

Portable, less costly peritoneal dialysis shows no additional catheter risk factors

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Patients with end-stage renal disease who opt for peritoneal dialysis experience no greater risk of catheter infection than those who undergo hemodialysis, a retrospective study at UT Southwestern Medical Center has found.

Peritoneal dialysis is less costly, easier on the body and provides greater mobility than hemodialysis, the more common procedure in the U.S.

"Patients actually survive better on peritoneal dialysis, have a better quality of life and the procedure is cheaper," said Dr. Ramesh Saxena, associate professor of internal medicine at UT Southwestern and a senior author of the study, available online in the *Journal of Vascular Access*.

"Factors such as [obesity](#), age and previous abdominal surgeries should not be considered as barriers in selecting patients for peritoneal dialysis."

Peritoneal dialysis (PD) is the removal of waste fluids in end-stage kidney failure patients through a [catheter](#) placed in the [abdominal cavity](#). PD is easier on patients because it mimics natural [kidney function](#) through a slower and continuous process of replenishing the body with healthy fluids. Peritoneal dialysis also affords greater flexibility for patients since the equipment is portable and can be self-administered.

Yet while 95 percent of end-stage renal disease patients end up on dialysis, most in the U.S. are referred to hemodialysis, which is administered through an access in the arm at a dialysis clinic.

Dr. Saxena said nephrologists in the U.S. do not receive enough training in peritoneal dialysis, though it is a common form of dialysis worldwide. UT Southwestern has one of the largest peritoneal dialysis clinics in the country, with up to 120 patients treated at a time, compared to an average of 20 patients at a typical hemodialysis clinic in the U.S.

"The myth is that peritoneal dialysis is seen as infectious and difficult to manage, but there has been no formal study on these factors affecting catheter survival," Dr. Saxena said.

The UT Southwestern study, the first of its kind, showed three-year catheter survival rates of over 91 percent, regardless of age, gender or race, in more than 300 patients who had their first peritoneal dialysis catheter placed between 2001 and 2009 at the UT Southwestern/DaVita [Peritoneal Dialysis](#) Clinic. Other factors normally expected to affect the outcome of catheter survival, such as diabetic status, body mass index or previous abdominal surgeries or infections, did not affect the catheter survival rate.

PD catheter failure was defined in the study as removal of the dysfunctional PD catheter due to any catheter-related complication. Complications were divided into infectious and non-infectious groups.

Sixty percent of the patients had no episode of peritoneal infection, 21 percent had a single episode and about 19 percent had multiple episodes. Peritoneal infections were not found to be significantly associated with PD catheter survival, most likely due to prompt treatment and care for infectious episodes.

Only noninfectious complications were significantly associated with catheter failure. These included obstruction, malpositioning, catheter migration, abdominal wall herniation, leakage, trauma, chronic abdominal pain and extrusion. The study showed just 23 catheter failures

in the three years of the follow-up period.

Provided by UT Southwestern Medical Center

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