

Polycystic Ovary Syndrome

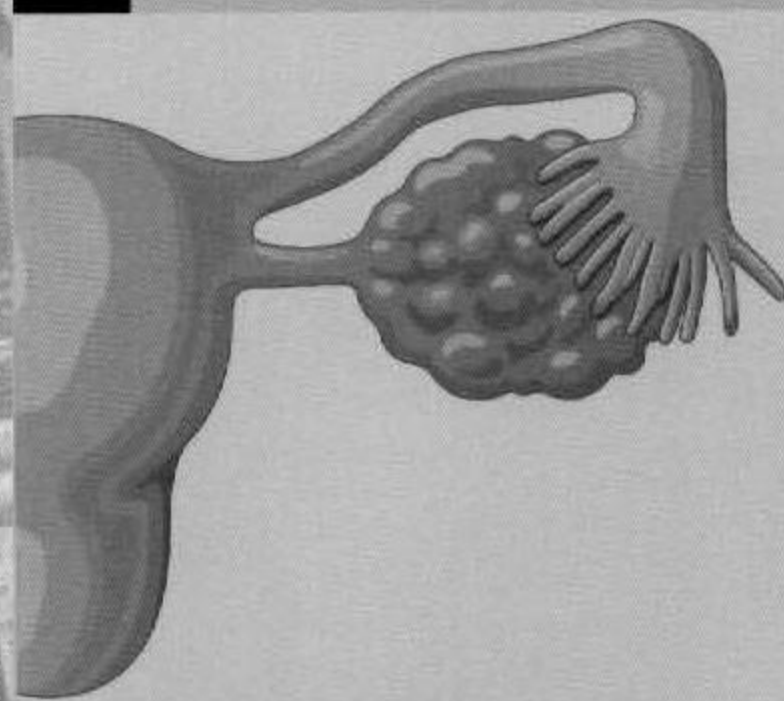
Polycystic ovary syndrome (PCOS) is a disorder that results from abnormal levels of certain **hormones**. Women with PCOS may have irregular or no menstrual periods. PCOS can cause health problems in women, but it can be treated.

This pamphlet will explain:

- What is PCOS
- How it is diagnosed
- How PCOS can be treated



ACOG PATIENT EDUCATION



With proper treatment, PCOS can be managed and your symptoms can be relieved.

The Condition

A woman who has PCOS was born with the condition. Symptoms may not occur until later in life, though. PCOS is a genetic disorder. That means women with PCOS often have a family member with the condition. Their children also may be affected.

Reproductive Hormones

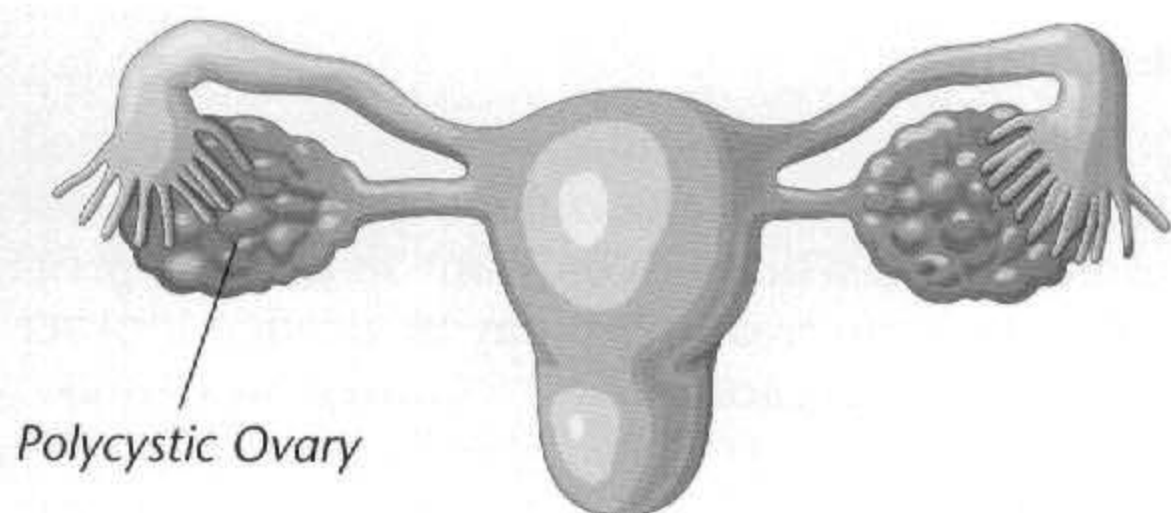
To understand PCOS, it helps to know how certain hormones affect a woman's body. The box helps explain the key hormones of the menstrual cycle. If hormone levels are abnormal, PCOS may occur.

Each month a *follicle*, containing an egg, matures and is released from a woman's *ovary*. If the egg is fertilized by a sperm, pregnancy occurs. If not, the endometrium (the lining of the uterus) is shed and menstruation occurs.

Key Hormones in Women

Hormones are produced by the body to send messages from one area to another. They are produced in both men and women in different amounts. Certain hormones control a woman's menstrual cycle and her ability to get pregnant.

- Follicle-stimulating hormone (FSH) and luteinizing hormone (LH) are made by the pituitary gland, a small organ at the base of the brain. FSH causes eggs to mature in the ovaries. LH triggers their release from the ovaries (ovulation).
- Estrogen and progesterone are produced by the ovaries. Estrogen signals the endometrium to thicken during each menstrual cycle. After ovulation, progesterone causes blood vessels in the endometrium to swell and other changes to occur to prepare for a possible pregnancy.
- Androgens, so-called male hormones, are made by the ovaries in women and the testes in men. They are used by the ovaries to make estrogen, the so-called female hormone.



The first day of bleeding is day 1 of a woman's cycle. An average menstrual cycle is about 28 days, including 5–7 days of bleeding. Normal cycles can vary from 23 to 35 days.

In most cases in the menstrual cycle, only enough follicle-stimulating hormone (FSH) is made for one follicle. In a normal ovary, one follicle matures and an egg is released each month. In a polycystic ovary, there are many follicles but they do not mature and an egg is not released.

Because the eggs are not released, progesterone levels are too low and androgen and estrogen are too high. This may cause irregular periods and other symptoms of PCOS.

Insulin

Another hormone that plays a role in PCOS is **insulin**. Insulin is a hormone that controls the body's use of sugar (glucose). Many women with PCOS produce too much insulin or the insulin they produce doesn't work as it should. This is one reason why women with PCOS tend to gain weight or have a hard time losing weight. They also have an increased risk of diabetes (a condition in which the levels of sugar in the blood are too high).

Insulin interrupts the normal growth of the follicle in the ovaries. The ovaries slowly become enlarged because of the number of the eggs they contain.

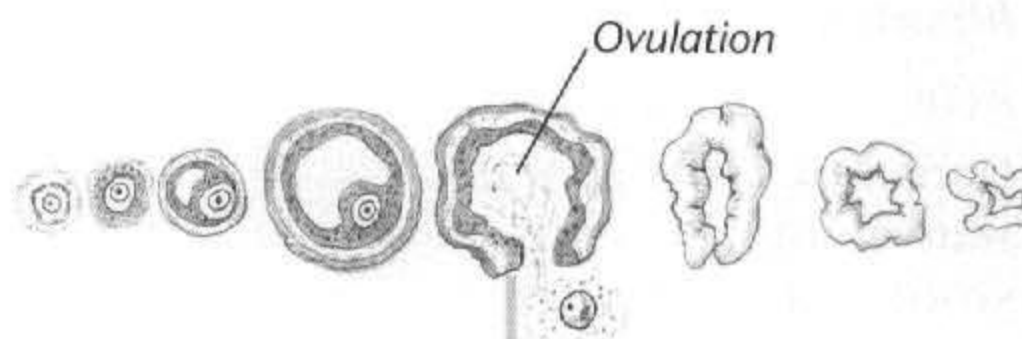
Long-Term Health Risks

Many women with PCOS are at an increased risk of certain health problems. They may need to be tested more often and may require treatment. Treatment will help prevent other problems.

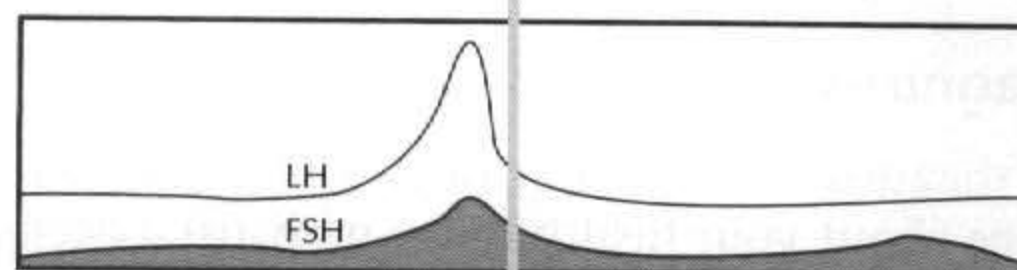
For instance, PCOS is linked to heart disease, diabetes, and high blood pressure. Also, in some women, the presence of estrogen without proges-

terone increases the risk that the lining of the uterus (endometrium) will grow too much. This is a condition known as endometrial hyperplasia. If not treated, endometrial hyperplasia may turn into cancer.

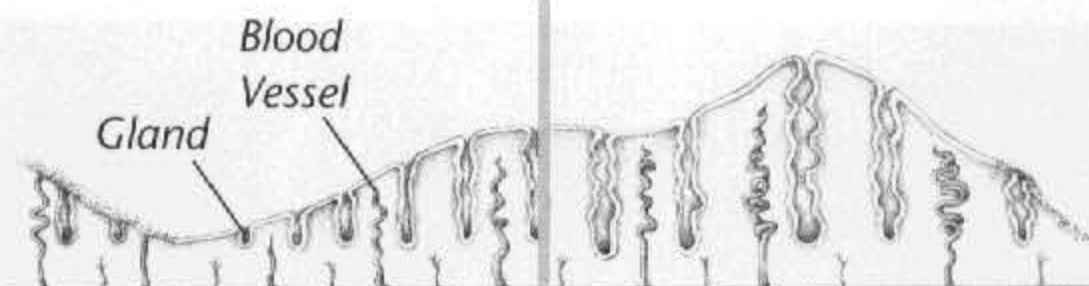
Ovulation



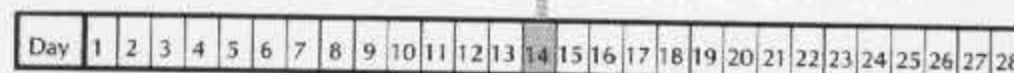
The egg matures inside a follicle in the ovary and is released at ovulation.



Hormones from the pituitary gland trigger ovulation 14 days before the next period.



The lining of the uterus begins to thicken and, if the egg is not fertilized, is shed during the menstrual period.



Signs and Symptoms

In some women with PCOS, hormone changes may begin as early as the very first menstrual cycle. In other women with PCOS, changes occur over time.

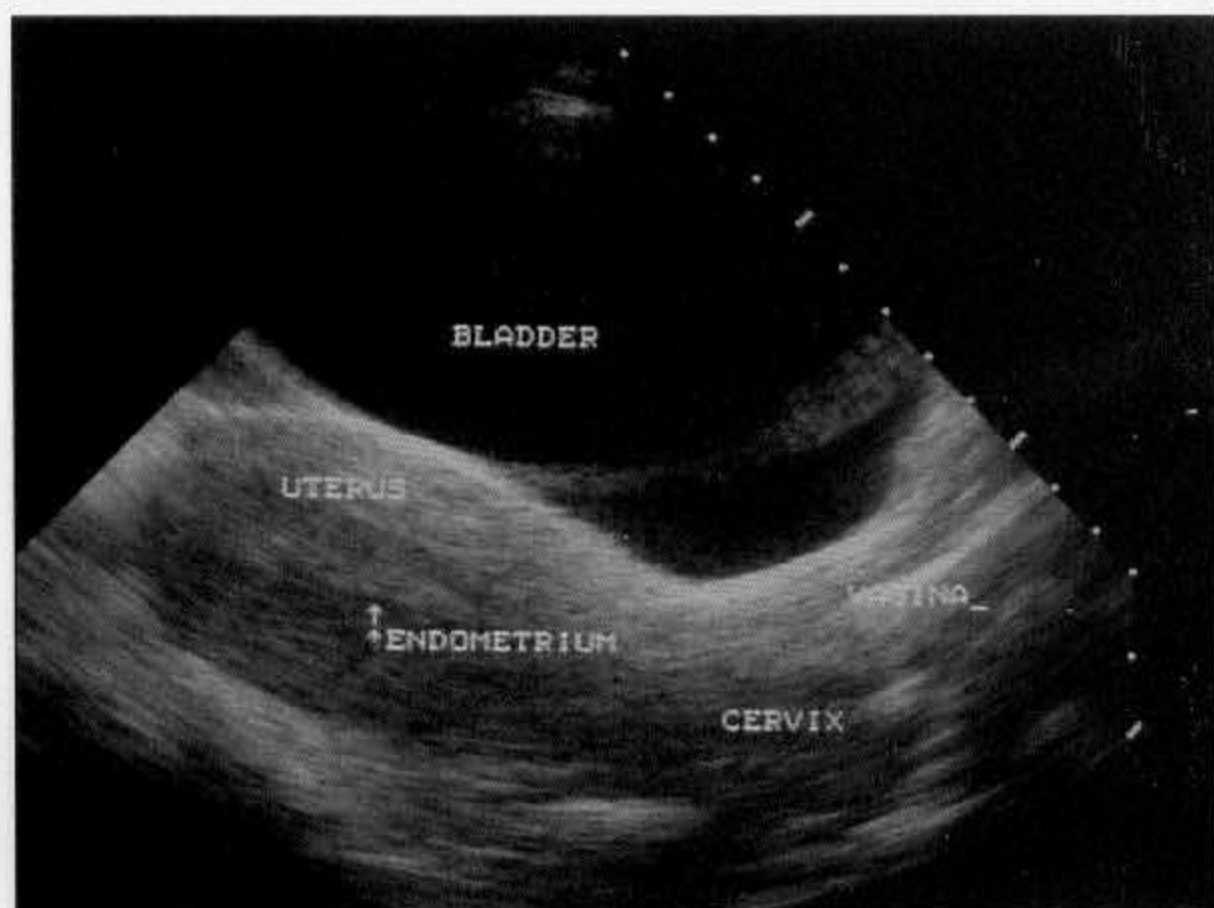
Signs and symptoms vary in women with PCOS and may include:

- Excess hair on the face and body (known as *hirsutism*)
- Acne
- Darkened color and change in texture of the skin along the neck and armpits and on the groin and inner thighs
- Obesity
- Irregular menstrual periods or no periods
- Trouble getting pregnant
- Vaginal yeast infections
- Hair loss

Diagnosis

To diagnose PCOS, your doctor will ask you questions about your health, your menstrual cycle, and your family history. He or she also will do a complete exam that may include blood tests to check levels of insulin, other hormones, and blood glucose.

A pelvic **ultrasound** may be done to look at the ovaries. It also can be used to check the lining of the uterus to see if it is thickened.



Ultrasound of the pelvic organs.

Treatment

PCOS is a lifelong condition, but it can be treated in a number of ways. Treatment depends on your symptoms and whether you want to become pregnant. Long-term treatment may be needed if other medical problems arise.

Lifestyle Changes

Lowering insulin levels is a key to managing PCOS. Daily exercise improves the body's use of insulin. Polycystic ovary syndrome may be relieved by daily exercise for at least 30 minutes a day.

In some women with PCOS, weight loss will lower insulin levels enough to allow ovulation to begin. It also may help relieve some of the symptoms of PCOS, such as less new hair growth and less risk of endometrial hyperplasia.

Changes in the type of foods that you eat also may help lower your insulin levels. Women with PCOS should decrease their intake of foods high in carbohydrates. Carbohydrates are found in breads, pasta, potatoes, and foods that are sweet. A nutritionist may help.

Medication

To treat irregular menstrual periods, your doctor may prescribe either the hormone progesterone or **birth control pills**. Women who wish to become pregnant may be given medications to help them ovulate. Some women with PCOS will be prescribed medication to lower their insulin levels.

Your doctor also may prescribe birth control pills and other medications to help slow the growth of new body hair. It may take a number of months for you to notice any results. These medications likely will not remove hair that is already there. To remove unwanted hair, you may want to try shaving, electrolysis, or other hair removal methods.

Finally...

With proper treatment, PCOS can be managed and your symptoms can be relieved. You should have long-term health care to look for disorders that may arise. If you have PCOS, changes in your lifestyle will improve your health.

Glossary

Birth Control Pills: Pills containing hormones that prevent ovulation and thus pregnancy; also called oral contraceptives.

Follicle: The saclike structure that forms inside an ovary when an egg is produced.

Hirsutism: Excessive hair on the face, abdomen, and chest caused by high levels of the male hormone androgen.

Hormone: A substance produced by the body to control the functions of various organs.

Insulin: A hormone that lowers the levels of glucose (sugar) in the blood.

Ovaries: Two glands, located on either side of the uterus, that contain the eggs released at ovulation and that produce hormones.

Ultrasound: A test in which sound waves are used to examine internal structures.

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The American College of Obstetricians and Gynecologists
409 12th Street, SW
PO Box 96920
Washington, DC 20090-6920

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