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*Journal study highlights:*

- Abdominal fat had a significant association with stroke and transient ischemic attack (TIA) risk.
- Waist-to-hip ratio was the strongest predictor of stroke and TIA risk.
- Researchers recommend exercise and a healthy diet to avoid or reduce abdominal fat.

**American Heart Association rapid access journal report:**

**Large waistline linked to stroke risk**

DALLAS, Aug. 15 — An expanding waistline — already known to increase the risk of cardiovascular disease — may also increase risk for stroke and transient ischemic attacks (TIAs), researchers reported in *Stroke: Journal of the American Heart Association*.

A TIA is a “warning stroke” that produces stroke-like symptoms but no lasting damage. Recognizing and treating TIAs can reduce the risk of a major stroke.

In a case-controlled study of 1,137 German adults, measures of abdominal adiposity were strongly associated with the risk of stroke/TIA. Those with the highest waist-to-hip ratio (WHR) had 7.69 times the risk of cerebrovascular disease compared to those with the lowest WHR, even after adjustment for other risk factors.

Increased waist circumference and waist-to-stature ratio (WSR), also showed a strong association, with a 4.25 times risk of stroke and TIA, after risk adjustments.

The study showed that markers of abdominal adiposity are better predictors of cerebrovascular events than body mass index (BMI). An initial association between high BMI and increased risk of stroke became non-significant after adjustment for other risk factors such as physical inactivity, smoking, high blood pressure and diabetes, researchers said.

“Obesity is an increasing problem with 66 percent of the adults in the United States being overweight or obese,” said Tobias Back, M.D., senior author of the study and director of the Department of Neurology at Saxon Hospital Arnstadt in Arnstadt/Dresden, Germany. “In Germany, 50 percent of the adult population is overweight. While gaining too much weight can present health risks, it’s even more dangerous to have the abdominal type of obesity. People should measure their waistline from time to time and avoid the accumulation of abdominal fat.”

The study included 379 participants (average age 66 years) who had previously had a stroke or TIA and 758 age- and sex-matched regional controls.

Patients received a complete diagnostic work-up. Obesity was measured by BMI; waist circumference; WHR, defined as waist divided by hip circumference; and WSR, where the waist circumference is divided by body height.

“If the waist-to-hip ratio values were greater than .97 for men and .84 for women, then individuals faced almost eight times increased risk for stroke compared to individuals with a WHR less than 0.92 in men or less than 0.78 in women,” Back said.

If the waist circumference was greater than 40.2 inches for men or 34.6 inches for women, the risk of stroke increased about four times compared to individuals with normal waistline measures.

“By using different statistical approaches, it was confirmed that waist-to-hip ratio appeared to be the strongest predictor of stroke and TIA risk,” Back said.

The researchers also found a trend towards a gender specific effect. The risk of stroke or TIA was lower in men with abdominal fat than in women with abdominal fat. “The risk was nearly double in women,” Back said. “This was a strong trend, but not statistically significant and will require further research.

“Physicians should measure patient’s waistlines and use the waist-to-hip ratio to estimate stroke risk. World Health Organization-defined categories of WHR or waist circumference should be used. Doctors should also consider the whole vascular risk profile to minimize or modify all possible factors contributing to coronary heart disease, stroke and peripheral artery disease.”

Back advised individuals to be physically active, avoid smoking and eat a healthy diet. “Physical activity was much more common in the controls than in the stroke and TIA patients,” he said. “For example, a Mediterranean diet containing fish and olive oil can lower your risk of coronary heart disease and possibly also lower stroke risk.”

Back said clinical research into therapeutic interventions is needed. “We urgently need trials to test the effect of weight loss on vascular risk profiles, especially on the risk of stroke.”

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**Editor’s note:** For more information on stroke, visit the American Stroke Association Web site: [strokeassociation.org](http://strokeassociation.org).

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