Hallmarks of patients with chronic heart failure (CHF) are exercise intolerance and dyspnea. Early observations have already shown that reduced exercise capacity is not easily explained by myocardial function alone. Accumulating evidence emphasizes the importance of alterations in the skeletal muscle and endothelium in CHF patients. During the last years many alterations in these peripheral organs were documented possibly related to exercise intolerance and dyspnea. In addition exercise training has been proven to be a powerful therapeutic tool to treat exercise intolerance in this patient cohort. PD Dr. Adams will discuss current concepts of peripheral maladaptation in chronic heart failure and the potential mechanisms of the beneficial effects of exercise training.