

Larger thighs associated with lower risk of heart disease in obesity

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A larger thigh circumference may be associated with lower blood pressure and a reduced risk of heart disease in people with obesity, according to a study published in *Endocrine Connections*. In overweight and obese Chinese men and women, larger thigh circumferences were associated with lower blood pressure. These findings suggest that carrying more weight on the thighs may be a marker of better heart health in Chinese obese and overweight people, who are at a greater risk of heart disease. Thigh circumference may be useful for targeting obese and overweight people for earlier detection high blood pressure.

High blood pressure is a major public health problem affecting more than 1 billion people worldwide and is the leading cause of mortality and disability globally. A number of factors can increase risk of [high blood pressure](#), such as being overweight, lack of exercise, smoking, or a high amount of salt in the diet. Elevated blood pressure causes excess strain on the heart and arteries and can lead to build-up of fat in blood vessels, limiting blood flow. This increases the risk of serious health conditions such as heart disease and stroke.

Many people are unaware they have high blood pressure as it rarely has noticeable symptoms. Therefore, identifying high risk individuals early and employing intervention strategies such as monitoring diet or increasing exercise may help prevent further damage to [blood vessels](#) and the heart.

Circumference measurements are easy, low cost and previously effective

at evaluating risk of certain diseases—a large waist circumference is well known to be associated with elevated blood pressure and a small [thigh](#) circumference is associated with diabetes. However, there are currently no studies that examine the potential of thigh circumference as an indicator of high blood pressure in people with obesity.

Dr. Zhen Yang from Shanghai Jiao Tong University School of Medicine investigated the association between thigh circumference and blood pressure in a population of 9,250 Chinese men and women aged 40 or older, of which 5,348 were overweight and obese, and 4,172 were normal weight.

A significant link between larger thigh circumference (more than 55cm in men and 54cm in women) and lower prevalence of high blood pressure was observed consistently in both men and women, independently of age, body mass index, and waist circumference. Whereas those with a small thigh circumference (less than 50cm for women and 51cm for men) were more likely to have elevated blood pressure.

"In contrast to stomach fat, leg fat may be beneficial for metabolism. The most likely cause of this association is that there is more thigh muscle and/or fat deposited under the skin which secretes various beneficial substances that help keep blood pressure in a relatively stable range." Dr. Yang explains.

These findings suggest that thigh circumference could potentially be used as a convenient and inexpensive indicator for earlier detection and prevention of high [blood](#) pressure and other related complications, such as [heart](#) disease, in obese or [overweight people](#). However, due to large differences in thigh circumferences among different races and different physical activity groups, the thigh circumference sizes in this study may not be a reference for other populations.

Dr. Yang now plans to further investigate this association by measuring body composition including thigh fat mass, thigh muscle mass, thigh bone mass and thigh proteins. Different proportions of these components may provide clues to the association between thigh [circumference](#) and [blood pressure](#) and may help us develop future treatments.

More information: The study "Large thigh circumference is associated with lower blood pressure in overweight and obese individuals: a community based study" will be published in *Endocrine Connections* on 04 April 2020.

Provided by Society for Endocrinology

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