SOUTHWESTERN NEWS

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RESEARCHERS RECEIVE $1.7 MILLION TO STUDY EXERCISE THERAPY TO MINIMIZE EFFECTS OF AGING, TREAT HEART FAILURE

DALLAS – Jan. 28, 2002 – Researchers at UT Southwestern Medical Center at Dallas have received a $1.7 million grant from the National Institutes of Health to study the effects of aging on the heart and to determine if an endurance exercise-training program can prevent or treat congestive heart failure in the elderly.

As people age, their hearts stiffen and are less able to relax completely during the pumping process. While this condition – called diastolic dysfunction – is associated with normal, healthy aging, it also causes excess fluid to accumulate in the lungs and is linked to the onset of congestive heart failure.

UT Southwestern researchers first will identify the precise alterations of diastolic dysfunction in normal aging. They then will compare these changes with those associated with congestive heart failure due to diastolic dysfunction and test whether an exercise-training program can reverse the symptoms of the condition and serve as an effective therapy.

Congestive heart failure affects eight out of 1,000 people over the age of 70; half of these cases are due to diastolic dysfunction. Symptoms of diastolic dysfunction include shortness of breath and the inability to perform normal daily activities such as shopping, climbing stairs or walking. There is currently no effective treatment available for this condition.

"There seems to be a progressive alteration in diastolic function with aging that makes the heart stiffer and less able to fill well in preparation for each heart beat. The condition causes signs and symptoms of congestive heart failure. It appears that about 40 percent of all hospitalizations for heart failure in patients over 65 is because of diastolic heart failure," said Dr. Benjamin Levine, principal study investigator and associate professor of internal medicine.

"We hypothesize that exercise training in both the healthy aged, as well as patients with congestive heart failure due to diastolic dysfunction, will improve abnormalities of diastolic function and be an effective therapy for this disease," he said.

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The study will include three groups of participants over 65. A group of healthy, but sedentary, individuals with no chronic medical problems will be compared with a group of athletes of the same age. The sedentary subjects will participate in a yearlong, endurance exercise-training program that will include walking, cycling and swimming. A third group of patients with a history of heart failure will be prescribed an identical exercise-training program and compared to the sedentary.

The researchers will evaluate diastolic heart function using state-of-the-art imaging techniques.

"This will be the most comprehensive assessment of diastolic dysfunction in the elderly that has been attempted to date," said Levine, who also is medical director of the Institute for Exercise and Environmental Medicine, a collaboration between UT Southwestern and Presbyterian Hospital of Dallas. "These studies will result in a comprehensive understanding of the effect of normal aging and physical conditioning on diastolic function. The precise dose of exercise necessary to restore normal diastolic function will be identified and will allow a specific exercise prescription for this patient population."

Co-investigators of the study include Dr. Clyde Yancy, associate professor of internal medicine and Dr. Martin Berk, a Dallas cardiologist.

People interested in participating in the study may obtain additional information by contacting Julie Zuckerman or Deidre Capper at 214-345-4206.

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