

# DISCOVER INCLUSIVE ACTIVE AGING

An addendum to:

Exercise & Physical Activity:  
Your Everyday Guide

from the National Institute on Aging  
at National Institutes of Health



NCHPAD



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## About this Guide



The purpose of this addendum is to provide you with additional guidance that builds on the information presented in [Exercise & Physical Activity: Your Everyday Guide from the National Institute on Aging](#) which provides several resources and anecdotes about both how and why to be physically active and exercise, how to track your progress and improvement, and how to be more conscious of your nutritional food and beverage intake, all for the purpose of leading a longer, healthier life. This addendum will provide additional information and guidance for older adults with disability and other chronic and temporary conditions, such as how to modify exercises, additional and adapted opportunities for physical activity and recreation, and additional considerations to help make smart dietary choices. It also provides additional outside resources on these topics for you to use at your leisure to learn more and strategize around your health goals.

This addendum was created by the National Center on Health, Physical Activity & Disability (NCHPAD). For any questions regarding this addendum specifically, or other aspects of exercise, physical activity, and nutrition, please contact NCHPAD via phone (800-900-8086), email ([email@nchpad.org](mailto:email@nchpad.org)) or live web chat via our website, [www.nchpad.org](http://www.nchpad.org).





## Framework for Adaptation

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This addendum guide was created utilizing the Guidelines, Recommendations, Adaptations Including Disability (GRAIDs) framework. This framework is used to create recommendations for health promotion programs to highlight and add information, guidance, and resources on how to make the programs inclusive of people with disability so that they can enjoy the same health benefits from these programs as those without disability.

## How to Use this Guide

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The purpose of this guide is to be used in tandem with [Exercise & Physical Activity: Your Everyday Guide from the National Institute on Aging](#). As you read through the chapters, specific points and exercises, refer to this guide for any additional information regarding adaptations and inclusion considerations to the points made in the original document. This will allow you to further consider how best to take the information provided and use it to craft the best exercise and nutrition plan for you.





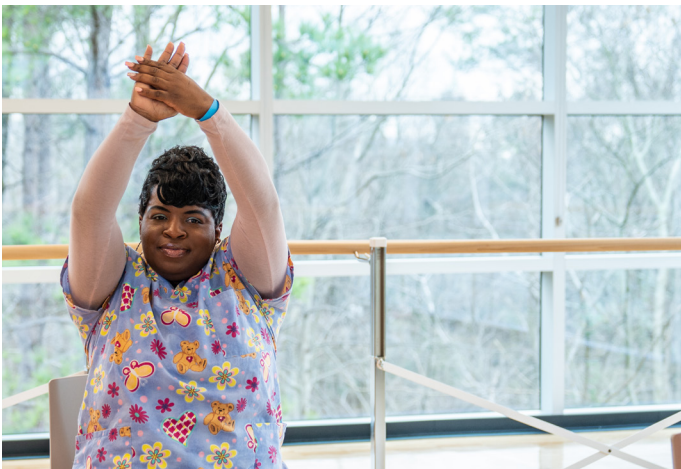
## Overview of Physical Activity, Disability and Aging

There is tremendous overlap between disability and aging. Individuals who have lived all or most of their lives with disability eventually become older adults, and several individuals without disability eventually age into or otherwise acquire a disability and/or chronic health condition later in life. Regardless of how or when an individual acquires a disability, or the type or types of disability they have, everyone can benefit from physical activity, especially older adults with disability.

As is outlined in *Exercise & Physical Activity: Your Everyday Guide* from the National Institute on Aging, there are several benefits of physical activity. It can prolong life while improving physical and mental health and wellness, while decreasing pain and preventing or prolonging the onset of chronic conditions and additional disability conditions. Additionally, engaging in group or community activities can also provide social benefits while meeting your physical activity needs. These are just some of the broad benefits of physical activity; more specific examples are provided throughout *Exercise & Physical Activity: Your Everyday Guide* from the National Institute on Aging and in this addendum guide.

All individuals face both personal and external barriers to exercise and physical activity. This can include such factors as cost, motivation, and time. Like some older adults with chronic conditions, older adults with disability face additional barriers. Internally, they may believe that their disability prevents them from being active, or that there is no point in exercising because there are no perceived benefits. Societally, they may face stigma from others who don't believe that have the ability or otherwise should be exercising, that it may be unsafe or that they may hurt themselves. Many of these feelings stem from the medical model of disability, which sees individuals with disability as being broken and in need of a cure or treatment.

However, in stark contrast to the medical model is the social model of disability, which doesn't see individuals as having disability, but rather sees society as labeling and otherwise putting them in disabling situations physically, programmatically, and attitudinally. The social model focuses on creating solutions that allow everyone to engage in all that society has to offer. In the context of *Exercise & Physical Activity: Your Everyday Guide* from the National Institute on Aging and this addendum, guidance and recommendations are provided so that anyone, no matter their ability level, can participate in some form of physical activity and begin living and reaping the benefits of an active lifestyle.



## Before We Get Started

This addendum, like *Exercise & Physical Activity: Your Everyday Guide* from the National Institute on Aging, features seven chapters of guidance and resources to being physically active. Before you begin progressing through those chapters and your own personal health quest, here are a few points to consider.



One of the most common and convenient forms of physical activity is walking. Throughout *Exercise & Physical Activity: Your Everyday Guide* from the National Institute on Aging, there are countless examples and recommendations of quick exercise wins in the form of “walks” around the neighborhood, up and down the stairs, around the mall, and in several other circumstances and settings. However, walking looks, feels, and means something different to and for everyone! Some individuals may consider walking moving along with both feet in a speedy, symmetrical fashion. For others, it may involve an uneven gait. And for some, it may involve the use of assistive devices, such as a walker or cane. For individuals with limited or no lower body function, walking may entail pushing a wheelchair or driving a power chair. For more examples of what walking means to others, check out the How I Walk campaign: <http://www.nchpad.org/howiwalk/>.

The overarching theme is, when you see an example that says walking in *Exercise & Physical Activity: Your Everyday Guide* from the National Institute on Aging, adapt that to your ability level. If you have a slower gait and/or use a mobility aid, consider going less distance and focusing more on symmetry, balance, and sensory awareness of your surroundings. If you use a wheelchair and cannot go up and down stairs, consider pushing up an incline or over a softer surface, such as carpet or grass, which increases the resistance you face. If you use a power chair, use your walk as an opportunity to practice your balance, symmetry, and core strength by trying to sit and remain up straight with good posture for the duration of your trip. The bottom line is, while walking might mean something different to everyone, it can be an excellent, convenient, and efficient form of activity by individuals of all ability levels at almost any time.

There are several examples of strengthening exercises pictured in *Exercise & Physical Activity: Your Everyday Guide* from the National Institute on Aging. This addendum provides additional information and adaptation ideas for most of those exercises, including where and how to perform them, and what types of weights might be most convenient to use. However, if you are just starting or are still getting used to an exercise, remember that you can always perform movements without weights, whether seated, standing, or laying, until you build up confidence to incorporate added weight into the movement.



Additionally, if you are going to perform seated versions of an exercise or versions where you are holding onto a support object, make sure the chair or support is sturdy and locked in place so it won't move or fall while you are exercising. Also, if you are performing exercises using a resistance band,



ensure the band is firmly anchored to a fixed surface that won't give out while you are exercising, whether that anchor be your own upper or lower body, a pole or beam, the leg of a piece of furniture, or something else.

Finally, while the guide focuses on exercises that can be done with simple household weights, if you are a member of or plan to join a gym, you may also have exercise equipment there that will allow you to perform the same exercises. Consult with your fitness center staff on the type of exercise you want to do, and even show them a picture and description of the exercise if it will help, and see if they have additional recommendations for equipment or other safe exercises that will target the same muscles you are trying to engage.

In terms of fitness centers and other places you may choose to be physically active, there are countless different options, from the space in front of your home to your living room to a local park or a fitness center. However, choosing a place to begin being routinely physically active can feel like a daunting task. Additionally, once you get started, if you travel or encounter an unexpected barrier to your adopted exercise and physical activity routine, you may need to find a new location. The following section outlines several questions to ask and considerations to make as you choose a fitness center.

## Choosing a Fitness Center

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Fitness centers (sometimes called health clubs) range from upscale businesses to neighborhood gyms, with a range of options in between. How do you find the right one? First, determine your fitness goals. Consider scheduling a consultation with a health professional to help you decide what to work on and to receive a realistic assessment of your goals. Before you start using a fitness center, staff should offer you a health questionnaire to determine your risk factors and the most suitable activities to meet your needs and interests.

## Key Factors

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**Location:** The general consensus is that the easier it is to get to a fitness center, the more often you will use it. Ideally, the facility should be near your home and/or workplace. You may want to locate a fitness facility that can be reached by an accessible means of public transportation.



**Cost:** Membership fees/dues vary. Generally, you will be asked to pay a fixed amount to join, and then a monthly fee. Ensure that you understand exactly what is included in the fees often, such items as staff time, classes, pool use, child care, and even towels are extra.

If the facility uses a contract, read the fine print, as you would when buying a car! Avoid signing up for a membership that extends beyond one year, as you can lose your money if the facility closes.

Do not be afraid to ask questions. For example, if the equipment or other parts of the facility are not accessible to you, ask the facility if it is possible to receive a discount on your membership fees/dues. Some facilities offer sliding fee scales based on your income. Other clubs offer family or joint memberships to couples, partners, or friends. Many fitness centers waive membership fees at certain times of the year, such as the peak season (January), when all of the New Year's resolutions are made, or summertime, when many individuals decide to exercise outdoors.



**Hours:** Many fitness centers open early and close late, and some are open 24 hours. However, others have limited hours. Operating hours must match your schedule; make sure to visit the facility during the time that you would most likely use it. Additionally, try to find out what the peak usage times for the facility are and if they overlap with your planned exercise times.



**Equipment:** There should be a variety of equipment, and it should be well-maintained. If you are looking for specific types of equipment, ask about them. It is also important to note the location of equipment; specifically, is it accessible to you?

Sometimes, having fewer pieces of equipment spread out provides the user the choice of getting on the equipment from the right or left side and allows for space to maneuver and place a mobility device.



**Type:** There are several varieties of fitness centers. Multi-purpose facilities generally include swimming pools, tennis/racquetball courts, and other amenities. Gyms tend to focus more on weight training and general fitness. Personal trainers may run studios offering one-on-one sessions. Other specialized facilities include Pilates, yoga, and martial arts. Determine which facility type will best help you meet your fitness goals.



**Classes:** If you want specific fitness classes, does the center provide them? Are enough class sessions scheduled so you will not have to wait for months to get in? Does the fitness center offer anything in addition to basic classes, such as educational programs, special events, or workshops? For example, some fitness centers now offer book clubs or other social events that allow their members to get to know each other. These and other amenities, such as juice bars, spas, and on-site dry cleaners, may not be included in your membership fees and cost extra. Make a decision based on what is essential for achieving your fitness goals, not the available extras.



**Staff:** Find out how many staff members are likely to be on-site while you are there. If you expect one-on-one attention, request this initially. You should receive a group or personal orientation to all of the equipment at no charge when you join. Many facilities provide staff that walk the floors and are available to answer your questions while you workout; however, other facilities charge personal training fees for detailed advice. These fees can range on average from \$25 to \$75 per hour. Trainers and instructors should be certified through a national organization, such as the American College of Sports Medicine (ACSM), American Council on Exercise (ACE), or the National Strength and Conditioning Association (NSCA). Some certifications,



such as the Certified Inclusive Fitness Trainer (ACSM/NCHPAD CIFT) offered by ACSM and NCHPAD, require knowledge of specific disabilities and chronic health conditions as they relate to exercise in order to provide a comprehensive exercise program that is safe and effective.



**Word of Mouth:** If the fitness center has been recommended by someone you know, ask about his or her experiences. You may also wish to check with your local Better Business Bureau to learn if complaints have been registered against the facility.



**Accessibility:** If you are looking for specific accessibility points be sure to take a tour. Is the building accessible? Are there accessible parking spaces near the entrance? Is there an elevator? Are lockers, showers, and restrooms accessible? Does the pool have a lift that can be used independently? Is the staff knowledgeable in program design and adaptation? Is there cardiovascular equipment that can be operated by the upper body only? The best advice is to try out the facility for yourself and determine if it is right for you.

You can learn about many of the key factors listed above through a phone call or the Internet. However, before going any further, it's time for a visit. Most fitness centers will gladly offer you a tour if the facility declines, consider looking elsewhere.

When you visit the fitness center, take a good look around. You should feel comfortable with the people (both clients and staff), the place and the atmosphere.

Do the people seem friendly? Does anyone seem to react negatively to seeing someone with a disability? Does the facility appear to be clean, climate-controlled, and well-ventilated? Is there enough signage? Does the equipment look well-maintained? Try to schedule your tour at a time you would normally use the facility. How crowded is it? Is parking readily available, including accessible spaces? Are there ramps at entrances and exits? Are there clear paths to equipment?

## Ask Questions:

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While you are asking yourself questions about how the facility feels to you, do not miss the opportunity to ask your tour guide and other staff members plenty of questions. Be polite, but persistent. This is your best chance to determine if this is the right facility for you. Questions may include:

- Does the facility provide orientation and instructions on how to use equipment?
- How old is the equipment and how often is it replaced?
- How often is equipment cleaned and maintained?
- Is there cardiovascular equipment that can be operated with the upper body only?
- Does the cardiovascular equipment, such as the stationary bikes, require a minimum speed to use?
- Are there showers and changing facilities? Is there a family changing area?
- Is the staff required to have a degree in exercise science or kinesiology?
- Is the staff required to pursue continuing education?
- What is the turnover rate of the staff?
- What are the busiest times for the facility? What areas are most crowded and when?
- What type of classes does the fitness center provide? Is there a limit on class size?

- Do instructors know how to adapt classes for your abilities?
- How much one-on-one staff interaction will be available?
- Are personal trainers, nutrition consultants, massage therapists, or other specialists available? Are they certified? What is the cost?
- How does the facility handle emergency situations? Has staff been trained in cardiopulmonary resuscitation and first aid? Does the facility have an Automated External Defibrillator (AED)?
- Can my personal assistant attend the facility with me without extra charges?
- Are service animals allowed in the facility?
- Can you reach the facility by public transportation?
- Are parking or child care available, and at what extra cost, if any?

## Try It Out

Fitness centers should be willing to offer you a temporary pass for a small daily fee or at no cost. If you know a member of the facility, ask if he or she can get you a guest pass. Consider trying more than one fitness center to make sure you pick the right one.

Do not succumb to a high-pressure sales pitch: think it over. Study the contract carefully. How long of a commitment is required: a year or more, or can you choose a month-to-month arrangement? Can you opt out if you decide it is not the right place for you, or if you move to a different city? Do prices vary for peak and off-peak hours? Are there any finance charges or other fees? Do not sign anything you are not comfortable with.

## It's Up To You

After you do the research, visit facilities, and go through trial periods, it will be time to make your choice. The most important element of your decision is comfort. Do you truly feel comfortable with the fitness center, as well as its staff, clients, equipment, amenities, and policies? If so, take the plunge. If you find a good fitness center and stick with it, you have taken a key step toward meeting your personal fitness goals.





# CHAPTER 1: GET READY

Older adults with disability can experience even greater benefits from exercise and physical activity than those without disability. Staying consistently physically active can help prevent and mitigate the impact of secondary conditions, as well as the effects of existing and formation of additional disabilities. Even if traditional exercise is too taxing or unrealistic due to ability level, there are several exercise adaptations that make it possible for any older adult to exercise and be physically active, regardless of their functional capabilities, such as performing exercises in seated positions or using assistive devices to complete the exercise.

## Endurance

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Several endurance activities can be made inclusive with proper planning, such as:

- Brisk walking or pushing, or walking or pushing up an incline
- Yard work, such as using a riding mower and maintaining proper posture and balance throughout your time in the yard
- Gardening, especially with raised plant beds and smooth, uncluttered, hard routes connecting all areas of a garden
- Dancing, including seated dancing
- Jogging, including with a partner or guide runner
- Swimming using traditional and adapted strokes, as well as equipment such as kickboards and flotation devices
- Biking, including on single, tandem, and sit/recumbent bicycles or handcycles.
- Climbing stairs or pushing hills
- Playing tennis or basketball, including the wheelchair versions of both sports
- Playing wheelchair and/or other adapted sports, such as sitting volleyball and beep baseball

## Strength

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Chapter 4 features several examples of strength exercises, as well as tips on how to adapt them to your ability level.

## Balance

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There are several additional activities and modifications that can provide more opportunities to improve balance. Additionally, Chapter 4 features several examples of balance exercises, as well as tips on how to adapt them to your ability level.

When engaging in balance exercises, consider the following to make activities more or less challenging:

- Using a support when standing still or ambulating (e.g., wall, chair, bench, cane)
- Using a different base (e.g., foam pad, stability or Bosu ball, thick carpet, yoga/foam mat, tile or

- hardwood)
- Closing eyes to reduce sensory input (only do this if you have a support and/or spotter, in case you lose balance quickly and can't react to prevent a fall in time)

Along with Tai Chi, other water-based activities and various forms of yoga (e.g., traditional, seated) can also benefit balance.

## Flexibility

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Chapter 4 features several examples of flexibility exercises, as well as tips on how to adapt them to fit your ability level. As with improving your balance, multiple forms of traditional and adapted yoga can also help benefit your flexibility.

## Exercise and Everyday Activities Go Together

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Exercise can improve the quality of life of all older adults, including those with disability, especially in terms of day-to-day functioning and activities of daily living. Here are some additional examples of how endurance, strength, flexibility, and balance exercises can benefit your daily life.

## Endurance

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- Walk or push for longer periods of time
- Function without or with less assistance from caregivers and assistive devices

## Strength

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- Transfer (or transfer more easily) into and out of a wheelchair
- Improve ability and confidence in standing and sitting

## Flexibility

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- Protect against injuries and joint pain
- Maintain and improve range of motion, especially for those with asymmetrical mobility functioning (e.g. individual who uses a wheelchair and perpetually engages in only a forward pushing motion; individual with limb loss, arthritis, or other condition that causes more stress to be put on the dominant leg when walking or one leg weaker than the other that puts more stress on the stronger leg)
- Reduce risk of falls

## Balance

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- Reduce risk of falls and dependence on assistive devices
- Better navigate surfaces and environments that may not be traditionally accessible (e.g., uneven or slippery surfaces, incline or decline paths without hand rails)

## Resources

- Fall Injury Prevention (full article and videos): <http://www.nchpad.org/471/5730/Fall~Injury~Prevention>
- Balance Exercises: <http://www.nchpad.org/636/2603/Balance~Exercises>
- ABCs of Balance: <http://www.nchpad.org/1078/5494/Senior~Corner~~ABC~s~of~Balance>
- Inclusive Yoga: <http://www.nchpad.org/1263/5991/Inclusive~Yoga>





# CHAPTER 2: GET SET

## Identify Your Starting Point

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As you identify your starting point, consider how much time you spend sitting, as well as in other sedentary positions. Additionally, think about your own activity. When you are being active, what kinds of activities are you doing? What do you enjoy doing?

For the activity log, write down the types of activities you do, how much time you spend on them, and how intensely you feel you are working (e.g., leisure, moderate, or vigorous).

## Setting Your Goals

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Additional examples of short-term physical activity and exercise goals for older adults with disability may include:

- Today, I will research the most accessible public activity venues (e.g., parks, walking trails) in my community.
- This week, I will talk to the local public transportation agency to determine how best to get to and from physical activity and exercise venues and programs.
- By the time of sports league sign up, I will make sure I have all of the equipment I need to participate either by purchasing it or discussing with the league additional assistive devices I might need (e.g., for a bowling league, a ramp to help roll the ball).

Additional examples of long-term physical activity and exercise goals for older adults with disability may include:

- By this time in six months, I will have completed my first season of inclusive boccia without having missed any games.
- By this time next year, I will have run, walked, or pushed a 10k race.
- By this time next year, I will have improved my balance enough that I can walk with a cane or walker instead of using a manual or power wheelchair.

## Writing a Plan to Add Exercise and Physical Activity to Your Life

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Set yourself up for success. As you create plans and short- and long-term goals to obtain and increase exercise and physical activity in your life, consider what resources are most immediately at your disposal. If you live in a neighborhood that is accessibly designed, with curb cuts, wide, smooth, unbroken sidewalks, no low hanging brush, and adequate lighting, walking or pushing for a few minutes daily and building up from there may be a great option for you. If you live at or visit daily or most days a facility that includes a fitness center, then setting a goal to begin exercising there multiple times a week for a minimum amount of time may also be an excellent starting goal.

## **Talking with Your Doctor About Exercise and Physical Activity**

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If you have a disability or chronic condition, talking to your doctor prior to beginning or increasing your exercise and physical activity levels is a great idea. If you have not discussed these topics with your doctor before, you may feel unsure of how to bring them up, or worried that your doctor may not be sure how to help you, or whether or not physical activity and exercise will even be a good idea for you.

We understand that additional guidance and resources can help facilitate these conversations with your doctors and other health professionals about your health and ability level and, specifically, how adding or increasing exercise or physical activity may benefit you, as well as what considerations you may need to take based on their expertise and experience with you. To that end, the National Center on Health, Physical Activity & Disability's (NCHPAD) has created a series of #DocTalk resources. These resources are for doctors and other medical professionals and provide guidance on how to collaborate with their patients with disability to prescribe appropriate exercise and physical activity as medicine. Using these resources on your end can give you great ideas on how to discuss these concepts with your doctor. You can also share the resources with them to help them understand your desire to incorporate exercise and physical activity as part of your overall plan to maintain and improve your health. For more information, visit the #DocTalk portion of the NCHPAD website here: <http://www.nchpad.org/pledge/doctalk>.

If you want or need an additional resource to help you best communicate with your doctor, this video on, "How to Talk to Your Doctor", may also be helpful: <http://www.nchpad.org/1101/6021/How~To~~Video~Series>.

## **Getting the Right Shoes**

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Getting the right shoe can be especially important for individuals with certain disabilities and other adverse health conditions, such as diabetes and poor circulation. For these individuals, it is especially important to work with an expert to find a shoe that fits well and remains at peak performance during activity to ensure comfort, health, and continued engagement with exercise and physical activity. For additional help finding the right shoe, this article may provide some helpful tips: <http://www.nchpad.org/1168/5720/Choosing~the~Right~Athletic~Shoe>.

Some individuals may require more than just appropriate footwear to engage in exercise and physical activity. Using your own knowledge of your ability level, as well as expert input, consider additional equipment that may help you engage in physical activity. This could include appropriate mobility devices (e.g. wheelchairs, canes, walkers) and clothes and equipment that help regulate temperature and limit sweat build up. Learning about and obtaining all of the appropriate equipment you need to begin engaging in exercise and physical activity may be a perfect short-term goal to implement as you prepare to start exercising and engaging in more physical activity.

If you are just starting to use a wheelchair, or feel that one (or a new one if you already use a wheelchair) may help you better engage in exercise, consider the following resource to help select the chair that is best for you: <http://www.nchpad.org/97/715/Wheelchairs>.

Additionally, this video may also help pick out the wheelchair that is best for you: <http://www.nchpad.org/1101/5553/How~To~~Video~Series>.

## Finding a Personal Trainer Who's Right For You

Regarding trainers with knowledge of disability, also consider asking:

- Does the trainer have experience working with individuals with disability and chronic conditions? If so, which types, and is there overlap in his or her experience that matches your ability level?
- Is the trainer an American College of Sports Medicine (ACSM) Certified Inclusive Fitness Trainer (CIFT)? This certification provides trainers with knowledge and competencies to most expertly work with and program for individuals with a broad range of disability conditions.
- Does the trainer have experience with inclusive training? Working in an inclusive fitness facility?
- Can the trainer provide examples of adaptations and assistive equipment usage that will help you meet your physical activity and exercise goals?
- Does the trainer have access to inclusive exercise and physical activity venues and adapted equipment?
- Does the trainer seem to possess the knowledge and awareness necessary to provide you with tailored exercise guidance without making you feel overly taken care of?





# CHAPTER 3: GO

## Keys to Success

### Include Physical Activity in Everyday Life

In terms of making physical activity a priority, do not just think about it as an item on a list. If you have arthritis or joint pain, think of it as a way to alleviate the pain or keep it from getting worse. If you use a wheelchair, consider how that activity can help prevent injuries that you may be more susceptible to, such as pressure sores or injured rotator cuffs.

In terms of making physical activity easy, again, take advantage of the plans in your day that call for down time and incorporate elements of movement and other activity, whether it be walking or pushing while watching an activity, incorporating additional distance moved into planned errands, or actively finding stairs or an incline to ascend. If you use a wheelchair, do chair dips or some other form of movement to break up sedentary time. If you sit all day for work or other reasons and are able, incorporate a few sit-to-stand squats throughout the day to keep the blood flowing. If you plan on joining a gym or fitness center, ensure that it is inclusive of and accessible for your needs before signing up, thus guaranteeing that you will be able to show up and get to work right away, knowing what and how you want to exercise. Finally, it does not have to be a chore; if you already know of any form of physical activity that makes you happy, incorporate more of that throughout your day to improve your health.



There are several ways to make physical activity more social. You could join or start a walking club or bowling league, or encourage walking meetings at your workplace. If you are worried the existing routes or practices of such programs will not meet your needs, take it as an opportunity to educate other members and officials on how to build inclusion, such as by scouting routes that are relatively flat, wide, and safe prior to starting a walking club, or allowing the provision of bumpers and ramps for a bowling league. The resources at the end of this section may be especially helpful for these and other programmatic opportunities you seek to join, build, or change.

Finally, in terms of making it an interesting, fun, active decision, focus on incorporating more movement into your existing routines, especially those that occur daily and give you the most joy and motivation, as this will give you an opportunity for physical activity without forcing you to set aside a great deal of additional time for it as you begin. Also, consider new ways to do activities you already enjoy to make them more engaging and exciting. When you have down time, incorporate forms of physical activity. If you use a wheelchair, perform chair dips and transfers in and out of your chair

to provide upper body strengthening and functional mobility exercises. If you utilize other forms of assistive mobility devices, use them as balance aids and work on standing on alternating single feet. Consider other ways you can maximize your down time with the resources available to you to increase the overall amount of physical activity you participate in on a daily basis, and use these new plans to create new short-term goals.

Quick Tip:

Additionally, ask questions such as:

- Is the facility accessible?
- Are staff trained and/or certified to work with older adults and people with disability?
- Is there adaptive and assistive equipment?
- Are routes in and around the home and facility level, unbroken, smooth, well-kept daily, and wide?
- Does the pool feature multiple accessibility/entry options?

### **Plan for Breaks in the Routine**

Consider the following when it comes to traveling and hotels that may break up your routine:

- Before booking a hotel, call ahead and ask about their fitness facilities and amenities. For example, you may want to know if they have a pool and, if so, it has a lift or other means of accessible entry.
- You may also want to ask about the fitness center size and layout to determine if it will be navigable, as well as about types of equipment, such as free weights, adjustable cable columns, and a variety of cardio equipment, including a seated/recumbent bicycle or a Krank machine.
- If the hotel rents sporting equipment, such as bicycles or boats, ask about the variety of available equipment and whether or not some or all of it is accessible.
- Consider the area around your hotel. Does it feature accessible sidewalks and other walking routes and paths? Is the area safe and well lit? Are there parks, trails, or other activity venues nearby? If so, are they accessible from the hotel with or without the use of a car?
- Finally, consider activities and exercises, including those mentioned in Chapter 4, that you may be able to do in your room without need of a fitness facility

If you have a disability, you may face an increased likelihood to experience other negative health conditions, such as sickness or flare-ups. When creating a workout plan, discuss any negative health conditions you experience or have experienced with your doctor and other medical care providers and trainers. Make note of what you may experience based on your past and their advice, and work together to come up with secondary options and plans for breaks to ensure you maintain your exercise and physical activity momentum without exacerbating any negative conditions. While each negative medical instance may vary, have plans and expectations in place in terms of keeping yourself positive, estimating a timeline for when you may begin exercising or being physically active again, and considering how best to resume your program to get back on track as soon as you are able.

## Building up the Benefits

When it comes to new activities, get creative and consider all of the additional options at your disposal. Find and join a walking club, and ask to work with the planners to make sure the routes are inclusive. Join a recreational or community sports league, such as bowling, wheelchair basketball or tennis, golf, or bocchia, which you can participate in as is or with the aid of assistive equipment or rules. For bowling, you may use a ramp to assist in rolling the ball. For golf, you may get special permission to drive a cart on the course/closer to the greens and tee boxes than other players if you have a mobility impairment or fatigue quickly. Finally, take part in an exercise class, such as yoga or Zumba, and discuss with the instructor and other participants how to incorporate adapted and seated movements into the routine if you have trouble standing for long periods of time.

## Preventing Injury

If you have a disability, consider additional elements of your specific health level and disability to prevent injury or other negative impacts of exercise and physical activity. Discuss any concerns you have based on your own history with your medical and fitness professionals before you begin exercising. Explain or ask about any additional worries you have related to elements associated with exercise, such as body temperature regulation, fatigue, and balance. Additionally, if you use a wheelchair, be sure not to allow sweat to puddle and utilize clothes that do not hold/actively wick away moisture to avoid pressure sores.

While this addendum and the Exercise & Physical Activity Guide itself offer several excellent resources and guidance, you may find additional information to be helpful. To that end, consider the following as you begin to plan and engage in structured exercise and physical activity.

AARP Livable Communities archives: <http://www.aarp.org/livable-communities/archives/>

- AARP features a wealth of information on livable communities, which are “Great Places for All Ages.” Livable communities are planned and updated with the health and safety of all individuals in mind, and feature several opportunities for activity and non-motor transport and recreation for people of all ages and ability levels. The link above connects to an archive of all of AARP’s livable community topics, such as walkability, transportation, and health, which you may incorporate into your own daily life as you strive to be more physically active.

NCHPAD, Livable Communities: <http://www.nchpad.org/1226/5879/Livable~Communities>

Inclusive Walking Groups: <http://www.nchpad.org/1227/5880/Inclusive~Walking~Clubs>

- One great way to engage in physical activity while also reaping the benefits of social interaction is through walking groups. These groups are designed to give people a designated time and place to meet and walk. Utilize the linked resource to learn more about walking groups, including how to make them inclusive of all potential participants. Remember, “walking” can mean different things to different people based on how they get around, so keep an open mind as you create walking opportunities for all.



Additional Inclusion Resources: <http://www.nchpad.org/iChip/91/Planning~and~Leadership>

- Walking groups are not the only health promotion activities that can be made inclusive. Visit this resource for a list of additional articles on creating new and adapting existing programs to be inclusive of people of all ability levels, including in the form of inclusive fitness classes, walking meetings, and farmers markets.

14 Week Program: <http://www.nchpad.org/14weeks/>

- The 14 Weeks to a Healthier You! program is a physical activity and exercise program that can be tailored to any individual's needs, goals, and abilities. It can also be done anywhere, including at home, as long as the participant has access to the internet and an internet-accessible device (e.g., laptop, tablet, smart phone). Do not let not being able to get out of the house prevent you from being physically active!

Caregiver Self-Care: <https://www.caregiver.org/taking-care-you-self-care-family-caregivers>

- Earlier in the chapter, caregiving was mentioned as a potential barrier to having time to exercise. Caregiving is an incredibly important responsibility, but if you are a caregiver and are neglecting your own health, you may eventually experience negative or worsening health impacts yourself! To that end, the above resource provides an extensive overview of the importance of caregiver health, the potential negative impacts of neglecting your own health, and ways to maintain and improve your health through planning, communication, and activity. Also, consider the 14 Week Program (listed above) if you cannot leave your caregiving residence during the day, but do have time to engage in physical activity in that space. Every little bit of exercise and physical activity matter and can benefit you in your quest for better health.



# CHAPTER 4: SAMPLE EXERCISES

## Warm Up

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Even if you are not or cannot exercise your full body due to ability level and other factors, you can still benefit from and participate in warm up activities. If you cannot walk with a full gait and typically move at a slower pace or use an assistive device, dedicate at least five minutes to moving with that device to get your blood flowing and the muscles you can actively engaged. If you cannot do full body activities, consider elements of them that you can do. For example, if you cannot engage in the jumping component of jumping jacks, you can still move your arms up and down in the same motion as for full jumping jacks, thus stretching them out and getting them ready to work. Also, consider working with a fitness professional to come up with a warm up plan that fits your ability level and goals based on typical exercises they recommend for a warm up, their recommended adaptations, and your capabilities.

## Counting Your Steps

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While pedometers traditionally count steps, they can also be used by individuals who move with assistive devices to help get an accurate idea of how much they are moving in a day and to set goals on how to maintain and increase that number. For additional information on pedometers, including which models work best for individuals who use assistive devices like wheelchairs, check out this resource: <https://scalebackalabama.com/wp-content/uploads/Pedometers.pdf> Or: <http://www.nchpad.org/368/2062/What~is~a~Pedometer~and~How~Can~I~Benefit~from~Using~One~>.

## Safety

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Again, always consult with medical and fitness professionals prior to beginning an exercise or physical activity program. Research and ask about any contraindications or additional considerations specific to individuals with your disability and/or other condition(s). Also, share your history regarding any previous negative impacts related to a type or types of exercise or physical activity. Incorporating these elements at the beginning of a program will help better ensure your sustained health, success, and safety.

Always factor in the environment in which you are going to engage in physical activity. If you are going to walk or push around a neighborhood or other public place (e.g., park, mall, community center), ensure that the surfaces you will be on are smooth and unbroken, that curb cuts and other accessibility needs are in place, and that paths are free of debris and low hanging branches. Also ensure that there is safe lighting and plentiful options in terms of places to safely sit and rest throughout the route in case you need to take a break.

For more information on mall walking, check out this tip sheet: <https://go4life.nia.nih.gov/tip-sheets/mall-walking>.

## Ways to Gauge Your Effort

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Also consider that activity levels will vary from individual to individual based on the activity, intensity, and the individual's ability level. For example, an individual who uses a walker due to disability, chronic condition, or injury may put in much greater effort to walk up a hill at the same or even at a slower speed than someone who walks without a device or who uses a wheelchair. When determining the intensity of your activity, consider the Talk Test, regarding the ability to talk and sing during an activity, which is described at the end of the section.

## Strength

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The final point in the beginning of the section mentions balance improvement through lower body strengthening. An additional point to consider in relation to balance is that of the benefit of core strength. Lower body exercises can certainly help improve balance. However, and especially for those who do not use their legs, strengthening the core can also tremendously help balance, as a stronger core provides a greater ability to hold the upper body upright and remain balanced, especially when encountering uneven or rough navigation surfaces or other fall or trip hazards.

Another set of guidelines for recommended amounts of physical activity are the Physical Activity Guidelines for Americans (<https://health.gov/paguidelines/guidelines/>). These include recommendations for older adults and those with disability. In general, along with recommendations for working with health and fitness professionals to best sync your abilities with an exercise program that fits you, it provides guidance on the amount of endurance and strength exercise to strive for in a week. In general, it is recommended you achieve at least 150 minutes of moderate- or 75 minutes of vigorous-intensity endurance activity, or a combination of the two.

Additionally, it is recommended that you engage in strength training that targets all major muscle groups at least twice per week at moderate to high intensity. This could mean lifting weights twice a week and targeting all of your muscles, or working out more and targeting specific muscle groups in each workout, making sure to do exercises that benefit each at least twice a week and not on consecutive days.

Finally, and perhaps most importantly, the Guidelines remind you that some activity is better than nothing; even if you cannot meet these thresholds, any regular physical activity you engage in is better than none at all and can still yield benefits. For additional information on the Physical Activity Guidelines, visit <http://www.nchpad.org/618/2576/Physical~Activity~Guidelines~for~~Adults~with~Disabilities>.

## Safety

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Some of the exercises shown are done in a chair, while others are not. You may find it safer and/or more beneficial to engage in a seated or standing form of an exercise based on your goals, ability level, and what feels best. For example, if you have poor balance, you may benefit from doing a seated version of an exercise, or holding onto a base of support while performing the exercise. If you choose to use a wheelchair or other rolling chair instead of a stationary chair for seated exercise, be sure the wheels are locked or otherwise anchored to prevent falls and other unexpected movement or tipping.



Additionally, consider using a strap or spotter to help secure you in place in a chair if you are worried about your ability to remain upright and complete the exercise. Finally, if you are uncomfortable using any type of weight, perform the exercise with just your body, gradually building confidence until light weights, such as wrist weights or 1-pound dumbbells, work for you.

## Progressing

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Along with changing up weights and repetition counts, also consider the form of exercise you are engaging in. For example, if you initially do a seated exercise but gain more functional ability and confidence and are able, your progression may include trying the exercise in standing form. You may also consider changing the weights you use. For example, you may initially lift household items or use resistance bands, but progress to working with free weights or weight machines.

## Working with a Resistance Band

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A resistance band is an excellent piece of equipment because of its versatility. It can be tied off to an anchor point, such as a sturdy pole or large piece of furniture (e.g., the leg of a couch or bed frame), and then be pushed or pulled in all manners at all heights. You can also serve as your own anchor, holding one or both ends of the band in place and using various muscles to move the band.

An additional consideration when using a resistance band is that some individuals, such as those with spina bifida, may have a latex allergy and require a latex-free band or other resistance device. Be sure to inquire about band types and, specifically, whether or not they have latex, before you purchase or use them to keep yourself and others that may come in contact with the band safe.

## Working with Weights

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There are several items around the house that can be used as substitutes for classic dumbbells, weight plates, and resistance bands. Along with the resources provided, check out the following NCHPAD links for a better idea of what and how to use various home items for exercise:

- Exercising at Home: <http://www.nchpad.org/Videos/PLwMOBYmlSHaN0Pbu2xXymDUePlsTCsn7n>
- Home Exercise Videos: <http://www.nchpad.org/1426/6319/Home~Exercise~Videos>

## Hand Grip

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Individuals with limited hand and grip strength can still engage in exercises like the ones mentioned. Consider using different equipment, such as a soft foam ball, sponge, or pillow, which do not require as much compression but can still be gripped.

Also, even for those with no hand grip ability, there are alternative methods of gripping to ensure strength exercises can still be completed. Straps and activity mitts can be used to strap your hands to an item, such as a weight, bar, or strap handle, to allow you to engage your muscles through exercise without physically gripping the weight or lifting apparatus. Loops can be manually tied into resistance

bands to allow you to slip a hand, foot, arm, and/or leg in and perform exercises in that manner instead of gripping. Finally, ankle and wrist weights are weights bound by a casing and a Velcro strap that can be strapped around your wrist or ankle, allowing you to lift the weight by moving your body, removing the need to grip it. As mentioned earlier, always ensure that the material is free of any components, such as latex, to which you or others who may come in contact with it may be allergic.

## Wrist Curl

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Along with the pictured dumbbell, this exercise can be done with any of the other items discussed thus far, such as household items (e.g., cans, jugs, bottles), Velcro wrist weights, or a resistance band anchored below the wrist, such as to the leg of a chair or your own leg or foot.

## Overhead Arm Raise

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This exercise can be done with any manner of weights or resistance bands, including with soup cans, as pictured. For resistance bands, you may want to use the back of the chair or one of the back chair legs as an anchor point; if standing, you may be able to use your own feet as anchors. Additionally, if you are a wheelchair user, this exercise may also be done from your wheelchair or the type of chair pictured. If you transfer to another chair to perform the exercise, make sure it has the side supports you need to remain upright, and that the seat is padded to help prevent pressure sores or other negative health conditions that may arise from sitting in the same spot on a hard surface over time. Ensure that whatever chair you use is fixed in place and fully supportive of your body.

## Front Arm Raise

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This exercise can be done from a seated or kneeling position and using a variety of weight and resistance band types, including the pictured dumbbells. If you use a resistance band, you may use your feet or the front of your chair as an anchor point. If you are doing the exercise from a seated position, you may need to sit on the right or left edge of the chair and perform one arm lift at a time, alternating with each repetition or set of repetitions. This will help ensure that, even though seated, you are still able to achieve the full range of motion and maximum positive impact of this exercise without the sides of the chair preventing you from lowering the weight all the way.

## Side Arm Raise

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This exercise can be done sitting (as pictured) or standing, with a variety of available weight and resistance bands, including the pictured dumbbells. If you use resistance bands, you may be able to use your foot or the chair legs as anchor points.

## Arm Curl

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This exercise can be done standing or sitting using a variety of weight types, such as the dumbbells shown. If you perform the seated version of the exercise, you will need a chair without arms, and may need to sit on the left and right edges of the chair and do repetitions one at a time to ensure maximum range-of-motion of each repetition and, thus, full benefit of the exercise.

## Arm Curl with Resistance Band

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This exercise can be done from the shown seated position, or from a standing position. You can perform the standing version of the exercise in the same way as the seated version, with the resistance band underneath your feet and a sturdy, well-balanced stance.

## Seated Row with Resistance Band

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This exercise can be done using a variety of weights, as well as the pictured resistance band. Additionally, you can do a standing instead of a seated version, bending over at the hips and performing the row to your chest with no support, or with your non-row hand supporting you on a chair or other piece of furniture or equipment as you perform the row.

## Wall Push-Up

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Wall push-ups are an excellent option for individuals to engage the muscles targeted with a traditional push-up who may not be comfortable or able to get down on and up from the ground. If you are able to transfer to and from the ground, you may want to perform a traditional or adapted push-up, instead. An adapted push up, which may be a better option for individuals with minimal or no core or leg function, involves positioning the quadriceps or hips/waist on a raised platform and performing the standard push up motion.



Another option, especially for individuals who use wheelchairs or may have trouble standing and balancing, is a chair dip, which is outlined later in this guide.

## Elbow Extension

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This exercise can be done from a standing or seated position using a variety of weight and resistance band types, including the wrist weights shown. If using resistance bands, the heel or back legs of a chair may make good anchor points. If performing the seated version of the exercise, regardless of weight or band type, be sure you have enough room behind your head to lower the weight to the bottom of the appropriate motion arc.

## Chair Dip

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This exercise can be done in a chair like the one pictured, or in a wheelchair. While a chair without wheels is a sturdier option, if you use a chair with wheels, ensure they are firmly locked in place. This exercise can also be done using other furniture, such as the front of a couch or a bench. To perform that version, position your hands behind you on the couch with arms straight and legs forward, slowly lower yourself using your arms, hold the position, then push back up to starting position.

## Back Leg Raise

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This exercise can be performed using ankle weights or resistance bands. If using a resistance band, the back of the chair or other object you are using for balance and support may make a good anchor point. If you have minimal lower limb function and pool access, performing this exercise in the water may be beneficial due to the decreased weight requirements on your body in that setting.

## Side Leg Raise

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This exercise can be performed using ankle weights or resistance bands. If using a resistance band, the back of the chair or other object you are using for balance and support may make a good anchor point. If you have minimal lower limb function and pool access, performing this exercise in the water may be beneficial due to the decreased weight requirements on your body in that setting.

## Knee Curl

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This exercise can be performed using ankle weights or resistance bands. If using a resistance band, the back of the chair or other object you are using for balance and support may make a good anchor point. If you have minimal lower limb function and pool access, performing this exercise in the water may be beneficial due to the decreased weight requirements on your body in that setting.

## Leg Straightening

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This exercise can be performed using ankle weights or resistance bands. If using a resistance band, the front of the chair may make a good anchor point. If you have minimal lower limb function and a pool in which you can sit but remain with your head above water, performing the exercise in that setting may be more feasible and beneficial.

## Chair Stand

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If rising from a seated position with proper form is not feasible, consider adapting the exercise so that you can still complete it in some form. For example, if the distance from sitting to standing is too much to do repeatedly, consider using a bar chair or stool that is higher off the ground and puts less stress on your body. You can still gain some benefit from completing the exercise in this fashion. Also, consider using an aid, such as a cane, walker, or sturdy stool or chair, to assist you in standing through the use of your upper body muscles. While you may not be able to fully engage your core and leg muscles this way, helping them get some work in will be beneficial.

## Toe Stand

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This exercise can be done standing or seated. If you are unable to perform the standing version, sit with your feet flat on the ground and knees at a 90-degree angle and perform the exercise in that fashion. For added resistance, put an object like a large book across the tops of your knees. For both seated and standing versions, if the exercise is too easy using both feet, consider trying to use one foot.

## Core



Also consider exercises that target your core. Along with your legs, especially for those with limited or no use of their lower body, a strong core can help form a base for the rest of your body to remain upright and balanced, with the best posture possible.

If you are able to move safely to and from the ground or a raised bench, you can include exercises such as abdominal crunches and planks, shown here: <http://www.nchpad.org/1391/6235/Planks~101>



To target your lower back, from a standing or seated position you can perform back extensions with a resistance band anchored beneath your feet and wrapped around your lower back. Starting with your upper body bent forward, lean backwards as far as possible or until you reach an upright 90-degree angle. Hold, and then return to starting position. That is one repetition. If you are a member at a fitness center, they may also have a back extension machine.

Finally, to target your core and oblique muscles, you can perform trunk twists. Holding a weight at chest level with both hands, turn slowly to your left as far as you can or until you reach 90 degrees, pause then turn as far to your right as you can or until you reach 90 degrees from the starting position, pause, and return to center. That is one repetition.

Additional strengthening exercises:

- Strengthening Exercises: <http://www.nchpad.org/374/2096/Strengthening~Exercises>
- Seated Strengthening Exercises: <http://www.nchpad.org/2/1361/Seated~Strengthening~Exercises>

## Balance



Improved balance and fall prevention training skills can benefit all older adults. This includes those that do not use any form of assistive device, those who use walkers and canes, and those who use wheelchairs. Balance is not just about having strong, responsive legs and feet. It also involves core strength, body awareness, and strong reactive skills, which keep you upright regardless of what devices you may or may not use. For individuals with limited or no lower body function who use a wheelchair, core work is especially important, as the core serves in many ways as their firm base, as opposed to the legs and feet. A strong core for these individuals is incredibly important to maintain and improve balance skills and prevent falls and other injuries. See the end of the previous section to learn more about core strengthening exercises.



## Stand on One Foot

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This exercise can be done using a chair or other balance aid, such as a couch, bench, or walker. Additionally, if you have pool access, this exercise can be done in the water holding onto the pool wall to make it easier to balance while still providing benefits.

## Heel-to-Toe Walk

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This exercise can be done without any aids, with the assistance of another person, or using an assistive device such as a handrail, walker, or cane. Additionally, if you have pool access, you can perform this in a pool without aid, or using the pool wall or a floating lane marker to help you stay balanced.

## Balance Walk

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If you have pool access, performing this activity in the water may make it easier while still allowing you to fully complete the activity and work up to being strong and functional enough to perform it outside of the pool.

Not all individuals are capable of standing, but still have need of balance skills and abilities to remain upright with good posture as they move throughout the day using an assistive device such as a manual or power wheelchair. If this applies to you, try a variety of different timed sitting drills on different surfaces and objects. For example, if you have access to a Bosu ball, sit on top of the flat side with the rubber portion resting against the ground and try to keep any of the sides from touching the ground. Do this on a safe surface and with handrails, spotters, or other safety measures in place to prevent falls, with one, both, or no legs touching the ground.

Finally, refer to the balance videos and article listed in Chapter 1 for additional resources and ideas.

## Flexibility

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Flexibility is important not only as it relates to planned exercise and physical activity, but also to daily functioning. For example, some light movement followed by stretching to start the day may help prime your muscles in advance for all of that activity you will engage in throughout the day. For individuals who use assistive devices such as canes, walkers, and wheelchairs, routine stretching may help protect and preserve muscles and joints, such as rotator cuffs and back muscles used more by individuals in wheelchair users as they push

throughout the day. Additionally, for individuals with arthritis and other chronic joint pain, stretching can help alleviate and prevent additional and increased pain and help preserve range of motion and functionality.

## Neck

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No adaptations needed.

## Shoulder

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The shoulder stretch can also be done from a seated position. To perform the seated version of this exercise, sit with your back against a wall on a bench or other seating option pushed adjacent to the wall. You can also perform it while seated on the ground. Make sure that you are stable enough in the seated position to perform the stretch without shifting your body or otherwise falling while stretching.

## Shoulder and Upper Arm

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This exercise can also be done in a seated position as long as you have clearance behind your head and back. Make sure that you are stable enough in the seated position to perform the stretch without shifting your body or otherwise falling while stretching. If you are unable to grip the towel or other item being used to stretch for any reason, consider using cuffs, grip aids, Velcro, or a rope or band with loops tied in one or both ends to allow you to complete the stretch.

## Upper Body

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This exercise can also be performed from a seated position. Either position a chair close enough to the wall that you can safely lean into it without compromising your balance, or find a wall with the area beneath it open under which you can position a chair. You can also perform the exercise on the ground, either lying down or crouched on your knees, slowly walking your hands out, holding that position, and then walking them back to the starting point.

## Chest, Back 1, Back 2, Upper Back:

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No adaptations needed.

## Ankle

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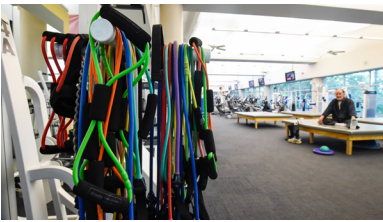


You can also perform ankle circles. From the same position, move your ankle in a circular motion until you are back at the starting point. Then, move it in a circle in the other direction. If you have minimal function in your ankle, you can also sit with one leg at a right angle on the ground, lift and cross your other leg over it at a perpendicular angle, and carefully move your ankle back and forth in a circular motion with your hand.

Additional examples of seated stretching: <http://www.nchpad.org/11/43/Seated~Stretching>

## About Floor Exercises

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Individuals who use a wheelchair or other assistive device may face even more difficulty in transferring to and from the floor or a floor-like surface, such as a raised cushioned bench. For additional guidance on how to transfer, specifically from a seated position to the floor and back, check out the following article and accompanying video: <http://www.nchpad.org/1101/6020/How~To~~Video~Series>

All floor exercises can also be done on raised benches or mats, like the one pictured in the first two images of this article: <http://www.nchpad.org/1391/6235/Planks~101>

## Back of Leg (floor or seated)

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This exercise can also be done from a seated position. Simply lean forward, grip the leg you wish to stretch, and slowly lean back and pull the leg upwards until you feel a comfortably noticeable stretch. If you have trouble reaching or holding your leg, use a strap, towel, band, or other device you can wrap around your leg.

If you need additional assistance to perform this version of the exercise, you can use a strap, towel, band, or other device as a wrap around the ball of your foot that you can pull on to slowly, safely pull yourself forward.



## Thigh (floor or standing)

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If you have trouble reaching or cannot reach your foot from the lying position, use or get someone to help you use a strap, band, or other device to help you pull up and stretch out the thigh.

If you have trouble reaching or cannot reach your foot from the standing position, use a strap, band, or other device wrapped around the foot to give you a longer reach and still allow you to stretch the thigh.

## Hip

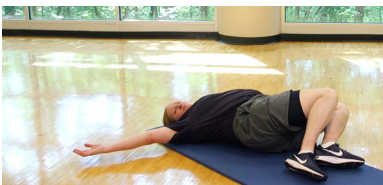
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If you have trouble keeping your feet/lower body in place, consider using a strap or other fixed point to help stabilize them so you can complete the stretch as recommended.

## Lower Back

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If you have trouble keeping your feet/lower body in place, consider using a strap or other fixed point to help stabilize them so you can complete the stretch as recommended.

## Calf

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This exercise can also be performed from a seated or ground position by reaching and pulling back on the ball of your foot using your hands or a towel, resistance band, or other assistive device.

## Buddy Stretch



This exercise can also be done off of the floor, and with a partner in a different position. For example, you can do this with someone standing while you are seated and strapped into a chair that is locked in a fixed position, creating the same effect as pushing and pulling against the other person's body but without being in the pictured ground position.





# CHAPTER 5: HOW AM I DOING?

## Test Yourself

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When performing any self-assessment activity, always perform the same test from month to month if at all possible. For example, for endurance, use the same route and, if possible, perform it in the same weather conditions. Also factor in changes; if you used an assistive device such as a walker the last time and are now using a cane or no device, your time may be slower, even though you are making strength and functionality improvements that are not reflected by a time trial. As another example, if you are performing an upper body strength test, use the same time limit, weight and weight type, and same exercise.

## Endurance

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If you need additional guidance in picking a fixed course, or want something a bit longer than, for example, the front door to the mailbox, the following resources regarding planning inclusive routes may be helpful. They may also inspire you to develop additional endurance activity options for yourself and others that are fully inclusive of all potential participants, regardless of ability level or assistive device usage.

- Inclusive Walking Clubs: <http://www.nchpad.org/1227/5880/Inclusive~Walking~Clubs>
- Complete Streets: <http://www.nchpad.org/1228/5881/Complete~Streets>
- Livable Communities: <http://www.nchpad.org/1226/5879/Livable~Communities>
- #HowIWalk: <http://www.nchpad.org/howiwalk/>
- Let's Go! Guidelines for Inclusive Road Races: <http://www.nchpad.org/fppics/InclusiveRoadRacesBrochure.pdf>

## Upper-body Strength

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Arm curls are a great choice for an activity here, as they can be done seated or standing with a variety of weight types. When testing, be sure to perform the exercise in the same manner as the previous month. For example, you may do the exercise while standing and curling both arms at the same time for two minutes, or seated, curling with your right arm for one minute and your left for the next minute. Make sure to test in the manner that is best for you, and to repeat the test in the same manner next month.

If curls are not feasible for you, consider other options that may better fit your ability level, such as chair dips or whatever form of push-up you prefer. Again, perform these exercise tests in the same manner each time to determine how much progress you have made.

## Lower-body Strength

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Traditional chair stands may be too difficult, even after you have been exercising for a while. Thinking



back to the concept of progression, you may test one month using a walker as an aid to stand, and set a goal to do more chair stands with the walker the next month. Your goal after that, based on your progression and level of functionality and confidence, may be fewer chair stands, but without an assistive device.

Additionally, for some individuals with little or no lower body functionality, consider different types of activities that may target and show gains for other areas of the body. Consider a functional activity, like transferring into and out of a wheelchair as many times as safely possible in a defined time period, and set a baseline and then measure your improvement the next time you test. Or, if you are comfortable transferring to and from the floor or a raised bench, test your core strength by seeing how many abdominal crunches you can do in a set period of time. You may also test your core doing a form of the back extension exercise.

## Balance

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Again, remembering the concepts of progression, your best baseline and follow-up measure may be standing with one hand, or even finger, on a chair or other support for as long as possible. Additionally, you may incorporate elements like standing barefoot, or on a harder or softer surface (e.g., a tile floor versus a foam pad) to make balancing easier or harder. The key focus should be on improving each month and “graduating” to moves that require more functional balance.

Additionally, consider balance activities that test your levels of core strength and functioning. Instead of standing on one foot, try sitting with no supports for a set period of time. If that is too easy, try sitting on a Bosu ball with the unstable side on the floor with both, one, or no feet on the ground, and see how long you can keep the sides from touching. Be sure to have a spotter or nearby support to grab onto in case you fall, as well as a soft surface to land on.

## Flexibility

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Also consider ways to test your upper body flexibility. For example, test your shoulder flexibility by doing the shoulder and upper arm stretch and having a partner measure the distance between your hands (if they cannot reach one another) or how far they overlap (if they can reach). Check again next time to see if your shoulder flexibility has improved and/or gotten easier.

### Other Ways to Measure Progress

- You are less reliant on an assistive device, or ready to use a device that provides less support (e.g., going from a walker to a cane)
- It has become easier to transfer into and out of a wheelchair
- You can push or walk up a hill or other incline without feeling as tired as you have previously

# CHAPTER 6: HEALTHY EATING

## Tips for Healthy Eating

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Beyond these recommendations, each individual has unique preferences and needs. Individuals with certain disabilities and other conditions may also have additional dietary considerations based on such factors as their physical ability levels and any medications or supplements they take. For example, individuals who have trouble chewing or swallowing may need to pay extra attention to the consistency of their foods. They may prefer to have their fruits and vegetables finely chopped, mashed, or juiced to ensure they are more easily consumed and do not present a choking hazard.

Several other factors that impact nutrition may be associated with disability and medication. These include increased likelihoods for such conditions as weakened and/or thinning bones, skin wounds, constipation, diarrhea, and other bladder/bowel dysfunction, dry mouth, and memory loss and other cognitive effects, which may inadvertently cause the skipping of meals or taking of supplements and medications. Paying closer attention to your nutrient and fluid intake can benefit these conditions. If you have a specific disability or experience any of these or other chronic or temporary conditions, discuss potential dietary changes with your doctor and/or a registered dietitian.

Additionally, these resources of inclusive nutrition articles and videos may also have specific answers to questions you are looking for related to your nutrition needs and goals:

- Articles: <http://www.nchpad.org/Articles/12/Nutrition>
- Videos: <http://www.nchpad.org/Videos/PLwMObYmlSHaOf1nFVw2g3CD29pxkWBbOn>

## Drinking Enough Fluids

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There are several additional benefits and in some cases need for intentional fluid consumption to ensure maintained and improved health and well-being. Water and other fluids carry nutrients and oxygen to cells, help metabolize food into energy, and help regulate body temperature and blood circulation. Consuming water and other healthy fluids prior to meals can also help curb your appetite and prevent overeating.

Additionally, some individuals with certain disabilities and other chronic conditions, as well as those on certain medications, may experience additional factors that contribute to the need to consume fluids. For example, individuals that may experience constipation due to limited mobility and/or medication or supplement use may benefit from increasing fluid (and dietary fiber) intake to relieve symptoms. Other individuals who may experience swallowing difficulties, such as those with Down syndrome, may benefit from adding a thickener to the beverage they are consuming. Finally, those who experience a range of health conditions, such as sweating, vomiting, diarrhea, or increased temperature, may need to consume additional fluids beyond the daily recommendation for their age and gender.

For these and other reasons, keep note of your daily water consumption, and strive to consume the

recommended amount based on your health and any disabilities or conditions you have. Carry a water bottle with you throughout the day and keep it refilled so that you can stay hydrated and maintain and improve many elements of your health through proper fluid consumption.

For additional information on water and fluid consumption, these resources may be helpful:

- Water: The Essential Nutrient: <http://www.nchpad.org/1242/5911/Water~~The~Essential~Nutrient>
- The Basics of Water: <http://www.nchpad.org/91/688/Water>

## Eating Out

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Along with the tips provided in the guide, there are a few other ways you can work with restaurants to enjoy your dining out experience without sacrificing your nutritional health.

- Ask for a low-calorie, low-carbohydrate, gluten-free, or other form of health-conscious menu
- Ask about and/or research the restaurant in advance to determine the nutritional content of all options to find the ones that best fit your diet
- If you have a very strict diet but still want to enjoy the social aspects of dining out with friends, family, and others, discuss your dietary restrictions with the restaurant and ask if they can prepare a non-menu meal that fits; alternatively, ask if you can bring some of your own food, such as your own protein or homemade dressing, and use it to top a kitchen-prepared healthy salad

Carbohydrates are always an important nutrient to consider, especially when dining out. “Empty” and “hidden” carbs can greatly increase the calorie content of meals, and are often used in restaurant and fast food in the forms of such items as dressings, sauces, breading, and sugary offerings. There are both “good” and “bad” carbs, and avoiding and restricting your intake may help you manage and improve your weight and health and prevent developing or lessen the impact of such conditions as type II diabetes.

These resources may help you learn more about lowering your risk of or managing diabetes through nutrition, and can be put into practice at home and when dining out:

- How to Lower Your Risk: <http://www.nchpad.org/593/2540/Type~2~Diabetes~~How~to~Lower~Your~Risk>
- Eating Well for Diabetes: <http://www.nchpad.org/288/1803/Eating~Well~for~Diabetes>
- Good Carbs and Bad Carbs: <http://www.nchpad.org/1351/6168/Good~Carbs~and~Bad~Carbs>

The following resources may also help you in determining how to make low-calorie and low-carbohydrate decisions when eating out:

- Tips for Eating Out, Low Calorie: <http://www.nchpad.org/1438/6343/Tips~for~Eating~Out>
- Tips for Eating Out, Low Carb: <http://www.nchpad.org/1365/6183/Tips~for~Eating~Out~~~Low~Carb>



## Dietary Supplements

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Consuming appropriate amounts and types of nutrients and vitamins is incredibly important for living a healthy life. Individuals with a variety of disabilities and other conditions may face nutrient imbalances and require additional nutrients, either via diet or in the form of supplements. Some examples of disability and nutrient needs include:

- Individuals with Alzheimer’s disease and others who experience memory loss and other cognitive deficits may benefit from a diet that is higher in antioxidants, which can come in the form of a variety of foods, including fruits (e.g., plums, blueberries, blackberries), vegetables (e.g., artichoke hearts, red cabbage), and nuts (e.g., pecans, walnuts), as well as from supplements.
- In general, antioxidants can also boost improve and maintain vision, heart health, immune function, and other factors.
- Individuals who use wheelchairs or spend an extended amount of time in a sedentary position are at an increased risk for developing pressure sores. This and other forms of skin breakdown may heal quick with an increase in multiple nutrients, including protein, vitamins A and C, omega-3 fatty acids, zinc, and water and other healthy fluids.
- As individuals age, their bone mineral density decreases and their risk for osteoporosis increases. Increasing the amount of calcium and vitamin D you consume can help prevent and prolong this from occurring.

These resources provide additional information on certain nutrients, including sources, benefits, and consumption needs:

- Nutrition for Healthy Aging: <http://www.nchpad.org/630/2596/Nutrition~for~Healthy~Aging>
- The Super Power of Antioxidants: <http://www.nchpad.org/546/2485/Nutrition~Spotlight~The~Super~Power~of~Antioxidants>
- The Calcium/Vitamin D Connection: <http://www.nchpad.org/559/2498/The~Calcium~Vitamin~D~Connection>
- Nutritional Considerations for Adults with Spina Bifida: <http://www.nchpad.org/777/4145/Nutrition~Spotlight~Nutritional~Considerations~for~Adults~with~Spina~Bifida>
- Healing and Preventing Pressure Ulcers: <http://www.nchpad.org/100/758/Pressure~Ulcers~Sores>

# CHAPTER 7: KEEP GOING

## **Strength Daily Record**

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For this worksheet, add any additional exercises you may have chosen based on resources provided in this guide, including those written in and those cited as additional outside resources. For example, if you chose to add abdominal crunches, planks, back extensions, and/or trunk twists, put those on the worksheet, too. For planks, you will want to note how long you held the plank, as opposed to the weight. For the weight component of the worksheet, if you do not know the exact measurement, write the type of equipment used (e.g., resistance band (noting the level of resistance or color), body weight, soup can). Finally, note whether you did a standing, seated, or floor version of the exercise.

## **Flexibility Daily Record**

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For this worksheet, add any additional exercises you may have chosen based on resources provided in this guide, including those written in and those cited as additional outside resources. For example, you may choose to add in the ankle circles movement. Also, make note of whether you used any assistive devices, such as any form of strapping device, to complete the exercise. Finally, note whether you did a standing, seated, or floor version of the exercise.

## **Monthly Progress Report**

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Remember the progression tips that have been discussed throughout both Exercise & Physical Activity: Your Everyday Guide from the National Institute on Aging and this guide. You do not necessarily have to keep doing the exact same form of test each month. For example, you may find it beneficial to reach a certain level of balance function on both feet, and decide to try and establish and improve on a new baseline of standing on one foot. Base how you progress on your confidence, physical ability, and input from your supporters.

## **Endurance**

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Use the resources provided throughout this guide to pick a route that is inclusive and accessible throughout its entirety. Ensure this route is clear of debris and low-hanging branches prior to testing. Utilize this same route each time to ensure consistency of your progress report and feasibility of completion.

## **Upper Body**

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Do arm curls in a way that suits you best. This may be standing or sitting, and curling at the same time or with one arm at a time. You may want to alternate curls, or curl with one arm for a set period of time, followed by curling with the other arm for the same set period of time. You may also want to use a different upper body exercise, such as a chair dip or some form of push-up (e.g., traditional, wall, on ground on knees or with hips/legs supported).

## Lower Body

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Remember, you can also perform chair stands with an assistive device, such as another chair, walker, or cane. Use the same device and form of movement each month. If you get to a point where you feel strong and stable enough, graduate to a less helpful device or no device at all, establish a new baseline, and test against that in each subsequent month.

## Functional/Core

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Add a spot on the worksheet for functional/core fitness. If you have limited or no use of your lower body and use a wheelchair, consider an exercise such as transferring to and from another piece of seating furniture or the floor and back as many times as you can in a set period of time. Also consider seeing how many or how long you can do a core exercise. For example, see how many abdominal crunches or back extensions you can do in two minutes, or how long you can hold a form of the plank position. Try and do more or hold the position for longer the next time you test.

## Balance

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Based on your level of function, standing on both feet with no support, or with limited support, such as with one finger on an assistive device like a chair or bench, may be a better test for you. If you feel somewhat confident in standing on one foot but not like you can do it entirely without aid, try this on each foot with limited use of an assistive device or other balance aid. If you have limited or no use of your lower body, try sitting on the flat hard part of a Bosu ball, with the unstable part on the ground, for as long as possible without letting the sides touch the ground. You can do this with one, both, or neither of your feet on the ground.

## Flexibility

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You can test either upper or lower body flexibility. For example, you can test your shoulder flexibility by doing the shoulder and upper arm stretch and having a partner measure the distance between your hands (if they cannot reach one another) or how far they overlap (if they can reach). Or, you can perform a standing or sitting toe reach. Check again next month to see if your flexibility has improved and/or gotten easier.

## Additional FAQs

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**Q: Is it possible and safe to exercise or be physically active with a disability?**

A: Yes, it is not only possible, but also beneficial to your physical and mental health, social wellness, prevention of secondary conditions, improved ability to perform activities of daily living, and overall quality of life. Exercises and physical activities exist or can be adapted with the help of medical professionals, trainers, other professionals, assistive equipment, and well-designed environments to the ability level of any participant, including you!



**Q: I already have a disability, what is the point of exercising?**

A: There are still several benefits of exercise and physical activity if you have a disability. It can improve your current level of functioning and quality of life, and also keep you from acquiring other disabilities and secondary conditions. Performing activities in public places such as gyms or parks, and participating in programming such as sports, hiking, and dancing can help improve your social health by exposing you to others and make you feel more strongly a part of your community.

**Q: I want to be physically active, but I am not comfortable in a gym setting. What other options are there?**

A: There are several physical activity options that do not involve a traditional gym or fitness center. You can participate in a wide range of classes, such as group exercise, yoga, or water aerobics, and work with the instructor and other class members to learn how or create an inclusive opportunity for yourself, such as by performing seated exercises or yoga poses. You can also join a hiking group or walking club, or find a club or recreation sports team or league near you. If you live near accessibly designed spaces, you can simply start going for walks every day, and increasing the frequency and intensity as you get stronger to continue to improve your health. Finally, you can reap the same benefits of movement and physical activity by doing exercises in the comfort of your home.



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