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*****Controversy exists over benefits of exercise, Dallas expert says.

DALLAS --Average Joe--and Jane--Jogger probably run their 10 miles a week at least partly because they think it will make their hearts stronger and their lives longer. But Joe and Jane should consider these facts:

- * There is no conclusive scientific evidence that exercise prevents heart disease.
- * There is no conclusive scientific evidence that exercise increases longevity.

"I don't think you can promise someone who goes out and runs every day that he is going to live any longer," says Dr. Jere Mitchell, professor of internal medicine and physiology at The University of Texas Southwestern Medical School. A widely recognized expert in exercise physiology, Dr. Mitchell has been in the field for more than 20 years and currently is chief of Southwestern's Weinberger Laboratory for Cardiopulmonary Research and director of its Harry S. Moss Heart Center.

"You can make a good case that exercise improves the quality of life without having to make any false claims that it increases the quantity of life," says Dr. Mitchell, who himself faithfully jogs for 30 minutes three or four times a week. "As the Swedish researcher 'er-Olof Astrand has written, 'It is more important to add life to years than years to life.'"

There are a lot of fallacies about what exercise can and cannot do, he continues. "There have been numerous statements made in both the scientific literature and the popular press about the relationship between exercise and health. Many of those statements have been based more on popular belief than on scientific fact."

The role of exercise training in the prevention of heart disease remains a highly controversial issue in medical circles, he explains. "There are strong advocates on both sides and the controversy is likely to continue for years to come."

Thus far, studies in the field have yielded conflicting evidence.

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Dr. Mitchell cites a recent study by a Finnish researcher who compared men in executive-type, sedentary careers with men who had cross-country skied all their lives. The researcher found no difference in longevity between the two groups.

Dr. Mitchell cites another well-known study of 6,351 San Francisco longshoremen which compared men with active work assignments (such as cargo handlers) to those with more sedentary jobs. The results suggested that vigorous physical activity does protect against coronary heart disease.

Most of the presently available information on the cardiovascular effects of physical training has been produced by such comparative studies of athletic and non-athletic populations, Dr. Mitchell says. But these studies have an important drawback: the differences between the populations are apt to involve many more risk factors than just physical activity. For example, motivated athletes are likely to have better diets and to be non-smokers, both proven risk factors.

Longevity is also associated with so many factors (diseases, accidents, etc.) that it is difficult to assess how it may be affected by exercise.

Laboratory-type experiments with humans are almost impossible because of the difficulty and expense of controlling all the risk factors over a long period of time, Dr. Mitchell says. "It is difficult if not impossible to isolate the exercise factor and its effects on human health."

Animal studies have been of little value in solving the controversy because a good animal model of coronary heart disease has not been found, he adds.

However, there is evidence suggesting that physical exercise programs do contribute to a general feeling of well-being and can reduce depression and hypochondria, especially in patients who have had heart attacks, Dr. Mitchell says.

And there is hard evidence that although exercise does not slow down the heart disease process, it does strengthen and enlarge the heart muscle, possibly giving the athlete a better chance of surviving a heart attack, he continues. "There is no doubt that the heart of a runner or a swimmer is larger and stronger than that of a non-athlete. Studies have suggested that if an athlete has a heart attack which destroys part of his heart muscle, he will be able to handle it better than a non-athlete because he has a larger reserve capacity."

Of course the benefits of exercise depend on the type of exercise. There are two basic types: isotonic or dynamic exercises (those that move the limbs, like running and swimming) and isometric or static exercises (those where the individual contracts muscles without moving the limbs). All exercise is a combination of these two general categories, but weight lifting and contracting muscles against fixed objects are principally isometric.

In recent years there has been much popular interest in isometric exercises as a quick and easy way for busy city-dwellers to stay in shape, Dr. Mitchell notes.

Although there is no better way to build-up skeletal muscle, isometrics do nothing for the heart, he says. "From a cardiological viewpoint, isometric exercise is a relatively useless form of physical training and should not be recommended as a substitute for dynamic exercises such as running and swimming. In fact, intense isometric exercise should be avoided by people with certain types of heart disease and those with high blood pressure."

Isometric exercise causes an acute rise in blood pressure and puts stress on the heart, he explains. "If the individual's blood pressure is already high, the further acute rise during exercise may be dangerous. There are many stories about people who have died during heavy static exercise, such as changing a tire, shoveling snow or straining to open a stuck window."

For cardiovascular fitness, Dr. Mitchell recommends brisk walking, bicycling, swimming and jogging. He says anyone starting an exercise program should start out slowly and, if over 35, should see a physician and have an exercise stress test.

Dr. Mitchell says that some day it may be proven that dynamic exercises do provide some small amount of protection against heart disease and admits that he is taking the conservative position in the debate over exercise. "But if you are going to be a pure scientist and base your opinion on what the facts are, then that's the position you had better take."

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