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News

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***"Speech-making" to test stress
levels in heart attack victims

DALLAS--From 75 to 100 recovered heart attack victims are needed as volunteers for a stress management study at The University of Texas Health Science Center here.

The question is whether the popular "beta blocker" drug propranolol or biofeedback and new behavior skills, or a combination of both, is the best method to relieve stress in the life of a person who has suffered a heart attack.

How will the scientists subject their volunteers to stress?

They'll ask them to give a speech.

Speech-making has been shown to cause a large amount of measurable stress to most people. Topics will be individually tailored to the vocational/avocational interests of the patients.

When a person experiences stress, the sympathetic nerves stimulate the heart to beat faster and harder, the blood vessels to constrict and in various other ways to prepare the person for "fight or flight." Having already suffered from one or more heart attacks, a person is even more at risk from the changes that take place in the body as it prepares itself for "fight or flight."

Beta blocker drugs work primarily by blocking the effects of the sympathetic nerves that regulate the activity of the heart, lungs, blood vessels and other vital organs in an automatic manner without conscious control. The study will try to determine whether beta blocking agents alone, the use of stress-relieving techniques that can be applied in many situations or a combination of these two approaches will work best with patients who have suffered heart attacks. All patients will be medically screened before beginning the treatment program and will continue seeing their own physicians.

"To our knowledge no one has taken a look at the questions we are raising about reducing stress--and ultimately the mortality and morbidity rate--in patients with myocardial infarction," says Dr. Robert Gatchel, associate professor of Psychology at the Dallas institution and principal investigator. The study is funded by the American Heart Association, Texas Affiliate.

Gatchel says it has been well documented that stress is a major contributing factor in cardiovascular disease along with other risk factors such as smoking, obesity and a family history of heart disease.

"Many of the patients with heart disease that doctors see are the so-called Type A personality--always under time pressure, always on the go, always reacting to stress. We'd like to develop ways of reducing stress, which we know is related to cardiovascular disease, in order to help the patient avoid future episodes or extend his or her life. A good example is the busy executive who has to reorient him or herself to a stressful job following heart attack."

(over)

Gatchel's co-investigator, a cardiologist, agrees.

"The employee who has been 'called on the carpet' and has to stand there being yelled at really wants to either bolt out the door or punch his boss in the nose. Unfortunately for him, he can't do either," says Dr. Drew Gaffney, assistant professor of Internal Medicine.

"Also unluckily for him, his adrenaline is pumping, his bronchia are dilating, the blood in his muscles is racing and his blood pressure is rising."

In a more primitive society, the employee would either flee or fight, he says. There weren't many actions that the body prepared for that primitive man didn't carry out.

"Not being able to respond in these ways today may well be what's killing many of us, especially patients with myocardial infarct."

The measurable "stressor" that will be used in the laboratory situation will be putting the patient through his paces by having him or her prepare and give a five-to-seven minute speech before a small audience. Public speaking has been shown to cause a large amount of measurable stress to most people. Interestingly enough, the stress level is found to be even higher during the period of preparation than during the speech itself.

"Many people say they're 'home free' as soon as they're in front of the audience."

Measurements indicating stress--such as perspiration on the palms, voice analysis, heart rate and muscle tension--will be used to test the anxiety level of the participants. Such body/mind techniques as progressive muscle relaxation, visualizing oneself making a successful speech (a technique applied successfully to sports by many athletes), "talking yourself up," and using biofeedback machines to learn how to slow heart rate and muscle tension will be taught to one group. Another group will combine these methods with taking propranolol. In addition, these two groups will receive instruction in basic techniques of organization and public speaking. A third group will receive beta-blocking drugs only.

For patient information call 214/688-2031.

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