Drug-eluting stents provide the best one-year survival for patients with kidney disease who also must be treated for heart disease, but bypass surgery provides the best long-term survival, according to a study by Charles Herzog, MD, and Craig Solid, MS, of the Cardiovascular Special Studies Center at the United States Renal Data System (USRDS) in Minneapolis, Minn. Coronary artery disease and other cardiovascular diseases constitute the single largest cause of death in kidney disease patients on dialysis. Therapies used to treat these patients include heart bypass surgery and stents, or scaffolds placed into narrowed coronary arteries. Many stents used today are drug-eluting, slowly releasing drugs that block clots from forming.

Despite the widespread use of these therapies, it is unclear which is best for treating patients with coronary artery disease in patients with kidney disease, so the investigators analyzed information housed in the USRDS to see whether different therapies resulted in different survival outcomes. They found data from 2003 to 2005 on 13,066 dialysis patients undergoing their first coronary revascularization procedure after developing advanced kidney disease. Of these patients, 3665 received coronary bypass surgery, 6164 received drug-eluting stents, and 3237 received non-drug-eluting stents.

The investigators found that drug-eluting stents were associated with the best one-year survival, but long-term survival was best in patients receiving bypass surgery. The survival advantage of surgery was increased with greater numbers of arteries bypassed. As this study shows, there is no simple answer to which revascularization procedure is best in dialysis patients," Herzog said. "Different patients might view the information, when presented to them by their counseling physician regarding treatment options, in different ways." For example, patients who wish to maximize their chance of better short-term survival with fewer in-hospital risks might choose drug-eluting stents. Other patients may choose to maximize their long-term survival while risking higher in-hospital complications.

The study, "Long-Term Survival of U.S. Dialysis Patients after Surgical Bypass or Percutaneous Coronary Stent Placement in the Drug-Eluting Stent Era" was presented as part of the Renal Week session on "Effects of Traditional and Nontraditional Risk Factors on Cardiovascular Risk in Chronic Kidney Disease and End Stage Renal Disease."