**Supplementary Table: Randomized studies evaluating rehabilitation programs in HFpEF**

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| **Study** | **Population** | **Rehabilitation program** | **Follow-up** | **Outcome** |
| Gary et al63 | 32 women with New York Heart Association class II and III (left ventricular ejection fraction >45% and symptoms of dyspnea or fatigue) | home-based,  low-to-moderate intensity (40% and 60%, respectively) exercise and education program (intervention) or education only program (control) | 3 months | The intervention group improved the 6-minute walk test (840 +/- 366 ft to 1043 +/- 317 ft versus 824 +/- 367 ft to 732 +/- 408 ft p=.0002). Quality of life in the intervention arm (24 +/- 18 to 19 +/- 18 vs 28 +/- 22 to 32 +/- 27 p=0.014) Geriatric Depression Scale also improved in the intervention arm ( 4 +/- 4 to 4 +/- 4 vs 7 +/- 5 to 7 +/- 5 p=0.009). |
| Kitzman et al64 | 63 patients with HFpEF | Exersice training (walking, arm and leg ergometry, versus attention control) | 16 weeks | Exercise increased peak Vo2 (15.8±3.3 ml/kg/min versus 13.8±3.1 ml/kg/min, p= 0.0001) and improved quality of life. Resting left ventricular systolic and diastolic function remained unchanged |
| Kitzman et al65 | 63 patients with HFpEF | Exercise training (walking, arm and leg ergometry, versus attention control) | 16 weeks | Exercise increased peak Vo2 (15.8 ± 3.3 ml/kg/min versus 13.8 ± 3.1 ml/kg/min, p = 0.0001) and quality of life. Brachial artery flow mediated dilation (3.8 ± 3.0% versus CT: 4.3 ± 3.5%, p = 0.88), and carotid arterial distensibility (0.97 ± 0.56 versus 1.07 ± 0.34 × 10(-3) mm·mm Hg(-2); p = 0.65) were unchanged. Resting left ventricular systolic and diastolic function were unchanged. |
|  |  | **:**After training group A showed increased peak oxygen consumption by 33.8% (19.5 vs. 26.1 ml/kg/min, p<0.05) and B by 32.3% (19.5 vs. 25.8 ml/kg/min, p<0.05), maximal treadmill tolerance by 48.5% (p<0.05) and by 46.4% (p<0 |  |  |
| Pandey et al66 | 24 patients with HFpEF and 24 patients with HFrEF > 65 years old | A supervised moderate intensity endurance exercise training versus control | 16 weeks | Training related improvement in VO2peak was higher in HFpEF vs. HFrEF patients (% change: 18.7±17.6 vs. −0.3±15.4; p <0.001). |
| Palau et al67 | 61 patients with stable HFpEF | inspiratory muscle training (IMT), functional electrical stimulation (FES), versus a combination of both (IMT + FES) | 24 weeks | At 12 weeks, the mean increase in peak VO2 (mL/kg/min) compared with usual care was 2.98, 2.93, and 2.47 for IMT, FES, and IMT + FES, respectively (p<0.001) and this beneficial effect persisted after 6 months (1.95, 2.08, and 1.56; p<0.001) |
| Smart et al68 | 30 patients with HFpEF | Exercise training versus conttrol | 16 weeks | peak VO2 increased significantly only in the exercise training group (24.6%, p=0.02 versus 5.1%, p=0.19).  VE/VCO2 slope was reduced by 12.7% in the exercise training group p=0.02 but was unchanged in the non-exercising control group (p=0.3). |
| Edelman et al69 | 64 patients with HFpEF | supervised endurance/resistance training in addition to usual care (or to usual care alone | 3 months | Peak Vo(2) significantly increased with exercise (16.1±4.9 ml/min/kg to 18.7±5.4 ml/min/kg; p< 0.001) while remained unchanged in usual care (16.7±4.7 ml/min/kg to 16.0±6.0 ml/min/kg; p= NS) |
| Haykowsky et al70 | 40 patients with stable HFpEF | Exercise training versus control | 4 months | peak VO2 was increased in exercise training group (16.3±2.6 ml/kg/min vs. 13.1±3.4 ml/kg/min; p= 0.002). No difference in peak end-diastolic volume or cardiac output Estimated peak arterial-venous oxygen difference was significantly higher in exercise training group (19.8±4.0 ml/dl vs. 17.3±3.7 ml/dl; p=0.03). |
| Donelli da Silveira71 | 19 patients with HFpEF | high-intensity interval training or moderate continuous training | 12 weeks | peak VO2 increased 22% more in the high-intensity group compared with 11% in the moderate group |
| Mueller et al72 | 180 sedentary patients with chronic, stable HFpEF | high-intensity interval training (3 × 38 minutes/week), moderate continuous training (5 × 40 minutes/week), or guideline control (1-time advice on physical activity according to guidelines) | 12 months (3 months in clinic followed by 9 months telemedically supervised home-based exercise) | No comparisons were statistically significant. There were no significant changes in diastolic function or natriuretic peptides. |
| Kaltsatou et al75 | 51 with chronic, stable HFpEF | Randomly assigned to either training with Greek traditional dances or a sedentary control group | 8 months | Training group showed increased in peak oxygen consumption by 33.8% and maximal treadmill tolerance by 48.5% (*p*<0.05 for both). Trained patients revealed significant improvement in the quality of life indices. |
| Fu et al76 | 120 patients with heart failure (30 with HFpEF) | Randomized to either aerobic interval training (3-min intervals at 40% and 80% VO2peak for 30 mins/day, 3 days/wk) or general health care | 12 weeks | Exercise decreased E/e’ ratio, increased blood distribution to the frontal cerebral lobe/vastus lateralis muscle and O2 extraction by vastus lateralis muscle and increased peak VO2. |
| Angadi et al77 | 19 patients with HFpEF | Randomized to either to high intensity exercise intervals (4 × 4 min at 85-90% peak heart rate, with 3 min active recovery) or moderate intensity intervals (30 min at 70% peak heart rate). | 4 weeks | High intensity exercise significantly improved V̇o₂peak (pre = 19.2 ± 5.2 ml·kg(-1)·min(-1); post = 21.0 ± 5.2 ml·kg(-1)·min(-1); P = 0.04) and left ventricular diastolic dysfunction grade (pre = 2.1 ± 0.3; post = 1.3 ± 0.7; P = 0.02). A trend for reduced left atrial volume index was observed following high intensity exercise (-3.3 ± 6.6 vs. +5.8 ± 10.7 ml/m(2); P = 0.06) |
| Lang et al78 | 50 patients with heart failure and ejection fraction > 45% | Randomized to either REACH-HF manual (incorporates five core informative and interactive elements covering a wide range of topics relating to living with/adapting to living with heart failure and a progressive exercise training program) or general care | 6 months | REACH-HF program showed a beneficial effect in the primary outcome of Minnesota Living with Heart Failure Questionnaire total score (between-group mean difference −11.5, 95% CI −22.8 to 0.3). |

Heart failure with preserved ejection fraction: HFpEF, Heart failure with educed ejection fraction: HFrEF, peak oxygen consumption: peak VO2,