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Media Contact: Katherine Morales 214-648-3404 katherine.morales@utsouthwestern.edu

## UT Southwestern researchers study exertion-related shortness of breath in obese men

DALLAS – June 7, 2007 – Obese men who find themselves short of breath even after moderate physical activity are invited to participate in a study by UT Southwestern Medical Center and the Institute for Exercise and Environmental Medicine.

Dr. Tony Babb, associate professor of internal medicine at UT Southwestern, is overseeing the study conducted at the institute, which is a joint venture between researchers at UT Southwestern and Presbyterian Hospital of Dallas.

"In previous studies in women, we have found that the capacity for exercise is the same in lean and obese individuals, but the oxygen cost of breathing is increased in obese women with breathlessness on exertion," Dr. Babb said. "Now we want to find out if the oxygen cost of breathing is elevated in obese men."

The oxygen cost of breathing is the difference between the total body's oxygen consumption when it is at rest, compared to the consumption generated when breathing is altered by factors like stress or exercise.

One of the new study's first participants is 41-year-old Bryan Mitchell, an office manager whose fiancé encouraged him to take part. Mr. Mitchell broke his back several years ago, and his slow and lengthy recovery, he said, has led to weight gain.

"I couldn't exercise with the same intensity," he said. "After I'd gained weight I noticed that I would get short of breath even if I just stood for long periods of time."

After Mr. Mitchell qualified for the study, he was given lung function tests and completed exercises with varying degrees of difficulty.

"I'm interested in finding out the test results. Shortness of breath is something that has affected me, and I'd like to know why," Mr. Mitchell said.

The study is investigating why some obese people have shortness of breath and others do not. Differences in fat distribution between the genders prompted a specific look at men in this study.

"We know there is a difference in lung function between lean and obese people, and that there is a relationship between shortness of breath and fat distribution," Dr. Babb said.

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Women, he said, tend to store more subcutaneous fat, or fat that accumulates outside the muscle wall while men develop fat stores around the organs or visceral fat. There may be a relationship between shortness of breath and fat distribution that increases oxygen cost, Dr. Babb said. Discovering the reason why may lead to different ways of tailoring exercise for people who are overweight and obese. Approximately 66 percent of adults in the U.S. are either overweight or obese, according to the Centers for Disease Control and Prevention.

"If an individual's capacity for exercise is the same as their lean counterparts, there may be ways to adjust exercise and come up with alternative plans of intervention where they do not feel so short of breath during exercise," Dr. Babb said. "There is a misconception out there that obese people with shortness of breath during exertion are out of shape, and if they are discouraged from exercising due to breathlessness, they may have an increased risk for the development of greater obesity or other conditions associated with obesity, such as heart disease and diabetes."

Those interested in participating in the clinical trial must be non smokers and not suffer from asthma. Those who qualify will be screened and have pulmonary function tests. Qualified participants will also have a body mass index of between 30 and 45. Those interested may call researchers at 214-345-6574 or 214-345-5082.

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