



U.S. Department of  
Health and Human Services



# 2008 Physical Activity Guidelines for Americans



*Be Active, Healthy, and Happy!*

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THE SECRETARY OF HEALTH AND HUMAN SERVICES  
WASHINGTON, D.C. 20201

I am pleased to present the 2008 Physical Activity Guidelines for Americans, the first comprehensive guidelines on physical activity ever to be issued by the Federal government. This document is intended to be a primary source of information for policy makers, physical educators, health providers, and the public on the amount, types, and intensity of physical activity needed to achieve many health benefits for Americans across the life span. The good news is that these guidelines are achievable and can be customized according to a person's interests, lifestyle, and goals.

This document is based on the report submitted by the Physical Activity Guidelines Advisory Committee, a group comprising 13 leading experts in the field of exercise science and public health. The committee conducted an extensive review of the scientific data relating physical activity to health published since the release of the 1996 Surgeon General's Report on Physical Activity and Health. I want to thank the Committee and other public and private professionals who assisted in creating this document for their hard work and dedication.

Along with President Bush, I believe that physical activity should be an essential component of any comprehensive disease prevention and health promotion strategy for Americans. We know that sedentary behavior contributes to a host of chronic diseases, and regular physical activity is an important component of an overall healthy lifestyle. There is strong evidence that physically active people have better health-related physical fitness and are at lower risk of developing many disabling medical conditions than inactive people.

Prevention is one of my top priorities. Although physical activity is clearly vital to prevention, it is easy for many of us to overlook. These Physical Activity Guidelines for Americans provide achievable steps for youth, adults, and seniors, as well as people with special conditions to live healthier and longer lives.

Sincerely,

A handwritten signature in black ink that reads "Michael O. Leavitt". The signature is written in a cursive, flowing style.

Michael O. Leavitt



# Acknowledgments

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# 2008 Physical Activity Guidelines for Americans Summary

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Being physically active is one of the most important steps that Americans of all ages can take to improve their health. The *2008 Physical Activity Guidelines for Americans* provides science-based guidance to help Americans aged 6 and older improve their health through appropriate physical activity.

The U.S. Department of Health and Human Services (HHS) issues the *Physical Activity Guidelines for Americans*. The content of the *Physical Activity Guidelines* complements the *Dietary Guidelines for Americans*, a joint effort of HHS and the U.S. Department of Agriculture (USDA). Together, the two documents provide guidance on the importance of being physically active and eating a healthy diet to promote good health and reduce the risk of chronic diseases.

The primary audiences for the *Physical Activity Guidelines* are policymakers and health professionals. These Guidelines are designed to provide information and guidance on the types and amounts of physical activity that provide substantial health benefits. This information may also be useful to interested members of the public. The main idea behind the Guidelines is that regular physical activity over months and years can produce long-term health benefits. Realizing these benefits requires physical activity each week.

## Regular physical activity can produce long-term health benefits.

The steps used to develop the *Physical Activity Guidelines for Americans* were similar to those used for the *Dietary Guidelines for Americans*. In 2007, HHS Secretary Mike Leavitt appointed an external

scientific advisory committee, called the Physical Activity Guidelines Advisory Committee. The Advisory Committee conducted an extensive analysis of the scientific information on physical activity and health. The *Physical Activity Guidelines Advisory Committee Report, 2008* and meeting summaries are available at <http://www.health.gov/PAGuidelines/>.

HHS primarily used the Advisory Committee's report but also considered comments from the public and Government agencies when writing the Guidelines. The Guidelines will be widely promoted through various communications strategies, such as materials for the public, Web sites, and partnerships with organizations that promote physical activity.

The *Physical Activity Guidelines for Americans* describes the major research findings on the health benefits of physical activity:

- Regular physical activity reduces the risk of many adverse health outcomes.
- Some physical activity is better than none.
- For most health outcomes, additional benefits occur as the amount of physical activity increases through higher intensity, greater frequency, and/or longer duration.
- Most health benefits occur with at least 150 minutes (2 hours and 30 minutes) a week of moderate-intensity physical activity, such as brisk walking. Additional benefits occur with more physical activity.
- Both aerobic (endurance) and muscle-strengthening (resistance) physical activity are beneficial.
- Health benefits occur for children and adolescents, young and middle-aged adults, older adults, and those in every studied racial and ethnic group.



- The health benefits of physical activity occur for people with disabilities.
- The benefits of physical activity far outweigh the possibility of adverse outcomes.

The following are the key Guidelines included in the *Physical Activity Guidelines for Americans*:

### Key Guidelines for Children and Adolescents

- Children and adolescents should do 60 minutes (1 hour) or more of physical activity daily.
  - **Aerobic:** Most of the 60 or more minutes a day should be either moderate- or vigorous-intensity aerobic physical activity, and should include vigorous-intensity physical activity at least 3 days a week.
  - **Muscle-strengthening:** As part of their 60 or more minutes of daily physical activity, children and adolescents should include muscle-strengthening physical activity on at least 3 days of the week.
  - **Bone-strengthening:** As part of their 60 or more minutes of daily physical activity, children and adolescents should include bone-strengthening physical activity on at least 3 days of the week.
- It is important to encourage young people to participate in physical activities that are appropriate for their age, that are enjoyable, and that offer variety.



### Key Guidelines for Adults

- All adults should avoid inactivity. Some physical activity is better than none, and adults who participate in any amount of physical activity gain some health benefits.
- For substantial health benefits, adults should do at least 150 minutes (2 hours and 30 minutes) a week of moderate-intensity, or 75 minutes (1 hour and 15 minutes) a week of vigorous-intensity aerobic

physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. Aerobic activity should be performed in episodes of at least 10 minutes, and preferably, it should be spread throughout the week.



- For additional and more extensive health benefits, adults should increase their aerobic physical activity to 300 minutes (5 hours) a week of moderate-intensity, or 150 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity activity. Additional health benefits are gained by engaging in physical activity beyond this amount.
- Adults should also do muscle-strengthening activities that are moderate or high intensity and involve all major muscle groups on 2 or more days a week, as these activities provide additional health benefits.

### Key Guidelines for Older Adults

The Key Guidelines for Adults also apply to older adults. In addition, the following Guidelines are just for older adults:

- When older adults cannot do 150 minutes of moderate-intensity aerobic activity a week because of chronic conditions, they should be as physically active as their abilities and conditions allow.
- Older adults should do exercises that maintain or improve balance if they are at risk of falling.
- Older adults should determine their level of effort for physical activity relative to their level of fitness.
- Older adults with chronic conditions should understand whether and how their conditions affect their ability to do regular physical activity safely.



## Key Guidelines for Safe Physical Activity

To do physical activity safely and reduce the risk of injuries and other adverse events, people should:

- Understand the risks and yet be confident that physical activity is safe for almost everyone.
- Choose to do types of physical activity that are appropriate for their current fitness level and health goals, because some activities are safer than others.
- Increase physical activity gradually over time whenever more activity is necessary to meet guidelines or health goals. Inactive people should “start low and go slow” by gradually increasing how often and how long activities are done.
- Protect themselves by using appropriate gear and sports equipment, looking for safe environments, following rules and policies, and making sensible choices about when, where, and how to be active.
- Be under the care of a health-care provider if they have chronic conditions or symptoms. People with chronic conditions and symptoms should consult their health-care provider about the types and amounts of activity appropriate for them.

## Key Guidelines for Women During Pregnancy and the Postpartum Period

- Healthy women who are not already highly active or doing vigorous-intensity activity should get at least 150 minutes of moderate-intensity aerobic activity a week during pregnancy and the postpartum period. Preferably, this activity should be spread throughout the week.
- Pregnant women who habitually engage in vigorous-intensity aerobic activity or who are highly active can continue physical activity during pregnancy and the postpartum period, provided that they remain healthy and discuss with their

health-care provider how and when activity should be adjusted over time.

## Key Guidelines for Adults With Disabilities

- Adults with disabilities, who are able to, should get at least 150 minutes a week of moderate-intensity, or 75 minutes a week of vigorous-intensity aerobic activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. Aerobic activity should be performed in episodes of at least 10 minutes, and preferably, it should be spread throughout the week.
- Adults with disabilities, who are able to, should also do muscle-strengthening activities of moderate or high intensity that involve all major muscle groups on 2 or more days a week, as these activities provide additional health benefits.
- When adults with disabilities are not able to meet the Guidelines, they should engage in regular physical activity according to their abilities and should avoid inactivity.
- Adults with disabilities should consult their health-care provider about the amounts and types of physical activity that are appropriate for their abilities.

## Key Messages for People With Chronic Medical Conditions

- Adults with chronic conditions obtain important health benefits from regular physical activity.
- When adults with chronic conditions do activity according to their abilities, physical activity is safe.
- Adults with chronic conditions should be under the care of a health-care provider. People with chronic conditions and symptoms should consult their health-care provider about the types and amounts of activity appropriate for them.

# A Roadmap to the 2008 Physical Activity Guidelines for Americans

- For an overview of the development of the *Physical Activity Guidelines for Americans* and important background information about physical activity, read **Chapter 1—Introducing the 2008 Physical Activity Guidelines for Americans**.
- To learn about the health benefits of physical activity, read **Chapter 2—Physical Activity Has Many Health Benefits**. This information may help motivate people to become regularly active.
- To understand how to do physical activity in a manner that meets the Guidelines:
  - For youth aged 6 to 17, including youth with disabilities, read **Chapter 3—Active Children and Adolescents**.
  - For adults aged 18 to 64, read **Chapter 4—Active Adults**.
  - For adults aged 65 and older, read **Chapter 5—Active Older Adults**. This chapter is also appropriate reading for adults younger than age 65 who have chronic conditions. The Guidelines for older adults are similar to those for other adults but add some specific considerations, such as guidelines for fall prevention.
  - For women who are pregnant or who have recently given birth (postpartum period), read the age-appropriate chapter and also the section on physical activity and pregnancy in **Chapter 6—Safe and Active** and **Chapter 7—Additional Considerations for Some Adults**.

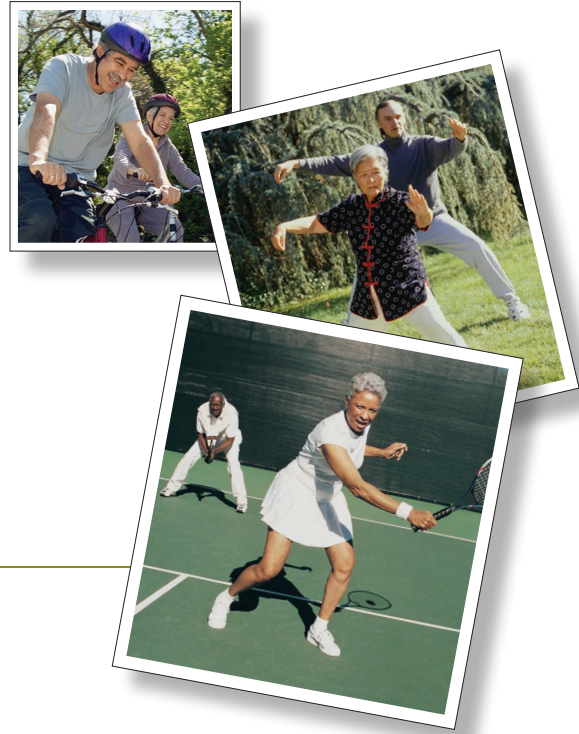
## NOTE

The Guidelines assume that many readers will not read all the chapters, but will read only what is relevant to them. Important information may therefore be repeated in several chapters.

- For adults with disabilities, read **Chapter 4—Active Adults** and **Chapter 7—Additional Considerations for Some Adults**.

- To understand how to reduce the risks of activity-related injury, read **Chapter 6—Safe and Active**.
- Those interested in an overview of ways to help people participate regularly in physical activity should read **Chapter 8—Taking Action: Increasing Physical Activity Levels of Americans**.
- The **Glossary** contains definitions of key terms used in the Guidelines. Terms that are defined in the glossary are underlined the first time they are used.
- Additional information and resources relevant to the Guidelines are available in the **Appendices**.





## Active Older Adults

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**R**egular physical activity is essential for healthy aging. Adults aged 65 years and older gain substantial health benefits from regular physical activity, and these benefits continue to occur throughout their lives. Promoting physical activity for older adults is especially important because this population is the least physically active of any age group.

Older adults are a varied group. Most, but not all, have one or more chronic conditions, and these conditions vary in type and severity. All have experienced a loss of physical fitness with age, some more than others. This diversity means that some older adults can run several miles, while others struggle to walk several blocks.

This chapter provides guidance about physical activity for adults aged 65 years and older. The chapter focuses on physical activity beyond baseline activity. The Guidelines seek to help older adults select types and amounts of physical activity appropriate for their abilities. The Guidelines for older adults are also appropriate for adults younger than age 65 who have chronic conditions and those with a low level of fitness.

For adults aged 65 and older who are fit and have no limiting chronic conditions, the guidance in this chapter is essentially the same as that provided in Chapter 4—Active Adults.

### Explaining the Guidelines

Like the Guidelines for other adults, those for older adults mainly focus on two types of activity: aerobic and muscle-strengthening. In addition, these Guidelines discuss the addition of **balance training** for older adults at risk of falls. Each type provides important health benefits, as explained in Chapter 2—Physical Activity Has Many Health Benefits.

#### *Aerobic Activity*

People doing aerobic activities move large muscles in a rhythmic manner for a sustained period. Brisk walking, jogging, biking, dancing, and swimming are all examples of aerobic activities. This type of activity is also called endurance activity.

Aerobic activity makes a person's heart beat more rapidly to meet the demands of the body's movement.



## Examples of Aerobic and Muscle-Strengthening Physical Activities for Older Adults

The intensity of these activities can be either relatively moderate or relatively vigorous, depending on an older adult's level of fitness.

Aerobic	Muscle-Strengthening
s Walking	s Exercises using exercise bands, weight machines, hand-held weights
s Dancing	s Calisthenic exercises (body weight provides resistance to movement)
s Swimming	s Digging, lifting, and carrying as part of gardening
s Water aerobics	s Carrying groceries
s Jogging	s Some yoga exercises
s Aerobic exercise classes	s Some tai chi exercises
s Bicycle riding (stationary or on a path)	
s Some activities of gardening, such as raking and pushing a lawn mower	
s Tennis	
s Golf (without a cart)	

walk twice a day on every day of the week would easily meet the minimum Guideline for aerobic activity.

### How intense?

Older adults can meet the Guidelines by doing relatively moderate-intensity activity, relatively vigorous-intensity activity, or a combination of both. Time spent in light activity (such as light housework) and sedentary activities (such as watching TV) do not count.

The relative intensity of aerobic activity is related to a person's level of cardiorespiratory fitness.

- **Moderate-intensity activity** requires a medium level of effort. On a scale of 0 to 10, where sitting is 0 and the greatest effort possible is 10, moderate-intensity activity is a 5 or 6 and produces noticeable increases in breathing rate and heart rate.
- **Vigorous-intensity activity** is a 7 or 8 on this scale and produces large increases in a person's breathing and heart rate.

A general rule of thumb is that 2 minutes of moderate-intensity activity count the same as 1 minute of vigorous-intensity activity. For example, 30 minutes of moderate-intensity activity a week is roughly same as 15 minutes of vigorous-intensity activity.

### Muscle-Strengthening Activities

At least 2 days a week, older adults should do muscle-strengthening activities that involve all the major muscle groups. These are the muscles of the legs, hips, chest, back, abdomen, shoulders, and arms.

Muscle-strengthening activities make muscles do more work than they are accustomed to during activities of daily life. Examples of muscle-strengthening activities include lifting weights, working with resistance bands, doing calisthenics using body weight for resistance (such as push-ups, pull-ups, and sit-ups), climbing stairs, carrying heavy loads, and heavy gardening.

Muscle-strengthening activities count if they involve a moderate to high level of intensity, or effort, and work the major muscle groups of the body. Whatever the reason for doing it, any muscle-strengthening activity counts toward meeting the Guidelines. For example, muscle-strengthening activity done as part of a therapy or rehabilitation program can count.

No specific amount of time is recommended for muscle strengthening, but muscle-strengthening exercises should be performed to the point at which it would be difficult to do another repetition without help. When resistance training is used to enhance muscle strength, one set of 8 to 12 repetitions of each exercise is effective, although two or three sets may be more effective. Development of muscle strength and endurance is progressive over time. This means that gradual increases in the amount of weight or the days per week of exercise will result in stronger muscles.

### Balance Activities for Older Adults at Risk of Falls

Older adults are at increased risk of falls if they have had falls in the recent past or have trouble walking. In older adults at increased risk of falls, strong evidence shows that regular physical activity is safe and reduces the risk of falls. Reduction in falls is seen for participants in programs that include balance and

moderate-intensity muscle-strengthening activities for 90 minutes (1 hour and 30 minutes) a week plus moderate-intensity walking for about 1 hour a week. Preferably, older adults at risk of falls should do balance training 3 or more days a week and do standardized exercises from a program demonstrated to reduce falls. Examples of these exercises include backward walking, sideways walking, heel walking, toe walking, and standing from a sitting position. The exercises can increase in difficulty by progressing from holding onto a stable support (like furniture) while doing the exercises to doing them without support. It's not known whether different combinations of type, amount, or frequency of activity can reduce falls to a greater degree. Tai chi exercises also may help prevent falls.

## Meeting the Guidelines

Older adults have many ways to live an active lifestyle that meets the Guidelines. Many factors influence decisions to be active, such as personal goals, current physical activity habits, and health and safety considerations.

Healthy older adults generally do not need to consult a health-care provider before becoming physically active. However, health-care providers can help people attain and maintain regular physical activity by providing advice on appropriate types of activities and ways to progress at a safe and steady pace.

### For More Information

See Chapter 6—Safe and Active, for details on consulting a health-care provider.

Adults with chronic conditions should talk with their health-care provider to determine whether their conditions limit their ability to do regular physical activity in any way. Such a conversation should also help people learn about appropriate types and amounts of physical activity.

### Inactive Older Adults

Older adults should increase their amount of physical activity gradually. It can take months for those with a low level of fitness to gradually meet their activity goals. To reduce injury risk, inactive or insufficiently active

adults should avoid vigorous aerobic activity at first. Rather, they should gradually increase the number of days a week and duration of moderate-intensity aerobic activity. Adults with a very low level of fitness can start out with episodes of activity less than 10 minutes and slowly increase the minutes of light-intensity aerobic activity, such as light-intensity walking.

Older adults who are inactive or who don't yet meet the Guidelines should aim for at least 150 minutes a week of relatively moderate-intensity physical activity. Getting at least 30 minutes of relatively moderate-intensity physical activity on 5 or more days each week is a reasonable way to meet these Guidelines. Doing muscle-strengthening activity on 2 or 3 non-consecutive days each week is also an acceptable and appropriate goal for many older adults.

### Active Older Adults

Older adults who are already active and meet the Guidelines can gain additional and more extensive health benefits by moving beyond the 150-minute-a-week minimum to 300 or more minutes a week of relatively moderate-intensity aerobic activity. Muscle-strengthening activities should also be done at least 2 days a week.

### Older Adults With Chronic Conditions

Older adults who have chronic conditions that prevent them from doing the equivalent of 150 minutes of moderate-intensity aerobic activity a week should set physical activity goals that meet their abilities. They should talk with their health-care provider about setting physical activity goals. They should avoid an inactive lifestyle. Even 60 minutes (1 hour) a week of moderate-intensity aerobic activity provides some health benefits.

### For More Information

See Chapter 7—Additional Considerations for Some Adults, for more information on chronic conditions.

## Special Considerations

### Doing a Variety of Activities, Including Walking

In working toward meeting the Guidelines, older adults are encouraged to do a variety of activities. This

# Older adults

have many ways to live an active lifestyle that meets the Guidelines.

approach can make activity more enjoyable and may reduce the risk of overuse injury.

Older adults also should strongly consider walking as one good way to get aerobic activity. Many studies show that walking has health benefits, and it has a low risk of injury. It can be done year-round and in many settings.

## *Physical Activity for Older Adults Who Have Functional Limitations*

When a person has lost some ability to do a task of everyday life, such as climbing stairs, the person has a functional limitation. In older adults with existing functional limitations, scientific evidence indicates that regular physical activity is safe and helps improve functional ability.

## *Resuming Activity After an Illness or Injury*

Older adults may have to take a break from regular physical activity because of illness or injury, such as the flu or a muscle strain. If these interruptions occur, older adults should resume activity at a lower level and gradually work back up to their former level of activity.

## *Flexibility, Warm-up, and Cool-down*

Older adults should maintain the flexibility necessary for regular physical activity and activities of daily life. When done properly, stretching activities increase flexibility. Although these activities alone have no known health benefits and have not been demonstrated to reduce risk of activity-related injuries, they are an appropriate component of a physical activity program. However, time spent doing flexibility activities by themselves does not count toward meeting aerobic or muscle-strengthening Guidelines.

Research studies of effective exercise programs typically include warm-up and cool-down activities. Warm-up and cool-down activities before and after



physical activity can also be included as part of a personal program. A warm-up before moderate- or vigorous-intensity aerobic activity allows a gradual increase in heart rate and breathing at the start of the episode of activity. A cool-down after activity allows a gradual decrease at the end of the episode. Time spent doing warm-up and cool-down may count toward meeting the aerobic activity Guidelines if the activity is at least moderate intensity (for example, walking briskly to warm-up for a jog). A warm-up for muscle-strengthening activity commonly involves doing exercises with less weight than during the strengthening activity.

## *Physical Activity in a Weight-Control Plan*

The amount of physical activity necessary to successfully maintain a healthy body weight depends on caloric intake and varies considerably among older adults. To achieve and maintain a healthy body weight, older adults should first do the equivalent of 150 minutes of moderate-intensity aerobic activity each week. If necessary, older adults should increase their weekly minutes of aerobic physical activity gradually over time and decrease caloric intake to a point where they can achieve energy balance and a healthy weight.

Some older adults will need a higher level of physical activity than others to maintain a healthy body weight. Some may need more than the equivalent of 300 minutes (5 hours) a week of moderate-intensity activity. It is possible to achieve this level of activity by gradually increasing activity over time.

Older adults who are capable of relatively vigorous-intensity activity and need a high level of physical activity to maintain a healthy weight should consider some relatively vigorous-intensity activity as a means of weight control. This approach is more time-efficient than doing only moderate-intensity activity. However, high levels of activity are not feasible for many older adults. These adults should achieve a level of physical activity that is sustainable and safe. If further weight loss is needed, these older adults should achieve energy balance by regulating caloric intake.

It is important to remember that all activities “count” for energy balance. Active choices, such as taking the stairs rather than the elevator or adding short episodes of walking to the day, are examples of activities that can be helpful in weight control.

### Getting and Staying Active: Real-Life Examples

The following examples show how different people with different living circumstances and levels of fitness can meet the Guidelines for older adults.

#### *Mary: A 75-Year-Old Woman Living Independently in Her Own Home*

Mary gets the equivalent of 180 minutes (3 hours) of moderate-intensity aerobic activity each week, plus muscle-strengthening activity 3 days a week.

- She participates regularly in an exercise class at her local senior center. The class meets Mondays, Wednesdays, and Fridays. It includes 30 minutes of aerobic dance, which she can do at moderate intensity, as well as 20 minutes of strength training, a 5-minute warm-up, a 5-minute cool-down, and some stretching exercises.
- On most Sundays, she visits her favorite park and walks a loop trail with several friends, which takes them about 45 minutes. The trail is hilly, so about 30 minutes of the walk is moderate-intensity walking for her, and about 15 minutes is vigorous-intensity (the 15 minutes of vigorous intensity counts as 30 minutes of moderate-intensity walking).
- She adds at least an additional 30 minutes of walking each week in different ways. For example, she walks

her grandson to school, she walks to her friends’ homes, or she walks at the mall during shopping trips.

#### *Manuel: An 85-Year-Old Man Living in an Assisted-Living Facility*

Manuel, who has problems with falls, gets about 70 minutes (1 hour and 10 minutes) of aerobic activity each week and has an individualized strength-training program. He cannot do 150 minutes of moderate-intensity physical activity because of his chronic conditions, but he is being as physically active as his condition allows.

- To reduce the risk of falls, a physical therapist has prescribed an individualized exercise program. This program includes 3 days a week (30 minutes each session) of strength- and balance-training exercises. Manuel uses ankle weights for lower body muscle-strengthening exercises and does a series of balance exercises. He does this program with the assistance of a residential aide.
- Manuel’s residence includes a garden with walking paths and benches. He has gradually increased his physical activity to walking about 10 minutes each day. On some days he can walk more than on others, but he tries to walk a little every day. The plan is for him to sustain this level of activity for several weeks.
- After he builds strength and his balance improves, Manuel will consider increasing his level of activity and joining an exercise class specially designed to reduce the risk of falls in older people.

#### *Anthony: A 65-Year-Old Man Living in a Retirement Community*

Anthony has been active and fit all his life. He does 180 minutes of relatively vigorous-intensity activity each week, plus muscle-strengthening activities on 3 days.

- Six days a week, Anthony gets up early and runs 3 miles, which takes about 30 minutes.
- With help from staff at his community’s fitness facility, Anthony designed a weight-lifting program using weight machines. He does this program on 3 days.