

Fertility & Midwifery Care Center

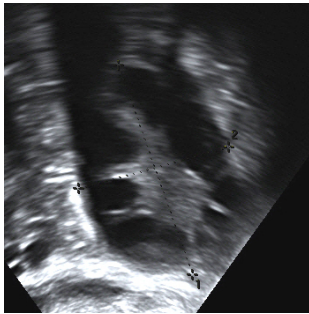


Polycystic Ovarian Syndrome (PCOS)

Polycystic ovarian syndrome is a complex hormonal, metabolic, and reproductive disorder that affects 1 in 10 women of reproductive age. As the most common endocrine abnormality in women it's also a leading cause of infertility. Untreated, PCOS can lead to other serious conditions including severe anxiety, depression, obesity, endometrial cancer, type 2 diabetes, and cardiovascular disease. Sadly, gynecologist often make the diagnosis of PCOS incompletely and go on to merely cover up the symptoms using oral contraceptives to, "Regulate" the menstrual cycles of women thought to have PCOS.

Common Signs and Symptoms

Women affected with PCOS often exhibit irregular menstrual periods, excess facial and body hair, severe acne, multiple small cysts around the periphery of the ovaries, insulin resistance (elevated fasting insulin levels), anxiety and depression, infertility, and weight gain. The irregular cycles and infertility are related to the ovaries not functioning properly; women with PCOS often don't ovulate (produce an egg) or they ovulate irregularly and infrequently. Excess body hair and acne are related to an



elevated free testosterone level. The elevated insulin levels lead to progressive weight management challenges, which in turn contribute significantly to anxiety and depression in women with long-term PCOS. What we now understand is that PCOS does not appear the same in every women affected with the disease. Rather, it exists along a clinical continuum with some patients experiencing only mild menstrual cycle irregularities while others experience the entire syndrome. At least 50% of women with PCOS have underlying endometriosis, which is often undiagnosed further

contributing to the patient's fertility challenges.

Evaluation and Diagnosis

To properly diagnose this condition it's necessary to perform a comprehensive hormonal evaluation in order to eliminate other endocrine system problems as possibilities. This is an essential, yet often overlooked first step. Too often we see women that have been labeled as having PCOS only to find that the diagnosis was incorrect and they actually have some other treatable endocrine condition.



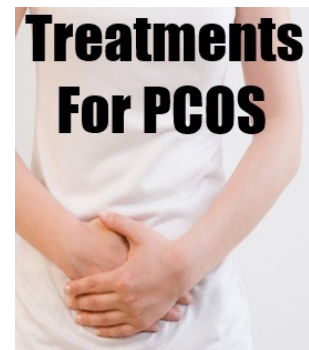
Comprehensive hormonal evaluation. This involves evaluating the levels of several hormones including FSH, LH, Androstenedione, total and free testosterone, prolactin, TSH and thyroid panel, progesterone, and estradiol. In general, these tests need to be obtained in the fasting state.

Creighton Model FertilityCare™ system tracking of menstrual cycles. This is essential in the diagnosis of PCOS, but even more important to monitoring the effectiveness of various treatments utilized over time.

Pelvic ultrasound evaluation. This is also critical to the proper evaluation of PCOS as it provides extremely important information about the ovaries, the uterus, and the lining of the uterus known as the endometrium. The exam is performed in our office by our experienced sonographer.

Treatment of PCOS

Treatment of PCOS is customized for each patient based on her individual needs. For example, if pregnancy is the goal, medications to induce ovulation such as Clomid, Femara, and Metrodin can be used. If acne and/or unwanted hair growth management is the goal, medication to lower free testosterone levels such as Aldactone may be used. If establishment of normal, regular menstrual cycles is the goal, targeted use of bio-identical progesterone is often used. Many times the treatment of PCOS involves doing things in the present to avoid potentially serious effects of PCOS in the future such as cardiovascular disease, diabetes, and an increased risk of breast cancer.



For many women, a surgical procedure known as an **ovarian wedge resection** provides relief from some or all of the PCOS symptoms. This is a surgical procedure performed utilizing the da Vinci robot in which a small wedge of ovarian tissue is removed.



Following this procedure, many women experience spontaneous ovulation or ovulation may be induced using much lower dosages of medications. In many cases, the abnormal hormonal values are completely and permanently corrected by this surgery. As a result, fasting insulin levels return to

normal, as do testosterone and cholesterol levels. This is actually a very old procedure, originally described in 1930 that has taken on a new dimension utilizing robotic surgery technology. It's now an outpatient procedure requiring generally only

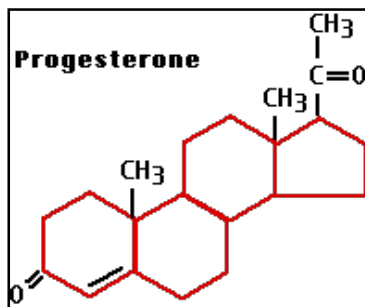
a few days away from work. Please visit our webpage, www.fertilityandmidwifery.com under our fertility services section to learn more about ovarian wedge resection and to view a short video clip about the procedure.

A word about metformin (Glucophage) in the management of PCOS. This medication causes one to be more sensitive to one's own insulin. That is, it makes insulin work more effectively. This can be important if a woman with PCOS has insulin resistance, that is, if she does not properly respond to her own insulin as evidenced by an elevated fasting insulin level. If a woman's fasting insulin level is normal she does not, by definition, have insulin resistance and therefore has no need for metformin. This is a difficult medication to take due to potentially serious gastrointestinal side effects and should not be used in the absence of actual insulin resistance, in general. There are some specialty uses of metformin related to elevated free testosterone and adult diabetes, but too often gynecologists and others prescribe Metformin in the treatment of PCOS unnecessarily.



A word about the use of oral contraceptives in the treatment of PCOS. In many cases, a young woman, often in her early teens, presents to a gynecologist complaining of irregular menstrual periods and is told she should take oral contraceptives (OCPs) to "regulate" her menses. She may be told that she likely has underlying PCOS and that OCPs will "treat" her condition. What's wrong with this approach? If the woman has irregular menstrual periods because she is not ovulating as a result of PCOS that means in all likelihood she has elevated estrogen levels. By definition, if she has PCOS, she has elevated testosterone levels. Oral contraceptives have two components:

estrogen and a progestin. If she has already elevated estrogen, why would we give her additional estrogen? Moreover, the progestin in OCP's is NOT progesterone. If it were progesterone it would not, "Progestin." A progesterone-like is similar in its chemical effect to progesterone, but it OCP has its own unique pharmaceutical companies their product; each different from the next with Interestingly, when you look structure of progestins they look as much like testosterone as they do progesterone. Why would we give a young woman who has elevated testosterone a medication that is very similar to testosterone? The answer: we shouldn't. But OCPs will give a



be called progesterone and progestin is a synthetic compound. In many ways its structure and its biological is not progesterone. Each progestin. This is how the that produce OCPs patent progestin is slightly its own unique properties. closely at the chemical

woman regular, predictable menstrual periods so as a result she's happy with the therapy. She's happy until years later when she stops the pill to become pregnant and realizes that it has masked her underlying problem for all the years she has been taking OCPs. The bottom line is this: oral contraceptives do nothing positive for women with PCOS and have no place in the treatment of the condition. We see women every day that have been treated in this way and they are without exception angry when they realize that they have been mistreated in some cases for decades.

Summary

Polycystic ovarian syndrome (PCOS) is a common, treatable endocrine condition that affects many women of reproductive age. The diagnosis must be made properly so as not to miss another underlying endocrine condition. Women affected with PCOS are at increased risk for several other potentially serious conditions over time including diabetes and cardiovascular disease therefore PCOS should not be ignored regardless of fertility plans.