



Perspectives Cover Story

# How much exercise is good?



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The American College of Sports Medicine and the US Center of Disease Control and Prevention have jointly published recommendation for the amount of aerobic exercises that has proven health benefits.

The amount recommended is the minimum, not the goal for health benefits. The more a person exercises regularly, the better his or her aerobic fitness and health will be.

Those who suffer from any medical condition should get guidance from a health care professional regarding what type and the amount of exercise suitable for them.

Health Canada further suggests frequency for the 3 main types of exercises:

**Endurance**—continuous activity for health benefits for the heart, lungs, and circulatory system, 4-7 times a week.

**Flexibility**—stretching exercise for muscle and joint health, 4-7 times a week.

**Strength**—resistance training to improve muscle, bone, and posture, 2-3 times a week.

Measurable health benefits usually occur quickly. A program of regular exercise can improve fitness by 15-30% within 3-6 months.

## Recommendations for physical activity

Health Canada provides the following physical activity level: “To prevent weight gain and accrue additional health benefits of physical activity, 60 minutes of daily moderate intensity activity is recommended in addition to the activities required by a sedentary lifestyle. This amount of physical activity leads to an ‘active’ lifestyle.”

Statements from the American College of Sports Medicine/Centers for Disease Control and Prevention, American Heart Association, US National Institute of Health, the US Surgeon General, and the US Dietary Guideline 2005 conclude that:

- All adults should accumulate at least 30 minutes of at least moderate-intensity physical activity each day
- This is equivalent to walking about 1.5 miles at a pace of 3-4 miles per hour (about 2 ½ Km at 5-6 Km per hour)
- Doing more exercise and perhaps more strenuous exercise may produce additional health benefits
- Resistance exercise provides health benefits

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Health Canada website. www.hc-sc.gc.ca/fn-an/nutrition/reference/table/index\_e.html#eeer

Public Health Agency of Canada, *Physical Activity Guide*. www.phac-aspc.gc.ca/pau-uap/paguide/index.html

How to challenge your activity level	
If currently	Then
Not engaged in regular physical activity	start to incorporate a few minutes into each day, and slowly increase to at least 30 minutes of moderate activities.
Active but less than recommended levels	strive to adopt more consistent activity—at least 30 minutes 5 times a week of moderate activities, or at least 20 minutes 3 times a week of vigorous activities.
30 minutes 5 or more times a week of moderate activities	increase duration or frequency to get more benefits.
20 minutes 3 times or more a week of vigorous activities	continue to benefit



## Mental health benefits of exercise

A growing volume of research on the effects of physical activity on mood and depression shows that exercise improves mood, reduces symptoms of depression and anxiety, and leads to better functional capacity.

Other studies suggest that regular exercise may prevent the onset of depression. Physical activity also seems to improve physical functioning and enhance the sense of well-being among older people and those in poor health.

### Recent research findings

Patients with major depression who participated in an aerobic exercise program showed significant improvements similar to those achieved by psychotropic medications. Those with greater aerobic exercise capacity showed lower relapse rates compared to patients receiving medication.

A study examined 156 women aged 50 and over who were diagnosed with major depressive disorder. They were grouped to receive one of three treatment programs for 4 months—antidepressant medication only, exercise only, and a combination treatment of medication and exercise.

The exercise group worked out for 30 minutes at 70-85% of their maximum heart rate 3 times a week. At the end of the study, all three groups exhibited similar significant improvements. However, when the subjects were evaluated again 6 months after treatment ended, those who continued to engage in regular exercise after the study were less likely to relapse.

Another study on older individuals found that resistance training 3 times a week for 24 weeks resulted in a significant improvement in total mood scores and a reduction in confusion, anger, and tension.

Physical activity also seems to buffer age-related cognitive declines. A study of

766 women aged 70-81 found that the most active (25%) of the group displayed a 20% lower risk of developing cognitive impairment when compared with the least active (25%) of the group.

In another study of 4,500 adolescents, an increase in leisure time exercise (outside of a structured school-based program) was associated with fewer depressive symptoms over a 2-year period.

Collectively, recent studies confirm that exercise can exert positive mental health benefits across different age groups and populations of different health states.

The reduction in depression symptoms with exercise is greater for the older population and for those who were the most depressed at the start of the exercise program. Also, there is a progressive reduction in depressive symptoms with a longer duration of exercise participation and a greater frequency of exercise per week.

### How much exercise for mental health

In terms of how much exercise is good for mental health, a study found that improvements of vigor, fatigue, and total mood scores occurred after only 10 minutes of exercise at the 60%  $VO_{2max}$  intensity level. There was progressive improvement in confusion after 20 minutes, but no additional improvement over longer periods.

In Finland, a population study of 3,403 participants ranging from ages 25-64 years found that those engaged in moderate exercise 2-3 times a week experienced significantly less depression, anger, distrust, and stress compared to those who exercise less or not at all.

These results support the current recommendations that healthy adults should participate in a total of at least 30 minutes of moderate exercise daily, which

can be accumulated in bouts throughout the day.

### Possible mechanism

Proposed mechanisms for how exercise improves mood are speculative at present. One possible mechanism is biochemical changes such as an increased level of endorphins, which leads to subsequent binding of endogenous opioids to receptors in the brain and a sense of well-being.

Mental benefits may also be explained in psychological terms. Improved self-image and self-esteem as a result of exercise (weight loss and enhanced muscle tone, etc.) may reduce negative self-evaluation associated with depression. Exercise may also distract or serve as a time-out from daily hassles and stress.

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US Center for Disease Control website. [www.cdc.gov/nccddphp/dnpa/physical/index.htm](http://www.cdc.gov/nccddphp/dnpa/physical/index.htm)