



April 2012 (updated May 2015)

ELDER CARE

A Resource for Interprofessional Providers

Dealing with Overweight and Obesity in Non-Frail Older Adults

Colleen Keller, RN, PhD; Barbara Shaw-Snyder, RN, MBA; and Barbara Ainsworth, PhD, MPH, FACSM, Arizona State University

Recent data indicate that the decline in body fat that accompanies aging is occurring later in life, leading to a higher percentage of older adults who are overweight. From 1990 to 2000, there was a 32% increase in the percentage of adults aged 70-79 who were overweight.

While the comorbidities that occur in older adults make it difficult to separate out the independent effects of weight, we know that overweight and obesity are associated with the same problems in older adults as they are in younger adults. These include diabetes, osteoarthritis, cardiovascular disease, and impaired pulmonary function. The rate of dementia is also higher among obese older adults. And, obesity is accompanied by an impairment in quality of life and functional status, in, and of, itself.

Definition and Assessment

Overweight in adults is generally defined as a body mass index (BMI) of 25-29.9, and obesity as a BMI ≥ 30.0 . But, while BMI (calculated as weight in kg divided by the square of the height in meters) is an appropriate measure to use for younger adults, the body composition changes that accompany aging make BMI less appropriate for use in older adults. This is because BMI relies on muscle mass to influence the ratio of height-to-weight, and aging is accompanied by a decline in muscle mass. BMI also relies on height, and there is often height reduction in older adults due to osteoporosis-related vertebral compression fractures and kyphosis.

Better measures in older adults are waist circumference and waist-to-hip ratio. Both correlate well with measures of visceral fat as determined by computed tomography (CT) and with the rates of obesity-related diseases. Waist circumference, which is easy to measure, is a stronger predictor than BMI of mortality in older women. Table 1 explains how to measure weight and hip circumference, and how to interpret the measurements.

Recommendations for Treatment

Addressing overweight and obesity in an older adult is hallmarked by two key interventions. One is improving the

Table 1. Measures of Overweight in Older Adults

What to measure	How to measure
Waist circumference	Smallest circumference between lower rib and top of iliac crest
Hip circumference	Widest circumference at buttocks
Interpretation of Measures: Definition of obesity	
Waist circumference	≥ 35 " for women ≥ 40 " for men
Waist-to-hip ratio	≥ 0.85 for women ≥ 0.90 for men
Sources: World Health Organization, National Heart Lung Blood Institute	

individual's nutritional status. The other is increasing physical activity.

Improving nutritional status focuses on total dietary intake of calories and composition of fats. The 2010 Dietary Guidelines recommend a total calorie intake between 1800-2200 kcal/day for obese adults 65 years or older, assuming a low level of physical activity. Fat intake is aimed at limiting saturated and trans-fat intake. Assessment of food shopping behavior and the individual's approach to food preparation are important in determining the older person's capabilities for improving nutrition.

Referral to a dietician may be helpful, as may enrollment in a formal weight reduction program. In cases of extreme obesity, bariatric surgery can be considered as it has been found safe for many older adults in their 60s and 70s, especially in those with medical co-morbidities.

Increasing physical activity is just as important as improving nutritional status. The clinician should first assess the older patient's level of fitness (for example with the timed "up-and-go" test or with cardiac stress testing for those being considered for more aggressive exercise programs). A physical activity program should then be recommended. The program should include a prescription

TIPS FOR DEALING WITH OLDER ADULTS WHO ARE OVERWEIGHT OR OBESE

- Use waist circumference, or waist-to-hip ratio, to check weight status. It is more accurate than BMI in older adults.
- Focus nutritional interventions on total caloric intake, limiting calories to between 1800-2200 kcal/day.
- Emphasize importance of limiting or eliminating saturated and trans-fats.
- Prescribe increased physical activity, including both cardiovascular and strength training, using resources such as the Exercise is Medicine initiative as a source of information for both patients and clinicians.

ELDER CARE

Continued from front page

Physical Activity	Cardiovascular Training	Strength Training
Key Exercises	Increase incidental activity (walking and standing). Add low-impact activities such as longer walks, swimming, cycling, step aerobics, or group exercise in water. Use a pedometer to measure steps/day; gradually increase to goal of 8,000 steps /day.	Work out major muscle groups with dumbbells, resistance bands, or own body weight.
Alternatives for less-mobile individuals	If walking is difficult, cycling, swimming and chair activities are good alternatives. An extended warm-up is recommended.	Low-level exercises, using light wrist and ankle weights. Incorporate flexibility, eye-hand coordination, reflex training, and fall prevention activities. An extended warm-up is recommended.
Days per week	Minimum of 5; daily is preferable.	Minimum of 2.
Minutes per day	<ul style="list-style-type: none"> Start with 10-15 min. Each week add 5 min, up to 30 min. To lose weight or maintain weight loss, 60-90 min may be necessary. 	<ul style="list-style-type: none"> 8-10 exercises with major muscle groups 1-3 sets (8-12 repetitions/set) of each exercise
Eventual goal	Minimum of 150 min/week for disease risk reduction; 300 min/week for weight loss.	Gradually increase the intensity and duration of workouts.

Information from Exercise is Medicine <http://exercisemedicine.org/YourPrescription.htm>

for cardiovascular exercise, along with flexibility, balance, and strength-building exercises that address the sarcopenic changes of aging. Initiating an exercise program in older patients should emphasize not just weight reduction, but also the goals of improving physical function and lessening symptoms of co-morbidities such as the joint pain of arthritis or the

dyspnea and fatigue of chronic lung disease, all of which are worsened by poor fitness and overweight/obesity. An excellent resource for clinicians that includes information on exercise prescriptions is "Exercise is Medicine," an initiative of the American College of Sports Medicine in collaboration with the American Medical Association.

Special Considerations	Recommendations
Being overweight can stress joints.	Suggest low-impact activities that minimize your patient's risk of injury. Swimming, water exercises, and chair exercise are alternatives for those who find other forms of exercise uncomfortable.
Extra weight can more easily cause the body to overheat.	Advise your patient to drink plenty of fluids before, during, and after physical activity. Wear weather-appropriate clothes in warm weather (lightweight, light color, vented).
Some patients have health conditions that make it difficult to know what type of exercise plans to recommend.	Make adjustments for your patient's individual needs, as an exercise program should maximize benefits while minimizing the risk of aggravating any health conditions. Exercise is Medicine has developed <i>Your Prescription for Health Series</i> which offers patient brochures about 40 different health conditions including exercising with Alzheimer's disease, chronic heart failure, frailty, obstructive pulmonary disease, and arthritis. See http://exercisemedicine.org/YourPrescription.htm
Many patients are at risk for falls.	Recommend that your patient seek the advice of an exercise professional to learn how to properly perform balance exercises.
Some patients have specific or complex exercise needs.	Consider contacting a fitness professional who is certified by the American College of Sports Medicine (ACSM) and who can work with your patient to establish realistic goals and design a safe and effective program that addresses his/her specific needs. You may locate all ACSM-certified fitness professionals by using the ProFinder at www.acsm.org .

Information from Exercise is Medicine <http://exercisemedicine.org/YourPrescription.htm>

References and Resources

- Exercise is medicine™ action and promotion toolkit. <http://exercisemedicine.org/action.htm>
 Han TS, Tajar A, Lean MEJ. Obesity and weight management in the elderly. *Br Med Bull.* 2011;97:169-196.
 Tudor-Locke C, Craig CL, Aoyagi Y, et al. How many steps/day are enough? For older adults and special populations. *Int J Behav Nutr Phys Act.* 2011;8:80.
 Willkomm CM, Fisher TL, Barnes GS, Kennedy CI, Kuhn JA. Surgical weight loss >65 years old: is it worth the risk? *Surg Obes Relat Dis.* 2010;6(5):491-496.

Interprofessional care improves the outcomes of older adults with complex health problems

Editors: Mindy Fain, MD; Jane Mohler, NP-c, MPH, PhD; and Barry D. Weiss, MD
 Interprofessional Associate Editors: Tracy Carroll, PT, CHT, MPH; David Coon, PhD; Jeannie Lee, PharmD, BCPS;
 Lisa O'Neill, MPH; Floribella Redondo; Laura Vitkus, BA

The University of Arizona, PO Box 245069, Tucson, AZ 85724-5069 | (520) 626-5800 | <http://aging.medicine.arizona.edu>

Supported by: Donald W. Reynolds Foundation, Arizona Geriatric Education Center and Arizona Center on Aging

This project was supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number UB4HP19047, Arizona Geriatric Education Center. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.