

The Effect of Nutrients on Cardiac Endpoints in Heart Failure Promotion of adequate nutrition begins with early detection of children at risk for malnutrition. However, more studies are needed in order to tease out the complex interaction between obesity and active heart failure with particular focus on the pediatric population that has been often difficult to study owing to limited numbers of children available to study. One mechanism may be that increased body fat provides a metabolic reserve that allows overweight and obese patients to tolerate the metabolic/catabolic stress associated with heart failure pathology for a longer time. Another potential mechanism is related to the hypothesized differences in proinflammatory cytokine activity between underweight and overweight/obese individuals with heart failure. Optimal nutrition is critical in providing children the means to recover from their illness and to withstand the detrimental metabolic effects of aggressive therapies. Our current recommendations focus on decreasing body fat accumulation due to the known adverse effects and secondary diseases they may develop from obesity. In theory, patients with heart failure who have either insufficient fat mass (BMI = 85% for age and sex) should have poorer outcomes than patients with a BMI in the reference range (between 10% and 95%). In addition to releasing proinflammatory cytokines, adipose tissue is a source of anti-inflammatory cytokines. Although excess body fat may increase the risk of developing heart failure, evidence suggests that it may be beneficial once heart failure develops. However, it is not known whether the potential positive effects of excess body fat in patients with heart failure vary depending on body fat distribution.