

PCOS (Polycystic Ovary Syndrome):

General Information

Taken from <https://youngwomenshealth.org/2014/02/25/polycystic-ovary-syndrome/>

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Key Facts

- PCOS is a hormone imbalance that can cause irregular periods, unwanted hair growth, and acne.
- The cysts on the ovaries aren't harmful and don't need to be removed.
- The treatment for PCOS is healthy nutrition, exercise, and medications.

What is PCOS?

Polycystic ovary syndrome (PCOS) is a hormone imbalance that can cause irregular periods, unwanted hair growth, and acne. PCOS begins during a girl's teen years and can be mild or severe. Almost 1 out of 10 women has PCOS.

What are the signs of PCOS?

Some of the most common signs of PCOS include:

- Irregular periods that come every few months, not at all, or too frequently
- Extra hair on the face or other parts of the body, called hirsutism (her-suit-is-em)
- Acne
- Weight gain and/or trouble losing weight
- Patches of dark skin on the back of the neck and other areas, called acanthosis nigricans (a-can-tho-sis ni-gri-cans)

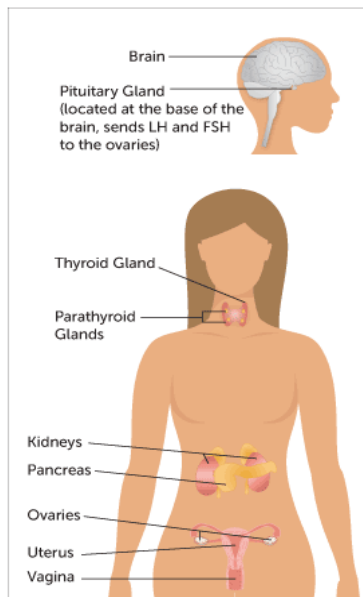
Could I have PCOS?

If you have some or all of the above signs, you might have PCOS. There can be other reasons why you might have signs; however, only your health care provider can tell for sure.

What causes PCOS?

PCOS is caused by an imbalance in the hormones (chemical messengers) in your brain and your ovaries. PCOS usually happens when a hormone called LH (from the pituitary gland) or levels of insulin (from the pancreas) are too high, which then causes the ovaries to make extra amounts of testosterone.

For a more detailed explanation, take a look at the female reproductive anatomy image:



Female reproductive anatomy

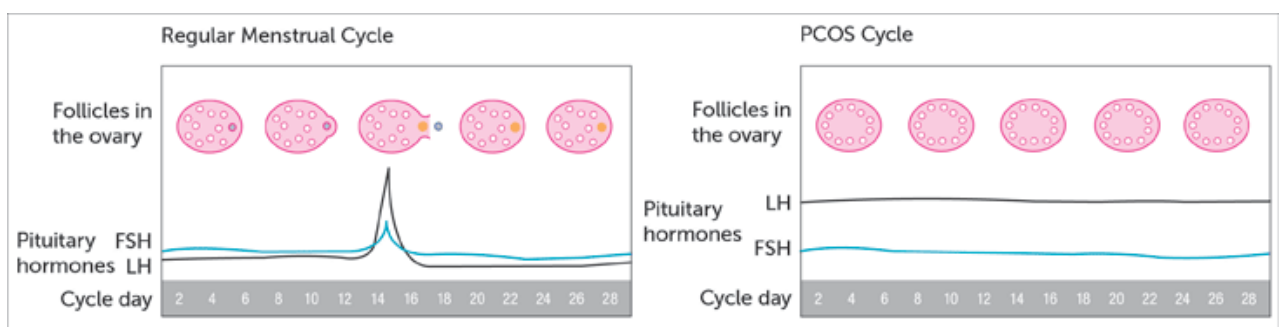
1. The pituitary (pi-tu-i-tary) gland in your brain makes the hormones luteinizing (lu-tin-iz-ing) hormone (LH) and follicle (fall-i-call) stimulating hormone (FSH).
2. After getting the signal from the hormones LH and FSH, the ovaries make estrogen (es-tro-gen) and progesterone (pro-ges-ter-own), the female sex hormones.
3. All normal ovaries also make a little bit of the androgen testosterone (an-dro-gen tes-tos-ter-own), a male sex hormone. The pancreas (pang-cree-us) is an organ that makes insulin. High levels of insulin can also cause the ovaries to make more of the hormone testosterone.

Why are my periods so irregular?

Having PCOS means that your ovaries aren't getting the right (hormonal) signals from your pituitary gland. Without these signals, you won't ovulate (make eggs) every month. Your period may be irregular, or you may not have a period at all.

Let's review a regular menstrual cycle.

1. The menstrual cycle starts when the brain sends LH and FSH to the ovaries. A big surge of LH is the signal that causes the ovaries to ovulate, or release an egg.
2. The egg travels down the fallopian tube and into the uterus. Progesterone from the ovary causes the lining of the uterus to thicken.
3. If the egg isn't fertilized, the lining of the uterus is shed. This is a menstrual period.
4. After the menstrual period, the cycle begins all over again.



Regular menstrual cycle vs. PCOS menstrual cycle

The diagram on the left shows a regular menstrual cycle, and the diagram on the right shows a PCOS cycle with no ovulation.

Now, let's look at what happens during a menstrual cycle with PCOS.

1. With PCOS, LH levels are often high when the menstrual cycle starts. The levels of LH are also higher than FSH levels.
2. Because the LH levels are already quite high, there is no LH surge. Without this LH surge, ovulation does not occur, and periods are irregular.

Girls with PCOS may ovulate occasionally or not at all, so periods may be too close together, or more commonly too far apart. Some girls may not get a period at all.

What types of tests will my health care provider do to diagnose PCOS?

Your health care provider will ask you a lot of questions about your menstrual cycle and your general health, and then do a complete physical examination. You will most likely need to have a blood test to check your hormone levels, blood sugar, and lipids (including cholesterol). Your health care provider may also want you to have an ultrasound test. This is a test that uses sound waves to make a picture of your reproductive organs (ovaries and uterus) and bladder (where your urine is stored). In girls with PCOS, the ovaries may be slightly larger (often >10cc in volume) and have multiple tiny cysts.

Does PCOS mean I have cysts on my ovaries?

The term "polycystic ovaries" means that there are lots of tiny cysts, or bumps, inside of the ovaries. Some young women with PCOS have these cysts; others only have a few. Even if you do have lots of them, they're not harmful and they don't need to be removed.

Why do I get acne and/or extra hair on my body?

Acne and extra hair on your face and body can happen if your body is making too much testosterone. All women make testosterone, but if you have PCOS, your ovaries make a little bit more testosterone than they are supposed to. Skin cells and hair follicles can be extremely sensitive to the small increases in testosterone found in young women with PCOS.

Why do I have patches of dark skin?

Many adolescents with PCOS have higher levels of insulin in their blood. Higher levels of insulin can sometimes cause patches of darkened skin on the back of your neck, under your arms, and in your groin area (inside upper thighs).

Will PCOS affect my ability to have children some day?

Women with PCOS have a normal uterus and healthy eggs. Many women with PCOS have trouble getting pregnant, but some women have no trouble at all. If you're concerned about your fertility (ability to get pregnant) in the future, talk to your health care provider about all the new options available, including medications to lower your insulin levels or to help you ovulate each month.

What can I do about having PCOS?

The most important treatment for PCOS is working towards a healthy lifestyle that includes healthy eating and daily exercise. There are also excellent medications to help you manage

irregular periods, hair growth, and acne. Ask your health care provider about the various treatment options.

What is the treatment for PCOS?

The most common form of treatment for PCOS is the birth control pill. Even if you're not sexually active, birth control pills may be prescribed because they contain the hormones that your body needs to treat your PCOS. Birth control pills (either taken continuously or in cycles) can:

- Correct the hormone imbalance
- Lower the level of androgens (which will improve acne and lessen hair growth)
- Regulate your menstrual periods
- Lower the risk of endometrial cancer (which is slightly higher in young women who don't ovulate regularly)
- Prevent an unplanned pregnancy if you are sexually active

Is there any other medicine to treat PCOS?

A medicine which helps the body lower the insulin level is called *Metformin*. It's particularly helpful in girls who have high levels of insulin, or have pre-diabetes or Type 2 diabetes. Some girls are treated with both Metformin and birth control pills at the same time

Ask your health care provider about treating hair growth. Only you and your health care provider can decide which treatment is right for you. Options may include bleaching, waxing, depilatories, spironolactone (spi-ro-no-lac-tone), electrolysis, and laser treatment. *Spironolactone* is a prescription medicine that can lessen hair growth and make hair lighter and finer. However, it can take up to 6-8 months to see an improvement.

Ask your health care provider about treatment for acne. There are various ways to treat acne, including the birth control pill, topical creams, oral antibiotics, spironolactone, and other medications.

Ask your health care provider about a weight loss plan if you are overweight. If you're overweight, losing weight may lessen some of the symptoms of PCOS. Talk to your health care provider or nutritionist about healthy ways to lose weight such as exercising more and following a nutrition plan that helps manage insulin levels. Healthy eating can also keep your heart healthy and lower your risk of developing diabetes.

Weight Management Tips:

- Choose nutritious, high-fiber carbohydrates instead of sugary or refined carbohydrates
- Balance carbohydrates with protein and healthy fats
- Eat small meals and snacks throughout the day instead of large meals
- Exercise regularly to help manage insulin levels and your weight

What if I have worries about having PCOS?

If you've been told you have PCOS, you may feel frustrated or sad. You may also feel relieved that at last there is a reason and treatment for the problems you have been having, especially if you have had a hard time keeping a healthy weight, or you have excess body hair, acne, or irregular periods. Having a diagnosis without an easy cure can be difficult. However, it's important for girls with PCOS to know they are not alone. Finding a health care provider who knows a lot about PCOS and is someone you feel comfortable talking to is very important. Keeping a positive attitude and working on a healthy lifestyle even when results

seem to take a long time is very important, too! Many girls with PCOS tell us that talking with a counselor about their concerns can be very helpful.

What else do I need to know?

It's important to follow-up regularly with your health care provider and make sure you take all the medications prescribed to regulate your periods and lessen your chance of getting diabetes or other health problems. Because you have a slightly higher chance of developing diabetes, your health care provider may suggest that you have your blood sugar tested once a year, or have a glucose challenge test every few years. Quitting smoking (or never starting) will also improve your overall health. Because you have a higher chance of developing diabetes, your health care provider may suggest having a:

- Blood sugar test once a year
- A1C test (a test that tells how high your blood sugar has been the past 2-3 months) once a year
- Glucose tolerance test every few years

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