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New Guidelines Urge Older Exercisers to Put Emphasis on Strength Training

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When most people start a fitness program, they do an aerobic activity, such as walking or swimming, to exercise that most important of muscles, the heart. But very old or frail individuals should first strengthen the rest of their muscles with a program of resistance exercises, say new guidelines issued by the American College of Sports Medicine (ACSM).

"Before one can walk, it is necessary to be able to get out of a chair (requiring muscle power) and maintain an erect posture while moving through space (requiring balance)," notes the ACSM in its guidelines on exercise and physical activity for older adults. "In the frail elderly . . . aerobic conditioning should follow strength and balance training, which is, unfortunately, the converse of what is done today."

The major health risks for the frail elderly are immobility, falls and fractures, which are all related to muscle weakness, says Robert Mazzeo, a professor of exercise physiology at the University of Colorado in Boulder and chairman of the ACSM group that wrote the guidelines. "What's limiting their lives is the inability to get up out of a chair or climb a flight of stairs," he notes. "Strength training and balance exercises can help older adults build muscle strength and improve function so they can safely walk and do other aerobic activities."

Over the last decade, there has been a growing recognition of the importance of strength training for all adults. Sedentary people begin to lose muscle in mid-life, and "we can see a pretty clear drop off in muscle mass around age 55," Mazzeo says. "Studies indicate that muscle strength declines by approximately 15 percent per decade in the sixties and seventies and about 30 percent thereafter."

This age-related loss of muscle has been named sarcopenia, from the Greek for "flesh reduction." Like osteoporosis and arthritis, sarcopenia is a serious degenerative condition that has obvious effects on function, such as increased risk for falls and vulnerability to injury. Less obvious are the wide-ranging metabolic effects that result when muscle--the body's most metabolically active tissue--diminishes. Having less muscle alters the metabolism, with numerous consequences that can include obesity, impaired glucose tolerance and changes in the body's ability to regulate temperature. And since muscular contractions help keep bones strong, muscle loss can mean weaker bones.

Sarcopenia is widespread in our sedentary culture. "Nursing homes are filled with elderly people who are institutionalized not because of any disease or cognitive impairment, but because of muscle weakness," notes William Evans, director of the nutrition, metabolism and exercise lab at the University of Arkansas for Medical Sciences, and a member of the group that wrote the ACSM guidelines.

Until recently, sarcopenia has been overlooked because muscle weakness was considered an inevitable part of growing old. But research by Evans and others has shown that strength does not have to diminish into decrepitude with age. Numerous studies demonstrate that resistance exercises can help frail elderly people in their eighties and nineties improve their strength to the point where many regain the ability to walk and perform other tasks without assistance.

"Muscles will get stronger in response to strength training no matter what your age," says Evans, who notes that much of the muscle loss attributed to age actually comes from inactivity. Building muscles builds confidence, too. This can enhance mood, functioning and quality of life.

Proper nutrition is also important in helping seniors maintain muscle mass. Yet the guidelines note that half of those over 60 don't consume an adequate amount of protein, which for elderly adults is between 1 and 1.25 grams per kilogram of body weight. (This means a 150-pound person would need 60 to 80 grams of protein daily. One six-ounce can of tuna has 40 grams of protein; four ounces of meat, fish or poultry has about 30 grams.)

A common mistake many seniors make when they do strength training exercises is to use weights that are too light, says the University of Colorado's Mazzeo. For maximum benefit, people should pick a weight that is about 80 percent of the maximum they can lift. Typically, this would be a weight someone could lift at least 10 but no more than 15 times. To help find the appropriate weight and learn proper technique, get expert instruction at a YMCA or university-based wellness facility, Mazzeo advises. To improve balance, he recommends taking tai chi or doing home exercises that involve slow, controlled movements including standing on one leg.

In general, it takes frail or very old people about three to four months of doing resistance exercises two or three times a week before muscles are strong enough to start doing moderate aerobic activity. The guidelines recommend walking at least three days a week, working up to a duration of at least 20 minutes per session.

For all older adults, a regular program of strengthening and aerobic exercises can help reduce or prevent many of the functional declines associated with growing older, the ACSM guidelines note. Yet more than two-thirds of older adults don't engage in regular physical activity, according to the National Institute on Aging (NIA).

"Our society protects older people from doing physical tasks," says the NIA's new booklet on exercise for older adults. "That mindset has led to poor health and disability for millions. In reality, there are few health reasons that should keep older adults from exercising and increasing their physical activity, no matter their age. . . . In the long run, older adults hurt their health far more by not exercising than by exercising. Let's get rid of the old mindset and start a new one: As a rule, older people should stay as physically active as they can."

For a free copy of "Exercise: A Guide from the National Institute on Aging," call 1-800-222-2225. To follow along with animated exercises, visit the NIA's Web site at http://www.nih.gov/nia