

Increased muscle mass may lower risk of pre-diabetes

July 28 2011

A recent study accepted for publication in The Endocrine Society's *Journal of Clinical Endocrinology & Metabolism (JCEM)* found that the greater an individual's total muscle mass, the lower the person's risk of having insulin resistance, the major precursor of type 2 diabetes.

With recent dramatic increases in obesity worldwide, the prevalence of diabetes, a major source of cardiovascular morbidity, is expected to accelerate. Insulin resistance, which can raise [blood glucose](#) levels above the normal range, is a major factor that contributes to the development of diabetes. Previous studies have shown that very low [muscle mass](#) is a risk factor for insulin resistance, but until now, no study has examined whether increasing muscle mass to average and above average levels, independent of obesity levels, would lead to improved blood glucose regulation.

"Our findings represent a departure from the usual focus of clinicians, and their patients, on just losing weight to improve metabolic health," said the study's senior author, Preethi Srikanthan, MD, of the University of California, Los Angeles (UCLA). "Instead, this research suggests a role for maintaining fitness and building muscle. This is a welcome message for many overweight patients who experience difficulty in achieving weight loss, as any effort to get moving and keep fit should be seen as laudable and contributing to metabolic change."

In this study, researchers examined the association of skeletal muscle mass with [insulin resistance](#) and blood glucose metabolism disorders in a

nationally representative sample of 13,644 individuals. Participants were older than 20 years, non-pregnant and weighed more than 35 kg. The study demonstrated that higher muscle mass (relative to body size) is associated with better insulin sensitivity and lower risk of pre- or overt diabetes.

"Our research shows that beyond monitoring changes in waist circumference or BMI, we should also be monitoring muscle mass," Srikanthan concluded. "Further research is needed to determine the nature and duration of exercise interventions required to improve insulin sensitivity and glucose metabolism in at-risk individuals."

Provided by The Endocrine Society

Citation: Increased muscle mass may lower risk of pre-diabetes (2011, July 28) retrieved 3 July 2023 from <https://medicalxpress.com/news/2011-07-muscle-mass-pre-diabetes.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.