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**Cardiovascular safety of leg-resistance exercise testing in middle-aged
or elderly women with cardiovascular diseases.**

**Ajisaka R, Suzuki Y, Tanabe T, Ootsuki T, Matsuda M, Kuno S,
Watanabe S, and Yamaguchi I**

Abstract

The cardiovascular safety of resistance exercise testing remains unclear for clinically stable women with CVD. So, we investigated the cardiovascular safety of leg-resistance exercise testing in 18 female patients with stable CVD(70 ± 6 yrs) and 9 age-matched healthy women (63 ± 3 yrs). The leg-resistance exercise testing consisted of 10 repetitions of 40%, 60% and 80% of 1RM in straight leg raising (SLR) and in knee extension (KE). Each repetition consisted of 5s lifting motion and pause and 5s lowering motion and pause. Five patients with coronary artery disease underwent exercise (20 repetitions of 60% of 1RM KE) technetium-99m tetrofosmin single-photon emission computed tomography (SPECT). Both the SLR and KE tests, regardless of the % of 1RM, failed to elicit anginal symptoms, ischemic ST-segment depression, or threatening ventricular arrhythmias in the patients with CVD. The HR-increase and BP-elevation during the leg-resistance testing were comparable between the patients with CVD and the healthy subjects. The 60% of 1RM KE test induced no reversible perfusion defects in the 5 patients with coronary artery disease who underwent exercise technetium-99m tetrofosmin SPECT scintigraphy. These results suggest that leg-resistance exercise testing is safe for clinically stable women with CVD.