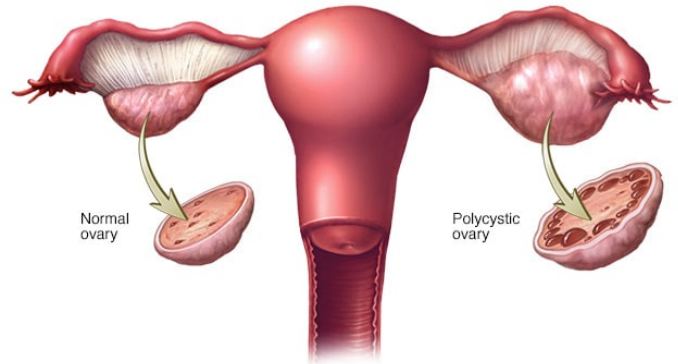


Polycystic ovarian syndrome (PCOS) is a hormonal disorder in which a higher level of androgen, a male hormone, causes the eggs in the ovaries to not develop or to not be released during ovulation. This can result in enlarged ovaries with numerous small cysts on the outer edges of the ovary.

The signs and symptoms of PCOS often develop around the time of a woman's first period. A typical symptom of PCOS is irregular menstruation. PCOS can also cause infertility.



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A diagnosis of PCOS is made when a woman has irregular periods, an excess amount of androgen, and/or polycystic ovaries. Some patients may also experience pelvic pain. The exact cause of PCOS is unknown but factors that may play a role include an excess amount of insulin, low-grade inflammation, heredity, and excess androgen.

Hyperinsulinemia appears to be an important factor in causing hyperandrogenemia. Abnormally increased insulin levels cross-react with insulin and IGF receptors on the ovary and induce excess androgen production by theca cells. Insulin also acts as a co-gonadotropin by binding to the receptors in the pituitary gland to stimulate the production of luteinizing hormone (LH). Increased LH is seen in a majority of women with PCOS.<sup>5</sup> High levels of LH also contribute to the high levels of insulin. This can be caused by genetic predisposition, environmental impact, or both.

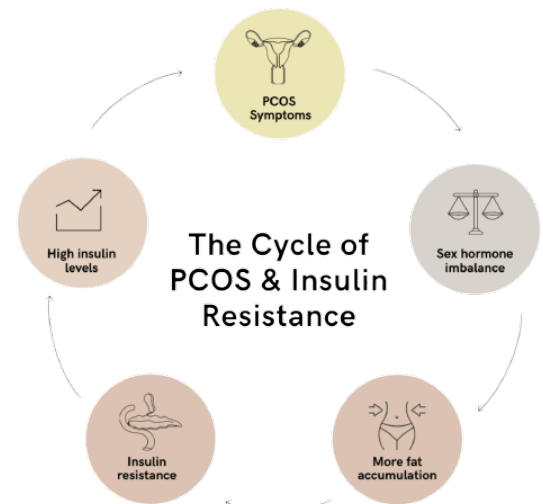
The increase in insulin levels can cause insulin resistance. It has been demonstrated that early steps in insulin signaling were all decreased in PCOS women.<sup>1</sup> For example, GLUT4, which transports glucose from the blood into the body's tissue, is significantly decreased in women suffering from PCOS.<sup>1</sup> Metabolic

deficiencies such as this can lead to the complications seen in PCOS. These can include infertility, gestational diabetes, miscarriage, metabolic syndrome, sleep apnea, abnormal uterine bleeding, and cancer of the uterine lining.

Inflammation is also tied strongly to PCOS. Inflammatory PCOS occurs when there is chronic inflammation in the body and is the primary driver of elevated androgens. High-level inflammation stemming from an overactive immune system can stimulate the ovaries to make too many androgen hormones, which can interfere with ovulation and lead to irregular periods.<sup>7</sup> Several proinflammatory genotypes including those that encode TNF- $\alpha$ , and the type 2 TNF receptor as well as interleukin-6 (IL-6) and its signal transducer are associated with PCOS.<sup>8</sup> A patient with inflammatory PCOS does not experience signs of insulin resistance and typically have symptoms related to high levels inflammation including persistent fatigue, IBS-type bowel movements, headaches, joint pain, and skin conditions like eczema.

## Wellness Recommendation

The recommendation for PCOS includes Sissy, MayMay, LC Balancer, Brown, and Estromin. It is recommended to start with 2-4 weeks of Sissy to clear uterine inflammation then add MayMay, Brown, and LC Balancer. Herbal ingredients in Sissy have been shown to address pelvic inflammation through improving blood viscosity and regulating T-lymphocytic subgroups.<sup>3</sup> This step is especially important for those who suffer from inflammatory PCOS. Patients



can experience improvement in their fatigue, headaches and other symptoms related to the inflammation after 1 week and significant symptom relief in 2-4 weeks.

MayMay improves blood supply to the female reproductive system and increases metabolism which helps to dissolve cysts. Herbal ingredients in MayMay have been shown to promote blood circulation, contain anti-inflammatory effects, and naturally balance estrogen levels. Brown and LC Balancer will help to support the liver and kidneys to expel the excess waste as well as address the metabolic deficiencies seen in PCOS. Herbal ingredients in Brown have been shown to ameliorate insulin resistance, and the mechanism may be involved in increasing cell-surface level of GLUT4, improving GLUT4 trafficking and intracellular insulin signaling.<sup>2</sup> Herbal ingredients in LC Balancer regulate insulin levels and in an hyperinsulinemia state, it has been shown to decrease serum insulin levels.<sup>6</sup> Patients will experience further improvement in their symptoms such as pelvic pain, joint pain and skin conditions in 2-4 weeks. MayMay, Brown, and LC Balancer are required to use for 1-3 months to improve the structure and function of the female reproductive system as well as significant symptom improvement related to their ovarian cysts.

Estromin is to be added in after those 1-3 months to help to regulate hormone levels. Since an imbalance of hormones plays a role in the development of PCOS, by addressing and regulating these hormones, Estromin will help to prevent PCOS from returning. Herbal ingredients in Estromin have been shown to possess a positive regulation on hormone imbalances by exhibiting the abilities to relieve the dramatic sexual hormonal imbalance of luteinizing hormone (LH).<sup>4</sup> Patients can experience improvement in their irregular period in 1 month. A total of three months of the protocol is recommended for sustained and significant results related to their menstruation.

Recommendation	Timeframe
Sissy	2-4 weeks
MayMay, Brown, LC Balancer	1-3 months (After Sissy)
Estromin, Brown, LC Balancer	1-3 months (After MayMay, Brown, LC Balancer)

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