Heart failure continues to plague a large population worldwide, and its incidence is increasing annually as a result of an aging population. It is associated with lengthy hospital stays, multiple hospital readmissions, and decreased quality of life because of its clinical manifestations. Although cardiac transplantation has become the therapy of choice for patients with heart failure, scarcity of donor hearts and age limitations prohibit its widespread use. Despite major advances in medical management, researchers continue to explore alternative surgical therapies to help augment cardiac function. This article explores surgical interventions in the management of heart failure, many of which are still experimental or in clinical trials. Coronary artery bypass surgery, dynamic cardiomyoplasty, and partial left ventriculectomy for the management of heart failure are discussed in detail. Descriptions of each surgical procedure, special care needs, and clinical outcomes are presented. However, because readers are familiar with the coronary artery bypass procedure and postoperative patient care, the discussion will focus on issues related to coronary artery bypass grafting in the presence of ischemic cardiomyopathy.