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Contact: Shari Leventhal  
[sleventhal@asn-online.org](mailto:sleventhal@asn-online.org)  
202-416-0658  
[American Society of Nephrology](#)

## **Study finds optimal type of dialysis treatment differs among kidney disease patients**

### ***Age, health and timing should be considered when choosing hemodialysis or peritoneal dialysis***

For kidney disease patients who need to undergo dialysis, one type of treatment is not best for all, according to a study appearing in the January 2009 issue of the *Journal of the American Society Nephrology (JASN)*. The findings indicate that certain patient characteristics should be factored into decisions on whether to choose hemodialysis or peritoneal dialysis.

During hemodialysis, a patient's blood is allowed to flow through a filter that removes wastes and extra fluids, and the clean blood is then returned to the body. During peritoneal dialysis, a catheter fills a patient's abdomen with a dialysis solution that draws wastes and extra fluid from the blood into the abdominal cavity; the wastes and fluid are then drained from the body and discarded.

While both dialysis procedures are effective treatments for kidney disease, it is not clear which is best for prolonging patients' survival. Previous research on this topic has produced conflicting results.

In the United States, peritoneal dialysis is used in a small minority of the dialysis population, usually in younger and healthier patients. In contrast, in Australia and New Zealand up to 40% of dialysis patients receive peritoneal dialysis, making these countries potentially better regions for conducting studies that compare outcomes from hemodialysis and peritoneal dialysis.

To compare the survival rates between patients receiving hemodialysis and those receiving peritoneal dialysis, Stephen McDonald, MD, of the Queen Elizabeth Hospital in Adelaide, Australia, and his colleagues examined data from 25,287 patients in the Australia & New Zealand Dialysis and Transplant Registry who were still receiving dialysis 90 days after entry in the registry.

The researchers found that death rates were significantly lower during the 90 to 365 day period of the study among those being treated with peritoneal dialysis at day 90. However, this effect varied depending on patients' age and health. Younger patients (<60 years) without other medical conditions had a survival advantage with peritoneal treatment, but other groups did not. Also, after 12 months, the use of peritoneal dialysis at day 90 was associated with significantly increased mortality. This indicates that the results change over time—while peritoneal dialysis might give a survival advantage to some patients in the short term, in the long term it increases patients' risk of dying compared with hemodialysis.

There are many reasons why one type of dialysis is chosen over another, including quality of life, patient satisfaction, and practice expertise. This study indicates that mortality risks should also be factored into choices between hemodialysis and peritoneal dialysis. For younger patients without other medical conditions, peritoneal dialysis is a reasonable short term therapy, but for other groups, hemodialysis may be a better choice. "Our data suggest caution in the use of peritoneal dialysis in many patients, particularly when this therapy is continued beyond 1 to 2 years," the authors wrote. However, the researchers noted that their observational study has some inherent limitations, and randomized clinical trials are needed to definitively determine which type of dialysis treatment patients should receive.

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The article, entitled "Relationship of Dialysis Modality and Mortality," will appear online at <http://jasn.asnjournals.org/> on December 17, 2008, and in the January 2009 print issue of *JASN*.

ASN is a not-for-profit organization of 11,000 physicians and scientists dedicated to the study of nephrology and committed to providing a forum for the promulgation of information regarding the latest research and clinical findings on kidney diseases. ASN publishes the *JASN*, the *Clinical Journal of the American Society of Nephrology (CJASN)*, and the *Nephrology Self-Assessment Program (NephSAP)*. In January 2009, the Society will launch *ASN Kidney News*, a newsmagazine for nephrologists, scientists, allied health professionals, and staff.

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