



Regular physical activity is important to both physical and mental health. No matter your size, shape, or age, an active lifestyle throughout your lifespan is one of the most important things you can do for well-being.

What Is Physical Activity?

Physical activity includes any body movement that works your muscles and requires more energy than resting. Walking, gardening, pushing a stroller, and climbing the stairs are just a few examples of low-intensity physical activity. Exercise is planned and structured physical activity over an extended period of time. Exercise often includes more vigor or intensity such as weight lifting, aerobic activity, and participating on a sports team.

Why Is Physical Activity Important?

- Strengthens bones and muscles.
- Improves cardiovascular health.
- Maintains or increased range of motion and flexibility.
- Protects against certain health conditions such as heart disease, stroke, hypertension, obesity, type 2 diabetes, osteoporosis, colon cancer, and depression.
- Improves mental health and mood.

- Improves cognitive functioning.
- Protects against dementia, including Alzheimer's disease.
- Improves quality of life and ability to do daily activities.
- Controls weight.
- Increases energy.
- Promotes restful sleep.
- Reduces the risk of falling.
- Contributes to longevity.

There are many types of exercise and physical activity. The following information provides tips to encourage you to be active in ways that suit your lifestyle, interests, health, and budget. Whether you're just starting out, getting back to exercising after a break, or fit enough to run a 3-mile race, physical activity is for everyone, including people who are healthy and those who live with ongoing health problems or disability.



Types of Exercise

Regardless of your age, weight, or athletic ability, physical activity is good for you. In particular, longer, healthier lives are influenced by four main types of physical activity: aerobics, strength training, stretching, and balance. Increasing the level of intensity of the exercise as well as regular participation in all four types of exercise is ideal for the full health benefit of physical activity.

Aerobic Activity

Aerobic activity uses large muscle groups, can be maintained continuously, and is rhythmic in nature. Walking, jogging, dancing, and playing tennis are examples of aerobic exercise. Such activity is important because it improves the health of your heart, lungs, and circulatory system, which can delay and even prevent many chronic diseases such as heart disease and diabetes. Aerobic activity also improves stamina for daily activities.

Keep three factors in mind when performing aerobic activity:

- **Intensity** — the strength and power you put into the activity.
- **Frequency** — how often you participate in the activity.
- **Duration** — the length of time you perform the activity at one time.

Intensity

When exercising, your body speeds up and so does your heart as it works to meet your energy needs. Thus, monitoring your exercise intensity by working within your target heart-rate zone helps you effectively get the most out of aerobic activity, including improving fitness and burning calories. For most healthy people, the American Heart Association (2012) recommends an exercise target heart rate ranging from 50 percent to 85 percent of your maximum heart rate. To calculate heart rate, subtract your age from the number 220.

$$220 - [\text{your age}] = \text{Maximum Heart Rate}$$

If you are 40 years old, your maximum heart rate is 180 beats per minute ($220 - 40 = 180$). Your target heart zone is 90 to 153 beats per minute ($180 \times 50\% = 90$; $180 \times 85\% = 153$).

Knowing your target heart rate helps you pace your workouts, avoid burning out, and maintain your desired intensity level. To check if you need to intensify your routine or turn it down, you can take your pulse or use a heart rate monitor. To check your pulse, feel for your heartbeat by placing your fingers lightly but firmly over the inside of your wrist, or place your palm over your heart. Count the number of heartbeats you feel for 10 seconds and then multiply this number by 6 to get your beats per minute. Then compare your actual heart rate to your target heart rate zone.

Frequency and Duration

While the minimum recommendation for adult aerobic activity is 150 minutes a week, for added health benefits adults should ultimately strive to achieve 300 minutes of exercise per week. Aerobic activity should take place most days of the week for at least 10 minutes at a time to add up to the recommended 150 minutes. For example, walking from the parking lot to the office or store does not count towards aerobic exercise unless it takes you 10 minutes and you were moving fast enough to meet and maintain your target heart rate. That walk to the store was good physical activity, but it was not exercise. (All physical activity is good, but the focus here is exercise.)

Strength Training

Strength training makes muscles and bones stronger. Such strength allows you to perform daily activities. 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 ideal blood sugar levels. Strength training can also help prevent the progression of osteoporosis (a disease that causes bones to become weak and brittle).

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. The following pictures are examples of strength training exercises for arm strength, called bicep curls. You can perform bicep curls using different equipment.

Stretching

Stretching helps keep your body flexible and limber. Stretching allows muscles and joints to move



Bicep curl with free weights



Bicep curl with stretch tube



Bicep curl with weights and stability ball



Bicep curl with medicine ball



Shoulder stretch



Back stretch

smoothly and helps give you more freedom of movement to do everyday activities such as reaching and looking over your shoulder. Although it is often the most overlooked part of an exercise routine, stretching should not be disregarded because it reduces muscle tension, soreness, and even low back pain. It increases blood and nutrients to the muscle tissues, improves coordination, contributes to good posture, and can even reduce stress. Flexibility will also contribute to

your ability to participate in physical activity. 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.

The pictures above and at the top of the next page highlight a few stretching exercises, including shoulder, back, upper arm, calf, and hamstring stretches.



Upper arm stretch



Calf stretch



Hamstring stretch



Front leg raises



Side leg raises



Toe stands

Balance

Balance exercises are recommended specifically for senior adults and adults with balance issues. Balance exercises help prevent falls, the most common form of injury and injury-related death among adults age 65 and older. Falling is a major cause of broken hips and other injuries that often lead to disability and loss of independence. Some balance exercises help build muscles, while other exercises focus on stability.

For adults and senior adults, muscle-strengthening balance exercises, such as front- and side-leg raises should be performed two or more days a week. Stability exercises, including forward toe touches and arm reaches, should be performed daily. Balance exercises, while not discouraged, are not included in exercise recommendations for children younger than 18 years of age. Many forms of play — such as walking on a balance beam and hopscotch — enhance balance.



Forward toe-touch/arm reach



Stork pose

The pictures at the center of the previous page and above demonstrate a variety of balance exercises including strength exercises for the lower body and stability exercises.

How Much Exercise Do You Need?

In general, some activity is better than no activity. If you are pregnant or recently delivered a baby, or live with a disability or chronic medical condition, you should consult with a health-care provider. In general, the following exercise guidelines apply:

Infants and babies (ages 0 to 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 (ages 2 to 5)

Toddlers and preschoolers need 90 to 120 minutes of physical activity every day. This activity 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 (ages 6 to 17)

Children and teenagers need a minimum of 60 minutes of moderate-intensity aerobic physical activity in 15-minute segments or longer every day.

Children and adolescents should perform vigorous-intensity aerobic activity and strength training 3 days per week. 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 also need to stretch.

Adults and Senior Adults (ages 18 and older)

Adults and senior adults should seek 150 minutes of moderate-endurance exercise or 75 minutes of vigorous-intensity exercise each week. Sounds tough? Not really. Try exercising multiple times a day for shorter periods of time. For example, 150 weekly minutes can be broken down (approximately) into 20 minutes a day for 7 days a week, or 30 minutes a day for 5 days a week, or 50 minutes a day for 3 days a week. The goal is to exercise for at least 10 minutes at a time. In addition, adults should stretch daily and strength train all major muscle groups (shoulders, arms, chest, abdomen, back, hips, and legs) 2 to 3 days a week with a “rest” day in between the strength training sessions. This “rest” day does not mean forgoing other types of exercises. Adults should also practice balance exercises because poor balance is a predictor of falling. Many balance exercises begin with good posture.

Getting Started

Sometimes the hardest part of exercising for many is getting started. If this is the case, start out slowly and make it a part of your routine. The National Institutes of Health provides some tips to help you get started and to keep going in their publication “Exercise & Physical Activity: Your Everyday Guide from the National Institute on Aging”:

1. Include Physical Activity in Your Everyday Life

Physical activity needs to be a regular, permanent habit to produce benefits. Set yourself up to succeed right from the start by choosing activities that appeal to you, exercising safely, charting your progress to see your success, and making your activity routine fit your personal lifestyle. Here are a few ways to make physical activity a regular part of your daily life.

- Make it a priority. Many people lead busy lives, and it’s easy to put physical activity at the bottom of the “to do” list. But, make it a point to include physical activities throughout your day. Try being active first thing in the morning before you start your day. Think of your time to exercise as a special appointment, and mark it on your calendar.
- Make it easy. If it’s difficult or costs too much, you probably won’t be active. You are more likely to exercise if it’s easy to do. Put your 2-pound weights next to your easy chair so you can strength train while you watch TV.
- Walk more. Walking is easy and inexpensive. Walk the entire mall or every aisle of the grocery store when you go shopping. When you go out to get the mail, walk around the block.
- Make it social. Enlist a friend or family member to exercise with you. Many people agree that having an “exercise buddy” keeps them going. If you don’t already have an exercise partner, find one at school or work or join a gym or exercise class.
- Make it interesting and fun. Do things you enjoy. If you love the outdoors, try cycling, jogging, or hiking. Listen to music or an audio book while walking, gardening, or raking. Plan a hiking trip at a nearby park.

- Above all, make it an active decision. Seize opportunities. Choose to be active in many places and in many ways:
 - When you unload the groceries, strengthen your arms by lifting the milk carton or a 1-pound can a few times before you put it away.
 - Get off the bus one or two stops earlier than usual.
 - Instead of calling or emailing a colleague at work, go in person — and take the stairs.
 - Try to do some of your errands on foot rather than in the car.
 - While you’re waiting in line, practice your balancing skills by standing on one foot for a few seconds, then the other.
 - While you’re talking on the phone, stand up and do a few leg raises or toe stands to strengthen your legs.
 - Take advantage of small bits of “down time” to exercise or stretch. For example, while you’re waiting for the coffee to brew or for your spouse to get ready to go out, do a few wall push-ups or calf stretches.

2. Try All Four Types of Exercise

Most people tend to focus on one activity or type of exercise and think they’re doing enough. The goal is to be creative and choose exercises from each of the four types described in this publication — aerobics, strength training, balance, and stretching. Mixing it up will help you reap the benefits of each type of exercise, as well as reduce boredom and risk of injury.

3. Plan for Breaks in Your Routine - Life Happens!

Getting older can mean more time for trips to see children and grandchildren or vacations away from home. People retire and move to new houses or even new parts of the country. Sometimes the unexpected happens — family illness, caregiving responsibilities, or the death of a loved one. All of these events can interrupt your physical activity routines. These breaks can make it hard or even impossible at times to stick with your regular activities. But you can start again.

Here are a few ideas to help you stay active or start again if you've had to stop:

- Don't be too hard on yourself. Recognize that there will be times when you won't want to exercise, or it feels too hard. You are not alone; everyone has those feelings. Just try to get back to your activities as soon as possible. The sooner you resume some sort of activity, the better you'll feel, and the easier it will be to get back into your routine.
- Talk with your doctor about when you can resume your regular routine if you stopped exercising because of an illness or new symptoms.
- Think about the reasons you started exercising and the goals you set for yourself. Remembering your motivations and how much you've already accomplished may help recharge your batteries and get you started again.
- Ask family and friends to help you get back on track. Sometimes, you may want an exercise buddy. At other times, all you may need is a word of support.
- Try something easier or an activity you haven't done recently if you don't like the activity you started. You might even want to try something you've never done before. Mastering something simple or new may give you the confidence you need to resume a regular exercise program.
- Talk with your doctor or trainer to get the boost you may need to move past the hurdle.
- Start again at a comfortable level if you haven't exercised for several weeks. Then gradually build back up. With a little time, you'll be back on track.
- Think creatively about other ways to exercise if you can't do your regular physical activities because of bad weather or a change in your routine. For example, if caring for a loved one is keeping you indoors, try an exercise video, jog in place, dance around your living room, or walk up and down the stairs a few extra times. Just keep moving!

- Be flexible. When something prevents you from exercising, such as a babysitter canceling, re-schedule or adapt your activity. Exercise during nap time, or take the kids for a walk.
- Believe in yourself. Feel confident that even if your activity is interrupted, you can start again and be successful. Don't worry about the time you missed. What's important is to focus on your fitness goals and start again at whatever level is possible for you.

Sticking with it

You're more likely to stay active if you:

- think you will benefit from your activities,
- include activities you enjoy,
- feel you can do the activities correctly,
- believe the activities are safe,
- have regular access to the activities,
- can fit the activities into your daily schedule,
- find that the activities are affordable, and
- can see the benefits of regular exercise and physical activity.

Conclusion

Regular physical activity throughout the lifespan is one of the most important things you can do for your health and optimal aging.

References

- 2008 Physical Activity Guidelines for Americans: Be Active, Healthy, and Happy! (2008) Washington, DC: U.S. Department of Health and Human Services; Government Printing Office. ODPHP Publication No. U0036
- CDC. (2012). Physical activity and health: The benefits of physical activity. Retrieved 8/24/12 from <http://www.cdc.gov/physicalactivity/everyone/health/index.html>
- Exercise and Physical Activity: Your Guide from the National Institute on Aging (2009) National Institute on Aging and the National Institutes of Health. Government Printing Office. Publication No. 09-4258
- National Heart Lung and Blood Institute (2012). Types of physical activity. Retrieved 8/24/2012 from <http://www.nhlbi.nih.gov/health/health-topics/topics/phys/types.html>
- Traywick; Henson; Pickle (2010) "Increasing Physical Activity as we Age: Strength Training with Stretch Tubes" FSFCS36 University of Arkansas Division of Agriculture Cooperative Extension Service.
- Traywick (2009) "Increasing Physical Activity as We Age: Exercise Recommendations" FSFCS30 University of Arkansas Division of Agriculture Cooperative Extension Service.
- Traywick; Cobb (2009) "Increasing Physical Activity as We Age: Balance" FSFCS31 University of Arkansas Division of Agriculture Cooperative Extension Service.

- Traywick; Cobb (2009) "Increasing Physical Activity as We Age: Endurance" FSFCS32 University of Arkansas Division of Agriculture Cooperative Extension Service.
- Traywick (2009) "Increasing Physical Activity as We Age: Strength Training" FSFCS33 University of Arkansas Division of Agriculture Cooperative Extension Service.
- Traywick; Cobb (2009) "Increasing Physical Activity as We Age: Stretching" FSFCS34 University of Arkansas Division of Agriculture Cooperative Extension Service.
- Vincent; Traywick; Washburn (2012) "Strength Training with Medicine Balls" FSFCS37 University of Arkansas Division of Agriculture Cooperative Extension Service.
- Washburn, Vincent, Traywick (2012) "Exercises for Low Back Injury Prevention" FSFCS38 University of Arkansas Division of Agriculture Cooperative Extension Service
- WebMD. (2012). Heart Rate. Retrieved 8/24/12 from <http://www.webmd.com/fitness-exercise/healthtool-target-heart-rate-calculator>

Acknowledgments

The author gratefully acknowledges the assistance of graduate students Keisha Clark and Keondira McClish and models Dr. Kimathi Choma and Dr. Bronwyn Fees.



Adapted and used with permission of the University of Arkansas Research and Extension, and the University of Kentucky College of Agriculture.

Authors

Erin Yelland, Ph.D., CFLE, Assistant Professor and Extension Specialist, Adult Development and Aging, K-State Research and Extension

Amy F. Hosier, Associate Professor, University of Kentucky

LaVona S. Traywick, Associate Professor, University of Arkansas

Reviewers

Dr. Rosalie Otters, University of Arkansas

Dr. Lisa Washburn, University of Arkansas



Publications from Kansas State University are available at www.ksre.ksu.edu

Publications are reviewed or revised annually by appropriate faculty to reflect current research and practice. Date shown is that of publication or last revision. Brand names appearing in this publication are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned. Contents of this publication may be freely reproduced for educational purposes. All other rights reserved. In each case, credit author, *Keys to Embracing Aging: Physical Activity*, Kansas State University, December 2015.

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

K-State Research and Extension is an equal opportunity provider and employer. Issued in furtherance of Cooperative Extension Work, Acts of May 8 and June 30, 1914, as amended. Kansas State University, County Extension Councils, Extension Districts, and United States Department of Agriculture Cooperating, John D. Floros, Director.