



Exercise for Older Adults

Health Care Provider Edition

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Exercise for Older Adults

Health Care Provider Edition

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Introduction

The material contained in this manual will help you assist older adults in starting a well-rounded exercise program. To help guide you through the process, a number of resources as well as examples on how to begin an exercise program are provided. A well-rounded exercise program consists of aerobic, strength, flexibility, and balance training. All four components are important in maintaining and promoting healthy aging in addition to helping those who are physically weak and frail to improve their functional ability. **Aerobic** training is also called endurance training, cardiovascular training, or cardiorespiratory training. All these terms mean the same thing. Briefly, aerobic training consists of exercises that use the large muscle groups, like the legs, that will increase heart rate for an extended period of time. Aerobic training includes exercise such as walking, swimming, cycling, and dancing. It can also include activities such as stair climbing, gardening, and pushing the lawn mower. **Strength** training is another important component of a well-rounded exercise program. Since many older individuals can be physically weak and frail they may not be strong enough to move their own body weight. For these individuals aerobic activities can be extremely difficult to perform. Therefore, strength training will be vital in restoring independence and functionality. Strength training activities consist of using some type of weight

or resistance that is lifted to increase the strength of the muscles. **Flexibility** training is performing exercises that can maintain or improve joint range of motion. Good flexibility can help maintain posture and decrease the risk of lower back pain and injuries. Finally, **balance** training is important to help decrease the risk of falls. A great Internet resource with additional information to help individuals to learn more and get started with an exercise program is [http://www/firststeptoactivehealth.co](http://www.firststeptoactivehealth.co) .

Each of the above areas--aerobic, strength, flexibility, and balance training--and how to help an older adult with each one will be covered in detail in this manual. Chapter 1 provides advice and precautions on helping an older adult begin and stay with an exercise program. The information provided in this section should be discussed with the older adult, especially the safety and health-related concerns. Chapter 2 describes how to start an aerobic training program using walking as an example. However, any type of exercise that the individual enjoys can be used, such as swimming or riding a stationary cycle. Chapter 3 describes how to implement a strength training program, Chapter 4 a flexibility program, and Chapter 5 a balance training program. Chapter 6 gives ideas on how to start an exercise program in your community. The Appendix in the back of the manual has copies of blank forms that can be used to help with starting the older adult on an exercise program and for logging exercise that is being completed. There is also a section for further information on exercise programs and

where exercise supplies can be purchased.

Throughout the manual you will see the terms exercise and physical activity. They will be used interchangeably. However, exercise is used to describe more structured, purposeful movements, where physical activity can include exercise but also includes the movements made in our daily lives, such as taking the stairs instead of the elevator or parking the car at the far end of the parking lot so we will walk further to our destinations. Another set of terms in the manual are light, moderate, and vigorous levels of exercise or physical activity. Light activity can be associated with taking a leisurely walk. During this type of activity the older adult would not be breathing hard and would not be sweating or feeling uncomfortable from the exertion. Moderate levels of activity would be more purposeful walking. The older adult may become a little breathless or sweat but should be able to carry on a conversation with someone. It is defined as more of a brisk type of walk. Vigorous levels of activity are activities where the older adult would not be able to carry on a conversation. In this manual we do not recommend that older adults try to pursue vigorous levels of activity unless they have discussed this with their doctors or health care providers. Research has shown that older adults do not need to do vigorous activity to receive health benefits. Moderate levels of activity consistently reduce the risk of chronic diseases such as heart disease, arthritis, obesity, diabetes, and some forms of cancer.

Ideally, the health care team or virtual team, since not all members may be present, will include the people listed

below who work together to coordinate health care for the older adult. A coordinated effort can help increase the chances of a successful integration of exercise or physical activity with behavioral changes. These in turn can prevent, slow the progression of, or reverse chronic diseases, and improve or maintain activities of daily living and quality of life. Below is a list of the ideal health care team members who will work together for the good of the older adult and the possible roles they may undertake. Since not all members of the health care team may be present, health care providers may take on additional roles in the integration of the older adult's care.

Nurse

The nurse can help monitor chronic disease risk factors and health improvements by assessing medication side effects and monitoring changes in blood pressure, cholesterol, blood glucose, and body weight at baseline and during exercise progression. The nurse can also act as a resource and a liaison to the primary care physician if older adults have health-related questions or concerns.

Exercise Physiologist

The exercise physiologist will be able to instruct the older adult on specific exercise programs for aerobic, strength, balance, and flexibility training. The exercise physiologist can also help older adults work on reducing their risk factors for coronary heart disease. An exercise physiologist is usually employed in a wellness center, YMCA, senior center, health club or exercise facility. Try to make sure the exercise physiologist is properly certified to work with an older adult. Look for credentials given by the American College of Sports Medicine (ACSM).

Physical Therapist

For individuals who have specific medical conditions and are involved with rehabilitation, the physical therapist is ideal for giving specific exercises and oversight to a rehabilitation program. The physical therapist is a great resource for exercises and can help with strength, flexibility, balance, and functional training activities.

Occupational Therapist

The occupational therapist can assist older adults to improve their functionality with assistive devices and give appropriate exercises for rehabilitation. Occupational therapists help clients learn to perform an array of activities, ranging from using a computer to caring for daily needs such as dressing, cooking, and eating. Physical exercises may be used to increase strength and dexterity, while other activities may be chosen to improve visual acuity and the ability to discern patterns. For example, a client with short-term memory loss might be encouraged to make lists to aid recall, and a person with coordination problems might be assigned exercises to improve hand-eye coordination and balance.

Social Worker

A social worker can help older adults find cost-effective exercise programs, community exercise programs, and government or private-funded aid to offset the cost of joining an exercise facility. A social worker can also help identify the health care professional who may be involved in integrating exercise into the older adult's routine/health care plan. Additionally a social worker can help clients to identify resources to overcome barriers for exercise or physical activity (i.e., transportation, peer activity groups, support groups).

Dietitian

The dietitian can help design a balanced diet with the appropriate nutrients to help the older adult maintain, gain or lose weight if necessary. Nutrition advice should come from a registered dietitian (RD). In some cases older adults are not properly nourished and the dietitian can help make sure the older adult is getting the proper nutrients to reduce the effects of sarcopenia (muscle wasting) that is often seen in frail older adults.

Pharmacist

The pharmacist in consultation with the physician, should be consulted when any questions arise about the interaction of medication and exercise. With the doctor's help many medications can be lowered or altered as one becomes more physically active. Different types of drugs may affect the exercise response. For example, beta blockers lower the heart rate response during exercise.

Psychologist/Health Behaviorist/Health Educator

A psychologist, health behaviorist, or sometimes a social worker can help the older adult change the way he or she views exercise and help the older adult successfully adopt an exercise program. These health professionals can help with goal setting and the use of imagery to increase confidence, motivation, or maintaining exercise programs. These professionals can also educate individuals on pain management and stress management techniques, which contribute to better overall health, comfort, and functionality in the older adult.

Physician/Physician Assistant/Nurse Practitioner

The physician, physician assistant or nurse practitioner is important in helping an older adult make the first steps into the adoption of a well-rounded exercise program. Older adults are more likely to start an exercise program if their physicians speak to them about the importance of exercise on their health.

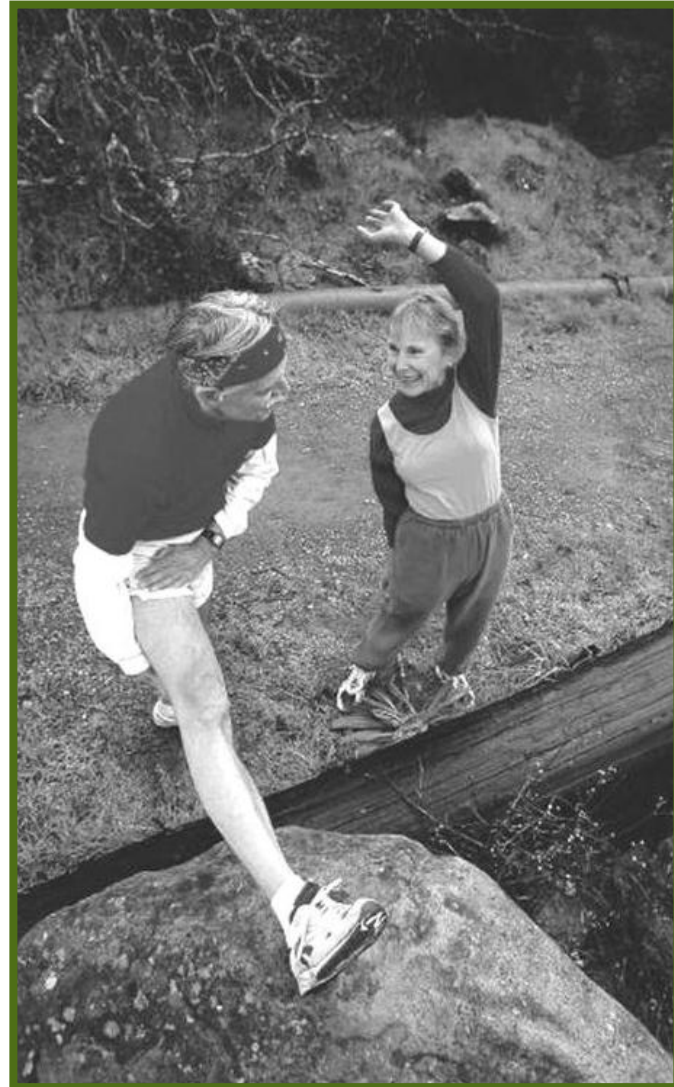
The **Active Aging Toolkit**, located in the Appendix, provides additional information on how to talk and work with the older adult in starting an exercise program. More great resources can be found at www.FirstStepToActiveHealth.com for those who are working with older adults and would like to assist them in starting an exercise program or to become more physically active. The **Exercise is Medicine** website www.exerciseismedicine.org is another great resource for health care providers, physicians, and anyone interested in starting an exercise program.

Thank you in advance for helping older adults in starting and maintaining a well-rounded exercise program.

We hope you enjoy using this manual.

Chapter 1

Getting Ready for Exercise



In This Chapter...

The purpose of this chapter, Getting Ready for Exercise, is to give the health care provider the tools necessary for helping the older adult create a strong foundation for beginning an exercise or physical activity program. A strong foundation is essential for keeping up an exercise program.

Use of the information and strategies presented in this chapter will...

- Enhance an older adult's motivation to begin a new exercise or physical activity program
- Create a solid commitment to the new program
- Give you and the older adult a good idea as to the older adult's starting point in regards to current physical activity, future expectations and potential barriers
- Provide the necessary safety information and recommendations
- Enhance the older adult's social support
- Provide the older adult with an effective plan to achieve his or her exercise goals
- Help change the older adult's self-defeating or negative thoughts that may surround exercise and physical activity
- Provide a strong foundation for creating and successfully implementing an exercise or physical activity program

In this chapter you will find information related to

- Exercise benefits
- Physical activity, lifestyle, and exercise readiness assessment
- Safety information (contraindications to exercise, signs and symptoms of cardiovascular and pulmonary disease, exercise safety recommendations, and information on how to get up from a fall)
- Tools for enhancing motivation and commitment to an exercise program (improving social support, effective goal setting, reframing negative exercise-related thoughts, and additional motivation-related tips)

“The journey of a thousand miles starts with a single step.” - Lao Tzu

That first single step is often the most important. The information provided in this chapter will help you help the older adult to make a strong first step in the right direction.

Exercise Benefits

Addressing and continuously stressing the benefits associated with exercise or physical activity is crucial for improving readiness and the ability to maintain an exercise program. It is important to help older adults identify the benefits that may be most important to them. You may need to go over the benefits provided below with the older adult and discuss how these benefits pertain to him or her. The list given is not exhaustive, so it will be helpful to discuss with the older adult what benefits he or she can foresee in regards to exercise. This will increase the motivation to undertake a regular exercise program in addition to lifestyle changes.

Constantly reminding and having a discussion about exercise benefits will help keep the older adult on track with an exercise program.

On the following page is a list of the potential benefits one can achieve by being physically active. No matter how old you are, being active and exercising can have enormous benefits. Make sure you take time with the older adult to identify and discuss the impact of the benefits on his/her life. **The Exercise Benefits Analysis** sheet in the Appendix of the manual can aid in this process. Together you can fill out this form and discuss the benefits of exercise together.

Making the Most Out of the Benefits of Exercise

1. Go over the benefits listed on the following page with the older adult
2. Identify important benefits
3. Discuss how these benefits directly affect his/her life
4. Give the **Exercise Benefits Analysis** sheet provided in the Appendix to the older adult
5. Fill out the sheet with the older adult or have him/her fill it out alone
6. The older adult can post the benefits sheet where he/she will see it daily (refrigerator, mirror)
7. Periodically review and adjust the **Exercise Benefits Analysis** with the older adult to sustain motivation and commitment to the exercise plan

Benefits of Exercise

Physical Benefit

- Prevents and manages most chronic diseases and disabilities
- Helps to prevent cardiovascular disease
- Decreases blood pressure
- Increases the good cholesterol (high density lipoprotein cholesterol)
- Decreases triglycerides
- Improves glucose and insulin metabolism, which helps with diseases like diabetes
- Increases bone density, which may lead to a reduced risk for osteoporosis
- Increases ability to perform daily activities (combing hair, getting dressed)
- Increases strength to help maintain or increase independence
- Increases energy (playing with grandchildren, walking the dog)
- Increases balance, which may reduce the risk of falls or reduce the severity of a fall
- Improves body composition (decreases fat, increases muscle mass)
- Helps to prevent and reduce pain associated with chronic pain syndromes
- Decreases risk of injury and enhances immune function
- Increases mobility and gait

Psychological Benefit

- Enhances mood
- Decreases depression
- Increases cognitive function
- Increases feelings of personal control
- Improves quality of life
- Increases feelings of well-being
- Decreases stress
- Improves sleep

Assessing the Starting Point

Determining the older adult's current physical activity status is very important when creating an exercise program and setting short- and long-term goals. Therefore, it is important to discover whether or not the older adult is participating in the recommended levels of physical activity for at least 30 minutes on most days of the week.

On the following page are two lists of questions. Please have the older adult fill in the blanks of the responses to discuss with you later. The questions provided will help assess the older adult's lifestyle, physical activity levels and future expectations. The fill-in-the-blank response is designed to assess any perceived barriers older adults may need to overcome before they are completely ready to commit to an exercise program.

Getting a Good Assessment:

1. Use the information boxes on the following pages to help guide the assessment.
2. Create an open trusting environment which will help the older adult feel comfortable.
3. Add any questions which seem appropriate from your knowledge of the older adult or that come up over the course of the discussion.
4. Try to jot down some important details related to the older adult's responses.
5. Giving the responses to the older adult so that he/she can keep in mind his/her current physical activity, lifestyle, and readiness can be beneficial.
6. Utilize relevant assessment instruments (**PAR-Q, Performance and Body Mass Index Evaluation, Functional Limitations Checklist**) for a more complete physical activity assessment (see Active Aging Tool Kit in Appendix).
7. Information obtained from the complete assessment should be considered when creating or suggesting an exercise program that meets the older adult's needs and wants.
8. Try to follow-up periodically in regards to the assessment. This can be beneficial in regards to monitoring progress, goal setting and attainment, and identifying commitment level.

Assessment Guide

Lifestyle related questions:

- “Do you take the stairs when possible?”
- “Do you work in the garden regularly?”
- “Do you walk often throughout the course of your day, to and from places?”
- “Do you look for opportunities to be more physically active throughout your day?”

Questions relative to physical activity level and future expectations:

- “Do you exercise or participate in physical activity on a regular basis?
 - a. If so, for how long, what type of activity, and how often?
 - b. If not, when was the last time you were regularly exercising or being physically active and what types of activities did you participate in?
- “Are you physically active 30 minutes a day most days of the week?”
- “Do you plan to exercise or become physically active in the next month or so?”
- “What types of exercise or physically activities have you enjoyed or currently enjoy?”

Sentence completion to assess fears associated with physical activity:

- “The one thing I fear most about exercising or physical activity is_____.”

This may help identify some perceived barriers that the older adult may have, so that he/she can address the worries with you or another member of the health care team. Discussing fears relative to physical activity helps to enhance the older adult’s readiness for physical activity.

Assessment Guides (See the *Appendix* for assessment tools)

1. **The Physical Activity Readiness Questionnaire (PAR-Q)**
2. **The Performance and Body Mass Index Evaluation**
3. **Functional Limitations Checklist**

- a. A checklist of subjective functional limitations
- b. For example, if carrying groceries is a limitation then the activity recommendation should address upper body strength and balance.

Physical Activity Vital Sign (PAVS)

The PAVS can also be utilized to assess physical activity in older adults. The PAVS is a two-question tool that asks:

1. *How many days in the past week have you performed physical activity where your heart beats faster and your breathing was harder than normal?*

2. *How many days in a typical week do you perform activity such as this?*

0-2 Days: Sedentary

3-4 Days: Somewhat active

5-7 Days: Meets recommended levels

If a patient reports at least 5 days on the above two questions, it is suggested that the patient meets recommended physical activity levels. Scores below 5 days should initiate a discussion between the older adult and the health care provider to further explore daily physical activity levels.

Because the PAVS takes only seconds to deliver and a nurse or medical assistant can administer the PAVS before the health care provider even enters the room, it does not add length to an office visit. The PAVS is a very effective and efficient physical activity assessment tool.

Safety Considerations before Beginning...

Almost anyone at any age can start an exercise program or increase his or her physical activity. Even individuals with long-term illnesses like cancer, heart disease, or diabetes can become more physically active. If the older adult is worried or needs some advice from a member of the health care team before doing more vigorous or energetic type activities that require a lot of exertion, speak to the older adult regarding his/her concerns or provide him/her with the appropriate point of contact. Use the **Exercise Prescription Form** in the Appendix to help the older adult start the dialogue with his/her doctor or health care provider related to becoming more physically active.

If an older adult has or thinks he or she may have any of the symptoms below or develops a symptom while exercising, have the older adult check with his/her doctor or appropriate health care provider team member before starting an exercise program or continuing with physically activity.

- ✓ Any new symptoms he/she hasn't discussed with a doctor
- ✓ Dizziness or shortness of breath
- ✓ Chest pain or pressure
- ✓ Feeling that his/her heart is skipping, racing, or fluttering
- ✓ If he/she has blood clots
- ✓ If he/she gets an infection with fever and muscle aches
- ✓ Unplanned weight loss or sudden weight gain
- ✓ Foot or ankle sores that will not heal
- ✓ Joint swelling
- ✓ If he/she is having eye surgery, laser treatment or has a detached retina
- ✓ If he/she has a hernia
- ✓ If he/she has had recent hip, knee, or back surgery

Contraindications

Prior to starting any physical activity/exercise program it is important for older adults to be screened by their primary care provider for potential problems that may occur during physical activity. Due to the higher incidence of heart disease and other cardiac events, older adults tend to be at a higher risk during physical activity. Physical activity is generally safe for most individuals; however, a few contraindications exist regarding exercise.

Absolute Contraindications to Exercise (ACSM Guidelines)

- A recent significant change in the resting ECG suggesting significant ischemia, recent myocardial infarction (within 2 days), or other acute cardiac event
- Unstable angina
- Uncontrolled cardiac dysrhythmias causing symptoms of hemodynamic compromise
- Symptomatic severe aortic stenosis
- Uncontrolled symptomatic heart failure
- Acute pulmonary embolus or pulmonary infarction
- Acute myocarditis or pericarditis
- Suspected or known dissecting aneurysm
- Acute systemic infection, accompanied by fever, body aches, or swollen lymph glands

Relative Contraindications (*can be superseded if benefits outweigh the risks of exercise*)

- Left main coronary stenosis
- Moderate stenotic valvular heart disease
- Electrolyte abnormalities (e.g., hypokalemia, hypomagnesemia)
- Severe arterial hypertension (i.e., systolic blood pressure of >200 mmHg and/or a diastolic blood pressure of >110 mm Hg) at rest
- Tachydysrhythmia or bradydysrhythmia
- Hypertrophic cardiomyopathy and other forms of outflow tract obstruction
- Neuromuscular, musculoskeletal, or rheumatoid disorders that are exacerbated by exercise
- High-degree atrioventricular block
- Ventricular aneurysm
- Uncontrolled metabolic disease (e.g., diabetes, thyrotoxicosis, or myxedema)
- Chronic infectious disease (e.g., mononucleosis, hepatitis, AIDS)
- Mental or physical impairment leading to inability to exercise adequately

The Truth About Older Adults and Exercise

Being sedentary is far more dangerous than physical activity in the older adult.

There are only a few untreatable or serious medical conditions that may stop an older adult from participating in moderate to vigorous exercise. These may include terminal illnesses, severe behavioral problems sometimes seen in dementia and psychological illnesses, and the conditions listed on the previous page. For these individuals please consult their health care provider.

Temporarily avoiding certain kinds of exercise may be required during treatment of illnesses such as cancers, hernias, cataracts, retinal bleeding, or joint injuries. It is important to note that having cardiovascular disease, diabetes, stroke, osteoporosis, depression, dementia, chronic pulmonary disease, chronic renal failure, peripheral vascular disease, or arthritis (which may all be present within a single individual) is not by itself a contraindication to exercise (ACSM Position Stand, 1998). Exercise will offer benefits for most of these conditions, which may not be achievable through medication alone.

If the older adult experiences any of the symptoms below he or she should see his or her health care provider before continuing or starting an exercise program.

Major signs/symptoms of cardiovascular and pulmonary disease (ACSM Guidelines, 2010)

- ✓ Pain, discomfort (or angina equivalent) in the chest, neck, jaw, arms, or other areas that may be due to ischemia
- ✓ Shortness of breath at rest or with mild exertion
- ✓ Dizziness or syncope (fainting)
- ✓ Orthopnea or paroxysmal nocturnal dyspnea (unpleasant or uncomfortable breathing)
- ✓ Ankle edema (swelling)
- ✓ Palpitations or tachycardia (Heart rate at rest is ≥ 100 BPM)
- ✓ Intermittent claudication (pain or discomfort in the lower leg due to insufficient blood flow with exercise and rest)
- ✓ Known heart murmur
- ✓ Unusual fatigue or shortness of breath with usual activities

Safety First

Exercise is safe. However, helping the older adult to follow a few safety recommendations can help him/her stay injury free and active. Prior to starting an exercise program, the safety recommendations list below should be reviewed with the older adult, who should be encouraged to ask questions and raise any of his/her own safety concerns. Providing the older adult with the safety recommendations list may be beneficial.

- The older adult should speak to his/her doctor or health care provider before initiating an exercise program or if he/she has concerns.
- If the older adult has any of the symptoms listed on the previous page, medical advice/attention should be sought.
- If the older adult experiences chest pain/pressure, trouble breathing or shortness of breath, light-headedness or dizziness, or nausea during exercise a doctor should be contacted.
- Activities inducing sharp pain should be avoided.
- If the older adult feels really tired or has severe discomfort (some soreness is normal), he/she should slow down and take it easier.
- Exercise that causes increased joint pain should be avoided.
- Proper breathing is imperative during exercise. The older adult should never hold his/her breath while exercising or straining, particularly for those who have high blood pressure.
- An exercise plan that considers the older adult's current physical ability and current activity level should be created.
- Start slowly, especially if the older adult has not been physically active for a long time. Progressively build up the older adult's physical activity.
- Safety equipment should be used (helmet when riding a bike, correct shoes when walking).
- Unless otherwise directed by a doctor, make sure the older adult drinks plenty of fluids (water or other sport drinks). Even if he/she is not thirsty his/her body may need the extra fluids.
- Exercise should be avoided during the hottest times of the day. When outside sunscreen should be worn.
- Before stretching, a good warm-up that increases the older adult's heart rate and loosens up the muscles is imperative. Five to ten minutes of walking with light arm pumping may be a good starting point. Stretching muscles before they are warmed up may result in injury.

Falls are always a potential risk during activities of daily living. The next few pages will describe how to correctly get up from a fall if a fall should occur.

How to Get Up from a Fall

Often times when people fall, they panic. The panic is often what ends up causing more injuries than the fall itself. Many attempt to get up too quickly or the wrong way and don't think through what they are doing. Therefore, it is important for the older adult to practice how he/she would get up from a fall before it actually happens. The following information will help you teach the correct way to get up and reduce panic if a fall should occur.

If an Older Adult Falls He/She Should...

1. Take a deep breath and relax
2. Assess the situation and determine if he/she is hurt
3. If he/she thinks they are injured, he/she should **NOT** attempt to get up
 1. Call 911 if possible.
 2. If not, yell for help (someone is likely to hear)
 3. If no one comes, the older adult should lay there and relax until he/she feels strong enough to get up
4. If the older adult believes he/she is strong enough to get up, he/she should...
 1. Try to roll onto his/her side, turning head in the direction he/she is rolling
 2. Crawl to a chair, couch or other sturdy piece of furniture
 3. Slowly pull self up
 4. Place **hands flat** on the furniture
 5. Bend the **stronger** knee and keep the other knee on the floor
 6. Slowly stand up
 7. Slowly twist self around and sit down on the furniture
 8. If he/she needs help, **a family member or emergency services should be called**

Please refer to the following diagram of how to correctly get up from a fall.



The older adult should try to fall on his/her side or buttocks.
Naturally roll over, turning his/her head in the direction of the roll.

If the older adult can, crawl to strong, stable furniture like a chair, and pull self up.
He/She should approach the chair from the front and put both hands on the seat.

Slowly, begin to rise. Bend his/her strong knee, keeping the other knee on the floor.

Slowly twist around and sit in the chair.

Information Provided by: The American Academy of Orthopedic Surgeons
6300 N. River Road Rosemont, IL 60018 Phone: 847.823.7186 Email: orthoinfo@aaos.org

Stay Motivated with Social Support

Social support is an integral part of an older adult's decision to start or continue an exercise program and make lifestyle changes. It is therefore very important for the older adult to identify and form a positive social support unit. Below are effective ways social support can be enhanced. Share these with the older adult and discuss the potential of using one of the suggestions. The older adult can also be encouraged to brainstorm his/her ideas of enhancing social support.

1. Identify a Support Group

- Have the older adult talk with friends and family about his/her lifestyle change(s)
- The older adult should ask for support and encouragement
- The older adult should tell family and friends the type of support he/she would like (such as what things help and hurt his/her commitment and motivation levels)
- The older adult should share his/her goals with the support group (the chance of achieving goals increases with each person who knows about them)

2. Join a Walking Group or Form One

The older adult can join a walking group (mall-walkers, neighborhood walkers) or put together his/her own walking group

- Talk to friends or family who may have an interest in walking
- Find a day/time everyone can agree on
- Hold each other accountable
- Make it fun (tell jokes, make walking a game, have a conversation, be positive)
 - Remind each other during the walk the things that will benefit them from this commitment
 - Enjoy quality time with friends and family

3. Join a health/wellness center

- Join a center where he/she feels comfortable
- Form a buddy system (find a friend or someone at the center who will be a positive influence on the new lifestyle)
- Participate in a group class of interest and that he/she feels comfortable attending

4. Hire a personal trainer

- Research the personal trainer
- Make sure the trainer's style fits the older adult's
- Ask friends if they recommend someone
- Ask for a trial session to see if it's a good fit
- Inform trainer of goals, capabilities, and any medical problems
- A trainer can help with accountability

Stay Motivated with Goal Setting

Another important aspect of exercise success and motivation is having a clear path to follow. It is very difficult to reach a destination if one is not aware of where he/she is going and the necessary steps that must be followed to get there safely. Goal setting and adopting a behavioral change in the older adult's lifestyle are important for increasing physical activity or staying with an exercise program.

It is important to remember that the typical physical activity recommendations are goals, and not necessarily the first step in adopting a new physical activity program. The older adult can start with 5 to 10 minutes of easy and fun activity, and work up to the recommended 30 minutes of physical activity on most days of the week. The recommendation can also be achieved by breaking up the exercise into smaller amounts (10 minute segments) performed multiple times throughout the day. Incorporating enjoyable activities are critical for staying with the program and creating a behavioral change. Goals should be individualized and based on the older adult's ability, readiness for exercise, and level of social support. Goals should be based on the results of the older adult's physical assessment or functional limitations. An example of such a goal would be, "After 5 weeks of exercise 3 days a week for 20 minutes, I will be able to walk up and down a flight of stairs 3 times without breathing heavily." The goal setting guide on the following pages will help guide the older adult through effective goal setting. You can help the older adult set and reach the goals he/she would like to accomplish.

Helping an Older Adult Set and Achieve His/Her Exercise Goals:

1. Review the goal setting guide provided and go over the concepts with the older adult
2. Assist the older adult in filling out the **Goal Worksheet** provided in the Appendix
3. Help the older adult set realistic goals and identify the process for achieving those goals
4. Help the older adult identify any potential obstacles/setbacks that may occur and identify how he or she will deal with the obstacles or setbacks
5. Set up an evaluation plan with the older adult where the goals will be frequently reviewed and modified as appropriate
6. Encourage the older adult to post the **Goal Worksheet** in a place where he/she will see it daily
7. Check in with the older adult in regards to the exercise goals
8. Remind the older adult of the personal benefits identified before about exercise

Goal Setting Guide

"A goal properly set is halfway reached." -Abraham Lincoln

Goals should be set because goals...

- Increase motivation to succeed
- Increase confidence
- Provide an individual with direction
- Increase effort
- Increase chances of success/goal attainment

Goals must be... SMART

Specific : describe exactly what the older adult will do, when and how much

Measurable: set goals with a standard that must be reached (for example, workout 30 min/day)

Adjustable: adjust goals in case of a setback or a faster than expected progression

Realistic yet challenging: set moderately difficult goals

Time-based: set a deadline to prevent putting it off or trying to go too fast

Examples of SMART goals

"I will walk with my dog at least 3 times a week for 20 minutes."

"In 6 months, I will progress to exercising 5 days a week for 20 minutes a day."

Length of Goals

- Long-Term** - goals accomplished in 6 months - 2 years (such as to lose 10 pounds or gain better functioning)
- Short-Term** - goals requiring less than 6 months; lead to long-term goals (such as to lose one inch around the waist)
- Weekly** - goals for the week; leads to short-term goals (exercise 3 days/week for 20 min/day)
- Daily** - what you'll accomplish today; leads to weekly goals (work out today for 20 minutes)

Types of Goals

Performance - Improvements for the exerciser (“I will be able to climb 2 flights of stairs” or “I will carry 1 bag of groceries to my car by myself”)

Process - How exactly the older adult will achieve his/her performance goal or long-term goals. These goals are essential to achieving the older adult’s long- and short-term, weekly, and even daily goals. Laying out the process helps the older adult determine what actions are necessary. This helps when evaluating how well goals are achieved.

Evaluating Goals

One of the most important aspects of goal setting is the evaluation and follow-up of the set goals. Many times, this facet is forgotten about or neglected due to a perceived lack of time or because the goals were forgotten. Once goals are attained remember to have the older adult set new goals in the same effective way. If the older adult does not achieve a goal make sure he/she reflects on why the goal wasn’t achieved. Some useful reflection questions are listed below:

- Why did/didn’t I achieve my goal?
- Were those things within my control or not?
- What could I have done differently that would have made reaching my goal easier?
- How will I learn from this goal to help me achieve my next goals?

Overcoming Setbacks/Obstacles

Setbacks are a normal part of undertaking any behavioral change. The older adult must recognize them, accept them, and move on. Examples of some common setbacks and obstacles include illness, time, bad weather, and scheduling conflicts. In order to prevent negative effects of a setback, it is useful to assess the situation and brainstorm any possible

obstacles that may occur or interfere with the older adult’s exercise program. Once you and the older adult have brainstormed potential setbacks and obstacles, several ways to deal with each one should be identified. This back-up plan can decrease some of the negative consequences associated with setbacks/obstacles.

Points to Remember

The older adult should set daily goals everyday when he/she wakes up

He/she should keep a journal and write down his/her goals

Goals should be periodically reviewed (Did the older adult achieve his/her goal? Why or why not? Should the goals be changed?)

Explore things that may keep the older adult from achieving his/her goals

How will the older adult overcome these obstacles should they come up?

Encourage the older adult to tell as many people as he/she can, which increases the likelihood of the goals being reached.

Keep the Older Adult Motivated by Reframing

There are many negative thoughts associated with exercise and physical activity. However, the older adult has control over his/her thoughts toward exercise. If you can assist the older adult in changing his/her negative thoughts to positive ones then his/her attitude to exercise will soon follow. Having positive thoughts and attitudes towards physical activity will enhance the older adult's motivation and ability to stay with an exercise program.

Review the negative and positive statements below with the older adult, and then discuss his/her own self-defeating thoughts. Once these thoughts are identified, have the older adult answer the questions on the next page. Help the older adult counter his/her negative thoughts so that they can be more effectively changed.

<u>Negative</u>	<u>Positive</u>
1. I have way too much work to do.	If I take a 2-minute break I will be more productive.
2. It's too hot, cold, wet, or humid out.	I can always walk or dance around the house.
3. I just want to watch TV.	I will march in place while watching TV.
4. I am in a rotten mood.	If I exercise, I will feel so much better afterwards.
5. I do not feel like it.	I just have to get started, and then I will feel like it.
6. It's boring.	If I walk and talk to someone, it's a lot more fun.

Reframe the Way the Older Adult Views Exercise

Have the older adult answer the following questions and then place his/her positive statement on a note card where he/she can see and read it every day.

- What are some negative thoughts you say to yourself related to exercise or physical activity?

- How can you change these negative thoughts into positive statements (Use positive language - avoid using the word “don’t” in your positive statement, state the thoughts in a positive tone)?

A goal worksheet is provided in the Appendix of this manual.

Tips for Staying Motivated

Many factors play into an older adult’s motivation and willingness to continue an exercise program or stay physical active. The following are suggestions that can help create an optimal environment for adopting a regular physical activity program.

Recruit physician support - an older adult is more likely to start and follow through with an exercise program if his/her doctors and health care providers support him/her

Speak with someone who has maintained an exercise program - these people should be as similar to the older adult as possible

Emphasize lifestyle changes – physical activity should be incorporated into the older adult’s daily life (park farther away, take the stairs, take walking breaks)

Use local community resources - such as senior centers, medical fitness facilities, community wellness programs, YMCAs, or university aging centers with evidence-based, structured activity programs

Tailor exercise programs - to meet the older adult’s needs and goals, taking into account his/her current physical activity levels

Minimize injuries - use low to moderate intensity exercise and increase the intensity or volume of activity slowly

- The exercise style should not have excessive orthopedic stress (high impact like running or jumping)
- Aquatic exercise and stationary cycle exercise may be better if the older adult has orthopedic limitations or reduced ability to tolerate weight-bearing activities

Get out and walk – this is an excellent mode of exercise for older adults

Participate in group exercise – walking groups, exercise classes, aquatic groups

Incorporate variety and enjoyment into the exercise program

- Include optional recreational games or competition in the program

Establish regularity in the exercise program – the exercise should be made a part of the older adult’s daily routine

Use progress and attendance charts to record and reward exercise achievements – this provides information about success

Employ periodic functional and/or fitness testing – this can increase motivation and confidence

Use “activity logs” – log activity performed, for how long and what intensity, other personal information can also be included (*activity logs* are located in *Appendix*)

Moderation is key - start gradually and progress slowly

Building a Strong Foundation

All the material presented in this chapter can help the older adult stay motivated. It is important to use these strategies and discuss them with the older adult periodically to sustain motivation and commitment to a new exercise or physical activity program. One of the most important steps in any exercise or physical activity program is getting started. This sets the stage for the rest of the program. This is also the time when the older adult either continues exercising or decides to stop again. The components in this chapter provide the foundation for any physical activity program. Many of the strategies presented in this chapter should be reviewed with the older adult periodically.

Helping the Older Adult Build a Strong Exercise Foundation:

1. Identify and discuss exercise/physical activity benefits with the older adult (**Exercise Benefits Analysis** will facilitate this process) – this step needs to be revisited periodically to ensure sustained commitment to the exercise program
2. Complete lifestyle, physical activity, and exercise readiness assessment with the older adult (complete **PAR-Q**, a **Performance and Body Mass Index Evaluation**, or **Functional Limitations Checklist**)
3. Rule out any contraindications for exercise. If you or the older adult is unsure as to whether he/she has any health related contraindications or signs of cardiovascular disease and should not exercise, his/her doctor or appropriate health care provider should be contacted prior to starting exercise
4. Review safety recommendations with the older adult periodically
5. Teach the older adult how to get up from a fall
6. Identify and discuss potential ways to enhance social support in regards to exercise
7. Assist the older adult with goal setting utilizing the **Goal Worksheet** – regularly monitor goals and adjust as needed
8. Help the older adult reframe negative exercise-related thoughts and assist the older adult in countering those thoughts and turning them into positives
9. Review other tips for staying motivated with the older adult

Chapter 2

Aerobic Training



In This Chapter...

The purpose of this chapter, Aerobic Training, is to provide the health care provider with the necessary tools for helping the older adult start and/or sustain an aerobic training routine as a part of a well-rounded exercise program. Aerobic training offers the older adult many benefits targeting improved health and well-being. There are minimal risks when aerobic training is done according to the guidelines provided and with the support of the health care provider team.

Use of the information and strategies presented in this chapter will...

- Improve your knowledge relative to aerobic training and older adults
- Give you tools and techniques to facilitate an aerobic training program with older adults
- Supply you with a 6-week aerobic activity log and pedometer log to help older adults get started with aerobic training
- Provide you with a 3-week guide to starting, increasing, and maintaining a pedometer program
- Increase your knowledge related to pedometer use in an aerobic training program
- Present you with an “exercising is easier than we think” perspective to use with older adults
- Enhance your walking safety knowledge to help keep older adults aerobically active
- Improve your ability to help older adults choose the appropriate exercise shoes

In this chapter you find information related to

- Aerobic training with older adults
- Tools and techniques for implementing an aerobic program, specifically a walking and pedometer program
- Pedometer use
- Sustaining an aerobic training program
- Aerobic training safety and injury prevention
- Choosing the appropriate exercise shoe to minimize walking injuries

Aerobic Training

Aerobic training is any activity that uses the large muscle groups like the legs and causes heart rate to increase for a period of time. Aerobic training is also called endurance training, cardiovascular training, or cardiorespiratory training. Aerobic activity includes walking, swimming, cycling, dancing, or stair climbing. Walking is probably the easiest form of aerobic training to do since no special skills are needed. An older adult can walk almost anywhere (inside or outside) without any special equipment except a good pair of shoes.

The following chapter will advise you, the health care provider, how to help an older adult start and keep up a walking program. Swimming, cycling and other kinds of aerobic activity may be preferred by older adults and can still be supported by the log forms in the Appendix to chart the times of their chosen activity.

Walking is a great activity for older adults. It is safe, easy to do, requires no special equipment and has many health benefits. People who walk 30 minutes a day have a lower risk of cardiovascular disease and premature death than people who rarely exercise.

Basic Information

As a health care provider, it is important for you to stress that every workout begins with a brief 5 minute warm-up. Walking around the house or yard is important to increase the heart rate and to get blood flowing to the muscles. Although walking primarily works the major muscles of the legs, it is important to also have older adults swing their arms. This will help loosen up their shoulders and make the walk more enjoyable as well as more effective.

Beginning Walkers

Beginning walkers need to start slowly. Please review with the older adult the following:

- 1. Walk short distances.** Begin with a short walk and gradually increase distance each day or week. Progress slowly to reduce the risk of injury.
- 2. Walk at a comfortable pace.** Focus on good posture, keeping the head lifted, shoulders relaxed, and arms swinging naturally at the sides.
- 3. Be sure the older adult can talk while walking.** If the older adult can't talk or catch his/her breath, he/she is walking too fast. Get him or her to slow down and/or avoid hills.

Tips to Keep Older Adults Walking

Inform them of the importance of getting a support system

Building a system of family, friends, co-workers and/or neighbors who enjoy walking can help encourage older adults when motivation is low. Many shopping malls have mall-walker programs where older adults can meet others with similar goals.

Prepare older adults to expect setbacks and help them prepare for obstacles

Things like time, illness or bad weather may occasionally get in the way of goals. Teach the older adult to accept obstacles, learn, and move on. Any increased physical activity is always better than nothing at all! In the event of an extended illness or injury, refer the older adult to the appropriate health care provider team member before continuing with the exercise program.

Below is an example of a 6-week aerobic activity log. **Blank log forms** are located in the Appendix of the manual. Encourage the older adult to start slowly and progress to 30 minutes of walking or any aerobic activity that he/she may enjoy. For the next six weeks it is important to keep track of the time walked or when any aerobic activity is done. The goal is to increase the physical activity consistently. It is recommended that everyone over the age of 2 years should get 30 minutes of activity on most days of the week. Whether the goal is to move thirty minutes a day, or to lose five pounds, the goal is better achieved if it is written down.

6-Week Aerobic Activity Log

Record the time and activity each day.	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Goals
Monday	10 min walking	15 min walking	20 min walking	20 min cycling	25 min walking	20 min walking	By writing goals on the lines below the older adult will have a constant reminder of what he/she has set out to do. Daily goal: ----- ----- 6-Week Goal: ----- ----- Overall Goal: ----- -----
Tuesday	10 min walking	15 min dance	20 min cycling	20 min walking	25 min walking	30 min walking	
Wednesday	10 min cycling	rest	rest	20 min dance	25 min cycling	30 min cycling	
Thursday	rest	20 min walking	20 min walking	rest	25 min cycling	30 min cycling	
Friday	15 min walking	20 min cycling	15 min walking	rest	25 min walking	10 min cycling	
Saturday	rest	rest	20 min walking	25 min walking	25 min cycling	rest	
Sunday	15 min swimming	20 min swimming	20 min swimming	25 min swimming	rest	30 min walking	
TOTALS	60 min	90 min	115 min	110 min	150 min	150 min	

Pedometers-Make Every Step Count

Pedometers are neat little devices that can help keep track of the number of steps that are taken during the day. Pedometers can be worn on the waistband of pants or even on underwear if a dress is being worn. Every time a step is taken, the pedometer will count that movement.

Research suggests that there is a target for the amount of walking we should be doing each day. Studies show that 10,000 steps are a baseline for improving health and reducing the risk of chronic diseases. Research shows that most people average 3,000 to 6,000 steps a day in routine activities. To obtain 10,000 steps, most of us need an additional 30 minutes of activity each day.

Week 1: Finding the Starting Point

Older adults do not have to exercise or walk for a whole 30 minutes each day. They can break up activity throughout the day and get the same health benefits. For example, they could walk 10 minutes in the morning, 10 minutes at lunch and 10 minutes after supper.

1. The goal for older adults is to measure their steps in a typical week. Each morning they should reset the pedometer to “0” then set it to show steps (ignore distance and calorie counts if they are on the pedometer - this information is not very accurate). The pedometer should be kept closed and attached to the front of the waist to the left or right of center in line with the kneecap. They should wear the pedometer all day. At night, the number of steps taken should be recorded.
2. For the first week, have them perform their normal routine without any changes to their activity levels. Have them record the steps they take each day. Once clipped to a waistband, it is easy to forget the pedometers are there. The only problem is that they can fall off, especially when using the restroom. To help solve this problem tie a string around the pedometer and loop it through a belt or onto a safety pin attached at the waist.

3. Wearing the pedometer is the easy part. The challenge comes in recording steps and making sense of the numbers. The reason to write down steps is that over time older adults will see where their fewest steps are and think about why that is.
4. Weekends, particularly Sundays, are low for many people. While a desire to relax is normal, seeing two days' worth of low step numbers on a pedometer can be eye opening. People are often surprised to learn they are not as active as they think.

Week 2: Increasing Steps

The goal is to encourage older adults to increase their average steps by 10% every 1 to 2 weeks. The result is a new target number for daily steps. So, if they have averaged 3,000 steps a day in week 1, encourage them to try increasing their daily steps to 3,300 steps/day in week 2 or week 3.

1. To help older adults to increase their steps, provide them with simple suggestions for increasing their number of daily steps (for example, parking at the farthest end of the mall parking lot, walking the dog, playing with their grandchildren, etc.). The pedometer provides them with a way to get credit for these extra lifestyle changes.
2. The pedometer is a constant reminder to help increase older adults' activity levels. Housework can become another theme by intensifying tasks they are already doing.
3. All of this is in line with the new thinking in the health community: fitness is not limited to gym times or morning walks. The pedometers let older adults see daily life as an opportunity to be more active.
4. Besides adding steps to everything older adults do, like walking all the aisles at the grocery or the home improvement store instead of making a beeline to what they need, older adults can also make time for active fun like an evening dancing or a yoga class. Watching steps add up is satisfying. They may even find themselves checking their pedometer now and then during the day to see if their goals are being reached. The pedometer becomes a gentle reminder to stick with better habits.

Week 3: Continuing to Increase Steps

Encourage the older adult to slowly increase their number of steps as to avoid injury; it may take 6 months to 1 year to achieve the 10,000 step goal. If the goal for the older adult is substantial weight loss (for which experts recommend 12,000 to 15,000 steps a day), then have older adults increase steps again by 10%. If aerobic fitness is a goal, have them try increasing the speed of at least 2,000 to 4,000 of the steps they take.

1. The instructions are to keep older adults increasing their steps by 10%. The 10,000 steps a day is a benchmark for better health. However, there are plenty of good reasons to go beyond that, so encourage older adults to go beyond 10,000 steps once they reach that goal.
2. At this level older adults may conclude that in order to increase again they need to combine lifestyle and workout approaches, setting time aside for walking. For many, simply getting out of the house is the most important factor in getting more steps. For some, taking regular walking breaks is the answer. For others, needed steps are added at the end of the day by walking on a treadmill while watching a favorite TV show.
3. Some days, though, older adults just won't get the steps. And that is fine. Part of the appeal of lifestyle activity is that it is flexible. Encourage older adults that instead of holding themselves to taking a certain number of steps each day, they should aim for a high average level of activity over the course of a week. Increasing a weekly average to nearly 7,000 steps from a baseline of 3,000 is a major improvement.

Ask the older adult, "Will you keep wearing the pedometer?" Hopefully the answer you get is "yes". Remind the older adult that after all, the pedometer is a little reminder to get out of the chair.

Pedometer Information

A pedometer is a small electronic device that calculates the steps taken during a specific time. The device is quite user friendly. The older adult can simply strap it to his or her waist band and go. Pedometers simplify the method of keeping track of the distance walked and simply knowing the number of steps taken can push an older adult to take more steps. It is a good idea to have the older adult put his/her name and phone number on the pedometer in case it falls off and gets lost.

For information on buying pedometers please see Resources in Appendix.

How to Use the Pedometer:

A pedometer automatically records every step older adults take, enabling them to actually see how their steps add up throughout the day. Here's how to instruct older adults on how to wear the pedometer to get the most accurate reading:

- The pedometer should be worn snugly against the body, attached to a belt or the waistline of clothing. If the clothing does not have a waistband, attach the pedometer to a piece of elastic tied around the waist or on the older adult's underwear band.
- The pedometer should line up vertically with the crease of the pants or the center of the older adult's kneecap.
- The pedometer should be parallel to the ground. If it is tilted to one side or another, it will not give an accurate recording of steps.



Below is an example of a 6-week pedometer log. **Blank log forms** are located in the Appendix of the manual. For the next six weeks, encourage older adults to keep track of the number of steps they take. The goal is to slowly increase physical activity. The first week is used to get a baseline, so older adults should keep their normal routine, and not change their activity the first week. After week 1 or 2, increase the number of steps by 10% (multiply the average by 0.10)

6-Week Pedometer Log

Record the number of steps per day.	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	<p style="text-align: center;"><u>Goals</u></p> <p>By writing goals on the lines below the older adult will have a constant reminder of what he/she has set out to do.</p> <p>Daily goal:</p> <hr/> <p>6-Week Goal:</p> <hr/> <p>Overall Goal:</p> <hr/>
Monday	3,000	3,606	3,966	4,363	4,799	5,279	
Tuesday	3,500	3,676	4,200	4,131	4,764	5,132	
Wednesday	3,007	3,624	3,989	4,263	4,812	4,979	
Thursday	3,500	3,700	3,897	4,300	4,657	5,231	
Friday	3,440	3,698	4,112	4,342	4,913	5,324	
Saturday	3,000	3,612	4,007	4,149	4,849	5,371	
Sunday	3,500	3,723	4,164	4,384	4,759	4,859	
Averages for the week	3,278	3,662	4,048	4,276	4,793	5,168	

Exercising is Easier than We Think

If being healthy is a high priority for older adults who you are working with, but they perceive that they don't have the time or just don't want to go to a gym to work out, here is some good news: the older adult *can* get healthy and fit without joining a gym or without exercising three hours a day.

More Frequent but Shorter Workouts May Be Better

One study compared several short sessions of brisk walking to one longer session, examining the effect on improving aerobic fitness and promoting weight loss in a group of women.

One group was told to walk briskly for three separate 10 to 15 minute sessions each day, and the other group was told to walk continuously for 30 to 45 minutes a day. After five months, both groups lost weight and both groups improved their fitness level. However, the women in the “short session” group continued to walk after the study because they found that short, more frequent workouts were more feasible than longer ones.

The key finding is: Women were able to lose weight and become fit with two to three *separate*, short bouts of brisk walking. Thus, on days when the older adult just can't carve out 30 minutes for a workout, maybe he or she could find 15 minutes in the morning and 15 in the evening for a brisk walk around the park. Pretty simple—and it's just as effective as a half-hour workout all at one time.

“Lifestyle” Activities Just as Good

“Lifestyle” activities, such as gardening or vigorous housework, are just as good at improving health in “couch potato” folks as working out at the gym. The men and women in this study were assigned to one of two six-month programs, a traditional “structured exercise” program or a “lifestyle activity” program. The people in the structured exercise program exercised at a fitness club four to five times per week, and the people in the “lifestyle” group added various lifestyle activities to their daily schedule. These activities included gardening, parking their car farther from their destination and walking, hand-delivering memos at work instead of using email, or any physical activity that was convenient for them, as long as they *accumulated* 30 minutes of moderate-intensity physical activity four to five days per week.

After six months, both groups lost weight and improved their fitness levels, but the structured group increased their fitness level more than the people in the lifestyle group did. However, after two years the researchers went back to see if either group

had maintained their improved fitness levels and found that most of the people in the structured group had stopped exercising whereas people in the lifestyle group continued to be active and had maintained their fitness levels. The conclusions? In the long run, lifestyle activities may be easier to fit into a busy schedule and, for some people, may be less intimidating than going to a gym to work out.

Encourage older adults that the next time they hear themselves saying, “I don’t have time to exercise” to think again. Inform them that they could fit in a 15-minute brisk walk twice a day or, if older adults can’t get out and do something fun, encourage them to add short bouts of physical activity during their day wherever they can.



Getting the Most Out of Your Walks

Walking correctly is important for health, fitness and keeping the older adult injury free. It is important that you recommend the following tips for older adults.

Tip #1: Wear appropriate clothing when walking.

- **Hot weather walking.** Light color clothing to reflect the light should be worn. Do not wearing clothing that traps the heat. Use sunscreen and wear sun glasses to protect the eyes, especially if he/she has Macular Degeneration. A hat is also a good idea to keep the sun off the top of the head.
- **Cold weather walking.** Dress in layers so if the walker becomes hot, clothing can be removed or put back when cool again. Cotton should not be worn next to the skin, since it will absorb the sweat and will cause the older adult to become cold and uncomfortable. Three layers of clothing are best. The first layer should be a fabric that will wick sweat away from the body. The second layer should be the primary insulation such as a sweater or sweat shirt. The outer layer should be a jacket that will protect against the wind, rain, or snow. Since a great deal of heat is lost from the head, a hat is a good thing to wear in cold weather. Gloves should also be worn to protect the hands.
- **Walking in the dark.** Early in the morning or late in the evening, be sure to carry a flashlight and wear a reflective vest or stickers. Never wear dark colors. Reflective stickers and vests can be bought at running/walking or biking stores.
- Make sure the older adult wears comfortable shoes. See the last section on how to choose exercise shoes for walking.

Tip #2: Stay well-hydrated.

- Do not rely on thirst as a time to get a drink, since the sensation of thirst decreases with aging.
- Get 6-8 glasses of water a day. Drink a glass of water before walking and again after finishing the walk.

Tip #3: Use good posture while walking.

- Stand up straight with shoulders back and relaxed.
- Look up and not straight down. Focus the eyes about 10 to 20 feet ahead to watch for tripping hazards.

Tip #4: Swing the arms.

- Swinging the arms adds upper body exercise to help get more out of walking. This may also help keep the hands from swelling. Keep the elbows close to the body and swing arms naturally back and forth. As the hands come up they should not cross the center of the body or come up past the chest. The right arm and left foot should come forward together and then the left arm and right foot will come forward. The arms should move with the feet at the same speed and have about a 90 degree bend to them.

Tip #5: When tired, rest.

- Although it is recommended to do at least 30 minutes of activity on most days of the week, it is also important to rest and recover from exercising. It is okay to take a day off to rest when tired or sore.

Safety While Walking Outdoors

Just like any activity, there are precautions to take to avoid injury. Below is a list of guidelines for the older adult to follow when walking outside.

Safety Guidelines While Walking Outdoors

Encourage older adults to...

1. Walk in numbers.
2. Wear colors that are bright and reflect in the night.
3. Walk in lighted areas.
4. Carry a whistle or cell phone to use if they need help - tucked away in a pocket instead of their purse or bag.
5. Tell someone when they're going for a walk and when they should be expected back.
6. If walking alone, suggest they select a route that is highly visible to other people- if others can see them, they'll increase their safety.
7. Walk so that oncoming traffic is facing them.
8. Use crosswalks when crossing streets and obey traffic signals.
9. Bring their dog with them.
10. If they wear an audio player, suggest they try to keep the volume to a minimum so they are still aware of their surroundings.

How to Choose Exercise Shoes

If the older adult has tried to buy a pair of exercise shoes recently, he or she has probably realized that the old shoes of the past have been replaced by state-of-the-art exercise shoes. Older adults are faced with so many options that the task of choosing a pair of shoes has become increasingly complicated. Basic information about exercise shoes can help to sort through the choices available.

- Exercise shoes no longer require a breaking-in period. In fact, it is more important to be aware of when they wear out, because they will lose the cushioning which absorbs the pounding and jarring action of walking with regular use. It is important to replace shoes regularly, to prevent knee, foot, and/or ankle injuries. Once shoes become stiffer and less flexible they need replacing.
- It is possible to spend anywhere from a few dollars for no-name brands to more than \$200 for the latest fashions. Consider both budget and fitness needs before spending a large amount of money on exercise shoes.
- Once older adults know the brand and style of shoe that is best for them, consider shopping on the Internet at websites that offer discounts on popular exercise shoes, including walking shoes. See Appendix for resources to buy shoes.

Helping Older Adults Know What They Need

When choosing exercise shoes, the most important step is finding a good store that carries a wide variety of shoes and sizes for older adults to try. Once older adults have decided on the particular type of shoe they may need, it is important to know how to get a good fit. Remember, no matter how popular a shoe is or how good it may look, it won't do any good if the shoes cause blisters after the first day.

Guidelines for Buying Shoes

When purchasing exercise shoes, older adults must consider their foot type. After considering the type of shoe needed for a particular activity and evaluating their needs based on foot type, use the following information to ensure the best fit:

- **Try the shoes on with his/her own socks.** Some socks can be thicker and can make a difference on the fit of the shoe.
- **Try to get fitted for footwear at the end of the day**, when foot size is at its maximum. It is not unusual for an individual's foot to increase one-half a shoe size during the course of a single day.
- **Allow 1/2 inch, or the width of the index finger, between the end of the longest toe and the end of the shoe.** If one foot is larger than the other, buy the larger size.
- **The shoe should be as wide as possible across the forefoot without allowing slippage in the heel.** If the shoe has variable-width lacing, experiment with the narrow and wide eyelets to achieve a custom fit.

Remember that everyone's foot is different and requires specific features. The right shoe for everyone should have: good arch support, appropriate tread, sufficient durability, flexibility, cushioning, and comfort!

Chapter 3

Strength Training



In This Chapter...

The purpose of this chapter, Strength Training, is to provide the health care provider with the necessary tools for helping the older adult start and/or sustain a strength training routine as a part of a well-rounded exercise program. Strength training offers the older adult many benefits targeting improved strength, mobility, and functioning. There are minimal risks when strength training is done according to the guidelines provided and with the support of the health care provider team.

Use of the information and strategies presented in this chapter will...

- Improve your knowledge relative to strength training and older adults
- Increase your strength training safety knowledge to minimize injury risk
- Provide you with information relative to exercise prescription for older adults
- Give you with tools and techniques to facilitate a strength training program with older adults
- Supply you with examples of an upper and lower body strength training program to implement with older adults
- Provide you with a “how-to” for each strength training exercise presented

This chapter provides information related to...

- Strength training with older adults
- Strength training safety and injury prevention
- Exercise prescription for older adults
- Tools and techniques for implementing a strength training program
- Performing a strength training program

Strength Training

This chapter is designed to give the health care provider basic instructions for a home-based strength-training program and to outline some general safety considerations with such a program. It is designed to be used as a supplement to the instructions the older adult would receive from a trained professional in a supervised setting.

Safety Considerations

- Before initiating any of the exercises described with an older adult, the individual should receive medical clearance from his/her doctor or health care provider.
- The health care provider should instruct the older adult to hold off from exercising or stop immediately if he or she experiences any of the following symptoms:
 - Chest pain
 - Dizziness or numbness
 - Unusual shortness of breath
 - Abnormal joint or muscle pain/swelling
 - Irregular or racing heart rate

Follow up with the older adult on the presence of any of the above symptoms. Training should be halted until the older adult has been cleared for exercise by his or her doctor.

Exercise Prescription

When guiding an older adult through the adoption of an exercise program, specifically strength training, the following guidelines should be incorporated into the older adult's exercise prescription.

- The strength-training program should be performed **2-3 times a week**.
- The program should take **20 to 30 minutes** depending on how long the older adult rests between sets or exercises. You may want to suggest the older adult play some music while performing the workout.
- Each exercise should be performed for **8 to 15 repetitions**. If the older adult cannot lift the weight 8 times it is too heavy and he/she should choose a lighter weight. If older adult can perform 15 repetitions of each exercise, he or she should choose a heavier weight. After the older adult has completed 8 to 15 repetitions, instruct the older adult to **rest for 1 to 2 minutes** then repeat the exercise for another 8 to 15 repetitions. Each 8 to 15 repetitions is called a set. The older adult should perform **1-2 sets of each exercise** listed on the following pages.

General Training Considerations When Using Weights

- When seated, small of back should be pressed firmly against chair back.
- When standing, natural arch in the back should be maintained.
- When lying down, small of the back should be pressed firmly against surface.
- Focus should be forward with space maintained between chin and chest at all times.
- All movements should be made slowly with control. Never allow the weights to drop arms or legs back into the starting position. Always resist gravity.
- Spend 2-3 seconds in the lifting phase and 3-4 seconds in the lowering.
- Always breathe during the lift. Exhale during lifting and inhale during lowering.
- Never hold your breath when exercising.

Strength Training Exercises

Below is a complete list of all the strength training exercises presented in this chapter. The pictures and directions provided can assist in teaching the appropriate form for each exercise. Please make sure the older adult is completing the exercises correctly. If there are too many exercises for the older adult to learn all at once, pick two exercises from each group and slowly add exercises when the older adult becomes more confident.

The older adult's warm-up should consist of light walking, cycling or marching in place to get the muscles warm and the body temperature up. He/she may perform the exercises below in any order.

Upper Body Strength Training Exercises

- _____ Seated Lateral Raise
- _____ Biceps Curl
- _____ Shoulder Shrugs
- _____ One Arm Triceps
- _____ One Arm Row
- _____ Chest Press
- _____ Abdominal Crunch

Lower Body Strength Training Exercises

- _____ Leg Extension
- _____ Heel Raises
- _____ Hamstrings Curl
- _____ Gluteals Extension
- _____ Body Weight Squat

Exercises for the Upper Body

Seated Lateral Raise

For shoulders.

Instruct the older adult to...

1. Take a seat in a chair without arm rests. Make sure the small of back is pressed firmly against the back of the chair. Body should be straight with shoulders back. Focus should be forward with chin up, away from the chest. Feet should be flat on the floor and shoulder width apart.
2. With weights in each hand and arms at the side, form a 90-degree angle between forearm and upper arm (See Figure 1). This is the starting position.
3. Take a deep breath and exhale and slowly raise elbows out to the side. Hold for one second (See Figure 2).
4. Slowly return to the starting position, inhaling on the return.



Figure 1



Figure 2

Biceps Curls

For front of upper arms.

Instruct the older adult to...

1. Take a seat in a chair without arm rests. Make sure the small of the back is pressed firmly against the back of the chair. Body should be straight with shoulders back. Focus should be forward with chin up, away from the chest. Feet should be flat on the floor and shoulder width apart.
2. With weights in each hand, hold arms straight at side (Figure 3). Instruct the older adult to keep elbows pressed firmly to side.
3. Take a deep breath and while exhaling instruct the older adult to slowly raise forearms (Figure 4). Hold for 1 second.
4. Slowly return to the starting position while inhaling.



Figure 3



Figure 4

Shoulder Shrugs

For upper back and shoulders.

Instruct the older adult to...

1. Take a seat in a chair without arm rests. Make sure the small of the back is pressed firmly against the back of the chair. Body should be straight with shoulders back. Focus should be forward with chin up, away from the chest. Feet should be flat on the floor and shoulder width apart.
2. With weights in each hand and arms at the side instruct the older adult to take a deep breath (Figure 5).
3. Maintain space between chin and chest, and slowly shrug shoulders while exhaling (Figure 6).
4. Imagine lifting shoulders to ears without altering head position for one second, and then slowly lower shoulders to starting position, inhaling as weights are lowered.



Figure 5



Figure 6

One Arm Triceps

For back of upper arms.

Instruct the older adult to...

1. Take a seat in a chair without arm rests. Make sure the small of the back is pressed firmly against the back of the chair. Body should be straight with shoulders back. Focus should be forward with chin up, away from the chest. Feet should be flat on the floor and shoulder width apart.
2. With one weight in hand, hold the arm with weight directly over the shoulder, elbow pointing to the ceiling with opposite arm supporting elbow (Figure 7).
3. Slowly straighten arm with weight while exhaling (Figure 8).
4. Take a deep breath and slowly lower the arm to the starting position.



Figure 7



Figure 8

Be careful the older adult does not hurt him/herself by hitting the head with the weight on the return movement.

One Arm Row

For back and shoulders.

Instruct the older adult to...

1. Stand next to a secure surface (i.e. dining room table or counter top). With feet shoulder width apart, place near hand on secure surface and bend at waist (approximately 45 degrees). Keep shoulders and head up, maintaining a space between chin and chest.
2. With free arm extended and slightly forward (almost perpendicular to the floor), hold weight in this hand (Figure 9).
3. Take a deep breath and exhale, while slowly drawing elbow straight back, keeping arm close to body, until hand weight touches body (approximately midway between the hip and the shoulder-Figure 10).
4. Hold for one second, and then slowly return to starting position while inhaling.



Figure 9



Figure 10

Chest Press

For chest.

Instruct the older adult to...

1. Lay on a bed or flat surface facing up, place feet flat and bend knees until the small of the back is firmly against bed or hard surface. Instruct the older adult to keep focus forward with the chin away from chest.
2. With weights in hand, hold arms out to the side creating a 90-degree angle between upper arms and forearms (Figure 11).
3. Take a deep breath and exhale as slowly pressing arms forward until the sides of the weights come together above chest (Figure 12).
4. Slowly return to the starting position while inhaling.



Figure 11



Figure 12

Exercises for the Lower Body

Leg Extension

For upper front of legs.

Instruct the older adult to...

1. Take a seat in a chair without arm rests. Make sure the small of the back is pressed firmly against the back of the chair. Body should be straight with shoulders back. Focus should be forward with chin up, away from the chest. Both feet should be flat on the floor and should be shoulder width apart.
2. With ankle weights secured firmly to each ankle, hold chair seat with both hands (Figure 13). Do not grip too tightly.
3. Take a deep breath and exhale as one leg is slowly straightened. Instruct the older adult to avoid locking the knee into place and maintain contact between lower back and chair back (Figure 14).
4. Hold for one second and slowly return to starting position while inhaling.
5. After desired number of repetitions, switch legs and repeat.



Figure 13



Figure 14

Heel Raises

For calves, bottom back of leg.

Instruct the older adult to...

1. Stand next to a secure surface (i.e. dining room table or countertop). Keep feet shoulder width apart and body erect. With ankle weights on each ankle, place hands on secure surface. Keep head erect and chin off chest (Figure 15).
2. Take a deep breath and slowly raise both heels off the ground, exhaling during the movement (Figure 16), (the older adult is basically standing on toes). Maintain an erect posture throughout the movement.
3. Hold for one second, and then return to starting position while inhaling.

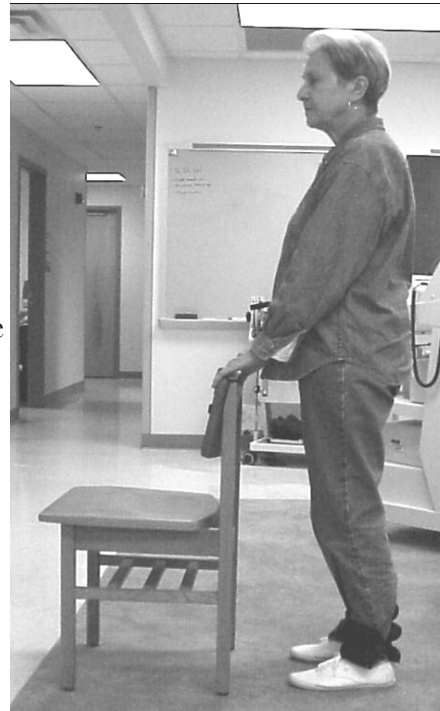


Figure 15



Figure 16

Hamstrings Curl

For upper back of legs..

Instruct the older adult to...

1. Stand next to a secure surface (i.e. dining room table or countertop). Keep feet shoulder width apart and body erect. With ankle weights on each ankle, place hands on secure surface. Keep head erect and chin off chest (Figure 17).
2. Take a deep breath and slowly raise the heel off the ground until the upper and lower body form approximately a 90 degree angle, exhaling during the movement (Figure 18).
3. Hold for one second and then return to starting position, inhaling on the return.
4. After desired number of repetitions, switch legs and repeat.



Figure 17



Figure 18

Gluteals Extension

For bottom and back of upper arms..

Instruct the older adult to...

1. Stand next to a secure surface (i.e. dining room table or countertop). Keep feet shoulder width apart and body erect. With ankle weights on each ankle, place hands on secure surface. Keep head erect and chin off chest (Figure 19).
2. Take a deep breath. Slowly extend rear leg backwards as far as possible without bending at the waist exhaling during the movement. Maintain erect body position throughout the movement.
3. Keep working leg straight lift up (Figure 20); hold for one second then return to starting position while inhaling.
4. After desired number of repetitions, switch legs and repeat.



Figure 19



Figure 20

Body Weight Squat

For legs and bottom..

Instruct the older adult to...

1. Stand in front of a chair with a seat that is just at or below the knee joint. Feet should be shoulder width apart and heels should be approximately 4-8 inches in front of a chair. Body should be erect with shoulders back; focus should be forward with chin up and away from your chest (Figure 21).
2. Slowly bend knees while inhaling and begin to sit backwards towards seat. Extend arms straightforward and parallel to the ground as counterbalances to the movement.
3. Stop movement when back of the legs or buttocks touch chair of seat (Figure 22). It may be necessary for the older adult to sit fully at first until greater leg strength is developed.
4. Hold for one second then reverse the movement back to a standing position.
5. Exhale during the return to a standing position.



Figure 21



Figure 22

A slight arch in the back should be maintained throughout all phases of movement.

Abdominal Crunch

For abdominals..

Instruct the older adult to...

1. Lay on a bed facing up or on the floor, place feet flat on bed or floor and bend at the knees until the small of the back is firmly on the bed or floor. Make sure to keep focus forward with the chin away from the chest.
2. With hands behind the head at the base of the skull, take a deep breath. Slowly lift the body off the bed or floor, exhaling as the abdominals are tensed (Figure 23).
3. Try to imagine a string attached to the middle of the chest (the sternum) pulling the upper body towards the ceiling without altering the head and neck position.
4. Hold for one second and then slowly return to starting position while inhaling.



Figure 23

Instruct the older adult to avoid pulling on the back of neck with hands or squeezing the sides of neck!

After the conclusion of the strength training session, instruct the older adult to...

1. Thoroughly stretch the muscles that have been exercised (see the **Flexibility Chapter**).
2. Wait 48 hours before repeating the strength training program.
3. Record exercises in the **Strength Training Log** located in the Appendix.

Even though hand weights are used in the pictures they can be substituted with milk jugs with handles, books, or soup cans. As the older adult gets stronger water or sand can be put in the milk jugs or larger books or cans can be used.



Chapter 4

Flexibility Training



In This Chapter...

The purpose of this chapter, Flexibility Training, is to provide the health care provider with the necessary tools for helping the older adult start and/or sustain a flexibility training routine as a part of a well-rounded exercise program. Flexibility training offers the older adult with many benefits targeting improved range of motion, mobility, and functioning. There are minimal risks when flexibility training is done according to the guidelines provided and with the support of the health care provider team.

Use of the information and strategies presented in this chapter will...

- Improve your knowledge relative to flexibility training and older adults
- Give you tools and techniques to facilitate a flexibility training program with older adults
- Increase your stretching safety knowledge to minimize injury risk
- Give you examples of upper and lower body stretches to implement with older adults
- Provide you with a “how-to” for each stretching exercise presented

This chapter provides information related to...

- Flexibility training with older adults
- Tools and techniques for implementing a flexibility training program, specifically stretching with older adults
- Sustaining a flexibility training program
- Flexibility training safety and injury prevention
- Performing upper and lower body stretching exercises

Flexibility Training

Stretching improves range of motion for activities of daily living, such as combing hair, getting dressed, or picking up objects from the floor. Stretching may also prevent pain or injury. Stretching exercises are thought to give older adults more freedom of movement to do the things they need and like to do. If an older adult is more flexible, he or she is less likely to become injured or have low back pain.

Flexibility activities include stretching of major muscle groups to improve muscle length, flexibility, and joint health.

Helping Older Adults to Get Started with Stretching

1. Choose stretches based on the older adult's needs (for example, if he or she has functional limitations in the upper body, have the older adult perform upper body stretches to target the limitations). Add other stretches as needed.
2. Have the older adult begin with 5 to 10 total stretches for the upper and lower body.
3. First, the older adult should warm up the muscles by walking, riding a bike, or another similar activity. Stretch muscles while they are warm and have increased blood flow for maximum benefit and minimal risk.
4. The older adult should **hold the stretch without bouncing** to a position of mild discomfort for **15-30 seconds**.
5. Ensure that he or she continues breathing while holding stretches.
6. Encourage the older adult to stretch **at least 2-3 days/wk, ideally 5-7 days/wk**, preferably after an aerobic or strengthening workout.
7. If the older adult can't find the time to stretch, stretch while watching TV or before going to bed at night.
8. Some exercises are not appropriate for all older adults. If older adults have degenerative disk disease, osteoporosis, hip or knee replacements, have just undergone surgery or have any concerns at all please refer them to their health care provider.

Stretching Safety

- Encourage the older adult to always warm up before stretching, by stretching after aerobic or strength exercises or by doing some easy walking or arm-pumping first. Stretching muscles before they are warm may result in injury.
- Inform the older adult that stretching should never cause pain, especially joint pain. If it does, he or she may be stretching too far, and needs to reduce the stretch so that it does not hurt. However, mild discomfort or a mild pulling sensation is normal.
- Never bounce into a stretch – encourage slow steady movements instead.
- Inform older adults to never hold their breath (this is very important). Suggest exhaling as they make the stretch and inhale as they come back from the stretch.
- If the older adult has had a hip replacement, check with the doctor who did the surgery before suggesting lower body stretching exercises.
- If the older adult has had a hip replacement, inform them to keep from crossing legs or bending hips past a 90-degree angle.
- Older adults should avoid locking their joints into place when they straighten them during stretches. There should always be a very small amount of bending in the joints while stretching.
- Some exercises may have the older adults getting down on the floor. If the older adult is afraid to lie on the floor because he or she fears not being able to get up, suggest the use of a couch or a bed for stretching, however make sure the bed or couch is big enough so the older adult does not fall off. It is important to inform the older adult of the correct way to get up and down from the floor (please refer to the following page). If the older adult has had a hip replacement or has osteoporosis, please check with the appropriate health care provider team member before suggesting these movements.

Getting to a Lying Position (See Getting Up from a Fall in Chapter 1)

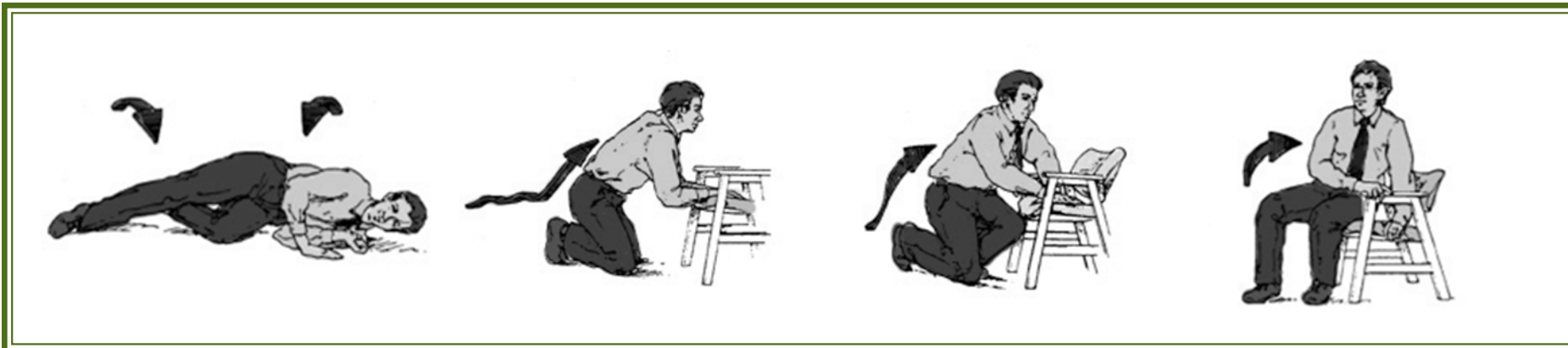
Review the following with the older adult to ensure safe movement to the floor for stretching exercises

1. Stand next to a very sturdy chair that will not tip over.
Put the chair against the wall if that will help.
2. Put hands on the seat of the chair.
3. Lower self down on one knee then bring the other knee down.
4. Put left or right hand on the floor and lean on it as the left or right hip is brought to the floor.
5. The body weight is now on left or right hip.
6. Straighten legs out.
7. Lie on left or right side.
8. Roll onto back.

Getting Up from a Lying Position

Review the following with the older adult to ensure safe movement to standing from the floor

1. Roll onto left or right side.
2. Use right or left hand, placed on the floor at about the level of ribs, to help push shoulders off the floor.
3. Weight is on left or right hip.
4. Roll forward, onto knees, leaning on hands for support.
5. Put hands on the seat of the chair used to lie down.
6. Lift one of knees so that one leg is bent, foot flat on the floor.
7. Leaning hands on the seat of the chair for support rise from this position.



Stretching Exercises

Below is a complete list of all the flexibility exercises (stretches) presented in this chapter. If older adults have any concerns about the stretches please have them see their health care providers, who may change some of the exercises and will also make sure they are completing the stretch correctly. To start off, choose **4 to 6 stretches for the upper body** and **2 to 4 stretches for the lower body**. Stretches should be performed at least **2 to 3 times per week**. Stretches should be repeated **3 to 4 times each** and held for **15-30 seconds**. Remember to exhale when moving into the stretch and inhale when returning to the starting position.

Upper Body Stretches

- _____ Triceps Stretch
- _____ Chest Stretch
- _____ Straight Arm Chest Stretch
- _____ Shoulder Stretch
- _____ Neck Stretch
- _____ Wrist Flexor Stretch
- _____ Interlaced Fingers Stretch
- _____ Side Bend Stretch
- _____ Lower Back Stretch
- _____ Abdominal Stretch

Lower Body Stretches

- _____ Double Hip Rotation Stretch
- _____ Hip Rotator Stretch
- _____ Hamstrings Stretch
- _____ Standing Quadriceps Stretch
- _____ Calf Stretch
- _____ Gluteals Stretch
- _____ Groin Stretch
- _____ Seated Butterfly Groin Stretch

Exercises to Try - Upper Body

Triceps Stretch

This exercise lengthens muscles in the back of the upper arm..

Instruct the older adult to...

1. Lift both arms above the head and bend elbows so that the forearms are behind head, but not resting on it (Figure 24).

Try and get the left elbow to point to the sky.

2. Gently grasp the left elbow with right hand.
3. Allow left hand to drop towards the middle of the shoulder blades.
4. Feel the stretch on the outside of the upper left arm.
5. Gently pull left elbow towards right shoulder to deepen the stretch.
6. Repeat on opposite arm.



Figure 24

Chest Stretch

This stretch is often called the swimmers' stretch as it works the shoulder muscles.

Instruct the older adult to...

1. Clasp hands together behind back with thumbs down.
2. Extend arms behind.
3. Slowly and gently pull arms upward (Figure 25).



Figure 25

Straight Arm Chest Stretch

Instruct the older adult to...

1. Extend arm and position hand on a fixed structure at shoulder height (Figure 26).
2. Turn body away from positioned arm.
3. Hold stretch.
4. Repeat with opposite arm.



Figure 26

Shoulder Stretch

This shoulder exercise stretches the shoulder muscles.

Instruct the older adult to...

1. Sit or stand.
2. Bring the first arm across chest (Figure 27).
3. Using second arm pull the first arm towards chest.
4. The stretch should be felt in the shoulder muscles.



Figure 27

1. The older adult can also do this stretch by holding on to a counter with both hands.
2. Keeping a slight bend in knees, bend over at the waist and slowly stretch the shoulders (Figure 28).
3. Sometimes the older adult may feel dizzy when putting head down so make sure to take care not to move head too quickly and hold on to the counter.



Figure 28

Another stretch for the shoulders can be done while sitting or standing.

Instruct the older adult to...

1. Clasp hands behind neck and slowly press elbows back, but make sure not to push or pull on neck (Figures 29 and 30).



Figure 29



Figure 30

Neck Stretch

Instruct the older adult to...

1. Sit or stand and try to relax the shoulders.
2. While breathing deeply let head drop down slowly forwards until the muscles in the back of the neck pull slightly.
3. Hold this position and then return back to the start position.
4. Now repeat the process for the sides of the neck bringing right ear to right shoulder (Figure 31) and then doing the same for the left side (Figure 32).
5. Do not pull on neck with hands or tilt head backwards. This can put stress on the arteries of neck. If the neck has painful arthritis do not move quickly. This can also cause dizziness.
6. Move head from side to side slowly and do not forget to breathe.

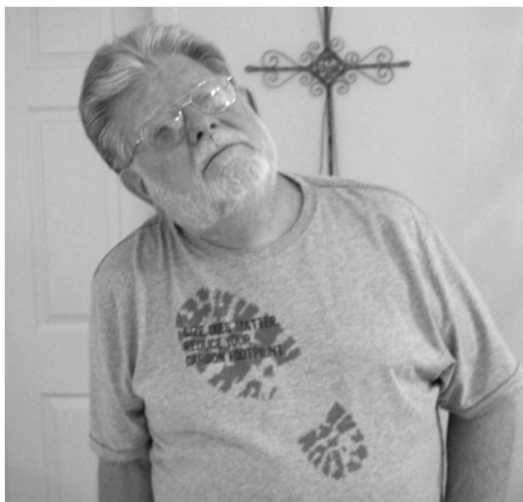


Figure 31



Figure 32

Wrist Flexor Stretch

Instruct the older adult to...

1. Place palm facing downwards or upwards, grasp the underside of fingers with other hand and straighten elbow.
2. Now gently pull fingers and wrist toward forearm (Figures 33 and 34).
3. Hold stretch.
4. Switch arms, repeat.



Figure 33



Figure 34

Interlaced Fingers Stretch

The older adult should feel the stretch in his or her shoulders, middle of upper back, arms, hands, fingers, and wrists.

Instruct the older adult to...

1. Sit or stand with arms out in front at chest level.
2. Turn palms toward body or away and interlace fingers (Figure 35).
3. Push hands away from body (Figure 36).



Figure 35



Figure 36

Side Bend Stretch

The muscles between the ribs, waistline and upper hip are stretched.

Instruct the older adult to...

1. Sit or stand.
2. Put one hand on hip and the other hand over head.
3. Reach up and stretch slowly lean over to one side. Try not to lean forwards or backwards (Figure 37).
4. Hold and stretch, then switch sides.



Figure 37

Lower Back Stretch

This stretch can really aid in lower back pain, muscle spasms, and reduce injuries from exercising tight muscles.

Instruct the older adult to...

1. Lay on the ground.
2. Slowly and gently pull knees into chest (Figure 38).



Figure 38

Another stretch for the older adult's lower back is to ...

1. Lay on back on a firm surface with hips and knees bent.
2. Grab one knee and bring it to chest (Figure 39).
3. Hold and switch sides.



Figure 39

Another way for the older adult to stretch lower back is to...

1. Sit in a solid chair
2. Slowly lean forward dropping arms to the floor (Figure 40).
3. Please do not use a recliner or a chair that can tip forwards.



Figure 40

Abdominal Stretch

This stretch works on the older adult's abdominal muscles.

Instruct the older adult to...

1. Lay face down (prone) on the floor.
2. Gently and slowly press body up in the air by extending arms (Figure 41).



Figure 41

Exercises to Try - Lower Body

Double Hip Rotation Stretch

This exercise stretches the outer muscles of hips and thighs.

This exercise should not be performed in those who have had a hip replacement, unless approved by their doctor.

Instruct the older adult to...

1. Lie on the floor on back, knees bent and feet flat on the floor (Figure 42).
2. Keep shoulders on floor at all times.
3. Keep knees bent together and gently lower legs to one side as far as possible without forcing them (Figure 43).
4. Return legs to upright position and repeat towards other side.



Figure 42



Figure 43

Hip Rotator Stretch

This exercise also stretches the outer muscles of hips and thighs.

Instruct the older adult to...

1. Lie on back with both knees bent and feet on the floor.
2. Put the ankle of the leg being stretched on opposite thigh near knee.
3. Push gently on the knee of the leg being stretched until the muscles in the hip area are stretched (Figure 44).

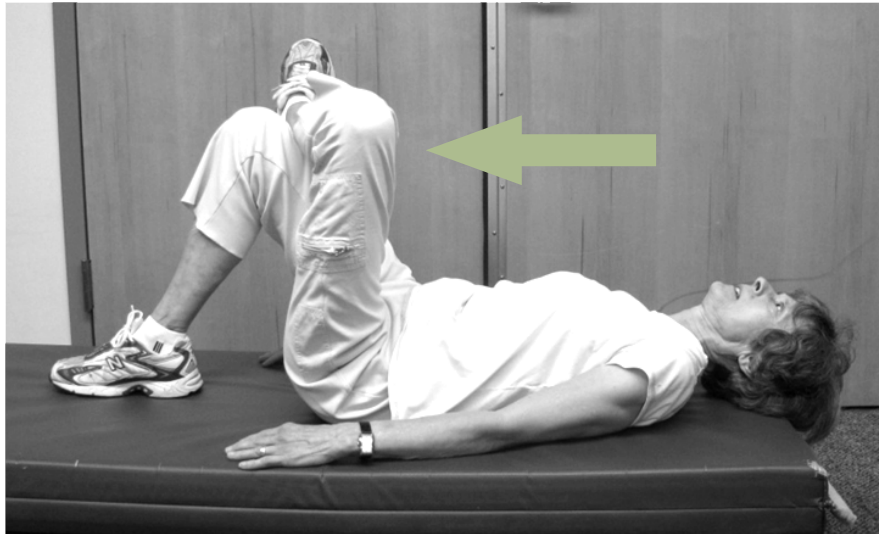


Figure 44

Hamstrings Stretch

There are a number of different ways you can instruct an older adult to stretch the back of the upper leg.

Instruct the older adult to...

1. Lie on back, with lower back flat on floor, knees bent and feet flat.
2. Slowly extend one leg up until a gentle pull is felt behind the knee (Figure 45).
To increase the stretch, gently flex the ankle.
3. Repeat with other leg.

Do not over stretch or pull leg down hard with hands.



Figure 45



Figure 46

1. The older adult can also sit on the floor and extend one leg out in front.
2. Bend the opposite knee with foot toward extended leg.
3. Slowly reach down the extended leg (Figure 46).



Figure 47

1. The older adult can also sit with both legs straight out in front..
2. Slowly bend forward towards toes and try to touch the top of legs (Figure 47).
3. As the older adult gets more flexible try and touch ankles then toes.
4. Make sure to exhale when moving into the stretch.



Figure 48

1. This stretch can be done standing up if the older adult is steady on feet.
2. Place one foot on an elevated platform or step.
3. Slowly lean down the elevated leg (Figure 48).
4. Switch feet and perform the stretch on the opposite side.

Standing Quadriceps Stretch

This exercise stretches the whole group of quadriceps muscles, which are located above the knee on the front side of the leg.

To stretch the whole group of quadriceps muscles, the hip has to be straight while stretching.

If the older adult is steady on feet, instruct the older adult to...

1. Stand holding a chair, counter, or wall.
2. Bend the knee of the leg to stretch behind the back and grab the front of the foot with the hand on the opposite side (for example, if stretching the right leg, use the left hand).
3. Keeping the knees next to each other, have the older adult pull foot toward buttocks until a stretch is felt across the front of hips and down the front of the thigh (Figure 49).
4. The older adult's knee should be pointed directly to the ground, and not out to the side.



Figure 49

Calf Stretch

This exercise stretches the muscles at the back of the lower legs.

Instruct the older adult to...

1. Stand facing a wall place hands on the wall at about eye level.
2. Put the leg to stretch about a step behind other leg.
3. Keeping back heel on the floor, bend the front knee until the older adult feels a stretch in the lower muscles of the back leg (Figure 50).



Figure 50

Gluteals Stretch

This exercise stretches muscles in the buttocks.

Instruct the older adult to...

1. Sit on the floor with legs out in front.
2. Bend the knee of the leg to be stretched and put that foot on the floor on the outside of the opposite leg (legs will be crossed).
3. Twist shoulders toward bent leg and putting opposite elbow on that knee.
4. Push arm against knee to feel a gentle stretch at the back of the buttocks and around the hip (Figure 51).



Figure 51

Groin Stretch

This exercise stretches muscles in the inner legs.

Instruct the older adult to...

1. Get into a standing position with hands on hips.
2. Lean to the first side and bend this knee while keeping the other leg straight. Both feet should be pointing forward (Figure 52).
3. Hold and then repeat to the opposite side.



Figure 52

Seated Butterfly Groin Stretch

This exercise stretches the inner legs.

Instruct the older adult to...

1. Sit on the floor, back straight, shoulders down, abdominals tight, soles of the feet together in front, and knees bent to the sides.
2. Pull heels toward body while simultaneously relaxing knees towards the floor (Figure 53).



Figure 53

Chapter 5

Balance Training



In This Chapter...

The purpose of this chapter, Balance Training, is to provide the health care provider with the necessary tools for helping the older adult start and/or sustain a balance training routine as a part of a well-rounded exercise program. Balance training offers the older adult many benefits targeting decreased risk for falls or injury related to poor balance, improved functioning of stabilizing muscles resulting in improved overall physical functioning. Balance training has minimal risks when performed according to the guidelines provided and with the support of the health care provider team.

Use of the information and strategies presented in this chapter will...

- Improve your knowledge relative to balance training and older adults
- Give you tools and techniques to facilitate the implementation of a balance training program with older adults
- Increase your balance training safety knowledge to minimize injury risk
- Supply you with examples of balance exercises to implement with older adults
- Provide you with a “how-to” for each balance exercise presented

This chapter provides information related to...

- Balance training with older adults
- Tools and techniques for implementing a balance training program
- Balance training safety and injury prevention
- Performing balance training exercises

Balance Training

Loss of balance is common in certain medical conditions that are associated with aging. This can contribute to falls and difficulty walking. Therefore, it is important for older adults to learn and consistently perform simple exercises that will improve their balance skills and help them feel more confident in their activities of daily living.

Balance exercises are specific activities that help build lower extremity (leg) muscle strength as well as improve balance. Balance exercises are particularly beneficial in the older adult as they have been shown to help prevent falls. Each year, U.S. hospitals have 300,000 admissions for broken hips, and falling is often the cause of those fractures. Balance exercises can help an older adult stay independent by helping avoid disabilities that may result from falling.

The brain, muscles and bones, nerves and inner ear all work together to maintain the body's balance and keep individuals from falling. These systems will all be used when performing the balance exercises provided on the following pages. As you will see there is a great deal of overlap between strength and balance exercises. Many times one exercise will serve both purposes in helping strength and balance. As a health care provider it is important to identify these exercises for the older adult, so that the older adult is aware of the multiple benefits of various exercises.

The following are guidelines for performing balance training as a part of a well-rounded exercise program. It is important to review these guidelines with the older adult prior to the start of his or her balance training program.

- Most of the balance exercises can be done almost anytime, anywhere, and as often as older adults would like, as long as they have something sturdy nearby to hold onto if should they become unsteady.
- Simply start balance training by incorporating balance training in daily activities, such as standing on one foot while doing dishes or brushing teeth.
- Balance exercises should be performed in sturdy shoes or bare feet.
- Having a sturdy object (e.g., kitchen or bathroom counter) in front to grab is important in case a loss of balance occurs.
- The older adult can begin with five balance-specific exercises, performed **two times per week** with each exercise lasting for **10 to 15 seconds**.
- Exercises based on the older adult's needs and abilities should be selected. If you are unsure which exercises to do please consult with another member of the health care provider team.
- With safety being a critical factor, it is important for older adults to clear their environment of any obstacles.
- It is also important to remember that if the older adult has poor balance or is nervous about trying these exercises, he or she should have someone assist with the exercise, especially when certain medical conditions exist. As a member of the health care provider team, it may be beneficial for you to have the older adult try these exercises for the first time with your assistance.
- A cell phone or portable phone should always be nearby in case the older adult falls or needs some help.

In the beginning, older adults should **always** have an object or person close by for assistance if needed. Many of the examples will require older adults to hold onto a sturdy chair or table for balance. Older adults should hold on to the chair or table with one hand. As they progress, they should try holding on with just the fingertips then maybe with one finger. As they continue to improve, they can try to not hold on at all. When they become very steady on their feet, they can try to do some of the activities with their eyes closed to improve your balance even more.

Progress Check: In order to acquire a starting baseline value and to monitor progress, the older adult should perform the following progress check periodically. The older adult will need a stopwatch or a watch with seconds.

1. The older adult should time him/herself as he/she stands on one foot, without support, for as long as possible.
2. He/she should stand near something sturdy to hold onto in case there is a loss of balance.
3. Repeat the test while standing on the other foot.
4. Test and record scores each month.

Yearly Balance Progress Chart

	Right Foot	Left Foot		Right Foot	Left Foot
Month 1:	_____	_____	Month 2:	_____	_____
Month 3:	_____	_____	Month 4:	_____	_____
Month 5:	_____	_____	Month 6:	_____	_____
Month 7:	_____	_____	Month 8:	_____	_____
Month 9:	_____	_____	Month 10:	_____	_____
Month 11:	_____	_____	Month 12:	_____	_____

Balance Exercises to Try

Single Leg Stand

Instruct the older adult to...

Beginner:

1. Stand up straight behind a tall chair or at a counter top. Lightly grasping the chair or counter top with his/her finger tips.
2. Raise one leg a foot off the ground. The leg can be lifted out to the side, back, or front (Figure 54). Find which position is the easiest or the hardest.
3. Maintain balance while standing on one leg.
4. Hold for a count of 10-15 seconds. Repeat with other leg.
5. Perform five times on each leg.



Figure 54

Intermediate:

1. Stand up straight behind a tall chair or at a counter top for safety only. Without holding on to the chair or countertop raise one leg a foot off the ground.
2. Maintain balance while standing on one leg.
3. Hold for a count of 10-15 seconds. Repeat with other leg.
4. Perform five times on each leg.

Advanced:

1. Stand up straight behind a tall chair or at a counter top for safety only.
2. Close both eyes.
3. Without holding on to the chair or countertop raise one leg a foot off the ground.
4. Maintain balance while standing on one leg.
5. Hold for a count of 10-15 seconds. Repeat with other leg.
6. Perform five times on each leg.



Figure 55

Tandem Standing

Instruct the older adult to...

1. Place one foot directly in front of the other, touching heel to toe and hold (Figure 56).
2. Repeat with other foot in front.
3. Use a sturdy chair for support as needed.



Figure 56

Tandem Walking (Heel-to-Toe)

You might recall this movement from balance beam work in grade school, or just as a childhood pastime in which you tried to walk along a crack in the sidewalk.

Instruct the older adult to...

1. Position the heel of one foot directly in front of the toes of his/her opposite foot (**Figure 57**).
2. Alternate each time a step is taken.
3. The older adult may need or want to use arms to help with balance.



Figure 57

Chair Sitting and Standing

Getting into and out of the seated position can be a challenge for older adults. The movement requires balance and core strength, so that - even if it's hard for older adults - it is good for them to practice standing up and sitting down without using their hands (Figure 58). Older adults should have someone beside them for assistance if help is needed.



Figure 58

With each of the following exercises, instruct the older adult to...



Tandem Standing

Place one foot directly in front of the other touching heel to toe and hold (Figure 59). Repeat with other foot in front. Use a sturdy chair for support as needed.

Figure 59



One Leg Balance

Lift foot to stand on one leg. Repeat on other leg. Use a sturdy chair for support as needed (Figure 60).

Figure 60



Standing Hip Raise

Lift the hip and knee. Repeat on the other leg. Use a sturdy chair for support as needed (Figure 61).

Figure 61



Standing Knee Bend

Bend the knee pulling the heel upward. Repeat on the other leg. Use a sturdy chair for support as needed (Figure 62).

Figure 62



Standing Kick

Extend the knee and kick forward. Repeat on other leg. Use a sturdy chair for support as needed (Figure 63).

Figure 63



Standing Side Kick

Extend the knee and kick out to the side. Repeat on other leg. Use a sturdy chair for support as needed (Figure 64).

Figure 64

More Advanced Activities to Try



Standing on Balance Discs

Stand with each foot on a balance disc. Use a sturdy chair for support as needed (Figure 65).

Figure 65



One Leg Stand on Balance Ball

Lift foot to stand on one leg while on balance ball. Repeat on other leg. Hold on to a sturdy support as needed (Figure 66).

Figure 66

See Appendix for where a balance disc or ball can be purchased.

Tai Chi Program

Practicing Tai Chi can reduce the fear of falling by strengthening muscles and training the body to maintain balance in a variety of positions. This ancient Chinese dance-exercise uses smooth, easy movements, and it really helps: In a study at Armstrong Atlantic State University in Savannah, Georgia, 45 women (ages 65 to 96 years) who did 30 minutes of Tai Chi twice a week for three months not only

improved their balance, but also reduced their fear of falling by 30 percent. Many falls occur when someone is doing one thing and thinking about something else. Tai Chi helps your balance become automatic, even when distracted. Tai Chi exercises can be effective balance builders for older adults.

Tai Chi classes have become popular at Senior Centers, Churches, Activity Centers, and YMCAs. There may be a class taught in your area that you can recommend to the older adult. Encourage the older adult to give it a try and see if his/her balance improves.

Chapter 6

Starting a Community Exercise Program



Starting a Program

There are many available facilities that can be used to establish a group exercise program from a conference room or activity room in a church to a gymnasium in a community center.

To start a program on a small budget or with no resources at all, you can get by on a well lit room, some chairs and an enthusiastic leader who has some basic knowledge about exercise which can be found in this manual. Basic questionnaires should be given to all participants and are located in the appendix of the manual. A health history, PARQ or a consent form from the participants' doctors can be obtained. An informed consent is always a good idea to help legally protect the exercise leader and the facility that is being used.

Before starting an exercise program, try to do a needs

assessment to find out the type of program the group you are planning to work with would like to do, such as aerobic classes, yoga, Pilates, strength training, balance training, or stretching to name a few. Even if you are not familiar with some of the above areas there are many experts and knowledgeable people in the community who are willing to teach you or visit your church or organization to help start a program. There are also many resources at libraries, YMCAs, Senior Centers, Community Colleges, or local universities that may also help you to get a program started. Videos of different exercise classes can be borrowed from the above areas to help with developing classes. Exercise videos can also be checked out of the public library. Resources in the appendix have videos and suggestion for different exercise programs (National Institutes of Health, American Heart Association, Council on Aging, etc.)

Basic Class Structure

An exercise class should last approximately 60 minutes. It is always nice to have some type of music playing while exercising, however, make sure the music is appropriate for the audience. Spend about 5-10 minutes warming up. This can be done by walking or marching in place or if using chairs moving the feet and arms while seated. After the warm-up spend about 20-30 minutes with activities that use the large muscle groups (aerobic activities) to elevate the heart rate. Make sure you give opportunities for participants to go at their own pace whether standing or sitting. Incorporating arm movements can really increase the heart rate. After the aerobic exercise spend another 20 minutes conducting strengthening activities. Strength training activities can use participants' own body weight,

such as, standing up and sitting down from a chair or doing leg lifts while seated. Depending on your budget you can purchase hand weights or resistance bands (see appendix). If you do not have any money to purchase equipment, participants can bring in milk jugs which can be filled with water or sand depending on the strength of the participant. Soup cans, rice bags, sand bags, or bean bags can also be used as weights for strength training. The last 10 minutes should include a cool down consisting of stretching and relaxing.

Classes do not necessarily have to be completed inside. For example, walking groups can be established at local high school and middle school tracks, parks, or the mall.

Emergency Planning

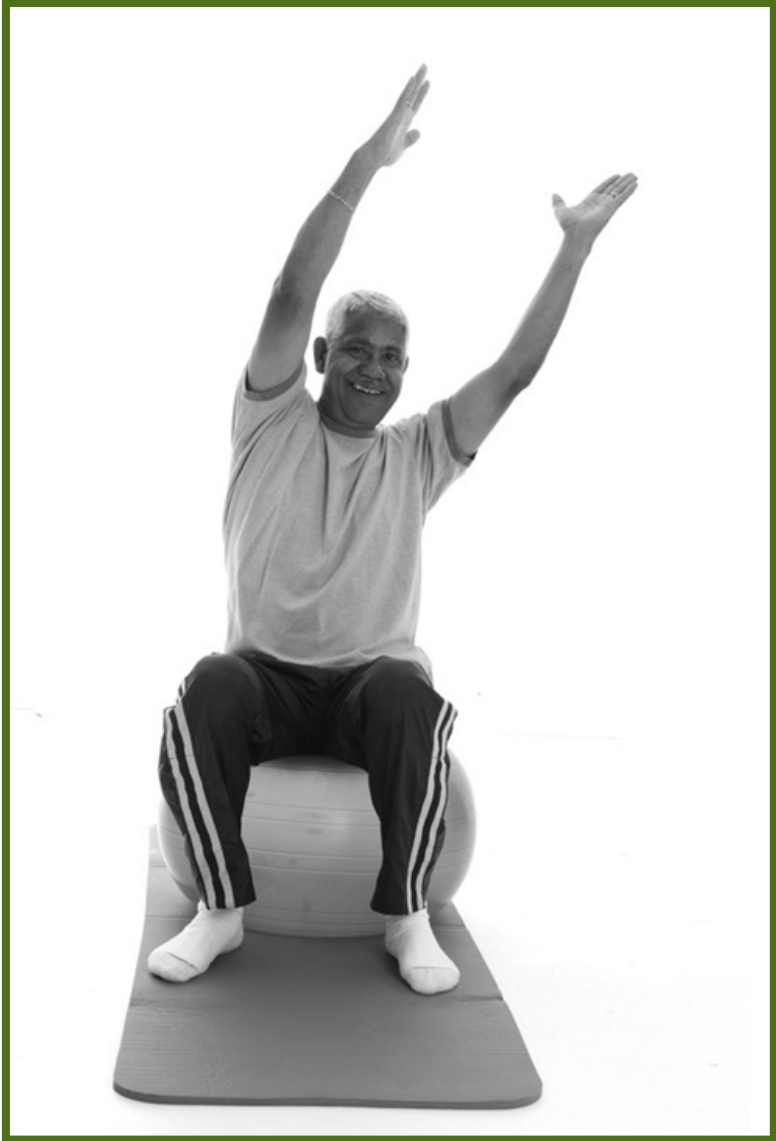
This is important for any facility that has groups of people meeting. An emergency plan needs to be developed in case there is a fall, serious accident, or a cardiovascular event. An emergency can happen at any time so it is important to have a plan in place. Phone numbers for the police, fire department, and emergency personnel should be posted near the phone. Everyone should know how to dial 911. Ideally an automatic external defibrillator (AED) should be housed in a facility where there are a number of people gathering, especially older adults. An exercise leader should be trained in first aid and basic life support (BLS) or cardiopulmonary resuscitation (CPR). This type of training can be obtained from the American Red Cross or the local YMCA.

Assessments

It is always nice to have some basic assessments to allow participants to see improvements. Again some equipment is relatively inexpensive and some you may even have at home.

- A Scale to measure body weight
- Tape Measure to measure circumferences such as waist, hip, or abdominal areas
- Blood Pressure Cuff and Stethoscope
- Stop Watch or Timer to measure performance for balance tasks or other tests that you may come up with (See **Active Aging Toolkit** and **Performance and Body Mass Index Evaluation**, located in the Appendix for more examples of assessments)

Appendix



American Heart Association/American College of Sports Medicine Health/Fitness Health Risk Assessment Facility Preparticipation Screening Questionnaire for Older Adults

Assess your health status by marking all true statements.

History

Have you ever had

a heart attack

heart surgery

cardiac catheterization

coronary angioplasty (PTCA)

pacemaker/implantable cardiac defibrillator

rhythm disturbance

heart valve disease

heart failure

heart transplantation

congenital heart disease

Symptoms

Have you experienced chest discomfort at rest or with exertion?

Have you experienced unreasonable breathlessness at rest or with exertion?

Have you experienced dizziness, fainting, or blackouts?

Do you take heart medications?

Do you get palpitations or a racing heart beat?

Do you get swelling in your ankles?

Do you have difficulty breathing when lying down or difficulty breathing that wakes you up when you are asleep?

Other health issues

Do you have diabetes?

Do you have asthma or other lung disease?

Do you have burning or cramping sensations in your lower legs when walking short distances or climbing stairs?

Do you have musculoskeletal problems that limit your physical activity?

Do you have concerns about the safety of exercise?

Do you take prescription medications?

If you marked any of these statements in this section, consult your physician or other appropriate health care provider before engaging in exercise.

You may need to use a facility with a medically qualified staff

Cardiovascular risk factors

- | | |
|---|---|
| <input type="checkbox"/> Are you a man older than 45 years? | <input type="checkbox"/> Is your total cholesterol level greater than 200 mg/dl? |
| <input type="checkbox"/> Are you a woman older than 55 years, have had a hysterectomy, or are postmenopausal? | <input type="checkbox"/> You do not know your total cholesterol level? |
| <input type="checkbox"/> Do you smoke, or have you quit smoking within the previous six months? | <input type="checkbox"/> Do you have a close blood relative who had a heart attack or heart surgery before age 55 (father or brother) or age 65 (mother or sister)? |
| <input type="checkbox"/> Is your blood pressure greater than 140/90 mmHg? | <input type="checkbox"/> Are you physically inactive (i.e. you get less than 30 minutes of physical activity on most days of the week)? |
| <input type="checkbox"/> You do not know your blood pressure? | <input type="checkbox"/> Are you greater than 20 pounds overweight? |
| <input type="checkbox"/> Do you take blood pressure medication? | |

If you marked two or more of the statements in this section you should consult your physician or other appropriate health care provider before engaging in exercise. You might benefit from using a facility with a professionally qualified exercise staff to guide your exercise program.

I have none of the above conditions

You should be able to exercise safely without consulting your physician or other appropriate health care provider in a self-guided program or almost any facility that meets your exercise programs needs.

Physical Activity Readiness Questionnaire (PAR-Q)

PAR-Q is designed to help you help yourself. Many health benefits are associated with regular exercise, and the completion of PAR-Q is a sensible first step to take if you are planning to increase the amount of physical activity in your life.

For most people, physical activity should not pose any problems or hazard. PAR-Q has been designed to identify the small number of adults for whom physical activity might be inappropriate or those who should have medical advice concerning the type of activity most suitable for them.

Common sense is your best guide in answering these few questions. Please read the carefully and check **YES** or **NO** opposite the question if it applies to you. If yes, please explain.

<u>YES</u>	<u>NO</u>	
_____	_____	1. Has your doctor ever said you have heart trouble? Yes, _____
_____	_____	2. Do you frequently have pains in your heart and chest? Yes, _____
_____	_____	3. Do you often feel faint or have spells of severe dizziness? Yes, _____
_____	_____	4. Has a doctor ever said your blood pressure was too high? Yes, _____
_____	_____	5. Has your doctor ever told you that you have a bone or joint problem(s), such as arthritis that has been aggravated by exercise, or might be made worse with exercise? Yes, _____
_____	_____	6. Is there a good physical reason, not mentioned here, why you should not follow an activity program even if you wanted to? Yes, _____
_____	_____	7. Are you over age 60 and not accustomed to vigorous exercise? Yes, _____
_____	_____	8. Do you suffer from any problems of the lower back, i.e., chronic pain, or numbness? Yes, _____

YES **NO**

9. Are you currently taking any medications? If YES, please specify.

Yes, _____

10. Do you currently have a disability or a communicable disease? If YES, please specify.

Yes, _____

If you answered **NO** to all questions above, it gives a general indication that you may participate in physical and aerobic fitness activities and/or fitness evaluation testing. The fact that you answered **NO** to the above questions, is no guarantee that you will have a normal response to exercise. If you answered **YES** to any of the above questions, then you may need written permission from a physician before participating in physical and aerobic fitness activities and/or fitness evaluation.

Print Name

Signature

Date

EXERCISE READINESS & PRESCRIPTION



Patient's name: _____ DOB: _____ Date: _____

Physician's Signature _____

CURRENTLY EXERCISING: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Type/s of Activity _____	
How Hard _____ (Light, moderate, intense)	
How Long _____ (Minutes/session)	
How Often _____ (Times/week)	
PATIENT'S STAGE OF CHANGE	
Precontemplation (Patient not ready to exercise)	<input type="checkbox"/>
Contemplation (Patient interested in/beginning to exercise)	<input type="checkbox"/>
Preparation (Patient's exercise inconsistent/less than optimal)	<input type="checkbox"/>
Action and Maintenance (Patient exercising recommended amount)	<input type="checkbox"/>

PHYSICIAN'S RECOMMENDATIONS

Aerobic Exercise _____

Strength Exercise _____

Flexibility Exercise _____

Sports Exercise _____

Referral to Exercise/Sports Professional _____

My Goals

Target Date: _____ Start Date: _____ Date Achieved: _____

Goal: _____

Making your goal **SMART**:

Specific What exactly will you accomplish?

Measurable: How will you know when you have achieved your goal?

Adjustable: In case of a setback or progression, how will you adjust your goal?

Realistic, yet challenging: Is your goal moderately difficult? If not, please adjust it.

Time-based: When will your goal be achieved?

This goal is important to me because...

The benefits of achieving this goal are...

Plan for success!

Potential Obstacles/setbacks

Potential Solutions

<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>
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Seek Social Support: Who will you ask to help you achieve your goal and how will you ask them to help?

Person

How they will help

<hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/>
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The more people you tell about your goal, the more likely you are to achieve it!

Stepping Stones: What steps need to be taken in order to achieve your goal?

Step

Expected Completion Date

Completed

<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>
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Exercise Benefits Analysis

Benefits of Exercis	Will this Benefit Me	How will I specifically Benefit
↑ Flexibility can improve the range of motion of your joints		Example: combing hair, getting dressed, picking up objects from the floor
↑ Ability to perform daily activities		
Prevention and management of most chronic diseases & disabilities		
↑ Bone density, which may lead to a risk for osteoporosis		
↓ Blood pressure with aerobic training		
Improved glucose and insulin metabolism- <i>helps with diseases like diabetes</i>		
Improved cholesterol profiles		
↓ Triglyceride levels		
Improved body composition (reduction in fat with an increase in muscle)		
Improvements related to cardiovascular disease risk factors		
↑ Strength- <i>helps you stay or become more independent</i>		
↑ Energy to do the things you would like to- playing with grandchildren, walking the dog, going to the mall, sightseeing		
Improved balance- <i>may ↓ the risk of falls or reduce the severity of a fall</i>		

Benefits of Exercis	Will this Benefit Me	How will I specifically Benefit
Mood enhancement and ↓ depression		
↑ Cognitive function		
↑ Feelings of personal control		
↑ Well-being		
Stress reduction		
↓ Insomnia		
Improved quality of life		
Pain reduction/prevention		
↓ Chances of injury		
Enhanced immunity		
↑ Mobility & gait		

6-Week Aerobic Activity Log

For the next six weeks, it is important to keep track of the time walked or any aerobic activity is done. The goal is to increase your physical activity consistently. It is recommended that everyone over the age of 2 should get 30 minutes of activity on most days of the week. Whether the goal is to move thirty minutes a day, or to lose five pounds, the goal is better achieved if it is written down.

Record the time and activity each day.	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	<p style="text-align: center;"><u>Goals</u></p> <p>By writing goals on the lines below you will have a constant reminder of what you have set out to do.</p> <p>Daily goal: _____</p> <p>6-Week Goal: _____</p> <p>Overall Goal: _____</p>
Monday							
Tuesday							
Wednesday							
Thursday							
Friday							
Saturday							
Sunday							
TOTALS							

6-Week Pedometer Log

For the next six weeks, keep track of the number of steps you take. The goal is to slowly increase physical activity. The first week is used to get a baseline so keep your normal routine and do not change your activity the first week. After week 1 or 2, increase the number of steps by 10% (multiply your average by 0.10)

Record the number of steps per day.	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Monday						
Tuesday						
Wednesday						
Thursday						
Friday						
Saturday						
Sunday						
Averages for the week						

Goals

By writing your goals on the lines below you will have a constant reminder of what you have set out to do.

Daily goal:

6-Week Goal:

Overall Goal:

Strength Training Log

	Name of Exercise	Set	Week # 1				Week # 2			
			Day 1		Day 2		Day 1		Day 2	
			1	2	1	2	1	2	1	2
1	<i>Biceps Curl</i>	Wt	2lbs	2lbs	2lbs	2lbs	2lbs	2lbs	2lbs	2lbs
		Reps	8	8	10	10	10	11	12	12
2	<i>Chest Press</i>	Wt	2lbs	2lbs	2lbs	2lbs	2lbs	2lbs	5lbs	5lbs
		Reps	8	9	10	11	12	12	8	9
3	<i>Leg Extension</i>	Wt	12lbs	12lbs	10lbs	10lbs	10lbs	10lbs	15lbs	15lbs
		Reps	8	9	10	11	12	12	8	8
4	<i>Hamstring Curl</i>	Wt	10lbs	10lbs	10lbs	10lbs	10lbs	10lbs	10lbs	10lbs
		Reps	9	9	10	11	11	12	12	12
5		Wt								
		Reps								
	Date		4/11	4/11	4/15	4/15	4/18	4/18	4/21	4/21

Strength Training Log

	Name of Exercise		Week #				Week #				
			Day 1		Day 2		Day 1		Day 2		
			Set	1	2	1	2	1	2	1	2
1		Wt									
		Reps									
2		Wt									
		Reps									
3		Wt									
		Reps									
4		Wt									
		Reps									
5		Wt									
		Reps									
	Date										

Strength Training Log

	Name of Exercise		Week #				Week #			
			Day 1		Day 2		Day 1		Day 2	
			Set	1	2	1	2	1	2	1
6		Wt								
		Reps								
7		Wt								
		Reps								
8		Wt								
		Reps								
9		Wt								
		Reps								
10		Wt								
		Reps								
	Date									

Performance and Body Mass Index Evaluation

Chair Stand

For this task you will need a stable chair and something to count seconds.

- Instruct the older adult to sit in the chair with both feet on the floor and arms crossing the chest.
- Have the older adult stand up straight and then sit down.
- Repeat this for 30 seconds.
- Count the number of stands.
- The older adult's score is the total number of stands.

Sit and Reach

For this task you will need a stable chair and a ruler.

- Instruct the older adult to sit on the edge of the chair.
- One leg should be extended out in front of the chair. The heel should be on the floor and the ankle flexed towards the body.
- The other leg should be bent with the foot on the floor (Figures 67 and 68).
- Instruct the older adult to reach with one hand towards the toes.
- Repeat, switch which leg is extended and which leg is bent.
- Measure the distance between the older adult's fingertips and toes. If the older adult doesn't reach the toes give them a minus score. If the older adult reaches past toes give them a positive score.



Figure 67



Figure 68

Biceps Curl

For this task you will need a stable chair, something to count seconds, and a dumbbell.

- Instruct the older adult to sit in the chair with both feet on the floor.
- Once the older adult is in the chair have him/her hold the dumbbell with one hand to the side.
- Have the older adult curl the arm up to the shoulders and then lower the arm back down to side.
- Make sure the older adult is only moving the lower arm.
- Repeat this for 30 seconds.
- The older adult's score is the number of curls completed.
- Repeat on opposite side.

Shoulder Flexibility

For this task you will need a ruler.

- Instruct the older adult to reach over his or her shoulder towards the middle of the back.
- Then have the older adult use the other hand to reach up towards the middle of the back.
- Measure the distance between the middle fingers (Figure 69).
- If the older adult's fingers do not touch, give a minus score. If the fingers touch/overlap, give a positive score.

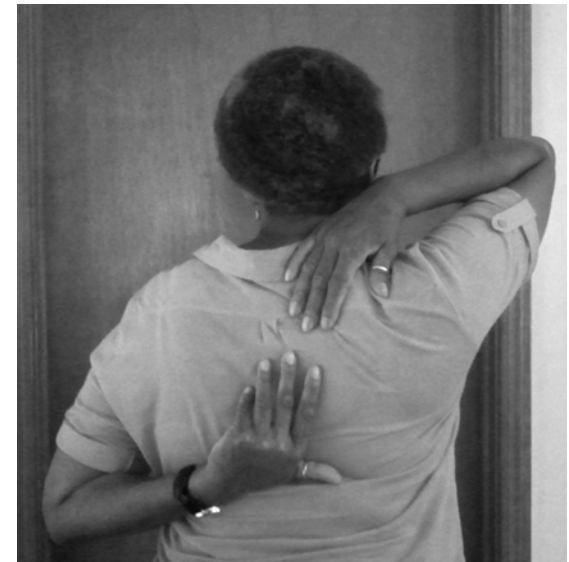


Figure 69

2-Minute March

For this task you will need something to count seconds, a tape measure and masking tape.

- Place a piece of masking tape on the wall that is as high as the older adult's hip.
- Use the masking tape as a marker for the height of the older adult's steps.
- Instruct the older adult to begin stepping in place. Make sure the older adult is raising the knee as high as the masking tape on the wall (Figure 70).
- The score is the number of full steps completed in 2 minutes. (1 step is counted when the right knee is lifted)

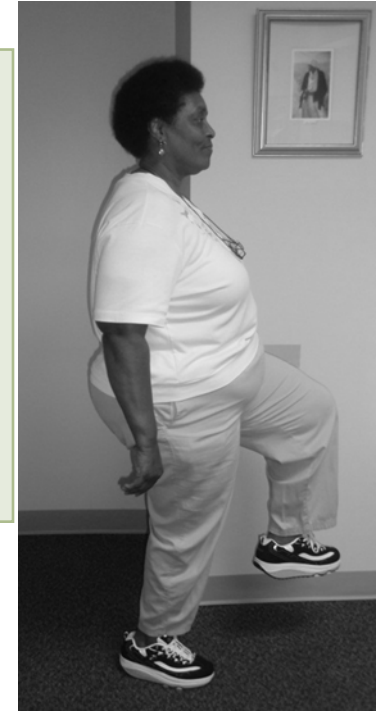


Figure 70

6-Minute Walk

For this task you will need a tape measure, something to count minutes, and items to mark off the course.

- Mark off a course with a distance you can measure.
- Instruct the older adult to start walking as fast as he or she can.
- Count how many laps that are completed within 6 minutes.
- The score is the distance the older adult walks.

Get Up and Go

For this task you will need a stable chair, something to count seconds, a tape measure and something to mark 10 feet.

- Mark a distance 10 feet away.
- Have the older adult sit in the chair with hands in lap.
- Instruct the older adult to get up and walk as fast as he or she safely can to the item you used to mark 10 feet and then return back to the chair.
- The score is the number of seconds it took the older adult to get up from the chair walk to the ten foot mark and sit back down in the chair.

How to Calculate Body Mass Index (BMI)

For this task you will need a scale and a tape measure (or something to measure the older adult's height).

- Instruct the older adult to stand up straight against the wall. Line the tape measure up with the top of the head of the older adult to obtain an accurate height.
- Instruct the older adult to step on the scale so you can obtain body weight.
- Once you have the older adult's height and weight look at the chart on the next page to find BMI.

Body Mass Index Chart

Height \ Weight	5'0"	5'1"	5'2"	5'3"	5'4"	5'5"	5'6"	5'7"	5'8"	5'9"	5'10"	5'11"	6'0"	6'1"	6'2"	6'3"	6'4"
100	20	19	18	18	17	17	16	16	15	15	14	14	14	13	13	13	12
105	21	20	19	19	18	18	17	16	16	16	15	15	14	14	14	13	13
110	22	21	20	20	19	18	18	17	17	16	16	15	15	15	14	14	13
115	23	22	21	20	20	19	19	18	18	17	17	16	16	15	15	14	14
120	23	23	22	21	21	20	19	19	18	18	17	17	16	16	15	15	15
125	24	24	23	22	22	21	20	20	19	18	18	17	17	17	16	16	15
130	25	25	24	23	22	22	21	20	20	19	19	18	18	17	17	16	16
135	26	26	25	24	23	23	22	21	21	20	19	19	18	18	17	17	16
140	27	27	26	25	24	23	23	22	21	21	20	20	19	19	18	18	17
145	28	27	27	26	25	24	23	23	22	21	21	20	20	19	19	18	18
150	29	28	27	27	26	25	24	24	23	22	22	21	20	20	19	19	18
155	30	29	28	28	27	26	25	24	24	23	22	22	21	20	20	19	19
160	31	30	29	28	28	27	26	25	24	24	23	22	22	21	21	20	20
165	32	31	30	29	28	28	27	26	25	24	24	23	22	22	21	21	20
170	33	32	31	30	29	28	27	27	26	25	24	24	23	22	22	21	21
175	34	33	32	31	30	29	28	27	27	26	25	24	24	23	23	22	21
180	35	34	33	32	31	30	29	28	27	27	26	25	24	24	23	23	22
185	36	35	34	33	32	31	30	29	28	27	27	26	25	24	24	23	23
190	37	36	35	34	33	32	31	30	29	28	27	27	26	25	24	24	23
195	38	37	36	35	34	33	32	31	30	29	28	27	27	26	25	24	24
200	39	38	37	36	34	33	32	31	30	30	29	28	27	26	26	25	24
205	40	39	38	36	35	34	33	32	31	30	29	29	28	27	26	26	25

Height \ Weight	5'0"	5'1"	5'2"	5'3"	5'4"	5'5"	5'6"	5'7"	5'8"	5'9"	5'10"	5'11"	6'0"	6'1"	6'2"	6'3"	6'4"
210	41	40	38	37	36	35	34	33	32	31	30	29	29	28	27	26	26
215	42	41	39	38	37	36	35	34	33	32	31	30	29	28	28	27	26
220	43	42	40	39	38	37	36	35	34	33	32	31	30	29	28	28	27
225	44	43	41	40	39	38	36	35	34	33	32	31	31	30	29	28	27
230	45	44	42	41	40	38	37	36	35	34	33	32	31	30	30	29	28
235	46	44	43	42	40	39	38	37	36	35	34	33	32	31	30	29	29
240	47	45	44	43	41	40	39	38	37	36	35	34	33	32	31	30	29
245	48	46	45	43	42	41	40	38	37	36	35	34	33	32	32	31	30
250	49	47	46	44	43	42	40	39	38	37	36	35	34	33	32	31	30
255	50	48	47	45	44	43	41	40	39	38	37	36	35	34	33	32	31
260	51	49	48	46	45	43	42	41	40	38	37	36	35	34	33	33	32
265	52	50	49	47	46	44	43	42	40	39	38	37	36	35	34	33	32
270	53	51	49	48	46	45	44	42	41	40	39	38	37	36	35	34	33
275	54	52	50	49	47	46	44	43	42	41	40	38	37	36	35	34	34
280	55	53	51	50	48	47	45	44	43	41	40	39	38	37	36	35	34

BMI Ranges

Underweight: <20.0

Ideal weight: 20.0-24.9

Overweight: 25.0-29.9

Obese: 30.0-39.9

Extremely Obese: ≥40.0



For a healthy BMI you will want to stay within the white boxes

Performance Score Sheet

Name _____

Date ____/____/____

Sex: M ____ F ____

Age _____

Height _____

Weight _____

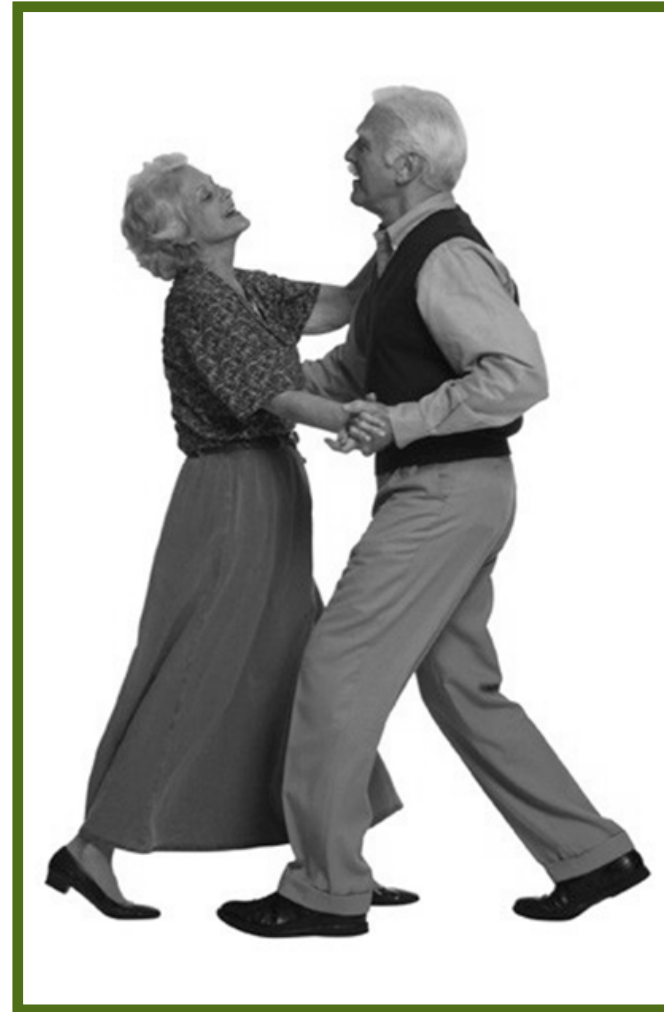
Blood Pressure _____

Heart Rate _____

	Trial 1	Trial 2	Comments
Chair Stand		----	
Sit and Reach--right side			
Sit and Reach--left side			
Biceps Curl--right side		----	
Biceps Curl--left side			
Shoulder Flexibility --right hand over			
Shoulder Flexibility--left hand over			
2-Minute March		----	
6-Minute Walk		----	
Get Up and Go			

Active Aging Toolkit

Promoting Physical Activity in Older Adults



Introduction

In response to the National Blueprint Increasing Physical Activities Among Adults Age 50 and Older, The **Active Aging Toolkit** has been developed as a collaborative effort of the Blueprint, professional organizations, and private industry as an evidence-based and an easy-to-instruct program for healthcare providers to educate their patients on increasing physical activity. Because physical activity is known to be essential in the prevention and management of chronic diseases, healthcare providers are the most important motivators for older adults to begin physical activity programs.

The purpose of this Toolkit is to provide specific interventions and programs to improve health and functional ability, to promote independence, and to prevent chronic disease and disability in older adults. The Toolkit allows healthcare providers to more effectively communicate with patients, including specific strategies for changing perceptions and behaviors toward physical activity, guidelines, educational materials, and research to support evidence-based practice.

The **Active Aging Toolkit Provider Manual** includes professional “how to” information on:

- **Strategies** to promote physical activity to older adults.
- **Assessment** tools to help individualize physical activity programs.
- Individual, evidence-based **physical activity program** options.
- **Guidelines** to progress, motivate, and follow-up.

How to Use the Active Aging Toolkit

- Incorporate strategies in the **Active Aging Toolkit Provider Manual** into daily practice when interacting with older adults.
- Use assessment tools in the **Active Aging Toolkit Provider Manual** to determine the risk, ability, and most appropriate physical activity prescription for your patient.
- Prescribe an individualized program for each patient such as the *First Step to Active Health™*. Programs should include cardiorespiratory, strength, flexibility, and balance activities.
- Review the contents of the individualized activity program with each patient. Use guidelines to modify and progress patients in the **Active Aging Toolkit Provider Manual**.
- Follow-up with the patient on their progress by having patients complete the physical activity logs.
- Use resources at www.FirstStepToActiveHealth.com to refer patients to other professionals or sources of information, particularly in your local community.

Strategies

How to Assess Current Physical Activity Levels of Patients

- Routinely ask patients during their history and physical if they are currently physically active. This question may be considered a “vital sign” in the history.
 - *“Do you participate in physical activity regularly; if so, what type, how long, and how often?”*
 - *“Are you active 30 minutes a day most days of the week?”*
 - *“Do you plan to become active in the next few months?”*
- Other specific questions are helpful, such as, *“Do you take the stairs when possible?”*, or *“Do you work in the garden regularly?”* Then determine if the patient is meeting the recommended levels of being moderately active for at least 30 minutes on most days of the week.
- For sedentary individuals who are reluctant to change, healthcare providers should assess patient fears about physical activity. Have patients complete the sentence, *“The one thing that I fear about physical activity is _____.”* Address these worries to assess their readiness to increase physical activity.

How to Counsel Patients on Physical Activity

- Older adult focus group participants were more likely to start and follow through with an exercise plan if their doctors recommended it.

Healthcare providers should:

1. provide concrete and consistent information
 2. make recommendations that are clear and consistent
 3. recognize obstacles that people face in a beginning and maintaining a physical activity program.
- Pre-contemplators are encouraged to do the following 3 things, which should be followed-up on the next visit:
 1. talk with someone who is active
 2. review the benefits of physical activity
 3. see how the benefits pertain to you
 - Emphasize role of physical activity in being able to perform functional daily activities and in the prevention or management of chronic disease.



Strategies

How to Recommend Patients Increase Physical Activity

Emphasize a change in lifestyle and daily behavior to recognize opportunities for physical activity, such as:

- Walk or ride a bike rather than driving
 - Walk the dog
 - Take the stairs instead of an elevator
 - Begin hobbies requiring physical activity (gardening or hiking)
 - Incorporate light physical activity into daily routine
 - Park the car farther away and walk
 - Participate in physical activities with grandchildren
- A pedometer may be useful in motivating patients to increase daily activity levels to the recommended “10,000 Steps” per day.
 - Recommend individuals reach a goal of 30 minutes of physical activity that makes them breathe harder on most or all days of the week. Emphasize it’s OK for them to start at 5 or 10 minutes of easy and fun activity, and work up to 30 minutes of activity on most days of the week. Individuals may also break up the 30 minutes into smaller, 10- minute segments.
 - Prescribe individualized programs based on individual goals that incorporate cardiovascular, strength, flexibility, and balance activities such as the *First Step to Active Health*[™] program. Specific, written physical activity prescriptions involving goal setting and follow-up are most effective.
 - Refer patients to local community resources such as senior centers, medical fitness facilities, or university aging centers with evidence- based, structured physical activity programs.

“Approximately 95% of the 1.4 trillion dollars that we spend as a nation on health goes to direct medical care services, while an estimated 5% is allocated to preventing disease and promoting health. This approach is equivalent to waiting for your car to break down before you take it in for maintenance. By changing the way we view our health, the Steps initiative helps us move from a disease care system to a true health care system.”

—Secretary Tommy G. Thompson
U.S. Department of Health and Human Services

Assessment

How to Assess Risk for Adverse Events

Because of the high incidence of heart disease in older adults and the increased risk for cardiac events, it's important that older adults are screened for potential problems during a physical activity program. The American College of Sports Medicine (ACSM) provides guidelines for exercise testing and prescription. Physical activity is generally safe for most individuals, although there are a few contraindications to exercise such as active rheumatoid arthritis, unstable cardiac disease, or recent myocardial infarction. As with any intervention, the benefits should outweigh the risks. Individuals who present with persistent musculoskeletal symptoms should be first referred to a physical or occupational therapist for evaluation before prescribing a structured physical activity program.

Major Signs/Symptoms of cardiovascular and pulmonary disease *

- Pain, discomfort (or anginal equivalent) in the chest, neck, jaw, arms, or other areas that may be due to ischemia
- Shortness of breath at rest or with mild exertion
- Dizziness or syncope
- Orthopnea or paroxysmal nocturnal dyspnea
- Ankle edema
- Palpitations or tachycardia
- Intermittent claudication
- Known heart murmur
- Unusual fatigue or shortness of breath with usual activities

How to Assess & Document Physical Ability

There are several useful and clinically proven methods of assessing fitness levels among older adults. These assessments are used to help determine initial fitness levels, set goals, and to assess progress. It's important to choose the tests that are appropriate for the individual. These recommended assessments don't require expensive equipment or large facilities.

The **Senior Fitness Test** (Rikli & Jones, 2001) is one method suggested for office or clinical assessment of physical ability, and is particularly useful when documenting outcomes. Norms for this assessment have been established for various age groups. The test involves six different activities to assess upper and lower body strength and flexibility, as well as balance and cardiorespiratory fitness.

* ACSM Guidelines, 2000

Assessment

How to Assess Functional Limitations

Several scales are available to document functional limitations. The functional assessment checklist uses a simple checklist of subjective functional limitations that can help determine the appropriate physical activity program for older adults. It also helps patients to understand that their healthcare provider is aware of their functional limitations, and that their healthcare provider is developing an individual program to improve their specific functional needs.

Identify Difficult Functional Activities	Activity to Emphasize
Getting dressed (shirts)	Upper Body Flexibility
Getting dressed (pants)	Upper & Lower Body Flexibility
Putting on shoes	Upper & Lower Body Flexibility
Personal Hygiene/Grooming (wash hair, brush teeth, etc)	Upper Body Flexibility
Housework	Cardiorespiratory, Upper/Lower Body Strength
Carrying groceries	Upper Body Strength, Balance
Opening jars (grip)	Upper Body Strength
Opening doors (push or pull)	Upper Body Strength
Stoop to pick up object from floor	Lower Body Flexibility and Strength
Reach and place objects overhead	Upper Body Flexibility, Balance
Lifting light objects	Upper Body Strength
Lifting heavier objects (>20 pounds)	Upper & Lower Body Strength
Walking for 10 minutes	Cardiorespiratory, Lower Body Strength
Stairs (up and down 1 flight)	Lower Body Strength, Balance
Walk uphill without getting tired	Lower Body Strength, Cardiorespiratory
Walking on uneven ground/surfaces	Lower Body Strength, Balance
Getting out of a chair	Lower Body Strength
Getting out of bed	Upper & Lower Body Strength
Getting into and out of bathtub	Upper & Lower Body Strength, Balance
Moving around in bed	Upper & Lower Body Strength
Other recreational activity/hobbies	Varies with activity (discuss with patient)

Older adults tend to be more compliant with a physical activity program if they have individualized programs from their healthcare provider that is based on their needs and specific goals. It's important for healthcare providers to use the results of a physical ability assessment as well as their subjective functional limitations in determining individual goals and exercise needs.

Assessment

How to Identify Individual Needs & Goals

- Individualize goals on each patient’s ability, stage of change, and level of support. For example, in sedentary individuals, use reasonable behavioral goals such as “I will walk with my spouse at least 3 times a week for 10-15 minutes”.
- Healthcare providers can use the physical ability tests and/or functional limitation checklist to look for possible areas to improve with an individualized physical activity program. For example:

<u>Limitation</u>	<u>Activity Recommendation</u>
Carrying groceries	Upper Body Strength, Balance
Getting in & out of bathtub	Lower/Upper Body Strength, Balance
Walking on uneven ground	Lower Body strength, Balance

- Goals should be based on the results of the physical assessment or functional limitation checklist. For example, “After 8 weeks of exercise, I will be able to walk up and down a flight of stairs 3 times.” A chart is useful in motivating individuals to continue activity.

How to Determine Initial Physical Activity Prescription

Programs

Based on the results of an individual’s assessment, the healthcare practitioner can develop a specific program. Individuals who present with persistent musculoskeletal symptoms should be first referred to a physical or occupational therapist for evaluation before prescribing a structured physical activity program.

Healthcare providers should provide written, individualized physical activity programs for older adults based on their abilities, needs, and goals. In addition to counseling individuals on increasing physical activity with daily activities, individuals should receive a specific physical activity prescription in four basic areas: cardiorespiratory, strength, flexibility, and balance. Activities should be safe, appropriate, practical, easy to understand, and adaptable to different populations.

The most important factor in increasing physical activity is adopting an active lifestyle through behavioral change. Healthcare providers must remember that typical physical activity recommendations are **GOALS**, and not necessarily the initial step in adopting an active lifestyle. Emphasize that individuals may start at 5 or 10 minutes of easy and fun activity, and work up to 30 minutes of activity on most days of the week. Individuals may also break up the 30 minutes into smaller, 10-minute segments. They can incorporate other activities they may enjoy such as a sport or strength training program.

How to Prescribe a Well-Rounded Physical Activity Program

The ACSM and the Blueprint recommend the following elements of physical activity: cardiorespiratory (aerobic) endurance, muscle strength and endurance, balance, and stretching.

Many factors are taken into consideration in prescribing a physical activity program such as safety, physical ability, motivation, support, and goals. For some patients, simply walking for 10 minutes a day is a start; others who may not be able to walk can implement some upper body strengthening; and others may be ready for a well-rounded daily routine. **The overall goal of the program is to facilitate a behavioral change among older adults to begin some type of physical activity, working toward the recommendations of the ACSM*:**

1. Incorporate moderate activity for a goal of 30 minutes at least 4 days per week
2. Perform strengthening activities at least 2 days per week
3. Include warm-up and cool down with each workout
4. Incorporate balance activities into daily activities

Monday	Cardiorespiratory activities 10-30 minutes (walk/jog, bike, swim) & flexibility activities
Tuesday	Strengthening and balance activities
Wednesday	Cardiorespiratory activities 10-30 minutes and flexibility activities
Thursday	Strengthening and balance activities
Friday	Cardiorespiratory activities 10-30 minutes and flexibility activities
Saturday	Strengthening and balance activities
Sunday	Gardening, walk in park or mall, or other recreational activity with friends and family 10-30 minutes

It is critical NOT to overwhelm patients with physical activity. Remember, this is a behavioral change with many factors to consider. While the ACSM recommendations are ideal, any level of physical activity is beneficial for virtually every patient

*ACSM Guidelines, 2000



Programs

Specific Subgroups

It is difficult to provide “blanket” physical activity recommendations for all older adults. Healthcare providers should adapt physical activity prescriptions for specific populations based on their specific considerations and abilities. Obviously, different levels of ability should be taken into consideration. For example, strengthening activities should be performed while standing when possible; however, persons with difficulty standing can perform the same activities while sitting.

Frail & Very Old Adults

Many contributing factors of frailty can be addressed through physical activity. Strength training, in particular, offers a safe and perhaps the most beneficial intervention for the frail & very old. The **ACSM** recommends “all exercise programs for the frail elderly should include progressive resistance training of the major muscle groups of the upper and lower extremities and trunk”. The **ACSM** recommends 2-3 days per week with 2-3 sets of exercise performed on each training day, including resistance activities in standing to enhance balance and muscle coordination. *Strengthening & flexibility* activities can be performed while sitting or in a bed. *Balance* training should also be incorporated under supervision, particularly for the very frail. *Cardiorespiratory* activities (difficult to perform in this population) should follow strength and balance training. Once the individual can tolerate weight bearing activity, moderate intensity aerobic training can begin. The **ACSM** (ACSM, 2000) recommends reaching a target frequency of 3 days per week for at least 20 minutes at 11-13 **RPE** Scale.

Chronic Disease & Disability

Many chronic diseases can be prevented and treated with physical activity programs. Evidence exists supporting physical activity in the prevention & management of most chronic diseases and disabilities. The **ACSM**'s [Exercise Management for Persons with Chronic Diseases and Disabilities](#) (ACSM, 2003) is an excellent resource for healthcare providers. The following general guidelines should help healthcare providers modify physical activity programs for patients with chronic disease. Other healthcare professionals with experience in exercise may be able to modify or individualize programs specific to your patient's disease or disability. If you are uncomfortable prescribing a physical activity program for your patient, a specialist in rehabilitation or exercise may be consulted.

Guidelines

How to Progress Physical Activity & Track Progress

- Use an “activity log” to track progress by noting the specific activity performed, as well as the intensity and duration of each activity. This chart is used to document progress toward goals and to show the healthcare provider on follow-up visits. Use either a monthly or weekly chart to track progress.
- Once the physical activity program has been established (including exercise prescription & goals), individuals must learn how to progress the activities. The following progressions are suggested:

Frequency: Increase the number of times per week

Duration: Increase the length or number of the activity/exercise (time, sets, repetitions)

Intensity: Increase the level of the activity (noted by resistance or RPE)

- Progression is the key to improving fitness. Progression simply involves increasing the duration or intensity of an activity toward individual goals.

How to Keep Patients Motivated & Improve Compliance

- An individualized program focused on specific goals is key
- Once goals are attained, set new goals important to the individual
- Encourage patients to reward themselves for reaching the first goal
- Moderation is key; start gradually with enjoyable activities and progress slowly
- Emphasize lifestyle changes, incorporating activity into daily life
- Establish regular workouts (same time of day)
- Keep focused on short-term and long-term goals
- Maintain activity logs to record achievements
- Follow-ups (re-testing) with individuals encourage compliance (mail, email, phone or personal)
- Exercising with a partner or in groups helps improve compliance
- Family and friend support is crucial for encouragement



Guidelines

Safety Reminders

- Exercise should be postponed in patients with an unstable medical condition, healing injury, or uncontrolled disease.
- Patients should be informed to contact their physician if they experience chest pain or pressure, trouble breathing or shortness of breath, light-headedness or dizziness, or nausea.
- Warn patients not to perform activities that cause sharp pain or that can aggravate a medical condition.
- Inform patients that soreness is to be expected in the muscles with any unaccustomed exercise program. Use soreness as a guide for intensity. If patients are very sore the day after exercising, they should exercise at a lower intensity next time. If the pain persists more than 2-3 days, patients should contact their healthcare provider.
- Joint pain should be avoided.
- Remind patients to breathe properly. Remind them never to hold their breath while straining, particularly in patients with high blood pressure. Generally, exhale during muscle exertion, and inhale during relaxation.

PUTTING IT ALL TOGETHER

1. Determine safety of physical activity (risk factors) & diseases
2. Assess individual ability and reported limitations
3. Discuss personal goals, preferences, & resources for physical activity
4. Determine activities from each successive step, appropriate for individual based on abilities, needs, goals
5. Determine appropriate frequency, intensity, and duration for each activity
6. Establish weekly program and discuss progression
7. Instruct in use of personal handout and logs
8. Follow-up and assess activity levels, and progress or modify activities on next visit

The **Active Aging Toolkit** was developed in cooperation with these individuals and organizations:

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James Rimmer, PhD
Wojtek Chodzko-Zajko, PhD, FACSM

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James Judge, MD
Robert Pallay, MD
Margaret Matthews, MD, PhD
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For more information, including additional resources and references, visit www.FirstStepToActiveHealth.com

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Exercise Supplies

Below is a list of a few examples of equipment or accessories that you can purchase to help you with your exercise programs (weight training and balance training). Most of the equipment can be bought in athletic, discount or department stores. Remember you do not have to spend a great deal of money. Many things can be obtained around the house to help you to exercise. For example books, soup cans, or empty milk jugs filled with water or sand can be used for hand held weights.

Gold's Gym Aerobic Step



The Step



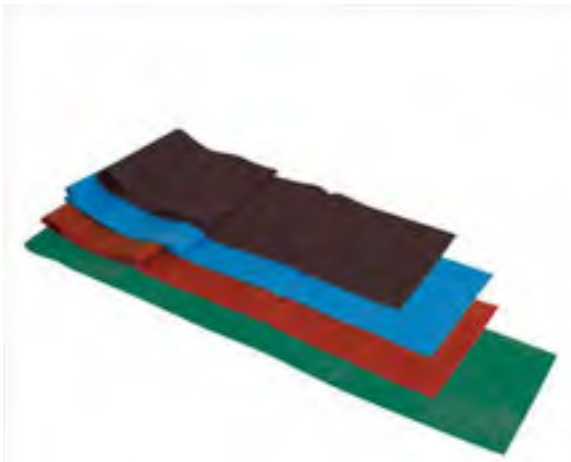
Gold's Gym 2.5 lb Adjustable Ankle/Wrist Weights



Gold's Gym 5LB Ankle Weights



AeroMAT Single Package Flat Band:
Light, Heavy, and Extra



Natural Fitness Professional Resistance Tube:
Light, Medium, Heavy, and Very Heavy



J Fit Resistance Band:
Medium, Heavy, and X-Heavy



Gold's Gym Long Resistance Tube



Cap Barbell Rubber Medicine Ball:
2 - 12 lbs



Cap Barbell Cast Iron Dumbbell:



The Bar 15-Pound Weight Bar



Cap Barbell Workout Bar



Rollup Exercise Mat - 24x68"



Natural Fitness Burst-Resistant Exercise Ball - 55 - 75 cm



AeroMAT Elite Balance Block in Blue



Gold's Gym Adjustable Core Balance Board



AeroMAT Elite Balance Disc Cushion in Purple



Fitness Quest Bosu Home Balance Trainer



Ultimate Foam Roller



Pedometer



Resources



National Institute on Aging

For more information about exercise and physical activity, visit **NIHSeniorHealth**, the senior-friendly website from the National Institute on Aging and the National Library of Medicine. There are exercise stories featuring older adults and the diverse activities they enjoy. The website can make the text bigger and the contrast better. Visit www.NIHSeniorHealth.gov

National Institute on Aging
Building 32, Room 5C27
31 Center Drive, MSC 2292
Bethesda, MD 20892
800-222-2225 (toll free)
800-222-4225 (TTY/toll free)
www.nia.nih.gov

Administration on Aging

Washington, DC 20201
202-619-0724
www.aoa.gov

American Academy of Family Physicians

P.O. Box 11210
Shawnee Mission, KS 66207-1210
800-274-2237 (toll free)
www.aafp.org
Exercise & Seniors
Exercise: How to Get Started

American Academy of Orthopedic Surgeons

6300 North River Road
Rosemont, IL 60018-4262
847-823-7186
www.aaos.org

Seniors and Exercise

Exercise for Persons 60 Years and Older

American College of Sports Medicine

P.O. Box 1440
Indianapolis, IN 46206-1440
317-637-9200
www.acsm.org

American Council on Exercise

4851 Paramount Drive
San Diego, CA 92123
888-825-3636 (toll free)
www.acefitness.org

American Physical Therapy Association

1111 North Fairfax Street
Alexandria, VA 22314-1488
800-999-2782 (toll free)
www.apta.org

For the Young at Heart: Exercise Tips for Seniors

American Podiatric Medical Association

9312 Old Georgetown Road
Bethesda, MD 20814-1621
301-581-9200

www.apma.org

Gearing up for Walking Guide

Centers for Disease Control and Prevention

1600 Clifton Road
Atlanta, GA 30333
800-232-4636 (toll free)

www.cdc.gov

Growing Stronger: Strength Training for Older Adults!
How to Avoid Portion Size Pitfalls to Help Manage Your Weight

Centers for Medicare & Medicaid Services

7500 Security Boulevard
Baltimore, MD 21244-1850
800-MEDICARE (toll free)

www.medicare.gov

Department of Agriculture Food and Nutrition Information Center

National Agricultural Library
10301 Baltimore Avenue, Room 105
Beltsville, MD 20705-2351
301-504-5414

www.nal.usda.gov/fnic

www.MyPyramid.gov

Dietary Guidelines for Americans

Department of Transportation Federal Highway Administration

Office of Safet

1200 New Jersey Avenue SE
Washington, DC 20590
202-366-4000

http://safety.fhwa.dot.gov/ped_bike/

Pedestrian Safety

Environmental Protection Agency

1200 Pennsylvania Ave NW
Mail Code 1107A
Room 2512 Ariel Rios North
Washington, DC 20460
202-564-2188

www.epa.gov/aging/index.htm

Building Healthy Communities for Active Aging

Exerciseismedicine.org

Great website for learning about the importance of exercise and talking with the health care provider.

Federal Trade Commission

600 Pennsylvania Avenue NW

Washington, DC 20580

877-382-4357 (toll free)

<http://www.ftc.gov/bcp/edu/pubs/consumer/alerts/alt113.shtm>

Avoiding the Muscle Hustle: Tips for Buying Exercise Equipment

Food and Drug Administration

Center for Food Safety and Applied Nutrition

5100 Paint Branch Parkway HFS-009

College Park, MD 20740-3835

888-723-3366 (toll free)

www.cfsan.fda.gov

International Council on Active Aging

3307 Trutch Street

Vancouver, BC V6L-2T3

Canada

866-335-9777 (toll free)

www.icaa.cc

National Cancer Institute

6116 Executive Boulevard,

Room 3036A

Bethesda, MD 20892-8322

1-800-422-6237 (toll free)

www.cancer.gov

Physical Activity and Cancer Fact Sheet

National Center for Complementary and Alternative Medicine

P.O. Box 7923

Gaithersburg, MD 20892

800-644-6226 (toll free)

www.nccam.nih.gov

Tai Chi for Health Purposes

National Commission for Certifying Agencies

2025 M Street NW, Suite 800

Washington, DC 20036

202-367-1165

<http://www.credentialingexcellence.org/Resources/NCCAAccreditation/tabid/82/Default.aspx>

National Council on Aging

1901 L Street NW, 4th Floor

Washington, DC 20036

202-479-1200

www.ncoa.org

**National Heart, Lung, and Blood Institute
Health Information Center**

P.O. Box 30105
Bethesda, MD 20824-0105
301-592-8573

www.nhlbi.nih.gov

Portion Distortion Quiz
Your Guide to Physical Activity and Your Heart

**National Institute of Arthritis and Musculoskeletal and
Skin Diseases**

1 AMS Circle
Bethesda, MD 20892-3675
877-226-4267 (toll free)

www.niams.nih.gov

Exercise for Your Bone Health
Living with Arthritis

**National Institute of Diabetes and Digestive and
Kidney Diseases**

National Diabetes Information Clearinghouse

1 Information Way
Bethesda, MD 20892-3560
800-860-8747 (toll free)

www.diabetes.niddk.nih.gov

*What I Need to Know About Physical Activity and
Diabetes*

**National Library of Medicine
MedlinePlus**

8600 Rockville Pike
Bethesda, MD 20894

www.medlineplus.gov

Search “Health Topics” for exercise and fitness information.

**Office of Dietary Supplement
National Institutes of Health**

6100 Executive Boulevard
Room 3B01, MSC 7517
Bethesda, MD 20892-7517
301-435-2920

<http://dietary-supplements.info.nih.gov>

Dietary Supplement Fact Sheets

Office of Disease Prevention and Health Promotio

1101 Wootton Parkway, Suite LL100
Rockville, MD 20852
240-453-8280

www.odphp.osophs.dhhs.gov

Physical Activity Guidelines for Americans
Be Active Your Way: A Guide for Adults

Pedometers

Optimal Health Products and Services
Quantity discounts on pedometers and step pedometers
210-824-2099 (Phone) 210-826-0566 (Fax)

Play It Again Sports

A retail store for used discounted exercise equipment
www.playitagainsports.com

President's Council on Physical Fitness and Sports

1101 Wootton Parkway, Suite 560
Rockville, MD 20852
240-276-9567
www.fitness.gov

www.creativewalking.com

Website has walking programs, resources and pedometers for sale

Purchasing Exercise Shoes

www.olineshoes.com

Step-By-Step: Walking Your Way To Wellness

Wellness Council of America
9802 Nicholas St. Suite 315
Omaha, NE 68114
402-827-3590
www.welcoa.org

Walkability Checklist (to create walking friendly neighborhoods with a simple five question checklist to identify areas of improvement)
www.nsc.org/walkable.htm

Weight-Control Information Network

1 WIN Way
Bethesda, MD 20892-3665
877-946-4627 (toll free)
www.win.niddk.nih.gov
Active At Any Size
Young at Heart: Tips for Older Adults
Fit and Fabulous as You Mature
Walking... A Step in the Right Direction

YMCA

101 North Wacker Drive
Chicago, IL 60606
800-872-9622 (toll free)
www.ymca.net

YWCA USA

2025 M Street, NW, Suite 550
Washington, DC 20036
202-467-0801
www.ywca.org

Notes

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A page with two columns of horizontal lines for writing notes.

About the Authors

Lynn Panton is an Associate Professor in Exercise Science in the Department of Nutrition, Food, and Exercise Sciences at Florida State University. She has been a faculty member at Florida State since 2001. She graduated from Emory University in Atlanta, Georgia with a BS in Psychology and received her Master's Degree and Ph.D. from the University of Florida in Exercise Science. Dr. Panton's research interests are in the area of strength training and the effects on the physiological measurements of strength, body composition, and functional outcomes of healthy older adults and chronically diseased populations.

Brittany Loney is a Performance Enhancement Specialist at the Special Operations Center for Enhanced Performance - Ft. Bragg, North Carolina. Brittany graduated from Texas State University with a BS in Criminal Justice and a minor in Psychology. She has earned two Master's degrees: a MA in Kinesiology with an emphasis in Sport Psychology from California State University, Fresno and a MS in Exercise Science from Florida State University. Presently, Brittany is earning her Ph.D. from Florida State University in Educational Psychology specializing in Sport Psychology. She plans to conduct her dissertation research on the psychophysiological effects of various stress reduction techniques and the subsequent performance outcomes.



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Health Resources and Services