

# Increasing Physical Activity as We Age

## Exercise Recommendations

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### Introduction

The benefits of regular exercise for people of all ages have been well established in the literature. Regular physical activity and exercise are associated with decreased risk of death and/or disability from pathologies such as cardiovascular disease, diabetes, arthritis, cancer and pulmonary disease. It is also associated with positive psychological benefits such as decreased depression and improved quality of life. Nevertheless, inactivity continues to be a major public health concern with people not exercising as recommended. By dispelling misunderstandings and increasing understanding of the new recommendations for physical activity, individuals can once again find the time for exercise.

### Physical Activity Versus Exercise

Although used interchangeably, there is a difference between physical activity and exercise. Physical activity is defined as any bodily movement produced by the skeletal muscles that results in energy expenditure which exceeds resting energy expenditure. Exercise is considered a subcategory of physical activity and is defined as planned, structured and repetitive bodily movements that are performed to improve or maintain one or more components of physical activity.

In other words, *physical activity* is activity or movement



that gets a person moving such as walking to the mailbox, whereas *exercise* would be walking around the block at a pace that increases your heart rate. With moderate exercise, you should still be able to carry on a conversation, whereas with high-intensity exercise, you are able to still talk but not have a conversation. Physical activity and exercise are voluntary movements, and both are important for health and fitness.

Another way to determine intensity level is by Perceived Exertion. The Borg Rating of Perceived Exertion (RPE) (see Figure 1, next page) is a way of measuring how hard you feel your body is working. It is based on the physical sensations a person experiences during physical activity, including increased heart rate, increased respiration or breathing rate, increased sweating and muscle fatigue. Researchers and physicians generally agree that perceived exertion ratings between 12 to 14 on the RPE suggest that exercise is being performed at a moderate level of intensity.

Self-monitoring of how hard your body is working can help you adjust the intensity of the activity by speeding up or slowing down your movements. The RPE scale range is from 6 to 20 as the

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## Figure 1: Borg Rating of Perceived Exertion (RPE) Scale

While exercising, rate your perception of your total feeling of exertion, combining all sensations and feelings of physical stress. Looking at the rating scale below while you are engaging in an activity, choose the number that best describes your level of exertion.

RPE	Exertion
6	No exertion at all
7	Extremely light
8	
9	Very light
10	
11	Light
12	
13	Somewhat hard
14	
15	Hard (heavy)
16	
17	Very hard
18	
19	Extremely hard
20	Maximal exertion

Borg RPE scale  
© Gunnar Borg, 1970, 1985, 1994, 1998

number roughly correlates to heart rate by multiplying by 10. So if you are resting with an RPE of 6, your heart rate is approximately 60 beats per minute. On the RPE, 9 corresponds to “very light” exercise, which for a healthy person is like walking slowly at his or her own pace for several minutes. Thirteen on the scale is “somewhat hard” exercise, but it still feels OK to continue. Seventeen, “very hard,” is very strenuous. A healthy person can still go on, but he or she really has to push him- or herself. Nineteen on the scale is an extremely strenuous exercise level. For most people, this is the most strenuous exercise they have ever experienced.

The benefits from physical activity and exercise depend on the person’s starting point and how much effort he/she puts into the activity. For example, one person may be able to run around the before-mentioned block ten times and not think about it twice, whereas for another person, a slow walk around the said block is a big

achievement. The important message here is to just get moving and strive for fitness.

## What Type of Exercise Do You Need?

The National Institute on Aging and the U.S. Department of Health and Human Services both recommend performing different types or kinds of exercise. Participation in all four types of exercise is needed for the full health benefit of physical activity. The types of exercise are balance, endurance or aerobics, strength training or weight lifting, and stretching or flexibility. The key to fitness is to do all four of the major types of exercise regularly and increase your level of intensity over time.

**Balance exercises** help prevent falls, not an uncommon problem in older adults. Falling is a major cause of broken hips and other injuries that often lead to disability and loss of independence. Some balance exercises build up your leg muscles, while other exercises focus on your stability.

Examples of balance exercises include several strength exercises for the lower body such as side leg raises and toe stands, as well as stability exercises such as heel-to-toe walking and the stork pose (standing on one foot with arms held out to the side).

**Endurance exercises** increase your breathing and heart rate. They improve the health of your heart, lungs and circulatory system. Increased endurance keeps you healthier and improves stamina for daily activities. Endurance exercises may also delay or even prevent many diseases associated with aging, such as heart disease and diabetes.

Examples of endurance exercises are walking, jogging, dancing and playing tennis.

**Strength training** makes you stronger by building muscle. This increased strength allows you to perform daily activities on your own. Strength training also plays a key role in keeping obesity and diabetes at bay by increasing your metabolism, which helps you maintain a healthy weight and normal blood sugar levels. Additionally, studies suggest strength training may help prevent the progression of osteoporosis.

Examples of strength training exercises include lifting or pushing free weights, pulling resistance bands and using strength-training equipment at a fitness center or gym.

**Stretching exercises.** Stretching exercises keep your body flexible by stretching the muscles and tissues that hold your bones together. These exercises help give you more freedom of

movement to do everyday activities such as reaching and looking over your shoulder. Specific stretches are recommended to prevent injuries, but others are recommended to recover from injuries. Flexibility may also play a part in the prevention of falls.

Examples of stretching exercises include shoulder and upper arm stretch, calf stretch and thigh stretch.

## **How Much Exercise Do You Need?**

In general, adults and senior adults should get 150 minutes of exercise a week, and this needs to be in bouts of at least 10 minutes in length. When you break this down, 150 minutes is only (approximately) 20 minutes a day 7 days a week, 30 minutes a day for 5 days a week or 50 minutes a day for 3 days a week. And when you break that down into 10-minute segments, it seems much easier to accomplish.

However, the amount and type of physical activity individuals should get each week differs based on a number of factors including age and special conditions, such as pregnancy and the postpartum period for women, disabilities and chronic medical or health conditions. For all individuals, some activity is better than none. Recommendations for specific groups include:

### **Infants and Babies (Aged 0-2)**

There are no specific requirements for infants; however, infants/babies/very young children should not be inactive for prolonged periods of time—no more than 1 hour unless they are asleep.

### **Small Children (Aged 2-5)**

Toddlers and preschoolers need 90 to 120 minutes of exercise every day. This exercise should be roughly halved between planned exercise and free play physical activity. Small children should not be inactive for more than 2 hours unless they are asleep.

### **Children and Adolescents (Aged 6-17)**

Children and teenagers need at least 60 minutes of exercise every day, which is 420 minutes a week. More than 60 minutes a day for children and adolescents is even better. Most of the minimum recommendations of 60 minutes a day should be in at least moderate-intensity aerobic physical activity in bouts of 15 minutes or longer. Children and adolescents should do vigorous-intensity aerobic activity 3 days per week. In addition, they should also do strength training exercises at least 3 days per week.

However, it is important to note that children and adolescents should participate in physical activities that are appropriate for their age. For example, a muscle- and bone-strengthening activity for a 7 year old may include jumping rope and climbing on monkey bars, whereas for a 17 year old, it may include going to a gym and lifting weights. Children and adolescents need to perform stretching exercises to help with flexibility. Specific balance exercises, although not discouraged, are not part of the recommendations at this age. Many forms of play—such as walking on a balance beam and hopscotch—enhance balance. Encourage activities that are enjoyable and offer variety.

### **Adults and Senior Adults (Aged 18 and Older)**

Adults and senior adults need a minimum of 150 minutes (2 hours and 30 minutes) a week. It is recommended that adults strive to increase from the minimum goal until they reach 300 minutes a week (5 hours). For ample benefit, adults and senior adults should do at least 150 minutes of moderate-intensity endurance exercise or 75 minutes of vigorous-intensity endurance exercise spread out through the week in at least 10-minute segments. Adults and senior adults should do strength training exercises 2 to 3 days a week with a “rest” day in between the strength training session. This “rest” day does not mean to forego doing the other types of exercises—it is specific for strength training. Strength training activities should include exercises for all the major muscle groups (shoulders, arms, chest, abdomen, back, hips and legs). Balance exercises fall into two categories: the “strengthening” exercises need to be performed 2 or more days a week (but not on any 2 days in a row), whereas the “stability” exercises can—and in some cases should—be performed daily. Stretching exercises improve flexibility. Stretching does not improve endurance or strength; in spite of this, it is suggested that stretching exercises be performed after you have completed endurance and strength exercises. If you are only doing stretching exercises, be sure to warm up your muscles first by doing some gentle movements or slow walking. Stretching exercises can be performed daily.

### **Children and Adolescents With Disabilities**

As much as possible, these children should meet the guidelines for children and adolescents. Check with the children’s health care provider team to identify the types and amounts of physical activity appropriate for them. It is recommended that they have as much physical activity as their condition allows.

## Adults With Disabilities

Adults with disabilities should avoid inactivity and be as physically active as their abilities allow. Those able should strive to reach the recommended 150 minutes a week of moderate-intensity exercise. This includes aerobic activity in episodes of at least 10 minutes spread throughout the week and muscle-strengthening activities of moderate or high intensity that involve all major muscle groups on 2 or more days a week. Balance exercises and stretching for flexibility should also be included where appropriate, depending on the disability. For more specific guidance, adults with disabilities should consult their health care provider team about the amounts and types of physical activity that are appropriate for their abilities.

## Pregnant and Postpartum Women

Healthy women who are not already exercising as well as those who are already performing moderate-intensity aerobic activity should get at least 150 minutes of moderate-intensity aerobic activity a week. Preferably, this activity should be spread throughout the week in at least 10-minute intervals. A woman who regularly engages in vigorous-intensity aerobic activity or high amounts of activity can continue that activity provided her condition remains unchanged and she talks to her physician or health care provider about her activity level throughout her pregnancy. Pregnant and postpartum women need to consult with their health care provider or physician before beginning or continuing in strength training and balance exercises. Stretching exercises are still important; however, as ligaments naturally become looser as the body is preparing for childbirth, special care needs to be taken to be sure the stretches are preformed correctly.

## Getting Started

The hardest part of exercising for many is getting started, but when you think about fitness goals in 10-minute segments, it doesn't seem as daunting. It is helpful to some to make it part of

their routine. For example, after you put the coffee on to brew, do 10 minutes of exercise then have breakfast; or if you work in an office that has breaks, get with some colleagues and make an "appointment" for a 10-minute walk during your afternoon breaks. By accumulating several 10-minute segments throughout the week, you can reach your fitness goal.

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Printed by University of Arkansas Cooperative Extension Service Printing Services.

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