

## Distribution of Body Fat Important in VTE

Obesity, measured by BMI, is associated with venous thromboembolism (VTE), such as DVT and PE. BMI is a marker of excess weight and correlates well with body fat content in adults; however, it fails to consider the distribution of body fat. The distribution of fat predicts the risk for arterial thrombotic events, such as coronary heart disease. For example, central obesity is a better predictor of coronary heart disease than general obesity as measured with BMI, whereas peripheral obesity, as measured by hip circumference, is not a predictor of coronary heart disease. Few studies have evaluated the association between VTE and anthropometric measures other than BMI.

The aim of this study was to assess the association between anthropometric variables (body weight, BMI, waist circumference, and hip circumference) and VTE.

A 10-year prospective study in Denmark illustrates that the distribution of body fat, as well as the amount, is important when it comes to the risk of (VTE) [1].

In some of the first research to examine this issue, shows that all measures of obesity are predictors of VTE, including body weight, body-mass index (BMI), waist circumference, hip circumference, and total body-fat mass, and that these associations persist after adjustment for known cardiovascular risk factors. The study also found some differences between genders, with hip circumference being predictive of VTE in women but not in men, whereas waist circumference was linked with VTE in men but not women.

In this new study, authors followed 56 014 middle-aged men and women participating in the **Danish Diet, Cancer, and Health** study. They evaluated all measures of body fat at baseline, including measurement of bioelectrical impedance, from which total body-fat mass can be calculated. During 10 years of follow-up, there were 641 incident VTE events, and they found statistically significant positive associations between VTE and all measurements of body size; the associations were the same regardless of the type of VTE.

All types of obesity increase the risk for VTE, but the location of body fat also plays some unknown role. The **American Heart Association (AHA)** statement [2].

### References

1. Severinsen MT, Kristensen SR, Johnsen SP, et al. Anthropometry, body fat and venous thromboembolism. A Danish follow-up study. *Circulation* 2009; DOI:10.1161/CIRCULATIONAHA.109.863241. Available at: <http://circ.ahajournals.org>.
2. American Heart Association. Location of body fat affects risk of blood clots in men, women [press release]. October 26, 2009.