

As Heart, Kidney and Metabolic Health Worsen, Cancer Risk May Rise

Later-stages of cardiovascular-kidney-metabolic syndrome were linked with a 25-30% higher risk of cancer, finds a new study.

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Research Highlights:

- Researchers studied the link between cardiovascular-kidney-metabolic syndrome (CKM syndrome) and risk of cancer. CKM syndrome refers to several connected health conditions, including heart disease, stroke, kidney disease, obesity and diabetes.
- They compared people with no risk factors for CKM syndrome to those with early- and late-stage CKM syndrome.
- Later-stages of CKM syndrome were linked with a 25-30% higher risk of cancer in a study of nearly 1.4 million adults.

DALLAS, April 27, 2026 — People with advanced heart, kidney and metabolic disease may face a higher risk of developing cancer, according to new research published today in the American Heart Association's peer-reviewed scientific journal *Circulation: Population Health and Outcomes*.

The combination of heart, kidney and metabolic conditions (diabetes and obesity) is known as cardiovascular-kidney-metabolic syndrome, or [CKM syndrome](#). The biggest dangers from CKM syndrome are death and disability from heart disease and stroke. However, nearly every major organ system is affected by CKM syndrome, linking it to kidney failure, dementia, fatty liver disease, obstructive sleep apnea and increased risk for cancer.

According to American Heart Association statistics, [nearly 9 out of 10 adults](#) in the U.S. have at least one component of CKM syndrome, which includes high blood pressure, abnormal cholesterol, high blood glucose (sugar), excess weight and reduced kidney function.

“The study findings suggest that it is important to consider not only cardiovascular disease risk, but also cancer risk in people with CKM syndrome,” said Hidehiro Kaneko, MD, PhD, the study’s lead author and associate professor in the department of cardiovascular medicine at the University of Tokyo in Japan.

CKM syndrome is broken down into stages by severity, ranging from stage 0 with no risk factors to stage 4 with cardiovascular disease such as heart attack, stroke or heart failure.

Researchers at the University of Tokyo in Japan investigated the link between CKM syndrome and cancer, and whether CKM syndrome stage could shed light on someone’s risk for cancer. They reviewed national insurance claims data to determine the CKM syndrome stage for nearly 1.4 million people based on the framework in the [American Heart Association’s Cardiovascular-Kidney-Metabolic Health presidential advisory](#). The researchers then tracked participants for around 3½ years, noting any new cancer diagnoses.

Study results:

Compared with healthy participants (CKM syndrome stage 0), cancer risk increased sharply only in the later stages of CKM syndrome:

- Stage 1 – 3% higher risk of developing cancer
- Stage 2 – 2% higher risk of developing cancer
- Stage 3 – 25% higher risk of developing cancer
- Stage 4 – 30% higher risk of developing cancer

“CKM syndrome represents a complex interplay among the cardiovascular, kidney and metabolic systems, where dysfunction in one area may trigger or exacerbate dysfunction in others,” Kaneko said. “Dysfunction in each of these systems is independently associated with cancer risk due to shared risk factors. This study suggests that the accumulation of risk factors within the framework of CKM syndrome may contribute to the development of various types of cancer.”

“We already know that cancer and its therapies can lead to cardiotoxicities and cardiovascular disease,” said American Heart Association volunteer, Tochukwu Okwuosa, DO, who is director of

cardio-oncology services at Rush University Medical Center in Chicago. “The study highlights the bidirectional relationship and underscores the concept of reverse cardio-oncology where cardiovascular disease and its risk factors also increase cancer risk. Consequently, healthy lifestyle choices potentially impact both conditions that are the leading causes of death in the United States. For those with established cardiovascular risk, the CKM syndrome staging framework may be a useful tool to flag high risk individuals for potential cancer screenings and evaluations.”

According to the manuscript, a limitation of the study is that results from a Japanese population may not be fully generalizable to other countries. However, other studies have “consistently reported that metabolic and kidney dysfunction are associated with increased risk of cancer,” supporting the possibility that the findings apply in other populations.

Co-authors, disclosures and funding sources are listed in the manuscript.

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