

Ovarian Syndrome Linked to Fourfold Higher Heart Disease Risk

Analysis by [Dr. Joseph Mercola](#)

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STORY AT-A-GLANCE

- › Women with polyendocrine metabolic ovarian syndrome (PMOS), the condition formerly called polycystic ovary syndrome (PCOS), showed a more than fourfold higher rate of artery disease in a large U.S. study based on more than two decades of health insurance records
- › The analysis included more than 413,000 women with PMOS and over 2 million women without the condition, with an average age of just over 31, showing that cardiovascular risk can emerge during the reproductive years
- › High blood pressure, high cholesterol, Type 2 diabetes, and obesity explained only about 36% of the association, suggesting that PMOS itself may be an important cardiovascular risk-enhancing factor
- › The recent change from PCOS to PMOS reflects a broader understanding of the condition as a multisystem endocrine and metabolic disorder rather than one centered on ovarian cysts
- › Lifestyle strategies that address the metabolic patterns accompanying this diagnosis include eating adequate whole-food carbohydrates, cutting seed oils high in linoleic acid, regular walking and strength training, and limiting exposure to hormone-disrupting chemicals

Roughly one in eight women worldwide lives with **polyendocrine metabolic ovarian syndrome** (PMOS), formerly known as polycystic ovary syndrome (PCOS).¹ Although the condition affects multiple systems throughout the body, care during the reproductive years often focuses on its most visible concerns, including irregular menstrual cycles, acne, unwanted hair growth, and difficulty becoming pregnant.

Cardiovascular health receives far less attention, especially among women in their 20s and 30s, when heart disease seems like a problem for a much later decade of life. Yet, a new large-scale cohort study published in *The Lancet Obstetrics, Gynaecology, & Women's Health* suggests that framing deserves another look. Researchers found that a PMOS diagnosis was associated with a substantially higher rate of atherosclerotic cardiovascular disease.²

What the Researchers Found About PMOS and Artery Disease

Doctors have known for years that women with PMOS more often have high blood pressure, high cholesterol, high blood sugar, and extra weight around the middle. What remained uncertain was whether that elevated risk profile translated into more actual cases of atherosclerotic cardiovascular disease, the term for damage that occurs when plaque builds up inside arteries and restricts blood flow.³

- **Earlier research pointed the same direction without settling it** — Studies were often limited by small sample sizes, cross-sectional designs that capture only a single point in time, inconsistent definitions of PMOS and of cardiovascular outcomes, self-reported data, or inadequate adjustment for confounding factors such as medication use.

The researchers point back to the evidence that shaped the 2023 international PCOS guidelines. When the results of five earlier studies were pooled, no clear association with overall cardiovascular disease emerged. However, the review's authors cautioned that the studies differed too much in their methods and definitions to support a firm conclusion.

- **This analysis was designed to give a clearer answer** — Researchers pulled insurance claims filed between 2000 and 2022. To be counted, a woman had to be between 18 and 50, have a PMOS diagnosis on file, and have no history of artery disease before the study began. That last condition is what keeps the comparison clean. Every heart or artery problem counted here was a new one, not something carried in from before.

Each woman with PMOS was matched to five women the same age who came in for a routine annual checkup, which brought the total to 413,450 women with the condition and 2,067,250 without. Matching on age is what keeps a comparison like this honest, because the odds of artery disease climb with age alone.

The average age in both groups was just over 31, which places these findings inside the reproductive years rather than in the decades after menopause when heart disease is expected. Women were followed for an average of about 3.7 years, and some remained in the database for as long as 21 years. At that scale, the result is unlikely to be a quirk of a small sample.

- **The difference between the groups was substantial** — After adjusting for medical conditions, medication use, and other relevant factors, women with PMOS had a 4.4-fold higher hazard of developing atherosclerotic cardiovascular disease than women without it, with the true figure falling somewhere between 4.2 and 4.6. The higher risk showed up across several types of artery disease, including heart attack, stroke, and other problems caused by reduced blood flow.
- **Coverage of the study put numbers to those individual outcomes** — Women with PMOS were roughly 3.5 times as likely to have a heart attack and 3.5 times as likely to have an ischemic stroke.

They were also about five times as likely to experience a transient ischemic attack, which is a temporary blockage of blood flow to the brain, or to develop peripheral artery disease, a narrowing of the arteries that supply the limbs. Over 10 years,

about 12% of women with PMOS developed heart or artery disease, compared with about 4% of women without the condition.

- **Traditional cardiovascular risk factors explained only part of that difference** — New cases of hypertension, high cholesterol, Type 2 diabetes, and obesity accounted for approximately 36% of the association between PMOS and atherosclerotic cardiovascular disease.

The higher event rate could not be fully accounted for by the metabolic problems already known to accompany the condition, which led the researchers to describe PMOS as a risk-enhancing factor for cardiovascular disease in its own right.

On that basis, they recommended that the association be discussed even with patients who do not have traditional risk factors such as hypertension, Type 2 diabetes, infertility or obesity.

- **What the numbers can and cannot tell you** — Because this was an observational analysis of insurance claims, it establishes an association rather than proving that PMOS directly causes cardiovascular disease, and many women with PMOS never develop it.

The cohort was also entirely premenopausal, and the authors write that future longitudinal studies will need to follow this population through menopause. Within those limits, the size of the cohort and the breadth of the adjustment make the findings hard to set aside.

The authors say their results point to the need for earlier screening, counseling, and long-term surveillance in this population, beginning during the reproductive years.

This Condition Was Never Really About Ovarian Cysts

That broader cardiovascular risk makes more sense when PMOS is viewed as the multisystem condition it is. The name change from PCOS to PMOS came from a Health Policy paper published in The Lancet in May 2026, in which 56 academic, clinical, and

patient organizations participated in a multistep global consensus process to replace a name that had misrepresented the condition for decades.⁴

- **The original name created a misleading picture of the condition** — The term "polycystic ovary" suggests the presence of pathological ovarian cysts, even though these cysts are not a defining feature of the disorder. Ultrasound findings more commonly show numerous small antral follicles, which are egg-containing sacs that have stopped developing before reaching maturity because hormonal signaling has been disrupted.

The endocrine system coordinates hormone signaling throughout the body, while the metabolic system regulates how nutrients are converted into and used for energy. PCOS affects both systems, making the condition far broader than an ovarian or reproductive disorder alone.

- **The old terminology affected diagnosis and care** — According to the consensus paper, confusion surrounding the PCOS name contributed to delayed diagnosis, poor communication between patients and clinicians, and dissatisfaction with care. Up to 70% of affected individuals remain undiagnosed.

The reproductive emphasis also carried stigma, particularly in cultures where fertility has high social importance. Many women reported distress related to the name and the way it framed the condition primarily around the ovaries and the ability to become pregnant.

- **Support for a new name was broad among patients and clinicians** — Researchers gathered 14,360 survey responses from people living with the condition and from health professionals. Approximately 86% of people with the condition and 71% of health professionals supported replacing PCOS with a more accurate name. Patients placed the greatest value on reducing stigma, while health professionals prioritized scientific accuracy.

- **Every part of the new name reflects a major feature of the condition —**
 "Polyendocrine" recognizes the involvement of multiple hormone systems.
 "Metabolic" acknowledges the central role of insulin and blood sugar regulation.
 "Ovarian" preserves the reproductive component without implying the presence of pathological cysts. The features documented across the evidence base fall into four groups:
 - **Metabolic** — Obesity, dysglycemia, Type 2 diabetes, hypertension, dyslipidemia, fatty liver disease, cardiovascular disease, and sleep apnea
 - **Reproductive** — Ovulatory disturbances, irregular menstrual cycles, infertility, pregnancy complications, and endometrial cancer
 - **Psychological** — Depression, anxiety, poor quality of life, and eating disorders
 - **Dermatological** — Acne, alopecia (hair thinning or loss on the scalp), and hirsutism (coarse hair growth in a male pattern, such as on the face, chest, or back)
- **Metabolic problems run underneath the condition from the start —** The consensus paper describes metabolic abnormalities as underpinning PMOS from its genetic origins through to the symptoms women notice, and insulin resistance is the central one, affecting about 85% of women with PMOS.

When cells respond poorly to insulin, the pancreas compensates by releasing more of it. That excess insulin feeds androgen production, which then works alongside low-grade inflammation, disrupted signaling from fat tissue, and an overactive stress-response system to drive the metabolic dysfunction that defines the condition.

- **The broader definition also clarifies the cardiovascular connection —** The consensus paper noted that cardiometabolic complications are more common in PMOS and contribute to cardiovascular risk. It cited evidence, drawn predominantly

from premenopausal women, showing higher odds of composite cardiovascular disease, heart attack, and stroke among women with the condition.

5 Practical Steps for Supporting Metabolic and Heart Health with PMOS

Screening is where the study's authors put their emphasis — earlier heart health assessment for women with PMOS, and monitoring that continues over time. Between the appointments, what else can women with PMOS do? The strategies below focus on the metabolic side of the condition, along with the gut-hormone signaling that shapes how PMOS presents.

- 1. Give your cells the fuel they run on** — What you eat shapes hormone and blood sugar signaling day to day, which makes it the most practical place to start. Steady blood sugar and reliable cellular energy matter more than extreme dieting. Severe carbohydrate restrictions tend to backfire over time, driving reductive stress and lowering ATP production rather than improving metabolic health.

Glucose is the fuel your cells run on most efficiently, and most adults do well on about 250 grams of targeted carbohydrates a day. If your digestion feels off, with frequent bloating or irregular bowel movements, start with the gentlest carb sources, like fruit and white rice, and build from there.

Then cut foods that add the most inflammatory load, including ultraprocessed foods, restaurant meals, and seed oils such as soybean, corn, canola, sunflower and cottonseed oils.

Linoleic acid (LA) from these oils accumulates in body tissue and may compromise mitochondrial function. Mitochondria are the microscopic power plants inside your cells. When they run poorly, hormone signaling, blood sugar control, and inflammation are all affected — the same cluster of problems that sits underneath PMOS. Keep your LA intake under 5 grams a day, and use healthier alternatives like grass fed butter, tallow, and ghee.

2. Walk daily and add strength work each week — The muscles are where a large share of the sugar in your bloodstream gets used, which is why regular activity is linked to better insulin sensitivity.

About 60 minutes of walking a day is a reasonable target, and it does not have to happen in one block — two 30-minute walks or three 20-minute walks work, and short walks are the right starting point if you are new to exercise. Add 30 to 60 minutes of strength training per week across all major muscle groups.

3. Reduce your exposure to hormone-disrupting plastics — Many women with PMOS carry high estrogen levels alongside elevated androgens, and everyday plastics may be adding to that load.⁵ Plastics act as xenoestrogens, synthetic compounds that mimic estrogen and switch on the estrogen receptors. Phthalates in food packaging, personal care products, and household goods fall into this group. Here are ways to lower your daily load:

- Store food in glass or stainless steel instead of plastic
- Refill a metal or glass bottle rather than buying bottled water
- Do not microwave food in plastic
- Choose natural fiber clothing
- Skip personal care products and household cleaners that list synthetic fragrance

Some women also discuss [natural progesterone](#) with their clinician as a way to address estrogen-progesterone balance, which is a conversation worth having with someone who knows your history.

4. Treat your mental health as part of the picture — Chronic stress can make several PMOS-related problems harder to manage. Persistently elevated stress hormones have been associated with impaired blood sugar control⁶ and a higher risk of

cardiovascular disease.⁷ That makes stress management part of the larger metabolic picture rather than a separate wellness add-on. Helpful strategies include:

- Getting morning sunlight to reinforce your circadian rhythm and support healthier sleep timing
- Practicing mindfulness or meditation
- Keeping a consistent sleep schedule
- Using counseling or emotional support when needed
- Reducing bright screens and stimulating content late at night

5. Support your gut environment — The gut microbiome is increasingly being studied in PMOS because changes in gut bacteria and intestinal inflammation may influence insulin sensitivity, immune activity, and hormone metabolism.⁸ One option worth considering is postbiotics, which provide compounds produced by beneficial bacteria rather than the live organisms themselves.

Because they do not rely on live bacteria surviving digestion and establishing themselves in the gut, postbiotics offer a more direct way to deliver some of the substances associated with a healthy microbiome.⁹ Research suggests certain postbiotic compounds may help support the gut barrier, reduce inflammatory signaling, and improve aspects of glucose metabolism.¹⁰

One of the better-studied examples comes from [Akkermansia muciniphila](#). Research suggests that in its pasteurized form, this bacterium retains a protein called Amuc_1100 that may support the gut lining and lower inflammatory stress.¹¹ If you are considering a postbiotic supplement, talk with your health care provider about whether it fits your symptoms, medications, and overall treatment plan.

Note: The lifestyle and supplement research described here – including the postbiotic and Akkermansia findings – comes largely from laboratory, animal, and early human studies and may not apply to all individuals.

Frequently Asked Questions About PMOS and Heart Health

Q: What is PMOS, and how is it different from PCOS?

A: PMOS stands for polyendocrine metabolic ovarian syndrome, the new name for what was previously called polycystic ovary syndrome (PCOS). The updated name reflects that the condition affects multiple hormone and metabolic systems throughout the body, while the older name misleadingly suggested that ovarian cysts were the defining feature.

Q: Does PMOS increase the risk of heart disease?

A: The featured Lancet cohort study found that women with PMOS had a substantially higher rate of atherosclerotic cardiovascular disease than women without the condition. The association included coronary artery disease, stroke-related disease, and peripheral artery disease, even after researchers adjusted for other cardiovascular risk factors

Q: How much does PMOS raise heart disease risk?

A: Women with PMOS had a 4.4-fold higher hazard of developing atherosclerotic cardiovascular disease in the study. Separate outcomes also showed higher rates of heart attack, ischemic stroke, transient ischemic attack, and peripheral artery disease.

Q: Can women with PMOS develop cardiovascular problems even without obesity or diabetes?

A: Yes. Traditional risk factors including hypertension, high cholesterol, Type 2 diabetes, and obesity explained only about 36% of the association between PMOS and cardiovascular disease. The researchers therefore recommended discussing cardiovascular risk even with women who do not have those traditional warning signs.

Q: What can women with PMOS do about the metabolic side of the condition?

A: Start with the factors you can influence day to day, especially blood sugar control, physical activity, stress, and overall metabolic health. Choose carbohydrates from whole foods, limit seed oils high in linoleic acid, aim for about an hour of walking each day, and add 30 to 60 minutes of strength training each week.

Reducing exposure to xenoestrogens may also help lessen unnecessary hormonal disruption, and stress management addresses the hormone balance and inflammation that stress disrupts. Together, these support the metabolic side of the picture rather than any single symptom.

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

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