

## POLYCYSTIC OVARY SYNDROME (PCOS)

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**P**COS EFFECTS 6% OF PREMENOPAUSAL women. It is the leading cause of irregular periods, infertility and excessive body and facial hair. Women with polycystic ovary syndrome do not ovulate regularly because follicles on the ovaries fail to release eggs. These women have high miscarriage rates. They may experience heavy bleeding and dysmenorrhea. They often have high levels of testosterone and androstenedione which are produced by the ovaries and which can cause excessive hair growth and male pattern baldness patterns. While these women's ovaries produce normal amounts of estrogen, progesterone levels are often severely low. Polycystic ovaries have been linked to insulin resistance in many cases. While PCOS primarily in women who are overweight, it also is prevalent in women of normal weight. PCOS is usually diagnosed with ultrasound, but hormone evaluation of Luteinizing Hormone (LH) is often high, with normal FSH levels. Lipid levels are often effected: LDL and total cholesterol and triglycerides are often high, with low HDL cholesterol.

Women with PCOS are usually insulin resistant. A low carbohydrate diet with exercise and nutritional supplementation can help normalize insulin and LH levels. Nutritional supplements should include a multi-vitamin, a blood sugar normalizing product that contains chromium, vanadium, manganese, magnesium and may contain other herbs such as *Gymnema sylvestre* and foods such as bitter melon. Losing weight is extremely helpful in normalizing insulin resistance and shows an effect on PCOS with improvement in menstrual regularity, ovulation and fertility rates, and

reduction in androgens, insulin resistance. Weight loss in overweight women with PCOS is a first line treatment recommendation.

Naturopathic physicians believe that PCOS is related to a liver that is unable to adequately detoxify substances from the gut. There may be associated imbalance of estrogens to progesterone. Metabolic detoxification is called for. A vegetarian or cleansing diet is proposed. A high fiber diet is recommended to help normalize bowel transit time and intestinal ecology. Lipotropic products and foods beneficial to liver function are recommended. Examples of such foods are: beets, carrots, lemons, and green leafy vegetables. Hydrotherapy of sitzbaths may also be used daily. If there is pain associated with the PCOS, pain management must be considered.

Use of metformin, a diabetic controlling drug, in women with PCOS showed benefit in many studies. They show normalization of menstrual cycles within 6 months. This shows benefit in both obese and normal weight women with PCOS. These short term studies do not consistently show changes in androgens, progesterone, estradiol, or DHEA levels, yet menses and ovulation does normalize. It is possible that the studies were not of long enough duration to see these changes. Levels of ovarian cytochrome P450c17 alpha were reduced in several studies.

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