Symptom-limited graded treadmill exercise testing in young adults in the CARDIA study.

Symptom-limited, graded exercise treadmill testing was performed by 4,968 white and black adults, ages 18-30 yr, during the baseline examination for the CARDIA study. The mean estimated maximal exercise capacity by race/gender, expressed as metabolic units (METS), was: white men 13.8, black men 13.0, white women 11.1, and black women 9.4. Exercise test duration was higher in nonsmokers, positively related to physical activity score and pulmonary function (FEV1 ht-2), and inversely related to body mass index. Men had higher mean values than women for both test duration and a measure of submaximal performance, the workload 130 (WL130, the exercise test duration to a heart rate of 130 beats.min-1). Adjusted for age and education, white men had a longer mean test duration than black men (53 s longer, P less than 0.001), but nearly equal mean WL130. White women had higher mean values than black women for both test duration (114 s longer, P less than 0.001) and WL130 (36 s longer, P less than 0.001). Men had higher mean values than women for both outcome measures (P less than 0.001). Thus, in young adults significant gender and ethnic differences exist for exercise test performance, part of which can be explained by personal habits or traits.