



Polycystic ovarian syndrome (PCOS) is a complex endocrine (hormonal) and metabolic disorder. It is a leading cause of fertility problems and affects up to 20% of women. The name comes from the appearance on an ultrasound scan of 'polycystic' ovaries, which means that ovaries have multiple fluid-filled sacs (follicles that appear like small cysts). However, only about 40% of women with the disorder have polycystic ovaries. The main problems women experience are irregular periods, difficulty in controlling body weight, and skin problems (acne or unwanted hair growth).

Causes include genetics, family history (hereditary), environment, insulin resistance, low-grade inflammation and stress.

Diagnosis includes 2 out of the following 3 criteria, and exclusion of conditions with similar symptoms: (1) irregular period; (2) clinical or biochemical signs of excess androgens and (3) polycystic ovaries on ultrasound (Not required where irregular menstrual cycles and hyperandrogenism are present and not recommended for women aged under 20).

Conventional treatments for PCOS include hormonal contraception to regulate menstrual cycles, lower androgen levels and reduce acne. Insulin-sensitising medication such as metformin is prescribed to help the body use insulin more effectively to improve ovulation. Therapies to enhance fertility include clomiphene citrate, letrozole, gonadotrophin therapy and IVF.

A healthy diet and lifestyle and maintaining a healthy weight is the best approach to improving PCOS symptoms and managing long-term health.

Signs and symptoms

PCOS affects women differently, with some having only mild symptoms and others being affected quite severely. Not all symptoms are present in every woman with PCOS, and symptoms may change over time.

Menstrual cycle	<ul style="list-style-type: none"> < 21 days or >35 days Lack of periods (amenorrhea) 	<ul style="list-style-type: none"> Unpredictable heavy menstrual bleeding
Skin & hair	<ul style="list-style-type: none"> Excess hair growth on face & body (hirsutism) Darkened skin patches (acanthosis nigricans) 	<ul style="list-style-type: none"> Thinning hair on scalp (alopecia) Acne Skin tags
Fertility	<ul style="list-style-type: none"> Difficulties in achieving a pregnancy 	<ul style="list-style-type: none"> Adverse pregnancy outcomes (risk of miscarriage or gestational diabetes)
Mental/emotional	<ul style="list-style-type: none"> Depression Anxiety 	<ul style="list-style-type: none"> Poor body image/low self-esteem Eating disorders
Metabolic	<ul style="list-style-type: none"> Weight gain/obesity Increased risk factors for cardiovascular disease (cholesterol, blood pressure) 	<ul style="list-style-type: none"> Increased risk of type 2 diabetes, with earlier onset Sleep apnoea

Holistic treatment aims

- Address underlying factors such as insulin resistance, obesity and inflammation
- Reduce and treat consequences of androgen levels
- Correct hormonal imbalances and normalise ovulation
- Support adrenal function and reduce impacts of stress
- Address health complications such as cardiovascular risk factors
- Support emotional and mental wellbeing

Nutritional recommendations

Myo-inositol	<ul style="list-style-type: none"> • 2-4 g/day improves insulin levels, decreases androgen levels, improves ovulation, and regulates menstrual cycles. • Dietary sources of inositol include legumes, citrus fruit, high bran cereals, nuts, and beans.
Chromium	<ul style="list-style-type: none"> • Can improve insulin sensitivity, reduce acne and excess hair growth. • May improve ovulation and menstrual cycle regularity.
B vitamins	<ul style="list-style-type: none"> • Essential role in carbohydrate and fat metabolism. • B₆, folic acid and B₁₂ may reduce elevated levels of homocysteine often found in PCOS.
Magnesium	<ul style="list-style-type: none"> • Magnesium levels are lower in women with PCOS and insulin resistance. • May improve insulin sensitivity and blood glucose levels. • Important for regulating stress.
Zinc	<ul style="list-style-type: none"> • Zinc levels are lower in women with PCOS. • May improve insulin sensitivity, blood glucose levels and cholesterol levels. • May reduce hair loss and excess hair growth and improve acne.
Vitamin D	<ul style="list-style-type: none"> • Deficiencies are observed in PCOS patients with insulin resistance and obesity.
Omega-3	<ul style="list-style-type: none"> • May reduce inflammation, cholesterol & triglycerides, testosterone and hirsutism. • May improve insulin resistance and menstrual cycle regularity.
Alpha-lipoic acid	<ul style="list-style-type: none"> • May reduce glucose, insulin, triglycerides, and cholesterol. • Combine with myo-inositol to reduce androgen levels and regulate periods.
N-acetylcysteine	<ul style="list-style-type: none"> • May reduce inflammation, oxidative stress, insulin resistance, cholesterol, testosterone levels. • May improve menstrual regularity.

Herbal recommendations

Regulate insulin	Cinnamon, berberine-containing herbs, Gymnema
Reduce androgens & improve hirsutism	Licorice, Peony, Saw Palmetto, Spearmint
Regulate hormones	Chaste Tree, Tribulus, Black cohosh
Regulate stress & support emotional wellbeing	Passionflower, Withania, Lavender, Rhodiola, Licorice, Lemon Balm

Diet & lifestyle recommendations

Diet	Eat regular meals, choosing foods with a low glycaemic index (GI), low in saturated fat, and high fibre (such as whole grains, fruits and vegetables).
Exercise	30 minutes of exercise every day, or at least 150 minutes per week.
Environmental	Limit or avoid endocrine disrupting chemicals. These are often found in plastics, canned food, soaps, non-stick cookware, make-up, and other personal care products.
Stress	Meditation, yoga, and social interaction, or counselling/psychology.

Seek Medical Care

Treatment recommendations should be carried out concomitant to, and not replace medical treatment. Please consult your medical doctor for advice with compatibility of nutritional/herbal recommendation and any medicine you take. Contact your healthcare professional if you have concerns about PCOS related symptoms.