

# Exercise for Healthy Aging - SMART Goal & FITT Principle

## Create Your Own Healthy Aging Exercise Program

Start your brain health exercise program by identifying a **SMART** goal.

**Write:** **1)** a specific FITT exercise you feel meets your needs, **2)** how you will measure it, **3)** how achievable is it to accomplish by your target date. Also, write who will support you, and obstacles and solutions.



- SMART goals are **S**pecific, **M**easurable, **A**ttainable, **R**elevant, and **T**ime-bound.

## Use the FITT Principle

- F. **Frequency:** number of times per week to do type of exercise healthy aging.
- I. **Intensity:** how hard workout must be for healthy aging.
- T. **Time,** or duration, refers to how many minutes or repetitions of an exercise are needed at a specified intensity during any one session for healthy aging.
- T. **Type** refers to what kind of exercise (aerobic, muscle-strengthening, balance, flexibility) should be performed to improve the components of healthy aging.

## Benefits of Exercise from the 2018 Scientific Report for the National Physical Activity Guidelines

- **Evidence Grade: Strong** by the Physical Activity Guidelines Advisory Committee
- **Physical Function:** improved physical function, more energy, less fatigue, reduced risk of falls and physical limitations (includes those with frailty and Parkinson's).
- **Mental Function:** improved cognition, attention memory crystalized intelligence, processing speed and executive control; reduced risk of cognitive impairment and Alzheimer's. Improved quality of life; reduced state and trait anxiety, reduced depressive symptom, improved sleep.

**FITT Principle** (asterisks (\*) indicate to see explanations and definitions (i.e., RM) on next pages)

	Aerobic	Strength	Flexibility & Balance
Frequency	≥3 days per week, trend to ≥5 days per week *	≥2 days week	2 to 3 days per week
Intensity	Moderate to vigorous **	50% to 80% of 1RM ****	To point of light to mild tension
Time	≥150 - 300 minutes/week (moderate-intensity) ***	5 to 30 repetitions, 3 to 14 seconds/rep, 1 to 3 sets	10 to 40 seconds per stretch or position
Type	Rhythmic, continuous physical activity	Body & external weights; all muscle groups *****	Stretch, balance, yoga, all major muscle groups

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## \* Frequency (aerobic)

To insure regular physical activity adults and older adults should consider doing 5 or more days each week of moderate-intensity exercise. An inactive person could start with a walking program consisting of 5 minutes of slow walking several times each day, 5 to 6 days a week. The length of time could then gradually be increased to 10 minutes per session, 3 times a day, and the walking speed could be increased slowly. Or, an older adult getting at least 30 minutes of moderate-intensity physical activity on 5 or more days each week.

## \*\* Intensity (aerobic exercise)

### Types of Exercise

**Moderate:** Walking briskly (3 miles per hour or faster, but not race-walking, water aerobics, bicycling slower than 10 miles per hour, doubles tennis and pickleball, ballroom, dancing, gardening.

**Vigorous:** race walking, jogging, running, swimming laps, singles tennis and pickleball, aerobic dancing bicycling faster than 10 miles per hour, jumping rope, hiking uphill or with heavy backpack, heavy gardening (digging or hoeing).

### Target Heart Rate

**Moderate:** a person's target heart rate should be 50 to 70% of his or her maximum heart rate. This maximum rate is based on the person's age. An estimate of a person's maximum age-related heart rate can be obtained by subtracting the person's age from 220. For example, for a 70-year-old person, the estimated maximum age-related heart rate would be calculated as 220 - 70 years = 150 beats per minute (bpm). The 50% and 70% levels would be:

- 50% level:  $150 \times 0.50 = 75$  bpm, and 70% level:  $150 \times 0.70 = 105$  bpm

**Vigorous:** a person's target heart rate should be 70 to 85% of his or her maximum heart rate. To calculate this range, follow the same formula as used above, except change "50 and 70%" to "70 and 85%". For example, for a 35-year-old person, the estimated maximum age-related heart rate would be calculated as 220 - 35 years = 185 beats per minute (bpm). The 70% and 85% levels would be:

- 70% level:  $150 \times 0.70 = 105$  bpm, and 85% level:  $150 \times 0.85 = 128$  bpm

### Perceived Exertion and Talk Test

6	No exertion at all
7	
8	
9	Very light
10	
11	Light
12	
13	Somewhat hard
14	
15	Hard (heavy)
16	
17	Very hard
18	
19	Extremely hard
20	Maximal exertion

9 corresponds to "very light" exercise. For a healthy person, it is like walking slowly at her or his own pace

11 can talk or sing

12 - 14 on the scale is moderate-intensity, but it still feels OK to continue. Can say a few words per breath.

17 "very hard" is very strenuous. A healthy person can still go on, but he or she really has to push himself or herself. It feels very heavy, and the person is very tired. Can only say a syllable or two per breath.

19 is extremely strenuous exercise. For most people this is the most strenuous exercise they have ever experienced.

See CDC web page: [www.cdc.gov/physicalactivity/basics/measuring/index.html](http://www.cdc.gov/physicalactivity/basics/measuring/index.html)

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## \*\*\* Time / Duration (aerobic and strength)

For aerobic exercise, there is an inverse relationship between time and intensity. Moderate-intensity should be done for 150 to 300 minutes/week. But similar benefits can be gained at vigorous-intensity for 75 to 150 minutes per week.

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.

NOTE: 11- to 20-minutes may be best minimum duration for brain health. And there may be an inverted U-shaped curve for brain health benefits - moderate-intensity may give better results than light- and vigorous/ hard intensities.

Strength training time should have 3 to 14 seconds per repetition, 1 to 3 sets per exercise at intensities of 80% 1RM (10 reps, 24 to 50 seconds) to 50% 1RM (30 reps, 90 to 150 seconds) per exercise. One to 3 sets of the exercises are recommended. If doing 2 or 3 sets alternate upper and lower body exercises – don't do an exercise back-to-back. **NOTE:** Four to 6 super slow repetitions with 14 seconds per repetition (10 seconds concentric phase [muscle fibers shorten] and 4 seconds eccentric phase [muscle lengthens] can be effective and safe.

## \*\*\*\* Percent of 1RM (strength training intensity, RM: repetition maximum)

1RM is the most weight that could be lifted, pushed, or pulled one time (one repetition).

80% of 1RM corresponds to being able to lift/push/pull a weight 10 repetitions (RM) to muscle fatigue or in proper form (same form as first repetition).

50% of 1RM corresponds to being able to lift/push/pull a weight 30 repetitions (RM) to muscle fatigue or in proper form (same form as first repetition).

## \*\*\*\*\* Types of Exercise (strength training)

Muscle-strengthening activities count if they involve all major muscle groups of the body: the legs, hips, back, chest, abdomen, shoulders, and arms. Exercises should exercise muscles on the front, back, upper and lower parts of the body; and involve lifting, lowering, pushing and pulling motions. Multiple joint exercises are time-efficient by using two muscle groups at the same time (i.e., chest press for pectorals and triceps). For greatest strength gains do exercises through the full range of motion (ROM) of the joint being used.

### Multiple joint exercises include:

- Leg press (hip & knee joints)
- Chest/bench press (shoulder & elbow joints)
- Seated rowing (shoulder & elbow joints)
- Overhead/military press (shoulder & elbow joints)
- Lat pull (shoulder & elbow joints)

### Single joint exercises (to get additional major muscle groups)

- Crunches/curl-ups (front of the body)

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- Back (back of the body)
- Leg extension (front of body, upper leg)
- Leg curl (back of the body, upper leg)
- Dorsiflexion (front of the body/lower leg, shin, anterior tibialis muscle)
- Calf press (back of the body)
- Hip adductor/abductor (inner/outer thigh)
- Rotary Torso (external & internal obliques, fan-like muscles that wrap around sides)

### Resources



#### Chapter 4: Active Adults

<https://health.gov/paguidelines/guidelines/chapter4.aspx>

#### Chapter 5: Active Older Adults

<https://health.gov/paguidelines/guidelines/chapter5.aspx>

#### 2018 Scientific Report for the National Physical Activity Guidelines

<https://health.gov/paguidelines/second-edition/report.aspx>

See Part F. The Scientific Base - Chapters 3. Brain Health and 9. Older Adults

[https://health.gov/paguidelines/second-edition/report/pdf/09\\_F-3\\_Brain\\_Health.pdf](https://health.gov/paguidelines/second-edition/report/pdf/09_F-3_Brain_Health.pdf)

[https://health.gov/paguidelines/second-edition/report/pdf/15\\_F-9\\_Older\\_Adults.pdf](https://health.gov/paguidelines/second-edition/report/pdf/15_F-9_Older_Adults.pdf)



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#### Position Stands

#### Quantity and Quality of Exercise for Developing and Maintaining Cardiorespiratory, Musculoskeletal, and Neuromotor Fitness in Apparently Healthy Adults: Guidance for Prescribing Exercise

[https://journals.lww.com/acsm-mse/Fulltext/2011/07000/Quantity\\_and\\_Quality\\_of\\_Exercise\\_for\\_Developing.26.aspx](https://journals.lww.com/acsm-mse/Fulltext/2011/07000/Quantity_and_Quality_of_Exercise_for_Developing.26.aspx)

#### Exercise and Physical Activity for Older Adults

[https://journals.lww.com/acsm-mse/Fulltext/2009/07000/Exercise\\_and\\_Physical\\_Activity\\_for\\_Older\\_Adults.20.aspx](https://journals.lww.com/acsm-mse/Fulltext/2009/07000/Exercise_and_Physical_Activity_for_Older_Adults.20.aspx)

**Go4Life** from the National Institute on Aging at NIH

<https://go4life.nia.nih.gov/exercises>

#### Link to this document is:

[www.healthedpartners.org/ceu/pa-healthyaging/Create\\_Healthy\\_Aging\\_Exercise\\_Program.pdf](http://www.healthedpartners.org/ceu/pa-healthyaging/Create_Healthy_Aging_Exercise_Program.pdf)