

Exercise and Disease Prevention

If you are a regular exerciser, you know that working out helps your body feel better in many ways. It also has powerful health benefits.

In a review of the latest science, Booth, Roberts & Laye (2012) pointed to 35 [chronic diseases](#) and health challenges that regular exercise and physical activity can do much to prevent.

This highlights three of the major health benefits of exercise and physical activity. It was compiled by Galen A. Morton, MA, a doctoral student in exercise science at the University of New Mexico, Albuquerque, and Len Kravitz, PhD, program coordinator of exercise science and a researcher at the University of New Mexico, Albuquerque.

Hypertension

[Hypertension](#) represents a systolic blood pressure level of 140 millimeters of mercury (mm Hg) or more or a diastolic BP of 90 mm Hg or more ("prehypertension" means systolic BP is 120–139 mm Hg and diastolic BP is 80–89 mm Hg).

Hypertension is associated with a reduction in overall life expectancy, which at age 50 is 5.1 years longer for men who have normal blood pressure and 4.9 years longer for women, compared with adults of the same age who have high blood pressure (Mozaffarian et al. 2015).

Exercise is beneficial in preventing and/or managing hypertension. Millar and Goodman (2014) summarize research showing that 30–60 minutes of moderate to vigorous exercise 4–7 days per week leads to a decrease in systolic blood pressure (6.9–8.3 mm HG) and in diastolic blood pressure (4.9–5.2 mm HG) for hypertensive patients.

Osteoporosis

[Osteoporosis](#) is a decrease in bone mass and mineral density that makes the bones more porous and brittle. Physical inactivity is among the main osteoporosis risk factors, which also include family history, age, smoking, inadequate calcium intake, and more (Rector et al. 2009).

Rector and colleagues say the best osteoporosis interventions are weight-bearing endurance exercises, jumping activities, and [resistance](#) exercises that target all major muscle groups. The researchers also suggest that a resistance training program designed to increase lean body mass will help people whose primary modes of exercise are not impact-aerobic activities.

Because the body is very specific in how it adapts to exercise, only bones subject to loads will become stronger. Regular exercise alters the balance between bone formation and resorption (by which specialized osteoclast cells break down old bone cells to make way for osteoblasts, which stimulate new bone growth) (Booth et al.

2012). A mixed-loading exercise program that combines jogging and other low-impact loading activities with moderate to high-intensity resistance exercise (of major muscle groups) is effective in preventing and reducing osteoporosis risk (Booth, Roberts & Laye 2012).

Cognitive Dysfunction

[Cognitive functions](#) encompass brain activities that lead to knowledge, reasoning, memory, attention, and language for acquiring information. Research reviewers Hillman, Erickson & Kramer (2008) state that aerobic exercise and physical activity improve cognitive health across the lifespan. They say that in children, exercise not only improves physical health but may also improve academic performance.

Researchers are currently resolving many unanswered questions about the effects of exercise on cognition as people age. However, there's evidence linking fitness training to improvements in various aspects of cognition across a broad range of ages.

Exercise and Longer Life

Did you know that the risk of dying prematurely is approximately 30% lower in active adults (Booth, Roberts & Laye 2012) than it is in inactive people? These researchers state that aging-research data strongly support an inverse relationship between physical activity and all causes of death. Inactivity takes a toll on the body. It affects almost every cell, organ, and system in the body, causing sedentary dysfunctions that accelerate death, according to the study authors.

References

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