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## Fit, Not Frail: Exercise as a Tonic for Aging

By JANE E. BRODY

Fact: Every hour of every day, 330 Americans turn 60.

Fact: By 2030, one in five Americans will be older than 65.

Fact: The number of people over 100 doubles every decade.

Fact: As they age, people lose muscle mass and strength, flexibility and bone.

Fact: The resulting frailty leads to a loss of mobility and independence.

The last two facts may sound discouraging. But they can be countered by another. Regular participation in aerobics, strength training and balance and flexibility exercises can delay and may even prevent a life-limiting loss of physical abilities into one's 90s and beyond.

This last fact has given rise to a new group of professionals who specialize in what they call "active aging" and an updated series of physical activity recommendations for older adults from the American Heart Association and the American College of Sports Medicine. These recommendations are expected to match new federal activity guidelines due in October from the United States Health and Human Services Department.

But you need not - indeed should not - wait for the government. Even if you have a chronic health problem or physical limitation, there are safe ways to improve fitness and well-being. Any delay can increase the risk of injury and make it harder to recoup your losses.

Miriam E. Nelson, director of the John Hancock Center for Physical Activity and Nutrition at Tufts University in Boston and lead author of the new recommendations, observed last fall in *The Journal on Active Aging* that "with every increasing decade of age, people become less and less active."

"But," Dr. Nelson said, "the evidence shows that with every increasing decade, exercise becomes more important in terms of quality of life, independence and having a full life. So as of now, Americans are not on the right path."

Jim Concotelli of the Horizon Bay Senior Communities in Tampa, who oversees fitness and wellness program development for communities for the elderly in several states, noted this year in *The Journal on Active Aging* that many older Americans were unfamiliar with exercise activities and feared that they would

cause injury and pain, especially if they have arthritis or other chronic problems. Yet by strengthening muscles, he said, they can improve joints and bones and function with less pain and less risk of injury.

The key is start slowly and build gradually as ability and strength improve. Most important is simply to start - now- perhaps under the guidance of a fitness professional or by creating a program based on the guidelines outlined here.

Although medical clearance may not be necessary for everyone for the moderate level of activity suggested, those with a known or possible problem would be wise to consult a doctor. And a few sessions with a trainer can help assure that the exercises are being done correctly and not likely to cause injury.

Until recently, physical activity recommendations for all ages have emphasized aerobics, or cardiovascular conditioning, through moderate to vigorous activities like brisk walking, cycling, lap swimming or jogging for half an hour a day five or more days a week. For those unable to do 30 minutes at a time, the activities can be broken up into three 10-minute intervals a day. If you have long been sedentary, start with even shorter intervals.

For people who prefer indoor workouts, a treadmill, cross-trainer, step machine or exercise bike can provide excellent aerobic training for the heart, lungs and circulation. Those unable to do weight-bearing exercise might try swimming or water aerobics. Keep in mind that 30 minutes a day of aerobic activity five days a week is the minimum recommendation. More is better and can reduce the risk of chronic disease related to inactivity.

Contrary to what many active adults seem to believe, physical fitness does not end with aerobics. Strength training has long been advocated by the National Institute on Aging, and the heart association has finally recognized the added value of muscle strength to reduce stress on joints, bones and soft tissues; enhance stability and reduce the risk of falls; and increase the ability to meet the demands of daily life, like rising from a chair, climbing stairs and opening jars.

Strength training can be done in a gym on a series of machines, each working a different set of major muscle groups: hips, legs, chest, back, shoulders, arms and abdomen. Or it can be done at home with resistance bands or tubes, hand-held barbells or dumbbells or even body weight. One program, the Key 3 program diagrammed here, was devised by Michael J. Hewitt, research director for exercise science at the Canyon Ranch Health Resort in Tucson. It can be completed in 10 minutes with practice.

As Dr. Hewitt explained in the International Longevity Center-USA newsletter, skeletal muscles can only contract and thus are always arranged in pairs. "One muscle of the pair pulls to bend the joint (flexion), and its antagonist pulls to


straighten the joint (extension)." Thus, a strengthening program must be balanced, he said, "pairing every pulling lift with an opposite pushing action."

Dr. Hewitt emphasized that to reduce the risk of injury and premature muscle fatigue, the large muscles should be exercised first, followed by the smaller muscles, with the postural muscles exercised last. For example, one would start with chest and upper back muscles, then the arms and shoulders and finally the lower back and abdomen.

Muscles have to be overworked to grow stronger. The goal for each exercise is three sets of 8 to 12 repetitions to muscle fatigue. Muscles also need time to recover. So strength training should be done two or three times a week on nonconsecutive days.

The new recommendations add flexibility and balance to the mix. Improving balance and reducing the risk of falls is critical as you age - if you fall, break your hip and die of pneumonia, aerobic capacity will not save you. Ten minutes a day stretching legs, arms, shoulders, hips and trunk can help assure continued mobility, and daily exercises like standing on one foot and then the other, walking heel to toe or practicing tai chi can improve balance.

The recommendations, issued last August, are geared to healthy adults 18 to 64, with a companion set for those 65 and older or those 50 to 64 who have chronic health problems or physical limitations. Details can be found at [www.acsm.org](http://www.acsm.org). Under "Influence," click on Physical Activity Guidelines From ACSM and AHA.

The experts who made these recommendations urge all adults to adopt them now. As C. Jessie Jones, co-director of the Center for Successful Aging at California State University, Fullerton, said, "People can't wait until they're in residential or long-term care to get started." 



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