



PCOS or Polycystic Ovarian Syndrome is a condition effecting over 10% of women in the United States and yet many women don't even know they have it. Are you or a friend experiencing hair loss, facial hair, infertility or weight gain around the stomach? If so make sure you read this article or share it with your friend.

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Polycystic Ovarian Syndrome (PCOS)

Perhaps the most common cause of female-factor infertility in developed nations is polycystic ovarian syndrome (PCOS) which has been estimated at up to 10% of the total population.¹ Symptoms include irregular or unpredictable menstrual cycles, unwanted hair growth, acne or scalp hair loss, unexplained weight gain or impaired weight loss. Infertility may also be an issue and may be associated with recurrent first trimester miscarriage. Half of PCOS sufferers complain of infertility during their first visit to a provider.

PCOS patients additionally have increased risk of cardiovascular disease, diabetes, and certain cancers.

Polycystic ovarian syndrome (PCOS) is characterized by some or all of these symptoms: hirsutism (excessive body hair), virilism (man-like features), hyperandrogenism (high levels of testosterone and other male-type hormones), menstrual irregularities, chronic anovulation, obesity, insulin resistance, acanthosis nigricans (a skin condition), high concentrations of luteinizing hormone (LH) and ovarian cysts.^{3,4} Two of these appear to be primary. First, hyperandrogenism, or excess male-type hormones including testosterone and 5-dihydrotestosterone (DHT), dehydroepiandrosterone (DHEA) and DHEAS, and androstenedione (A4). This appears to have both ovarian and adrenal origin in PCOS. Second, insulin resistance and the resultant high levels of insulin in PCOS is at the level of the receptor and not due to excessive pancreatic function.²

The most recent definition known as the Modified NIH Criteria is probably the best at this time:

- 1) androgen excess (clinical or biochemical assessment)
- 2) ovarian dysfunction (oligo-anovulation and/or ovarian morphology) and
- 3) exclusion of other androgen excess or ovulatory disorders.⁵

It is important to note that other conditions can mimic PCOS such as long-term exposure to high levels of cortisol. Therefore your practitioner may order a pelvic ultrasound to detect ovarian cysts.

Certain medications can also cause high male-type hormones. Antiepileptic drugs such as valproic acid or valproate may stimulate excess androgens. PCOS is more common among those women who also have epilepsy or seizure disorders, but the medications themselves may have mechanisms that stimulate reproductive abnormalities.^{6,7}

With all of these factors in mind your practitioner may order some or all of the following tests:

- History of medication use and menstrual cycle
- Pelvic ultrasound for ovarian morphology
- Oral glucose tolerance test (OGTT)
- Fasting insulin and fasting glucose and/or hemoglobin A1c
- Complete thyroid panel including TSH, Total T4, Free T4, Total T3, and Free T3
- Serum Testosterone, DHEAS, Sex-hormone binding globulin (SHBG), LH, FSH, and prolactin, and estrogens
- Bodyweight and/ or anthropomorphic measures

Treatment

The conventional treatment for PCOS is oral contraceptives (OC) to reduce hyperandrogenism and glucophage (Metformin) to improve insulin sensitivity, and clomiphene is often used for ovulation stimulation.

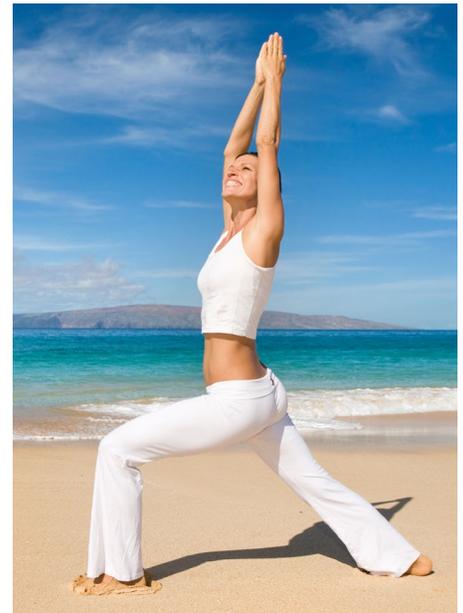
Contraceptive medication (i.e. "the pill") may indeed shift hormone levels; however, women wishing to conceive cannot rely on contraceptives

to balance their hormone levels. Additionally, these medications can create drug-induced nutrient depletions such as zinc insufficiency or various B-vitamin insufficiencies including folate, B-6, and B-12. These insufficiencies then lead to new or exacerbations of other symptoms not thought to be directly related to PCOS such as depression, anxiety, digestive distress, or fatigue due to poor red blood cell formation.

Insulin resistance must be aggressively addressed. Obese patients with a body mass index greater than 30 may require a medically supervised weight loss program. High intensity, interval training may additionally help. You should expect to eat 5-6 small meals per day. Artificial sweeteners including aspartame, sucralose, saccharin, and acesulfame potassium should be eliminated. Many people look to natural sweeteners such as stevia and agave nectar but PCOS sufferers may not tolerate these well either.

While all of the above options address individual aspects of PCOS an overall support of the hypothalamic-pituitary-adrenal-ovarian axis is critical. While many adaptogenic herbs have been suggested, to date the only ingredient with clinical evidence demonstrating statistically significant rebalancing of hormones has been a proprietary formulation of maca (*Lepidium peruvianum* Chacon) phenotypes called Maca-GO®. While maca has been touted as a potential savior for women wanting to balance hormones more in depth research has shown that there are in fact several different types of maca. These different types are different colors, have different DNA, in some case different active ingredients and have been shown in clinical research to have different physiological effects on the body.

Because of this research into individual phenotypes or specific combinations for men or women have been conducted over the last ten years. While results in men have been relatively successful across the board, research into balancing women's hormones has not. To date the only clinical evidence of statistically significant rebalancing of hormones in women has been different from Maca-GO® a specific phenotype combination for women which is also highly concentrated with active ingredient levels 10-20 times what is found in raw maca. In addition the bioavailability is nearly 50% higher than raw maca also explaining the superior results. Since that time additional research has demonstrated that a combination of Maca-GO® plus specific phenotypes of maca found in the product Femmenessence MacaHarmony® is optimal in clinical use as the first line therapy for hormone imbalance.



<i>– Natural products that address insulin resistance</i>	Chromium, Cinnamon, Myo-inositol, D-pinitol, N-acetylcysteine, Vitamin C, Vanadium
<i>– Natural products that address follicular arrest</i>	Vitamin D, Calcium
<i>– Natural products that increase SHBG (sex hormone binding globulin)</i>	Green tea, Soy isoflavones, Ground Flax seeds
<i>– Natural products that decrease testosterone</i>	Omega-3 fatty acids, Licorice root (under medical supervision or approval if high blood pressure)
<i>– Natural product that inhibits 5-alpha reductase which slows the conversion of testosterone to DHT</i>	Saw palmetto

Working via the hypothalamus-pituitary-adrenal-ovarian (HPAO) axis Femmenessence MacaHarmony® has been shown to modulate several of the above factors and reduce the number of products needed to support the PCOS patient. Instead of introducing hormones into the body to manipulate and control hormonal profiles, Femmenessence MacaHarmony® enables the body to balance and correct its own imbalance. This when combined with other specific herbal and nutritional support and an exercise program, as discussed above, can provide the ideal support for PCOS.

Polycystic ovarian syndrome can be treated using a natural approach of diet, lifestyle, and supplementation in most cases. Pharmaceutical measures are required in some cases depending upon the patient's preferences, goals, and severity of the condition

For more information on PCOS and how to support it please contact Dr. Schuler at corey.schuler@naturalhi.com

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