

AthletiHINTS



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Exercise and Aging

Introduction

Weakness, stiffness and pain after physical activity and chronic fatigue are among the most common complaints of middle aged and older individuals and are leading causes of progressive loss of mobility. These problems should not be dismissed as the inevitable consequence of aging, but should be investigated and a treatment plan developed. Older individuals may not be able to exercise as much or as vigorously as in earlier years. Regular exercise, however, can decrease some of the effects of aging.

Physical Benefits of Exercise

- increased lean body mass
- decreased body fat
- decreased blood pressure
- increased maximum oxygen uptake
- increased HDL
- decreased LDL
- decreased triglycerides
- increased respiratory function
- increased muscle mass and strength
- increased bone mass
- decreased insulin resistance

Musculoskeletal Effects of Aging

The major musculoskeletal component of aging is a lack of bone strength, or what is commonly known as osteoporosis. Osteoporosis is a disease decreasing the amount of bone. The bone present has no abnormalities; there is simply not enough of it. Osteoporosis contributes to as many as 1.5 million fractures each year, primarily to female patients.

Bone mass is determined by age, gender and race. It generally is greatest during the third decade of life and begins to decline around the fifth decade. Numerous factors have been associated with osteoporosis: a poor calcium intake; cigarette smoking, corticosteroid injections; and inactivity.

Treatment for osteoporosis always includes exercise. Physical activity, particularly walking, helps to maintain mineralization of the weight-bearing skeleton. It is important to note that swimming is not adequate physical activity for osteoporotic patients, as the net effect of gravity is neutralized in the water.

A lack of physical activity also results in muscle loss. A patient's ability to participate in leisure activities and social functions then decreases, which leads to a decreased capacity for exercise and decreased energy. All of these lead to accelerated loss of bone mass and deterioration of multiple organ systems, including the cardiovascular and respiratory systems. Decreased strength and flexibility also adversely affect balance and increase the risk of injuries, including fractures and muscle strains.

Exercise Program

A regular exercise program to increase aerobic capacity, flexibility, and strength has the greatest potential for improving mobility in older individuals.

Walking is a good aerobic exercise for people who have been sedentary. As they gain endurance, they may start swimming regularly, using an exercise bicycle, a stationary skiing machine, a stationary rowing machine or a treadmill. Alternating different

Over

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Frappier Acceleration
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types of aerobic activities increases the number of muscle groups involved and may make the program more interesting.

Flexibility exercises should include slow, gentle stretching of the legs, arms, back, and neck after a period of moderate physical activity that increases heart rate for at least five minutes (warming up).

The ideal strength training program includes regular use of multiple exercise machines that provide variable, controlled levels of resistance for all major muscle groups and take the joints through the full range of motion. Use of these machines provides rapid increases in strength and objective measurements of progress.

While the machines are ideal, an effective strengthening program can be designed with inexpensive, light free weights and elastic muscle strengthening devices. Often simple objects, such as soup or vegetable cans, can be used for resistance exercises.

Conclusion

Persons who participate in regular exercise, including activities that target aerobic capacity, flexibility and strength, can expect significant improvements. These gains include increases in mobility, endurance, balance and coordination, as well as energy level and general level of physical activity.

There is considerable evidence to suggest that such a program can increase longevity and decrease the risk of injury and illness.

Psycho-social benefits may include an improvement in self image, a decrease in fear of injury and a feeling of being more in control of one's life.