

PCOS: Insulin Resistance, Food, Fertility, and Care That Fits Your Life

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Polycystic ovary syndrome (PCOS), now also called polyendocrine metabolic ovarian syndrome (PMOS), is a common, varied pattern of ovulatory and androgen-related changes, often alongside metabolic concerns. Monash's official guideline page dates this name change to May 12, 2026; the linked international clinical recommendations are the 2023 guideline, not a newly evidence-graded 2026 treatment update. We keep the familiar PCOS name so people can find this guide. The older name is misleading: the ultrasound finding is many small follicles, not necessarily true cysts. PCOS can occur at any body size. Insulin resistance is strongly associated with PCOS, but no single insulin measurement diagnoses it and not every person has it. This guide is educational, not a diagnosis, fertility plan, or individual dietary prescription. [1] [2] [3]

If pregnancy is possible and your period is late, take a pregnancy test. Do not stop contraception or prescribed medicines because cycles improve on a diet. Seek medical evaluation for prolonged missed periods, rapidly developing androgen symptoms or severe bleeding.

Key Takeaways

- Insulin resistance and higher insulin are important in many cases of PCOS, including some at lower weights, but are not required for diagnosis. Neither weight nor diet is a moral failing. [2] [3]
- Adults generally need two of three features after other causes are excluded; adolescents need both persistent ovulatory dysfunction and hyperandrogenism. AMH is not a stand-alone PCOS test. [2]
- A change in eating can meaningfully improve metabolic health and sometimes cycles, ovulation or fertility. Small studies and reported pregnancies do not show permanent diet-only cure. [2] [4] [5]
- No particular diet composition has been proven best for all people with PCOS. Sustainable, adequately nourishing changes deserve priority over strict carbohydrate targets or shame. [2]
- Discuss glucose, lipids, blood pressure, mood, sleep, bleeding protection and pregnancy intentions with a clinician; care should fit your priorities whether or not you want to lose weight. [2]

1. What PCOS means and how it is diagnosed

Common reasons to seek an assessment include cycles that are far apart or absent, acne, unwanted facial or body hair, scalp hair thinning and difficulty conceiving. Some people have only a few of these. In adults, the international 2023 guideline uses two of three: irregular ovulation/cycles, clinical or biochemical androgen excess, and polycystic ovarian morphology (PCOM) on ultrasound or, in appropriate adults, anti-Müllerian hormone (AMH) to define PCOM. First exclude other causes. If irregular cycles and hyperandrogenism are already established, neither ultrasound nor AMH is needed; using both morphology tests can increase overdiagnosis. AMH alone cannot diagnose PCOS and varies with age, assay and contraception. Regular-looking bleeding does not always confirm ovulation. [2]

Adolescents require both persistent menstrual irregularity (interpreted by years since the first period) and hyperandrogenism, after excluding mimics. Cycles can be naturally irregular in the first year after menarche; an ultrasound or AMH is not recommended to diagnose PCOS in adolescence. Someone with only one feature may be considered “at increased risk” and reassessed rather than dismissed or labeled prematurely. Ask about pregnancy where relevant, thyroid dysfunction, high prolactin and nonclassic congenital adrenal hyperplasia; other testing depends on the history and examination. Rapidly worsening hair growth or voice deepening needs prompt evaluation for another cause. [2] [6]

2. Why insulin matters—and why it is not the whole story

When tissues respond less efficiently to insulin, the body may produce more to keep glucose in range. In some people that higher insulin can work with ovarian signals to increase androgen production and reduce liver production of sex hormone-binding globulin (SHBG), increasing available androgen. Androgens and metabolic changes can reinforce one another. This is a plausible loop, not proof that insulin came first in your case. Genetics, ovarian signaling and other factors also matter; insulin resistance is common but not universal, and PCOS occurs at any body size. A normal BMI or fasting glucose does not rule it out. Fasting insulin, HOMA-IR and SHBG are not stand-alone individual PCOS or insulin-resistance diagnoses; routine insulin assays are not recommended in the guideline. [3] [2]

3. What food changes can and cannot do

Dietary interventions can improve insulin-related markers, weight when relevant, and in some studies androgen measures, cycle frequency or ovulation. These are meaningful outcomes. Pregnancy documents conception, not that every PCOS feature disappeared; more regular periods do not themselves document every ovulation. To substantiate “complete remission,” investigators would need to re-evaluate diagnostic domains in individuals after excluding other causes, account for medicines and fertility treatment, and follow outcomes after the intervention. None of the cited diet studies establishes permanent, complete diet-only reversal. The 2023 guideline explicitly finds no evidence that one dietary composition outperforms all others for PCOS outcomes. [2] [4] [7]

What the intervention studies actually measured

These are selected primary studies, not independent replications of a cure claim. “Completed” is not the same as randomized; differing weight loss, calories, products, treatment contact and medications complicate comparisons. [4] [8] [9] [5] [10] [7] [11]

Mavropoulos 2005; 24-week single arm, very low carbohydrate [4]

Participants and findings: 11 enrolled; 5 completed (6 did not). Among completers insulin and free-testosterone measures fell; 2 pregnancies occurred.

Context and limits: Counseling and biweekly visits, exercise and multivitamins encouraged; medication adjustment as needed. No control, individually adjudicated resolution of PCOS criteria or durable follow-up; pregnancy is not proof of diet-only cure.

Paoli 2020; 12-week single arm ketogenic protocol [8]

Participants and findings: 24 assessed; 6 excluded for PCOS medication, 2 for hypothyroidism, 2 withdrew; 14 completed. Weight, insulin-related and androgen markers improved.

Context and limits: Formulated high-protein products, supplements/phytoextracts and substantial weight loss; no control, pregnancy endpoint or post-treatment multidomain remission count.

Abed Alwahab 2018; four-person case series [9]

Participants and findings: 4 of 4 resumed regular periods within 4–8 weeks; 2 conceived without ovulation induction.

Context and limits: Protein-sparing fast plus medical visits; metformin continued or started in 3 of 4. The one without metformin had short-term cycle improvement and was lost after the program; not four diet-only cures.

Pandurevic 2023; open-label randomized 16-week comparison [5]

Participants and findings: 30 randomized, 15 per group; 13 ketogenic-program and 14 Mediterranean-program completers. Ovulation at week 16: 11/13 vs 5/14; free testosterone fell in both groups.

Context and limits: Proprietary very-low-calorie products followed by low-calorie diet vs low-calorie Mediterranean diet; different weight loss. One intervention dropout had kidney stones and another GI intolerance. Ovulation, not disappearance of all PCOS domains; no long-term follow-up.

Tsushima 2024; selected retrospective cohort [10]

Participants and findings: 30 included if on program for at least 3 months or pregnant sooner; 24 initially irregular, about 92% of those observed were regular at 6 months; 10/18 seeking pregnancy conceived.

Context and limits: 18/30 used metformin; ovulation-induction treatment offered/used, plus appointments and exercise counseling. Early nonpregnant discontinuers excluded; neither periods nor pregnancies establish diet-only remission.

Rossetti 2024; prospective one-arm pilot [7]

Participants and findings: 18 enrolled, 12 completed. Median cycle length fell from 45 to 32 days by 6 months; ovarian volume and some hormone measures improved.

Context and limits: 45 days ketogenic, then reintroduction and general eating advice; calorie deficit for participants above normal weight, supplements recommended. No control, individual diagnostic-remission count, or established diet-only medication-free cohort.

Wang 2026; preliminary 12-week open-label randomized comparison [11]

Participants and findings: 60 randomized, 30/30 completed; regular periods reported for 29/30 vs 20/30 (ketogenic vs simulated Mediterranean).

Context and limits: Both assigned calorie deficits; weight change differed markedly (-16.03 vs -6.03 kg). Recent metabolic/reproductive drugs excluded; no longer-term outcomes or verified complete remission.

How to read the numbers: short trials and selected case series can support potential improvement, not prove ketosis is necessary, weight-independent, safer or better long term. A separate observational cohort reported 55/468 meeting its multidomain remission definition, but participants received metabolic medicines, not diet alone; it is not a dietary cure rate. [12] [2]

4. An eating pattern you can live with

If helpful, try meals built around vegetables, beans or lentils, fruit, whole grains, nuts or seeds, eggs, tofu, fish, yogurt or other satisfying protein, and unsaturated fats such as olive oil. Swap some refined starches or sweet drinks for higher-fiber options; pair carbohydrate with protein and fat if it helps you feel satisfied. For example: oatmeal with yogurt, berries and nuts; a bean-and-vegetable bowl with brown rice and avocado; or fish/tofu with roasted vegetables and potatoes. These are examples, not required meals or a ban on bread, fruit or cultural foods. Choose affordable and culturally familiar alternatives. Movement you enjoy, sleep support and follow-up matter too. Benefits and supportive care are for people at all weights, and weight loss is not a prerequisite for treatment. [2]

Some people prefer moderate carbohydrate reduction; ketogenic or very-low-energy regimens are not mandatory and may be difficult or risky. Seek professional supervision for restrictive diets, especially if pregnant, breastfeeding or trying to conceive, taking glucose-lowering medicines or with a history of disordered eating. Discuss adequate nourishment and medication adjustment before major changes. There is no evidence-based universal PCOS calorie target or prescribed macro ratio. [2] [5]

5. Screening and long-term protection

At diagnosis discuss glucose status and a lipid profile regardless of BMI, plus blood pressure (at least annually). The 75-g oral glucose tolerance test (OGTT) is the most accurate glycemic assessment in PCOS; fasting glucose or HbA1c may be used when impractical, with lower accuracy. Repeat glycemic assessment every 1–3 years based on risk, and discuss OGTT before or during pregnancy as recommended. Ask about snoring with unrefreshing sleep or daytime sleepiness, depression, anxiety and disordered eating at any size. Do not order every hormone panel or a sleep study solely because of this guide. [2]

PCOS increases relative risks of impaired glucose regulation/type 2 diabetes and endometrial hyperplasia or cancer; cardiovascular risk factors deserve attention. Relative risk is not an individual prognosis. The guideline emphasizes that overall endometrial cancer chance remains low and does not recommend routine endometrial screening for everyone. If you go more than about 90 days without bleeding, check pregnancy if relevant and seek an assessment rather than waiting indefinitely; a clinician can discuss cycle regulation or periodic progestogen to protect the uterine lining when indicated. This is a contact-care prompt, not a universal progestin schedule or automatic biopsy. [2] [13]

6. Treatments depend on your goals

If pregnancy is not desired, combined oral contraceptives can help irregular bleeding, acne or unwanted hair when safe for you; progestin-only options may protect the endometrium. Metformin is mainly used for metabolic outcomes and may help cycles in selected people, including some at lower BMI where evidence is limited; it does not prevent pregnancy. Antiandrogens for persistent unwanted hair require reliable contraception because of fetal risks. Discuss contraindications, side effects and priorities instead of starting or stopping a medicine yourself. [2]

If pregnancy is desired, ask for timely assessment of ovulation and other fertility factors. Letrozole is first-line pharmacologic ovulation induction for anovulatory PCOS infertility when no other infertility factor is present, under clinical supervision; metformin alone is less effective than other induction agents. Avoid letrozole if an existing pregnancy is possible. Ovulation can return unpredictably, so irregular or absent periods are not contraception. [2] [14]

GLP-1 medicines can be considered for higher weight according to general population indications, not as established PCOS fertility drugs. Pregnancy safety data are lacking: use effective contraception when pregnancy is possible and plan discontinuation with your prescriber before conception according to the exact product label; do not generalize one product's washout interval to all drugs. Discuss pregnancy and breastfeeding plans before starting any diet or drug. [2]

7. Insulin research and online claims

Benjamin Bikman is a BYU professor and PhD metabolism researcher, not identified in his institutional profile as a treating physician. His self-branded video channel and Metabolic Classroom archive are places to explore metabolic explanations, not independently validated clinical guidance. His website promotes paid membership and Insulin IQ coaching; Insulin IQ describes a coaching platform developed with him, and HLTH Code identifies him as formulator and cofounder of nutritional products. Specific video claims and sponsorships were not independently reviewed here. We could not verify a Bikman-authored list of PCOS diet-only cure cases or attribute the studies above to him. Clinical choices in this guide rest on the international guideline and primary studies rather than a lecture, testimonial or product. [15] [16] [17] [18]

8. Questions for your next visit

- Which diagnostic features do I have, and which alternative causes should be checked? If I am an adolescent, how does time since my first period change interpretation?
- How should we assess glucose and lipids, and when should blood pressure and metabolic tests be repeated?
- If periods are absent, do I need pregnancy testing or a plan to protect the uterine lining?
- What matters most to me now: bleeding, acne or hair changes, mental health, metabolic health, contraception, or pregnancy? What are the benefits and risks of each option?
- If I change my eating pattern, how can I maintain nourishment and know whether medicines need adjustment?

Seek prompt care for rapidly progressive virilization, heavy bleeding with faintness or weakness, severe pelvic pain, or a possible pregnancy with pain or bleeding. These can have causes other than PCOS; do not wait for a dietary experiment. [2]

Frequently Asked Questions

Can PCOS be cured by diet alone?

Nutrition can improve important outcomes, including metabolic measures and sometimes cycles or ovulation, but these studies do not establish a permanent complete diet-only cure. Treatment needs and symptoms may change over time. [2] [4]

Do I have PCOS if I have high insulin or an ultrasound with follicles?

Neither is sufficient. Insulin assays are not routine PCOS diagnostic tests; adult diagnosis needs two of three clinical domains after mimics are excluded, and adolescent diagnosis is different. [2]

Can I get pregnant if I rarely have periods?

Yes. Ovulation may be unpredictable or return with treatment. Use contraception if you do not want pregnancy and discuss fertility evaluation if you do. [14] [2]

Is a keto diet required to improve PCOS?

No. Some small studies report benefits, but the international guideline has not identified one superior dietary composition. Choose a sustainable nourishing approach with support if needed. [2] [5]

Sources

1. PCOS Guideline / PMOS Guideline

Monash University | 2023 guideline; renaming May 12, 2026; checked 2026-09-24 | official guideline landing page

<https://www.monash.edu/medicine/mchri/pcos/guideline>

2. Recommendations from the 2023 International Evidence-based Guideline for the Assessment and Management of PCOS

ASRM / international guideline partners | 2023; checked 2026-09-24 | clinical guideline recommendation table

<https://integration.asrm.org/practice-guidance/practice-committee-documents/recommendations-from-the-2023-international-evidence-based-guideline-for-the-assessment-and-management-of-polycystic-ovary-syndrome/>

3. Reappraising the relationship between insulin resistance and PCOS

Journal of Endocrinology | 2025; checked 2026-09-24 | mechanistic review

<https://journals.bioscientifica.com/joe/article/265/2/e240269/5714/Reappraising-the-relationship-between>

4. Mavropoulos et al. (2005): low-carbohydrate ketogenic PCOS pilot

Nutrition & Metabolism | 2005 | nonrandomized pilot study

<https://link.springer.com/article/10.1186/1743-7075-2-35>

5. Pandurevic et al. (2023): ketogenic versus Mediterranean diet comparison

Endocrine Connections | 2023 | open-label randomized comparison

<https://ec.bioscientifica.com/view/journals/ec/12/7/EC-22-0536.xml>

6. Polycystic Ovary Syndrome (PCOS)

Endocrine Society | 2022; checked 2026-09-24 | patient guidance

<https://www.endocrine.org/patient-engagement/endocrine-library/pcos>

7. Rossetti et al. (2024): prospective ketogenic PCOS pilot

Metabolites | 2024 | one-arm prospective pilot

<https://www.mdpi.com/2218-1989/14/12/691>

8. Paoli et al. (2020): ketogenic dietary intervention in PCOS

Journal of Translational Medicine | 2020 | single-arm intervention

<https://link.springer.com/article/10.1186/s12967-020-02277-0>

9. Abed Alwahab et al. (2018): protein-sparing modified fast case series

AACE Clinical Case Reports | 2018 | four-patient case series

<https://www.sciencedirect.com/science/article/pii/S2376060520301577>

10. Tsushima et al. (2024): selected ketogenic PCOS cohort

Frontiers in Nutrition | 2024 | selected retrospective cohort

<https://www.frontiersin.org/journals/nutrition/articles/10.3389/fnut.2024.1395977/full>

11. Wang et al. (2026): ketogenic versus simulated Mediterranean diet

Frontiers in Nutrition | 2026-09-21 | preliminary open-label randomized comparison

<https://www.frontiersin.org/articles/10.3389/fnut.2026.1920489>

12. Shanghai cohort (2026): pharmacotherapy and multidomain PCOS remission

Frontiers in Endocrinology | 2026 | retrospective cohort

<https://www.frontiersin.org/journals/endocrinology/articles/10.3389/fendo.2026.1877873/full>

13. Amenorrhea: Frequently Asked Questions

NIH/NICHD | checked 2026-09-24 | government patient guidance

https://www.nichd.nih.gov/health/topics/amenorrhea/more_information/other-faqs

14. PCOS Treatments

NIH/NICHD | checked 2026-09-24 | government patient guidance

<https://www.nichd.nih.gov/health/topics/pcos/conditioninfo/treatments>

15. Benjamin Bikman faculty profile

Brigham Young University | checked 2026-09-24 | institutional faculty profile

<https://cell.byu.edu/directory/benjamin-bikman>

16. Ben Bikman personal website

Ben Bikman | checked 2026-09-24 | first-party website

<https://benbikman.com/>

17. Insulin IQ on its coaching relationship with Bikman

Insulin IQ | checked 2026-09-24 | first-party commercial page

<https://insuliniq.com/the-complementary-synergistic-roles-of-benbikman-com-and-insuliniq-com>

18. HLTH Code nutritional products

HLTH Code | checked 2026-09-24 | first-party commercial website

<https://gethlth.com/>