

# 20-Year Survival Following Orthotopic Heart Transplantation in the United States

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## Abstract

**Background:** This study evaluated 20-year survival following adult orthotopic heart transplantation (OHT). **Methods:** The United Network of Organ Sharing Registry database was queried to study adult OHT recipients between 1987-1998 with over 20-year posttransplant follow-up. The primary and secondary outcomes were 20-year survival and cause of death following OHT, respectively. Multivariable logistic regression was used to identify significant independent predictors of long-term survival, and long-term survival was compared among cohorts stratified by number of predictors using Kaplan Meier survival analysis. **Results:** 20,658 patients undergoing OHT were included, with median follow-up of 9.0 (IQR 3.2-15.4) years. Kaplan-Meier estimates of 10-, 15-, and 20-year survival were 50.2%, 30.1%, and 17.2%, respectively. Median survival was 10.1 (IQR 3.9-16.9) years. Increasing recipient age (>65 years), increasing donor age (>40 years), increasing recipient BMI (>30), black race, ischemic cardiomyopathy, and longer cold ischemic time (>4 hours) were adversely associated with 20-year survival. Of these 6 negative predictors, presence of 0 risk factors had the greatest 10-year (59.7%) and 20-year survival (26.2%), with decreasing survival with additional negative predictors. The most common cause of death in 20-year survivors was renal, liver, and/or multisystem organ failure whereas graft failure more greatly impacted earlier mortality. **Conclusions:** This study identifies six negative preoperative predictors of 20-year survival with 20-year survival rates exceeding 25% in the absence of these factors. These data highlight the potential for very long-term survival following OHT in patients with end-stage heart failure and may be useful for patient selection and prognostication.

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