

## Polycystic ovary syndrome (PCOS)

Polycystic ovary syndrome (PCOS) is a common hormonal and metabolic disorder. It may affect patients at any time after puberty. The most common symptoms are irregular menstrual periods, unwanted hair growth, acne, and weight gain. PCOS may make it difficult to become pregnant.

Your doctor will perform a physical and pelvic exam and discuss your symptoms. Your doctor may order a transvaginal ultrasound and blood tests. Treatment varies depending on your symptoms, other health conditions, your plans for having children, and your long-term risk of diabetes and heart disease.



### What is PCOS?

Polycystic ovary syndrome (PCOS) is a common hormonal and metabolic disorder. It may affect patients at any time after puberty. The exact cause of PCOS is unknown. It involves the reproductive hormones (androgens) and insulin, the hormone that manages your blood sugar.

Not all patients experience PCOS in the same way. You may have mild or severe symptoms. Your doctor may not diagnose you with PCOS until you have trouble getting pregnant or gain weight for an unknown reason.

The most common symptoms of PCOS include:

- Irregular periods, including periods that come too often, not often enough, or not at all, or heavy bleeding.
- Unwanted and heavy hair growth on the face, under the arms, or on the chest and abdomen (this condition is called hirsutism).
- Acne.
- Weight gain, especially around the belly.
- Obesity.
- Dark patches of skin, especially on the neck, armpits, groin (between the legs), and under your breasts (acanthosis nigricans).
- Skin tags, or tiny flaps of extra skin on your armpits or neck.
- Male-pattern baldness or thinning hair.
- Infertility.

The exact cause of PCOS is not known. Several factors may play a role, including:

- A family history of PCOS.
- Insulin resistance. Insulin helps your body process sugar. If your body does not respond normally to insulin, it causes the sugar in your blood to increase. It can also cause your ovaries to produce extra hormones that can cause hair growth, acne, and weight gain.
- High levels of hormones (androgens). This interferes with egg growth and release from the ovaries (called ovulation).

- Stopping birth control medicine. Some patients develop PCOS symptoms after they stop using birth control.

## How is PCOS diagnosed and evaluated?

Your doctor will perform a physical and pelvic exam and discuss your symptoms. They may order a transvaginal ultrasound and blood tests.

**Transvaginal Ultrasound.** This test checks your ovaries and uterus. Ultrasound is an imaging exam that uses sound waves to create pictures of the inside of the abdomen and pelvis. The ultrasound transducer, which sends and records the sound waves, is inserted inside the vagina. *See the Pelvis Ultrasound (<https://www.radiologyinfo.org/en/info/pelvis>) page for more information.*

Blood tests will check your hormone levels, your blood sugar (glucose) levels, cholesterol, and triglycerides.

You will typically be diagnosed with PCOS if you meet two of three conditions listed below:

- Irregular or no menstrual periods.
- Blood tests that show high levels of androgen hormones or signs of higher-than-normal androgen levels, including:
  - Extra hair growth on your face, chin, and body.
  - Acne.
  - Thinning hair or male pattern hair loss.
- Polycystic ovaries. Despite its name, PCOS does not involve cysts in the ovaries but can cause multiple eggs (called follicles) to develop with the ovary appearing enlarged. The normal eggs are not able to mature and release from these underdeveloped follicles when women have PCOS.

## How is PCOS treated?

Treatment will vary depending on your symptoms, other health conditions, your plans for having children, and your long-term risk of health problems such as diabetes and heart disease. Treatments include medications and lifestyle changes. Many patients will have a combination of treatments.

If you do not wish to become pregnant, treatment may include:

- Hormonal birth control, including pills, patches, shots, or an intrauterine device (IUD). Birth control helps regulate your menstrual cycle and may help with excess hair growth and improve acne.
- Diabetes drugs. Drugs such as metformin, used to treat type 2 diabetes, help the body process insulin. It can lower both insulin and androgen levels.
- Anti-androgen medication. This medication blocks the effect of androgen hormones and can help reduce hair loss, facial and body hair growth, and acne.
- Medications to treat PCOS symptoms, such as unwanted hair growth or acne.
- Lifestyle changes include eating a nutritious diet, maintaining a healthy weight, and physical activity.

If you wish to become pregnant now or in the future, treatment may include:

- Losing weight helps make the menstrual cycle more regular.
- Drugs that cause the ovaries to release eggs (or ovulate).
- In vitro fertilization (IVF). IVF is an option when drugs don't help you ovulate. In this procedure, a physician removes an egg from your ovary, combines it with sperm in a lab, and transfers it back to your uterus.

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