

# **PHYSICAL MEDICINE ASSOCIATES OF N.W. OHIO, INC.**

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## **Polycystic Ovarian Syndrome (PCOS) 2025**

**What is polycystic ovarian syndrome?** Polycystic ovarian syndrome is an endocrine disorder marked by hirsutism (excess facial and body hair), irregular periods, obesity, infertility and ovarian enlargement usually initiated by elevated levels of luteinizing hormone and testosterone. It is the most common hormonal disorder in women of reproductive age affecting about **10% of all women**. There is a strong genetic predisposition. **The primary defect is hyperinsulinemia (insulin levels are too high) and insulin resistance (your body does not respond well to the insulin)**. PCOS is an endocrine problem, not a gynecologic problem. Enlarged cystic ovaries are a sign of PCOS but not a cause. The elevated insulin levels cause testosterone levels to increase, which in turn may cause acne and hirsutism.

### **What are common signs and symptoms of PCOS?**

1. Impaired ovulation resulting in abnormal menstruation (frequently less than 8 periods per year) and difficulty getting pregnant (about 50%).
2. Hirsutism (excess facial and body hair) (about 70%).
3. Weight gain, obesity (about 60%).
4. Acne, increased oily skin (about 50%).
5. Male pattern baldness.
6. Elevated lipids (cholesterol and triglycerides).
7. Elevated insulin and glucose levels.
8. Enlarged cystic ovaries (about 50%).
9. Elevated testosterone levels.
10. Many of these signs and symptoms occur in less than 50% of PCOS patients. As result, it is estimated that **over 80% of women with PCOS go undiagnosed and untreated.**

### **Other health problems associated with PCOS:**

1. Hyperinsulinemia, insulin resistance and diabetes (40% by age 40)
2. Hashimoto's thyroiditis.
3. High cholesterol levels.
4. Anxiety and depression.
5. Sleep apnea.
6. Eating disorder such as binge eating and bulimia.
7. Low sex drive.

### **What test should you have to diagnose PCOS?**

1. **Luteinizing hormone (LH)/follicle-stimulating hormone (FSH) ratio blood test:** Normally, a woman's FSH/LH ratio is 3:1. In women with PCOS, this ratio flips so the LH level is greater than FSH level at about 2:1. This is the **best test to diagnose PCOS.**

2. **Additional blood test:** Elevated levels of testosterone, fasting insulin, fasting glucose, cholesterol and triglycerides may be present. We may also check thyroid, DHEA and progesterone levels.
3. **Pelvic ultrasound/CT scan** to evaluate for possible enlarged cystic ovaries. This test is not necessary for diagnosis as not all women with PCOS have ovarian cysts.

### How is PCOS treated?

1. **Progesterone.** Women who do not ovulate have an increased risk of developing endometrial and breast cancer and **inability to get pregnant**. Progesterone 50 to 300 mg at bedtime can help her get pregnant.
2. **Birth control pills** - do not cure the condition but can improve symptoms such as irregular periods, acne and facial hair.
3. **Metformin (Glucophage)** - lowers insulin, luteinizing hormone and testosterone levels. Metformin restores normal menstrual cycle and improves fertility. It can also facilitate weight loss, decrease the onset of diabetes and improve cholesterol levels.
4. **Natural Supplements (Berberine and/or Inositol)** - 500 mg twice daily (range is 1-4 capsules per day). Helps with insulin resistance and regulates blood sugar levels, but does not typically cause diarrhea commonly seen with Metformin.
5. **NP thyroid/Armour thyroid** - by increasing thyroid levels, especially the T3 level to the high normal range, PCOS symptoms improve significantly.
6. **Glucagon-like peptide (GLP-1) including Semaglutide (Ozempic) and Tirzepatide (Mounjaro)** - are better than metformin at reducing insulin, LH and testosterone levels but are more expensive.
7. **Spironolactone** - this medication treats hirsutism and acne by lowering the testosterone hypersensitivity at the skin level. It can also increase scalp hair growth and thickness but can take 3 to 6 months to work.
8. Vitamin D3 5000 IUs daily and B12.
9. Medicated skin lotion or antibiotics for acne.
10. Laser hair removal or electrolysis for unwanted hair.

### Is there anything I can do on my own to treat PCOS?

1. **Obesity** - losing weight (even 10 pounds) can significantly improve PCOS symptoms. This is best achieved by eating a healthy **low carbohydrate diet and exercising 5 days/week**. Unfortunately, losing weight when your hormones are not in balance can be very difficult. The above-stated medications can significantly help with this.
2. **Insulin resistance** - This is best treated with a **low carbohydrate diet, daily exercise, weight loss, medications and hormones** as described above.

**What if I want to get pregnant?** Most women with PCOS are able to get pregnant but it is usually easier for those who are not overweight. If you are overweight, **losing weight** can help make your periods more regular and improve your chances of getting pregnant. If you are not ovulating and have irregular periods consider starting **progesterone** 50 mg to 300 mg at bedtime to significantly improve your chance of getting pregnant. **Metformin** 500 to 1000 mg daily, **NP thyroid** (increase until your T3 level is at the high end of normal) and **vitamin D3** 5000 IUs daily can also increase your chance of getting pregnant and delivering a healthy full-term baby.

**PCOS symptoms after menopause** - Some women continue to have high androgen (testosterone ) levels after menopause but they usually decline after age 70.