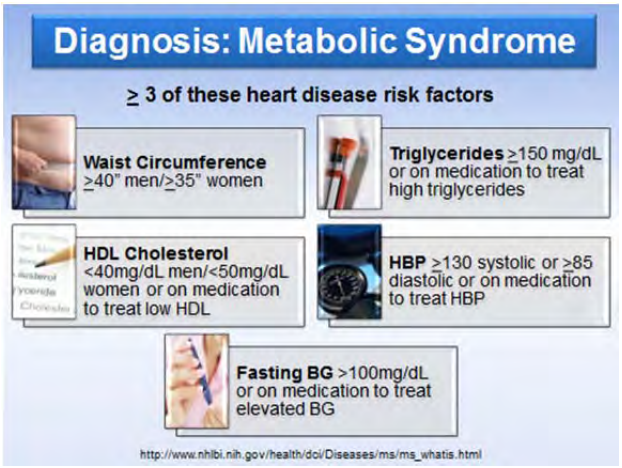
In addition, these individuals have a greater likelihood of debilitating conditions such as arthritis, respiratory problems, cancer, depression, diabetes, gastro-esophageal reflux, heart disease, hypertension, infertility, loss of bowel and/or urinary control, menstrual problems, obstructive sleep apnea, swollen legs and venous disorders (11). That means that an alarming 41.3% of all U.S. adults have either diabetes or prediabetes.

The doubling of obesity has been blamed for the rise in diabetes rates. Approximately 11.3% of U.S. adults have diabetes and 30% of adults in the U.S. have prediabetes (12).That means that an alarming 41.3% of all U>S> adults have either diabetes or prediabetes.

The increase in obesity rates in the older adult population has had a major impact on chronic disease rates. Currently, 90% of adults 65 years of age or older have one or more chronic diseases, and 72% have two or more (8). Approximately 26.9% of older adults have diabetes, and 25% of nursing home residents over 65 years of age are diagnosed with diabetes (13), and 50% of adults 65 and older have prediabetes. That is equivalent to 76.9% with either diabetes or prediabetes.

Metabolic syndrome refers to a group of risk factors which are associated with cardiovascular disease (CVD) and type 2 diabetes. Based on the National Cholesterol Education Program's (NCEP) ATP III definition, metabolic syndrome is diagnosed when an individual has three or more of these heart disease risk factors (14):

1. Waist Circumference: ≥40" (102 cm) for men/≥35" (88 cm) for women.
2. Triglycerides: ≥150 mg/dL (or undergoing treatment for high triglyceride levels).
3. HDL Cholesterol: <40mg/dL men/<50mg/dL women (or undergoing treatment for low HDL cholesterol level).
4. Blood Pressure: ≥130 systolic or ≥85 diastolic (or on medication to treat hypertension).
5. Fasting plasma glucose: ≥100mg/dL (or undergoing treatment for elevated blood glucose).



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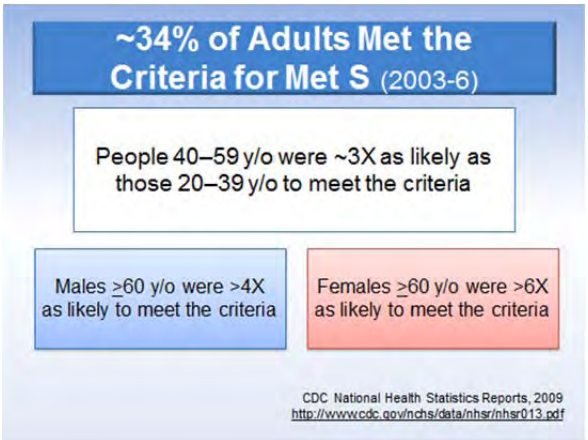


Between 2003-2006, approximately 34% of adults age 20 and older met the criteria for metabolic syndrome (15,16). Prevalence increases with age:

- 15.6% for 20 to 39 years,
- 37.2% for 40 to 59 years, and
- 54.4% for 60 years and older (16).

People with metabolic syndrome are twice as likely to develop coronary heart disease (CHD) and five times as likely to develop diabetes. The more risk factors, the greater the chance the person has of developing CHD, diabetes or stroke (17).

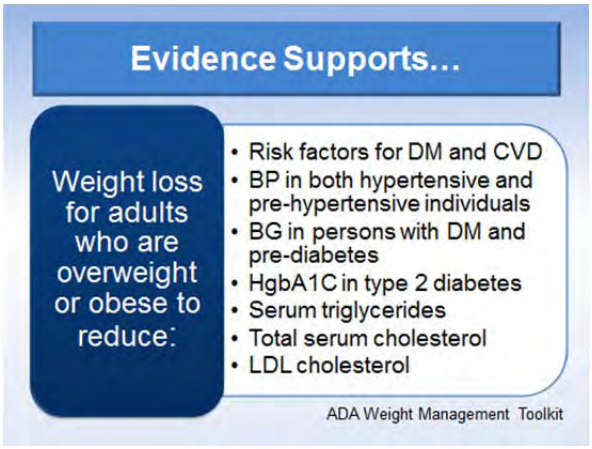
Practice Guidelines for Adults

The American Society of Bariatric Physicians developed Bariatric Practice Guidelines which are used as general guidance for bariatricians in the treatment of obese patients (18). The guidelines suggest that healthcare practitioners should conduct a total history (evaluation of weight history, dietary status and mental status), physical examination (height, weight, blood pressure, pulse and additional examinations appropriate to age and health status), and diagnostic studies (full laboratory workup with TSH-thyroid function, an electrocardiogram if cardiac disease is present or if there is any risk of coronary heart disease, optional tests such as body fat percentage and other tests at the physician's discretion) for their obese patients.

Obese individuals should be counseled on diet, exercise, lifestyle modification and other aspects of weight loss therapy including medications as appropriate. The risks versus benefits of various medications and other treatment modalities should be discussed. Periodic follow up and a maintenance program should be offered to assist with sustaining a successful long term weight loss.

Evidence supports weight loss for individuals who are overweight or obese to reduce:

- Risk factors for diabetes and cardiovascular disease
- Blood pressure in both hypertensive and pre-hypertensive individuals
- Blood glucose in persons with diabetes and pre-diabetes
- Hemoglobin A1C in persons with type 2 diabetes
- Serum triglycerides
- Total serum cholesterol
- LDL cholesterol (19)



Guidance from the Academy of Nutrition and Dietetics Evidence Analysis Library: Adult Weight Management

There is strong evidence to support the use of a comprehensive weight management program for weight loss and maintenance of weight loss. A comprehensive program includes a combination of diet, physical activity and behavior therapy. Behavior therapy strategies combined with physical activity and diet promote additional weight loss. Multiple behavior therapy strategies should be used throughout weight loss and weight management for the best success. Strategies include stimulus control, problem solving, self-monitoring such as recording food intake and exercise, stress management, cognitive restructuring, and social support. Research indicates that the combination of the three is more effective than any one intervention by itself. There is also strong evidence that providing frequent medical nutrition therapy (MNT) sessions for a minimum of 6 months or until goals for weight loss are achieved provides more success for weight loss and maintenance of weight loss (20).

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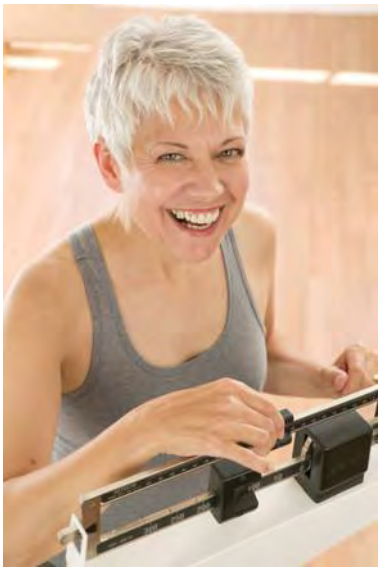


There is strong evidence to support individualizing weight loss goals for a realistic and achievable 1 to 2 pounds per week to achieve an initial goal of up to a 10% loss of body weight from baseline in the first 6 months. For estimating energy needs of overweight and obese individuals, use of indirect calorimetry (IC) to measure RMR is ideal. However, if this technology is not available, use of the Mifflin-St. Jeor equation using **actual** weight is supported by strong evidence (20).

To achieve a 1 to 2 pound weight loss per week, there is strong evidence to support individualizing a reduced calorie diet as part of a comprehensive weight management program. This diet should create a caloric deficit of 500 to 1000 calories below estimated energy needs by reducing fat and/or carbohydrates. Distributing calories throughout the day by using 4 to 5 meals and/or snacks each day, including breakfast and emphasizing greater energy intake during the day rather than the evening has fair evidence (20).

There is strong evidence to support substitution of 1 to 2 meals or snacks per day with a meal replacement (such as a liquid meal replacement, bar, or low calorie pre-packaged meal) as part of a comprehensive weight management program for individuals who have difficulty with portion control, or selection of an appropriate diet (20).

There is fair evidence for portion control of meals and snacks which result in a reduction of caloric intake. Despite a lack of evidence, experts realize that this is a key to success. Nutrition education also has fair evidence however, experts agree that individualized education should be part of a comprehensive program. Education may include practical applications such as how to modify a recipe, how to use low fat/calorie cooking methods, how to cook nutrient dense (low calorie) foods, and how to read food labels (20).

Strong evidence indicates that a low glycemic index diet is not effective, and therefore is not recommended as part of a comprehensive weight management program for either weight loss or maintenance of weight loss (20).

Although it is important to encourage adequate dietary intake of low fat dairy foods (3 to 4 servings/day) as part of a well-balanced healthy diet, the effects of lower levels of dairy or calcium on weight management is still unclear (20).

Reducing carbohydrates to less than 35% of calories does reduce energy intake. In addition, it is associated with a greater loss of weight and fat in the first six months than traditional low calorie diets. However, this difference is not significant after one year. For the short term though, reducing carbohydrates may be a strategy for some people (20).

Strong evidence supports the inclusion of physical activity as part of a comprehensive program because it supports weight loss efforts, and may decrease abdominal fat and help with weight maintenance. Physical activity must be individualized; however, for most people, the goal should be 30 minutes or more of moderate intensity physical activity on most days, unless contraindicated due to medical conditions (20).

Those who need to lose weight should aim for a reasonable, steady weight loss by decreasing calorie intake, maintaining an adequate nutrient intake and increasing physical activity (5). Overweight people with chronic diseases and/or on medication should consult a healthcare provider prior to starting a program to ensure appropriate management of health conditions (20).

American adults report their participation in leisure time physical activity as follows: approximately one third on a regular basis, one third sometimes, and one third consider themselves inactive. Less than 5% of adults participate in 30 minutes of physical activity each day with slightly more meeting the recommended weekly goal of at least 150 minutes (5).

The initial goal for weight loss is to reduce body weight 5 to 10% within 6 months (10,19), an then further weight loss can be attempted, if indicated. Most weight loss occurs because of reduction in caloric intake, but physical activity is essential for maintenance of weight loss. Recommendations are noted in the chart below. These

weight loss rates commonly occur for up to 6 months and then weight loss typically declines. Weight will likely be regained without dietary therapy, physical activity and behavior therapy.

BMI Level	Goal	Daily Kcalorie Reduction	Expected Weight Loss
27 to 35	Promote a 10% loss of body weight in 6 months	300 to 500 each day	~ ½ to 1 pound per week
> 35	Promote a 10% loss of body weight in 6 months	500 to 1,000 each day	~ 1 to 2 pounds per week

Note: Maintaining a smaller calorie deficit can also have meaningful influence on body weight over time (5).

Strategies for Weight Loss and Weight Maintenance

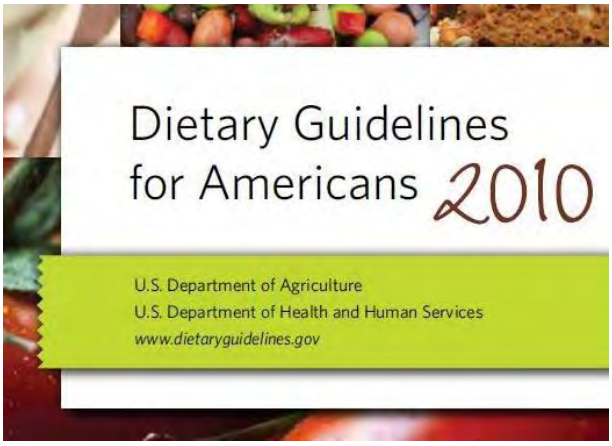
Behaviors Related to Body Weight

Note: Not every older adult is a candidate for weight loss. Refer to the section on Long Term Healthcare and Safety Concerns in Older Adults on page 11.

However, when individuals have been identified as candidates for planned weight loss, there are a number of strategies for weight loss and weight maintenance. It is important to incorporate personal preferences and characteristics to customize obesity treatment programs. Consider the individual's lifestyle, living setting (if the individual is living in a healthcare facility, consider the staffing for the program), and how the obesity treatment program integrates into other aspects of daily life and/or care. Expect and allow for program modifications based on the individual's responses and preferences (21).

The healthiest way to lose weight and keep it off is through a balanced diet, exercise and behavior modification. Increased physical activity is encouraged. Although it will not lead to substantially greater weight loss after 6 months, it will help to maintain weight loss, and research indicates that sustained physical activity is most helpful in prevention of weight regain. Physical activity also reduces cardiovascular and diabetes risks beyond that produced by weight loss alone (21).

According to The Dietary Guidelines for Americans, the behaviors that have the strongest correlation to controlling body weight include (5):



- **Focus on the total number of calories consumed.** Maintaining a healthy eating pattern at an appropriate calorie level is advisable for weight management. A diet that is nutrient dense with low caloric density may help to reduce calorie intake and improve body weight outcomes and overall health.
- **Monitor food intake.** Monitoring intake has been shown to help individuals become more aware of what and how much they eat and drink. The Nutrition Facts label found on food packaging provides calorie information for each serving of food or beverage and can assist consumers in monitoring their intake. Also, monitoring body weight and physical activity can help prevent weight gain and improve outcomes when actively losing weight or maintaining body weight following weight loss.
- **When eating out, choose smaller portions or lower-calorie options.** When possible, order a small-sized option, share a meal, or take home part of the meal. Review the calorie content of foods and beverages offered and choose lower-calorie options. Calorie information may be available on menus, in a pamphlet, on food wrappers, or online. Or, instead of eating out, cook and eat more meals at home.
- **Prepare, serve, and consume smaller portions of foods and beverages, especially those high in calories.** Individuals eat and drink more when provided larger portions. Serving and consuming smaller portions is associated with weight loss and weight maintenance over time.