

**Impact of CHF on Postoperative Outcomes of Primary THA: An ACS NSQIP Analysis 2008-2016**

**Introduction:** Total hip arthroplasty (THA) is a commonly performed procedure, particularly in the elderly population. In the scientific literature, there is a gap regarding the impact of CHF on post-operative THA outcomes. This study aims to explore possible post-operative consequences of comorbid CHF in patients undergoing THA.

**Methods:** The ACS NSQIP database was queried between 2008 and 2016 for patients undergoing THA. 1:1 propensity score matching controlled for age, gender, BMI, and estimated probability of morbidity. Patient demographics, 30-day postoperative outcomes, and comorbidities were collected. Univariate analysis compared the two groups, and binary logistic regression models identified congestive heart failure as a risk factor for adverse postoperative outcomes.

**Results:** 139,786 patients that underwent THA were identified (491 with CHF, 139,295 without CHF). Propensity score matching identified 408 patients with and without CHF. CHF was found to be an independent predictor of higher risk for deep SSI (OR 8.1 [1.0-65.4]; p=0.049), cardiac complications (OR 2.6 [1.1-6.4]; p=0.031), readmission (OR 1.6 [1.0-2.6]; p=0.048), reoperation (OR 3.4 [1.6-7.3]; p=0.002), and mortality (OR 3.9 [1.3-11.7]; p=0.017). These patients were more likely to have an extended hospital stay (5.3 vs. 4.0 days; p<0.001) and to be ASA class III or IV (94.0% vs. 90.2%; p=0.011).

**Conclusion:** CHF was found to increase the risk of multiple post-operative complications, readmission, reoperation, and even mortality. This relationship needs to be accounted for when planning to perform a THA on a patient with CHF, and the risks must be explained in depth pre-operatively.