Flinders Fertility

PCOS and Fertility

What is PCOS?

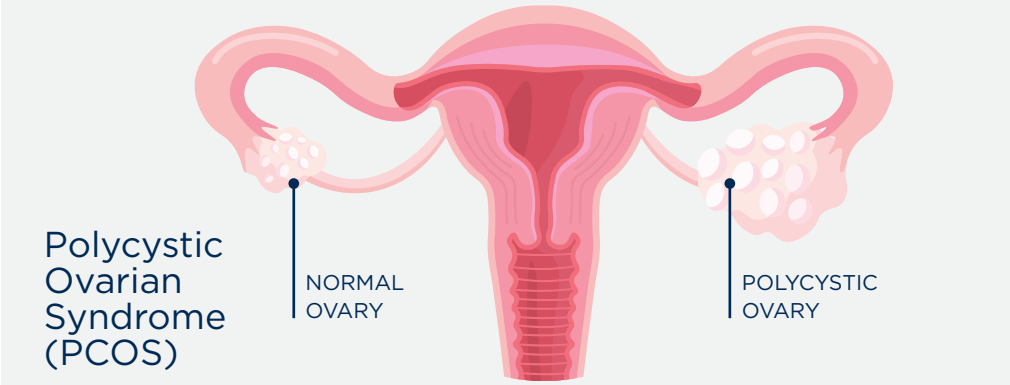
Polycystic Ovarian Syndrome (PCOS) is the most common hormonal reproductive disorder. It is estimated to affect 12-21 % of women, transgender, and non-binary people.[1]

In polycystic ovarian syndrome, one or both ovaries may contain multiple small, immature ovarian follicles that can appear as cysts on medical imaging.

In a normal menstrual cycle, a few ovarian follicles, which contain eggs, start to grow, but only the dominant follicle enlarges rapidly to mature and release one egg.

This process is intricately controlled by several hormones. In PCOS, abnormal hormone levels prevent these follicles from growing and maturing to release eggs. Instead, these immature follicles accumulate in the ovaries. This leads to variable delays in achieving ovulation and therefore widely irregular and unpredictable menstrual cycles. Many cycles may complete without ovulation. These are called 'anovulatory' cycles.

A PCOS diagnosis can mean you have trouble or delays in having a baby due to difficulties in knowing when ovulation (i.e. your fertile period) occurs, and longer cycles imply less frequent cycles and therefore less chances to achieve a pregnancy per year. **However once diagnosed and treatment commences, the chance of pregnancy is like the rest of the population.**



What causes PCOS?

→ Hormonal Imbalance

An imbalance of hormones (mainly androgens and insulin) is thought to cause PCOS. Hormones are chemicals made in your body that carry messages through the bloodstream. They help control many functions in your body, including growth, energy, sexual function, and reproduction.

With PCOS, it's thought that increased levels of insulin in the body cause production of high levels of androgens (male-type hormones) which interfere with the complex regulation of follicle growth and egg maturation. High level of another hormone – anti-Mullerian hormone (AMH) – is also often seen as a hallmark of PCOS and this also plays a role in the condition. These hormones also cause various other symptoms, such as oily or excess hair and skin conditions e.g. acne. If the hormone levels are controlled, the ovaries often start to function normally, and symptoms may improve.

Insulin

About 85% of women with PCOS have insulin resistance. If you are insulin resistant, your body blocks glucose from going into your cells. This causes your body to produce more insulin. Higher levels of insulin increase the production of androgens in your ovaries.

Insulin resistance may be caused by lifestyle factors (e.g. recent or rapid onset adult weight gain) or genetic and familial factors.

Androgens

Androgens are normally present in men and women, but at much lower levels in women. Many women with PCOS have increased levels of androgens. This can cause symptoms such as excessive body hair growth (termed 'hirsutism'), frontal (also called 'male-pattern') scalp hair loss, acne etc.

Increased levels of androgens in women also stop the development of the large follicle and maturation of the egg. This then delays or blocks ovulation causing irregular cycles and reduced chances of getting pregnant.

What are the symptoms of PCOS?

PCOS may cause a range of symptoms, and they can vary among individuals. Not all symptoms are experienced everyone with PCOS but some of the following may be present:

Irregular periods

Heavy menstrual bleeding

Acne

Weight Gain

Excess hair growth
especially on the face, stomach, or back

Difficulty falling pregnant

Emotional challenges
depression, anxiety, and low self-esteem

Body image issues

Sexual health issues

Impact on quality of life

Early-onset type 2 diabetes

Metabolic syndrome and cardiovascular risk

Diagnosing PCOS

Investigating PCOS usually involves a combination of ultrasound scans, blood tests, and a review of your medical history. For a PCOS diagnosis, **at least two of the following three criteria** need to be met[2]:

- Irregular or no periods.
- High levels of androgens (male hormones) or androgenic symptoms such as acne, excessive male pattern hair growth, or male pattern hair loss.
- Polycystic ovaries on ultrasound **OR** AMH levels higher than the age specific cut-offs

Your fertility doctor will exclude other similar diseases before diagnosing PCOS.

Treating PCOS

At Flinders Fertility, we are very mindful of both clinical and emotional needs. We have a multi-disciplinary team including experienced fertility nurses, an endocrinologist and a counsellor. We try to maximise the chances of achieving a healthy pregnancy naturally by helping with lifestyle modifications if required.

Some of the aspects we might focus on include:

- **Weight loss:** regular exercise and a change of diet to reduce weight can have a significant impact on balancing hormones and restoring regular periods.
- **Insulin sensitisers:** such as Metformin, can reduce the impact of insulin resistance and can assist in weight loss.
- **Ovulation-inducing medication:** such as Clomiphene or Letrozole can be used to stimulate the ovaries.

IVF treatment may still be necessary if the above treatment options are not suitable or successful.

At your appointment, your fertility doctor will consider your individual situation and can advise on what type of treatment will be best for you.

Genetics and family history

No single gene has been found to cause PCOS, so the link is likely to involve multiple genes like many other diseases (e.g. diabetes, hypertension etc). This is called polygenic inheritance.

PCOS often runs in families. If any relatives, such as your mother, sister or aunt, have PCOS, the risk of you developing it is increased.

[1] AFP, Volume 41, Issue 10, October 2012

[2] www.healthed.com.au/clinical_articles/new-evidence-based-guideline-for-pcos-explained/

→ Please send all referrals via **HealthLink** to **FLINDFRT** or **enquire@flindersfertility.com.au** or **fax 08 8155 5330**

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