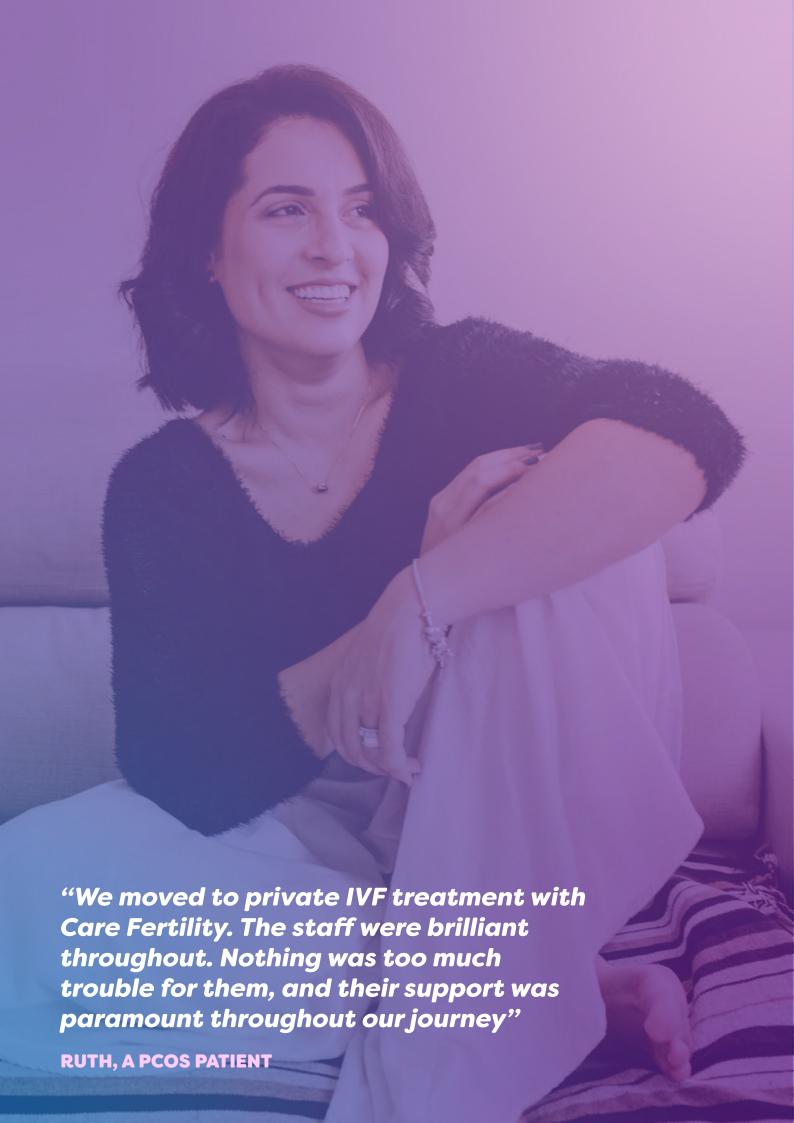


Essential information for patients



Understanding Polycystic Ovary Syndrome

It's natural for a lot of questions to go through your head after a PCOS diagnosis, particularly when it comes to fertility.

If you're one of the many people diagnosed with Polycystic Ovary Syndrome (PCOS), it's important to remember that you're not alone in this journey. PCOS is not a roadblock when it comes to your fertility. That's why we've created this guide, to help provide you with the important facts about PCOS and how our team of experts will support you on your fertility journey.

What is Polycystic Ovary Syndrome?

Commonly known as PCOS, Polycystic Ovary Syndrome is one of the most common hormonal conditions to affect women. PCOS affects around 1 in 10 women in the UK, and is defined by the presence of at least two out of the following:

Irregular Periods:

You might notice your period comes at a different time each month; sometimes early, sometimes late or sometimes not at all. This can also result in the length between your periods varying too

Excess androgen:

Even though both men & women have these hormones, they're commonly known as 'male hormones'. Having high levels of these hormones can affect things like hair growth, you might see hair growing in places you don't want it, such as your face, back or chest. It can also impact your skin, you might notice it becomes oilier and acne prone

Polycystic Ovaries

Your ovaries become enlarged and have many small follicles (fluid-filled sacs), each containing eggs that have not fully developed

What are Polycystic Ovaries?

Polycystic ovaries (PCO) have many small follicles (fluid-filled sacs), each containing an egg.

These follicles start to grow but do not fully develop, remaining at a size of about 2-9mm in diameter. PCO are identified through an ultrasound scan, looking at the size, shape and number of follicles present.

A higher number of follicles (usually twenty or more), combined with the above symptoms, can lead to a PCOS diagnosis. It's important to remember that having Polycystic Ovaries (PCO) does not always mean you have PCOS.



The causes & symptoms of PCOS

Although the exact causes of PCOS are not know, it's believed to be a complex mix of genetics, hormonal and lifestyle factors that may make you more likely to have PCOS:

Genetics

It's possible for Polycystic Ovaries to run in families, with evidence suggesting if you have a family history of PCOS, you may be at a higher risk of developing the condition. Some women may have polycystic ovaries and never have symptoms, without knowing they have polycystic ovaries.

Resistance to insulin

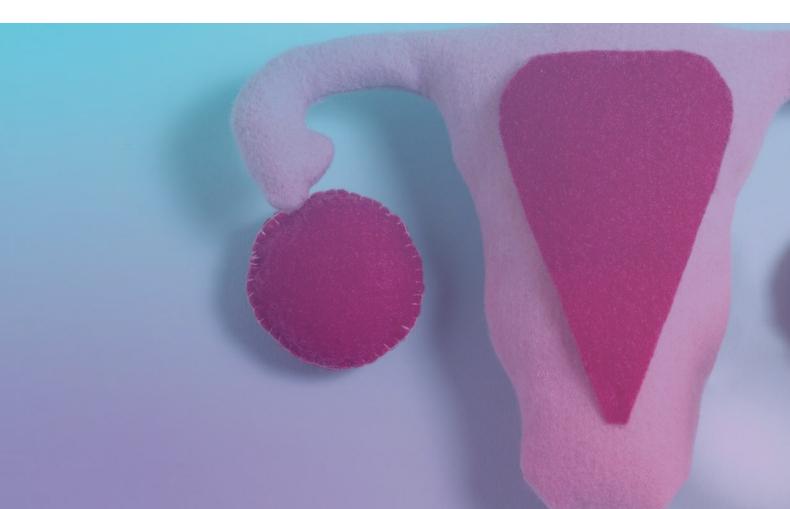
Insulin is a hormone produced by the pancreas to help control the amount of sugar in the blood. In a nutshell, it moves glucose from the blood into cells so it can be broken down & produce energy from the food we eat.

Insulin resistance is common for people with PCOS. When insulin isn't working as it should be, it results in the body creating extra insulin to compensate the cells becoming resistant. Although the extra works hard to make up for it, the high levels of insulin can have other effects on the body. Higher levels can stimulate the ovaries to over produce androgens (mainly testosterone), which can lead to the symptoms of PCOS.

Hormone imbalance

A raised level of testosterone is the main hormonal imbalance when discussing PCOS, but it's important to recognise other hormonal imbalances that can occur:

• Luteinising Hormone (LH) - LH levels may be elevated with PCOS, it can stimulate ovulation but can also stimulate the ovaries to produces higher levels of androgens



- Sex hormone-binding globulin (SHBG) a protein in the blood that binds to testosterone may be lower, resulting in higher levels of free testosterone circulating
- Follicle stimulating hormone (FSH) compared to LH, FSH levels may be relatively low.
 The imbalance between LH and FSH can disrupt ovulation and lead to the appearance of Polycystic Ovaries
- **Prolactin** in some women with PCOS there can be raised levels of prolactin, which is the hormone that stimulates the breast glands to produce milk in pregnancy

It's important to remember that the specific hormonal imbalances of PCOS can vary from person to person, and not all people with PCOS will experience the same level and/or combination of hormonal imbalances.

Symptoms

PCOS can be a complex condition, it's common for the signs & symptoms of PCOS to become apparent during your late teens/early 20's. Let's take a look at the most common symptoms:

Irregular periods or no periods at all

Difficulty getting pregnant

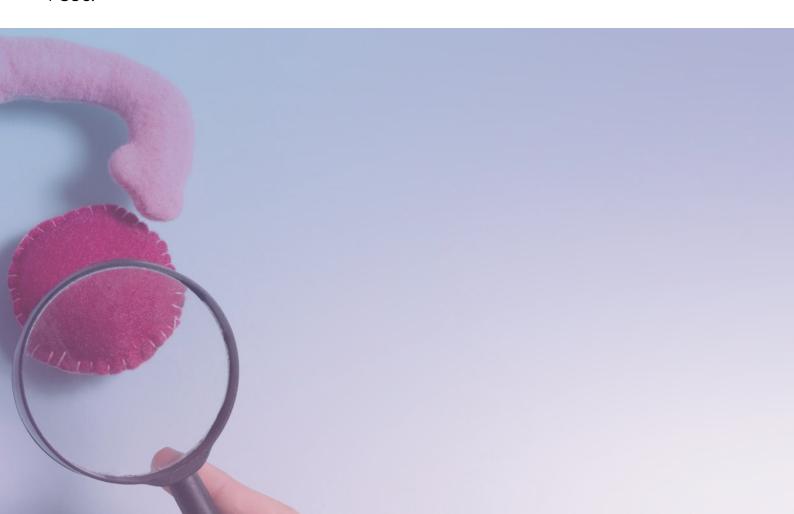
Excess body hair (chest, face or back)

Hair thinning/hair loss from the head

Oily skin and/or acne

Weight gain (and difficulty losing it)

You should talk to your GP if you have any of these symptoms and think you may have PCOS.



Treating PCOS

Polycystic Ovary Syndrome (PCOS) cannot be cured, however there are a number of treatments available to help manage symptoms and reduce hormonal imbalance.

Lifestyle changes

Making changes to what you eat can help manage PCOS. Studies show that weight loss can improve both psychological symptoms (anxiety & quality of life), reproductive function (irregular periods & ovulation), insulin resistance and general health*.

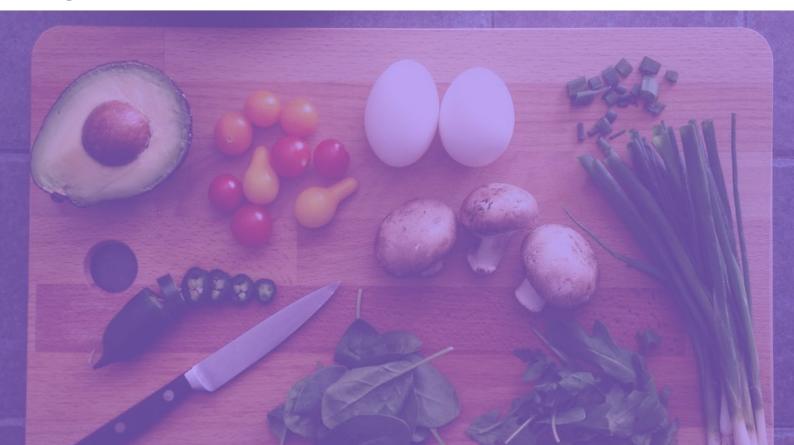
Try to swap high sugar and processed foods for a well balanced diet that is full of good fats (olive oil, avocados and oily fish), complex carbohydrates (sweet potatoes, brown rice and pasta) and healthy proteins (chicken, nuts and seeds).

Including high fibre foods into your diet can help insulin resistance, as they slow down digestion and reduce the impact sugar has on the blood. A lot of fruit & vegetables are packed with high fibre, like peppers, broccoli and berries. It's recommended that certain foods should be limited to help reduce inflammation and insulin resistance. These are highly processed foods like white bread, sugary desserts/sweets and pastry based products. However, it's important to speak to your GP before cutting out a number of foods from your diet.

Incorporating regular physical exercise (at least 20-30 minutes 5-7 days per week) will increase the body's metabolism and significantly improve the ability to lose weight and improve long-term health.

There are lots of help & resources out there to support you starting and maintaining health lifestyle changes, from free websites, YouTube videos, local Gym memberships and nutritionists to help guide you. It's important to not be too harsh on yourself. Even starting with the smallest of lifestyle changes can have a positive impact.

^{*} Source: The Fertility Book, Your definitive Guide to achieving a healthy pregnancy by Professor Adam Balen and Grace Dugdale, Vermilion, Penguin Publications, 2021.





Medication - skin problems

If androgen (testosterone) levels are high the skin may be affected. Acne (spots) may occur on the face, chest or back. Sometimes there is also unwanted hair growth on the face, chest, abdomen, arms and legs. A less common problem is thinning of hair on the head, although if this occurs it is rarely serious.

Any combined oral contraceptive pill (COCP) will help regulate the cycle and improve many of the symptoms of PCOS. Traditionally those containing antiandrogen components such as Dianette and Yasmin have been used, but in reality they all work equally well.

The main risks of the COCP include thrombosis and so your doctor should prescribe the pill with the lowest risk and the best safety profile for your individual requirements. Spironolactone is another effective preparation, particularly for older women who may also have high blood pressure (for whom the contraceptive pill may not be allowable).

Physical treatments such as electrolysis and waxing may be helpful whilst waiting for the above medical treatments to work, as the drug therapies may take 6-9 months or longer before any benefit is perceived.

Medication - irregular periods

Irregular and unpredictable periods can be unpleasant and a nuisance as well as suggesting irregular ovulation and the risk of endometrial thickening.

If pregnancy is not desired the easiest approach is the use of a low dose combined oral contraceptive (that is a contraceptive pill). This will result in an artificial cycle and regular shedding of the endometrium.

Some women cannot take the pill and require alternative hormonal therapy to induce regular periods, such as a progestogen for 5-10 days every 1-3 months, depending upon an individual's requirements. We believe that it is important to have a period at least once every 3 – 4 months to prevent abnormal thickening of the womb lining.

An alternative is to use a progesterone secreting coil (Mirena Intrauterine System) which releases the hormone progesterone into the womb, thereby protecting it and also often resulting in reduced or absent menstrual bleeding.

PCOS & Fertility

One of the biggest misconceptions is that all women with PCOS are infertile. This isn't true! It may take women with PCOS a little longer to get pregnant.

Although it can take a little longer to get pregnant with PCOS, it doesn't mean it's impossible. Because ovulation is a vital part of getting pregnant, PCOS can cause erratic ovulation and cause it to stop all together. If ovulation is not occurring, then it's not possible to conceive without treatment.

When you're ready to start planning for a family, you'll naturally want it to be the quickest and safest path to parenthood as possible. Like we say, it is possible to get pregnant with PCOS but it's important to remember it can sometimes take longer than expected. If you manage your health and symptoms (previous page), it can help you have more regular cycles and an improved chance of getting pregnant.

There are also a number of treatments that are used to help stimulate regular ovulation.

One of the key first steps is to check that your fallopian tubes are open and that your partner has a healthy sperm count. Our <u>fertility tests & assessments</u> can help with this. Our personalised approach to testing means that you will have the most appropriate tests, designed to deliver accurate results which will help us design the most appropriate treatment plan for you.

Depending on your results, a fertility expert will be able to advise you on next steps. Usually one of the first medications recommended it a tablet called Letrozole, which can help stimulate ovulation.

Ovulation will be stimulated in about 75% of women of whom perhaps 50-60% can expect to get pregnant after 6 months' therapy* - this will depend upon age, body weight and other health factors. If letrozole does not work, the alternatives include daily hormone injections of a drug that contains follicle stimulating hormone (FSH) or alternatively a minor 'key hole' surgery - both will induce ovulation in about 80% of women.

Treatments to induce ovulation must be monitored by ultrasound observation of the developing follicle in the ovary, which requires attending the fertility clinic on a regular basis in order to prevent the main side effect, which is multiple pregnancy.

IVF is usually a last resort for women with PCOS, unless there are other problems such as blocked fallopian tubes or sperm abnormalities. A low dose, GnRH antagonist protocol should be used to minimise the risk of OHSS. Sometimes it is safest to freeze embryos rather than do a fresh transfer. This approach may also lead to a greater chance of pregnancy.

^{*} Source: The Fertility Book, Your definitive Guide to achieving a healthy pregnancy by Professor Adam Balen and Grace Dugdale, Vermilion, Penguin Publications, 2021.



Getting pregnant with PCOS

Alongside the various steps we've discussed, there are also some other ways to help improve your chances of getting pregnant:

Track your periods

Even if you have regular periods, it's always worth monitoring your cycle! It'll give you a better understanding of your body, whilst also improving your chances of pregnancy - timing is everything! You'll soon be able to see when you're ovulating, which is the best time to try and get pregnant. There are plenty of apps and tools out there to help keep track of your ovulation, even if you suffer from unpredictable and irregular periods.

Timing is vital

Timings are crucial when it comes to getting pregnant, particularly if you have PCOS. Not just with regards to your fertile window, but also age. Age can have a huge impact on fertility, and paired with PCOS can slow down your path to parenthood further. Egg count and quality will naturally decrease with the older we get, which is why it's important to try not to put off your pregnancy journey once you feel ready. Having open, honest conversations with your fertility expert can help put a plan in place and support you every step of the way.

Stay positive

We know this is easier said than done, but stress can really impact your fertility. Practicing self-care before, during and after your treatment is really important - whatever self-care means to you. For some, it can be researching their treatments to gain a better idea of what to expect, for others it can be practising their favourite exercise routine or grabbing lunch with a friend. Having a happy, healthy body will help to keep your mind calm and reduce anxiety to make your fertility journey as smooth and stress-free as possible.



Next steps

When you come to Care, you will have access to some of the most skilled and experienced fertility practitioners in the country. We have a number of experts that specialise in Polycystic Ovary Syndrome:

Prof. Adam Balen MB, BS, MD, DSc, FRCOG



Read more

MD FRCOG



Read more

Dr. Rima Rajkhowa Prof. Kanna Jayaprakasan **RCOG**



Read more

Dr Anthony Rutherford FRCOG



Read more

Dr Christos Kleanthis MSc, PhD



Read more

Support

Although the main symptoms of PCOS are physical, it can also have an impact on your emotional and mental well-being too. Feeling shocked, disappointed and guilty are common feelings when it comes to any medical diagnosis, and discussing the treatment options and next steps can sometimes feel overwhelming.

If you have any questions about any of the information in this leaflet, or if you are feeling unsure about anything and need additional information, please just get in touch with us. We'll be happy to answer any questions you have.

You can also find further information on PCOS from Verity - the UK PCOS charity.

If you feel you are ready to start your path to parenthood following your PCOS diagnosis, please call our Enquiries Team on 0800 564 2270. They will talk you through the next steps and arrange your initial appointment.





