**SDC 2: Exercise adherence methodology and results for Observational, Retrospective, and Follow-up Studies.**

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| **Study (author, year, country)** | | **Exercise prescription** | **Adherence methodology** | | **Adherence results** | **Improvement in exercise capacity (%, mean change)** |
| **Observational studies** | |  |  | |  |  |
| Keech (2020) 33,  Australia | | HIIT:  85-90% HRmax or RPE 14-16  MICT:  Not applicable | **Adherence to attendance:** Number of sessions completed – no criteria specified.  **Adherence to intensity and/or duration:** All sessions monitored continuously with HR monitors. Mean training %HRmax calculated across each work interval, each recovery interval, and for the entire session. Mean RPE was calculated for the 1st, 5th, 10th and last (15th) repetition. | | **Attendance**: Average number of sessions was 12±2 (range 8–14 sessions).  **Mean training HR:**   * HIIT = 84±6% (during work intervals) * HIIT = 87±5% (during final work interval of each set) * HIIT = 89±5% (during final work interval of the session) * HIIT = 78±6% (during recovery intervals)   **Mean training RPE:**   * HIIT = 13.7±1.0 (during final work interval of each set) * HIIT = 14.5±1.2 (during final work interval of the session) | Assessed as VO2peak   * *6 wk*   HIIT: 12% (+3.1 mL/kg/min) |
| **Retrospective studies** | | |  | |  |  |
| Dun (2019) 18,  United States | | HIIT:  RPE 15-17  MICT:  RPE 12-14 | **Adherence to attendance:** Number of sessions completed – 36/36 session criteria applied for study exclusion.  **Adherence to intensity and/or duration:** Exercise intensity and duration of every session were documented. HR was continuously monitored during the training sessions. METs were calculated according to ACSM equations. | | **Attendance**: The retrospective study only included patients that had completed 36/36 sessions. Number of patients excluded based on adherence not reported.  **Mean training duration:**   * 2 weeks: HIIT = 32min, MICT = 24min, *P* < .05 * 4 weeks: HIIT = 33min, MICT = 25 min, *P* < .05 * 8 weeks: HIIT = 35min, MICT: = 27 min, *P* < .05 * 12 weeks: HIIT = 35min, MICT: = 27 min, *P* < .05   **Mean training HR**   * 2 weeks: HIIT = 117bpm, MICT = 100bpm, *P* < .05 * 4 weeks: HIIT = 118bpm, MICT = 99bpm, *P* < .05 * 8 weeks: HIIT = 121bpm, MICT = 102bpm, *P* < .05 * 12 weeks: HIIT = 121bpm, MICT = 102bpm, *P* < .05   No relative HR according to %HRpeak reported.  **Training workload**   * 2 weeks: HIIT = 3.6 METs, MICT = 2.5 METs, *P* < .05 * 4 weeks: HIIT = 3.8 METs, MICT = 2.6 METs, *P* < .05 * 8 weeks: HIIT = 3.8 METs, MICT = 2.8 METs, *P* < .05 * 12 weeks: HIIT = 3.8 METs, MICT = 3.1 METs, *P* < .05 | Not reported |
| Lee (2018) 42,  Canada | | HIIT:  Jogging, not otherwise specified  Usual care:  60-80% VO2peak | **Adherence to attendance:** Criteria for adherence was completion of pre and post assessments – applied for per-protocol analysis instead of intention-to-treat.  **Adherence to intensity and/or duration:** In addition to achieving target walking speeds and/or distance, exercise intensity was monitored and progressed using HR and RPE. Patients documented the duration, intensity, and frequency of exercise sessions in self-report weekly exercise diaries, which monitored for adherence by CR staff. | | **Attendance**: completion rates for the program:   * HIIT = 66% (772/1172) and usual care = 74% (6554/4863)   **Training intensity and/or duration:** data not reported. Investigators did not have access to weekly exercise diaries. | Assessed as VO2peak   * *26 wk*   HIIT: 33% (+8.2mL/kg/min)  Usual care: 25% (+5.2mL/kg/min) |
| Way (2020) 23,  Canada | | HIIT:  85-95% HRmax or RPE 15-17  MICT:  Not applicable | **Adherence to attendance:** assessed as the number of sessions completed – 70% criteria.  **Adherence to intensity and/or duration:** Exercise compliance was assessed as the ability to complete the prescribed intensity for the high and low intervals. HR was continuously measured by HR monitors or on aerobic exercise equipment. HR was recorded after the first and last high and low intervals at each session. Patients were instructed to record a typical RPE (6-20 scale) representing the effort of all the high and low intervals during HIIT. The HRs across all classes for the high and low intervals for each patient were averaged. | | **Attendance**: of sessions was 16 ± 5 (out of 20 classes) with 73% of patients completing ≥70% of the classes.  **Training HR:**   * High intervals: 80% of participants met or exceeded the target HR. Mean HR not reported. * Low intervals: 84% of participants met or exceeded the target HR. Mean HR not reported.   **Training RPE:**   * High intervals = 14.0 ± 2.0. 58% of participants reported lower than target RPE. * Low intervals = 10.0 ± 2.0. 61% of participants reported lower than target RPE. | Not reported |
| **Follow-up studies** | | |  | |  |  |
| Aamot (2016) 44,  Norway | HIIT:  85–95%HRpeak  MICT:  Not applicable | | | **Adherence to attendance:** assessed as meeting physical activity guidelines (30min moderate intensity exercise per day). Participants were asked to report if they exercised regularly (yes/no) and private use of HR monitors during exercise over the last year. Self-reported exercise adherence and physical activity (IPAQ), objectively measured physical activity (accelerometer).  **Adherence to intensity and/or duration:** assessed as minutes spent in moderate and vigorous PA by accelerometry. | **Attendance**: patients meeting the daily recommended 30minutes of moderate physical activity was 95% (69/73), with no differences between groups.  Regular exercise and use of HR monitors during exercise was more often reported in the home-based group compared to hospital-based groups (*P* <.005 and *P* <.001 respectively).  **Time spent in moderate and vigorous physical activity**: Vigorous physical activity increased from baseline to 12-wk by (p = 0.037), but not baseline to 12-mo (*P* = .130), with no difference in between groups. Time spent in moderate or low intensity physical activity did not change over time. Strong trend towards increased moderate physical activity (*P* = .06) in home-based group compared with hospital-based groups. | Assessed as VO2peak   * *12 wk*   TE: 12% (+4.3mL/kg/min)  GE: 10% (+3.3mL/kg/min)  HE: 8% (+2.8mL/kg/min)   * *52 wk compared to baseline*   TE: 4% (+1.6mL/kg/min)  GE: 4% (+1.4mL/kg/min)  HE: 6% (+2.2mL/kg/min) |
| Moholdt (2011) 46, Norway | HIIT:  90% HRpeak  Other:  Not specified | | | **Adherence to attendance:** Number of weekly sessions per week – methods not specified.  **Adherence to intensity and/or duration:** no methods reported | **Attendance**: self-reported exercise frequency:   * ≥ 2 times/wk any exercise: HIIT = 82% (18/22), and usual care = 58% (23/40) * <1 times/week: HIIT = 1/22, usual care = 20% (8/40)   **Training intensity and/or duration:** data not reported. | Assessed as VO2peak   * *6 mo*   HIIT: 12% (+3.7mL/kg/min)  MICT: 6% (+1.8mL/kg/min)   * *30 mo compared to baseline*   HIIT: 7% (+2.2mL/kg/min)  MICT: 1% (+0.4mL/kg/min) |
| Nilsson (2017) 19, Norway | HIIT:  High intensity, not otherwise specified | | | **Adherence to attendance:** assessed as >80% criteria for sessions during 12-week intervention. Applied as inclusion criteria for the long-term follow-up. Participants asked to report the number of exercise sessions/week (>30 minutes sweaty and breathless) they had between completing between the end of the supervised program and 15-month follow up.  **Adherence to intensity and/or duration:** no methods reported | **Attendance**: patients completing 80% of sessions during the 12-wk supervised program was 65% (86/133).  Between the program end and the 15-mo follow-up, the patients reported completing 2.5±1 exercise sessions/wk.  **Training intensity and/or duration:** data not reported. | Assessed as VO2peak   * *12 wk*   HIIT: 13% (+4.0mL/kg/min)  14% (+3.9mL/kg/min) for patients not invited for follow up.   * *15 mo*   HIIT: 15% (+4.9mL/kg/min) |
| Pattyn (2016) 45,  Belgium  (SAINTEX-CAD Study) | HIIT:  90-95% HRpeak  MICT:  65-75% HRpeak | | | **Adherence to attendance:** assessed as meeting physical activity guidelines (150min moderate intensity exercise per week).  **Adherence to intensity and/or duration:** measured objectively by accelerometry as duration of moderate physical activity (between 3 and 6 METs; minutes), vigorous physical activity (>6 METs; minutes), and total physical activity (sum of moderate and vigorous activity) | **Attendance**: patients meeting the international physical activity guidelines (150min/wk):   * HIIT = 93.1%, and MICT = 89.6% (*P*>.05).   **Time spent in moderate intensity (min/d)**:   * 12 weeks: HIIT = 80.8 (15.2–310), MICT = 81.6 (9.8–400) * 12 months: HIIT = 85.2 (18.4–392), MICT = 83.0 (6.0–316)   **Time spent in vigorous intensity (min/d)**:   * 12 weeks: HIIT = 0.9 (0–21.2), MICT = 0.6 (0–24.0) * 12 months: HIIT = 0.8 (0–28.8), MICT = 0.6 (0–18.0) | Assessed as VO2peak   * *12 wk*   HIIT: 23% (+5.1mL/kg/min)  MICT: 20% (+4.4mL/kg/min)   * *52 wk compared with 12week*   HIIT: -3% (-1.0mL/kg/min)  MICT: -3% (-0.9mL/kg/min) |

Abbreviations: HIIT, high intensity interval training; MICT, moderate intensity continuous training; HR, heart rate; %HRpeak, percentage of peak heart rate from maximal exercise test; VO2peak, peak oxygen uptake measured during a maximal exercise test; %HRR, percentage of heart rate reserve; METS, metabolic equivalents; %PPO, percentage of peak power output achieved during a maximal exercise test; RPE, rating of perceived exertion (on the 6-20 Borg Scale unless otherwise specified); HRmax, percentage of maximum heart rate from maximal exercise test.

HRpeak and HRmax are often used interchangeably and have been reported within the table as consistent with how the metric was reported by the study.