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**Hypothesis:** 1. The primary hypothesis is that salt taste affinity will increase from admission to discharge of an ADHF hospitalization. 2. Secondary hypotheses are that salt taste affinity is a) reduced at post-discharge follow-up; b) age-dependent; c) associated with daily diuretic dosing and weight changes; d) reduced among patients admitted for ADHF compared to stable outpatients with HF and patients hospitalized for non-cardiovascular causes.

**Specific Aims:** Acute decompensated heart failure (ADHF) is the leading cause of hospitalization in older persons, and expenditures in the U.S. for this diagnosis exceed \$15 billion/year. The role of dietary 'indiscretion' in precipitating ADHF has been appreciated for decades.(2-4) Dietary sodium restriction is associated with reduced risk for ADHF in observational studies, and has been described as a 'cornerstone of HF disease management.' However, several randomized studies suggest that this strategy may be ineffective or even harmful in recently discharged ADHF patients. Sodium intake is closely related to the ability to taste salt, which is impaired in patients commonly admitted for ADHF due to age-related changes, comorbid conditions, medication use, and micronutrient or electrolyte abnormalities.

The 'hedonic shift' occurs when sodium restriction induces changes in an individual's salt taste that lower subsequent salt affinity. While this shift usually requires at least several weeks to occur, an initial transient increase in salt affinity takes place over the first several days of sodium restriction. Patients with HF are often have compromised salt taste and higher dietary salt affinity. The underlying tenet of this proposal is that the sodium restricted diet that is routinely prescribed to patients during hospitalization for ADHF may in fact produce a higher salt taste affinity at discharge that places patients at risk for subsequent decompensation due to dietary non-adherence.

Aim 1: To assess the change in salt taste threshold sensitivity from admission to discharge during ADHF after administration of sodium-restricted diet.

Aim 2: To assess the change in salt taste threshold sensitivity from discharge to outpatient follow-up visit after sodium-restricted dietary counseling.

Aim 3: To assess the baseline salt taste threshold sensitivity on admission for patients with ADHF compared to three sets of controls—i) age-matched healthy volunteers without cardiovascular disease, ii) age-matched patients with stable heart failure in an outpatient clinic, and iii) healthy younger volunteers without known medical history.

By assessing the relationship of salt taste to age, heart failure status, and sodium-restriction during hospitalization, we will address a critical evidence gap in our understanding of the effects of salt taste on individuals with heart failure and subsequent treatment with sodium-restriction during ADHF admission. The results have the potential to alter our dietary practices during ADHF hospitalization and further highlight the importance of salt taste in the pathophysiology of heart failure. The results may additionally emphasize the need for post-discharge dietary interventions in the management of a particular vulnerable population.