

Putting focus on immediate health effects may improve weight loss success

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Most weight loss programs try to motivate individuals with warnings of the long-term health consequences of obesity: increased risk for cancer, diabetes, hypertension, heart disease and asthma. New research suggests the immediate health benefits—such as reduced pain—may be the most effective motivator for helping obese individuals shed extra weight and commit to keeping it off.

In a pilot research study, University of Cincinnati (UC) researchers found that 21 percent of participants in a local dietary weight loss program reported significantly less pain in the lower extremities and back after losing an average of 10 pounds. Additionally, study participants reported a 20 to 30 percent reduction in overall bodily pain after weight loss.

Researchers say their results indicate that even small weight loss can relieve pain and reduce the burden excessive weight puts on the musculoskeletal system.

"By focusing on an immediate benefit that can be felt—like pain reduction—instead of the future health impact of obesity, weight loss programs may be able to inspire overweight individuals to lose weight," says Susan Kotowski, PhD, study collaborator and director of the Gait and Movement Analysis Laboratory in the UC College of Allied Health Sciences.

Kotowski and colleague Kermit Davis, PhD, report their findings in the

August 2010 issue of the journal *Work*.

According to the Centers for Disease Control and Prevention (CDC), 44 million Americans are considered clinically obese. Since 1975, the number of obese Americans has risen from 47 percent to 66.3 percent. Previous studies have estimated obesity-attributable medical expenditures in the United States at \$75 billion, with half of these costs financed by Medicare or Medicaid.

"Obesity has become a national health crisis, but compliance for weight loss programs is notoriously poor. One potential reason for this is that current programs target long-term diseases, with little direct relevance to the person's current health status," adds Davis, senior author of the study and director of the Low Back Biomechanics and Workplace Stress Laboratory at the UC College of Medicine's environmental [health](#) department. "Our study results challenge people to rethink the way they structure weight loss programs."

For this pilot study, UC researchers partnered with a Cincinnati-based weight loss clinic to recruit study volunteers. Thirty two women between the ages of 22 and 76 participated in the study and data was collected over the course of a 12-week dietary weight loss regimen.

Researchers collected baseline individual weight and musculoskeletal pain data related to nine body regions: neck, shoulders, elbows, hands and wrists, upper back, lower back, hips, knees and lower legs and feet. Participants were then tracked each week to record any weight loss and asked to rate their pain on a scale of zero to 10 every other week.

Significant associations were found between weight loss and overall pain reduction, as well as pain reduction in the elbow, hip region and upper and lower back.

Researchers say these preliminary results could have ramifications for companies with a high prevalence of overweight workers with musculoskeletal problems—particularly in industries that require manual or repetitive weight-bearing labor.

"From an ergonomics perspective, we can only do so much to alter the work environment to remove body stressors," explains Kotowski.

"Excess weight adds additional stress to the musculoskeletal system and that can only be relieved through [weight loss](#)."

Provided by University of Cincinnati Academic Health Center

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