Greater abdominal fat accumulation is associated with higher metabolic risk in Chinese than in white people: an ethnicity study.

INTRODUCTION: Chinese are reported to have a higher percent body fat (%BF) and a higher percent trunk fat (%TF) than whites for a given body mass index (BMI). However, the associations of these ethnic differences in body composition with metabolic risks remain unknown.

METHODS AND PROCEDURES: A total of 1 029 Chinese from Hangzhou, China, and 207 whites from New York, NY, USA, were recruited in the present study. Body composition was measured using dual-energy X-ray absorptiometry (DXA). Analysis of covariance was used to assess the ethnic differences in fat, fat distribution, and metabolic risk factors.

RESULTS: After adjusting for BMI, age, and height, Chinese men had an average of 3.9% more %BF and 12.1% more %TF than white men; Chinese women had an average of 2.3% more %BF and 11.8% more %TF than white women. Compared with whites, higher metabolic risks were detected in Chinese for a given BMI after adjusting for age and height. Further adjustment for %BF did not change these ethnic disparities. However, after adjusting for %TF, the ethnic differences decreased and become insignificant in triglyceride, high-density lipoprotein cholesterol, and blood pressure (except for systolic blood pressure in men). For fasting plasma glucose, the ethnic differences persisted after adjustment for %BF, but decreased significantly from 0.910 to 0.686 mmol/L among
men, and from 0.629 to 0.355 mmol/L among women, when the analyses were further controlled for %TF.

**DISCUSSION:** Chinese have both higher %BF and %TF than white people for a given BMI. However, only %TF could in part account for the higher metabolic risk observed in Chinese men and women.