[**Effects of High-intensity Interval Training on Body Composition, Physical Performance, and Adipocytokines Level**](https://www.ncbi.nlm.nih.gov/pubmed/29621523) **in Aged Female Rats**

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**Abstract:**

Metabolic health may deteriorate with age as a result of altered body composition and decreased physical activity. High-intensity interval training (HIIT) is a time efficient alternative to regular endurance exercise. To better understand the impacts of long-term HIIT during aging, we compared 18-month-old Sprague-Dayley sedentary rat with those that were administered 45-minute treadmill HIIT sessions five times per week over 8 months. Baseline and end point assessments included body composition, physical performance, and serum leptin and adiponectin level. HIIT-trained rat demonstrated dramatic improvement in grip strength (P = 0.0024), inclined plane performance (P = 0.008). Furthermore, serum leptin (P = 0.04) and per cent lean mass increased (P = 0.015), while serum adiponectin (P = 0.04), body fat to lean mass ratio (P = 0.05) and body fat (P = 0.027) decreased after 8 months of HIIT. These results demonstrate that 8 months of HIIT exercise feasible and effective intervention for improving in body composition and physical performance into advanced age and is perhaps mediated via a reduction in adipose tissue-generated cytokine production.