

Advanced Heart, Kidney, and Metabolic Disease Linked to Higher Cancer Risk

Analysis by [Dr. Joseph Mercola](#)

July 18, 2026

STORY AT-A-GLANCE

- Researchers followed more than 1.39 million adults and found that advanced cardiovascular-kidney-metabolic (CKM) disease was strongly associated with higher cancer risk, especially once people reached the more severe stages tied to insulin resistance, kidney dysfunction, and cardiovascular disease
- Cancer incidence rose from 81.2 cases per 10,000 person-years in the healthiest group to more than 250 cases per 10,000 person-years in advanced CKM stages (an increase that narrowed to roughly 25% to 30% after adjusting for age and other factors), showing how rapidly risk accelerates once multiple metabolic systems begin failing together
- Chronic inflammation, insulin resistance, and excess dysfunctional body fat may help create a biologic environment associated with higher rates of colorectal, lung, pancreatic, liver, bladder, kidney, and hormone-related cancers
- Younger adults under 65 with advanced CKM disease showed a 45% higher cancer risk, challenging the idea that metabolic-driven cancer only develops late in life after decades of decline
- Lowering seed oil intake, improving insulin sensitivity through movement, supporting mitochondrial energy production with sunlight and tracking markers such as HOMA-IR and blood pressure may help slow metabolic deterioration before it reaches the dangerous tipping point tied to higher cancer risk

Cancer risk rises sharply in adults whose metabolism, heart, and kidneys begin failing together, and a Japanese study of 1.39 million people maps out when that value reaches the highest point. Published in April 2026 in *Circulation: Population Health and Outcomes*, the study found that adults living with advanced cardiovascular-kidney-metabolic (CKM) disease had a higher risk of cancer than their healthier peers.¹

CKM syndrome refers to the simultaneous breakdown of your metabolic system, cardiovascular system, and kidneys. Instead of staying isolated, problems like excess abdominal fat, insulin resistance, high blood pressure, kidney dysfunction, and heart disease begin stacking on top of each other.

Many people live inside this slow-motion progression for years, dismissing the warning signs as normal aging — fatigue, creeping weight gain around the waist, swelling, declining stamina, and blood sugar that drifts a little higher with each annual checkup.

What makes this research so important is how it reframes cancer itself. Instead of treating it as random bad luck or a purely genetic event, the findings suggest that cancer may share some of the same biological terrain involved in heart and kidney disease.

Your organs constantly communicate with each other, and once that communication breaks down, the damage spreads far beyond the numbers on a standard lab report. The next section breaks down exactly how researchers identified the tipping point where cancer risk climbs most steeply, and why catching the warning signs earlier could change everything.

Advanced CKM Disease Marked a Major Cancer Tipping Point

The study investigated whether worsening CKM disease increased the odds of developing cancer later on.² Researchers analyzed health records, laboratory data, and insurance claims from adults followed between 2014 and 2023. They classified participants into CKM stages 0 through 4 based on body weight, blood sugar, kidney function, cardiovascular disease, and other metabolic markers.

Participants included working adults, retirees, and older adults from several Japanese insurance systems, creating a broad snapshot of how disease progression unfolds in ordinary life. Researchers removed anyone with a previous cancer diagnosis so they could focus only on new cancers that appeared during follow-up. The median follow-up lasted 3.4 years, giving investigators enough time to watch disease patterns emerge.

- **Cancer risk climbed sharply once people entered advanced CKM stages** — The biggest jump appeared between stage 2 and stage 3. Cancer incidence rose from 81.2 cases per 10,000 person-years in stage 0 to 250.9 cases in stage 3 and 257.7 cases in stage 4. After adjusting for age and other factors, however, the increase in cancer risk was about 25% in stage 3 and 30% in stage 4 — the crude rates look far larger mainly because people in advanced stages tend to be older.

Person-years means the total time all participants were tracked combined, so 10,000 person-years could be 10,000 people followed for one year, or 1,000 people followed for 10. That steep rise matters because many adults live in the earlier metabolic stages without realizing how quickly the damage compounds once kidney and cardiovascular problems begin stacking together.

- **Advanced metabolic dysfunction affected far more than one type of cancer** — Researchers found progressively higher rates of colorectal, stomach, lung, pancreatic, liver, bladder, kidney, and blood cancers as CKM stages worsened. Men with advanced CKM disease also showed higher prostate cancer rates, while women faced increased breast, cervical, and uterine cancer risk.
- **Younger adults showed stronger relative cancer risk increases than many people expect** — Adults younger than 65 with advanced CKM disease showed a 45% higher cancer risk in stage 3 compared to stage 0. That finding challenges the idea that cancer linked to metabolic disease only affects elderly adults after decades of decline.

- **Men experienced some of the strongest increases** — Men in stage 4 showed a 63% higher cancer risk compared to men in stage 0. Women also showed increased risk, but the rise appeared more pronounced in men once cardiovascular and metabolic damage became severe.
- **The pattern remained consistent even after adjusting for lifestyle habits** — Investigators adjusted for factors such as age, sex, alcohol use, and physical inactivity. Even after those adjustments, advanced CKM stages still strongly predicted higher cancer incidence.

Additional analyses that accounted for smoking produced nearly identical results. Because this is an observational study, it shows a strong association rather than proving that CKM disease directly causes cancer.

How Metabolic Breakdown Creates the Perfect Environment for Cancer

Numbers tell you what happened. To know what to do about it, you need to understand why failing metabolism may create conditions that contribute to cancer growth, and the researchers laid out several interconnected mechanisms. CKM disease is associated with ongoing inflammatory stress throughout the body. Inflammation acts like a constant biological alarm signal that damages tissues and disrupts normal repair systems. Over time, those stressed cells lose the ability to regulate healthy growth patterns.

- **Insulin resistance is another mechanism researchers tied to the cancer connection** — Insulin resistance means your cells stop responding efficiently to insulin, forcing your body to release larger amounts to manage blood sugar. Researchers propose that chronically elevated insulin — a hallmark of insulin resistance — may increase oxidative stress, strain mitochondria (the energy factories inside your cells), and activate growth pathways that help abnormal cells survive.

- **Excess dysfunctional body fat amplified the problem** — Researchers described adiposity — meaning unhealthy fat accumulation — as another shared mechanism connecting CKM disease and cancer. Fat tissue does far more than store calories. It also releases inflammatory chemicals, disrupts hormone signaling, and worsens insulin resistance. Belly fat especially pushes this cycle forward.
- **The study identified a dangerous threshold effect instead of a slow gradual rise** — Researchers noted that cancer risk didn't rise evenly across every stage. The sharp increase between stages 2 and 3 suggested that the body reaches a metabolic breaking point where kidney dysfunction, cardiovascular stress, and metabolic disease begin accelerating each other.
- **That tipping point gives you a clearer target for prevention** — Once multiple organ systems start failing together, the body may enter a biologic environment that favors disease growth. Paying attention early to waist size, blood sugar control, blood pressure, kidney function, and physical fitness gives you measurable checkpoints before that threshold develops.

Lower the Metabolic Stress That Drives Disease Progression

Cancer, heart disease, and metabolic dysfunction look like three diagnoses on paper. Under the hood, they're three branches of one tree, sharing the same roots of inflammation, insulin resistance, and mitochondrial damage. This research showed they overlap deeply through shared biological stress pathways. The same daily habits that damage your metabolism and kidneys may also shape the internal environment where cancer develops.

The same stress signals that raise blood sugar, expand belly fat, and damage blood vessels may also create an environment where abnormal cells survive more easily. That means your daily choices influence far more than weight. Once you improve cellular energy production, lower inflammation, and reduce insulin resistance, you begin changing the internal conditions that drive CKM progression in the first place.

1. Lower your exposure to seed oils and ultraprocessed foods — Excess linoleic acid (LA) from seed oils, including soybean, corn, sunflower, safflower, and canola, can impair mitochondrial energy production and increase oxidative stress. Those unstable fats accumulate in your tissues for years and continue leaking inflammatory breakdown products long after you eat them.

If your meals rely heavily on restaurant food, packaged snacks, salad dressings, fried foods, or processed "health" products, your metabolic system stays trapped in a constant stress state.

I recommend replacing seed oils with tallow, ghee, or grass fed butter instead. Build meals around whole foods such as ruminant meats, root vegetables, fruit, pastured eggs, and properly prepared starches if your digestion tolerates them well. Simple swaps repeated daily create momentum fast. Your waist size, energy levels, and blood sugar control often improve together once inflammatory fats leave your diet.

Your target is less than 5 grams of LA daily, ideally under 2 grams. The Pax health platform, coming soon, includes Food Buddy and the Seed Oil Sleuth to help identify hidden sources of LA in your diet and estimate your total daily intake.

2. Restore carbohydrate metabolism instead of starving your cells — While the study didn't test specific diets, the underlying mechanism — chronic metabolic stress — worsens when your body struggles to produce energy efficiently. Your brain alone requires a steady glucose supply, and restrictive low-carb diets often push your body deeper into stress chemistry. Elevated cortisol and poor glucose handling feed the same pathways tied to CKM progression.

If your gut function is poor, start slowly with easier-to-digest carbohydrates such as fruit and white rice. As digestion improves, increase variety gradually. Pair carbohydrates with enough protein so your body uses food for repair instead of breaking down muscle tissue.

Aim for about 0.8 grams per pound of ideal body weight, with one-third coming from collagen-rich sources like slow-cooked meats or bone broth to support connective tissue and metabolic resilience.

- 3. Use movement to improve insulin sensitivity before disease accelerates** — Your muscles act like a massive glucose sink. Once they stop moving regularly, blood sugar regulation deteriorates faster and inflammation rises. You don't need punishing workouts to improve metabolic health. Work your way up to one hour of walking daily, combined with light strength training twice a week, regular bodyweight exercises, and daily standing breaks to help improve insulin sensitivity and circulation.
- 4. Protect your mitochondria with sunlight and circadian rhythm support** — Your mitochondria depend heavily on light exposure and circadian rhythm stability. Morning sunlight helps regulate metabolic hormones, improves sleep quality, and supports cellular energy production throughout the day. Poor sleep and artificial light at night push inflammation and insulin resistance higher.

Within an hour of waking, get outside for 10 to 20 minutes — no sunglasses, no window glass between you and the sky. This single habit helps recalibrate your circadian clock, lowers cortisol's afternoon spike, and primes your mitochondria for the day.

Solar noon sun exposure also supports vitamin D production and mitochondrial melatonin generation inside your cells. If your diet has been high in seed oils, avoid peak sun exposure (10 a.m. to 4 p.m.) until you have removed them for four to six months, as excess LA stored in tissues increases susceptibility to sunburn and oxidative stress.

- 5. Track your metabolic warning signs before you reach the tipping point** — Many adults don't realize they're entering advanced CKM disease until multiple systems have already deteriorated. Waiting for obvious symptoms puts you behind the

curve. Your body gives measurable warning signs years earlier through rising waist circumference, elevated fasting glucose, worsening blood pressure, declining kidney markers, and poor physical stamina.

Create a simple personal scorecard you review monthly. Track your resting heart rate, sleep quality, exercise consistency, and energy levels alongside standard lab markers such as HOMA-IR, which stands for homeostatic model assessment of insulin resistance. This is a simple but powerful way to gauge how efficiently your body is responding to insulin.*

Anything below 1.0 is considered a healthy HOMA-IR score. If you're above that, you're considered insulin resistant. The higher your values, the greater your insulin resistance. Conversely the lower your HOMA-IR score, the less insulin resistance you have, assuming you are not a Type 1 diabetic who makes no insulin.

Watching those numbers improve reinforces progress in real time. Small improvements repeated consistently help stop metabolic decline before it snowballs into deeper cardiovascular, kidney, and cancer-related damage.

**Talk to your health care provider about whether this testing is appropriate for you.*

FAQs About Advanced CKM Disease and Cancer

Q: What is CKM disease?

A: CKM disease describes the combined breakdown of your metabolic system, cardiovascular system, and kidneys. Instead of staying separate, problems such as insulin resistance, excess belly fat, high blood pressure, kidney dysfunction, and heart disease begin interacting with each other and accelerating damage throughout the body.

Q: Why was advanced CKM disease linked to higher cancer risk?

A: The study found that advanced CKM stages were associated with chronic inflammation, insulin resistance, and oxidative stress throughout the body. Those conditions may impair cellular energy production, disrupt normal repair systems, and create an environment where abnormal cells survive and grow more easily. Researchers identified the sharpest cancer increase between CKM stages 2 and 3, suggesting the body reaches a metabolic tipping point once multiple systems start failing together.

Q: What types of cancer were linked to worsening CKM disease?

A: Researchers found higher rates of colorectal, stomach, lung, pancreatic, liver, bladder, kidney, and blood cancers as CKM stages worsened. Men with advanced CKM disease also showed higher prostate cancer rates, while women experienced increased breast, cervical, and uterine cancer risk.

Q: What are the early warning signs that metabolic disease is progressing?

A: Common warning signs include rising waist circumference, elevated fasting blood sugar, worsening blood pressure, declining kidney function, fatigue, swelling, poor exercise tolerance, and worsening insulin resistance. Many people dismiss these changes as normal aging even though they often reflect deeper metabolic dysfunction already underway.

Q: What daily habits help lower the metabolic stress linked to CKM disease?

A: Lowering seed oil intake, avoiding ultraprocessed foods, improving insulin sensitivity through regular movement, supporting mitochondrial energy production with sunlight and circadian rhythm stability, and tracking markers such as HOMA-IR and blood pressure all help reduce the metabolic stress that drives CKM progression.

This article is for informational purposes only and does not constitute medical advice. Consult a qualified health care provider before making changes to your health regimen.

Sources and References

- ^{1, 2} [Circulation: Population Health and Outcomes April 27, 2026](#)