

High-intensity interval training: a potential novel method for improving bone mass

Fergus M Guppy^{1,2}, Rhys Thatcher³, & Joanne A Wallace³

¹Brighton Musculoskeletal Research Centre, University of Brighton, UK

²School of Pharmacy and Biomolecular Sciences, University of Brighton, UK

³Institute of Biological, Environmental and Rural Sciences, Aberystwyth University

Exercise plays a key role in improving bone health with, the magnitude of strain placed upon the skeleton playing a crucial role in stimulating osteogenic effects. This study aims to look at the effects of a high-intensity interval training programme on markers of skeletal health. Eighteen participants (24.4 ± 6.7 yr; 1.77 ± 0.09 m; 79.0 ± 14.5 kg; 25.0 ± 2.8 kg·m⁻²) were randomly assigned, into either a high-intensity interval training or control group. All participants made a single fasted visit to the laboratory, pre- and post- a 6 week high-intensity interval training intervention, where they underwent both a lumbar spine and proximal femur dual-energy x-ray absorptiometry scans. High-intensity interval training was associated with trends for increased femoral neck bone mineral density (1.75 -v- -1.51% $p=0.058$), total hip area (4.81 -v- 0.36% $p=0.083$), and total hip bone mineral content (4.81 -v- 0.05% $p=0.059$) compared with non-exercising controls. The current study demonstrates that high-intensity interval training can potentially elicit positive bone changes within a short time frame in healthy individuals. Although failing to reach statistical significance this method provides interesting further avenues for investigation to potentially improve bone mass.

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