

# Physical Activity Explanations and Guidelines

## Aerobic Activity

In this kind of physical activity (also called an **endurance activity** or cardio activity), the body's large muscles move in a rhythmic manner for a sustained period of time. Brisk walking, running, bicycling, jumping rope, and swimming are all examples.

Aerobic activity causes a person's heart to beat faster than usual.

Aerobic physical activity has three components:

- **Intensity**, or how hard a person works to do the activity. The intensities most often examined are moderate intensity (equivalent in effort to brisk walking) and vigorous intensity (equivalent in effort to running or jogging);
- **Frequency**, or how often a person does aerobic activity; and
- **Duration**, or how long a person does an activity in any one session.

Although these components make up a physical activity profile, research has shown that the total amount of physical activity (minutes of moderate-intensity physical activity, for example) is more important for achieving health benefits than is any one component (frequency, intensity, or duration).

## Muscle-Strengthening Activity

This kind of activity, which includes **resistance training** and lifting weights, causes the body's muscles to work or hold against an applied force or weight. These activities often involve relatively heavy objects, such as weights, which are lifted multiple times to train various muscle groups. Muscle-strengthening activity can also be done by using elastic bands or body weight for resistance (climbing a tree or doing push-ups, for example).

Muscle-strengthening activity also has three components:

- **Intensity**, or how much weight or force is used relative to how much a person is able to lift;
- **Frequency**, or how often a person does muscle strengthening activity; and
- **Repetitions**, or how many times a person lifts a weight (analogous to duration for aerobic activity). The effects of muscle-strengthening activity are limited to the muscles doing the work. It's important to work all the major muscle groups of the body: the legs, hips, back, abdomen, chest, shoulders, and arms.

## Bone-Strengthening Activity

This kind of activity (sometimes called weight-bearing or weight-loading activity) produces a force on the bones that promotes bone growth and strength. This force is commonly produced by impact with the ground. Examples of bone-strengthening activity include jumping jacks, running, brisk walking, and weight-lifting exercises. As these examples illustrate, bone-strengthening activities can also be aerobic and muscle strengthening.

## Examples of Moderate and Vigorous-Intensity Aerobic Physical Activities and Muscle and Bone Strengthening Activities for Children and Adolescents

Type of Physical Activity	Age Group Children	Age Group Adults
Moderate– intensity aerobic	<ul style="list-style-type: none"> <li>• Active recreation, such as hiking, skateboarding, rollerblading</li> <li>• Bicycle riding</li> <li>• Brisk walking</li> </ul>	<ul style="list-style-type: none"> <li>• Active recreation, such as canoeing, hiking, skateboarding, rollerblading</li> <li>• Brisk walking</li> <li>• Bicycle riding (stationary or road bike)</li> <li>• Housework and yard work, such as sweeping or pushing a lawn mower</li> <li>• Games that require catching and throwing, such as baseball and softball</li> </ul>
	<ul style="list-style-type: none"> <li>• Active games involving running and chasing, such as tag</li> <li>• Bicycle riding</li> <li>• Jumping rope</li> <li>• Martial arts, such as karate</li> <li>• Running</li> <li>• Sports such as soccer, ice or field hockey, basketball, swimming, tennis</li> <li>• Cross-country skiing</li> </ul>	<ul style="list-style-type: none"> <li>• Active games involving running and chasing, such as flag football</li> <li>• Bicycle riding</li> <li>• Jumping rope</li> <li>• Martial arts, such as karate</li> <li>• Running</li> <li>• Sports such as soccer, ice or field hockey, basketball, swimming, tennis</li> <li>• Vigorous dancing</li> <li>• Cross-country skiing</li> </ul>
Vigorous– intensity aerobic	<ul style="list-style-type: none"> <li>• Games such as tug-of-war</li> <li>• Modified push-ups (with knees on the floor)</li> <li>• Resistance exercises using body weight or resistance bands</li> <li>• Rope or tree climbing</li> <li>• Sit-ups (curl-ups or crunches)</li> <li>• Swinging on playground equipment/bars</li> </ul>	<ul style="list-style-type: none"> <li>• Games such as tug-of-war</li> <li>• Push-ups and pull-ups</li> <li>• Resistance exercises with exercise bands, weight machines, hand-held weights</li> <li>• Climbing wall</li> <li>• Sit-ups (curl-ups or crunches)</li> </ul>
	Muscle- strengthening	

## Bone-strengthening

- Games such as hopscotch
- Hopping, skipping, jumping
- Jumping rope
- Running
- Sports such as gymnastics, basketball, volleyball, tennis
- Hopping, skipping, jumping
- Jumping rope
- Running
- Sports such as gymnastics, basketball, volleyball, tennis

*Note:* Some activities, such as bicycling, can be moderate or vigorous intensity, depending upon level of effort

## Key Guidelines for Children and Adolescents

- Children and adolescents should do **60 minutes (1 hour) or more of physical activity daily**.
  - **Aerobic:** Most of the 60 or more minutes a day should be either moderate- or vigorous-intensity aerobic physical activity, and should include vigorous-intensity physical activity at least 3 days a week.
  - **Muscle-strengthening:** As part of their 60 or more minutes of daily physical activity, children and adolescents should include muscle-strengthening physical activity on at least 3 days of the week.
  - **Bone-strengthening:** As part of their 60 or more minutes of daily physical activity, children and adolescents should include bone-strengthening physical activity on at least 3 days of the week.
- It is important to encourage young people to participate in physical activities that are appropriate for their age, that are enjoyable, and that offer variety.

## Key Guidelines for Adults

- All adults should avoid inactivity. Some physical activity is better than none, and adults who participate in any amount of physical activity gain some health benefits.
- For substantial health benefits, adults should do **at least 150 minutes (2 hours and 30 minutes) a week of moderate-intensity, or 75 minutes (1 hour and 15 minutes) a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity**. Aerobic activity should be performed in episodes of **at least 10 minutes**, and preferably, it should be spread throughout the week.
- For additional and more extensive health benefits, adults should increase their aerobic physical activity to 300 minutes (5 hours) a week of moderate-intensity, or 150 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity activity. Additional health benefits are gained by engaging in physical activity beyond this amount.
- Adults should also do muscle-strengthening activities that are moderate or high intensity and involve all major muscle groups on 2 or more days a week, as these activities provide additional health benefits.

## Examples of Aerobic and Muscle-Strengthening Physical Activities for Older Adults. The intensity of these activities can be either relatively moderate or relatively vigorous, depending on an older adult's level of fitness.

### Aerobic

- Walking
- Dancing
- Swimming
- Water aerobics
- Jogging
- Aerobic exercise classes
- Bicycle riding (stationary or on a path)
- Some activities of gardening, such as raking and pushing a lawn mower
- Tennis
- Golf (without a cart)

### Muscle-Strengthening

- Exercises using exercise bands, weight machines, hand-held weights
- Callisthenic exercises (body weight provides resistance to movement)
- Digging, lifting, and carrying as part of gardening
- Carrying groceries
- Some yoga exercises
- Some Tai chi exercises

## Key Guidelines for Older Adults

### The following Guidelines are the same for adults and older adults:

- All older adults should avoid inactivity. Some physical activity is better than none, and older adults who participate in any amount of physical activity gain some health benefits.
- For substantial health benefits, older adults should **do at least 150 minutes (2 hours and 30 minutes) a week of moderate-intensity, or 75 minutes (1 hour and 15 minutes) a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity.** Aerobic activity should be **performed in episodes of at least 10 minutes**, and preferably, it should be spread throughout the week.
- For additional and more extensive health benefits, older adults should increase their aerobic physical activity to 300 minutes (5 hours) a week of moderate-intensity, or 150 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity activity. Additional health benefits are gained by engaging in physical activity beyond this amount.
- Older adults should also do muscle-strengthening activities that are moderate or high intensity and involve all major muscle groups on 2 or more days a week, as these activities provide additional health benefits.

### The following Guidelines are just for older adults:

- When older adults cannot do 150 minutes of moderate-intensity aerobic activity a week because of chronic conditions, they should be as physically active as their abilities and conditions allow.
- Older adults should do exercises that maintain or improve balance if they are at risk of falling.
- Older adults should determine their level of effort for physical activity relative to their level of fitness.
- Older adults with chronic conditions should understand whether and how their conditions affect their ability to do regular physical activity safely.

## Balance Activities for Older Adults at Risk of Falling

Older adults are at increased risk of falls if they have had falls in the recent past or have trouble walking. In older adults at increased risk of falls, strong evidence shows that regular physical activity is safe and reduces the risk of falls. Reduction in falls is seen for participants in programs that include balance and moderate-intensity muscle-strengthening activities for 90 minutes (1 hour and 30 minutes) a week plus moderate-intensity walking for about 1 hour a week. Preferably, older adults at risk of falls should do balance training 3 or more days a week and do standardized exercises from a program demonstrated to reduce falls. Examples of these exercises include backward walking, sideways walking, heel walking, and toe walking, and standing from a sitting position. The exercises can increase in difficulty by progressing from holding onto a stable support (like furniture) while doing the exercises to doing them without support. It's not known whether different combinations of type, amount, or frequency of activity can reduce falls to a greater degree. Tai chi exercises also may help prevent falls.

## Key Guidelines for Safe Physical Activity

**To do physical activity safely and reduce risk of injuries and other adverse events, people should:**

- Understand the risks and yet be confident that physical activity is safe for almost everyone.
- Choose to do types of physical activity that are appropriate for their current fitness level and health goals, because some activities are safer than others.
- Increase physical activity gradually over time whenever more activity is necessary to meet guidelines or health goals. Inactive people should "start low and go slow" by gradually increasing how often and how long activities are done.
- Protect themselves by using appropriate gear and sports equipment, looking for safe environments, following rules and policies, and making sensible choices about when, where, and how to be active.
- Be under the care of a health-care provider if they have chronic conditions or symptoms. People with chronic conditions and symptoms should consult their health-care provider about the types and amounts of activity appropriate for them.

Source: <http://health.gov/paguidelines/guidelines/>