

EXERCISE RESTORES SENIORS' STRENGTH AND SPIRITS

The health benefits of physical exercise have been widely documented and promoted—primarily among younger people—as a means of fighting off disease and prolonging life. But an area that has not received as much attention is the effect of exercise in a person's final years.

Seven years ago the McAuley Center, a 225-unit continuing care retirement community in West Hartford, CT, launched a holistic, wellness-based nursing model whose goal was to keep residents healthy, active, and independent (see my article, "Living Longer and Better Than Expected," *Health Progress*, December 1992, pp. 38-41). At the same time, we attempted to document the role of physical fitness in achieving that goal.

What we found has been encouraging. Promoting muscle strengthening, joint mobility and flexibility, cardiovascular fitness, and rehabilitation has proven critical to maintaining older adults' ability to live independently, a goal they consider of paramount importance.

Although this article focuses on the encouraging results achieved in the area of physical fitness, in practice the physical is not separate from the other components of an integrated approach: mental and social stimulation, emotional support, and spiritual well-being. Despite the absence of a formal study at the McAuley Center, staff observations and reports from residents indicate that a

Fitness Plans

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physical exercise program can enhance residents' functioning in all these other areas.

THE MCAULEY FITNESS PROGRAM

A fitness counselor specifically trained to work with older adults supervises every aspect of the structured exercise programs and serves as the primary motivator. Like the other professionals in this holistic continuing care model, the fitness counselor, who is also a nurse, manages wellness by providing a spectrum of vital information and guidance specific to each client's unique needs. A fitness program for older adults has little chance of succeeding without the strong guidance of a skilled professional. Older adults require consistency; it is critical that the same person or persons be available for support and motivation. Attendance

Summary Statistics, an independent study, and anecdotal reports are documenting the health benefits of regular exercise for older adults living at the McAuley Center, a continuing care retirement community in West Hartford, CT.

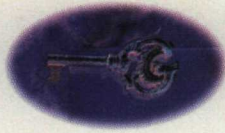
As part of its commitment to holistic health, the center links residents with an on-site fitness counselor, who develops an individualized exercise program and helps motivate residents to stick with it. Residents can choose from individual personal training or rehabilitation programs or group programs such as aerobics or line dancing.

The results speak for themselves. For the past five years, only 0.05 percent of the falls at the McAuley Center occurred among the 21 percent of the residents who exercise regularly. In addition, residents and staff alike report increased social interactions among those who exercise.

Overall, residents and staff say the benefits of regular exercise contribute significantly to the goal of independent living at the McAuley Center.



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at group classes, for example, falls off sharply when a substitute—no matter how qualified—leads the class.

The average age of participants in the McAuley fitness program is 83.8 years. Approximately 48 of the 225 residents (21 percent) exercise regularly. The exercisers have their share of chronic physical problems, just like others of their age. Yet they are enthusiastic about the health improvements they have realized. In an internal survey, those who exercise reported improvements in their own vigor, flexibility, sleep, digestion, and self-esteem. One woman wrote in an internal newsletter article that the constant movement in the exercise classes keeps her from being immobilized by arthritis. Several of the men have remarked that one of their fellow residents, a 95-year-old widower, not only appears 10 years younger as a result of his regular exercise routine, but is more socially interactive.

The exercise program has five components designed to meet different needs. Before a resident participates in any of them, the fitness counselor screens the person, obtains a physical history, and verifies the physician's permission. Most of the residents participate because they want to or at the suggestion of their physician or nurse. The initial meeting between participant and the fitness coun-

selor is primarily used to set individual goals and consider any limitations.

Individual Programs Personal training is geared toward maintaining good overall health through a combined program of aerobic and muscle strengthening exercises, with a focus on preventing falls. The exercise room has a Nordic Chair, a rowing machine, a cross country ski apparatus, an upright stationary bicycle, a recumbent bicycle, a hydrachair for knee extensions, wooden stairs, and hand-held weights. The fitness counselor designs a gradual personal training routine to meet each individual's goals. Once a person has completed the given routine several times under direct supervision, he or she can work independently, with periodic progress review and modifications.

Rehabilitation extends an individual's physical therapy program for a specific diagnosis, for example, cardiac rehabilitation or recovery from a fracture. The fitness counselor meets with the outside therapist to become familiar with the physical therapy regimen and the resident's progress to date. Continuation of physical therapy is extremely important to prevent backsliding. Experience has shown that, without supervision, many people discontinue therapy, no matter how necessary to restore function.

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CASE STUDIES

■ A 76-year-old woman, overweight and a smoker, began a gradual therapeutic exercise program after two hospitalizations for severe cardiac illness. She entered the McAuley fitness program in an extremely weak condition. The woman agreed to make some dietary changes and to reduce her smoking.

In April 1992 she began exercising four days a week: two days in the E-Z class and two days of personal training. She began with a supervised walk of 180 feet with a cane, one minute on the treadmill at a pace of 0.5 mph, and up and down five stairs three times. By summer she had increased the treadmill time to 1 mph for 10 minutes and added standing hip abductions and hip and knee flexions to strengthen the lower body. She also began doing a sit/stand exercise for lower body strength, as well as upper body strengthening work on the Nordic Chair and with one-pound wrist weights.

Her progress has been steady.

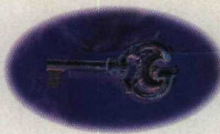
Currently, in her personal workouts, she is able to complete 20 minutes on the treadmill at a 1.3 mph pace; accompanied, she walks a flight of stairs and around the halls. She has recently added lap swimming to her weekly routines. Her daily doses of medication are greatly reduced from those at the onset of the illness; she has lost 30 pounds and limited her smoking to three cigarettes a day.

Most important, she controls her own life completely, moving around her apartment without any aides. "I am again leading my book discussion group, including setting up chairs, singing in the choir, and going on day trips," the woman said. She also tells with a laugh how her newly found muscles helped her recover from a nighttime fall.

■ A widower began personal fitness training at age 85 when he moved to the McAuley Center after a stroke. He performed dorsiflexion exercises on the

lower body with 2 1/2 pound weights to strengthen the weakness in his left leg caused by the stroke. Slipping on wet grass on his way to the outdoor track one day, he fractured his left leg. The improved strength and flexibility the man had gained from his post-stroke exercise program speeded his recovery from the fracture, according to his physician.

■ Hartford cardiologist Dariush Owlia had similar praise for one of his patients in the McAuley fitness program. "There has been a remarkable improvement in her function since she moved to the retirement community and began the regular exercise programs," he said. The woman faithfully attends the aerobics and line dancing classes three times a week and supplements this exercise with occasional individual workouts on the treadmill. Other residents describe her as a whirlwind of activity.



Group Programs For those who find a group motivating and for whom social interaction is an important by-product of exercise, three group classes meet each week. Choosing the right music, such as the Big Band sound, is critical to the success of group classes.

Aerobics classes are held twice a week for one hour. The structured class begins with 10 minutes of an increasingly accelerated walking warm-up, followed by stretching exercises and 20 minutes of low-impact aerobic exercises, cool-down exercises, and finally floor exercises to firm and strengthen upper and lower body muscles and abdominal muscles. Each participant learns an appropriate range of exertion and monitors his or her heart rate during the class.

The E-Z class is geared to people with disabilities. The purpose of whole-body, range-of-motion exercises is to increase joint mobility and flexibility over a period of time. Meeting twice a week, the class begins with seated exercises that work all the muscle groups from the top of the head to the feet. Participants then perform standing exercises that focus on the lower body. The class finishes with seated movement to music.

The **line dance** class pairs people's natural love of music with a cardiovascular workout. The hour-long class can substitute for a third aerobic workout weekly to provide variety. After learning a number of dances, the group demonstrated them for fellow residents, as well as community groups. The many opportunities for laughter and social interaction are an important benefit of this form of exercise.

In addition, a new fitness facility at the adjacent college provides a variety of individualized indoor exercise options, including lap swimming, water aerobics classes, a walking program on a cushioned track, and a weight room.

RECORDS SHOW RESULTS

A decrease in the number of resident falls is one of the most favorable results of exercises designed to improve muscle strength and flexibility. During five years of record keeping at the McAuley Center, 427 falls have occurred, involving 139 people. The most dramatic finding is that only 21 of the total falls involved the resident population who exercise.

An April 1993 report by physicians at the Travelers Center on Aging at the University of Connecticut Health Center supports our internal study. The report summarized the results of a 12-week study conducted in 1991 at the McAuley Center and another retirement community (James O. Judge et al., "Exercise Improves Gait Velocity in Older Persons," *Archives of Physical Medicine and Rehabilitation*, April 1993). The study was

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designed to test the hypothesis that balance and strength training improves the gait velocity of older persons. Slow gait is a risk factor for hip fractures and falls. Normal gait requires adequate muscle strength, neuromuscular control, and functioning lower extremity joints.


The mean age of the 31 subjects was 82.1 years. The exercise group trained three times a week, performing resistance training to the point of fatigue for knee extension, hip abduction, ankle dorsiflexion, hip extension, knee flexion, and postural control exercises. A comparable control group met weekly for flexibility exercises performed sitting in a chair. The exercise group achieved significant improvements in muscle strength and gait velocity in this short-term exercise program, whereas gait and strength measures in the control group were unchanged.

Perhaps as meaningful as these concrete findings are the gratifying case studies of individual residents (see **Box**, p. 43).

REALIZING GOALS

Results such as these make the jobs of those who implement a wellness program understandably rewarding. In addition to the improved physical capabilities that cardiovascular fitness and muscle strengthening provide, we are seeing renewed vitality and energized spirits, social comradeship that breaks through isolation, and pride in an increased ability to manage the tasks of living independently. Regular exercise within a wellness program cannot prevent all the physical or emotional problems that come with age, but it seems to reduce their likelihood and also helps participants cope with problems that do develop.

Before the McAuley Center opened in 1989, I had a vision of a nursing-based wellness program that helped older adults retain their health, their dignity, and their independence longer—a better quality of life in the end-of-life period. In practice, the holistic wellness program effectively addresses the physical, emotional, spiritual, and intellectual aspects of staying well. Except for those suffering from dementia, for which no effective treatment is yet known, the program also seems to be keeping most residents out of extended care facilities. The fitness component obviously plays a major role. The participants' high degree of enthusiasm and commitment seems the best indication that the exercise program is achieving the goals that individuals have set for themselves. Ultimately, this sense of self-direction and responsibility for maintaining health is a better indicator of a program's success than any statistics can provide. □

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