

Weight training associated with reduced risk of type 2 diabetes

August 6 2012

Men who do weight training regularly—for example, for 30 minutes per day, five days per week—may be able to reduce their risk of type 2 diabetes by up to 34%, according to a new study by Harvard School of Public Health (HSPH) and University of Southern Denmark researchers. And if they combine weight training and aerobic exercise, such as brisk walking or running, they may be able to reduce their risk even further—up to 59%.

This is the first study to examine the role of <u>weight training</u> in the prevention of type 2 <u>diabetes</u>. The results suggest that, because weight training appears to confer significant benefits independent of aerobic exercise, it can be a valuable alternative for people who have difficulty with the latter.

The study will be published online in *Archives of Internal Medicine* on August 6, 2012.

"Until now, previous studies have reported that aerobic exercise is of major importance for type 2 diabetes prevention," said lead author Anders Grøntved, visiting researcher in the Department of Nutrition at HSPH and a doctoral student in exercise epidemiology at the University of Southern Denmark. "But many people have difficulty engaging in or adhering to aerobic exercise. These new results suggest that weight training, to a large extent, can serve as an alternative to aerobic exercise for type 2 diabetes prevention."



Type 2 diabetes is a major public health concern and it's on the rise. An estimated 346 million people worldwide have type 2 diabetes, and diabetes-related deaths are expected to double between 2005 and 2030, according to the World Health Organization. More than 80% of these deaths occur in low- and middle-income countries.

The researchers, including senior author Frank Hu, professor of nutrition and epidemiology at HSPH, followed 32,002 men from the Health Professionals Follow-up Study from 1990 to 2008. Information on how much time the men spent each week on weight training and aerobic exercise came from questionnaires they filled out every two years. The researchers adjusted for other types of physical activity, television viewing, alcohol and coffee intake, smoking, ethnicity, family history of diabetes, and a number of dietary factors. During the study period, there were 2,278 new cases of diabetes among the men followed.

The findings showed that even a modest amount of weight training may help reduce type 2 diabetes risk. The researchers categorized the men according to how much weight training they did per week—between 1 and 59 minutes, between 60 and 149 minutes, and at least 150 minutes—and found that the training reduced their type 2 diabetes risk by 12%, 25%, and 34%, respectively, compared with no weight training. Aerobic exercise is associated with significant benefits as well, the researchers found—it reduced the risk of type 2 diabetes by 7%, 31%, and 52%, respectively, for the three categories above.

The researchers also found that the combination of weight training and aerobic exercise confers the greatest benefits: Men who did more than 150 minutes of aerobics as well as at least 150 minutes of weight training per week had a 59% reduced risk of type 2 diabetes.

Grøntved said that further research is needed to confirm the results of the study as well as to analyze whether or not the findings can be



generalized to women.

"This study provides clear evidence that weight training has beneficial effects on diabetes risk over and above aerobic exercise, which are likely to be mediated through increased muscle mass and improved insulin sensitivity," said Hu. "To achieve the best results for diabetes prevention, resistance training can be incorporated with aerobic exercise."

More information: "A Prospective Study of Weight Training and Risk of Type 2 Diabetes Mellitus in Men," Anders Grøntved, Eric B. Rimm, Walter C. Willett, Lars B. Andersen, Frank B. Hu, *Archives of Internal Medicine*, online August 6, 2012. doi:10.1001/archinternmed.2012.3138

Provided by Harvard School of Public Health

Citation: Weight training associated with reduced risk of type 2 diabetes (2012, August 6) retrieved 26 April 2024 from <u>https://medicalxpress.com/news/2012-08-weight-diabetes.html</u>

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.