

# Study reveals large drop in infection-related deaths following kidney transplantation

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Since the 1990s, the risk of dying from infections after kidney transplantation has dropped by half, according to a recent analysis. The analysis, which appears in an upcoming issue of the *Clinical Journal of the American Society of Nephrology (CJASN)*, also found that common bacterial infections remain the most frequent cause of infection-related death among transplant recipients.

The risk of infection is something that all nephrologists think of when a patient is considered for transplantation. Indeed, infections are the most common non-cardiovascular causes of death after [kidney](#) transplantation, likely due to patients' need for immunosuppressive medications to prevent rejection. No recent data about the infectious causes of death after kidney transplantation exist, however.

To provide an estimate on infection-related mortality among [kidney transplant recipients](#) in a modern developed country, a team led by Ilkka Helanterä, MD, PhD (Helsinki University Hospital) and Susanna Kinnunen, MD (Kuopio University Hospital) examined data on all adult recipients of a first kidney transplantation between 1990 and 2012 in Finland. Infectious causes of death were analyzed, and the mortality rates for infections were compared between two eras (1990-1999 and 2000-2012).

Among the 3249 adult recipients of a first kidney transplant in the analysis, 953 patients (29%) died during follow-up, with 204 infection-related deaths. The mortality rate due to infections was lower in patients

in the more recent era than in patients in the 1990s (4.6 vs. 9.1 per 1000 person-years. A person-year is the number of years of follow-up multiplied by the number of people in the analysis.) Common bacterial infections were the most frequent cause of [infection](#)-related mortality, whereas opportunistic viral, fungal or unconventional bacterial infections rarely caused deaths after [kidney transplantation](#). Older recipient age, higher plasma creatinine concentration at the end of the first post-transplant year, diabetes as a cause of kidney failure, longer pre-transplant dialysis duration, acute rejection, low albumin level, and earlier era of transplantation were associated with higher risks of infectious death.

"Our study shows that the risk of infectious mortality in patients with a [kidney transplant](#) is much lower than previously thought, and that the risk has dropped by half in the 2000s in our cohort despite transplanting older and sicker patients and using more powerful immunosuppression," said Dr. Helanterä. He noted that the discovery that the infections that cause [death](#) in [transplant recipients](#) are very similar to the infections that cause mortality in the general population is contrary to current thinking among experts. "In addition, surprisingly low number of infectious deaths were recorded during the first year after transplantation, and most of the infectious deaths occurred late, several years after transplantation."

**More information:** Susanna Kinnunen et al, Secular Trends in Infection-Related Mortality after Kidney Transplantation, *Clinical Journal of the American Society of Nephrology* (2018). [DOI: 10.2215/CJN.11511017](#)

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