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Since INTERVENT’s inception in 1997, our mission has been to optimize the health of as many people as possible by providing them with affordable and cost-effective access to credible, evidence-based, lifestyle management and chronic disease risk reduction services. We’ve provided unique health care solutions to numerous individual consumers and hundreds of organizations.
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There is no commercial support being used for this course.
Acknowledgements

RN.com acknowledges the valuable contributions of...

Neil Gordon, MD, PhD, MPH, FACC. Dr. Gordon is one of the founders of INTERVENT, a lifestyle management and population health management company. He is the CEO and medical director. Dr. Gordon obtained his M.D. and a Ph.D. in exercise physiology in South Africa, and has a master's degree in public health from the University of California, Los Angeles. He is a fellow of the American College of Cardiology and is board certified in public health and general preventive medicine. Dr. Gordon served as director of exercise physiology at the world-renowned Cooper Institute in Dallas, Texas for six and a half years where he worked with numerous elite athletes. Dr. Gordon also served as a clinical professor of medicine at the Emory University School of Medicine (Atlanta, Georgia), vice-president of the American Association for Cardiovascular and Pulmonary Rehabilitation, a trustee of the American College of Sports Medicine and chairman of the American Heart Association Committee on Exercise, Cardiac Rehabilitation and Prevention. Dr. Gordon has authored over 100 published scientific manuscripts, eight books, and numerous scientific abstracts in the area of preventive medicine.

Brenda Shepherd Wright, PhD. Brenda received a Bachelor of Science degree from the University of Texas at Austin and a master of education and a doctor of philosophy degrees from the University of North Texas in Denton. For more than 12 years she served as director of behavioral science and health promotion at the Cooper Institute in Dallas. With more than 30 years of experience in health promotion and disease prevention, Brenda has worked with a variety of clients and populations in the U.S. and internationally, including over 200 corporate health promotion programs. Her publication record includes numerous scientific abstracts and manuscripts, newsletters, books for lay and professional audiences, and other technical works. Brenda is one of INTERVENT's co-founders. In her past and current roles at INTERVENT, she has served as the primary author of educational and training materials and adapted materials for global audiences. Brenda has provided training and consultative services to lifestyle and disease management coaches on both subject matter content and coaching practices, particularly stages of change and motivational interviewing. As requested by specific clients, Brenda has developed customized on-site health promotion programs, such as fatigue management training for shift workers, interactive seminars and challenges/ competitions, and has assisted with preparation of customized evaluation reports.
Purpose

The purpose of this two contact hour course for nurses is to provide insight into the chronic health risks of overweight and obesity, and to offer guidelines for use in educating patients on the importance of weight control as part of a healthy lifestyle.

Learning Objectives

On completion of this course, the healthcare professional will be able to:
1. Discuss key concepts involved in the development of overweight and obesity.
2. List two causes of being overweight and of obesity.
3. Review the basic concepts of body mass index (BMI), resting metabolic rate (RMR), waist circumference, motivation, and readiness to lose weight.
4. Discuss the 2013 American Heart Association (AHA), American College of Cardiology (ACC), and The Obesity Society (TOS) guidelines for the management of overweight and obesity in adults.
5. Describe dietary and physical activity recommendations for weight management.
Introduction

The prevalence of overweight and obesity in the United States has increased dramatically over the past 30 years or so, and the problem has now reached epidemic proportions. Currently, about one-third of adults are overweight and an additional one-third are obese (AHA, 2014b).

Although overweight/obesity has been shown to be a risk factor for numerous diseases such as diabetes, cardiovascular disease, stroke, metabolic syndrome, and sleep apnea, most overweight people do not consider themselves at higher risk for medical conditions or premature death.

Media dramatization of the weight issues of famous personalities and conflicting dietary advice from various sources have caused confusion among many patients and healthcare providers, leading to frustration and subsequent inaction.

This course will help educate nurses about the epidemiology and management of overweight and obese patients. Using current national guidelines, the clinical management of patients will be discussed, and guidelines presented to direct patient education.
Key Concepts

- The prevention and treatment of overweight/obesity has been disappointing because how and why these conditions develop is complex and not completely understood.
- Environmental factors that promote eating high-fat/high-energy food and avoiding physical activity have contributed to overweight/obesity.
- Genetic factors predict overweight/obesity. Perhaps as much as one-third of the influence is genetically controlled.
- BMI (body mass index) is the most widely accepted method for measuring body fat. BMI determines relative weight for height.
- Waist circumference is an indicator of how much fat is stored in the abdomen. Cut-off points associated with increased risk for chronic disease have been defined.
- Chronic diseases associated with overweight/obesity are major killers.
- Decisions about weight loss and weight management should be made in view of overall health and should consider motivation and readiness to lose weight.
- For most overweight/obese people, a realistic initial goal is to lose 5-10% of current weight. A reasonable timeline for a 5-10% reduction in body weight is typically 3-6 months.
- Once the goal of weight loss has been achieved, keeping the weight off becomes the challenge. Weight management requires a different set of skills than weight loss.
- All people who are overweight/obese need help in modifying their meal plan, eating habits, increasing their physical activity, and/or managing their stress.
- There are several additional options for aggressively treating obesity, including drugs and surgery.
- You will see the term “calorie” used throughout this course. Note that one calorie equals 4.18 kilojoules.
Prevalence of Overweight and Obesity in the U.S.

The prevalence of obesity in the United States today is alarming. The rates among African Americans (44.1%), Mexican Americans (40.4%), and all Hispanics (38.7%) are greater than those reported for white adults (32.8%).

Asian Americans are an exception, with a prevalence of obesity that is much lower than in the general population. American Indians/Alaska Natives have similar rates as non-Hispanic whites, at 32.4%. Among all persons 60 years of age or older, the prevalence of obesity is estimated to be 35.4%; however, roughly half of all African American and Mexican American women, 60 years of age or older, are obese (Flegal et al., 2010).

Screening Recommendations

The United States Preventive Services Task Force (USPSTF) recommends that clinicians screen children six years of age and older for obesity and offer them or refer them to comprehensive, intensive behavioral interventions to promote improvement in weight status.

Note! Overall, according to the National Health and Nutritional Examination Survey (NHANES) 2007-2010 data, 68% of US adults are overweight or obese (73% of men and 64% of women).
Understanding Possible Causes of Overweight/Obesity

The prevention and treatment of overweight/obesity have generally been disappointing because the understanding of how and why it develops is complex and incomplete. The following factors are most widely believed to cause overweight and obesity:

**Environmental Factors**
People living in industrialized countries often become overweight/obese. Changes in what foods are available and how much lifestyle physical activity occurs have presented people with new challenges to a healthy lifestyle.

Is overweight/obesity simply a disorder that results from a lifestyle that includes eating too much or exercising too little, or both? There is no question that these factors are associated with gaining weight, but the classic energy balance equation does not fully explain overweight/obesity.

What other environmental factors influence body weight? In industrialized countries, such as Canada, the United Kingdom and the United States, studies have shown that the risk of gaining weight is greatest for people with low incomes, less education, and heavy alcohol use. People who get married or stop smoking are also more likely to gain weight.
Understanding Possible Causes of Overweight/Obesity

Genetic Factors
Obesity is known to be a family trait. However, family members share not only genes, but also eating habits, a cultural background, and other aspects of lifestyle and environment. Scientific studies have helped separate the influences of genetic and environmental factors on overweight/obesity.

Studies on body composition found that adopted children had a body composition similar to that of their biological parents rather than their adoptive parents (Sorenson & Stunkard, 1992; Bouchard, 1994).

Studies of twins have also helped to separate the influence of genetic and environmental factors on body fat. Identical twins share the same genes, while fraternal twins share only half their genes. For twins reared in similar environments, fraternal twins had greater differences in body fat than identical twins. For fraternal and identical twins reared apart, differences in body fat were influenced more by genetic factors than by their non-shared environments (Bouchard, 1994; Wardle et al., 2008).

Although it is not clear exactly how much genetic factors predict overweight/obesity, perhaps as much as one-third of the influence is genetically controlled. Some people are born with a predisposition to overweight/obesity, which is readily nourished by a high-fat, high-energy, low-activity lifestyle. The most striking increase in the number of adults who are overweight/obese has occurred in the last three decades or so. It is unlikely our genes have changed significantly during that period of time. It is also disturbing that the increase in overweight/obesity in industrialized countries has been accompanied by parallel trends in children and teenagers.

Note! The challenge of losing weight and keeping it off long-term points to the importance of preventing overweight from occurring in the first place.

Did You Know? Although genetic and environmental factors play a role, the foremost causes of the obesity epidemic are unhealthy eating habits and lack of physical activity. According to data published by the Centers for Disease Control and Prevention (CDC), approximately half of U.S. adults do not perform the minimum amount of exercise needed to remain healthy and prevent diseases such as diabetes and high blood pressure (CDC, 2008).
A Few Recent Developments: Resting Metabolic Rate (RMR)

Scientific studies have shown that resting metabolic rate (RMR), the rate at which the body uses energy for sustaining life, is determined by genetics as well as many other factors (Bouchard, 1994). Typically, RMR accounts for 60-70% of the calories a person burns throughout the day. Until recently, it was difficult and expensive to get an accurate measurement of resting metabolic rate. New, relatively inexpensive equipment is now available to measure resting metabolic rate. RMR measurements may be helpful in long-term weight management.

Test Yourself

Resting Metabolic Rate (RMR) is:

A. The rate at which the body uses energy for living.
B. An indicator of how much fat is stored in the abdomen.
C. The most widely accepted method for measuring body fatness.

The correct answer is A.
The Ob Gene and Leptin

One of the most exciting developments in the genetics of obesity was the cloning of the ob gene in 1994. The ob (for “obesity”) gene controls the body’s production of leptin, a compound secreted by fatty tissue that helps regulate fat storage in the body. Leptin is believed to work on the central nervous system to decrease the amount of food eaten. It does this by suppressing another chemical that strongly stimulates appetite. In addition, high levels of leptin are associated with burning energy rather than storing energy as fat (Barouch, 2007; Wikipedia, 2014).

Scientists have speculated that overweight/obesity in humans may be the result of producing no or too little leptin. They have also speculated that overweight/obesity may result from an insensitivity to leptin, similar to the way people with type 2 diabetes are insensitive to insulin (Barouch, 2007; Wikipedia, 2014). If these hypotheses are true, overweight/obese people could become lean by taking medications that contain leptin, increase the body’s production of leptin, or make the body more responsive to leptin. However, these hypotheses remain to be proven. Numerous clinical trials are underway to study the role of leptin and many other compounds in weight loss.

In November 2013, the American Heart Association (AHA), The American College of Cardiology (ACC) and The Obesity Society (TOS) developed new guidelines for managing overweight and obesity in adults. Their recommendations were based on a thorough and careful review of the very latest, highest quality clinical trial research. A summary of these recommendations will be reviewed.
### 2013 AHA/ACC/TOS Guideline for the Management of Overweight and Obesity in Adults

*AHA indicates American Heart Association; ACC indicates American College of Cardiology; TOS indicates The Obesity Society*

<table>
<thead>
<tr>
<th>Summary of Recommendations for Primary Care Doctors and Their Patients</th>
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<tbody>
<tr>
<td><strong>Identify people who need to lose weight</strong></td>
</tr>
<tr>
<td>• Measure height and weight and calculate body mass index (BMI) in all adults at least annually.</td>
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<tr>
<td>— Overweight is defined as BMI of 25.0 to 29.9</td>
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<tr>
<td>— Obesity is defined as BMI of 30.0 or greater</td>
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<td>• Advise overweight and obese adults that the greater the BMI, the greater the risk of cardiovascular disease, type 2 diabetes, and death.</td>
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<tr>
<td>• Measure waist circumference in overweight and obese adults at least annually.</td>
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<tr>
<td>• Advise adults that the greater the waist circumference, the greater the risk of cardiovascular disease, type 2 diabetes, and death.</td>
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<td><strong>Match treatment benefits with risk profiles</strong></td>
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<td>• Counsel overweight and obese adults with high blood pressure, high cholesterol, and/or high blood glucose that:</td>
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<td>— Losing as little as 3-5% of current weight and keeping it off produces meaningful health benefits</td>
</tr>
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<td>— Greater sustained weight loss produces greater benefits (such as reduced blood pressure, improved cholesterol, triglyceride and blood glucose values, reduced need for certain medications)</td>
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<tr>
<td><strong>Prescribe food plans for weight loss</strong></td>
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<td>• Select a reduced-calorie food plan for weight loss as part of a comprehensive lifestyle management program. Options include:</td>
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<tr>
<td>— Plans providing 1,200-1,500 daily calories for women and 1,500-1,800 calories for men</td>
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<td>— Plans that produce a daily energy deficit of 500-750 calories</td>
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<td>— Other food plans that create a daily energy deficit by eating fewer calories by restricting certain types of food (such as foods high in carbohydrates or fats and foods low in fiber) and that have been proven safe and effective in peer-reviewed published studies</td>
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<tr>
<td>• Develop a reduced-calorie food plan based on the person's preferences and health status and preferably refer to a nutrition professional for counseling.</td>
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</table>
## 2013 AHA/ACC/TOS Guideline for the Management of Overweight and Obesity in Adults

*AHA indicates American Heart Association; ACC indicates American College of Cardiology; TOS indicates The Obesity Society*

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<th><strong>Summary of Recommendations for Primary Care Doctors and Their Patients</strong></th>
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<tbody>
<tr>
<td><strong>Provide a comprehensive lifestyle program for behavior change</strong></td>
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</table>
| • Advise overweight and obese people to participate in a comprehensive lifestyle program for at least six months. Options include:  
  — Onsite, high-intensity program of 14 or more individual or group sessions in six months delivered by a trained professional  
  — Telephonic/electronic program delivered by a trained professional  
  — Commercial-based program that includes comprehensive lifestyle management (if there is peer-reviewed published evidence of the program’s safety and efficacy)  
  — A very low calorie diet (less than 800 calories) – only in limited circumstances and only when provided under strict medical supervision |
| • Advise people who have lost weight to participate in a long-term (one year or longer) comprehensive weight management program. The program should provide regular (monthly or more frequent) contact with a trained professional. The program may be conducted face-to-face or by telephone and should promote:  
  — Regular physical activity (200-300 minutes per week)  
  — Weight monitoring (at least weekly)  
  — A reduced-calorie food plan to maintain a lower body weight |
| **Select people for surgery for obesity** |
| • Offer to refer those for whom surgery may be an appropriate option to an experienced bariatric surgeon for consultation and evaluation:  
  — Adults with BMI of 40 or greater and  
  — Adults with BMI of 35 or greater with obesity-related health conditions who:  
    • Are motivated to lose weight  
    • Have not achieved health-related weight goals with or without medications  
  • Note: For people with a BMI less than 35, there is insufficient evidence to recommend for or against bariatric surgery.  
  • Advise people selected for surgery that specific bariatric surgery procedures may depend upon the following factors:  
    — Age  
    — Severity of obesity/BMI  
    — Other obesity-related health conditions  
    — Other risk factors  
    — Risk of complications  
    — Behavioral and psychosocial factors  
    — Personal tolerance for risk  
    — Provider factors, such as surgeon and facility |
Test Yourself

According to the American Heart Association (AHA), American College of Cardiology (ACC) and The Obesity Society (TOS) guidelines for managing overweight and obesity in adults, overweight is defined as:

A. A BMI of 30 or greater
B. A RMR of 15 or greater
C. A BMI of 25-29.9

The correct answer is C.

Assessing Weight Problems

Assessing an individual’s need to lose weight involves careful consideration of a variety of factors, including the following:

- Overall body fat (body mass index)
- Presence of fat in the abdominal region (waist circumference)
- Overall health status
- Motivation and readiness to lose weight
**Body Mass Index**

There are several accurate methods for measuring body fat. However, because precise measures of body fat are often expensive and not readily available, body mass index (BMI) is the most widely accepted method. BMI describes relative weight for height. The National Institutes of Health, other credible expert groups, and the 2013 American Heart Association/American College of Cardiology Guidelines for the Management of Overweight and Obesity in Adults (November 2013) use the BMI classifications provided below.

<table>
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<tr>
<th>BMI Classifications</th>
<th>BMI</th>
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<tr>
<td>Underweight</td>
<td>Less than 18.5</td>
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<td>Normal</td>
<td>18.5-24.9</td>
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<tr>
<td>Overweight</td>
<td>25.0-29.9</td>
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<td>Class I obesity</td>
<td>30.0-34.9</td>
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<tr>
<td>Class II obesity</td>
<td>35.0-39.9</td>
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<tr>
<td>Class III obesity (extreme obesity)</td>
<td>40.0 or greater</td>
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</table>

**Calculating Body Mass Index**

An individual’s BMI should be calculated and used to help set short-term and long-term body weight goals. Patients should be made aware of the fact that muscular physiques may distort BMI interpretations. Since muscle is heavier than fat tissue, very muscular people may be falsely classified as overweight or even obese.

Also, note that a BMI of 30.0 or more is used to define obesity for both men and women, even though at equal BMIs, women typically have more body fat than men. In women, a BMI as low as 21.0 may be associated with the greatest protection from coronary heart disease death. Asians could be at high risk for cardiovascular disease and type 2 diabetes if their BMI is 23 or higher.
**Test Yourself**

What BMI value is typically used to define obesity?

A. 25  
B. 28  
C. 30 or greater

The correct answer is 30 or greater.

---

**Establishing a Baseline BMI**

To estimate a patient’s BMI using pounds and inches, use the following formula:

\[
[\text{weight (pounds)} / \text{height (inches)}^2] \times 703
\]

For example, a person who weighs 164 pounds and is 68 inches tall has a BMI of approximately 25.

\[
[164 / (68 \times 68) = 164 / 4624 = .035] \times 703 = 24.9
\]
Body Mass Index Chart

To use the charts, locate the patient’s height in the column on the left. Move across to the weight nearest to the patient’s current weight. The number at the top of the column is the BMI for that height and weight. To find the normal weight range for the patient’s height, find the weights for a BMI of 18.5 and 25.0. For example, the normal weight range for a person who is 66 inches tall is 116–155 pounds or 50.4–68.0 kilograms.

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<tr>
<th>Height (Inches)</th>
<th>Body Weight (Pounds)</th>
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<td>119.7</td>
<td></td>
<td></td>
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<tr>
<td>1.75</td>
<td>56.7</td>
<td>76.6</td>
<td>91.9</td>
<td>107.2</td>
<td>122.5</td>
<td></td>
<td></td>
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<tr>
<td>1.78</td>
<td>58.6</td>
<td>79.2</td>
<td>95.1</td>
<td>110.9</td>
<td>126.7</td>
<td></td>
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<tr>
<td>1.80</td>
<td>59.9</td>
<td>81.0</td>
<td>97.2</td>
<td>113.4</td>
<td>129.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.83</td>
<td>62.0</td>
<td>83.7</td>
<td>100.5</td>
<td>117.2</td>
<td>134.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.85</td>
<td>63.3</td>
<td>85.6</td>
<td>102.7</td>
<td>119.8</td>
<td>136.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.88</td>
<td>65.4</td>
<td>88.4</td>
<td>106.0</td>
<td>123.7</td>
<td>141.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(National Heart, Lung, and Blood Institute, 1998)

Interpreting BMI

Less than 18.5 = underweight
18.5–24.9 = normal weight
25–29.9 = overweight
30 or higher = obesity
Waist Measurements

Waist circumference is an indicator of how much fat is stored in the abdomen. There is evidence that increases in abdominal fat (out of proportion to total body fat) are associated with an increased risk of cardiovascular disease, type 2 diabetes, and high blood pressure. A high waist circumference can also be an indicator for increased risk even in people of normal weight.

Men and post-menopausal women tend to store fat in the abdominal regions of their bodies. Pre-menopausal women usually store fat in their hips, buttocks, and thighs.

For men, a waist circumference of greater than 40 inches (102 cm) is associated with increased risk for chronic diseases. Women have increased risk for chronic diseases with a waist circumference of greater than 35 inches (88 cm). Lower waist measurements – 31 inches (78 cm) or greater for women and 35 inches (88 cm) or greater for men – could be appropriate cut-points for Asians.

Test Yourself

A large waist circumference can also be an indicator for increased risk even in people of normal weight.
   A. True
   B. False

The correct answer is true.
Overall Health Status

It is important to consider overall health when encouraging patients to make decisions about weight loss and weight management. A good starting point is to discuss and highlight any chronic diseases and/or risk factors that a patient currently has, and present weight loss in context of decreasing overall health risks and improving and/or possibly curing chronic diseases.

Chronic Health Conditions

Use the table below to initiate discussion about chronic health conditions:

<table>
<thead>
<tr>
<th>Disease Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overweight/obese people with any of these conditions are at very high risk for disease complications and death.</td>
</tr>
<tr>
<td>☐ Known coronary heart disease</td>
</tr>
<tr>
<td>☐ Other atherosclerotic diseases, such as carotid and peripheral arterial disease</td>
</tr>
<tr>
<td>☐ Type 2 diabetes</td>
</tr>
<tr>
<td>☐ Sleep apnea (breathing stops for brief periods many times during the night)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Obesity-Associated Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Infertility and gynecological problems</td>
</tr>
<tr>
<td>☐ Osteoarthritis</td>
</tr>
<tr>
<td>☐ Gallstones and gall bladder disease</td>
</tr>
<tr>
<td>☐ Stress incontinence (leaking urine when coughing, laughing, or sneezing)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cardiovascular Risk Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overweight/obese people with three or more of the following risk factors are considered at especially high risk for disease, disability, and death. In overweight/obese people, control of cardiovascular risk factors deserves as much emphasis as weight loss. Reduction of risk factors will reduce the risk for cardiovascular disease whether or not efforts at weight loss as successful.</td>
</tr>
<tr>
<td>☐ Cigarette smoking</td>
</tr>
<tr>
<td>☐ High blood pressure (systolic blood pressure of 140 mmHg or higher and/or diastolic blood pressure of 90 mmHg or higher)</td>
</tr>
<tr>
<td>☐ Elevated LDL (&quot;bad&quot;) cholesterol (130 mg/dL or higher, 3.4 mmol/L or higher)</td>
</tr>
<tr>
<td>☐ Low HDL (&quot;good&quot;) cholesterol (below 40 mg/dL or 1 mmol/L in men and below 50 mg/dL or 1.3 mmol/L in women)</td>
</tr>
<tr>
<td>☐ Fasting blood glucose of 100 mg/dL (5.6 mmol/L) or higher</td>
</tr>
<tr>
<td>☐ Family history of premature coronary heart disease</td>
</tr>
<tr>
<td>☐ Age (men 45 years or older; women 55 years or older)</td>
</tr>
<tr>
<td>☐ Physical inactivity – People with sedentary jobs who don’t participate in moderate- to vigorous-intensity aerobic exercise at least three times a week for at least 30 minutes</td>
</tr>
<tr>
<td>☐ Elevated triglycerides (150 mg/dL or higher, 1.7 mmol/L or higher)</td>
</tr>
</tbody>
</table>

(INTERVENT, 2014; National Heart, Lung, and Blood Institute, 1998)
Motivation and Readiness to Lose Weight

Overweight/obese people give many reasons for wanting to lose weight.

Younger women and men typically say they want to:

- Look better in their clothes
- Attract a boyfriend or girlfriend
- Participate in exercise and recreational activities
- Get pregnant (being overweight/obese is a common reason for infertility in young women)

Older women and men typically say they want to:

- Avoid shortness of breath
- Have less pain in feet, knees, hips, or back
- Sleep better
- Avoid taking drugs for high blood pressure or diabetes

Middle-aged men often give the fear of heart disease as a reason to attempt weight loss. Also, men who experience angina or have been refused a life insurance policy at normal rates are likely to be motivated to lose weight. Healthcare providers should advise their overweight/obese patients to lose weight in preparation for surgery (American College of Sports Medicine, 2013).
Readiness for Weight Loss

Before any weight-loss program can be successful, a patient has to be ready, mentally and physically to commit to losing weight and to set realistic weight loss goals.

Questions that nurses can review with overweight/obese patients in assessing readiness for weight loss include:

- What is the patient’s weight history? What was their weight at age 21? Have they had cycles of losing and regaining weight in the past?
- What weight loss strategies have they tried in the past? What has worked? What has not worked?
- Do they understand the causes of overweight/obesity?
- Do they understand the benefits of losing weight? Do they understand the dangers of remaining overweight/obese?
- How will this attempt at weight loss differ from what they have tried in the past?
- Do they have the support of family, friends and co-workers for their weight loss efforts?
- What are their beliefs and attitudes about physical activity?
- Are they able and willing to be physically active?

Making a Commitment

Not everyone who needs to lose weight is ready to make the commitment to try. Because weight loss requires significant concentration and effort, people experiencing stress due to job changes, financial problems, or major family illnesses should consider waiting until their circumstances improve. People who are not ready to attempt weight loss should strive to avoid further weight gain.
Special Needs

Many overweight/obese people who enroll in a weight management program suffer from severe stress, depression, or other psychological problems. Increased emotional stress frequently leads to anxiety, depression, mood swings, and binge eating.

Overweight/obese individuals with marked depression, anxiety, or eating disorders may require psychotherapy before attempting weight loss. Counseling may help them reduce their focus on weight loss and food, improve their self-esteem and body image, and establish a more constructive focus in life.

Smoking Cessation

Fear of gaining weight is a major barrier to smoking cessation, especially for overweight/obese people. Nevertheless, overweight/obese people who smoke should try to quit. The majority of people who quit smoking do gain weight, but the average is only 4.5–7 pounds (about 2–3 kilograms). This amount of weight gain is far less likely to produce health problems than continuing to smoke. For practical reasons, it may be better to avoid trying to quit smoking and lose weight at the same time.
A Realistic Weight Loss Goal

For most overweight/obese people, a realistic initial goal is to lose 5-10% of current weight. Focusing on thinness may lead overweight/obese people to try to achieve a weight that is unrealistic or even impossible to maintain, given genetic and physiological factors.

Setting Targets for Weight Loss

The choice of a sensible target weight and rate of weight loss depends on many factors, including age, family history, desired weight, and present health status. Consider, for example, two women both needing to lose approximately 20% of their current weight to achieve a BMI below 25. One is approximately 60 years of age with osteoarthritis of the knees. The other is approximately 20 years of age and generally healthy and fit, but she has a family history of diabetes. The older woman will benefit significantly from losing only 10% of her current weight. Losing more is desirable but may be difficult, considering her arthritis. For the younger woman, the goal of losing 10-20% of her current weight is very achievable and definitely worth the effort while she is young to prevent diabetes later in life.

Small But Meaningful Change

Small weight losses often have significant positive effects on health. Although greater weight losses produce greater benefits, sustained weight loss of as little as 3-5% can produce meaningful health benefits. After your patient has achieved a weight loss of 10% of their initial weight, they may consider losing more weight, if needed. However, they should not attempt additional weight loss unless they have been able to maintain tolerable and stable eating habits for at least three months. For people unable to achieve significant weight loss, prevention of further weight gain is an important goal.
Test Yourself

What minimum percentage of sustained weight loss can produce meaningful health benefits?

A. 1-2%
B. 3-5%
C. More than 10%

The correct answer is 3-5%.

Rate of Weight Loss

A reasonable timeline for a 5-10% reduction in body weight is typically 3-6 months. Progressing more slowly may be discouraging.

<table>
<thead>
<tr>
<th>Achieve Negative Energy Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>If your BMI is:</strong></td>
</tr>
<tr>
<td>Up to 35</td>
</tr>
<tr>
<td>Over 35</td>
</tr>
</tbody>
</table>

*Note that 1 calorie equals 4.18 kilojoules

Weight loss is usually more rapid in the first 2-3 weeks, since the dieter is losing both fat and water. As your patient loses weight, they will begin to need less energy to maintain their body weight. After about six months, the rate of weight loss usually declines, and their weight will most likely plateau. To continue to lose weight, they will need to make further adjustments in their meal and exercise plans. For example, a patient may need a larger energy deficit to achieve the same rate of weight loss. As the rate of weight loss slows down, individuals often become discouraged and quit following their weight loss plans. Experience has shown that they will regain the weight unless they adopt a weight management plan they can continue for a lifetime.
Weight Management

Once your patient has achieved their weight loss goal, keeping the weight off becomes the challenge. Studies show it is difficult to maintain weight loss over a long period of time. In fact, the majority of people who lose weight regain it within 3-5 years.

Overweight/obesity, like other chronic conditions, requires long-term care. Losing weight is exciting and socially rewarding. Maintaining weight loss requires just as much, if not more, effort but brings less gratification. Weight management requires a different set of skills from those needed for weight loss.

Weight Cycling

Weight cycling is the repeated loss and regain of body weight. When weight cycling is the result of dieting, it is often called “yo-yo” dieting. A weight cycle can range from small weight losses and gains (5-10 pounds or about 2-3 kilograms) to large changes in weight (50 or more pounds or 23 or more kilograms per cycle).

At this time, no conclusive studies have shown that weight cycling is harmful to the health of an obese person. Although further research is needed, overweight/obese people should not let the fear of regaining weight stop them from trying to achieve a realistic weight goal.
Weight Management Skills to Keep Weight Off

- Exercising regularly (at least 150 minutes per week of moderate-intensity aerobic exercise such as brisk walking; higher levels of physical activity, approximately 200-300 minutes per week of moderate-intensity aerobic exercise are recommended to maintain lost weight or minimize weight regain long-term). Exercising may not be as effective as eating fewer calories for short-term weight loss in overweight/obese individuals, but exercise is absolutely critical to keeping weight off long-term.

- Monitoring weight frequently (daily or at least once a week).

- Eating foods low in fat, refined carbohydrates, and added sugar.

- Recording foods eaten.

- Using social support to maintain eating and exercise habits.

- Developing effective problem solving skills.

- Viewing eating and exercise plans as permanent lifestyle habits rather than temporary measures.

- Remaining in a behavior modification program for at least one year or longer. The longer people remain in a program, the longer they maintain their weight loss, even for periods up to ten years or more. That’s why a weight management program doesn’t end after 12 weeks or even one year; it’s a lifestyle management program for a lifetime.

Consider Treatments for Overweight/Obesity

Anyone who is overweight/obese should try to achieve and maintain a healthier weight. The goal for someone with a BMI of 25.0-29.9 is changing eating and exercise habits to prevent weight gain and produce moderate weight loss.

People with a BMI of 30.0 or higher should focus on producing substantial weight loss over a prolonged period of time.
Advantages of Weight Management

Weight management in overweight/obese people has many advantages, including:

- Reduces risk for diabetes and cardiovascular disease
- Reduces blood pressure in people with elevated blood pressure
- Reduces triglycerides
- Increases HDL (“good”) cholesterol
- Reduces total and LDL (“bad”) cholesterol
- Reduces blood glucose and A1C in people with type 2 diabetes and pre-diabetes

Behavior Modification

All people who are overweight/obese, regardless of any other medical treatment selected, need help in three key areas:

- Modifying their meal plan and eating habits
- Increasing their physical activity
- Managing their stress

Evidence shows that weight loss and weight management programs that provide a greater frequency of contacts between the individual and the program are more likely to result in keeping weight off long-term.
Low-Energy Meal Plans

An individualized meal plan should be an integral part of a weight loss plan. Along with an individualized exercise plan, meal plans should help create a deficit of 500-1,000 calories per day (2,090-4,180 kilojoules per day) to produce 1-2 pounds (0.5-1 kilogram) of weight loss per week.

Daily meal plans containing 1,200-1,500 calories (5,016-6,270 kilojoules) for women and 1,500-1,800 calories (6,270-7,524 kilojoules) for men are typically recommended. Meal plans should be low in total fat, saturated fat, and trans fat. However, reducing dietary fat will not produce weight loss unless total calories are also reduced. Eating a variety of foods from all of the food groups is key.

Very-low-energy diets are commercially prepared formulas of 800 calories (3,344 kilojoules) or fewer per day that replace all usual food and that may result in significant short-term weight loss.

Very-low-energy diets are not the same as over-the-counter meal replacers, which are meant as substitutes for one or two meals a day.

A very-low-energy diet may allow a severely to moderately obese individual to lose about 3-5 pounds (1.5-2.5 kilograms) per week, for an average total weight loss of 44 pounds (20 kilograms) over 12 weeks. Very-low-energy diets may be appropriate for people with BMIs over 30.0 who are highly motivated but have not been successful with a more conservative method.

People with BMIs of 27.0-30.0 who have medical conditions (e.g., diabetes, high cholesterol, high blood pressure) that might respond to rapid weight loss may also be candidates for very-low-energy diets. Very-low-energy diets are not recommended for pregnant women or women who are breastfeeding, and they are not appropriate for children or adolescents, except in specialized treatment programs.

Many people on very-low-energy diets for 4-16 weeks report side effects including fatigue, constipation, nausea, and diarrhea. Dangers of these diets include an increased risk of gout, gallstones, and certain cardiac complications.

Because of the potential side effects and health risks, people following very-low-energy diets should do so only under medical supervision.
Physical Activity

Physical activity is an integral part of weight loss, but it will generally not improve weight loss much over six months compared to a low-energy diet alone. Most weight loss occurs because of eating fewer calories. Regular physical activity is most helpful in keeping weight off once it is lost. Being physically active has the added benefit of improving fitness and reducing the risk of developing cardiovascular disease and type 2 diabetes.

Studies suggest exercise can help offset the decline in resting metabolic rate that typically occurs with weight loss, because it helps preserve muscle (Stiegler & Cunliffe, 2006).

Increasing Physical Activity

Initially, sedentary individuals should try to build up gradually to 30-45 minutes of moderate-intensity aerobic exercise 3-5 days per week. Walking is an excellent activity, because it is usually safe and convenient to do.

Over time, physical activity should increase to at least 30-60 minutes every day (or nearly every day) of the week. A goal of 150-300 minutes per week of moderate intensity aerobic exercise (for example, brisk walking) or 75-150 minutes per week of vigorous-intensity aerobic exercise (for example, jogging) or an equivalent combination of moderate- and vigorous-intensity aerobic exercise per week is recommended.
Benefits of Low-Intensity Exercise

Patients don’t have to exercise at a high intensity to benefit their health. The major advantages of lower intensity exercise for weight management are:

- The patient may enjoy it more and be more likely to do it.
- They are less likely to get injured.
- They will actually burn a higher proportion of fat for energy during lower intensity exercise.

Encourage your patients to look for opportunities to add physical activity to their activities of daily living, such as taking the stairs rather than the elevator and increasing the number and/or amount of physical household chores performed daily.

More Aggressive Treatments

There are several options for aggressively treating overweight/obesity. Encourage your patients to carefully consider any decision after thoroughly assessing the benefits and risks of the treatment. Individuals using more aggressive treatments must be under the medical care of healthcare specialists.
Drugs for Treatment of Overweight/Obesity

The decision to use medications for weight loss and weight maintenance should be based on several important factors.

How much weight does the person need to lose?

- Weight loss medications are not appropriate for people needing to lose small amounts of weight for cosmetic purposes. Medications can be useful in combination with diet, exercise, and behavior modification for people with BMIs of 30.0 or higher.

What other obesity-related diseases are present?

- Weight loss medications also may be recommended for people with BMIs as low as 27.0 who have one or more obesity-related health conditions such as:
  - High blood pressure
  - High cholesterol or high triglycerides
  - Coronary heart disease
  - Type 2 diabetes
  - Sleep apnea

Has the person been unsuccessful in previous attempts to lose weight?

- Weight loss medications are most appropriate for people who have been unsuccessful in previous attempts to lose weight. Generally, weight loss drugs should be considered only if the person has not lost an average of at least one pound (0.5 kg) per week after following a structured program of diet, exercise, and behavior modification for at least six months.

Does the person have a history of eating disorders?

- Weight loss medications should not be prescribed for people with eating disorders, such as anorexia nervosa, bulimia nervosa, or binge eating disorder. People with eating disorders should consult a mental health professional.
Drugs for Treatment of Overweight/Obesity

Long-term weight management through drug treatment might be appropriate for some people under these circumstances:

- To prevent weight gain during periods of high risk, for example during colder or extremely hot months of the year when participation in regular physical activity may be difficult.
- To lose weight after a patient has regained small amounts of weight or experienced setbacks.
- To eliminate the need for medications for other weight-related complications, such as high blood pressure, diabetes, and high cholesterol and high triglycerides.

Drugs for the treatment of obesity are typically designed to work in one of three major ways:

- To increase energy expenditure
- To reduce hunger and make it easier to eat less
- To block the absorption of fat in the gut.

In the United States, only drugs approved by the Federal Drug Administration (FDA) should be used.

According to the 2013 American Heart Association/American College of Cardiology Guidelines for the Management of Overweight and Obesity in Adults (November 2013), the doctor prescribing the medication should be knowledgeable about the product label and consider the potential risks of the medication being considered against the potential benefits of successful weight loss for the individual.

**Note!** To obtain more detailed information on pharmacological options for weight management, please view the RN.com course entitled “Management Options for Metabolic Syndrome”. 
Rationale for Weight Loss Pharmacotherapies

The rationale for use of medications is to help people adhere to a lower calorie diet more consistently in order to achieve sufficient weight loss and health improvements when combined with increased physical activity. Medications work to reinforce lifestyle change and should be prescribed together with, not in place of, a lifestyle management program.

Candidates for weight loss medications should discuss the benefits and risks with their healthcare providers.

Surgical Treatments for Weight Loss

Bariatric surgery may be an option for people with a BMI of 40.0 or more (100 pounds or more overweight), or for people with a BMI of 35.0 or more who have significant obesity-related health complications or disease and a history of failure with other weight loss methods. Surgery as a treatment for obesity is performed by doctors specializing in bariatric medicine. The aim of surgery is to modify the gastrointestinal tract to reduce the amount of food eaten, the amount of nutrients absorbed or both.

Surgical procedures typically produce weight losses of 25-35% of current weight. Weight loss is usually well maintained and is associated with major improvements in health-related complications of overweight/obesity. Most people experience substantial improvements in control of blood glucose and blood pressure, sleep apnea and mobility.

Note! To learn more about various bariatric surgery options available, please view the RN.com course entitled, “Postoperative Care of the Bariatric Surgery Patient”.

Like all treatments for obesity, surgery requires long-term follow-up. Patients need help to adjust to the surgery and adopt healthy eating and activity habits. Surgery is not an alternative to eating healthfully. After surgery, most people can eat a variety of foods, but they must eat smaller quantities and may need to take vitamin supplements. After the surgery and initial weight loss, preventing weight gain is a challenge. Because complications are potentially very serious, candidates for bariatric surgery should be fully aware of the benefits and risks before undergoing these types of procedures.
**Test Yourself**

Bariatric surgery may be an option for people:

A. With a BMI of 35.0 or more and with the existence of co-morbidities  
B. Who are 25 pounds overweight without any co-morbidities  
C. Suffering from chronic liver disease

The correct answer is a BMI of 35.0 or more.

---

**Conclusion**

Overweight and obesity are chronic health conditions that affect quality of life as well as morbidity and mortality. There is considerable scientific evidence documenting the health risks associated with overweight/obesity and the importance of following a healthy lifestyle plan.

Numerous treatments for overweight/obesity are available today. Healthcare providers need to focus on the provision of a healthcare plan that incorporates behavioral modification, focusing on following a healthy food plan and regular exercise regimen. Additional therapies for obesity include pharmacological intervention and surgery in select patients.

**Note!** To improve care for overweight and obese patients, healthcare providers need to have a thorough understanding of overweight and obesity and understand the importance of addressing these topics with patients.
Health Risk Assessment

INTERVENT has partnered with RN.com to offer nurses a free, HIPAA–compliant, confidential health risk assessment (HRA) and detailed personal report of your cardiovascular risks.

Click here to complete a brief HRA.

Resources

AHA Diet and Lifestyle Recommendations
http://www.heart.org/HEARTORG/GettingHealthy/Diet-and-Lifestyle-Recommendations_UCM_305855_Article.jsp#.TyMFjHP-dIY

Center for Disease Control and Prevention (CDC) Resources for Overweight and Obesity
http://www.cdc.gov/obesity/resources/index.html

Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults
http://www.nhlbi.nih.gov/guidelines/obesity

Dietary Guidelines for Americans
http://www.health.gov/dietaryguidelines

Exercise and Physical Activity: Your Everyday Guide from the National Institute on Aging
References


References


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