

Increase of just 2,000 steps a day cuts cardiovascular risk by 8 percent in those with high risk of type 2 diabetes

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A large international study of people with impaired glucose tolerance (IGT; a precursor to diabetes) has found that every additional 2000 steps taken a day over one year—roughly equivalent to 20 min a day of moderately-paced walking—reduces the risk of cardiovascular events such as heart attack and stroke by 8 percent.

"People with IGT have a greatly increased risk of cardiovascular disease", explains study leader Dr Thomas Yates from the University of Leicester in the UK in *The Lancet*. "While several studies have suggested that physical activity is beneficially linked to health in those with IGT, this is the first study to specifically quantify the extent to which change in walking behaviour can modify the risk of <u>heart disease</u>, stroke, and cardiovascular-related deaths."

IGT affects about 7.9% of the adult population (344 million people worldwide), and this number is projected to increase to 472 million (8.4%) by 2030.

Data on 9306 adults from 40 countries with IGT and cardiovascular disease or at least one cardiovascular risk factor were taken from the NAVIGATOR trial. All participants received a lifestyle modification programme aimed at reducing body weight and dietary fat intake while increasing physical activity to 150min a week. Using a pedometer, researchers recorded usual walking activity (average number of steps



taken per day) over a week both at the start of the study and again 12 months later.

Statistical modelling was used to test the relationship between the number of steps taken per day and the risk of subsequent cardiovascular disease after adjusting for a wide range of confounding factors such as body-mass index, smoking status, diet, clinical history, and medication use. 531 <u>cardiovascular events</u> were recorded during 45 211 person-years of follow-up.

Both levels of walking activity at the start of the study and change in walking activity over 12 months had a graded inverse association with subsequent risk of cardiovascular disease.

Specifically, for every 2000 steps per day difference in walking activity at the start of the study there was a 10% difference in the risk of cardiovascular disease in subsequent years. On top of this, the risk of cardiovascular disease was further modified by 8% for every 2000 steps per day that walking activity changed between the start of the study and 12 months later.

For example, if subject A took 4000 steps per day at the start of the study and did not change their activity levels over the next 12 months, and subject B took 6000 steps per day at the start of the study and increased their activity levels to 8000 steps per day over the next 12 months, by the end of the study (other things being equal) subject B would have an 18% lower risk of cardiovascular disease.

According to Dr Yates, "Our results provide novel evidence that changing physical <u>activity levels</u> through simply increasing the number of <u>steps</u> taken can substantially reduce the risk of cardiovascular disease, such as <u>heart attack</u> and stroke. Importantly, these benefits are seen regardless of bodyweight status or the starting level of activity. These



novel findings provide the strongest evidence yet for the importance of physical activity in high risk populations and will inform diabetes and <u>cardiovascular disease</u> prevention programmes worldwide."

Writing in a linked Comment, Giuseppe Pugliese and Stefano Balducci from La Sapienza University in Rome, Italy say, "We believe that the NAVIGATOR trial adds compelling and reassuring evidence for the benefits of physical activity on cardiovascular health, although further observational and intervention studies with rigorous and objective assessment of <u>physical activity</u> and fitness are needed."

More information: <u>www.thelancet.com/journals/lan ...</u> (13)62061-9/abstract

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