Weight loss benefits, by the numbers

It stands to reason that if being obese puts additional strain on a person's muscles, bones, and joints, then losing weight should help to ease the burden. Clinical data to back up this assertion are surprisingly scant, though, so a team of physicians and scientists affiliated with the medical school resolved to remedy that oversight.

At the 2009 annual meeting of the American Academy of Orthopaedic Surgeons in Las Vegas in February, Richard Laughlin, M.D., professor and chair of the Department of Orthopaedic Surgery, Sports Medicine, and Rehabilitation, presented the results of a 12-month study of musculoskeletal function in bariatric surgery patients.

The study, conducted by Laughlin and a team of colleagues spanning multiple departments, focused on 50 women aged 20 to 74 who were scheduled for Roux-en-Y gastric bypass surgery. Before surgery and at three and six months following the procedure, investigators took physical measurements and asked participants to complete a Timed-Get-Up-and-Go (TGUG) test and two quality-of-life questionnaires.

While not surprising, their results were quite gratifying. After six months, participants demonstrated a mean improvement of 2.4 seconds, or 19 percent, on the TGUG test and scored higher in all components of the questionnaires.

The findings are significant, according to Laughlin, because they expand on work associating weight loss with a reduced risk of osteoarthritis and the need for total joint arthroplasty (TJA) by demonstrating concrete improvements in basic function.

The team hopes to build on these results by extending the study with data from patients 12 months after surgery. They would also like to launch a longer-term study with a larger patient population.

"Where we would really like to go with the project is to follow these people longitudinally with support from the Lifespan Health Research Center (LHRC)" at the medical school, Laughlin said. "We would like to look at bone density and other body composition parameters, as well as gait, balance, and overall function. We want to get a picture of how the patients function over the long term."

"The surgery affects people's metabolism on a long-term basis," he added. "It changes the whole way patients eat and burn calories and metabolize everything. In the short term, this can also affect their ability to heal wounds. In addition, we want to describe patients' functional levels as they lose weight, so orthopaedic surgery can be scheduled for the optimum time."

In addition to Laughlin, the research team included Michael Iossi, M.D., and Manny Konstantakos, M.D., both residents in the department; Richard Sherwood, Ph.D., associate professor of pediatrics and community health and director of the LHRC; Dana Duren, Ph.D., assistant professor of community health and orthopaedic surgery, sports medicine, and rehabilitation, also with the LHRC; and Donovan Teel, M.D., bariatric surgeon and clinical assistant professor of surgery. VS