CONDITION

Polycystic ovary syndrome

Polycystic ovary syndrome is a hormonal and metabolic condition that can affect periods, hair growth, skin, fertility, and long-term health.

WHAT IT IS
Hormonal and metabolic condition affecting ovulation and androgen levels

BODY SYSTEM
Reproductive and hormone systems, with metabolic effects

MAIN SYMPTOMS
Irregular periods, excess facial hair, acne, difficulty becoming pregnant

WHAT CAUSES IT
Complex genetic and environmental factors, often involving insulin resistance

HOW IT IS DIAGNOSED
Clinical features, blood tests, and sometimes pelvic ultrasound

MAIN TREATMENT
Lifestyle support, hormone medicines, and fertility treatment when needed

CAN IT BE CURED?
No - symptoms and health risks can be managed

IS IT AN EMERGENCY?
No - sudden severe pelvic pain needs urgent assessment

LONG-TERM OUTLOOK
Most people manage symptoms with ongoing, tailored care

Overview

Polycystic ovary syndrome, usually called PCOS, is a long-term condition involving reproductive hormones and metabolism. It can affect ovulation, which is the release of an egg from an ovary. It can also cause higher-than-usual levels or effects of androgens, sometimes called "male hormones," although everyone produces them.

PCOS is also known as polyendocrine metabolic ovarian syndrome, but that name is less commonly used.

Despite its name, PCOS does not mean that you have dangerous ovarian cysts. On an ultrasound, the ovaries may contain many small, immature follicles. Follicles are fluid-filled structures in which eggs develop. These are not the same as ovarian cysts that grow, rupture, or require surgery.

PCOS can affect periods, skin, hair growth, fertility, emotional wellbeing, and the way the body handles insulin. Insulin is a hormone that helps move sugar from the blood into cells for energy. Over time, some people with PCOS have an increased risk of type 2 diabetes and other health problems.

Symptoms and priorities differ from person to person. You can have PCOS at any body size, and not everyone has every feature of the condition.

Symptoms

PCOS symptoms often begin around puberty, but they may become clearer later. Some people first seek help after stopping hormonal contraception or when trying to become pregnant.

Possible symptoms include:

Having irregular periods soon after the first menstrual period does not automatically mean PCOS. Cycles can take time to settle during adolescence. Diagnosis in teenagers therefore requires particular care.

Symptoms may also resemble those caused by thyroid conditions, raised prolactin, certain medicines, pregnancy, or less common hormone disorders. An assessment is needed rather than relying on symptoms alone.

- Periods that are infrequent, unpredictable, very heavy, or absent
- Difficulty becoming pregnant because ovulation is irregular
- Coarse or dark hair on the face, chest, abdomen, or back
- Acne or oily skin
- Thinning scalp hair in a pattern influenced by androgens
- Darkened, thickened skin, often around the neck, groin, or underarms
- Weight gain or difficulty managing weight
- Anxiety, depression, eating concerns, or distress about appearance
- Snoring, unrefreshing sleep, or daytime sleepiness

Causes and risk factors

The exact cause of PCOS is not fully understood. It appears to result from a combination of genetic and environmental factors. It often runs in families, but there is no single PCOS gene or

simple inheritance pattern.

Insulin resistance is common in PCOS. This means the body does not respond to insulin as effectively as expected. The pancreas may produce more insulin to compensate. Higher insulin levels can encourage the ovaries to produce more androgens and may interfere with regular ovulation.

Androgen activity is another central feature. Higher androgen levels, or greater sensitivity to them, can contribute to facial hair, acne, scalp hair thinning, and disrupted ovulation.

Body weight can influence insulin resistance and symptoms, but it is not the sole cause of PCOS. Thin people can have PCOS, and gaining weight does not mean that someone caused the condition.

A family history of PCOS or type 2 diabetes may increase the likelihood of developing it.

Diagnosis

There is no single test that confirms PCOS in every person. Diagnosis is based on your menstrual history, symptoms, examination, and selected tests. Other explanations must be considered first.

In adults, PCOS is generally diagnosed when at least two of the following are present:

If irregular ovulation and clear androgen-related features are already present, an ultrasound may not be needed.

Blood tests may measure androgens and check for other causes of irregular periods. Testing may include a pregnancy test, thyroid function, prolactin, and other hormone tests depending on your situation.

Blood pressure, cholesterol, and blood sugar may also be checked because PCOS can affect metabolic health. An oral glucose tolerance test may be used in some circumstances. This measures how the body handles a glucose drink over several hours.

Diagnosis is different in adolescents. Both ongoing menstrual irregularity and evidence of increased androgen activity are generally needed. Ultrasound and anti-Müllerian hormone testing are not recommended for diagnosing PCOS during adolescence because normal developing ovaries may look polycystic.

An ultrasound appearance alone does not diagnose PCOS.

- Irregular or absent ovulation, often shown by irregular periods
- Clinical or blood-test evidence of increased androgen activity

- Polycystic-appearing ovaries on ultrasound, or an appropriate anti-Müllerian hormone test in some settings

Treatment and management

Treatment focuses on the symptoms and health risks that matter to you. Priorities may change over time, particularly if you begin or stop trying to become pregnant.

Regular movement, nutritious food, adequate sleep, and support for emotional health can improve general and metabolic health. These measures can help at any body size. If weight loss is personally appropriate and achievable, it may improve ovulation or metabolic measures for some people, but care should not be based only on weight.

Combined hormonal contraceptives can make bleeding more predictable and may improve acne or unwanted hair growth. They are not suitable for everyone, so personal risks and preferences need to be reviewed.

If periods are very infrequent, intermittent progestogen or another form of hormonal contraception may be used to protect the lining of the uterus. This lining is called the endometrium.

Metformin improves the body's response to insulin. It may be considered for metabolic concerns and can sometimes improve menstrual regularity. Digestive side effects are common, especially when treatment begins.

Anti-androgen medicines may reduce unwanted hair growth or scalp hair loss in selected people. Because some can harm a developing fetus, reliable contraception is needed when pregnancy is possible. Hair-removal methods such as shaving, waxing, threading, laser treatment, or electrolysis may also help. Acne and scalp hair loss can be treated separately.

If you want to become pregnant, treatment may be offered to encourage ovulation. Letrozole is commonly used as first-line medicine for ovulation induction when PCOS is causing anovulatory infertility and there are no other infertility factors. Other medicines, injections, or in vitro fertilisation may be considered when needed.

Treatment should also address anxiety, depression, disordered eating, sleep problems, and distress related to symptoms. These are meaningful parts of PCOS care, not side issues.

Complications

Infrequent ovulation can allow the uterine lining to remain exposed to oestrogen without

regular shedding. Over time, this can cause endometrial hyperplasia, meaning an overly thick uterine lining. It can also increase the risk of endometrial cancer. The overall chance for any one person remains low, and regular bleeding or suitable hormonal treatment helps protect the lining.

PCOS is associated with an increased risk of impaired glucose tolerance, type 2 diabetes, high blood pressure, and unhealthy cholesterol levels. Risk is influenced by age, family history, body composition, and other health factors.

Obstructive sleep apnoea may be more common. This condition causes repeated pauses in breathing during sleep and can lead to loud snoring and daytime sleepiness.

PCOS can make conception take longer when ovulation is irregular. It does not mean pregnancy is impossible. During pregnancy, people with PCOS may have higher risks of gestational diabetes, high blood pressure, and some other complications, so appropriate pregnancy care is important.

Anxiety, depression, poor body image, and eating disorders are also more common. Support is available, and these concerns deserve direct attention.

Prevention

PCOS cannot currently be prevented because its underlying genetic and hormonal causes cannot be controlled.

Healthy routines may reduce some metabolic risks and help manage symptoms, but they do not guarantee that PCOS will not develop. Having PCOS is not evidence that you ate the wrong foods, exercised too little, or caused the condition.

Long-term monitoring of periods, blood pressure, blood sugar, cholesterol, sleep, and emotional wellbeing can help identify related problems early.

Living with it and what to expect

PCOS is usually a long-term condition, but symptoms can change over months and years. Periods may become more or less regular. Acne sometimes improves with age, while facial hair or scalp hair thinning may continue without treatment.

Fertility needs often change over time. Some people conceive without treatment, while others need help with ovulation or additional fertility care. PCOS does not provide reliable protection against pregnancy, even when periods are infrequent.

Symptoms may change during perimenopause, the years leading up to menopause. Ovulation problems become less relevant after menopause, but metabolic risks such as diabetes, high blood pressure, and cholesterol problems may continue. Ongoing general health checks can therefore still matter.

Managing PCOS can involve trial and adjustment. A treatment that helps bleeding may not address unwanted hair, and fertility treatment has a different purpose from long-term contraception. Follow-up is usually routine and can focus on current goals rather than treating every possible feature at once.

Most people with PCOS continue their usual work, education, relationships, exercise, and family life. Some need ongoing medical, fertility, skin, hair, nutrition, sleep, or mental health support.

When to get medical help

Arrange a routine appointment if:

Seek urgent medical assessment for sudden or severe pelvic pain, especially with vomiting, fever, faintness, or possible pregnancy. PCOS itself usually does not cause sudden severe pain, so another condition such as ovarian torsion, a ruptured cyst, or an ectopic pregnancy may need to be ruled out.

Get emergency help for heavy vaginal bleeding accompanied by fainting, marked weakness, chest pain, shortness of breath, or difficulty staying awake.

If you are receiving fertility treatment, follow the clinic's urgent advice for severe abdominal swelling or pain, rapid worsening of symptoms, breathing difficulty, or reduced urination.

- Your periods are repeatedly very irregular, more than about three months apart, or absent
- Unwanted hair growth, acne, or scalp hair loss is affecting you
- You are trying to become pregnant and periods are irregular
- You have symptoms of high blood sugar, such as persistent thirst or frequent urination
- Snoring, breathing pauses during sleep, or daytime sleepiness are a concern
- You feel persistently low, anxious, distressed about eating, or overwhelmed by symptoms

Common questions

Does PCOS mean I have cysts on my ovaries?

Not necessarily. The ultrasound feature of PCOS consists of many small, immature follicles rather than dangerous cysts. Some people with PCOS have a normal-looking ultrasound, and some people without PCOS have polycystic-appearing ovaries.

Can I have PCOS if I am thin?

Yes. PCOS affects people across the full range of body sizes. Insulin resistance and androgen-related symptoms can occur without overweight.

Can PCOS go away?

There is no current cure, but symptoms can improve or change with age and treatment. Long-term attention to menstrual, metabolic, and emotional health may still be useful even when symptoms are mild.

Can I get pregnant with PCOS?

Yes. Many people with PCOS become pregnant, either without treatment or with help to restore ovulation. Other causes of fertility difficulty may also need assessment.

Why are my periods irregular?

PCOS can prevent an egg from developing and being released regularly. Without regular ovulation, the timing of bleeding becomes unpredictable. Other conditions can also cause irregular periods, so testing may be needed.

Will removing my ovaries cure PCOS?

No. Removing the ovaries is not a routine PCOS treatment and would cause major hormonal changes and permanent loss of natural fertility. PCOS also has metabolic features that are not solved by ovarian surgery.

Sources

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