

Polycystic ovary syndrome (PCOS)

[Polycystic ovary syndrome](#) (PCOS) is a hormonal condition in women that often manifests in adolescence. During the menstrual cycle of a healthy woman, one follicle, produced by the ovaries, will release an egg. In women with PCOS, the ovaries over-produce testosterone, yielding many smaller follicles. The immature follicles can accumulate in the ovaries and do not mature to release eggs. The condition is characterized by hyperandrogenism (excess androgen hormones), [menstrual irregularity](#), and/or polycystic ovaries (sacs of fluid formed in the ovaries).

Common types of PCOS

The diagnosis of PCOS in adolescents requires evidence of hyperandrogenism and abnormal menstrual patterns. In adults, four different phenotypes of PCOS have been identified:

- **Classic PCOS**, characterized by hyperandrogenism, oligo-ovulation (irregular ovulation), and a polycystic ovary
- **Hyperandrogenic PCOS**, characterized by hyperandrogenism and irregular ovulation
- **Ovulatory PCOS**, characterized by hyperandrogenism and one or more polycystic ovaries
- **Non-hyperandrogenic PCOS**, characterized by irregular ovulation and one or more polycystic ovaries

PCOS may be diagnosed in individuals without polycystic ovaries based on other signs, symptoms, and clinical testing.



Signs, symptoms, and complications

- Acanthosis nigricans (skin discoloration in body folds and creases)
- Hirsutism (male-pattern hair growth in women including growing extra facial hair or hair loss)
- Menstrual irregularity
- Obesity
- Pelvic pain
- Polycystic ovaries
- Treatment-resistant [acne](#)

Having PCOS is associated with increased risk of having or developing other conditions such as insulin resistance, [type 2 diabetes](#), cardiovascular disease, and [infertility](#).

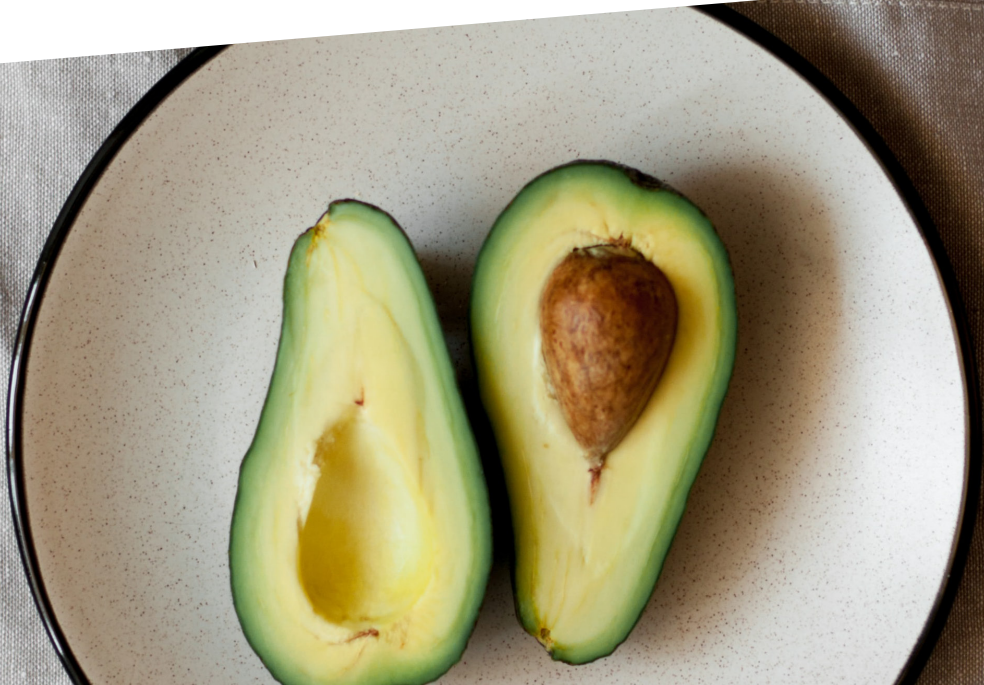
Causes and risk factors

While the causes of PCOS remain unknown, several risk factors have been identified, including:

- Functional ovarian hyperandrogenism (FOH) as an adolescent
- Heritable traits such as maternal PCOS
- [Metabolic](#) conditions (e.g., insulin resistance, diabetes, obesity)
- Physical inactivity

Preventing and addressing PCOS

Healthy lifestyle habits, including diet and exercise, are recommended to help women with PCOS manage weight and improve hormonal health and overall well-being.



Diet

A reduced-calorie and/or a reduced-carbohydrate diet can support weight management and improve ovarian function. Specifically, research has shown that following a diet low in refined carbohydrates and [dairy](#) may improve insulin sensitivity, reduce testosterone levels, and promote weight loss.

The following table provides an overview of the foods and beverages to avoid and enjoy.

Food group	Avoid	Enjoy
Fruits	N/A	Low-sugar fruit (e.g., berries, apples, oranges, plums) Avocado Other fruit in moderation
Vegetables	N/A	Non-starchy vegetables (e.g., asparagus, cauliflower, leafy greens, peppers) Other vegetables in moderation
Grains	Refined grains (e.g., white rice, white pasta)	Whole grains (e.g., brown rice, whole wheat)
Proteins	N/A	Beans and legumes Eggs Fish and shellfish Lean animal protein (e.g., poultry, meat)
Dairy	Most dairy products (e.g., cream, milk, yogurt)	Up to 1 oz of cheese per day Unsweetened plant-based milk alternatives (e.g., almond, coconut milk)
Oils & fats	N/A	Coconut oil Nuts and seeds Olive oil
Other	Sugar and sweeteners: Agave nectar Evaporated cane juice Fruit juice High-fructose corn syrup Honey Raw turbinado sugar	Non-nutritive sweeteners (e.g., Stevia) in moderation

Physical activity

The International Guideline for the Assessment and Management of PCOS provides the following [exercise](#) recommendations for weight management.

To prevent weight gain:

- **Adolescents:** at least 60 minutes of moderate to vigorous physical activity per day, including muscle and bone strengthening three days per week
- **Adults ages 18 to 64:** at least 150 minutes per week of moderate physical activity, or 75 minutes per week of vigorous activity, including muscle strengthening two days per week

To lose weight or prevent weight regain:

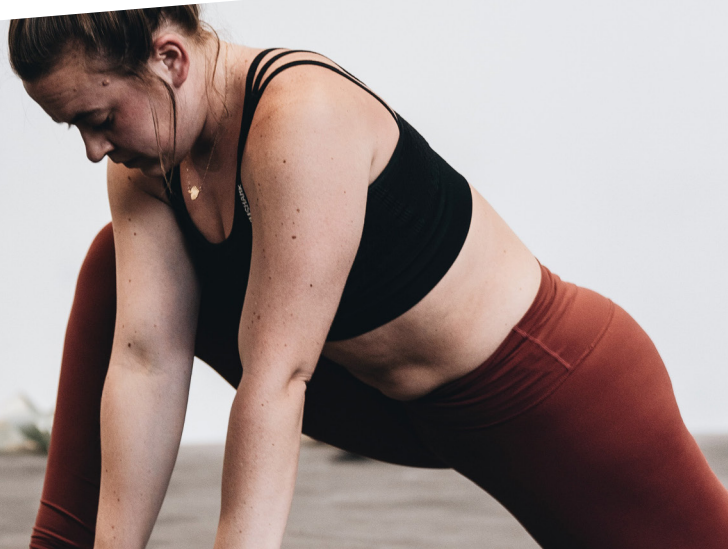
- At least 250 minutes of moderate physical activity per week or 150 minutes of vigorous physical activity per week, including muscle and bone strengthening three days per week
- Reduce sedentary time, such as screen time and sitting

Weight management

Healthy lifestyle or behavioral strategies like goal-setting, self-monitoring, and utilizing social support can help women with PCOS achieve weight loss. In individuals who are overweight, research suggests that losing 5 to 10% of body mass may increase ovulation frequency and chances of pregnancy, as well as improve hormonal balance.

Other lifestyle considerations

Managing PCOS can involve psychological factors such as symptoms of [anxiety](#) or [depression](#), body image concerns, and disordered eating. Speak to your healthcare practitioner and consider seeking support such as cognitive behavioral therapy and counseling.



References

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