



FROM THE OFFICE OF DR.

Polycystic ovary syndrome and infertility

What is polycystic ovary syndrome?

Polycystic ovary syndrome (PCOS) is a disorder that causes women to have too much androgen—a male hormone—circulating in their blood. Androgen normally is produced in small amounts in women. Researchers are not sure why women develop this disorder, but some evidence suggests that it may be caused by a combination of genetic and environmental factors.

PCOS usually starts at puberty and can cause a variety of symptoms:

- Irregular menstrual periods or no periods at all, which can result in infertility
- Acne
- Heavy, coarse body hair.

These symptoms may occur immediately after PCOS develops or later in life, in a woman's 20s or 30s for example.

How exactly does PCOS cause infertility?

Researchers believe that the excess androgen prevents eggs in the ovaries from maturing. Eggs normally mature inside a sac called a follicle. Because there is no mature egg to release, ovulation doesn't take place, and menstruation doesn't occur regularly. A woman with PCOS therefore can't get pregnant.

Normally, the follicle shrivels after ovulation. In PCOS, the follicles remain enlarged. Over time, the enlarged follicles cause the ovaries to take on a bumpy appearance. Actually, the term "polycystic ovary" is somewhat misleading—there are no cysts in the ovaries. Instead, the term describes the multiple, enlarged follicles.

Most women with PCOS are insulin-resistant. Insulin is a hormone that allows blood sugar (glucose) to get inside the body's cells. The cells need the sugar to function and survive. Insulin resistance means that the cells do not let as much sugar into their cell bodies as they should. This causes the human body to produce even greater amounts of insulin. As insulin levels increase, so does the amount of androgen that is produced. This worsens PCOS and infertility. Excess weight can also aggravate PCOS and worsen infertility by increasing the amount of insulin that is made.

How can I improve my chances of getting pregnant if I have PCOS?

Your physician will create a treatment plan for you to follow that is based on your symptoms and needs. Usually, the first step is making lifestyle changes to reduce insulin resistance and lower androgen levels. This can be accomplished by:

- Losing weight
- Eating a well-balanced, healthy diet
- Exercising.

If diet and exercise do not work, you may be asked to consider taking a drug. Clomiphene citrate (Clomid, Serophene), which works by stimulating ovulation, typically is tried first. If it fails, metformin (Glucophage) may be used instead. This drug improves how well cells respond to insulin and decreases androgen levels. A class of drugs called gonadotropins also work by stimulating the ovaries. These usually are used as a last resort because they are expensive and can have serious side effects.



This information is provided by your physician and the *Cleveland Clinic Journal of Medicine*. It is not designed to replace a physician's medical assessment and judgment.

This page may be reproduced noncommercially to share with patients. Any other reproduction is subject to *Cleveland Clinic Journal of Medicine* approval. Bulk color reprints available by calling 216-444-2661.

For patient information on hundreds of health topics, see the Patient Education and Health Information web site, www.clevelandclinic.org/health