For Immediate Release

CONTACT: Amber Hamilton
212-266-0062

Caitlin Carroll
212-266-0061

NEW STUDY SHOWS BARIATRIC SURGERY MAY TURN BACK THE EFFECTS OF AGING

Positive Changes Seen in Biomarkers Associated with Aging within 12 Months

ATLANTA, GA – **NOV. 15, 2013** – Stanford University researchers say surgical weight loss may turn back the effects of aging at a genetic level, in the first study* of its kind presented here during ObesityWeek 2013, the largest international event focused on the basic science, clinical application and prevention and treatment of obesity. The event is hosted by the American Society for Metabolic and Bariatric Surgery (ASMBS) and The Obesity Society (TOS).

Researchers reviewed genetic data of 51 patients before and after gastric bypass surgery. Most study subjects were women (76.5%), about 49 years old, with an average body mass index (BMI) of 44.3. On average, patients lost 71 percent of their excess weight and saw their C-reactive protein (CRP) level, a measure of inflammation, drop by more than 60 percent (8.3 to 3.6) and experienced a four-fold decline in their fasting insulin (24 to 6), within 12 months of surgery.

These findings are consistent with previous studies on bariatric surgery, but researchers went further. For the first time, they measured the length of each patient's telomeres before and after surgical weight loss. Telomeres are genetic biomarkers that play an important role in cellular aging and in the development of disease. As people age or have chronic disease, their telomeres become shorter.

Researchers discovered after gastric bypass, certain patients' telomeres actually became longer. Preoperative patients with high levels of LDL cholesterol, the so called "bad cholesterol," and high levels of inflammation (CRP), not only saw these levels drop within a year of surgery, they also experienced significant lengthening of their telomeres, when compared to patients with initial low LDL and CRP levels.

"Obesity has an adverse effect on health, causes pre-mature aging and reduces life expectancy. This is the first study to show that surgical weight loss may be able to reverse the effects," said study co-author John M. Morton, MD, Chief of Bariatric Surgery at Stanford University Medical Center and President-Elect of the ASMBS. "If your telomeres get longer, you're likely to reverse the effects of aging and have a lower risk of developing a wide range of age-related diseases such as type 2 diabetes, heart and respiratory diseases, and certain types of cancer."

-more-

In the high preoperative CRP group, there was a significant positive correlation between weight loss and telomere length and in the high preoperative LDL group, increases in HDL, the so called "good cholesterol," were associated with increases in telomere length. Researchers measured telomere length using laboratory blood testing that targets and measures specific DNA sequences.

Researchers say further studies are needed to confirm the direct effects of telomere length on health outcomes. In addition to Dr. Morton, study co-authors include Natalia Leva, MD and Trit Garg, also from Stanford University Medical Center.

About Obesity and Metabolic and Bariatric Surgery

According to the Centers of Disease Control and Prevention (CDC), more than 78 million adults were obese in 2011–2012.[1] The ASMBS estimates about 24 million people have severe or morbid obesity. Individuals with a BMI greater than 30 have a 50 to 100 percent increased risk of premature death compared to healthy weight individuals as well as an increased risk of developing more than 40 obesity-related diseases and conditions including type 2 diabetes, heart disease and cancer.[2,3]

Metabolic/bariatric surgery has been shown to be the most effective and long lasting treatment for morbid obesity and many related conditions and results in significant weight loss. The Agency for Healthcare Research and Quality (AHRQ) reported significant improvements in the safety of metabolic/bariatric surgery due in large part to improved laparoscopic techniques.[4] The risk of death is about 0.1 percent[5] and the overall likelihood of major complications is about 4 percent.[6]

About the ASMBS

The ASMBS is the largest organization for bariatric surgeons in the world. It is a non-profit organization that works to advance the art and science of bariatric surgery and is committed to educating medical professionals and the lay public about bariatric surgery as an option for the treatment of morbid obesity, as well as the associated risks and benefits. It encourages its members to investigate and discover new advances in bariatric surgery, while maintaining a steady exchange of experiences and ideas that may lead to improved surgical outcomes for morbidly obese patients. For more information, visit www.asmbs.org.

###

**Does Gastric Bypass Influence Aging? --* *John M. Morton, MD; Natalia Leva, MD; Trit Garg; Presented November 15, 2013*

---

[1]Prevalence of Obesity Among Adults: United States, 2011–2012. (2013). Center for Disease Control and Prevention. Access October 2013 from http://www.cdc.gov/nchs/data/databriefs/db131.htm

[2]Office of the Surgeon General – U.S. Department of Health and Human Services. (2004). Overweight and obesity: health consequences. Accessed October 2013 from http://www.surgeongeneral.gov/topics/obesity/calltoaction/fact_consequences.html

[3]Kaplan, L. M. (2003). Body weight regulation and obesity. *Journal of Gastrointestinal Surgery.* 7(4) pp. 443-51. Doi:10.1016/S1091-255X(03)00047-7. Accessed October 2013.

[4]Encinosa, W. E., et al. (2009). Recent improvements in bariatric surgery outcomes. *Medical Care*. 47(5) pp. 531-535. Accessed October 2013 from http://www.ncbi.nlm.nih.gov/pubmed/19318997

[5]Agency for Healthcare Research and Quality (AHRQ). (2007). Statistical Brief #23. Bariatric Surgery Utilization and Outcomes in 1998 and 2004. Accessed October 2013 from http://www.hcup-us.ahrq.gov/reports/statbriefs/sb23.jsp

[6]Flum, D. R., et al. (2009). Perioperative safety in the longitudinal assessment of bariatric surgery. *New England Journal of Medicine*. 361 pp.445-454. Accessed October 2013 from http://content.nejm.org/cgi/content/full/361/5/445