

Synopsis

Restricting dietary sodium is a common non-pharmacological treatment for patients with HF symptomatic with congestion, but specific recommendations have been based on low-quality evidence (7). Concerns about the quality of data regarding clinical benefits or harm of sodium restriction in patients with HF include the lack of current pharmacological therapy, small samples without sufficient racial and ethnic diversity, questions about the correct threshold for clinical benefit, uncertainty about which subgroups benefit most from sodium restriction (7,8), and serious questions about the validity of several RCTs in this area (9–11). However, there are promising pilot trials of sodium restriction in patients with HF (3,5,6). The AHA currently recommends a reduction of sodium intake to <2300 mg/d for general cardiovascular health promotion (12); however, there are no trials to support this level of restriction in patients with HF (13). Sodium restriction can result in poor dietary quality with inadequate macronutrient and micronutrient intake (14). Nutritional inadequacies have been associated with clinical instability (15–17), but routine supplementation of oral iron (18), thiamine (19), zinc (20), vitamin D (21), or multivitamins has not proven beneficial (22). The DASH diet is rich in antioxidants and potassium, can achieve sodium restriction without compromising nutritional adequacy when accompanied by dietary counseling (5), and may be associated with reduced hospitalizations for HF (23).

Recommendation-Specific Supportive Text

1. A registered dietitian- or nurse-coached intervention with 2 to 3 g/d sodium restriction improved NYHA functional class and leg edema in patients with HFrEF (1). In a nonrandomized study (>2.5 g/d versus <2.5 g/d), lower dietary sodium was associated with worse all-cause mortality in patients with HFrEF (2). In small RCTs, aggressive sodium restriction (0.8 g/d) during hospitalization for acute decompensated HF has not reduced weight, congestion, diuretic use, rehospitalization, or all-cause mortality in patients with HFrEF (24) or in patients with HFpEF (25). A recent pilot RCT (N=27) showed that providing patients with 1.5 g/d sodium meals can reduce urinary sodium and improve QOL but not improve clinical outcomes (3). Another recent pilot RCT (N=38) of 1.5 versus 2.3 g/d sodium resulted in sodium intake and improvement in BNP levels and QOL in the 1.5 g/d sodium intake arm (5); the full trial is due to be completed in 2022. A third pilot RCT (N=66) of home-delivered 1.5 g/d meals showed favorable but nonsignificant trends toward improvement in clinical status and readmission rates (6). Moreover, results from RCTs have shown that reducing dietary sodium is difficult to achieve in patients with HF, even with prepared meals (3) or home visits (26).

7.1.3. Management of Stage C HF: Activity, Exercise Prescription, and Cardiac Rehabilitation

Recommendations for Management of Stage C HF: Activity, Exercise Prescription, and Cardiac Rehabilitation

Referenced studies that support the recommendations are summarized in the [Online Data Supplements](#).

COR	LOE	RECOMMENDATIONS
1	A	1. For patients with HF who are able to participate, exercise training (or regular physical activity) is recommended to improve functional status, exercise performance, and QOL (1–9).
2a	B-NR	2. In patients with HF, a cardiac rehabilitation program can be useful to improve functional capacity, exercise tolerance, and health-related QOL (1,2,5,6,8).

Synopsis

Exercise training in patients with HF is safe and has numerous benefits. In a major trial of exercise and HF, exercise training was associated with a reduction in CVD mortality or hospitalizations in the exercise training group after adjustment for risk factors (1). Meta-analyses show that cardiac rehabilitation improves functional capacity, exercise duration, and health-related QOL. A cardiac rehabilitation program for patients with HF usually includes a medical evaluation, education regarding the importance of medical adherence, dietary recommendations, psychosocial support, and an exercise training and

physical activity counseling program. Patients with HF on optimal GDMT, who are in stable medical condition and are able to participate in an exercise program, are candidates for an exercise rehabilitation program (10,11).

Recommendation-Specific Supportive Text

1. Evidence from RCTs indicates that exercise training improves functional status, exercise performance, and QOL in patients with HFrEF and HFpEF. In HF-ACTION, the largest randomized trial with exercise training in patients with HF (1), 2331 patients with LVEF ≤35% (NYHA class II and III) were randomized to usual care