Lifetime Physical Fitness & Wellness
A Personalized Program

WERNER W. K. HOEGER
Professor Emeritus (Active)
Department of Kinesiology
Boise State University

and

SHARON A. HOEGER
Fitness and Wellness, Inc.
Boise, Idaho
"The human body is extremely resilient during young age—not so during middle and older age. Lifestyle choices you make today will affect your health, well-being, and quality of life tomorrow."

Objectives

▶ Understand the effects of a healthy lifestyle on longevity.
▶ Learn to differentiate between physiological and chronological age.
▶ Estimate your life expectancy and determine your real physiological age.
▶ Learn about complementary and alternative medicine practices.
▶ Learn guidelines for preventing consumer fraud.
▶ Understand factors to consider when selecting a health/fitness club.
▶ Know how to select appropriate exercise equipment.
▶ Review health/fitness accomplishments and chart a wellness program for the future.

Evaluate how you have changed and plan for a healthy future.

Visit www.cengagebrain.com to access course materials and companion resources for this text including quiz questions designed to check your understanding of the chapter contents. See the preface on page xv for more information.
How does regular physical activity affect chronological versus physiological age? Chronological age is your actual age—that is, how old you are. Physiological age is used in reference to your functional capacity to perform physical work at any stage of your life. Data on individuals who have taken part in systematic physical activity throughout life indicate that these people maintain a higher level of functional capacity and do not experience the declines typical in later years. From a functional point of view, typical sedentary people in the United States are about 25 years older than their chronological age indicates. Thus, an active 60-year-old person can have a physical capacity similar to that of an inactive 35-year-old person. Similarly, a sedentary 20-year-old college student most likely has the physical capacity of a 45-year-old active individual.

What are the differences among conventional medicine, complementary and alternative medicine, and integrative medicine? Conventional medicine implies the practice of traditional medicine by medical doctors, osteopaths, and allied health professionals such as registered nurses, physical therapists, and psychologists. Complementary and alternative medicine comprises a group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine. The safety and effectiveness of many of these practices have not been rigorously tested through well-designed scientific studies. Integrative medicine uses a combination of conventional medicine and complementary and alternative medicine treatments for which there is some scientific evidence of safety and effectiveness.

What is the greatest benefit of a lifetime wellness lifestyle? There are many benefits derived from an active wellness lifestyle, including greater functional capacity, good health, less sickness, lower health care expenses and time under medical supervision, and a longer and more productive life. Without question, these benefits altogether translate into one great benefit: an optimum quality of life. That is, the freedom to live life to its fullest without functional and health limitations. Most people go through life wishing that they could live without these limitations. The power, nevertheless, is within each of us to do so. And it is accomplished only by taking action today and living a wellness way of life for the rest of our lives.

I used to fall for every “get thin quick” ad I saw on television. I bought diet pills, supplements, exercise equipment, and many other items that were advertised as causing quick and easy weight loss while still being able to eat whatever you wanted. I would always start using the product with a lot of enthusiasm, only to realize after a short time that it didn’t work at all. In the case of the diet pills I tried, they were actually worse than ineffective, they were scary. Some would make my heart flutter and race in a way that did not seem healthy. When I read the last chapter of Lifetime Physical Fitness and Wellness, I definitely recognized my past experiences in the description of quackery and fraud. The advice about how to evaluate claims about a product’s benefits really helped me. Now, when I see those commercials, sometimes at first I am still tempted to buy, but when I really think about what they are saying and some of the buzzwords they use, I recognize that what they are promising is too good to be true, and it is most likely just another gimmick that doesn’t work. Learning that lesson has saved me from wasting a lot of money and using unhealthy weight loss gimmicks that don’t work.

Better health, higher quality of life, and longevity are the three most important benefits derived from a lifetime fitness and wellness program. You have learned that physical fitness in itself does not always lower the risk for chronic diseases and ensure better health. Thus, implementation of healthy behaviors is the only way to attain your highest potential for well-being. The real challenge will come now that you are about to finish this course: maintaining your own lifetime commitment to fitness and wellness. Adhering to a program in a structured setting is a lot easier, but from now on, you will be on your own.

In this chapter you will have an opportunity to evaluate how well you are adhering to health-promoting behaviors and how these behaviors will affect your physiological age and length of life. You will also learn how to chart a personal wellness program for the future. Research data indicate that healthy (and unhealthy) lifestyle actions you take today will have an impact on health and quality of life in middle and advanced age. Whereas most young people don’t seem to worry much about health and longevity, you may want to take a closer look at the quality of life of your parents or other middle-aged and older friends and relatives that you know. Though you may have a difficult time envisioning yourself at that age, their health status and functional capacity may help you determine how you would like to live when you reach your fourth, fifth, and subsequent decades of life.
although previous research has documented declines in physiological function and motor capacity as a result of aging, no hard evidence at present proves that large declines in physical work capacity are related primarily to aging alone. Lack of physical activity—a common phenomenon in our society as people age—is accompanied by decreases in physical work capacity that are greater by far than the effects of aging itself.

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scientists believe that a healthy lifestyle allows people to live a vibrant life—a physically, intellectually, emotionally, socially active, and functionally independent existence—to age 95. Such are the rewards of a wellness way of life. When death comes to active people, it usually is rather quick and not as a result of prolonged illness. In figure 15.1, note the low, longer slope of the “sedentary/unhealthy lifestyle” before death.

Good physical fitness provides freedom to enjoy many of life’s recreational and leisure activities without limitations.

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**Key Terms**

**Physiological age** The biological and functional capacity of the body as it should be in relation to the person’s maximal potential at any given age in the lifespan.

**Functional capacity** The ability to perform the ordinary and unusual demands of daily living without limitations and excessive fatigue or injury.
Life Expectancy and Physiological Age

Aging is a natural process, but some people seem to age better than others. Most likely you know someone who looks much younger than his or her chronological age indicates—and vice versa, that is, someone who appears much older than his or her chronological age indicates. For example, you may have an instructor who you would have guessed was about 40, but in reality is 52 years old. On the other hand, you may have a relative who looks 60 but is actually 50 years old. Why the differences?

During the aging process, natural biological changes occur within the body. Although no single measurement can predict how long you will live, the rate at which aging changes take place depends on a combination of genetic and lifestyle factors. Your lifestyle habits will determine to a great extent how your genes will affect your aging process. Hundreds of research studies now point to critical lifestyle behaviors that will determine your statistical chances of dying at a younger age or living a longer life. Research also shows that lifestyle behaviors have a far greater impact on health and longevity than your genes alone.

Critical Thinking

How long would you like to live, and are you concerned about how you will live the rest of your life?

Throughout this book, you have studied many of these factors. The question that you now need to ask yourself is: Are your lifestyle habits accelerating or decelerating the rate at which your body is aging? To help you determine how long and how well you may live the rest of your life, the Life Expectancy and Physiological Age Prediction questionnaire is provided in Activity 15.1, can help answer this question. By looking at 48 critical genetic and lifestyle factors, you will be able to estimate your life expectancy and your real physiological age. Of greater importance, most of these factors are under your own control, and you can do something to make them work for you instead of against you.

As you fill out the questionnaire, you must be completely honest with yourself. Your life expectancy and physiological age prediction are based on your present lifestyle habits, should you continue those habits for life. Using the questionnaire, you will review factors you can modify or implement in daily living that may add years and health to your life. Please note that the questionnaire is not a precise scientific instrument, but rather an estimated life expectancy analysis according to the impact of lifestyle factors on health and longevity. Also, the questionnaire is not intended as a substitute for advice and tests conducted by medical and health care practitioners.

Complementary and Alternative Medicine

Conventional Western medicine, also known as allopathic medicine, has seen major advances in care and treatment modalities during the last few decades. Conventional medicine is based on scientifically proven methods, wherein medical treatments are tested through rigorous scientific trials. In addition to a primary care physician (medical doctor), people seek advice from other practitioners of conventional medicine, including osteopaths, dentists, oral surgeons, orthodontists, ophthalmologists, optometrists, physician assistants, and nurses.

Notwithstanding modern technological and scientific advancements, many medical treatments either do not improve the patient’s condition or create other ailments caused by the treatment itself. Only about 20 percent of conventional treatments have been proven to be clinically effective in scientific trials. Thus, approximately 38 percent of adults (see Figure 15.2) and 12 percent of children in the U.S. are turning to complementary and alternative medicine, or CAM (also called “unconventional,” “nonallopathic,” or “integrative” medicine) in
Life Expectancy and Physiological Age Prediction Questionnaire

Name: ___________________________ Date: ______________
Course: __________________________ Section: _____________ Gender: _________ Age: __________

**Instructions**
Circle the points next to the correct answer to each question. At the end of each page, obtain a net score for that page. Be completely honest with yourself. Your age prediction is based on your lifestyle habits, if you continue those habits for life. Using this questionnaire, you will learn about factors that you can modify or implement that can add years and health to your life. The scoring system is provided at the end of the questionnaire. Please note that the questionnaire is not a precise scientific instrument but, rather, an estimated life expectancy analysis according to the impact of lifestyle factors on health and longevity. This questionnaire is not intended to substitute for advice and tests conducted by medical and health care practitioners.

**Questionnaire**

1. What is your current health status?
   - A. Excellent +2
   - B. Good +1
   - C. Average 0
   - D. Fair −1
   - E. Poor −2
   - F. Bad −3

2. How many days per week do you accumulate 30 minutes of moderate-intensity physical activity (at least 40% of heart rate reserve—see Chapter 3)?
   - A. 6 or 7 +3
   - B. 3 to 5 +1
   - C. 1 or 2 0
   - D. Less than once per week −3

3. How often do you participate in a vigorous-intensity cardiorespiratory exercise (over 60% of heart rate reserve) for at least 20 minutes?
   - A. 3 or more times per week +2
   - B. 2 times per week +1
   - C. Once a week −1
   - D. Less than once per week −2

4. How often do you perform strength-training exercises per week (a minimum of 8 exercises using 8 to 12 repetitions to near-fatigue on each exercise)?
   - A. 1–2 times +2
   - B. Less than once or less than 8 exercises with 8 to 12 reps per session 0
   - C. Do not strength-train −1

5. How many times per week do you perform flexibility exercises (at least 15 minutes per stretching session)?
   - A. 3 or more +1
   - B. 1 to 3 times +.5
   - C. 1 time 0
   - D. Do not perform flexibility exercises −.5

6. How many servings of fruits and vegetables do you eat on a daily basis?
   - A. 9 or more +3
   - B. 6 to 8 +2
   - C. 5 +1
   - D. 3 or 4 0
   - E. 2 or less −2

7. How many grams of fiber do you consume on an average day?
   - A. 25 or over +1
   - B. Between 13 and 24 0
   - C. 10 to 12 or don’t know −1
   - D. Less than 10 −2

8. As a percentage of total calories, what is your average fat intake daily?
   - A. 20% to 29.9% +1
   - B. 30% 0
   - C. 30.1% to 35% or don’t know −1
   - D. Over 35% −2

9. As a percentage of total calories, what is your average saturated fat intake daily?
   - A. 5% or less +1
   - B. More than 5% but less than 7% 0
   - C. Don’t know −1
   - D. Over 7% −2

10. How many servings of red meat (3 to 6 ounces) do you consume weekly?
    - A. 1 or none +1
    - B. 2 or 3 0
    - C. 4 to 7 −2
    - D. More than 7 −3

11. How many servings of fish (3 to 6 ounces) do you consume weekly?
    - A. 2 or more +1
    - B. 1 0
    - C. None −1

Page score: __________
12. As a percentage of total calories, what is your average daily trans fatty acid intake?
   A. No trans fat intake +1
   B. Less than 1% 0
   C. 1 to 2% −1
   D. Over 2% −2

13. How many alcoholic drinks (a 12-ounce bottle of beer, a 4-ounce glass of wine, or a 1.5-ounce shot of 80-proof liquor) do you consume per day?
   A. Men 2 or less, women 1 or none +1
   B. None 0
   C. Men 3–4, women 2–4 −1
   D. 5 or more −3

14. How many milligrams of vitamin C do you get from food daily?
   A. Between 250 and 500 +1
   B. Over 90 but less than 250 .5
   C. Less than 90 1

15. How many milligrams of selenium do you get daily (preferably from food)?
   A. Between 100 and 200 +1
   B. Between 50 and 99 +.5
   C. Less than 50 −1

16. How many milligrams of calcium and how many international units of vitamin D do you get from food and supplements on an average day?
   A. Calcium = 1,200, vitamin D = 1,000 or more +1
   B. Calcium = 1,200, vitamin D = less than 1,000 +.5
   C. Calcium = 800 to 1,200, vitamin D = less than 1,000 0
   D. Calcium = less than 800, vitamin D = less than 1,000 −1

17. How many times per week do you eat breakfast?
   A. 7 +1
   B. 5 or 6 +.5
   C. 3 or 4 0
   D. Less than 3 −.5

18. How many cigarettes do you smoke each day?
   A. Never smoked cigarettes or more than 15 years since giving up cigarettes +2
   B. None for 5 to 14 years +1
   C. None for 1 to 4 years 0
   D. None for 0 to 1 year −1
   E. Smoker, less than 1 pack per day −3
   F. Smoker, 1 pack per day −5
   G. Smoker, up to 2 packs per day −7
   H. Smoker, more than 2 packs per day −10

19. Do you use tobacco products other than cigarettes?
   A. Never have 0
   B. Less than once per week −1
   C. Once per week −2
   D. 2 to 6 times per week −3
   E. More than 6 times per week −5

20. How often are you exposed to secondhand smoke or other environmental pollutants?
   A. Less than 1 hour per month 0
   B. Between 1 and 5 hours per month −1
   C. Between 5 and 29 hours per month −2
   D. Daily −3

21. Do you use addictive drugs, other than tobacco or alcohol?
   A. None 0
   B. 1 −3
   C. 2 or more −6

22. What is the age of your parents (or how long did they live)?
   A. Both over 76 +3
   B. Only one over 76 +1
   C. Both are still alive and under 76 0
   D. Only one under 76 −1
   E. Neither one lived past 76 −3

23. What is your body composition category (see Table 4.10 on page 134)?
   A. Excellent +2
   B. Good +1
   C. Average 0
   D. Overweight −1
   E. Significantly overweight −2

24. What is your blood pressure?
   A. 120/80 or less (both numbers) +2
   B. 120–140 or 80–90 (either number) −1
   C. Greater than 140/90 (either number) −3

25. What is your HDL cholesterol?
   A. Men greater than 45, women over 55 +2
   B. Men 35 to 44, women 45 to 54 0
   C. Don’t know −1
   D. Men less than 35, women below 45 −2

26. What is your LDL cholesterol?
   A. Less than 100 +2
   B. 100 to 130 0
   C. 130 to 159 −1
   D. 160 or higher +2
   E. Don’t know −2

27. Do you floss and brush your teeth regularly?
   A. Every day +.5
   B. 3 to 6 days per week 0
   C. Less than 3 days per week −.5

28. Are you a diabetic?
   A. No 0
   B. Yes, well-controlled −1
   C. Yes, poorly or not controlled −3

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### Life Expectancy and Physiological Age Prediction Questionnaire (continued)

29. How often do you get 10 to 20 minutes of unprotected (“safe”) sun exposure between 10:00 a.m. and 4:00 p.m.?  
   A. Almost daily +3  
   B. 4 to 5 times per week +1  
   C. 3 times per week 0  
   D. 1 to 2 times per week −1  
   E. Less than once per week −3

30. How often do you tan?  
   A. Not at all  
   B. Less than 3 times per year  
   C. 3 times per week  
   D. 4 to 5 times per week  
   E. More than 3 times per year

31. How often do you wear a seat belt?  
   A. All the time +1  
   B. Most of the time −.5  
   C. Less than half the time −1

32. How fast do you drive?  
   A. Always at or below the speed limit 0  
   B. Up to 5 mph over the speed limit −.5  
   C. Between 5 and 10 mph over the speed limit −1  
   D. More than 10 mph over the speed limit −2

33. Do you drink and drive?  
   A. Never 0  
   B. Yes (even if only once) −5

34. Do you suffer from addictive behavior (misuse or abuse of alcohol, prescription and/or hard drugs)?  
   A. No 0  
   B. Yes −10

35. In terms of your sexual activity:  
   A. I am not sexually active or I am in a monogamous sexual relationship +1  
   B. I have more than one sexual partner but I always practice safer sex −1  
   C. I have multiple sexual partners and I do not practice safer sex techniques −3

36. What is your marital status?  
   A. Happily married +1  
   B. Single and happy 0  
   C. Single and unhappy −.5  
   D. Divorced −1  
   E. Widowed with a belief in life hereafter −1  
   F. Widowed −2  
   G. Married and unhappy −2

37. On the average, how many hours of sleep do you get each night?  
   A. 8 +2  
   B. 7 to 8 0  
   C. 6 to 7 −1  
   D. Less than 6 −2

38. Your stress rating according to the Stress Events Scale (see Activity 12.1, page 401–402) is:  
   A. Excellent +1  
   B. Good 0  
   C. Average −.5  
   D. Fair −1  
   E. Poor −2

39. Your Type A behavior rating is:  
   A. Low 0  
   B. Medium −1  
   C. High −2

40. When under stress (distress), how often do you practice stress management techniques?  
   A. Always +1  
   B. Most of the time +.5  
   C. Not applicable (don’t suffer from stress) 0  
   D. Sometimes −1  
   E. Never −2

41. Do you suffer from depression?  
   A. Not at all 0  
   B. Mild depression −1  
   C. Severe depression −2

42. How often do you associate with people who have a positive attitude about life?  
   A. Always +.5  
   B. Most of the time 0  
   C. About half of the time −.5  
   D. Less than half the time −1

43. Do you have close family or personal relationships whom you can trust and rely on for help in times of need?  
   A. Yes +1  
   B. No −1

44. Do you feel loved and can you routinely give affection and love?  
   A. Yes +1  
   B. No −1

45. Do you have a good sense of humor?  
   A. Yes +1  
   B. No −1

46. How satisfied are you with your school work?  
   A. Satisfied +1  
   B. It’s okay 0  
   C. Not satisfied −1

47. How do you rate your present job satisfaction?  
   A. Love it +1  
   B. Like it 0  
   C. It’s okay −.5  
   D. Don’t like it −1  
   E. Hate it −2  
   F. Not applicable 0

48. How do you rate yourself spiritually?  
   A. Very spiritual +1  
   B. Spiritual 0  
   C. Somewhat spiritual −.5  
   D. Not spiritual at all −1

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**ACTIVITY 15.1**

**Page score:**

**Net score for all questions:**
Life Expectancy and Physiological Age Prediction Questionnaire (continued)

**How To Score**

To estimate the total number of years that you will live, (a) determine a net score by totaling the results from all 46 questions, (b) obtain an age change score by multiplying the net score by the age correction factor given below, and (c) add or subtract this number from your base life expectancy age (73 for men and 80 for women—the current life expectancies in the United States). For example, if you are a 20-year-old male and the net score from the answers to all questions was -16, your estimated life expectancy would be 68.2 years (age change score = -16 \times .34\,4.8, \text{life expectancy} = 73 - 4.8 = 68.2).

You also can determine your real physiological age by subtracting a positive age-change score or adding a negative age-change score to your current chronological (calendar) age. For instance, in the previous example, the real physiological age would be 24.8 years (20 + 4.8). If the age change score had been +4.8, the real physiological age would have been 15.2 years. Thus, a healthy lifestyle will always make your physiological age younger than your chronological age. Your real physiological age will have much greater significance in middle and older age, when real-age reductions of 10 to 25 years occur in people who lead healthy lifestyles. Thus a 50-year-old person could easily have a real physiological age of 30.

<table>
<thead>
<tr>
<th>Age Correction Factor (ACF)*</th>
<th>Age</th>
<th>ACF</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤30</td>
<td>.3</td>
<td></td>
</tr>
<tr>
<td>31–40</td>
<td>.4</td>
<td></td>
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<tr>
<td>41–50</td>
<td>.5</td>
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<tr>
<td>51–60</td>
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<tr>
<td>61–70</td>
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<td>71–80</td>
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<td>81–90</td>
<td>.4</td>
<td></td>
</tr>
<tr>
<td>≥91</td>
<td>.3</td>
<td></td>
</tr>
</tbody>
</table>

*Adapted from M. F. Roizen, RealAge, (New York: Cliff Street Books, 1999).

**Age Change Score (ACS)**

\[
\text{Age Change Score (ACS)} = \text{(net score)} \times \text{ACF} = \text{ACF}
\]

**Life expectancy**

\[
\text{Men} = 73 \pm \text{ACS} = \text{years}
\]

\[
\text{Women} = 80 \pm \text{ACS} = \text{years}
\]

**Real physiological Age**

\[
\text{Men} = \text{(your age)} \pm \text{ACS} = \text{years}
\]

\[
\text{Women} = \text{(your age)} \pm \text{ACS} = \text{years}
\]

**Behavior Modification**

State your feelings about the experience of taking this questionnaire, analyze your results, and list lifestyle factors that you can work on that will positively affect your health and longevity.
search of answers to their health problems. Unconventional medicine is referred to as complementary or alternative because patients use it to either augment their regular medical care or to replace conventional practices, respectively.

The reasons for seeking complementary and alternative treatments are diverse. Among the reasons commonly given by patients who seek unconventional treatments are lack of progress in curing illnesses and disease, frustration and dissatisfaction with physicians, lack of personal attention, testimonials about the effectiveness of alternative treatments, and rising health care costs. People who use CAM tend to be more educated and believe that body, mind, and spirit all contribute to good health.

The National Center for Complementary and Alternative Medicine (NCCAM) was established under the National Institutes of Health to examine methods of healing that have previously been unexplored by science. CAM includes treatments and health care practices not widely taught in medical schools, not generally used in hospitals, and not usually reimbursed by medical insurance companies. Many physicians now endorse complementary and alternative treatments, and an ever-increasing number of medical schools are offering courses in this area.

The NCCAM classifies CAM therapies into three broad categories:

1. **Natural products.** Includes the use of a variety of herbal medicines (also known as botanicals), vitamins, minerals, and other "natural products." Many are sold over the counter as dietary supplements. (Some uses of dietary supplements—for example, taking a multivitamin to meet minimum daily nutritional requirements or taking calcium to promote bone health—are not considered CAM.) CAM "natural products," however, do include probiotics—live microorganisms (usually bacteria) that are similar to microorganisms normally found in the human digestive tract.

   Interest in and use of CAM natural products have grown considerably in recent decades. Approximately 17.7 percent of American adults use a nonvitamin/nonmineral natural product. The most commonly used product was fish oil/omega-3's, reported by 37.4 percent of all adults who said they use natural products.

2. **Mind-body medicine.** This practice focuses on the interactions among the brain, mind, body, and behavior, with the intent to use the mind to affect physical functioning and promote health. Many CAM practices embody this concept in different ways. The most common are meditation, yoga, and acupuncture. Other examples of mind–body practices include deep-breathing exercises, guided imagery, progressive muscle relaxation, qigong, and tai chi.

   Several mind–body approaches ranked among the top 10 CAM practices reported by adults. Data indicate that 12.7 percent of adults use deep-breathing exercises, 9.4 percent practice meditation, and 6.1 percent practice yoga. Progressive relaxation and guided imagery are also among the top 10 CAM therapies for adults.

3. **Manipulative and body-based practices.** This practice focuses primarily on the structures and systems of the body, including the bones and joints, soft tissues, and circulatory and lymphatic systems. Among the therapies within this category are: spinal manipulation and massage therapy.

   Spinal manipulation is performed by chiropractors and by other health care professionals such as physical therapists, osteopaths, and some conventional medical doctors. Practitioners use their hands or a device to apply a controlled force to a joint of the spine, moving it beyond its passive range of motion; the amount of force applied depends on the form of manipulation used. Spinal manipulation is among the treatment options used by people with low back pain—a very common condition that can be difficult to treat. Massage therapy encompasses many different techniques. In general, therapists manipulate the muscles and other soft tissues of the body. People use massage for a variety of health-related purposes, including to relieve pain, rehabilitate sports injuries, reduce stress, increase relaxation, address anxiety and depression, and aid general well-being. About 8.6 percent of adults use chiropractic or osteopathic manipulation and 8.3 percent of adults use massage therapy.
Alternative medicine practices have not gone through the same standard scrutiny as conventional medicine. Nonallopathic treatments are often based on theories that have not been scientifically proven. This does not imply that unconventional medicine practices do not help people. Many people have found relief from ailments or been cured through unconventional treatments. In due time, however, these theories will need to be investigated using scientific trials similar to those in conventional medicine.

CAM includes a wide range of healing philosophies, approaches, and therapies. The practices most often associated with nonallopathic medicine are acupuncture, chiropractics, herbal medicine, homeopathy, naturopathic medicine, ayurveda, magnetic therapy, and massage therapy. Each of these practices offers a different approach to treatments based on its beliefs about the body, some of which are hundreds or thousands of years old.

Many of these practitioners believe that their treatment modality aids the body as it performs its own natural healing process. Because of their approach, alternative treatments usually take longer than conventional allopathic medical care. Nonallopathic treatments are usually less harsh on the patient, and practitioners tend to avoid surgery and extensive use of medications.

Unconventional therapies are frequently viewed as “holistic,” implying that the practitioner looks at all the dimensions of wellness when evaluating a person’s condition. Practitioners often persuade patients to adopt healthier lifestyle habits that not only help to improve current conditions but also prevent other ailments.

CAM also allows patients to better understand treatments, and patients are often allowed to administer self-treatment.

Costs for CAM practices are typically lower than conventional medicine costs. With the exception of acupuncture and chiropractic care, most nonallopathic treatments are not covered by health insurance. Typically, patients pay directly for these services. Estimates indicate that almost $34 billion out-of-pocket is spent a year on complementary and alternative medical treatments. These costs exceeded the out-of-pocket expenses for all hospitalizations in the United States. If you are considering alternative medical therapies, consult with your health care insurance provider to determine which therapies are reimbursable.

CAM does have shortcomings, including the following:

1. Many of the practitioners do not have the years of education given to conventional medical personnel and often know less about physiological responses that occur in the body.
2. Some practices are completely devoid of science; hence, the practitioner can rarely explain the specific physiological benefits of the treatment used. Much of the knowledge is based on experiences with previous patients.
3. The practice of CAM is not regulated like that of conventional medicine. The training and certification of practitioners, malpractice liability, and evaluation of tests and methods used in treatments are not routinely standardized. Many states, however, license practitioners in the areas of chiropractic services, acupuncture, naturopathy, homeopathy, herbal therapy, and massage therapy. Other therapies, however, are unmonitored.
4. Unconventional medicine lacks regulation of natural and herbal products. The word “natural” does not imply that the product is safe. Many products, including some herbs, can be toxic in large doses.

A healthy lifestyle enhances functional capacity, quality of life, and longevity.
5. About one-fifth of all prescription users combine high-dose vitamins and/or herbal supplements with prescription drugs. Combinations such as these can yield undesirable side effects. Therefore, individuals should always let their health care practitioners know which medications and alternative (including vitamin and mineral) supplements are being taken in combination.

Herbal medicine has been around for centuries. Through trial and error, by design, or by accident, people have found that certain plant substances have medicinal properties. Today many of these plant substances have been replaced by products that are safer and more effective and have fewer negative side effects. Although science has found the mechanisms whereby some herbs work, much work remains to be done.

Many herbs or herbal remedies are not safe for human use and continue to meet resistance from the scientific community. One of the main concerns is that active ingredients in drug therapy must be administered in accurate dosages. With herbal medicine, the potency cannot always be adequately controlled.

Also, some herbs produce undesirable side effects. For example, ephedra (ma huang), a popular weight loss and energy supplement, can cause high blood pressure, rapid heart rate, tremor, seizures, headaches, insomnia, stroke, and even death. About 1,400 reports of adverse effects linked to herbal products containing ephedra, including 81 ephedra-related deaths, prompted its removal from the marketplace. St. John’s wort, commonly taken as an antidepressant, can produce serious interactions with drugs used to treat heart disease. Ginkgo biloba impairs blood clotting, thus it can cause bleeding in people already on regular blood-thinning medication or aspirin therapy. Other herbs like yohimbine, chaparral, comfrey, and jin bu juan have been linked to adverse events.

Conventional health care providers are becoming more willing to refer you to someone who is familiar with alternative treatments, but you need to be an informed consumer. Ask your primary care physician to obtain valid information regarding the safety and effectiveness of a particular treatment. At times, nonetheless, the medical community resists and rejects unconventional therapies. If your physician is unable or unwilling to provide you with this information, medical, college, or public libraries and popular bookstores are good places to search for this information. You need to educate yourself about the advantages and disadvantages of alternative treatments, risks, side effects, expected results, and length of therapy.

Information on a wide range of medical conditions or specific diseases can also be obtained by calling the National Institutes of Health (NIH) at (301) 496-4000. Ask the operator to direct you to the appropriate NIH office. The NCCAM office also provides a website (nccam.nih.gov) with access to over 180,000 bibliographic records of research published on CAM during the last 35 years.

When you select a primary care physician or a non-allopathic practitioner, consult local and state medical boards, other health regulatory boards and agencies, and consumer affairs departments for information about a given practitioner’s education, accreditation, and license, and about complaints that may have been filed against this health care provider. Many of the unconventional medical fields also have a national organization that provides guidelines for practitioners and health consumers. These organizations can guide you to the appropriate regulatory agencies within your state where you can obtain information regarding a specific practitioner.

You may also talk to individuals who have undergone similar therapies and learn about the competence of the practitioner in question. Keep in mind, however, that patient testimonials do not adequately assess the safety and effectiveness of alternative treatments. Whenever possible, search for results of controlled scientific trials of the therapy in question and use this information in your decision process.

When undergoing any type of treatment or therapy, always disclose this information with all of your health care providers, whether conventional or unconventional. Adequate health care management requires that health care providers be informed of all concurrent therapies, so they will have a complete picture of the treatment plan. Lack of knowledge by one health care provider regarding treatments by another provider can interfere with the healing process or even worsen a given condition.

Millions of Americans have benefitted from CAM practices. You may also benefit from such services, but you need to make careful and educated decisions about

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Key Terms

- **Acupuncture**: Chinese medical system that requires body piercing with fine needles during therapy to relieve pain and treat ailments and diseases.
- **Chiropractics**: Health care system that proposes that many diseases and ailments are related to misalignments of the vertebrae and emphasizes the manipulation of the spinal column.
- **Herbal medicine**: Unconventional system that uses herbs to treat ailments and disease.
- **Homeopathy**: System of treatment based on the use of minute quantities of remedies that in large amounts produce effects similar to the disease being treated.
- **Naturopathic medicine**: Unconventional system of medicine that relies exclusively on natural remedies to treat disease and ailments.
- **Ayurveda**: Hindu system of medicine based on herbs, diet, massage, meditation, and yoga to help the body boost its own natural healing.
- **Magnetic therapy**: Unconventional treatment that relies on magnetic energy to promote healing.
- **Massage therapy**: The rubbing or kneading of body parts to treat ailments.
the available options. By finding well-trained (and preferably licensed) practitioners, you increase your chances for recovery from ailments and disease.

Critical Thinking

Have you or someone you know ever used complementary or alternative medicine treatments? • What experiences did you have with these treatment modalities, and would you use them in the future?

Integrative Medicine

Integrative medicine involves a combination of practices and methods of conventional Western medicine and alternative medicine. It takes into account the whole person and not just the disease. The approach encompasses all aspects of the individual’s lifestyle. It is based on a partnership between the patient and the doctor, where the ultimate goal is to treat the body, mind, and spirit. It further involves principles of preventive medicine and therapies not accepted as “typical” medical practice; including prayer, meditation, social support, and recreation.

As a relatively new branch of medicine, departments are being instituted at some universities and its practice is now available at several hospitals. The concept is not without its critics, as some physicians feel that the practice is driven by market forces and patients’ need for hope. Patients are turning to integrative medicine because of their extreme dissatisfaction with physicians that rush them through appointments and seem to view them as simply another number going through the clinic.

Quackery and Fraud

The rapid growth of the fitness and wellness industry during the past four decades has spurred the promotion of fraudulent products that deceive consumers into “miraculous,” quick, and easy ways to achieve total well-being. Quackery and fraud have been defined as the conscious promotion of unproven claims for profit.

Today’s market is saturated with “special” foods, diets, supplements, pills, cures, equipment, books, and videos that promise quick, dramatic results. Advertisements for these products often are based on testimonials, unproven claims, secret research, half-truths, and quick-fix statements that the uneducated consumer wants to hear. In the meantime, the organization or enterprise making the claims stands to make a large profit from consumers’ willingness to pay for astonishing and spectacular solutions to problems related to their unhealthy lifestyles.

Television, magazine, and newspaper advertisements are not necessarily reliable. For instance, one piece of equipment sold through television and newspaper advertisements promised to “bust the gut” through 5 minutes of daily exercise that appeared to target the abdominal muscle group. This piece of equipment consisted of a metal spring attached to the feet on one end and held in the hands on the other end. According to handling and shipping distributors, the equipment was “selling like hotcakes,” and companies could barely keep up with consumer demand.

Three problems became apparent to the educated consumer: First, there is no such thing as spot reducing; therefore, the claims could not be true. Second, 5 minutes of daily exercise burn hardly any calories and therefore have no effect on weight loss. Third, the intended abdominal (gut) muscles were not really involved during the exercise. The exercise engaged mostly the gluteal and lower back muscles. This piece of equipment could then be found at garage sales for about a tenth of its original cost!

Although people in the United States tend to be firm believers in the benefits of physical activity and positive lifestyle habits as a means to promote better health, most do not reap these benefits because they simply do not know how to put into practice a sound fitness and wellness program that will give them the results they want. Unfortunately, many uneducated wellness consumers are targets of deception by organizations making fraudulent claims for their products.

Deception is not limited to advertisements. Deceit is all around us, in newspaper and magazine articles, trade books, radio, and television shows. To make a profit, popular magazines occasionally exaggerate health claims or leave out pertinent information to avoid offending advertisers. Some publishers print books on diets or self-treatment approaches that have no scientific foundation. Consumers should even be cautious about news reports of the latest medical breakthroughs. Reporters have been known to overlook important information or give certain findings greater credence than they deserve.

Precautions must also be taken when seeking health advice on the Internet. The Internet is full of both credible and dubious information. The following tips can help as you conduct a search on the Internet:

• Look for credentials of the person or organization sponsoring the site.
• Check when the site was last updated. Credible sites are updated often.
• Check the appearance of the information on the site. It should be presented in a professional manner. If every sentence ends with an exclamation point, you have a good cause for suspicion.
• Exercise caution if the site’s sponsor is trying to sell a product. If so, be leery of opinions posted on the site. They could be biased, given that the company’s main objective is to sell a product. Credible companies trying to sell a product on the Internet usually reference their sources of health information and provide additional links that support their product.
Healthy Lifestyle Guidelines

1. Accumulate at least 30 minutes of moderate-intensity physical activity a minimum of five days per week.
2. Exercise aerobically in the proper cardiorespiratory training zone at least three times per week for a minimum of 20 minutes.
3. Accumulate at least 10,000 steps on a daily basis.
4. Strength-train at least once a week (preferably twice per week) using a minimum of eight exercises that involve all major muscle groups of the body.
5. Perform flexibility exercises that involve all major joints of the body at least two to three times per week.
6. Eat a healthy diet that is rich in whole-wheat grains, fruits, and vegetables and is low in saturated and trans fats.
7. Eat a healthy breakfast every day.
8. Do not use tobacco in any form, avoid secondhand smoke, and avoid all other forms of substance abuse.
9. Maintain healthy body weight (achieve a range between the high-physical fitness and health-fitness standards for percent body fat).
10. Get 7 to 8 hours of sleep per night.
11. Get 10 to 20 minutes of safe sun exposure on most days of the week.

• Compare a site’s content to other credible sources. The contents should be generally similar to that of other reputable sites or publications.
• Note the address and contact information for the company. A reliable company will list more than a P.O. box, an 800 number, and the company’s e-mail address. When only the latter information is provided, consumers may never be able to locate the company for questions, concerns, or refunds.
• Be on the alert for companies that claim to be innovators while criticizing competitors or the government for being close-minded or trying to keep them from doing business.
• Watch for advertisers that use valid medical terminology in an irrelevant context or use vague pseudo-medical jargon to sell their product.

Not all people who promote fraudulent products, however, know they are doing so. Some may be convinced that the product is effective. If you have questions or concerns about a health product, you may write to the National Council against Health Fraud (NCAHF), 119 Foster Street, Peabody, MA 01960. The purpose of this organization is to provide the consumer with responsible, reliable, evidence-driven health information. The organization also monitors deceitful advertising, investigates complaints, and offers public information regarding fraudulent health claims. You may also report any type of quackery to them on their website at http://www.ncahf.org/. The site contains an updated list of reliable and unreliable health websites for the consumer.

Other consumer protection organizations offer to follow up on complaints about quackery and fraud. The existence of these organizations, however, should not give the consumer a false sense of security. The overwhelming number of complaints made each year makes it impossible for these organizations to follow up on each case individually. The U.S. Food and Drug Administration’s (FDA) Center for Drug Evaluation Research, for example, has developed a priority system to determine which health fraud product it should regulate first. Products are rated on how great a risk they pose to the consumer. With this in mind, you can use the following list of organizations to make an educated decision before...
you spend your money. You can also report consumer fraud to these organizations:

- Food and Drug Administration. The FDA regulates safety and labeling of health products and cosmetics. You can search for the office closest to you in the federal government listings (blue pages) of the phone book.
- Better Business Bureau (BBB). The BBB can tell you whether other customers have lodged complaints about a product, a company, or a salesperson. You can find a listing for the local office in the business section of the phone book or you can check their website at http://www.bbb.com/.
- Consumer Product Safety Commission (CPS). This independent federal regulatory agency targets products that threaten the safety of American families. Unsafe products can be researched and reported on their website at http://www.cpsc.gov/.

Another way to get informed before you make your purchase is to seek the advice of a reputable professional. Ask someone who understands the product but does not stand to profit from the transaction. For example, a physical educator or an exercise physiologist can advise you regarding exercise equipment; a registered dietitian can provide information on nutrition and weight control programs; a physician can offer advice on nutritive supplements. Also, be alert to those who bill themselves as “experts.” Look for qualifications, degrees, professional experience, certifications, and reputation.

Keep in mind that if it sounds too good to be true, it probably is. Fraudulent promotions often rely on testimonials or scare tactics and promise that their products will cure a long list of unrelated ailments; they use words like “quick fix,” “time-tested,” “newfound,” “miraculous,” “special,” “secret,” “all natural,” “mail order only,” and “money-back guarantee.” Deceptive companies move often, so that customers have no way of contacting the company to ask for reimbursement.

When claims are made, ask where the claims are published. Refereed scientific journals are the most reliable sources of information. When a researcher submits information for publication in a refereed journal, at least two qualified and reputable professionals in the field conduct blind reviews of the manuscript. A blind review means the author does not know who will review the manuscript, and the reviewers do not know who submitted the manuscript. Acceptance for publication is based on this input and relevant changes.

### Reliable Sources of Health, Fitness, Nutrition, and Wellness Information

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### Looking at Your Fitness Future

Once you’ve decided to pursue a lifetime wellness program, you’ll face several more decisions about exactly how to accomplish it. Following are a few issues you’ll encounter.

#### Health/Fitness Club Memberships

You may want to consider joining a health/fitness facility. Or, if you have mastered the contents of this book and your choice of fitness activity is one you can pursue on your own (walking, jogging, cycling), you may not need to join a health club. Barring injuries, you may continue your exercise program outside the walls of a health club for the rest of your life. You also can conduct strength training and stretching programs in your own home (see Chapters 7 and 8).

To stay up-to-date on fitness and wellness developments, you should buy a reputable and updated fitness/wellness book every four to five years. You may subscribe to a credible health, fitness, nutrition, or wellness newsletter to stay current. You can also surf the World Wide Web, but be sure that the sites you are searching are from credible and reliable organizations.

If you are contemplating membership in a fitness facility, do all of the following:

- Make sure that the facility complies with the standards established by the American College of Sports Medicine (ACSM) for health and fitness facilities.

These standards are given in Figure 15.3.
1. A facility must have an appropriate emergency plan.
2. A facility must offer each adult member a preactivity screening that is relevant to the activities that will be performed by the member.
3. Each person who has supervisory responsibility must be professionally competent.
4. A facility must post appropriate signs in those areas of a facility that present potential increased risk.
5. A facility that offers services or programs to the youth must provide appropriate supervision.
6. A facility must conform to all relevant laws, regulations, and published standards.


- Figure 15.3 American College of Sports Medicine standards for health and fitness facilities.

- Examine all exercise options in your community: health clubs/spas, YMCAs, gyms, colleges, schools, community centers, senior centers, and the like.
- Check to see if the facility’s atmosphere is pleasant and nonthreatening to you. Will you feel comfortable with the instructors and other people who go there? Is it clean and well kept? If the answers are no, this may not be the right place for you.
- Analyze costs versus facilities, equipment, and programs. Take a look at your personal budget. Will you really use the facility? Will you exercise there regularly? Many people obtain memberships and permit dues to be withdrawn automatically from a credit card or local bank account, yet seldom attend the fitness center.
- Find out what types of facilities are available: walking/running track, basketball/tennis/racquetball courts, aerobic exercise room, strength training room, pool, locker rooms, saunas, hot tubs, handicapped access, and so on.
- Check the aerobic, strength-training, and stretching equipment available. Does the facility have treadmills, bicycle ergometers, elliptical trainers, swimming pool, free weights, and strength-training machines? Make sure that the facilities and equipment meet your activity interests.
- Consider the location. Is the facility close, or do you have to travel several miles to get there? Distance often discourages participation.
- Check on times the facility is accessible. Is it open during your preferred exercise time (e.g., early morning or late evening)?
- Work out at the facility several times before becoming a member. Does it have ample space amidst all the equipment and people in the facility? Are people standing in line to use the equipment, or is it readily available during your exercise time?
- Evaluate the facility for cleanliness and hygiene. Is the equipment and facility regularly cleaned and disinfected? Sweat and body fluids are great environments for bacterial growth. The facility should also provide hand sanitizers, paper towels, facial tissue, and clean towels for members.
- Inquire about the instructors’ knowledge and qualifications. Do the fitness instructors have college degrees or professional training certifications from organizations such as the ACSM, the American Council on Exercise (ACE), the National Strength and Conditioning Association (NSCA), or the National Academy of Sports Medicine (NASM)? These organizations have rigorous standards to ensure professional preparation and quality of instruction.
- Consider the approach to fitness (including all health-related components of fitness). Is it well rounded? Do the instructors spend time with members, or do members have to seek them out constantly for help and instruction?

- Reliable Health Websites
  - American Cancer Society http://www.cancer.org/
  - American Heart Association http://americanheart.org
  - American College of Sports Medicine http://www.acsm.org
  - Clinical Trials Listing Service http://www.centerwatch.com
  - HospitalWeb http://neuro-www.mgh.harvard.edu/hospitalweb.shtm
  - National Cancer Institute http://www.cancer.gov
  - The National Institutes of Health http://www.nih.gov/
  - The Centers for Disease Control and Prevention http://www.cdc.gov/
  - The Medical Matrix (requires subscription) http://www.medmatrix.org/
  - The National Council Against Health Fraud http://www.ncahf.org/
  - The Food and Drug Administration http://www.fda.gov/
  - WebMD http://webmd.com/
  - World Health Organization http://www.who.int/en/
• Ask about supplementary services. Does the facility provide or contract out for regular health and fitness assessments (cardiovascular endurance, body composition, blood pressure, blood chemistry analysis)? Are wellness seminars (nutrition, weight control, stress management) offered? Do these have hidden costs?

Personal Trainers

The current way of life has opened an entire new job market for personal trainers who are presently in high demand by health and fitness participants. A personal trainer is a health/fitness professional who evaluates, motivates, educates, and trains clients to help them meet individualized healthy lifestyle goals. Rates typically range between $20 and $100 an hour. Some trainers offer reduced rates for extended packages or prepaid sessions. For most people, using the expertise of a personal trainer is an investment in fitness, health, and quality of life.

Exercise sessions are usually conducted at a health/fitness facility or at the client’s own home. Experience and the ability to design safe and effective programs based on the client’s current fitness level, health status, and fitness goals are important. Personal trainers also recognize their limitations and refer clients to other health care professionals as necessary.

Currently, anyone who prescribes exercise can make the claim to be a personal trainer without proof of education, experience, or certification. Although good trainers need to strive to maximize their own health and fitness, a good physique and previous athletic experience do not certify a person as a personal trainer.

Because of the high demand for personal trainers, more than 200 organizations now certify fitness specialists. This has led to great confusion by clients on how to evaluate the credentials of personal trainers. “Certification” and a “certificate” are different. Certification implies that the individual has met educational and professional standards of performance and competence. A certificate typically is awarded to individuals who attend a conference or workshop but are not required to meet any professional standards.

Presently, no licensing body is in place to oversee personal trainers. Thus, becoming a personal trainer is easy. At a minimum, personal trainers should have an undergraduate degree and certification from a reputable organization such as ACSM, ACE, NSCA, or NASM. Undergraduate (and graduate) degrees should be conferred in a fitness-related area such as exercise science, exercise physiology, kinesiology, sports medicine, or physical education. When looking for a personal trainer, always inquire about the trainer’s education and certification credentials.

Before selecting a trainer, you must establish your program goals. Below are sample questions to ask yourself and consider when interviewing potential trainers prior to selecting one:

• Can the potential personal trainer provide you with a resume?
• What type of professional education and certification does the potential trainer possess?
• How long has the person been a personal trainer and are references available upon request?
• Are you looking for a male or female trainer?
• What are the fees? Are multiple sessions cheaper than a single session? Can individuals be trained in groups? Are there cancellation fees if you are not able to attend a given session?
• How long will you need the services of the personal trainer: one session, multiple sessions, periodically, or indefinitely?
• What goals do you intend to achieve with the guidance of the personal trainer: weight loss, cardiorespiratory fitness, strength and/or flexibility fitness, improved health, or sport fitness conditioning?
• What type of personality are you looking for in the trainer—a motivator, a hard-challenging trainer, a gentle trainer, or professional counsel only?

When seeking fitness advice from a health/fitness trainer via the Internet, here’s a final word of caution: Be aware that certain services cannot be provided over the Internet. An Internet trainer is not able to directly administer fitness tests, motivate, observe exercise limitations, or respond effectively in an emergency situation (spotting, or administering first aid or cardiopulmonary resuscitation [CPR]), and thus is not able to design the most safe and effective exercise program for you.
Purchasing Exercise Equipment

A final consideration is that of purchasing your own exercise equipment. The first question you need to ask yourself is: Do I really need this piece of equipment? Most people buy on impulse because of television advertisements or because a salesperson has convinced them it is a great piece of equipment that will do wonders for their health and fitness. Ignore claims that an exercise device or machine can provide “easy/no-sweat” results in a few minutes only. Keep in mind that the benefits of exercise are obtained only if you do exercise. With some creativity, you can implement an excellent and comprehensive exercise program with little, if any, equipment (see Chapters 6, 7, 8, and 9).

Many people buy expensive equipment only to find they really do not enjoy that mode of activity. They do not remain regular users. Stationary bicycles (lower body only) and rowing ergometers were among the most popular pieces of equipment a few years ago. Most of them now are seldom used and have become “fitness furniture” somewhere in the basement. Furthermore, be skeptical of testimonials and before-and-after pictures from “satisfied” customers. These results may not be typical, and it doesn’t mean that you will like the equipment as well.

Exercise equipment does have its value for people who prefer to exercise indoors, especially during the winter months. It supports some people’s motivation and adherence to exercise. The convenience of having equipment at home also allows for flexible scheduling. You can exercise before or after work or while you watch your favorite television show.

If you are going to purchase equipment, the best recommendation is to actually try it out several times before buying it. Ask yourself several questions: Did you enjoy the workout? Is the unit comfortable? Are you too short, tall, or heavy for it? Is it stable, sturdy, and strong? Do you have to assemble the machine? If so, how difficult is it to put together? How durable is it? Ask for references—people or clubs that have used the equipment extensively. Are they satisfied? Have they enjoyed using the equipment? Talk with professionals at colleges, sports medicine clinics, or health clubs.

Another consideration is to look at used units for signs of wear and tear. Quality is important. Cheaper brands may not be durable, so your investment would be wasted.

Finally, watch out for expensive gadgets. Monitors that provide exercise heart rate, work output, caloric expenditure, speed, grade, and distance may help motivate you, but they are expensive, need repairs, and do not enhance the actual fitness benefits of the workout. Look at maintenance costs and check for service personnel in your community.

Critical Thinking

Do you admire certain people around you and would like to emulate their wellness lifestyle? • What behaviors do these people exhibit that would help you adopt a healthier lifestyle? • What keeps you from emulating these behaviors, and how can you overcome these barriers?

Self-Evaluation and Behavioral Goals for the Future

The main objective of this book is to provide the information and experiences necessary to implement your personal fitness and wellness program. If you have implemented the programs in this book, including exercise, you should be convinced that a wellness lifestyle is the only way to attain a higher quality of life.

Most people who engage in a personal fitness and wellness program experience this new quality of life after only a few weeks of training and practicing healthy lifestyle patterns. In some instances, however—especially for individuals who have led a poor lifestyle for a long time—a few months may be required to establish positive habits and feelings of well-being. In the end, though, everyone who applies the principles of fitness and wellness will reap the desired benefits.

Prior to the completion of this course, you now need to identify community resources available to you that will support your path to lifetime fitness and wellness. Activity 15.2 will provide a road map to initiate your search for this support. You will find the process beneficial, one that will help you maintain your new wellness way of life.

Self-Evaluation

Throughout this course you have had an opportunity to assess various fitness and wellness components and write goals to improve your quality of life. You now should take the time to evaluate how well you have achieved your own goals. Ideally, if time allows and facilities and technicians are available, reassess the health-related components of physical fitness. If you are unable to reassess these components, determine

Key Terms

Personal trainer A health/fitness professional who evaluates, motivates, educates, and trains clients to help them meet individualized, healthy, lifestyle goals.
Fitness and Wellness Community Resources

Name: ___________________________ Date: ______________ Grade: ____________
Instructor: ________________________ Course: ____________

Objective
To identify community resources available for you to continue your path toward lifetime fitness and wellness.

Introduction
Using a community directory, identify a minimum of three fitness, recreational, or wellness facilities that will allow you to maintain and further develop your personal fitness and wellness program. Initially, contact all three facilities by phone to obtain the pertinent information (see Item I below). Upon completion of this task, make an appointment to personally visit at least one of the facilities during a time when you would work out, and evaluate the equipment, equipment availability, personnel, and programs that would be available to you. Keep in mind that one of the options available to you may be your own campus health/fitness/recreation center. College alumni, for a fee, often have the option to continue to use such a facility.

I. Initial Contact

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<td>Strength equipment:</td>
<td></td>
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<tr>
<td>Flexibility equipment:</td>
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<td></td>
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<tr>
<td>Personal trainers, availability and costs:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal trainers’ certifications:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Fitness tests, availability and costs:</td>
<td></td>
<td></td>
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<tr>
<td>Exercise classes:</td>
<td></td>
<td></td>
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<tr>
<td>Other services (nutrition, stress management, smoking cessation, cardiac profiles, etc.)</td>
<td></td>
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</tr>
<tr>
<td>Free trial of facility available?</td>
<td></td>
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</tbody>
</table>
Fitness and Wellness Community Resources (continued)

II. Facility Visit and Evaluation
1. Provide an overall impression of the facility:

________________________________________________________________________

2. Was the staff knowledgeable, accessible, and friendly?

________________________________________________________________________

3. Were you able to work out at the facility?  ___ Yes ___ No
   If so, was the equipment available and suitable to your preferences?

________________________________________________________________________

Did you feel comfortable with other individuals using the facility (please indicate why or why not)?

________________________________________________________________________

4. Provide an overall evaluation of the locker facilities and other amenities available to you.

________________________________________________________________________

5. Overall letter grade for the facility:  A  B  C  D  E  F

III. Ongoing educational program
1. Are there any other community resources available to you that would benefit your personal health, fitness, and wellness lifestyle program? Please list:

________________________________________________________________________

2. Contact at least one reliable health, fitness, nutrition, or wellness newsletter that you may subscribe to (see page 490) for a free copy and list the newsletter below. Also indicate if there are any other fitness/wellness materials that have provided valuable information to you.

________________________________________________________________________

3. List at least three reliable and helpful Web sites that you accessed this term and indicate why these sites were useful to you.

________________________________________________________________________
subjectively how well you accomplished your goals. You will find a self-evaluation form in Activity 15.3.

Behavioral Goals for the Future

The real challenge will come now that you are about to finish this course: a lifetime commitment to fitness and wellness. Adhering to a program in a structured setting is a lot easier, but from now on you will be on your own. Realizing that you may not have achieved all of your goals during this course, or perhaps you need to reach beyond your current achievements, the Wellness Scale provided in Activity 15.3 will help you chart the future. This guide provides a list of various wellness components, each illustrating a scale from poor to excellent. Using the Wellness Scale, rate yourself for each component according to the following instructions:

1. Indicate with an “I” (I = Initial) the category from poor to excellent where you stood on each component at the beginning of the semester. For example, if at the start of this course, you rated poor in cardiorespiratory endurance, place an “I” under the poor column for this component.

2. Mark with a “C” (C = Current) a second column (between poor and excellent) to indicate where you stand on each component at the current time. If your level of cardiorespiratory endurance improved to average by the end of the semester, write a “C” under this column. If you were not able to work on a given component, simply make a “C” out of the “I.”

3. Select one or two components you intend to work on in the next 2 months. Developing new behavioral patterns takes time, and trying to work on too many components at once most likely will lower your chances for success. Start with components in which you think you will have a high chance for success.

   Next, place a “G” (G = Goal) under the intended goal column to accomplish by the end of this period. If your goal in the next 2 months is to achieve a “good” level of cardiorespiratory endurance, place a “G” under the good column for this component in the Wellness Scale.

Use Activity 15.4 to write the goals and behavioral objectives for two components you intend to work on during the next 2 months. As you write and work on these goals and objectives, review the goal setting guidelines provided in Chapter 2, pages 61–66. Using these guidelines will help you design an effective plan of action to reach your goals. You are encouraged to keep this form (activity) in a place that you will remember so that you may review it in months and years to come.

One final assignment that you should complete is to summarize your feelings about your past and present lifestyle, what you have learned in this course, and changes that you were able to successfully implement. Activity 15.5, can be used for this experience.

The Fitness/Wellness Experience and a Challenge for the Future

Patty Neavill is a typical example of someone who often tried to change her life but was unable to do so because she did not know how to implement a sound exercise and weight control program. At age 24 and at 240 pounds, she was discouraged with her weight, level of fitness, self-image, and quality of life in general. She had struggled with her weight most of her life. Like thousands of other people, she had made many unsuccessful attempts to lose weight.

Patty put her fears aside and decided to enroll in a fitness course. As part of the course requirement, a battery of fitness tests was administered at the beginning of the semester. Patty’s cardiovascular fitness and strength ratings were poor, her flexibility classification was average, and her percent body fat was 41.

Following the initial fitness assessment, Patty met with her course instructor, who prescribed an exercise and nutrition program like the one in this book. Patty fully committed to carry out the prescription. She walked/jogged five times a week. She enrolled in a weight-training course that met twice a week. Her daily caloric intake was set in the range of 1,500 to 1,700.

Determined to increase her level of activity further, Patty signed up for recreational volleyball and basketball courses. Besides being fun, these classes provided four additional hours of activity per week.

She took care to meet the minimum required servings from the basic food groups each day, which contributed about 1,200 calories to her diet. The remainder of the calories came primarily from complex carbohydrates.

At the end of the 16-week semester, Patty’s cardiovascular fitness, strength, and flexibility ratings had all improved to the Good category, she had lost 50 pounds, and her percent body fat had decreased to 22.5!

Patty was tall. At 190 pounds, most people would have thought she was too heavy. Her percent body fat, however, was lower than the average for college female physical education major students (about 23 percent body fat).

A thank-you note from Patty to the course instructor at the end of the semester read:

Thank you for making me a new person. I truly appreciate the time you spent with me. Without your kindness and motivation, I would have never made it. It is great to be fit and trim. I’ve never had this feeling before, and I wish everyone could feel like this once in their life.

Thank you,
Your trim Patty!

Patty had never been taught the principles governing a sound weight loss program. In Patty’s case, not only did she need this knowledge, but, like most Americans who never have experienced the process of becoming
Self-Evaluation of Selected Wellness Components

Name: ______________ Date: __________

Course: ______________ Section: __________ Gender: __________ Age: __________

In the appropriate columns, enter I (for Initial), C (for Current), and G (for Goal) according to instructions on page 496.

<table>
<thead>
<tr>
<th>Wellness Components</th>
<th>Poor</th>
<th>Fair</th>
<th>Average</th>
<th>Good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiorespiratory Endurance</td>
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<tr>
<td>Muscular Strength/Endurance</td>
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<td>Muscular Flexibility</td>
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<tr>
<td>Body Composition</td>
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<tr>
<td>Nutrition</td>
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<td>Cardiovascular Disease Prevention</td>
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<tr>
<td>Cancer Prevention</td>
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<tr>
<td>Stress Control</td>
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<td>Tobacco Use</td>
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<tr>
<td>Substance Abuse Control*</td>
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<tr>
<td>Sexuality*</td>
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<td>Accident Prevention and Personal Safety</td>
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<tr>
<td>Spirituality*</td>
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<tr>
<td>Health Education</td>
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</tbody>
</table>

Current Number of Daily Steps: __________ Activity category (see Table 1.2, page 12): __________

*These components are personal, and you are not required to reveal this information. If you think that counseling is necessary, you are encouraged to seek professional help.
Goal Setting: Behavioral Goals for the Future

Name: ___________________________ Date: ________________

Course: _________________________ Section: _____________ Gender: _______ Age: _______

Select two wellness components that you will work on during the next couple of months. Specify your SMART goals and write specific objectives that will lead to your accomplishing these goals (you may not need six objectives; write only as many as you need).

Goal:

Objectives:

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<td>4.</td>
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<tr>
<td>5.</td>
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<tr>
<td>6.</td>
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</table>

Goal:

Objectives:

<p>| | |</p>
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<td>5.</td>
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</tr>
<tr>
<td>6.</td>
<td></td>
</tr>
</tbody>
</table>

Number of Daily Steps Goal: [ ] [runner] Activity category goal: [ ]
physically fit, she needed to be in a structured exercise setting to truly feel the joy of fitness.

Even more significant was that Patty maintained her aerobic and strength-training programs. A year after ending her calorie-restricted diet, her weight increased by 10 pounds, but her body fat decreased from 22.5 to 21.2 percent. As you may recall from Chapter 5, this weight increase is related mostly to changes in lean tissue, lost during the weight-reduction phase.

In spite of only a slight drop in weight during the second year following the calorie-restricted diet, the 2-year follow-up revealed a further decrease in body fat, to 19.5 percent. Patty understood the new quality of life reaped through a sound fitness program, and at the same time, she finally learned how to apply the principles that regulate weight maintenance.

If you have read and successfully completed all of the assignments set out in this book, including a regular exercise program, you should be convinced of the value of exercise and healthy lifestyle habits in achieving a new quality of life.

Perhaps this new quality of life was explained best by the late Dr. George Sheehan, when he wrote:

> For every runner who tours the world running marathons, there are thousands who run to hear the leaves and listen to the rain, and look to the day when it is all suddenly as easy as a bird in flight. For them, sport is not a test but a therapy, not a trial but a reward, not a question but an answer.

The real challenge will come now: a lifetime commitment to fitness and wellness. To make the commitment easier, enjoy yourself and have fun along the way. If you implement your program based on your interests and what you enjoy doing most, then adhering to your new lifestyle will not be difficult.

Your activities over the last few weeks or months may have helped you develop “positive addictions” that will carry on throughout life. If you truly experience the feelings Dr. Sheehan expressed, there will be no looking back. If you don’t get there, you won’t know what it’s like. Fitness and wellness is a process, and you need to put forth a constant and deliberate effort to achieve and maintain a higher quality of life. Improving the quality of your life, and most likely your longevity, is in your hands. Only you can take control of your lifestyle and thereby reap the benefits of wellness.
Wellness Lifestyle Self-Assessment

Name: ___________________________ Date: _______________________

Course: __________________________ Section: ____________________ Gender: ________ Age: ________

I. Explain the exercise program you implemented in this course. Express your feelings about the outcomes of this program and how well you accomplished your fitness goals.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

II. List nutritional or dietary changes that you were able to implement this term and the effects of these changes on your body composition and personal wellness.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
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________________________________________________________________________
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________________________________________________________________________
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________________________________________________________________________
Wellness Lifestyle Self-Assessment (continued)

III. List other lifestyle changes you were able to make this term that may decrease your risk for disease. In a few sentences, explain how you feel about these changes and their impact on your overall well-being.

________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________

IV. Briefly evaluate this course and its impact on your quality of life. Indicate what you think you will need so you are able to continue to adhere to an active and healthy lifestyle.

________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
Assess Your Behavior

Log on to www.cengagebrain.com to access CengageNOW and the Behavior Change Planner where you can take the Wellness Profile assessment again and evaluate your progress.

1. Has your level of physical activity increased compared with the beginning of the term?
2. Do you participate in a regular exercise program that includes cardiorespiratory endurance, muscular strength, and muscular flexibility training?

3. Is your diet healthier now compared with a few weeks ago?
4. Are you able to take pride in the lifestyle changes that you have implemented over the last several weeks? Have you rewarded yourself for your accomplishments?

Assess Your Knowledge

Evaluate how well you understand the concepts presented in this chapter using the chapter-specific quizzing available in the online materials at www.cengagebrain.com.

1. From a functional point of view, typical sedentary people in the United States are about _______ years older than their chronological age indicates.
   a. 2
   b. 8
   c. 15
   d. 20
   e. 25

2. Which one of the following factors has the greatest impact on health and longevity?
   a. genetics
   b. the environment
   c. lifestyle behaviors
   d. chronic diseases
   e. gender

3. Your real physiological age is determined by
   a. your birthdate.
   b. lifestyle habits.
   c. amount of physical activity.
   d. your family’s health history.
   e. your ability to obtain proper medical care.

4. Complementary and alternative medicine is
   a. also known as allopathic medicine.
   b. referred to as “Western” medicine.
   c. based on scientifically proven methods.
   d. a method of unconventional medicine.
   e. All are correct choices.

5. Complementary and alternative medicine health care practices and treatments are
   a. not widely taught in medical schools.
   b. endorsed by many physicians.
   c. not generally used in hospitals.
   d. not usually reimbursed by medical insurance companies.
   e. All of the above choices are correct.

6. In complementary and alternative medicine,
   a. practitioners believe that their treatment modality aids the body as it performs its own natural healing process.
   b. treatments are usually shorter than with typical medical practices.
   c. practitioners rely extensively on the use of medications.
   d. patients are often discouraged from administering self-treatment.
   e. All of the above choices are correct.

7. When the word “natural” is used with a product,
   a. it implies that the product is safe.
   b. it cannot be toxic, even when taken in large doses.
   c. it cannot yield undesirable side effects when combined with prescription drugs.
   d. there will be no negative side effects with its use.
   e. All choices are incorrect.

8. To protect yourself from consumer fraud when buying a new product,
   a. get as much information as you can from the salesperson.
   b. obtain details about the product from another salesperson.
   c. ask someone who understands the product but does not stand to profit from the transaction.
   d. obtain all the research information from the manufacturer.
   e. All choices are correct.

9. Which of the following should you consider when looking to join a health/fitness center?
   a. location
   b. instructor’s certifications
   c. type and amount of equipment available
   d. verification that the facility complies with ACSM standards
   e. All choices are correct.

10. When you purchase exercise equipment, the most important factor is
    a. to try it out several times before buying it.
    b. a recommendation from an exercise specialist.
    c. cost effectiveness.
    d. that it provides accurate exercise information.
    e. to find out how others like this piece of equipment.

Correct answers can be found at the back of the book.
Chapter 15:

Notes


Suggested Readings


Answer Key

This page contains answers for this chapter only

Chapter 15
1. e  2. c  3. b  4. d  5. e  6. a  7. e  8. c  9. e  10. a
CHAPTER 15 CHECK YOURSELF
Healthy Lifestyle Guidelines

1. Accumulate a minimum of 30 minutes of moderate-intensity physical activity at least five days per week.
2. Exercise aerobically in the proper cardiorespiratory training zone at least three times per week for a minimum of 20 minutes.
3. Strength train at least once a week (preferably twice per week) using a minimum of eight exercises that involve all major muscle groups of the body.
4. Perform flexibility exercises that involve all major joints of the body at least two to three times per week.
5. Eat a healthy diet that is rich in whole-wheat grains, fruits, and vegetables and is low in saturated and trans fats.
6. Eat a healthy breakfast every day.
7. Do not use tobacco in any form, avoid secondhand smoke, and avoid all other forms of substance abuse.
8. Maintain healthy body weight (achieve a range between the high-physical fitness and health-fitness standards for percent body fat).
9. Get 7 to 8 hours of sleep per night.
10. Get 10 to 20 minutes of safe sun exposure on most days of the week.
11. Manage stress effectively.
12. Limit daily alcohol intake to two or less drinks per day if you are a man or one drink or less per day if you are a woman (or do not consume any alcohol at all).
13. Seek proper medical evaluations as necessary.