OUTSMART A SILENT KILLER

Reduce your risk of chronic **kidney disease**, a symptomless stalker that's linked to heart disease, diabetes and premature death

BY LISA FIELDS

PHOTO/ILLUSTRATION CREDIT

IN 2003, LIFE WAS GOOD FOR HANS TENNIGLO. The native of Westzaan, Holland, was a manager for Hewlett-Packard, traveling regularly to Sweden on business. He spent his free time with his wife and children, and on weekends, he ran 20 kilometers to stay in shape. But everything changed when Tenniglo fell ill on one Swedish business trip.

"I felt miserable, like when you get the flu—all your energy extracted from your body," says Tenniglo, 64, who volunteers for the Netherlands Kidney Patients Association. "But it turned out not to be the flu."

A doctor realized that Tenniglo's sudden illness was brought on by the gradual, silent decline of his kidneys, combined with high blood pressure (hypertension). A nephrologist found that Tenniglo's kidneys were working at only 40 percent capacity.

"At the nephrologist, I thought, 'What the heck am I doing here?'" he says. "That was the toughest period. You need time to accept that there is kidney disease when you don't feel it."

Tenniglo began taking medication to control hypertension and maintain kidney function. Along with an exercise plan and a low-salt diet that he never wavers from, Tenniglo has avoided dialysis and transplantation for 12 years.

"A lot of people on holiday forget to be a kidney patient and cheat on their diets," says Tenniglo, now retired and a grandfather. "I don't do that to my kidneys, because my kidneys don't know that I'm on holiday. I want to cherish them so they are nice to me."

EQUAL-OPPORTUNITY DISEASE

Kidney disease doesn't discriminate; it affects men and women of all ages and ethnicities. The condition strikes silently, giving its victims the impression that they're healthy while their kidneys become irreparably damaged. Like Tenniglo, most people don't know that they're affected until they've lost considerable kidney function.

Some people are diagnosed by chance. When Andrew Gallagher, 29, of Dundalk, Ireland, tried joining a gym five years ago, he needed a physical exam. Tests showed that he had hypertension, and further evaluation uncovered silent kidney disease.

"I didn't know you could have kidney problems with high blood pressure," he says. "I was fit enough to run and play sports."

Fortunately, you can take steps to help lower your risk of developing kidney disease, and simple tests can identify the condition at any stage.

"It's never too early to start treating chronic kidney disease," says Dr. David Wheeler, co-chair of Brussels-based Kidney Disease: Improving Global Outcomes. "The earlier you treat, the more kidney function you've got to protect."

A STEALTHY STALKER

Forty million Europeans have kidney disease. Many don't realize it, because most doctors don't assess kidney health at routine office visits.

"Approximately eight to ten percent of the population has some form of kidney disease, going from very mild to very severe," says Dr. Norbert Lameire, chair of the Brussels-based European Kidney Health Alliance. One recent study found that 18 percent of Swiss primary-care patients may have kidney disease, and 90 percent don't know it.

The two most common causes of the disease—hypertension and diabetes, which are associated with obesity—have become more widespread. In ten years, twice as many Europeans could have kidney disease, according to some estimates.

"Because hypertension is going up and diabetes is going up and we get much fatter than we should be and don't do as much sports, the chance that we get kidney disease can go up," says Lameire, professor of medicine at University Hospital in Ghent, Belgium.

Over the past 15 years, the number of Europeans on dialysis or who have received transplants has doubled, but remains low. Just one in 1000 kidney patients need dialysis or transplantation, mainly because they tend to die of complications from associated diseases first.

"Research shows that 90 percent of kidney patients do not die directly from kidney disease; they die from cardiovascular events, like heart attack or stroke," Lameire says. "For the majority of these patients, when their kidney function goes down, their cardiovascular events go up exponentially. End-stage kidney disease is the tip of the iceberg."

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Experts are trying to educate the public, since most people don't consider their kidneys.

Kidneys filter waste and excess fluid out of the bloodstream, turning it into urine. Several conditions, including infections and genetic conditions, can cause kidney disease, which damages both kidneys. (Kidney stones—while painful—don't cause kidney disease.) When the kidneys don't function

properly, waste and protein build up in the bloodstream, leading to hypertension and other problems that further damage the kidneys.

IDENTIFYING THE PROBLEM

Learning that you have kidney disease may be a blessing in disguise: You may slow its progression.

"There is some clinical data to suggest that if you intervene early, you reduce the need for dialysis," says Wheeler, professor of medicine at University College London's Centre for Nephrology.

Experts recommend against screening everyone for kidney disease. Rather, they advise annual testing for older people who are at increased risk: People with diabetes, hypertension or a family history of kidney disease.

"Targeted screening of high-risk groups makes sense," Wheeler says. "Kidney disease, diabetes and heart disease are intertwined. In diabetes, high blood-sugar levels damage the kidneys, the heart and arteries. High blood pressure damages both the heart and kidneys."

Tests at the doctor's office can diagnose kidney disease. One looks for excess protein in the urine (proteinuria). Another checks the blood to see how well the kidneys filter waste.

Doctors consider age when interpreting test results. After age 50, the kidneys gradually become less efficient. Especially after age 60, a moderate loss of function can be normal, as long as there no other signs of kidney disease. Doctors should check for excess protein in the urine and exclude any link to hypertension and a check again a year later may be all that is needed.

"A decrease in renal function does not, by itself, mean a disease," says Dr. Antonio Dal Canton, professor of nephrology at Italy's University of Pavia. "Aging causes a loss of renal function that cannot be considered a disease unless it is associated with signs of active renal damage, mainly proteinuria or a fast rate of loss."

Because kidney disease is silent until the final stage, some people need dialysis upon diagnosis.

"A third of patients show up for dialysis without ever having a diagnosis made beforehand," Wheeler says. "Two thirds have had tests showing progression of kidney damage and have understood that they may need dialysis at some point."

Patients with less than 15 per cent kidney function may need dialysis. Many patients are placed on transplant waiting lists when they begin dialysis. For healthy candidates, it's a temporary holding measure until an organ becomes available. Those who don't qualify due to advanced age or health complications receive dialysis indefinitely.

"If we had enough kidneys, there would be very few people under 60 on dialysis, I suspect," Wheeler says.

IN 1996, ROBERT DHUYVETTERS of Ghent sought medical attention because of unexplained abdominal swelling. The cause? Fluid retention due to late-stage kidney disease. Dhuyvetters immediately began dialysis. A year later, he received a transplant, which kept him healthy for 16 years.

By 2013, Dhuyvetters needed dialysis again, due to a decline in kidney function after heart-valve surgery. Now, Dhuyvetters performs dialysis at home.

"It's a big advantage to do it at home, because you're not condemned to the hours that the clinic is prescribing," says Dhuyvetters, now 71. "I have my laptop, so I can work from home. With dialysis, I have my energy back."

TREATMENT CHOICES

Lifestyle changes and medication may slow kidney disease in early-stage patients, while end-stage patients may receive dialysis or transplantation.

Tenniglo of Holland has maintained kidney function by taking ACE inhibitors, a class of blood-pressure-lowering medication that slow down or prevent further kidney damage. ARBs have the same effect.

Dhuyvetters has experienced both types of dialysis, home- and center-based. Which type you receive depends upon your preference and local resources.

Judit Berente of Jászkisér, Hungary, was diagnosed with kidney disease when she was 13 and was able to avoid dialysis and transplantation for 20 years. By age 33, with a new kidney, Berente felt healthy enough to participate in sports. She has swum competitively and participated in eight World Transplant Games since her transplant 19 years ago.

"I see ladies my age, and they are fat, sitting in front of the TV eating treats," says Berente, now 51. "I was fighting for 20 years to get my health back to get the chance for a normal life. I think I am healthier than people in my age group because I learned at a very young age that nothing means more than your health."

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Soon, new treatments may ease kidney patients' lives.

Drugs that inhibit sodium absorption may help patients keep from further damaging their kidneys.

"People who would benefit are doing their best to follow what the doctor ordered but take in more sodium than they should," says Dr. Raymond

Townsend, author of *100 Q&As About Kidney Disease and Hypertension.* "The thinking is: If you can't get them to eat less salt, maybe you can block some of it."

European researchers are developing a wearable artificial kidney, which could replace the need to connect to stationary dialysis machines. It's being tested on animals; clinical trials could begin in 2017.

"The wearable artificial kidney provides treatment that outperforms traditional dialysis," says technical manager Frank Simonis. "It provides a better removal of toxins because of the prolonged dialysis times: 150 hours per week continuously instead of 3 to 4 hours in a center."

STAYING HEALTHY

You may avoid kidney disease by controlling high blood pressure and diabetes, eating a healthy diet, exercising and seeing your physician. Other tips:

■ **SHUNNING SALT.** Kidney patients should avoid adding salt to food, but it's excellent advice for healthy people, too. Excess salt raises blood pressure and makes kidneys work harder.

Most salt that you consume is in prepackaged foods. Some countries make manufacturers reduce the amount of salt added to products. The UK instituted a salt-reduction program in 2003 that resulted in the British population consuming 15% less salt by 2011. Adults' average blood pressure fell, and stroke and heart disease deaths dropped by 42% and 40%. The program likely preserves kidney health, too.

"A reduction in salt intake lowers blood pressure and would reduce chronic kidney disease risk," says study author Feng He. "Increasing evidence suggests that a reduction in salt intake may have a direct beneficial effect on the kidneys, independent of its effect on blood pressure."

■ **QUITTING SMOKING.** "Smoking accelerates the deterioration of kidney disease and damages arteries," Wheeler says. "Kidney function is likely to deteriorate more slowly if you don't smoke."

■ **LOSING WEIGHT.** Extra weight makes kidneys work harder. "It's like working a 12-hour day, when you're used to working eight hours," Townsend says. "After a couple of years, it can cause damage."

■ **LIMITING NSAIDS.** Ask your doctor if you should avoid these painkillers. One recent study found that 41 percent of people with kidney disease took NSAIDs, not realizing the damage they could cause.

"NSAIDs promote sodium retention, which is bad for the kidneys, and they have a direct toxicity to kidney tissue," Townsend says. "For short-term use, I have no problem. You get in trouble with chronic pain, taking it every day."

LIVING WITH KIDNEY DISEASE

Patients with end-stage disease can thrive after a transplant.

Andrew Gallagher, who learned that he had kidney disease at age 24, needed dialysis at 27. His mother-in-law donated a kidney, and the surgery changed his life.

"The main difference is the energy," Gallagher says. "My daughter was one-year-old when I was on dialysis, and I couldn't keep up with her when she started walking. Now that's no problem—I might join a gym soon."

Transplant recipients take immunosuppressant medication to prevent organ rejection, and their kidney function is lower than a healthy person's. But they can live active lives again.

"The feeling and quality of life for a transplant patient who has been on dialysis is incomparable," Lameire says. "They feel endlessly better, enjoy a much more flexible diet and complete freedom from dialysis, but they remain patients, and they need to take pills and watch their blood pressure. It's better not needing a transplant than having one, even if it's successful."

GIFT OF LIFE

EACH EUROPEAN COUNTRY has its own rules for organ donation. Some, like the UK, have opt-in programs that require people to sign up. Others have presumed-consent programs: Anyone who doesn't opt out may have his organs donated upon death. As of 2010, 24 countries in the European region had some form of presumed-consent system.

Kidneys are also transplanted from living donors. In 2012, about 6,500 kidneys were provided by living donors, and roughly 16,000 came from deceased donors, for a total of more than 22,500 Europeans who received kidney transplants in that year.

To become an organ donor in a country with an opt-in system, actively sign up to the organ donor register. You can do this when applying for an ID card, driving license, a European Health Insurance Card or when joining a doctor's surgery. Tell your family your wishes, because even if your name is on the register, after death the person closest to you will be asked to confirm that you had not changed your mind.