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Nearly 8 In 10 Young Adults Are in Early Stages of Metabolic Disorder, Study Finds

Analysis by Dr. Joseph Mercola | November 10, 2026

STORY AT-A-GLANCE

- Nearly 8 in 10 young adults studied had at least one cardiovascular-kidney-metabolic (CKM) risk factor, even though their average age was only 22.9 years
- Young adults with more advanced CKM problems had cardiovascular health scores about 13 points lower than those without CKM risk factors
- Ultrasound revealed thicker carotid artery walls as CKM advanced, showing that early arterial injury was already detectable in people barely into their 20s
- Even young adults without CKM risk factors often fell short of high cardiovascular health, highlighting an opportunity to improve metabolic health before disease develops
- Cutting excess linoleic acid from seed oils, eating enough carbohydrates and protein, staying active and tracking insulin resistance are practical starting points for supporting metabolic health early

Metabolic problems don't suddenly appear in middle age. They build quietly over years, often while you still feel healthy, active and far too young to worry about your heart, blood sugar or kidneys. Recent research involving young adults in their early 20s found that these problems were already widespread — and researchers detected signs of injury inside their arteries.[1]

Cardiovascular-kidney-metabolic (CKM) syndrome describes the connected decline that develops when problems such as excess body fat, abnormal blood pressure, unhealthy blood fats and poor glucose control begin to affect your cardiovascular and kidney health. Early CKM often causes no obvious symptoms. That silence is part of the problem. You could feel fine while metabolic changes are already placing greater strain on your arteries and other organs.

This matters because your metabolic health reflects how efficiently your body produces and uses energy. When that system starts to break down, problems rarely stay isolated. Poor glucose control, excess body fat, abnormal cholesterol and higher blood pressure reinforce one another, raising your risk of cardiovascular disease and kidney problems over time.

Your 20s aren't a period when metabolic health can wait. They're an important window for prevention, when improving your diet, movement and other daily habits gives you a chance to change the direction of your health long before advanced disease develops. The study findings reveal just how early these warning signs appeared — and how closely worsening metabolic health lined up with measurable changes in the arteries.

Nearly 8 in 10 Young Adults Already had CKM Risk Factors

The study, published in Circulation: Population Health and Outcomes, examined 1,283 participants with an average age of just 22.9 years.[2] Only 20.7% had no CKM risk factors. Another 40.2% were classified as Stage 1 because of excess body fat, 36.2% had reached Stage 2 with metabolic risk factors, and 2.8% were already at Stage 3, which included subclinical cardiovascular disease or advanced kidney disease.

To picture the progression, think of Stage 1 as your body storing more fat than it can safely manage. Stage 2 means that excess fat has begun to disrupt how your body handles blood sugar, blood pressure or blood fats. Stage 3 means those disruptions have already started injuring your arteries or kidneys, even without symptoms you'd notice. Overall, nearly 8 in 10 had already moved beyond Stage 0, meaning they had at least one CKM risk factor rather than being free of them.

- **Cardiovascular health dropped as CKM stage advanced —** Researchers measured cardiovascular health with the American Heart Association's Life's Essential 8 score, which rates diet, physical activity, sleep, nicotine exposure, body mass index, blood glucose, blood fats and blood pressure on a 0-to-100 scale. A score below 50 indicates low cardiovascular health, 50 to 79 is moderate and 80 or higher is high.

  Cardiovascular health scores dropped once CKM risk factors appeared. Participants with no CKM risk factors averaged 77.6 out of 100, just below the 80-point cutoff for high cardiovascular health. Those in Stage 1 averaged 70, while those in Stages 2 and 3 averaged about 64. That means young adults with more advanced metabolic problems scored about 13 points lower than those without CKM risk factors.

  That gives you a useful way to picture progression: as metabolic problems accumulated, overall cardiovascular health moved in the wrong direction with them.

- **Even young adults without CKM risk factors often weren't in optimal cardiovascular health —** More than half of participants in every CKM stage fell into the moderate cardiovascular-health category rather than the high category. High cardiovascular health required a Life's Essential 8 score of at least 80, while moderate health ranged from 50 to 79.

  Even Stage 0 therefore didn't automatically mean ideal health. This distinction matters because prevention isn't just about avoiding a diagnosis. It's also about improving the underlying numbers before they become abnormal enough to qualify as disease.

- **Diet and physical activity stood out as weak areas across every stage —** Average diet and physical-activity scores were below 50 throughout the CKM groups, while sleep and nicotine-exposure scores generally remained in the moderate range of 50 to 79. Surprisingly, behavior scores didn't differ much across CKM stages.

The researchers noted that these behaviors were self-reported, which limits precision. They also noted that lifestyle habits like diet and exercise sit earlier in the causal chain, meaning poor habits take longer to show up as measurable artery damage than physiological problems like high blood pressure or excess body fat, which act more directly on artery walls.

- **Ultrasound revealed greater artery-wall injury as CKM worsened —** Researchers used ultrasound to measure the thickness of artery walls in the neck, a test called carotid intima-media thickness (cIMT). A thicker wall is a sign of early arterial injury and a precursor to atherosclerosis, the buildup of disease in the arteries.

  Compared with participants with no CKM risk factors, maximum artery-wall thickness was 0.014 millimeters higher in Stage 1, 0.020 millimeters higher in Stage 2 and 0.100 millimeters higher in Stage 3. Artery-wall changes became more pronounced as CKM problems advanced, even though these participants were only in their early 20s.Other ultrasound measures of artery texture and flexibility also differed as CKM stage increased.

  Although those changes sound tiny, the researchers noted that differences of 0.10 millimeters or less have been associated with substantially higher heart attack and stroke risk in older adults. Finding changes of this size in people barely into their 20s makes the results particularly noteworthy.

- **The study points to an early prevention window rather than proving cause and effect —** The study included many participants from disadvantaged backgrounds; 51.7% had experienced parental incarceration, and 76.4% had mothers with household income below 300% of the federal poverty level at the participant's birth.

  Because researchers intentionally oversampled participants from disadvantaged backgrounds, the exact percentages may not generalize to all U.S. young adults. The study was also cross-sectional, meaning researchers measured CKM status and cardiovascular health at roughly the same time rather than tracking which problem came first.

Even with those limitations, the pattern was clear: more advanced CKM status lined up with poorer cardiovascular health and more evidence of early arterial injury, identifying a window to act long before conventional 10-year cardiovascular risk calculators even become useful for many young adults.

How to Address Metabolic Dysfunction Before it Progresses

If you're young and feel healthy, it's easy to assume metabolic problems are decades away. I want you to think earlier than that. Your goal is to improve the factors that drive poor metabolic health before they progress into higher blood pressure, abnormal blood fats, impaired glucose control and arterial injury. That means supporting cellular energy production, reducing harmful dietary exposures and building daily habits that improve how your body handles fuel.

1. **Cut seed oils and excess linoleic acid (LA) first —** I consider excess LA a likely contributor to metabolic dysfunction; research suggests it accumulates in your tissues and may interfere with healthy cellular energy production. Start by removing seed oils — soybean, corn, sunflower, safflower, cottonseed and canola — as completely as you can.

   Processed foods and restaurant meals are major sources, so reading ingredient lists gives you an immediate way to take control. Keep your total LA intake below 5 grams a day, and ideally closer to 2 grams. For cooking, use tallow, ghee or grass fed butter. I also recommend limiting nuts and seeds because they're concentrated sources of LA.

2. **Give your mitochondria enough carbohydrate to make energy efficiently —** Your mitochondria — the structures inside your cells that produce energy — work best when they have enough glucose available. When cells are chronically underfueled, mitochondria may shift toward less efficient energy pathways that increase oxidative stress and impair insulin signaling — the kind of metabolic dysfunction the bioenergetic framework links to early CKM-type decline.

For most adults, I recommend roughly 250 grams of carbohydrates per day, with more appropriate if you're highly active. 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 rather than forcing large amounts of fiber or starch at once.

3. **Make daily movement your metabolic baseline —** You don't need an **extreme exercise** routine to start improving your metabolic health. If you're sedentary now, begin with walking and gradually build toward about an hour a day. Break up long periods of sitting by standing and moving regularly, and add strength training about twice a week.

   Muscle gives your body another place to use glucose, while regular activity may improve insulin sensitivity and support mitochondrial energy production. Treat movement like a daily metabolic signal rather than something reserved for formal workouts.

4. **Build your diet around adequate protein without overdoing it —** Your body needs protein to maintain muscle, connective tissue and metabolic function, but more isn't automatically better. I recommend about 0.8 grams of protein per pound of ideal body mass (body weight), with one-third coming from **collagen-rich sources** like slow-cooked meats or bone broth.

   Pair that protein with sufficient carbohydrates and healthy fats rather than turning protein into the dominant fuel source. This balance supports muscle while giving your cells the glucose they need to produce energy efficiently.

5. **Find out whether insulin resistance is already developing —** If you're concerned about metabolic health, don't rely on how you feel. **Insulin resistance** often develops quietly, meaning your cells stop responding properly to insulin and your body has to work harder to control blood sugar.

A HOMA-IR test, which stands for homeostatic model assessment of insulin resistance, 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.

Tracking this marker gives you a concrete score to improve rather than waiting until metabolic dysfunction advances far enough to produce obvious disease. HOMA-IR requires a fasting blood draw that measures both fasting glucose and fasting insulin. Standard metabolic panels typically include glucose but not insulin, so you'll likely need to ask your doctor to add fasting insulin to the order. Talk to your healthcare provider about whether this testing is appropriate for you.

FAQs About Young Adults and CKM Syndrome

Q: What is CKM syndrome?

A: CKM syndrome describes interconnected problems involving your metabolic health, cardiovascular system and kidneys. Early stages include risk factors such as excess body fat, abnormal blood pressure, unhealthy blood fats and poor glucose control. These changes often develop without obvious symptoms, which means problems could already be underway even when you feel healthy.

Q: How common were CKM risk factors among the young adults studied?

A: Nearly 8 in 10 participants had at least one CKM risk factor, even though their average age was only 22.9 years. About 40% were in Stage 1, primarily marked by excess body fat, while 36.2% had progressed to Stage 2 with additional metabolic

risk factors. Only 20.7% remained in Stage 0 with no CKM risk factors.

Q: Were there signs of artery damage in people this young?

A: Yes. Ultrasound measurements showed that artery walls tended to be thicker as CKM stage advanced. Thicker carotid artery walls are a sign of early arterial injury and a precursor to atherosclerosis. The difference was most pronounced in Stage 3, where maximum artery-wall thickness was 0.100 millimeters greater than in participants with no CKM risk factors.

Q: Does having no CKM risk factors mean your cardiovascular health is ideal?

A: Not necessarily. Participants in Stage 0 averaged 77.6 out of 100 on Life's Essential 8, just below the 80-point threshold for high cardiovascular health. More than half of participants at every CKM stage fell into the moderate range, showing that there was room to improve cardiovascular health even before recognizable CKM risk factors appeared.

Q: What can I do to improve my metabolic health while I'm young?

A: Start before obvious health problems develop. The strategies covered include reducing seed oils and excess LA, eating enough carbohydrates to support cellular energy production, walking regularly and strength training, consuming adequate protein and tracking insulin resistance with HOMA-IR. These steps give you concrete areas to work on rather than waiting for metabolic dysfunction to progress into more advanced disease.

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

Sources and References

- [1, 2] Circulation: Population Health and Outcomes August 20, 2026