

Benefits of Regular Physical Activity and/or Exercise

American College of Sports Medicine Guidelines 10th Edition

Improvement in Cardiovascular and Respiratory Function

- Increased maximal oxygen uptake resulting from both central and peripheral adaptations
- Decreased minute ventilation at a given absolute submaximal intensity
- Decreased myocardial oxygen cost for a given absolute submaximal intensity
- Decreased heart rate and blood pressure at a given submaximal intensity
- Increased capillary density in skeletal muscle
- Increased exercise threshold for the accumulation of lactate in the blood
- Increased exercise threshold for the onset of disease signs or symptoms (e.g., angina pectoris, ischemic ST-segment depression, claudication)

Reduction in Cardiovascular Disease Risk Factors

- Reduced resting systolic/diastolic pressure
- Increased serum high-density lipoprotein cholesterol and decreased serum triglycerides
- Reduced total body fat, reduced intra-abdominal fat
- Reduced insulin needs, improved glucose tolerance
- Reduced blood platelet adhesiveness and aggregation
- Reduced inflammation

Decreased Morbidity and Mortality

- Primary prevention (i.e., interventions to prevent the initial occurrence)
- Higher activity and/or fitness levels are associated with lower death rates from CAD
- Higher activity and/or fitness levels are associated with lower incidence rates for CVD, CAD, stroke, Type 2 diabetes mellitus, metabolic syndrome, osteoporotic fractures, cancer of the colon and breast, and gallbladder disease
- Secondary prevention (i.e., interventions after a cardiac event to prevent another)
- Based on meta-analyses (i.e., pooled data across studies), cardiovascular and all-cause mortality are reduced in patients with post-myocardial infarction (MI) who participate in cardiac rehabilitation exercise training, especially as a component of multifactorial risk factor reduction (Note: randomized controlled trials of cardiac rehabilitation exercise training involving patients with post-MI do not support a reduction in the rate of nonfatal reinfarction).

Other Benefits

- Decreased anxiety and depression
- Improved cognitive function
- Enhanced physical function and independent living in older individuals
- Enhanced feelings of well-being
- Enhanced performance of work, recreational, and sport activities
- Reduced risk of falls and injuries from falls in older individuals
- Prevention or mitigation of functional limitations in older adults
- Effective therapy for many chronic diseases in older adults
CAD, coronary artery disease; CVD, cardiovascular disease.
Adapted from (45 , 70 , 94)