Donating a kidney is even safer now than long thought, US study shows

AP News - by Lauran Neergaard

People who volunteer to donate a kidney, face an even lower risk of death from the operation, than doctors have long thought. Researchers reported.

The study tracked 30 years of living kidney donation and found that by 2022, fewer than 1 of every 10,000 donors died within three months of the surgery. Transplant centers have been using older data – citing a risk of 3 deaths per 10,000 living donors – in counseling donors about potentially deadly surgical complications.

"The last decade has become a lot more safe in the operating room for living donors," said Dr. Dorry Segev, a transplant surgeon at NYU Langone Health. He co-authored the study published in the journal JAMA.

Newer surgical techniques are the key reason, said Segev, calling for guideline updates to reflect those safety improvements – and maybe increase interest in living donation.

He often finds transplant recipients more worried about potential risks to their donors than the would-be donors themselves.

"For them, this is even more reassuring to allow their friends or family to donate on their behalf," Segev said.

Thousands of people die each year waiting for an organ transplant. It's possible for living donors to give a one of their two kidneys or part of a liver, the only organ that regenerates.

With nearly 90,000 people on the U.S. list for a kidney transplant, finding a living donor not only shortens the yearslong wait -- those organs also tend to survive longer than ones from deceased donors.

Yet last year, just 6,290 of the nation's more than 27,000 kidney transplants came from living donors, the most since before the pandemic. Safety isn't the only barrier to living donation. So is awareness, as many patients are reluctant to ask. And while the recipient's insurance covers medical bills, some donors face expenses such as travel or lost wages as they recover.

The NYU team analyzed U.S. records of more than 164,000 living kidney donations from 1993 through 2022 and found 36 post-surgical deaths. Most at risk were male donors and those with a history of high blood pressure.

Only five of those deaths occurred since 2013. That period coincided with U.S. transplant centers switching to minimally invasive kidney removal as well as adopting a better way to stop renal artery bleeding, Segev said.

"Over time, it's a safe operation that's become even safer," important for would-be donors to know, said Dr. Amit Tevar of the University of Pittsburgh Medical Center, who wasn't involved in the study.

But there are long-term risks to consider, too, he stressed -- including whether a donor's remaining kidney is expected to last the rest of their life.

The risk of a donor later experiencing kidney failure also is small and depends on such factors as obesity, high blood pressure, smoking and family history of kidney disease. Risk calculators help doctors determine a potential donor's likelihood of later-in-life trouble, and transplant centers may have slightly different eligibility criteria.

"There's no such thing as a moderate- or high-risk donor — either you're perfect or you're not," is how Tevar puts the decision to accept or turn away a potential donor.

Doctors once thought young adults were the ideal living donor. But Segev said there's a shift toward more older living donors because it's easier to correctly predict that they won't outlive their remaining kidney. If a living donor later experiences kidney failure, they get priority for a transplant, he noted.

Aging human body experiences 'really dramatic changes' at 2 ages *Medical News Today*

Everyone knows that as we ageTrusted Source, our bodies go through a lot of changes. While changes will occur every year, past research shows that, at the protein level, the most notable changes take place around ages 34, 60, and 78

Although some of these aging body changes you can see — such as graying hair and skin wrinkles — many of these alterations are not visible as they happen inside the bodyTrusted Source to organs, tissues, and even on a cellular level.

A new study recently published in the journal Nature AgingTrusted Source adds to what we know about how aging affects the inside of the body. Scientists from the Stanford University School of Medicine have discovered that humans undergo two major changes in their molecules and microorganisms around ages 44 and 60.

Researchers say these changes can potentially have a major impact on a person's health, including cardiovascular health.

Tracking age-related changes in 135,000+ molecules

For this study, researchers analyzed data from 108 people living in California between the ages of 25 and 75. Study participants were tracked for an average of 1.7 years with a maximum of about 7 years.

Throughout the study, participants donated blood and other biological samples every few months, which allowed scientists to track changes in their bodies' molecules and microbiomes. The research team tracked age-related changes in more than 135,000 different molecules and microbes for almost 250 million distinct data points.

"We are tracking people in incredible detail — measuring as many molecules as possible (tens of thousands) and their microbes to get a detailed picture of their health," Michael P. Snyder, PhD, professor of genetics at Stanford University School of Medicine and senior author of this study explained to Medical News Today. "In the process, we can also see how they age."

Biggest molecule changes in mid-40s, early 60s

As Snyder and his team looked at the data more closely, they noticed that about 81% of the molecules and microbes they identified change more at certain ages than at other times of a person's life span. **The two ages with the largest molecule and microbe changes, scientists found, occur when a person is in their mid-40s and early 60s.**

"We expected the changes in the 60s because this is when disease risk increases for nearly all diseases and people's immune system decreases (and) we found additional changes," Snyder said. "The changes in the 40s were unexpected although in hindsight it is a time when people hit their 'mid-life crisis' and often injured themselves."

The biochemical changes that come with aging

Additionally, the scientists found that the most noteworthy age-related molecule and microbe changes were linked to potential health concerns.

For example, with people in their 40s, Snyder and his team discovered **significant changes in the number of molecules related to alcohol, caffeine, and lipid metabolism,** as well as cardiovascular disease and skin and muscle.

At the age of 60, the biggest molecule changes were related to cardiovascular disease, immune regulation, kidney function, carbohydrate and caffeine metabolism, and skin and muscle.

Snyder said it is important for researchers to continue to examine what happens to the body during biological aging because we can then take action to reduce many of the problems associated with aging.