More than 5 percent of Medicare patients starting hemodialysis go on to have sustained recovery of renal function, according to a study in the open-access journal *PLOS One*.

The researchers analyzed follow-up data on 194,007 patients in the United States who began receiving hemodialysis in 2008 or 2009, with outcomes tracked through 2010. Sustained recovery of renal function was assessed, defined as an event code of “9” and no return for dialysis or transplantation through at least 1 year. The analysis excluded patients with temporary recovery of renal function who subsequently returned to dialysis.

Overall, 6.69 percent of patients had evidence of recovery of renal function, although 14.8 percent of these returned to dialysis during follow-up. The rate of sustained recovery of renal function increased from 5.6 percent in 2008 to 5.9 percent in 2009.

Renal recovery mainly occurred in the first 2 months after dialysis initiation and was associated with etiologic factors associated with acute kidney injury, most commonly acute tubular necrosis.

The patients with sustained renal recovery had very low rates of permanent vascular access. Consistent with this, recovery was less likely for patients who had any previous nephrologist contact. These findings suggested that patients with a slower, chronic disease process may have more time for long-term access planning.

Renal recovery was also less likely for nonwhite patients. Recovery rates varied widely by region, from 3.4 percent in ESRD network 3 to 7.6 percent in network 7.

Recent estimates of renal recovery in patients starting long-term hemodialysis have ranged from 0.9 percent to 2.3 percent. This large analysis of patients enrolled in the U.S. Medicare ESRD program found much higher rates of over 5 percent. The authors suggest that ESRD patients with diagnoses associated with acute kidney injury may benefit from close monitoring of residual kidney function and interventions to avoid acute renal injury.

How Many ESRD Patients Undergoing Dialysis Regain Kidney Function?

Low-Versus Mid-Hematocrit Strategy for Dialysis Patients with Complex Conditions

A simulated randomized trial suggests similar outcomes with two common strategies for anemia management in elderly dialysis patients with multiple chronic conditions, reports Medical Care.

The researchers used data from the U.S Renal Data System to emulate a randomized comparative effectiveness trial of two hematocrit target strategies for older adults receiving dialysis who had serious comorbidities. The study compared a “low” hematocrit target of 30.0 to 34.5 percent and a “mid” target of 34.5 to 39.0 percent.

The analysis included 22,474 dialysis patients, aged 65 or older, who had both diabetes and cardiovascular disease and who started dialysis between 2006 and 2008.

The analysis used follow-up data from 3 to 9 months after the patients started hemodialysis, including the "observational analogs" of intention-to-treat and per-protocol analyses. The models included inverse-probability weighting to adjust for time-dependent confounding by indication. All-cause mortality and a composite of mortality and cardiovascular events were compared between strategies.

The models found no significant differences between the mid- versus the low-hematocrit strategies. On both intention-to-treat and per-protocol analyses, hazard ratios were nonsignificant for all-cause mortality and for the composite outcome.

There was also no evidence of benefit on analysis of patients with hematocrit greater than 30 percent at baseline, of those with serum albumin less than 3.5 g/dL, and excluding those with a poor response to erythropoietin.

Randomized trials have found that anemia management strategies targeting near-normal hematocrit levels (>39.0 percent) may lead to increased cardiovascular risk and mortality. By contrast, few studies have examined the outcomes of the most widely used hematocrit target of 34.5 to 39.0 percent.

The new analysis finds no difference in outcomes with the low- and mid-hematocrit targets studied, among elderly dialysis patients with multiple chronic conditions.

The findings support recent advisories recommending a hematocrit target of less than 35 percent in treating hemodialysis patients, including those with major comorbid conditions [Zhang Y, et al. Comparative effectiveness of two anemia management strategies for complex elderly dialysis patients. Med Care 2014; 52(Suppl 5):S132–S139].

Rising Use of Anemia Treatments Before ESRD

For older Americans approaching ESRD, the use of erythropoiesis-stimulating agents (ESAs) and intravenous iron for anemia management has increased in recent years, as has the rate of blood transfusions, according to a study in *JAMA Internal Medicine*.

The study included U.S. Renal Data System data on 466,803 patients, 67 years or older, who began receiving maintenance dialysis or underwent preemptive kidney transplantation between 1995 and 2010. All patients had uninterrupted Medicare coverage throughout the 2 years before the development of ESRD. Trends in the use of anemia treatments during this time were analyzed.

The rates of ESA use during the 2 years before incident ESRD increased from 3.2 percent in 1995 to 40.8 percent in 2007, then decreased to 35.0 percent in 2010. On multivariable analysis, patients in 2010 were nearly 10 times more likely to receive ESAs than those in 1995: utilization prevalence ratio (PR) 9.85. The median times from ESA use to incident ESRD were 120 and 337 days, respectively.

There was a similarly sharp increase in the use of intravenous iron: from 1.2 percent in 1995 to 12.3 percent in 2010, PR 9.20. At the same time, the rate of blood transfusions approximately doubled: from 20.6 percent to 40.3 percent, PR 1.88.

The mean hemoglobin levels at the time of incident ESRD were 9.5 g/dL in 1995, 10.3 g/dL in 2006, and 9.9 g/dL in 2010.

Several high-profile studies have examined the use of ESAs and other anemia treatments in patients with ESRD, but less is known about trends in anemia care before ESRD develops. This study shows sharply increased rates of treatment with ESAs and intravenous iron in older adults approaching ESRD from 1995 to 2010.


Bariatric Surgery Improves Diabetes Outcomes at 3 Years

The addition of bariatric surgery to intensive medical therapy improves glycemic control and other 3-year outcomes for obese patients with type 2 diabetes, reports a trial in the *New England Journal of Medicine*.

In the STAMPede trial, 150 obese patients with uncontrolled type 2 diabetes were randomly assigned to intensive medical therapy alone or with bariatric surgery (Roux-en-Y gastric bypass or sleeve gastrectomy). The mean age was 48 years; more than two thirds of the patients were women. At baseline, the patients had a mean body mass index of 36 and a mean glycated hemoglobin of 9.3 percent. At 3 years, the rates of glycemic control (glycated hemoglobin 6.0 percent or less) were evaluable in 137 patients.

The target glycated hemoglobin level was achieved by 5 percent of patients receiving medical therapy only versus 38 percent of those receiving medical therapy plus bariatric surgery. The patients in the surgery group were also using less insulin and other glucose-lowering agents.

The patients undergoing bariatric surgery also had greater weight loss: 24.5 percent with gastric bypass and 21.1 percent with sleeve gastrectomy, compared with 4.2 percent with medical therapy. The surgery group had better quality-of-life scores and no late surgical complications.

Previous studies with 1- to 2-year follow-up have reported improved outcomes with bariatric surgery in patients with type 2 diabetes. The new trial shows improved glycemic control and other outcomes 3 years after bariatric surgery, compared with intensive medical therapy only.

Some patients in our study had complete diabetes remission, whereas others had a marked reduction in the need for pharmacologic treatment, the researchers write. They also note sustained reduction in cardiovascular risk factors after bariatric surgery [Schauer PR, et al. Bariatric surgery versus intensive medical therapy for diabetes—3-year outcomes. *N Engl J Med* March 31, 2014; doi:10.1056/NEJ- MoA1401329].