



AMERICAN SOCIETY FOR REPRODUCTIVE MEDICINE

Formerly The American Fertility Society

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PATIENT'S FACT SHEET Polycystic Ovary Syndrome

Polycystic ovary syndrome (PCOS) is a common reproductive endocrine disorder, affecting about 5% of women. In PCOS, excessive amounts of androgens ("male" hormones such as testosterone) are produced by the ovaries. PCOS is a common cause of infertility, menstrual irregularity, and hirsutism (excessive hair growth). Until very recently, the most widely accepted definition of PCOS was based upon the diagnostic criteria recommended in 1990 which classified PCOS as a disorder characterized by chronic hyperandrogenism (elevation of serum testosterone or other androgens) and chronic anovulation (absence of ovulation) in the absence of other specific causes of these problems. More recently, an international consensus in 2003 expanded the definition of PCOS to include women who demonstrate two of the following three characteristics: 1) chronic anovulation; 2) chronic hyperandrogenism; and 3) polycystic appearing ovaries (PCO) on ultrasound.

Women who have PCOS may have irregular, infrequent menstrual cycles, hirsutism, acne and/or infertility. Many, but not all women with PCOS have ovaries enlarged with many small cysts (fluid-filled sacs), that are visible on ultrasound. Polycystic appearing ovaries are also seen in approximately 20% of women with normal menstrual cycles. Because of the variable nature of PCOS, its diagnosis is based upon the combination of clinical, ultrasound and laboratory features.

Lack of ovulation in women with PCOS results in continuous exposure of their uterine lining (endometrium) to estrogen. This may cause excessive thickening of the endometrium and heavy, irregular bleeding. Over many years, endometrial cancer may result due to the continuous stimulation of the endometrium by estrogen unopposed by progesterone.

Women with PCOS may be at increased risk for developing the metabolic syndrome, which is characterized by abdominal obesity, cholesterol abnormalities, hypertension, and insulin resistance that impairs blood sugar regulation. Women with PCOS have an increased risk for developing Type 2 diabetes, and possibly heart disease too.

Obesity is common in women with PCOS. Diet and exercise that result in weight loss improves the frequency of ovulation, improves fertility, lowers the risk of diabetes, and lowers

androgen levels in many women with PCOS, and is therefore an important component of therapy. Increasing physical activity is an important step in any weight reduction program.

If you are diagnosed with PCOS, treatment will depend upon your goals. Some patients are primarily concerned with fertility, while others are more concerned about menstrual cycle regulation, hirsutism, or acne. Regardless of your primary goal, PCOS should be treated because of the long-term health risks it poses.

If fertility is your immediate goal, ovulation may often be induced with clomiphene citrate (Clomid[®], Serophene[®]), an orally administered fertility medication. Treatment with medications that increases your body's sensitivity to insulin, such as metformin (Glucophage[®]), may lead to more regular ovulation. Gonadotropins (injectable fertility medications), may be used to induce ovulation if you do not respond to simpler treatments. Gonadotropin therapy, however, is expensive and associated with a greater chance of multiple pregnancy and side effects than oral therapies. For more information please consult the ASRM patient information booklet titled *Ovulation Drugs* and Patient Fact Sheet titled "Insulin Sensitizing Agents."

If fertility is not an immediate concern, hormonal therapies are usually successful in temporarily correcting the problems associated with PCOS. Oral contraceptive pills (OCs) are commonly prescribed to reduce hirsutism and acne, maintain regular menstrual periods, prevent endometrial cancer, and prevent pregnancy. OCs may be combined with medications that decrease androgen action, such as spironolactone, to improve hirsutism. Vaniqa[®] cream has been approved to reduce facial hair. Methods that remove hair, such as electrolysis and laser, are also helpful.

Dealing with PCOS can be emotionally difficult. Women with PCOS may feel self conscious about their excessive hair growth or weight, as well as worry about their ability to have children. Nevertheless, it is important to consult your physician as soon as possible to discuss the treatments available for PCOS. For more information please see the ASRM patient information booklet titled *Hirsutism and Polycystic Ovary Syndrome*.

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