Do HIIT to Get More Fit

Kathryn Lynn, MS, RCEP, Jason Butler, MS, RCEP, Laina Jepsen-Large, MA, RCEP, Tanya Earls, MSN, RN, NEA-BC, Paul McWhirter, MD, F.A.C.C.
John Muir Health Cardiac Conditioning: Concord, CA

Introduction
Recent research has shown evidence that High Intensity Interval Training (HIIT) results in improved cardiovascular outcomes for cardiac rehab patients as compared to Moderate Continuous Training (MCT), including a greater increase in MET levels.

Purpose
The primary goal of this Evidence Based Practice (EBP) was to determine if HIIT is more effective than MCT at improving the heart’s efficiency. Efficiency was measured using Rate Pressure Product/METs (RPP/METs). The work of the heart (SBP x HR, or RPP) decreases and MET levels increase as cardiovascular fitness improves.

Design
This was an unblinded, self-selected project with the choice to participate in either the HIIT or MCT group. This project took place in an outpatient cardiac rehab facility in a suburban community.

Methods
Participants with either MI, PCI, CABG, valve, or CHF were divided into two groups, either HIIT (n=25) or MCT (n=85). The Borg Rating of Perceived Exertion (RPE) Scale (range 6-20) was used to measure intensity. Participants in the HIIT group performed 1:1 alternating periods of intense aerobic exercise at an RPE of 15 with recovery periods of moderate intensity exercise at an RPE of 11-13. HIIT was performed for 30 minutes, 3 times/week for 4-12 weeks. Participants in the MCT group exercised for 45 minutes, 3 times/week, for 4-12 weeks at an RPE of 11-13. For both groups, our primary outcome was change in RPP/METs pre to post treatment.

Results
The HIIT group post - training showed a decrement in RPP/METS of 16% as compared to the MCT group (33.6 versus 39.0 respectively). There was no significant difference in pre RPP/METs between the HIIT group (53.4) and MCT group (52.7), p > 0.25. The difference in post RPP/METs was not statistically significant between the two groups (p = 0.0708).

Conclusions
Although results show a promising trend toward improved cardiac efficiency in the HIIT group, there was no statistical difference so this may be due to chance. Patients will continue to be enrolled in HIIT or MCT in 2017. As the sample size increases the magnitude of effect and statistical significance will become more evident.

References