What is Polycystic Ovary Syndrome?
Polycystic Ovary Syndrome (PCOS) is one of the most common hormonal abnormalities in women of childbearing age, affecting 6-10% of this population. Women with this syndrome experience problems with their menses and symptoms from high androgen levels. Androgens are “male” hormones that are normally produced by both males and females.

What causes PCOS?
The underlying cause of PCOS is not known. It appears that a complex combination of multiple genetic and environmental factors leads to changes in hormone levels that disrupt the normal function of the ovaries. This results in irregular menses and symptoms of androgen excess.
- During a normal menstrual cycle, the ovaries make a structure called a follicle, which releases hormones as it grows. Eventually the follicle releases an egg, a process known as “ovulation”. In women with PCOS, the ovary makes many small follicles instead of one big one. These follicles never grow large enough to trigger ovulation. This leads to an imbalance in sexual hormones, which results in irregular menses and high androgen levels.
- High insulin levels are also believed to contribute to increased androgen levels. Please refer to the information about “insulin resistance” below.

What are the signs of PCOS?
■ Irregular menses are present in 70% of women with PCOS. This is usually due to a lack of ovulation (also known as “anovulation”). Symptoms often include:
  - Irregular or absent menses (most women with PCOS have less than 8 menses per year).
  - Heavy and/or prolonged bleeding.

■ Excessive androgen production occurs in approximately 70% of women with PCOS. Common symptoms include:
  - Male-pattern hair growth, such as on the upper lip, chin, sideburn area, chest, lower abdomen, and/or thighs.
  - Male-pattern hair thinning.
  - Problems with acne.

■ Other findings may include:
  - Increased body weight. 70-80% women with PCOS are overweight. However, thin women can also be diagnosed with PCOS.
  - Insulin resistance. Insulin is a hormone that regulates blood sugar levels. Many women with PCOS are unable to use their insulin efficiently. As a result, their bodies compensate by making more insulin to maintain normal sugar levels. This is known as “insulin resistance”. This extra insulin leads to increased androgen production.
  - Ovarian cysts. In PCOS, the ovaries make many small follicles, which may be visible as “cysts” on an ultrasound (hence the term “polycystic ovaries”). Contrary to popular belief, this finding does not necessarily mean that a woman has PCOS. That’s because these follicles can be seen in any condition that causes anovulation.
Is PCOS a dangerous condition?
Women with PCOS are more likely to develop other health problems. These include:

- **Diabetes (high blood sugar).** If increased insulin levels are not able to control blood glucose, insulin resistance may progress to prediabetes or type 2 diabetes.
- **High cholesterol.**
- **Sleep apnea.** This disorder causes people to stop breathing for short periods of time while they sleep. This results in excessive daytime sleepiness and fatigue.
- **Heart disease.** The risk of heart disease may be higher in women with PCOS. More research is needed to know for sure.
- **Infertility.** Because many women with PCOS don’t ovulate regularly, it can be more difficult for them to become pregnant.
- **Endometrial hyperplasia.** Prolonged periods of time without regular menses can increase the risk of overgrowth (hyperplasia) of the uterine (endometrial) lining. This abnormal cell growth can progress to uterine (endometrial) cancer if it is not treated.

How is PCOS diagnosed?

- No single test can diagnose PCOS. However, a woman must have both irregular menses and evidence of high androgen levels in order to be diagnosed with PCOS.
  - Evidence of high androgen levels can be based upon either symptoms (abnormal hair growth, acne, etc.) or blood tests.
  - Lab tests are used to rule out other causes of abnormal menses and excess androgens.
- If a diagnosis of PCOS is made, women should also be tested for diabetes and high cholesterol.

How is PCOS treated?
PCOS is not completely reversible, but effective treatments are available to decrease symptoms. With treatment, most women with PCOS are able to lead normal healthy lives. However, untreated PCOS can increase the risk of developing the medical problems described above. Therefore, all women with PCOS should be monitored regularly by their healthcare providers.

- **Weight loss**
  Weight loss is very beneficial in reducing both insulin and androgen levels in overweight women with PCOS. A 5-10% decrease in body weight can significantly improve many PCOS symptoms, especially irregular periods.

- **Medications**
  - **Birth control pills** are the most commonly used treatment for PCOS. They regulate the menstrual cycle and protect against uterine cancer. Because birth control pills decrease the body’s production of androgens, they can also help with excess hair growth and acne.
  - **Anti-androgens** like Spironolactone (Aldactone) can be used to treat acne and excess hair growth that is not responding to birth control pills.
  - **Metformin (Glucophage)** improves the body’s response to insulin and may also increase weight loss from diet and exercise. It is most commonly used to treat diabetes, but may be recommended for the treatment of PCOS in select cases. Metformin restores regular menstrual cycles (and therefore improves fertility) in about 50% of women who try it. It is usually recommended for women who do not or cannot take birth control pills to regulate their cycles.

What if I want to get pregnant?
Most women with PCOS are able to get pregnant, but it can be more difficult. Losing weight if you are overweight can regulate periods and improve your chances of becoming pregnant. If weight loss is not effective, metformin can increase ovulation in some women. Specific fertility medications can also be prescribed by a fertility specialist.

Recommended websites: [www.mayoclinic.com](http://www.mayoclinic.com), [www.pcosupport.org](http://www.pcosupport.org)

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