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Rehabilitation of patients with chronic heart failure: a review based on the 2026 ESC guidelines

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Exercise training has evolved from an adjunctive measure into the cornerstone of cardiac rehabilitation (CR) in patients with chronic heart failure (CHF). Exercise intolerance has central and peripheral components, including skeletal myopathy, endothelial dysfunction and chronotropic incompetence. The 2026 ESC Heart Failure Guidelines abolished the HFmrEF category, leaving heart failure with reduced (HFrEF, EF <50%) and preserved ejection fraction (HFpEF, EF ≥50%), and introduced the concept of foundational medical therapy, on which CR builds.[1] The first ESC Guidelines on Cardiac Rehabilitation, published the same year, recommend exercise-based CR for all stable CHF patients regardless of ejection fraction (class I) to improve peak oxygen uptake (VO_2peak) and quality of life; it is also recommended to reduce hospitalisations in HFrEF (class I) and should be considered for this purpose in HFpEF (class IIa).[2] Meta-analyses report gains of 1.8-3.1 ml/kg/min in VO_2peak and 37-85 m in 6-minute walk distance, with similar VO_2peak gains in HFpEF, but no reduction in all-cause mortality.[2,3] High-intensity interval training (HIIT) yields slightly greater VO_2peak gains than moderate-intensity continuous training (MICT) in HFrEF, but not in HFpEF in the OptimEx-Clin trial;[4] HIIT may be considered (class IIb), but only in supervised settings in medically cleared patients, while MICT remains the standard. Combined aerobic, resistance and inspiratory muscle training is proposed when tolerated. Intensity should preferably be prescribed by ventilatory thresholds (VT1, VT2) from cardiopulmonary exercise testing, as the response to fixed percentages of heart rate varies widely. Benefit increases with the number of sessions; the median programme duration in trials is 3-4 months, considerably longer than traditional three-week programmes in Croatia. Risk stratification determines the setting: inpatient CR for advanced (NYHA III-IV) or unstable patients, and centre-based, tele- or hybrid CR for stable patients.[2] In REHAB-HF,[5] an early multidomain programme started during hospitalisation improved physical function, quality of life and depression in older, frail patients regardless of ejection fraction, and CR should be considered in decompensated heart failure as soon as safely possible (class IIa).[1,2] Frailty and comorbidities are not a reason to withhold CR. Despite clear recommendations and proven cost-effectiveness, CR remains underused, including in Croatia, where CHF is still not on the indication list for CR as a primary diagnosis. Future priorities include standardised training protocols, programmes for older and recently hospitalised patients, and telerehabilitation.

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LITERATURE

1. Køber L, Adamo M, Ruwald AC, Tomasoni D, Anderson LJ, Andersson C, et al. 2026 ESC Guidelines for the management of heart failure. Eur Heart J. 2026;47(38):5346-5457. https://doi.org/10.1093/eurheartj/ehag100
2. Bäck M, Wilhelm M, Marcin T, Machado FVC, Sandberg A, Buccheri S, et al. 2026 ESC Guidelines on cardiac rehabilitation. Eur Heart J. 2026 Oct 23;47(39):5631-5729. https://doi.org/10.1093/eurheartj/ehag099
3. Tegegne TK, Rawstorn JC, Nourse RA, Kibret KT, Ahmed KY, Maddison R. Effects of exercise-based cardiac rehabilitation delivery modes on exercise capacity and health-related quality of life in heart failure: a systematic review and network meta-analysis. Open Heart. 2022;9:e001949. https://doi.org/10.1136/openhrt-2021-001949
4. Mueller S, Winzer EB, Duvinage A, Gevaert AB, Edelmann F, Haller B, et al. Effect of high-intensity interval training, moderate continuous training, or guideline-based physical activity advice on peak oxygen consumption in patients with heart failure with preserved ejection fraction: a randomized clinical trial. JAMA. 2021;325(6):542-51. https://doi.org/10.1001/jama.2020.26812
5. Kitzman DW, Whellan DJ, Duncan P, Pastva AM, Mentz RJ, Reeves GR, et al. Physical rehabilitation for older patients hospitalized for heart failure. N Engl J Med. 2021;385:203-16. https://doi.org/10.1056/NEJMoa2026141