

Name: \_\_\_\_\_

## Achieving and Maintaining a Healthy Body Weight (Ch.9 )

### Learning Outcomes

1. Explain how body composition related to achieving a healthy weight.
2. Describe the energy balance concept and how it applies to weight loss and weight gain.
3. List and describe four key factors influence weight management.
4. Explain why lifelong weight management is important, and outline four essential steps involved in designing a successful weight-loss program.
5. Describe the components of a diet and exercise program designed to gain lean body weight.
6. Describe several extreme medical measures used for weight loss when other options haven't worked.
7. Name and describe three common eating disorders and explain their associated health risks.

### Concept 1: Explain how body composition related to achieving a healthy weight.

Before beginning this, we must first go to Ch. 6, page 168 to calculate Body Mass Index (BMI) – one of the most common techniques used to determine one's percentage of body fat.

$$\text{(Metric Units) BMI} = \text{weight (kg)} \div \text{height (m)}^2$$

Note: 1kg = 2.2 lbs and 1 m = 39.37 in, 1 foot = 12 inches)

What would the BMI be for a 130 lbs female who is 5'4?

Now calculate your BMI:

Now check the table below to see if your BMI indicates that you are underweight, normal, or overweight. PLEASE BE AWARE THAT THIS IS MADE FOR THE SEDENTARY POPULATION – so if you work out/exercise quite a bit, the BMI may say that you are overweight if you have a lot of muscle. This is just an inexpensive and easy way of giving a general estimate.

Gender	20–39 years		40–59 years		60+ years		Weight Status	Health Risk
	Body Fat	BMI	Body Fat	BMI	Body Fat	BMI		
Men	<8%	<18.5	<11%	<18.5	<13%	<18.5	Under weight	Increased
Women	<21%	<18.5	<23%	<18.5	<24%	<18.5		
Men	8–19%	18.6–24.9	11–21%	18.6–24.9	13–24%	18.6–24.9	Average	Normal
Women	21–32%	18.6–24.9	23–33%	18.6–24.9	24–35%	18.6–24.9		
Men	20–24%	25.0–29.9	22–27%	25.0–29.9	25–39%	25.0–29.9	Over-weight	Increased
Women	33–38%	25.0–29.9	34–39%	25.0–29.9	36–41%	25.0–29.9		
Men	>25%	>30	>28%	>30	>30%	>30	Obese	High
Women	>39%	>30	>40%	>30	>42%	>30		

**FIGURE 6.2** Health risks associated with varying levels of body fat for men and women according to age. Note that health risks are increased for both underweight individuals and overweight individuals.

*Sources:* Data from National Institutes of Health. Assessing Your Weight and Health Risk, 2012. [http://www.nhlbi.nih.gov/health/public/heart/obesity/lose\\_wt/risk.htm](http://www.nhlbi.nih.gov/health/public/heart/obesity/lose_wt/risk.htm); Shah, N. R., and E. R. Braverman. Measuring Adiposity in Patients: The Utility of Body Mass Index (BMI), Percent Body Fat, and Leptin. PLoS ONE 7(4): e33308, 2012.

Now switch over to page 258 of the textbook. You will calculate your desired body weight range. The overall formula is:

$$\text{Recommended weight} = \text{fat free weight} \div (1 - \text{recommended \% fat})$$

We will consider the example of a male college student who has 25% body fat and weighs 185 lbs.

List the steps and the examples below:

Step 1:

Step 2:

Concept 2: Describe the energy balance concept and how it applies to weight loss and weight gain.

Starting on page 259.

Energy Balance in the Body (List the main 3 points in the first paragraph):

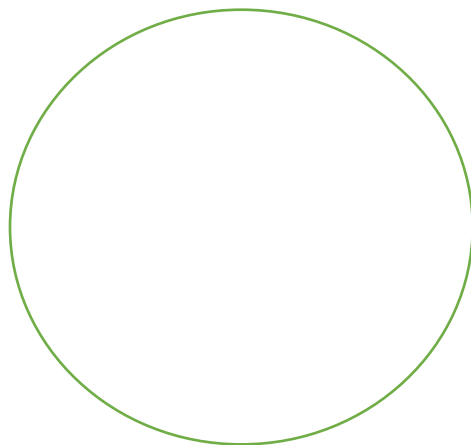
Define **energy balance**:

Daily Energy Expenditure: Summarize first paragraph under this heading:

Define *resting metabolic rate (RMR)* and some points about it:

*Page 260 of textbook.*

Draw the Components of Total Daily Energy Expenditure (don't forget the key)



Summarize the 3 main points from **Physical activity/exercise (PA/E)** paragraph:

Define: **Physical activity/exercise (PA/E)**:

Concept 3: List and describe four key factors influence weight management.

Page 260:

Summarize the first paragraph under “**Factors that Influence Weight Management**”:

**Hormonal Control of Appetite:**

Summarize this paragraph into 3 main points:

Draw out figure 9.3 with the relationship with hormones included:

Define **ghrelin**:

Define **leptin**:

Define **peptide YY**:

Heredity

Summarize this paragraph into 3 main points:

Lifestyle and Environment:

Summarize this paragraph into 3 main points:

Physical Activity and Exercise:

Summarize this paragraph into 3 main points:

Concept 4: Explain why lifelong weight management is important, and outline four essential steps involved in designing a successful weight-loss program.

On page 262

Summarize the first paragraph under Concept 4 heading into 3 main points:

Summarize the second paragraph into 3 main points:

Calculate the daily caloric expenditure of the example provided, show your work.

Summarize the paragraphs continued on page 263 into 5 main points.

## Lifetime Weight Management

Summarize this section into 3 main points:

List the 4 steps recommended to lose weight and keep it off:

Set a Realistic Goal:

Summarize this paragraph into 3 main points:



Assess and Modify Your Diet:

Summarize this paragraph into 3 main points:

List 5 guidelines that you feel would be most beneficial to you (page 265/267):

Plan Your Physical Activity:

Summarize each paragraph with 2 main points each (6 paragraphs x2 = 12 points):

Draw a rough picture of image 9.5 and explain what it is showing (read the caption):

Page 268

Focus on Behaviour Modification:

Summarize the first 2 paragraphs in 3 main points:

Pick 3 of the guidelines and summarize them below:

Page 264:

Summarize “Does Fructose Promote Weight Gain” on page 264.

Summarize “Can Dietary Supplements Promote Weight Loss?” on page 264.

Summarize “Popular Diet Plans” paragraph by paragraph from page 266.

Summarize “Coaching Corner” on page 268 into 3 main points:

Concept 5: Describe the components of a diet and exercise program designed to gain lean body weight.

Page 269:

Summarize this entire page into 10 or less main points, include an example for calculations:

Concept 6: Describe several extreme medical measures used for weight loss when other options haven't worked.

Surgery:

Summarize each paragraph into 3 main points:

Prescription Medications

Summarize this paragraph into 3 main points.

**Concept 7: Name and Describe 3 Common Eating Disorders and Explain Their Associated Health Risks**

Page 270:

Summarize the first paragraph under the main heading:

Anorexia Nervosa: (define):

Summarize each paragraph into 2 main points.

List the symptoms of anorexia nervosa:

Bulimia Disorder (define):

Summarize the paragraphs into 3 main points:

List the symptoms:

Binge Eating Disorder (define):

Summarize this paragraph into 2 main points: