High-intensity interval training is not superior to other forms of endurance training during cardiac rehabilitation.

BACKGROUND: High-intensity interval training has recently emerged as superior to continuous endurance training in cardiac rehabilitation upon other training regimes. Individually tailored continuous endurance training and pyramid training could induce comparable effects on peak work capacity as high intensity interval training. DESIGN: A prospective, randomized study. METHODS: Effects of the following isocaloric cycle ergometer protocols on peak work capacity have been assessed in patients with coronary artery disease (n = 60) during 6 weeks of outpatient cardiac rehabilitation, i.e. 18 supervised sessions of exercise training: (1) continuous endurance training (n = 20): 33 min at 65-85% peak heart rate; (2) high intensity interval training (n = 20): 4 × 4 min intervals at 85-95% peak heart rate, each followed by 3 min of active recovery at 60-70% peak heart rate; (3) pyramid training (n = 20): 3 × 8 min of stepwise load increase and subsequent decrease from 65-95-65% peak heart rate, supplemented by 2 min recovery at 60-70% peak heart rate between pyramids. All protocols were preceded by 5 min of warm-up and followed...
by 5 min cool-down at 60-70% peak heart rate. RESULTS: Attendance during exercise sessions was 99.2%. There were significant increases in peak work capacity of comparable magnitude in all three training groups (begin vs. end: continuous endurance training: 136.0 ± 49.6 W vs. 163.4 ± 60.8 W (21.1 ± 8.5%); high-intensity interval training: 141.0 ± 60.4 W vs. 171.1 ± 69.8 W (22.8 ± 6.6%); pyramid training: 128.7 ± 50.6 W vs. 158.5 ± 57.9 W (24.8 ± 10.8%); within groups all p < 0.001; between groups, p = not significant). CONCLUSION: Endurance training protocols assessed in this study all led to significant increases in peak work capacity of comparable magnitude. Our findings suggest that these protocols can be used interchangeably, which will lead to further individualization of exercise prescription and may therefore result in improved adherence to lifelong behavioural changes.

Stichworte: Coronary artery disease; exercise training; outpatients; physical work capacity; pyramid training

Dewey Dezimalklassifikation neu: 610 Medizin und Gesundheit; 790 Sport, Spiele, Unterhaltung

Zeitschriftentitel: Eur J Prev Cardiol.

Jahr: 2016

Band: 23

Jahr / Monat: 2016-01

Heft / Issue: 1

Seiten: 14-20

Sprache: en

Volltext / DOI: http://doi.org/10.1177/2047487314560100


WWW: https://www.researchgate.net/publication/268788615_High-intensity_interval_training_is_not_superior_to_other_forms_of_endurance_training_during_cardiac_rehabilitation

Verlag / Institution: Sage

Print-ISSN: 2047-4873

E-ISSN: 2047-4881

Impact Factor: 3.606

Semester (für SAP-Datenerfassung): WS 16-17

TUM Einrichtung: Sportbiologie

Occurrences: