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Kidneys deteriorate with age, regardless of health

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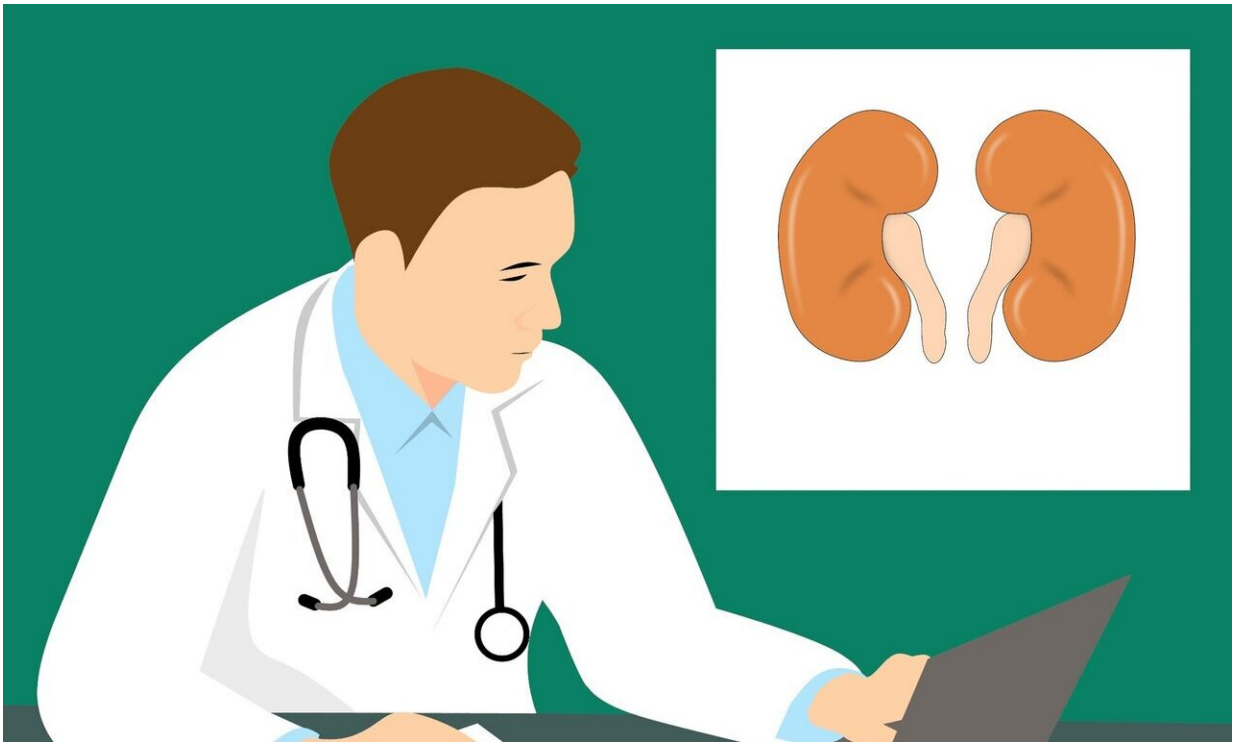

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An international study carried out on nearly 3000 people in Norway, Germany and Iceland shows that human kidney function deteriorates with age regardless of the presence of other diseases. The results from the study have recently been published in the *Journal of the American Society of Nephrology (JASN)*. To discover how kidney function

progresses, the researchers examined the kidney function of a group of people between the ages of 50 and 70, and two groups of people between the ages of 70 to 95.

"What we see is that what happens in our kidneys when we age is representative of all the other things that happen in our bodies. The kidney function deteriorates, not because we get ill, but as part of aging," says Bjørn Odvar Eriksen explains, a professor at the Department of Clinical Medicine at UiT and leader of the Metabolic and Renal Research Group and lead author of the article.

"Loss of kidney function is something that happens to all humans, and is thus a way to determine aging in general. There is still variation as to how quickly this happens, and we still do not have good answers as to why this variation occurs. We have examined many factors that can play a part as to why some of us experience larger loss of kidney function than others," he says.

Bjørn Odvar Eriksen is a Professor at the Department of Clinical Medicine at UiT and leader of the Metabolic and Renal Research Group. Credit: Jørn Berger-Nyvoll/UiT

One of the groups that participated in the study consisted of over 1,600 people from the Tromsø Study, which is Norway's most comprehensive population study, conducted over 40 years. This group has been through the study's examinations three times, between 2007 to 2009, 2013 to 2015, and 2018 to 2020. The last iteration of the study is still ongoing at the University Hospital of North Norway (UNN) and is led by Associate Professor Toralf Melsom.

"No other study has done these kinds of examinations on a part of the normal population. That is why this study is so unique," Eriksen says.

The researchers used a precise method of measuring kidney function. They injected subjects with a substance that only separates into the kidneys and after a few hourse, measured how much of the substance remained in the blood. This offered a measure of the kidney's ability to remove toxins and waste products. Eriksen explains that more people may experience loss of kidney function as it becomes more common to survive diseases like cancer and heart and vascular diseases.

"For those who experience loss of kidney function at a high age, this is a considerable burden. That is why this is an area that needs further research to find more answers," Eriksen says.

More information: Bjørn O. Eriksen et al, GFR in Healthy Aging: an Individual Participant Data Meta-Analysis of Iohexol Clearance in European Population-Based Cohorts, *Journal of the American Society of Nephrology* (2020). DOI: 10.1681/ASN.2020020151

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