

# BMI criteria for obesity surgery should be lowered, researcher suggests

18 December 2007

UT Southwestern Medical Center researchers have found that the existing body mass index criteria for obesity surgery often excludes a group of obese patients at risk of cardiovascular disease.

The study, appearing in the December issue of the journal *Surgery for Obesity and Related Diseases*, is among the first to evaluate the risk-factor relationship between body mass index (BMI) and cardiovascular disease as it relates to bariatric surgery criteria, said Dr. Edward Livingston, chairman of GI/endocrine surgery at UT Southwestern and lead author of the study.

“Our results show that cardiovascular risk factors do not necessarily worsen with increasing obesity,” Dr. Livingston said. “They also support the concept that obesity, by itself, doesn’t trigger an adverse cardiovascular risk profile or increased risk of death.”

The researchers examined patient data from the Third National Health and Nutrition Examination Survey database for the presence of known cardiovascular risk factors as a function of obesity. The survey was a cross-sectional study conducted from 1988 to 1994. All 17,234 participants had a BMI greater than 20.

BMI is a weight-to-height ratio commonly used in doctors’ offices to gauge obesity. A normal BMI is between 18.5 and 25, whereas someone with a BMI of 40 or more is at least 100 pounds over their recommended weight and is considered morbidly obese.

Bariatric weight-loss surgery is currently recommended for patients with a BMI greater than 40, as well as for patients with a BMI greater than 35 who also suffer from a life-threatening illness, such as non-insulin dependent diabetes, sleep apnea or heart disease.

The study findings show that some morbidly obese

patients have better cardiovascular disease risk profiles than those who are less obese. In particular, the researchers found that cardiovascular risk factors can be much worse in many individuals with a BMI as low as 30 than they are for some surgical candidates with higher BMIs.

This suggests that some patients who are obese but not morbidly obese could benefit from bariatric surgery, which can help reduce cardiovascular disease, said Dr. Livingston.

Dr. Nicola Abate, associate professor of internal medicine in the Center for Human Nutrition at UT Southwestern and the study’s co-author, said it’s possible that very obese patients simply have a greater capacity to store excessive calories in their adipocytes, or fat cells, thereby preventing excessive fat from spilling into the bloodstream, where it contributes to heart disease.

“Our findings suggest that there is a group of individuals who have an almost unlimited ability to store excess calories as fat. This prevents changes in plasma metabolites, such as triglycerides and cholesterol, which promote risk for heart disease,” Dr. Abate said. “In contrast, those who can’t store as much fat and who only accumulate fat in the upper body often have excessive plasma concentrations of triglycerides and cholesterol, which will increase their risk for heart disease. Even though their BMI may be below the current recommended cutoff, these patients could potentially benefit from bariatric surgery.”

Source: UT Southwestern Medical Center

APA citation: BMI criteria for obesity surgery should be lowered, researcher suggests (2007, December 18) retrieved 24 July 2022 from <https://medicalxpress.com/news/2007-12-bmi-criteria-obesity-surgery-lowered.html>

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