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PCOS and Fertility

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Polycystic ovarian syndrome (PCOS) and fertility

Women with PCOS frequently present to their GP with fertility issues. PCOS is the most common cause of anovulation (failure of the ovary to produce an egg). Some women with PCOS may require medical treatment in order to conceive, but in many cases 5-10% weight loss could be sufficient to restore regular ovulation.

Why might women with PCOS struggle to get pregnant?

Around 70% of women with PCOS suffer from anovulation. This means their ovaries do not regularly release an egg that could be fertilised. This may manifest as irregular or absent periods ("oligo- or amenorrhoea"), and difficulties getting pregnant, as it means there are fewer fertile days and they are also difficult to predict.

Women with PCOS have lots of small follicles (fluid-filled sacs) in their ovaries which contain eggs at an early stage of their development. These follicles fail to develop in a way that would allow egg release. The reasons behind this are complex, but are usually driven by issues such as increased male hormone levels ("androgen excess"), high insulin levels, and excess weight.

Can the chances of conceiving be improved?

Yes. One of the most effective strategies for patients with irregular periods is to lose weight.

⇨ **See our leaflet on "PCOS and weight"**

People who are overweight or suffer from obesity are far more likely to have menstrual disturbance and hence fertility issues. Weight loss achieved through a healthier lifestyle or via medical or surgical treatments greatly improves the likelihood of conceiving without requiring any further medical treatment. If you have excess weight,

then losing 5-10% of your total body weight can significantly improve the chance of spontaneous ovulation. If possible, you should also consider trying to conceive before the age of 35 to maximise your chances of successful pregnancy, as there is a natural and gradual decline in egg quality after this age.

What tests may be needed to investigate fertility concerns or problems?

A number of blood tests arranged by your doctor will help to confirm an underlying diagnosis of PCOS. If your periods are regular, we will need to obtain a blood test on Day 21 of your cycle, measuring progesterone levels to determine if an egg has been released ("Ovulation").

If your periods are regular, then it is likely that you are ovulating regularly. If your periods are irregular, there is the possibility you are ovulating irregularly, and if you have no periods for a prolonged period of time you are most likely not ovulating.

Note also that over-the-counter ovulation kits that measure LH will show a false positive result for those with PCOS so are not a reliable way to test if you have ovulated.

We will need to arrange a test to examine your fallopian tubes, which connect the ovaries to the womb. Once the egg is released, it travels through the Fallopian tubes to the womb to be fertilised. We can look at the Fallopian tubes with a radiological examination called a hysterosalpingogram. This tells us whether any blockages are present in the tubes leading from the ovary which may prevent the egg from being fertilised.

We usually will also ask our radiologist to visualise the ovaries and the uterus with an ultrasound scan to exclude any other interfering conditions.

Your partner will also need to provide a semen sample for analysis to ensure there is normal sperm count and motility.

What treatments are available for problems with ovulation?

Should you fail to conceive after weight loss, or if your body weight is already in the healthy range, a number of medications may be prescribed by your doctor to increase the likelihood of ovulation and hence conception.

Medications such as clomiphene or letrozole are taken for five consecutive days at the start of the menstrual cycle, usually for a total of six consecutive months. These drugs work by increasing the levels of ovarian-stimulating hormones from your master hormone gland, the pituitary. These medications are safe, effective and have been in use for many years. Taking these drugs increases the risk of multiple pregnancies (twins, triplets, etc.) from 1-2% to 8-10%.

Depending on your clinical circumstances, your doctor may also prescribe a drug called metformin alongside clomiphene or letrozole. This medication is commonly used to treat type 2 diabetes, and works by lowering insulin levels. In women with PCOS, the body often responds less well to insulin, a hormone that helps regulate blood sugar levels, and metformin helps to make it respond better again. The net effect of this in PCOS is that it increases the likelihood of ovulation. Other beneficial effects may include a small degree of weight loss.

In the event that clomiphene, letrozole, or metformin combined with lifestyle measures do not result in ovulation, we may sometimes refer you to our gynaecology colleagues to discuss a procedure called laparoscopic ovarian diathermy (LOD), previously called laparoscopic ovarian drilling. Your suitability for this will depend on factors such as your age. This procedure involves a laparoscopy (a small camera inserted through the belly button) under general anaesthesia, and is

performed as a day case procedure. The aim of the procedure is to induce ovulation and it has been shown to be effective.

What are the next steps if these interventions are unsuccessful?

Should you not ovulate or conceive in response to the above treatments, the next step would be to refer you to the Fertility Centre at Birmingham Women's Hospital to discuss assisted conception techniques. You may be suitable for ovulation induction or in-vitro fertilisation (IVF). You may also be eligible for a cycle of NHS-funded assisted conception. Typically, the factors that determine your eligibility for NHS-funded assisted conception treatment include your age, weight, smoking status and whether you or your partner already have any children.

Ovulation induction is a treatment which involves having injections of pituitary gland hormones called gonadotropins. These injections will stimulate ovulation and are administered at different times during your menstrual cycle. Ultrasound scanning will be used by the Fertility team to track your response to the injections and to determine when ovulation is about to occur. If you are not having in vitro fertilisation (IVF) alongside ovulation induction, you will be advised about the optimal timing of intercourse in the days around ovulation.

Whether ovulation induction is combined with IVF will depend on other factors such as your age and your partner's sperm quality. If you are advised to have IVF, an egg collection will be performed under general anaesthetic, and fertilised outside the womb (in vitro) with your partner's sperm. Usually one good quality embryo is chosen to be transferred into the uterus and any other good quality embryos can be frozen for future use. Success rates vary from 20-40% depending on your age and general health.

Please use the space below to write down any questions you may have and bring this with you to your next appointment.

The Trust provides free monthly health talks on a variety of medical conditions and treatments. For more information visit www.uhb.nhs.uk/health-talks.htm or call 0121 371 4323.

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