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Increasing Physical Activity and Exercise in Adults with Disabilities



CARDI·OH
Ohio Cardiovascular Health Collaborative



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Purpose

Information is provided about the special considerations regarding the amount and types of physical activity for adults with disabilities, including those with limited mobility, those who use wheelchairs, those with vision or hearing impairment, and those with intellectual and developmental disabilities. Every person has unique exercise and health needs that will influence the approach to exercise.

Needs and Benefits

One in four adults in the United States (61 million) have a physical, sensory, or intellectual disability that greatly influences major life activities.¹

The most common types of disabilities are:¹

Mobility
(13.7%)

Cognition
(10.8%)

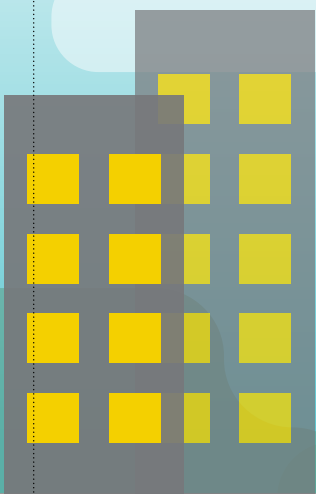
Independent Living
(6.8%)

Hearing
(5.9%)

Vision
(4.6%)

Self-Care
(3.7%)

According to the Centers for Disease Control and Prevention (CDC), people with disabilities are three times more likely to have a chronic disease including hypertension, cardiovascular disease, and diabetes. Almost 50% of all adults with disabilities do not participate in any aerobic physical activity.² All people, including those with disabilities, can benefit from regular physical activity. Individuals who participate in the recommended levels of physical activity have a reduced risk of premature mortality, non-communicable disease (such as coronary heart disease, hypertension, cancer, and diabetes mellitus), obesity, anxiety, depression, dementia, musculoskeletal disorders, better cardiovascular fitness, and good health-related quality of life.^{3,4}



Activity Types

There are three main types of physical activity that contribute to diverse health benefits: aerobic, muscle-strengthening, and bone-strengthening.



AEROBIC ACTIVITY

is an endurance activity, also referred to as cardio activity, that involves constant movement of the large muscles.



MUSCLE-STRENGTHENING

activity includes resistance training and weight lifting.



BONE-STRENGTHENING

includes weight-bearing or weight-loading to promote bone growth.³ Exercise to improve flexibility and balance is also recommended for all adults.

Recommended Guidelines for Adults

The CDC³ recommends that all adults who are able should participate in aerobic physical activity each week, for at least:

1. 150-300 minutes of moderate-intensity, 75-150 minutes of vigorous-intensity activity, or an equivalent combination of moderate-to-vigorous-intensity activity.
2. Moderate or greater intensity muscle-strengthening activities with involvement from all major muscle groups on 2 or more days a week.
3. Older adults should do multicomponent physical activity that includes balance training as well as aerobic and muscle-strengthening activities.

General Physical Activity Considerations for Persons with Disabilities

Health professionals should work together with people with disabilities to design individualized physical activity plans to help them stay active.³ An assessment of the ability to participate in different types and amounts of physical activity can be done by the primary care team and often includes a referral to a physical, occupational, speech or rehabilitation therapist for assessment and treatment.¹

Prior to prescribing physical activity, an individual may need the following safety considerations:

- A verbal consultation
- A slow start and increase in small increments
- A physical assessment
- A safe environment (e.g. removing trip hazards)
- A warm-up
- A consideration of adaptations to accommodate balance or physical ability

The recommended amount and type of physical activity may vary based on the person's interests and abilities.⁶ A summary of the evidence for physical activity and considerations for people with disabilities can be found at <https://www.nap.edu/read/11819/chapter/9#129>.

Physical activity should be individualized and based on health and function instead of disability. It also should take into account a person's participation in general life activities and consider factors such as motivational level and depression. The National Center on Physical Activity and Disability www.nchpad.org has several resources on making physical activity accessible to people of all abilities.

The healthcare professional should work with the individual to identify and remove barriers to participating in regular physical activity. The CDC provides guidelines, recommendations, and resources for healthcare providers to use when counseling people with disabilities on increasing their physical activity: <https://www.cdc.gov/ncbddd/disabilityandhealth/pa.html>.

A useful fact sheet for health professionals to address barriers to physical activity in adults with disabilities can be found at: http://www.acsm.org/docs/default-source/files-for-resource-library/increasing-physical-activity-for-adults-with-a-disability.pdf?sfvrsn=efd29906_2.

Exercise Considerations for Adults with Disabilities

Limited Mobility

For adults using canes and walkers, maintaining balance and strength in lower limbs is important for participation in activities of daily living, as well as participating in common aerobic exercise, such as walking or bicycling.

Lower-limb exercise, such as walking, or bicycling, and swimming has been shown to improve balance, muscle strength, and cardiovascular endurance.⁷ Exercises for improving balance and strength in adults using canes and walkers can be found at: <https://www.canes.on.ca/blog/14-exercises-improve-balance-and-strength> and <https://www.mobility-aids.com/work-those-mobility-aids.html>. The “Sit to Stand” exercise with a stable surface (e.g., chair or bed) is an excellent exercise to increase muscle strength of legs in older adults. (Sit to Stand).



Adults Who Use Wheelchairs

Strength training exercise to build strength in the arms, chest, core, and legs are recommended for adults who use wheelchairs. Demonstrations of whole-body strength exercises for people who use wheelchairs can be found at: <https://www.christopherreeve.org/blog/daily-dose/top-3-effective-wheelchair-workouts>.

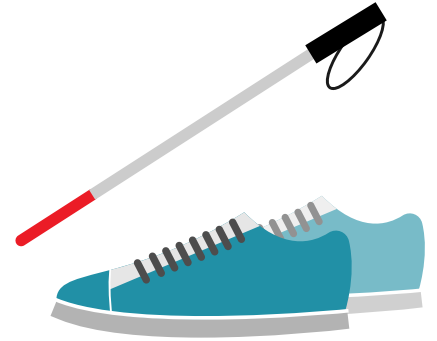
Examples of upper body strength exercises include seated shoulder presses using weights or elastic fitness (resistance) bands. Doing these for a longer period of time can also provide aerobic activity. Seated jumping jacks or air boxing also are good aerobic exercise. Informative video demonstrations of fitness exercises for wheelchair users are found at: <https://www.nchpad.org/374/2096/Strengthening-Exercises> and <https://www.nchpad.org/1293/6042/I-FIT-Tips>.

To increase flexibility, many common yoga and tai chi maneuvers can easily be adapted to suit people who have mobility issues or use a wheelchair. Examples of these adapted yoga and tai-chi movements are found at: <https://dailycaring.com/seated-tai-chi-for-seniors-3-simple-routines-improve-flexibility-and-well-being-video/> and at <https://www.nchpad.org/1263/5963/Inclusive-Yoga>.



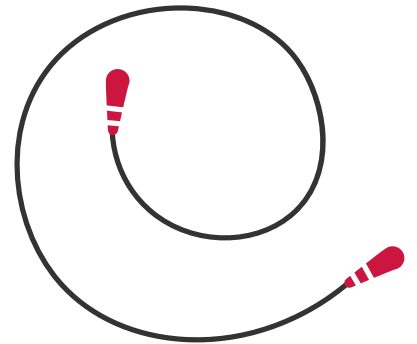
Blind Adults or Adults Who Have Low Vision

Blind adults or those with low vision can do aerobic and strength training exercises at home, a gym, or a community-based setting. Depending on the extent of the vision loss, walks in the neighborhood can be one of the best forms of physical activity. Yoga and dance also are good types of exercise for adults with vision impairment. Suggestions for home exercises are provided at: [Exercise at Home and Outside of the Gym: Exercise in Disguise](https://visionaware.org/everyday-living/recreation-and-leisure/sports-and-exercise/exercise-5866/1235/) and <https://visionaware.org/everyday-living/recreation-and-leisure/sports-and-exercise/exercise-5866/1235/>.



Deaf Adults or Adults with Hearing Loss

Adults who are Deaf or hard of hearing can participate in both home-based and gym-based/community-based exercise routines. Closed-caption television and DVDs are useful to lead individuals through both home-based aerobic and strength training workouts. A home yoga program specifically designed for adults with hearing loss can be viewed at: [YOGA for Hearing Loss](#).



Adults with Intellectual and Developmental Disabilities

Adults with intellectual and developmental disabilities (IDD) may benefit from exercising with a support person, as this person can provide social support, physical assistance, and may also serve as a model for proper form. Lack of social and community support is reported as a common barrier to exercise by adults with IDD, as is a lack of financial ability to pay for transportation and program fees to physical activity opportunities in community.^{8,9} Local YMCAs often offer low cost group exercise and dance classes that can benefit people with IDD. Health Matters, an exercise and nutrition program designed to meet the needs of adults with IDD, focuses on cardiovascular, strength, and balance exercises. Using short, simple instructions, breaking exercises down into smaller components, modeling, and providing feedback are effective strategies for teaching new exercises to people with IDD.¹⁰



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Partners



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