Positive affective states, such as optimism, have been associated with superior cardiovascular outcomes. However, to our knowledge, positive psychology interventions have never been attempted in heart disease patients. Our primary objective was to develop an 8-week, phone-based positive psychology intervention for patients with acute cardiac disease. Secondarily, we assessed the intervention’s feasibility and acceptability in a small three-arm randomized pilot trial. Overall, we were able to successfully create and pilot test the intervention. The intervention appeared to be feasible and easy to complete, and subjects in the positive psychology arm of the pilot trial had numerically greater improvements in clinical outcomes than subjects in active or attentional control groups.