

# Chapter 1: Introduction

Leading Causes of Death in the United States, 2002

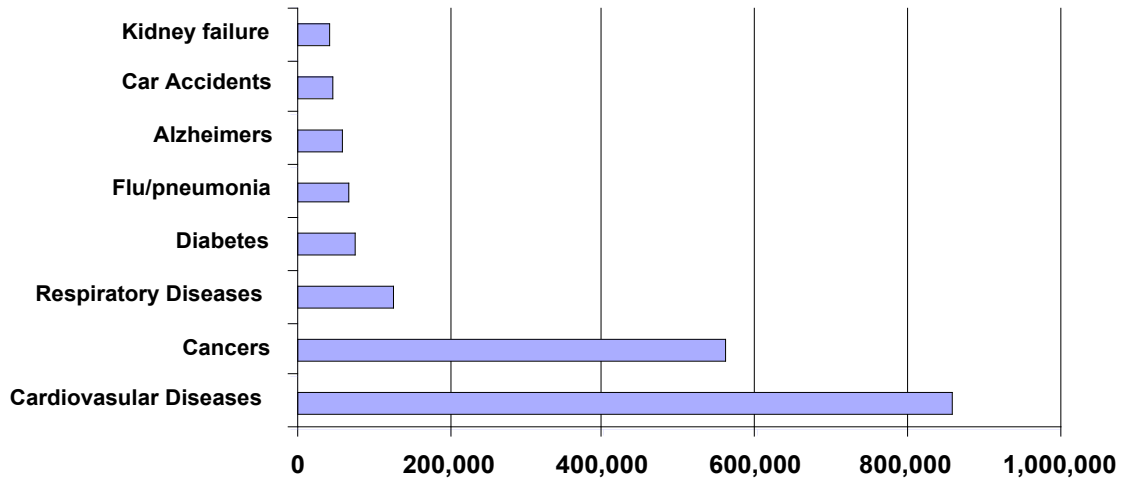
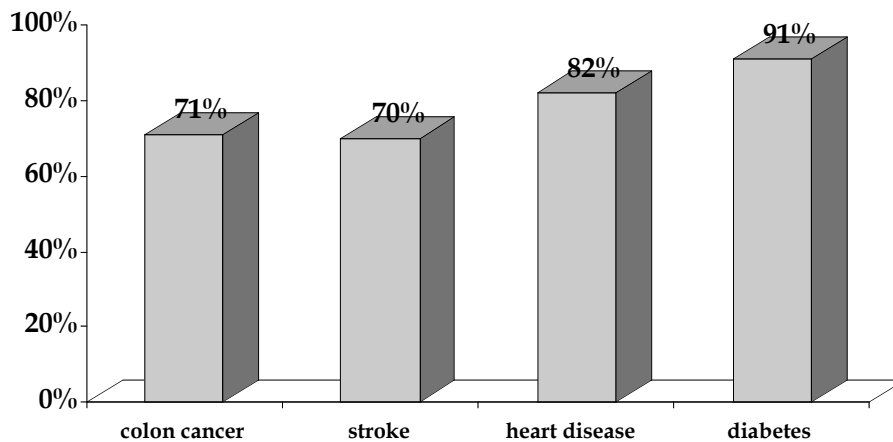
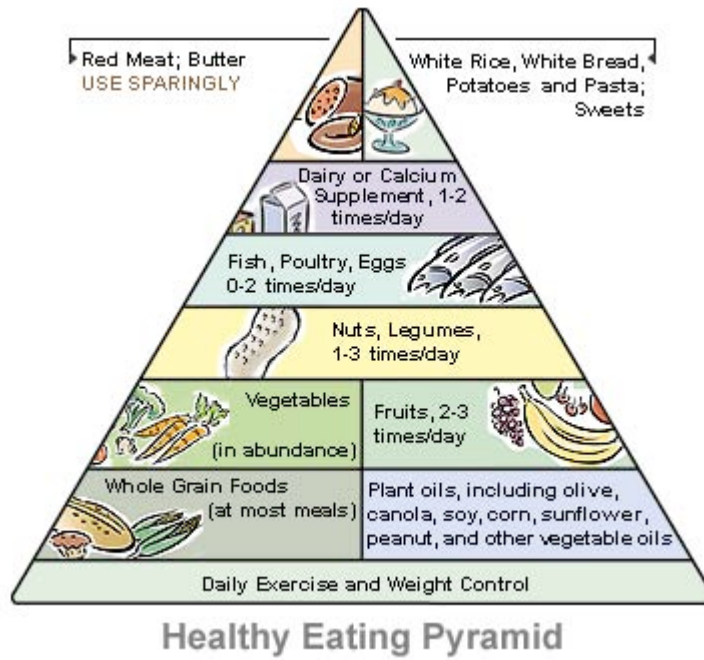


Figure 1.1 Percent of Selected Chronic Diseases That Are Avoidable<sup>5-7</sup>



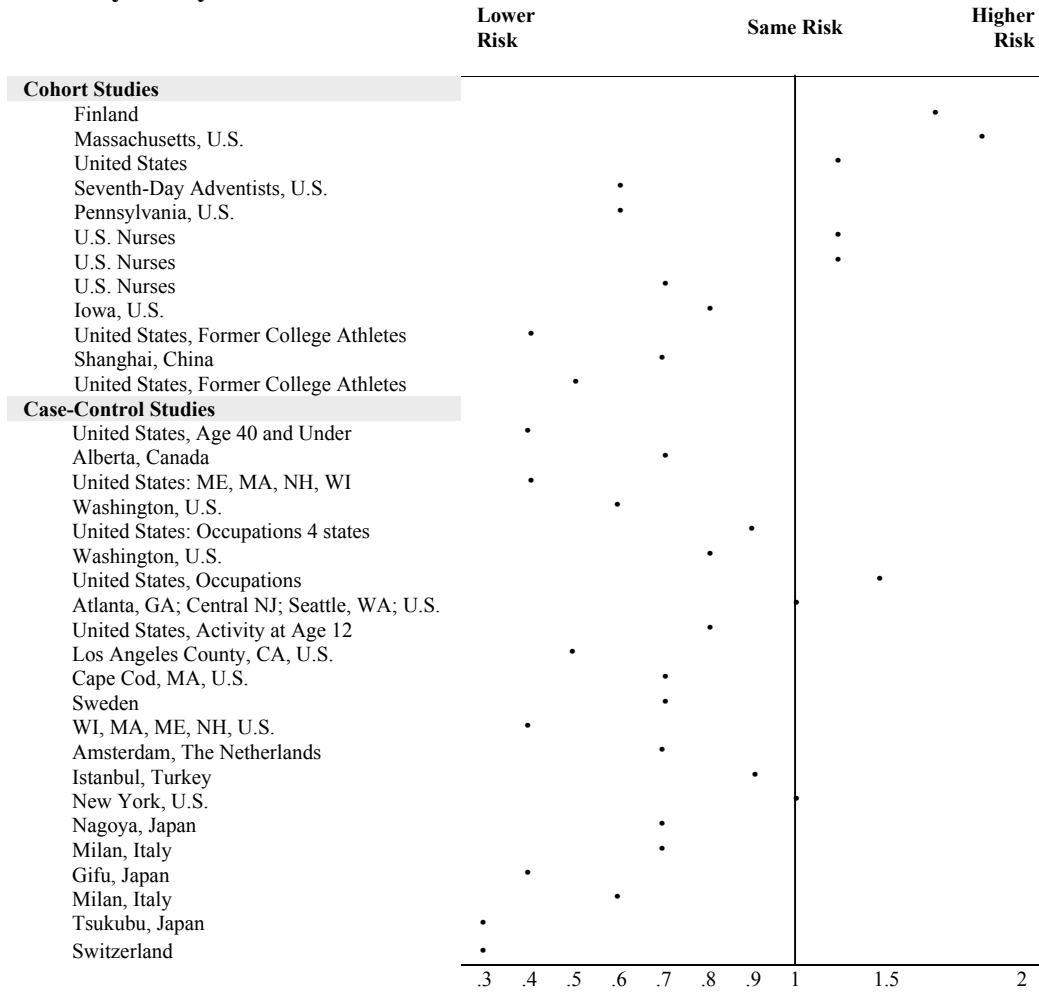
<b>People who:</b>	<b>Live an Extra:</b>
Are vegetarian	1.5 years
Exercise regularly	2.4 years
Eat nuts five times a week	2.5 years
Have normal blood pressure	3.7 years
Are not diabetic	6.6 years
Maintain normal weight	11 years



Adapted from <http://www.hsph.harvard.edu/nutritionsource>

# Chapter 2: Let Science Be Your Guide

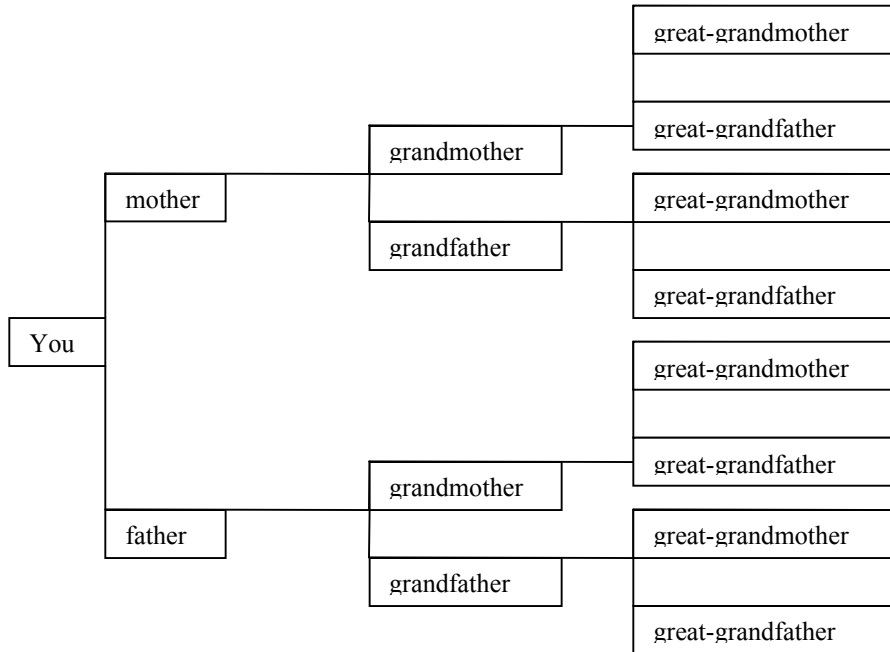
**Figure 2.1 Results of Studies That Looked At the Risk of Breast Cancer for Those Who Are Physically Active**



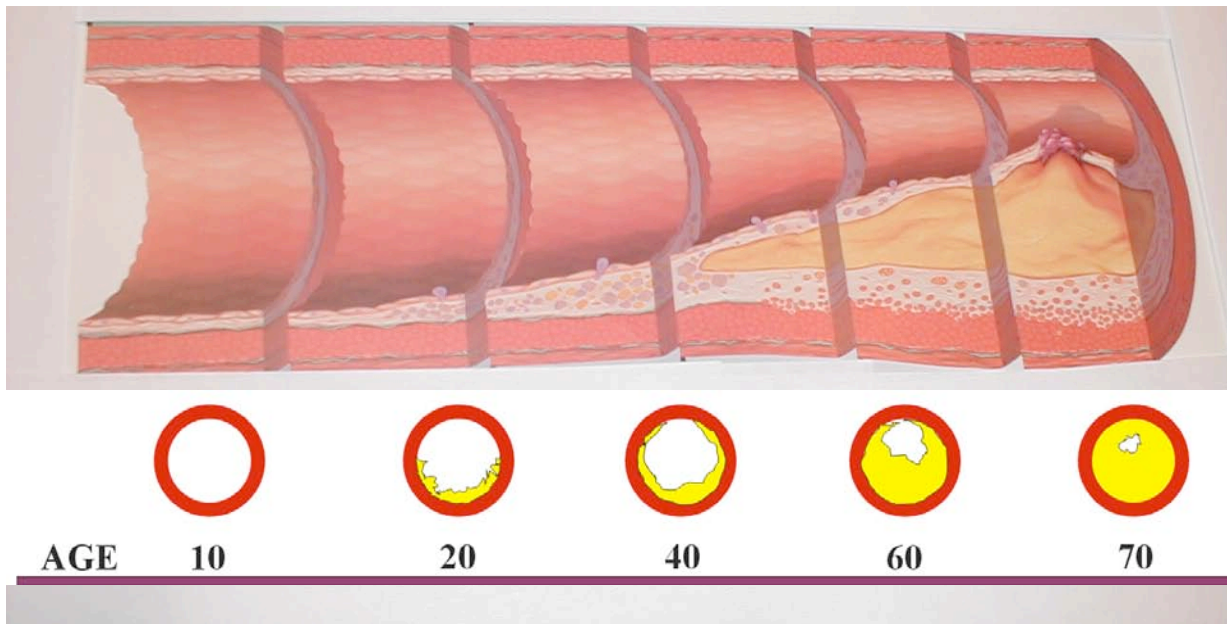
# Chapter 3

## I-don't-care-itis: The Most Common Health Problem in America

### Ancestor worksheet



**Figure 3.1 Age and Degree of Atherosclerosis in the U.S.**



# Chapter 4

## Where Are You?

### Assess Yourself

This is really easy. Think about the food you ate in the last 24 hours. Count the servings of fruits, vegetables, whole grains, and red meat that you ate. A serving of fruit or vegetables is equal to a    cup, or about what you can fit in your cup-shaped hand or a single whole fruit or vegetable. A serving of meat is about the size of a deck of cards or a single hamburger patty. A serving of whole grains is one piece of whole grain bread or a cup of whole-grain cereal. How many servings in each category did you get in the last 24 hours? Do the last 24 hours represent approximately the way you eat every day of the week? To see how your diet is right now, answer the following questions:

*Over the past week, what was your average number of fruit servings per day?*

\_\_\_\_\_

*Over the past week, what was your average number of vegetable servings per day?*

**Total** \_\_\_\_\_

If your total is greater than 5, you are doing great (more is even better).

*Last week, what was your average number of whole grain servings per day? (This includes whole-grain cereals, bread, rice, and pasta.)* \_\_\_\_\_

You should strive for at least 6 servings of grains per day and at least half of these should be whole grain.

*How many servings of red meat did you eat last week?* \_\_\_\_\_

The best evidence we have so far indicates red meat should be eaten sparingly, 1–2 servings per week.

*How many days in a typical week do you accumulate 30 minutes of moderate physical activity?* \_\_\_\_\_

To get the benefits associated with being physically active, you should accumulate 30 minutes of moderate physical activity most days of the week.

*Have you ever been told by a physician that you have high blood pressure?*

Yes \_\_\_\_\_ No \_\_\_\_\_ Don't Know \_\_\_\_\_

Systolic Blood Pressure levels

<120	Normal
120–139	Early High Blood Pressure
140–159	High
≥160	Dangerous

*Have you ever been told by a physician that you have high blood cholesterol?*

Yes \_\_\_\_\_ No \_\_\_\_\_ Don't Know \_\_\_\_\_

Cholesterol Levels

<200	Normal
200–239	Borderline High
≥240	High risk

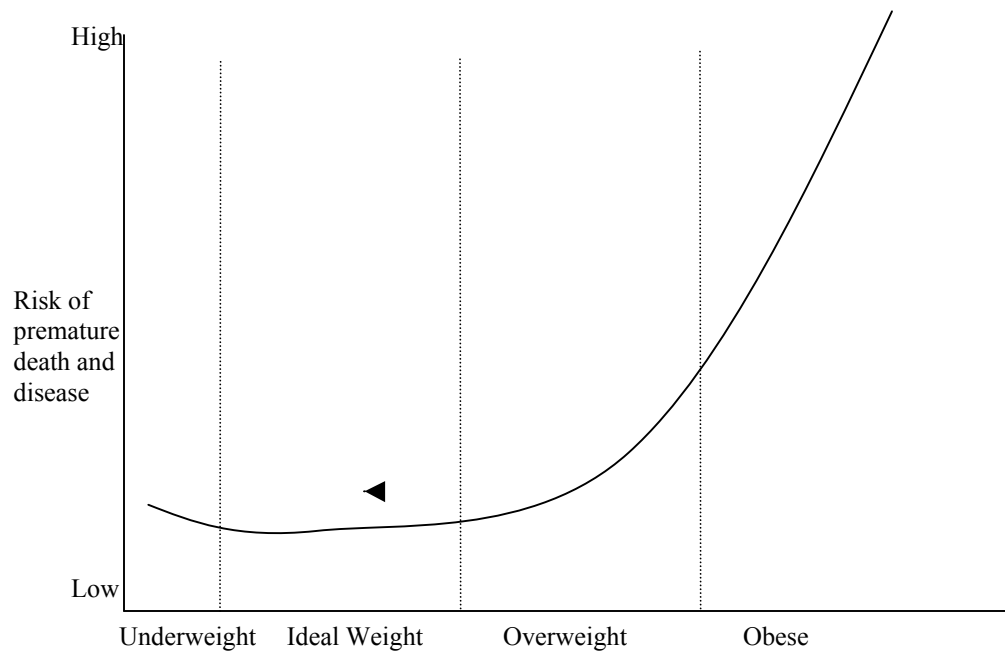
## Body Mass Index Chart

Height	Weight (lbs)																	
	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	>290
4'5"	30	33	35	38	40	43	45	48	50	53	55	58	60	63	65	68	70	73
4'6"	29	31	34	36	39	41	43	46	48	51	53	55	58	60	63	65	68	70
4'7"	28	30	33	35	37	40	42	44	46	49	51	53	56	58	60	63	65	67
4'8"	27	29	31	34	36	38	40	43	45	47	49	52	54	56	58	61	63	65
4'9"	26	28	30	32	35	37	39	41	43	45	48	50	52	54	56	58	61	63
4'10"	25	27	29	31	33	36	38	40	42	44	46	48	50	52	54	56	59	61
4'11"	24	26	28	30	32	34	36	38	40	42	44	46	48	50	53	55	57	59
5'0"	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57
5'1"	23	25	26	28	30	32	34	36	38	40	42	43	45	47	49	51	53	55
5'2"	22	24	26	27	29	31	33	35	37	38	40	42	44	46	48	49	51	53
5'3"	21	23	25	27	28	30	32	34	35	37	39	41	43	44	46	48	50	51
5'4"	21	22	24	26	27	29	31	33	34	36	38	39	41	43	45	46	48	50
5'5"	20	22	23	25	27	28	30	32	33	35	37	38	40	42	43	45	47	48
5'6"	19	21	23	24	26	27	29	31	32	34	36	37	39	40	42	44	45	47
5'7"	19	20	22	23	25	27	28	30	31	33	34	36	38	39	41	42	44	45
5'8"	18	20	21	23	24	26	27	29	30	32	33	35	36	38	40	41	43	44
5'9"	18	19	21	22	24	25	27	28	30	31	32	34	35	37	38	40	41	43
5'10"	17	19	20	22	23	24	26	27	29	30	32	33	34	36	37	39	40	42
5'11"	17	18	20	21	22	24	25	26	28	29	31	32	33	35	36	38	39	40
6'0"	16	18	19	20	22	23	24	26	27	28	30	31	33	34	35	37	38	39
6'1"	16	17	18	20	21	22	24	25	26	28	29	30	32	33	34	36	37	38
6'2"	15	17	18	19	21	22	23	24	26	27	28	30	31	32	33	35	36	37
6'3"	15	16	17	19	20	21	22	24	25	26	27	29	30	31	32	34	35	36
6'4"	15	16	17	18	19	21	22	23	24	26	27	28	29	30	32	33	34	35
6'5"	14	15	17	18	19	20	21	23	24	25	26	27	28	30	31	32	33	34
6'6"	14	15	16	17	18	20	21	22	23	24	25	27	28	29	30	31	32	34
6'7"	14	15	16	17	18	19	20	21	23	24	25	26	27	28	29	30	32	33
6'8"	13	14	15	16	18	19	20	21	22	23	24	25	26	27	29	30	31	32
6'9"	13	14	15	16	17	18	19	20	21	23	24	25	26	27	28	29	30	31
6'10"	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

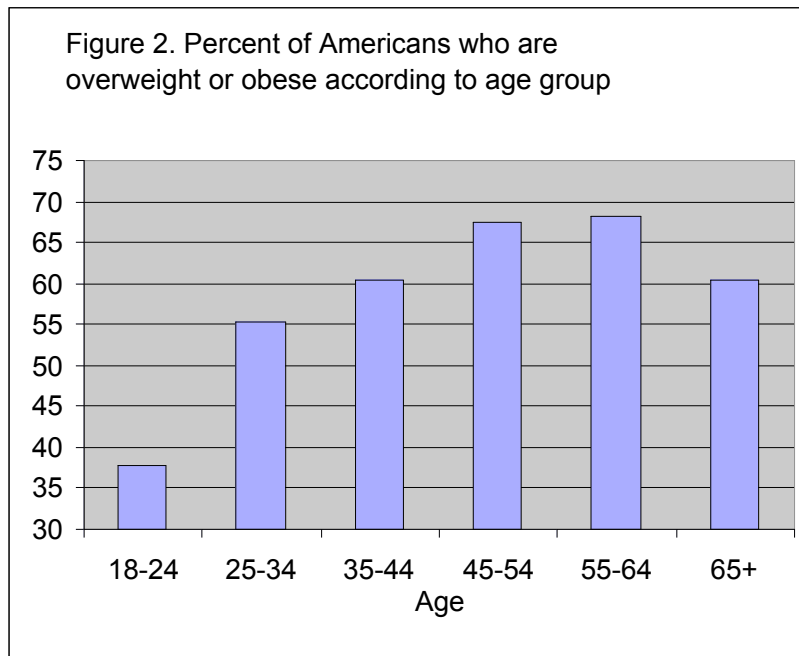
13	Underweight
19	Ideal weight, low risk
25	Overweight, moderate risk
32	Obese, high risk

What is your body mass index? \_\_\_\_\_

Body Mass Index Categories<sup>5</sup>  
 <19 Underweight  
 19–24 Ideal weight, low risk  
 25–29 Overweight, moderate risk  
 ≥30 Obese, high risk



**Figure 4.1 Premature death, disease, and body weight**



**FIGURE 4.2 Percent of Americans who are overweight or obese according to age group**



# Chapter 5

## Food in Its Original Form

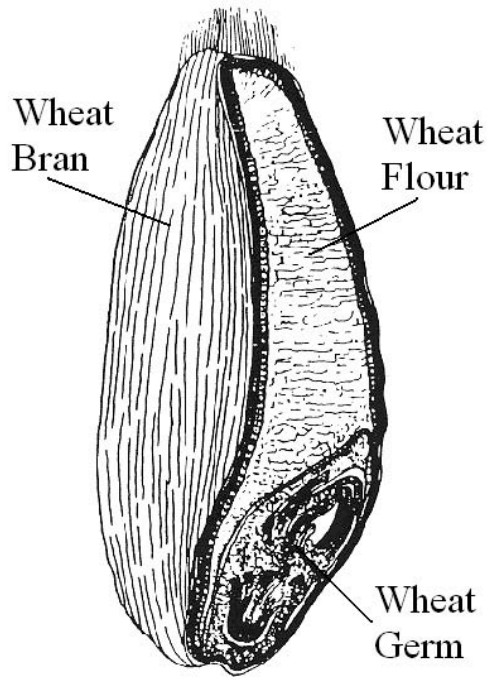
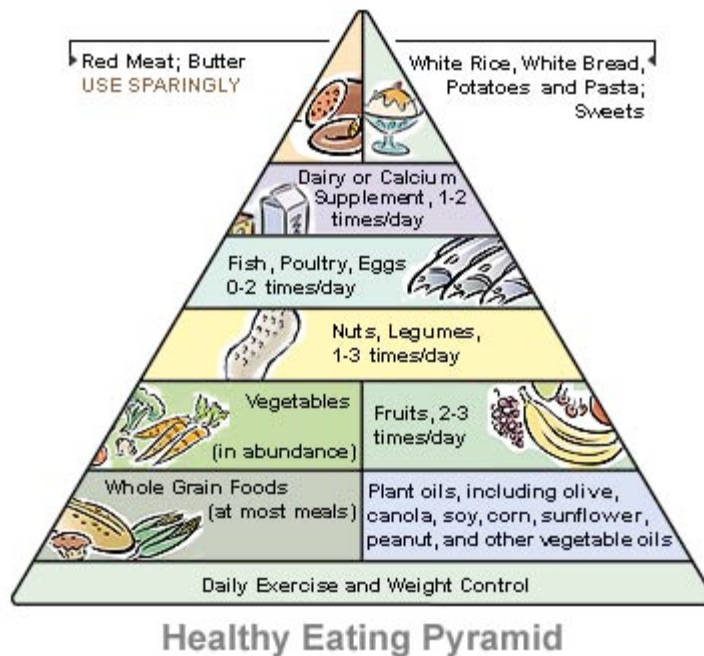


Figure 5.1 A kernel of wheat



Adapted from (<http://home.comcast.net/~cnmpat/images/HealthyEatingPyramid.gif>)

### **Will the Real Wheat Bread Please Stand Up?**

As you are looking at the different grain products at your local store, don't be deceived by many of the food manufacturer's marketing ploys. If you see bread that says "wheat bread" or "stone-ground wheat bread" on the label, you might want to look a little closer. The only guarantee you have that the bread you are looking at is actually whole grain is if it lists whole wheat as the first ingredient.

The ingredients list is required by law to be accurate; if the main ingredient is whole wheat flour, you will be getting whole wheat flour—all the good stuff. If, however, you see that the main ingredient is wheat flour, enriched wheat flour, or flour, you should read on because you will also likely see another ingredient called caramel color. If you were to look at a slice of this bread, you will see that it looks dark like whole wheat bread, and it might smell like whole wheat bread, and the package it came from probably says wheat on it, but don't be fooled—it's not made of whole wheat. It is baked with refined white flour and made to look like whole wheat bread by adding caramel coloring. Here is a typical "fake" whole wheat bread ingredient list; notice the flour and caramel coloring.

#### **INGREDIENTS**

ENRICHED FLOUR (FLOUR, BARLEY MALT, NIACIN, IRON, THIAMINE MONONITRATE, RIBOFLAVIN), WATER, WHOLE WHEAT FLOUR, CORN SYRUP, CONTAINS 2% OR LESS OF: YEAST, SOYBEAN OIL, WHEAT GLUTEN, SALT, DOUGH CONDITIONERS (MONO AND DIGLYCERIDES, CALCIUM AND SODIUM TEAROYL-2-LACTYLATE, CORN FLOUR, SOYA FLOUR, POTASSIUM BROMATE, ENZYMES), CALCIUM PROPIONATE (A PRESERVATIVE), YEAST NUTRIENTS (AMMONIUM SULFATE, CALCIUM SULFATE), CARAMEL COLOR, POTASSIUM SORBATE (A PRESERVATIVE)

If you wanted to really stretch the truth, you could make a food with the following ingredients, and still call it healthy wheat bread. Can you guess what it is?

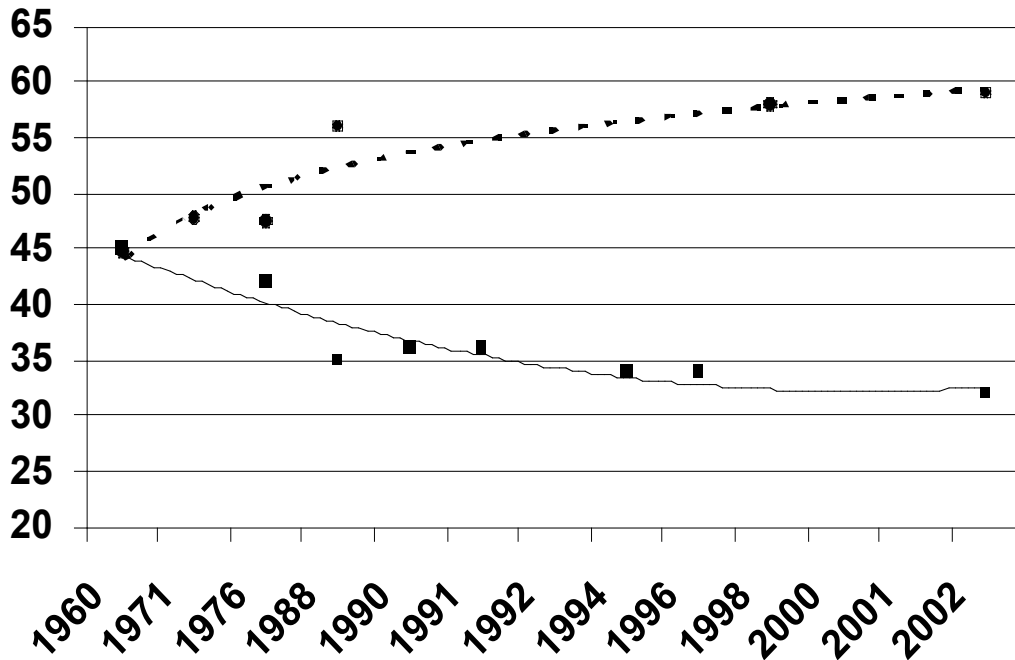
#### **INGREDIENTS**

WHEAT FLOUR, TREACLE, RAW SUGAR, GLUCOSE SYRUP, WATER, PALM OIL, CITRIC ACID, MINERAL SALT, MONOGLYCERIDE, (EMULSIFIER E471), FLAVOR, ARTIFICIAL COLOR (RED 40).

*It's red licorice.*

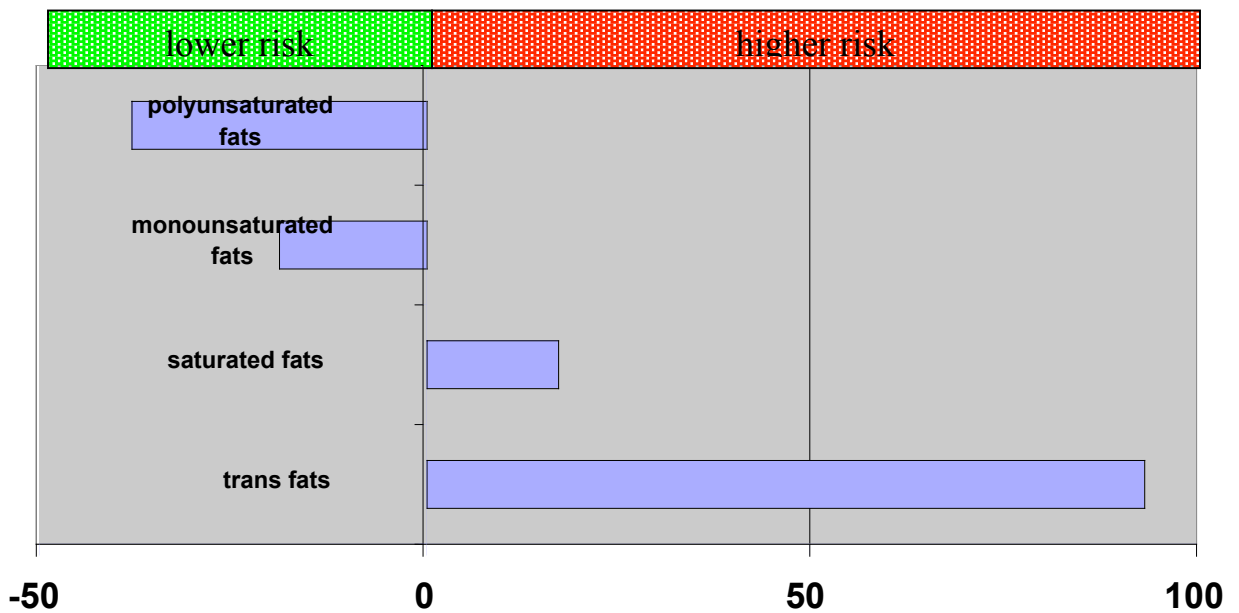
## Chapter 6

# Swapping Bad Fats for Good Health



**Figure 6.1** Increases in body weight and decreases in dietary fat in the United States. The dashed line indicates the trend in the percent of adults who are overweight or obese; the solid line indicates the trend in the percentage of calories from fat over the same period.

Examples of the Four Types of Fat			
Saturated fat	Monounsaturated fat	Polyunsaturated fat	Trans fat
cheese whole milk dark chocolate butter ice cream fatty meats coconut milk lard	olive oil canola oil peanut butter almonds nuts avocado sesame seeds pumpkin seeds	safflower oil corn oil sunflower oil soybean oil corn fish walnuts	margarine vegetable shortening any deep fried foods French fries most bakery goods Anything with shortening or partially hydrogenated vegetable oil in the ingredients



**Figure 6.2** Good fats decrease and bad fats increase heart disease risk in women<sup>17</sup>

It's time for a little quiz. Here is a label from a popular snack. Evaluate the label for saturated fat and decide if you want to eat it.

<b>Nutrition Facts</b>	
<b>Serving Size:</b>	• 128g
<b>Amount Per Serving</b>	
<b>Calories</b> 520	Calories from Fat 189
	% DV*
<b>Total Fat</b> 21g	32%
Saturated Fat 11g	55%
<b>Cholesterol</b> 15mg	5%
<b>Sodium</b> 400mg	17%
<b>Total Carbohydrate</b> 79g	26%
Dietary Fiber 2g	8%
Sugars 29g	
<b>Protein</b> 3g	6%

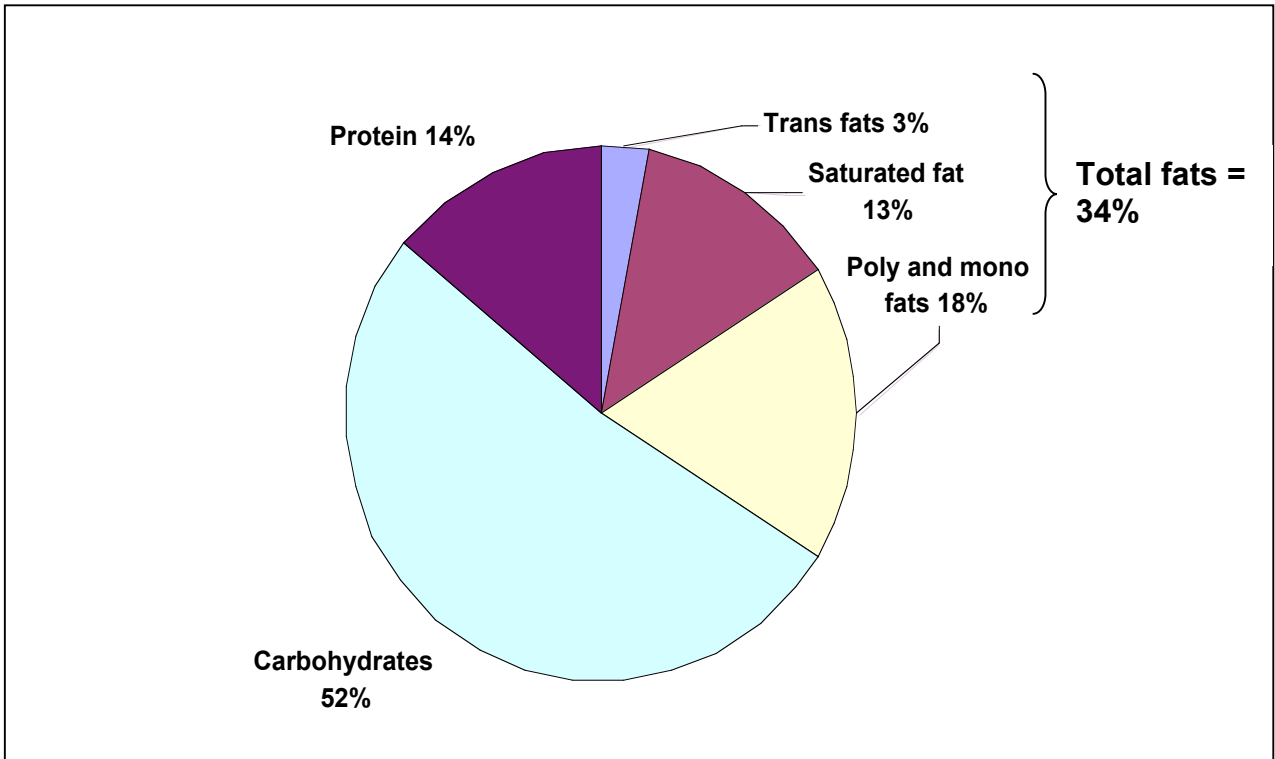
Can you guess what it is? It's a Hostess® fruit pie. One pie contains 11 grams of saturated fat. No, you won't die if you eat it.

Product	Common Serving Size	Total Fat g	Sat. Fat g	Trans Fat g
French Fries	Medium	27	7	8
Butter	1 tbsp	11	7	0
Margarine, stick	1 tbsp	11	2	3
Margarine, tub	1 tbsp	7	1	0.5
Mayonnaise (Soybean Oil)	1 tbsp	11	1.5	0
Shortening	1 tbsp	13	3.5	4
Potato Chips	Small bag	11	2	3
Milk, whole	1 cup	7	4.5	0
Milk, skim	1 cup	0	0	0
Doughnut	1	18	4.5	5
Candy Bar	1	10	4	3

**Table 6.1** Fat content of common foods<sup>58</sup>

<b>Nutrition Facts</b>	
Serving Size 1 Doughnut (52g)	
Servings Per Container	
<b>Amount Per Serving</b>	
<b>Calories</b> 200 <b>Calories from Fat</b> 110	
	<b>% Daily Value*</b>
<b>Total Fat</b> 12g	<b>18%</b>
Saturated Fat 3g	<b>15%</b>
<b>Cholesterol</b> 5mg	<b>1%</b>
<b>Sodium</b> 95mg	<b>4%</b>
<b>Total Carbohydrate</b> 22g	<b>7%</b>
Dietary Fiber less than 1g	<b>2%</b>
Sugars 10g	
<b>Protein</b> 2g	
Vitamin A 0%	• Vitamin C 2%
Calcium 6%	• Iron 4%

**Ingredients:** Enriched bleached wheat flour contains bleached wheat flour, niacin, reduced iron, thiamine mononitrate, riboflavin, folic acid), dextrose, vegetable shortening (**partially hydrogenated soybean and/or cottonseed oil**), water, sugar, soy flour, egg yolks, vital wheat gluten, yeast, nonfat milk, yeast nutrients (calcium sulfate, ammonium sulfate), dough conditioners (calcium dioxide, monocalcium and dicalcium phosphate, diammonium phosphate, sodium stearoyl-2-lactylate, whey, starch, ascorbic acid, sodium bicarbonate, calcium carbonate), salt, mono- and diglycerides, ethoxylated mono- and diglycerides, lecithin, calcium propionate (to retain freshness), cellulose gum, natural and artificial flavors, fungal alpha amylase, amylase, maltogenic amylase, pentosanase, protease, sodium caseinate, corn maltodextrin, corn syrup solids and BHT (to help protect flavor).



**Figure 6.3** Sources of the calories we eat

## Chapter 7

### The Rest of the Good Nutrition Lineup

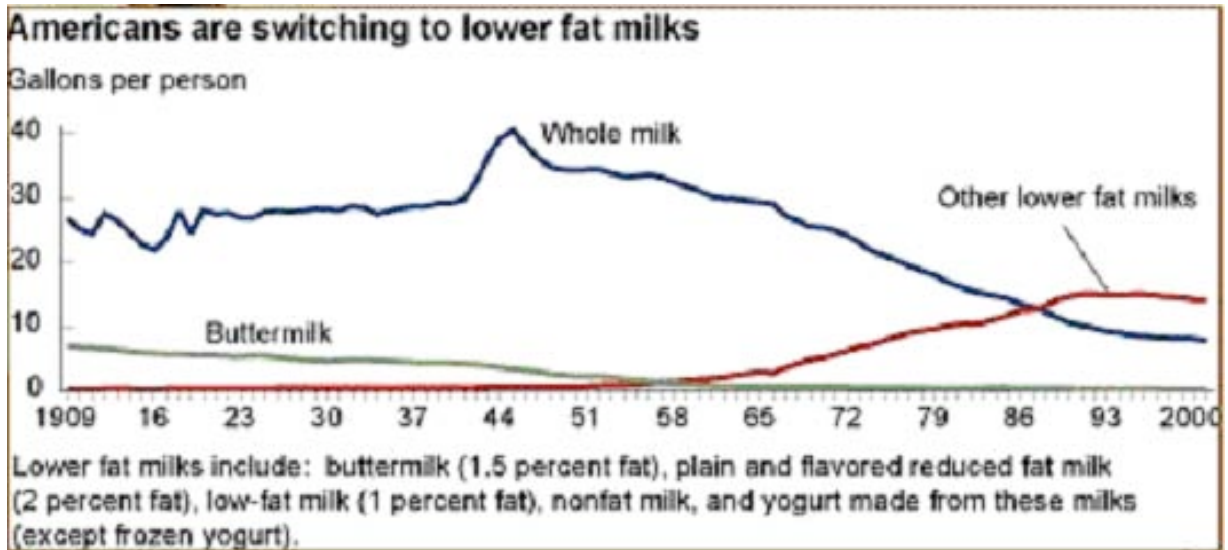


Figure 7.1 Milk consumption

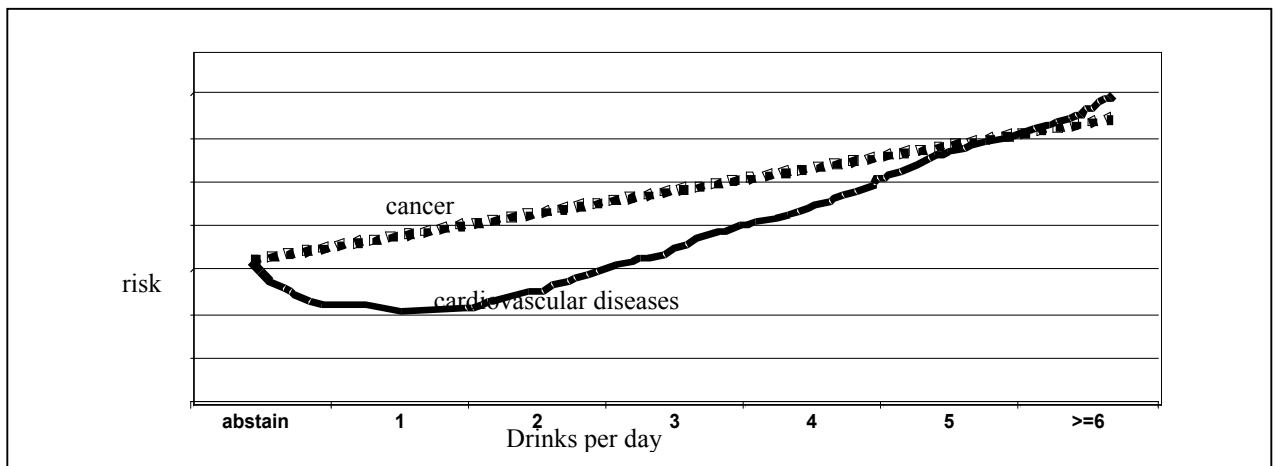


Figure 7.2 Risk of cancer and cardiovascular diseases in relation to alcohol consumption. The solid line shows the risk of cardiovascular diseases; the dotted line shows cancer risk.

# Chapter 8

## What Exercise Will Do for You

Figure 8.1 Percentage of Americans Who Participate in Leisure Time Physical Activity

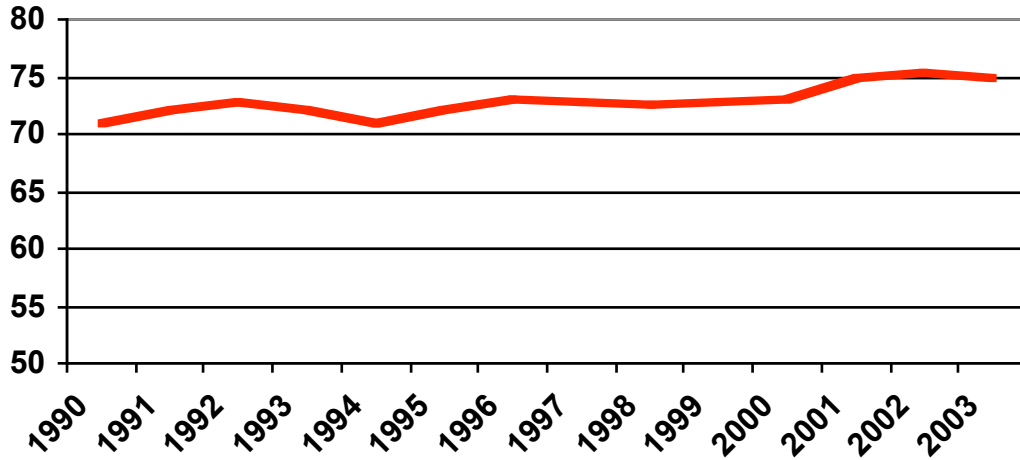
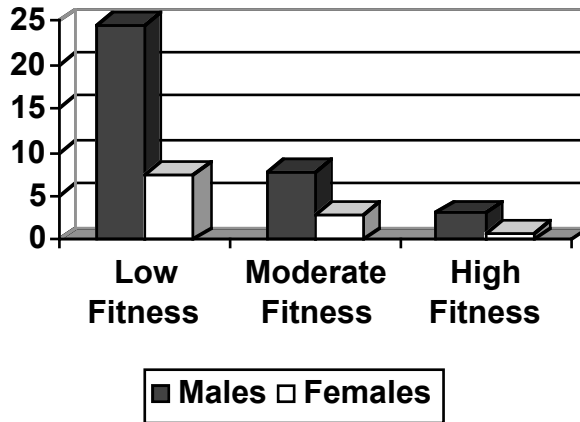


Figure 8.2 Fitness Levels and Risk of Death from All Causes





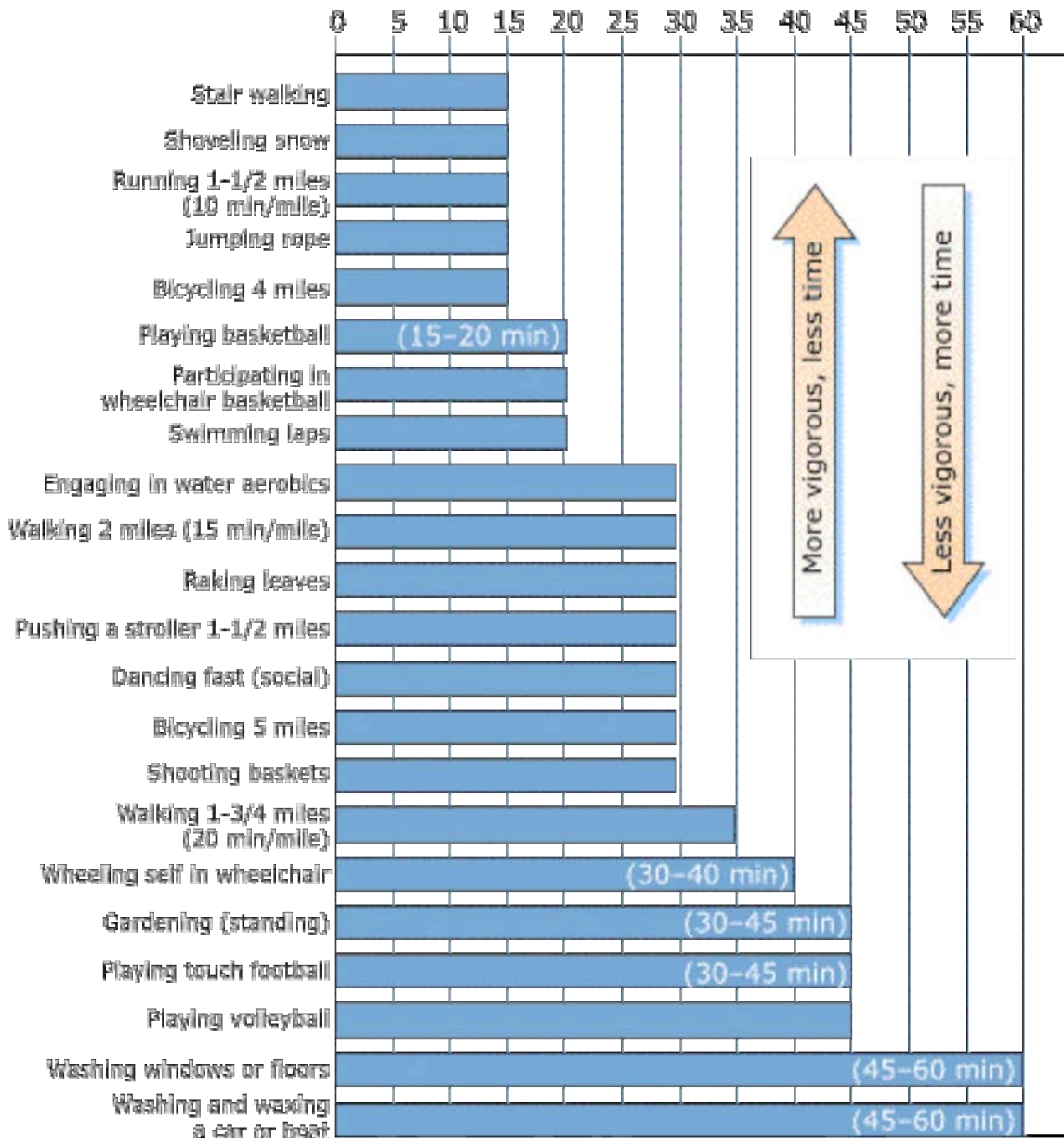
## Chapter 9

# Physical Activity Nuts and Bolts

age	max HR	age	max HR	age	max HR	age	max HR	age	max HR
18	195	32	186	46	176	60	166	74	156
20	194	34	184	48	174	62	165	76	155
22	193	36	183	50	173	64	163	78	153
24	191	38	181	52	172	66	162	80	152
26	190	40	180	54	170	68	160	82	151
28	188	42	179	56	169	70	159	84	149
30	187	44	177	58	167	72	158	86	148

The formula to calculate your maximum heart rate =  $208 - (0.7 \times \text{age})$

**Table 9.1** Estimated maximum heart rate according to age



**Figure 9.1** Moderate Intensity Physical Activities (from <http://www.cdc.gov/nccdphp/dnpa/physical/recommendations/adults.htm>)

## Chapter 10

# Being Physically Active For Life

<b>Benefits of Exercise I Like</b>	<b>Effects of Exercise I Dislike and Barriers That Keep Me from Being Active</b>
<input type="checkbox"/> I have more energy. <input type="checkbox"/> I like the way it makes me look. <input type="checkbox"/> I'm able to maintain a healthy weight. <input type="checkbox"/> It reduces my stress. <input type="checkbox"/> I sleep better. <input type="checkbox"/> It helps prevent chronic disease. <input type="checkbox"/> It helps keep my cholesterol low. <input type="checkbox"/> It improves my self-confidence. <input type="checkbox"/> I spend time with friends and family. <input type="checkbox"/> It gives me a chance to get outside. <input type="checkbox"/> It prevents osteoporosis. <input type="checkbox"/> Being physically active is fun.	<input type="checkbox"/> I don't like to get sweaty. <input type="checkbox"/> I don't have time. <input type="checkbox"/> I don't have any money. <input type="checkbox"/> The weather is bad. <input type="checkbox"/> I have an unsafe neighborhood. <input type="checkbox"/> There are no parks, sidewalks, or bicycle paths near my home. <input type="checkbox"/> It's hard to get into the mood. <input type="checkbox"/> I'm lazy. <input type="checkbox"/> Exercise is painful. <input type="checkbox"/> I don't like sports. <input type="checkbox"/> I'm embarrassed to be seen exercising. <input type="checkbox"/> No one will exercise with me. <input type="checkbox"/> I don't have exercise clothes, shoes, or equipment. <input type="checkbox"/> I need to watch my children. <input type="checkbox"/> I'm pregnant or nursing. <input type="checkbox"/> I have an illness or injury that makes it difficult or painful to be active.

<b>Activities you <u>must</u> do every day</b>	<b>Time you spend each day in each activity</b>	<b>Typical Adult</b>
sleep		8 hrs
work, including house work		8 hrs
bathe, get dressed		1 hr
eat		1.5 hr
commute/travel		1 hr
spend time with loved ones		.5 hr
exercise		0 hr
<b>Activities you <u>want to</u> do every day</b>		
watch TV		2 hr
visit with friends or family after work		.5 hr
enjoy a hobby		.5 hr
do things on the computer		.5 hr
read		.5 hr
TOTAL	24 hours	24 hours

# Chapter 11

## Healthy Eating for Life

Benefits of Good Nutrition	Reasons Why It Is Hard to Eat Healthy Foods
<input type="checkbox"/> I feel better. <input type="checkbox"/> I can prevent many serious chronic diseases. <input type="checkbox"/> I can lose weight or maintain a healthy weight. <input type="checkbox"/> I feel like I'm doing the right thing.	<input type="checkbox"/> I don't like the taste of healthy food. <input type="checkbox"/> Healthy food is expensive. <input type="checkbox"/> Unhealthy food is convenient, and I don't know how to cook.

**Table 11.1 Common Whole-Grain Cereals and Breads**

### General Mills

Apple Cinnamon Cheerios  
 Basic 4  
 Berry Burst Cheerios  
 Frosted Cheerios  
 Honey Nut Cheerios  
 Milk 'n Cereal Bars Honey Nut Cheerios  
 Multi Grain Cheerios  
 Nature Valley Low-Fat Fruit Granola  
 Oatmeal Crisp Cereals  
 Team Cheerios  
 Total  
 Total Brown Sugar & Oats  
 Wheaties Energy Crunch  
 Wheaties Raisin Bran

### Quaker

Life Cereal  
 Cinnamon Life  
 Honey Graham Life  
 100% Natural Granola, Oats, Honey & Raisins  
 100% Natural Granola, Oats & Honey  
 100% Low Fat Natural Granola  
 Oatmeal Honey Nut Heaven  
 Oatmeal Brown Sugar Bliss

### Kellogg's

Fruit Harvest Cereals  
 Just Right Fruit & Nut  
 Low-Fat Granola

Low-Fat Granola with Raisins  
Mini-Wheats Cereals  
Smart Start Cereals

**Post**

Cinna-Cluster Raisin Bran  
Frosted Shredded Wheat  
Grape-Nuts Flakes  
Great Grains  
Honey Nut Shredded Wheat  
Premium Raisin Bran  
Shredded Wheat  
Shredded Wheat 'N Bran  
Spoon Size Shredded Wheat

**Breads, Rolls**

Whole wheat bread  
Whole wheat pitas  
Whole wheat English muffins  
Whole wheat bagels  
Whole wheat rolls  
Whole wheat crackers  
Tortilla chips, without trans fats  
Popcorn, without trans fats

**Grains**

Whole wheat tortillas  
Whole wheat macaroni  
Whole wheat spaghetti  
Whole wheat noodles  
Wild rice  
Bulgur

# Chapter 12

## Weight Loss: A Healthy Lifestyle Side Effect

Figure 12.1 The Number of Larger-Size Portions Introduced by Fast Food Chains and Restaurants

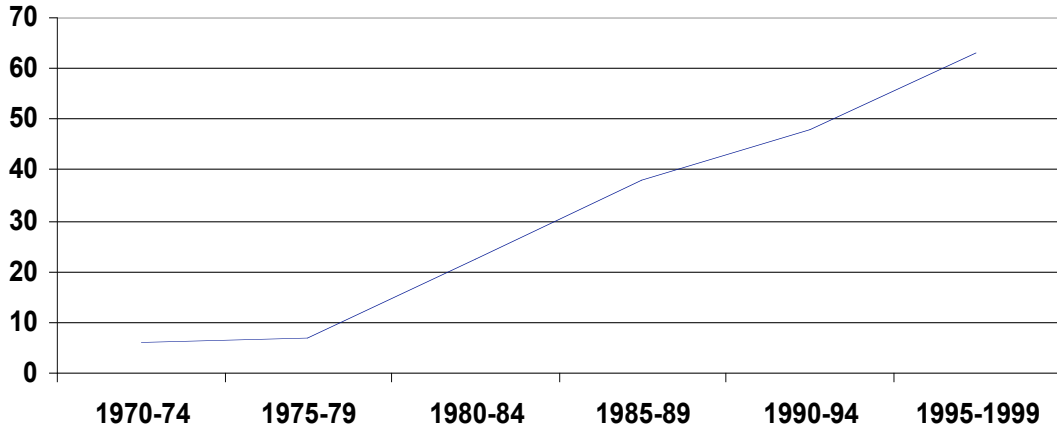
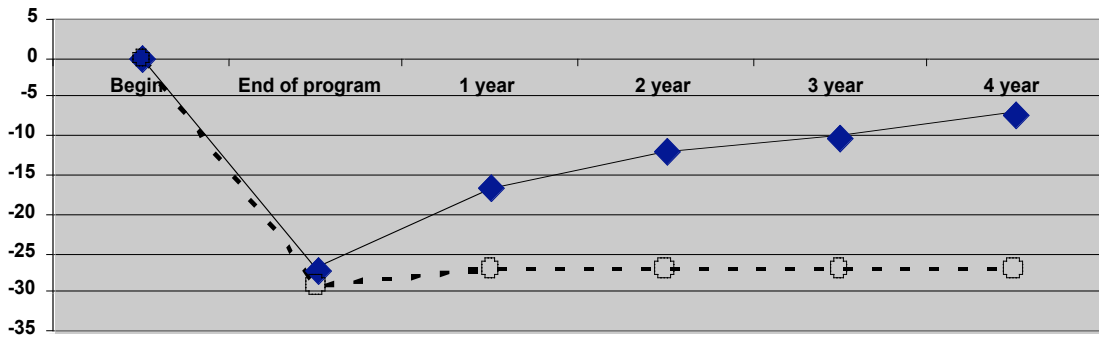
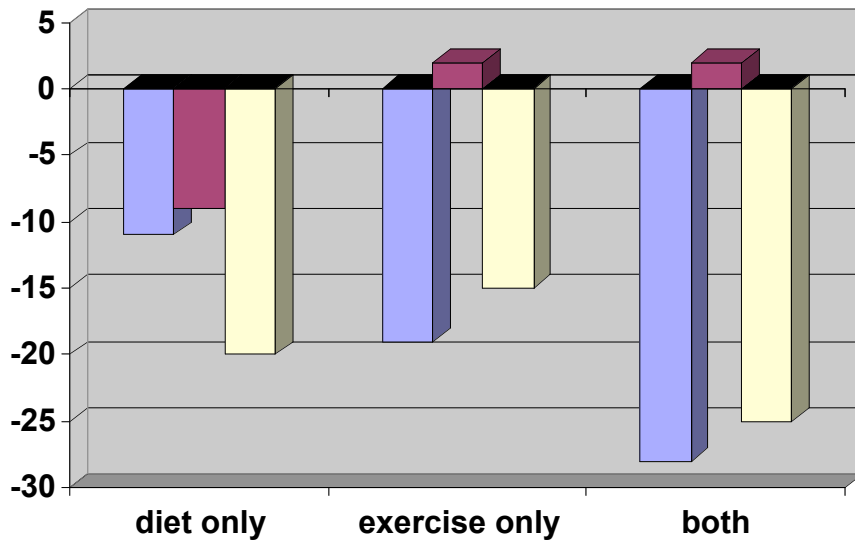


Figure 12.2 The solid line shows the typical results of weight-loss program participants in pounds. The dotted line would be ideal—lose weight and keep it off for years.





body fat   lean tissue   total weight



# Chapter 13

## The Winds of Change

There are no graphs or exercises in this chapter