

## Patient information

# Polycystic Ovary Syndrome (PCOS)

## Diabetes and Endocrinology

### What is Polycystic ovary syndrome (PCOS)

PCOS is a fairly common condition that can cause women to have irregular periods, reduced fertility, excess hair growth, weight gain and acne.

**To be diagnosed with PCOS a woman must have at least two out of the following three :**

- Multiple small cysts (follicles) on the ovaries.
- A failure to ovulate (release eggs from your ovaries) each month
- An imbalance in the sex hormones produced by the ovaries.

To aid your understanding of PCOS, you may find it helpful to read our separate information leaflet on the menstrual cycle

### What causes PCOS?

The exact cause of PCOS is unknown. However, it is believed that several factors including one or all the following may play a part:

#### Insulin Resistance

Insulin is a hormone produced by the pancreas (a gland that lies behind your stomach) which controls the amount of sugar within your blood. Women with PCOS may have a condition called 'insulin resistance'. This means that the cells in the body are resistant to the effects of normal insulin levels. The pancreas therefore has to produce extra insulin in order to maintain normal blood sugar levels. A 'side effect' of a high level of insulin is to cause the ovaries to produce too much testosterone. Being overweight or obese is not a cause of PCOS. However, if you are overweight it may make your symptoms worse, for example by increasing your resistance to insulin.

#### Raised levels of luteinizing hormone (LH)

This hormone, created in the pituitary gland (a small gland at the base of your brain), stimulates ovulation and hormone production in the ovaries. LH in combination with insulin promotes production of testosterone.

## **Raised levels of Testosterone**

All women produce testosterone, but normally in much lower levels than men. Women with PCOS usually have a testosterone measurement which is either slightly above the female range or at the upper end of the normal range for women. High levels of insulin and testosterone interfere with the normal development of follicles in the ovaries, causing problems with ovulation, periods and fertility.

## **Hereditary Factors**

Your genetic makeup is probably a contributing factor in developing PCOS. Although PCOS is not always passed from parent to child, the condition may run in some families.

## **What are the symptoms of PCOS?**

Symptoms will typically begin in your late teens or early twenties. Not all symptoms occur in all women with PCOS. The symptoms can vary from mild to severe and may change over time.

- You may experience irregular or light periods, or no periods at all. Irregular ovulation or a complete lack of ovulation can lead to fertility problems
- Hirsutism (excessive and unwanted facial or body hair) – occurs in more than half of women with PCOS. It mainly affects the face (especially upper lip and chin), lower abdomen and chest.
- Acne, greasy skin and scalp.
- Hair loss from the head (like male pattern baldness).
- Weight gain – about 40% of women with PCOS are overweight or obese.

## **What are the possible long-term problems associated with PCOS?**

PCOS is associated with an increased risk of developing diabetes mellitus, high cholesterol and high blood pressure. Left untreated, these problems may increase your risk of having a stroke or heart disease later in life.

Although some women may feel not having periods is to their advantage, irregular or absent periods can increase a woman's risk of developing endometrial (lining of the womb) overgrowth or even cancer of the uterus (womb). However, the risk is thought to be very small and can be minimised by certain treatments which regulate periods, such as the contraceptive pill or intrauterine device.

A sleeping condition called sleep apnoea may occur in obese women with PCOS. People with this problem often experience fatigue and daytime sleepiness. PCOS may affect your mood, resulting in depression and/or mood swings

## **What tests will I have?**

There is no single test to diagnose PCOS. You may be diagnosed with PCOS based on your symptoms, blood tests and physical examination. Blood tests are usually recommended to confirm diagnosis and to rule out other hormone conditions.

- Blood tests will be taken to measure your hormone levels, (including oestrogen, progesterone, LH, SHBG and testosterone), prolactin and thyroid. Lipids and glucose levels may also be checked.
- An ultrasound scan may be requested to identify if your ovaries have multiple cysts. When seen on the scan they often appear like a chain and are sometimes described as the 'string of pearls' sign.

### **What can I do to help improve my symptoms?**

- Adopt a healthy balanced diet including fruit and vegetables.
- Regular exercise.
- Although it can be difficult, losing weight is one of the most effective approaches to managing the symptoms of PCOS.

### **What treatments are available for PCOS?**

At present there is no cure for PCOS, however there are several treatments which can reduce or minimise symptoms and help to reduce any long-term risks to health.

#### **Treating period problems**

The oral contraceptive pill is the most used treatment for regulating periods in women with PCOS. The contraceptive pill may also help improve problems of excessive hair growth and acne.

Another method to treat menstrual irregularity is to take a hormone called progestogen for several days every month which will induce a monthly bleed like a period.

Please remember there are many oral contraceptive pills on the market and you may need to try several to find the one right for you.

If you stop taking the contraceptive pill, it is likely your periods will become irregular again. Although your fertility is often reduced with PCOS, you will still need to use a form of contraception if you want to ensure you do not become pregnant.

#### **Treating excessive hair growth**

Excess hair growth can be removed cosmetically; shaving, plucking or hair removal creams may be enough to control the problem. Waxing and electrolysis may be more long lasting but are expensive and are not usually available on the NHS.

A cream called Vaniqa (eflornithine) may be prescribed for facial hirsutism. The cream slows down new hair growth by counteracting an enzyme (chemical) involved in making hair. Vaniqa needs to be applied twice a day, and it may take between 8-16 weeks before you notice any improvement. If you stop using Vaniqa, facial hair growth will return within eight weeks.

You may be offered medication to help reduce and slow down hair growth. These tablets work by reducing the amount of testosterone produced or by decreasing the effects of testosterone. Examples of medication include:

- Cyproterone Acetate, finasteride and Spironolactone
  - these are 'anti-testosterone' medicines but must be taken with a contraceptive pill if you want to prevent pregnancy.

## **Treating acne**

Oral contraceptives and/or anti-testosterone medication should help to reduce acne. Antibacterial face washes and ointments may also be of benefit.

## **Treating Insulin Resistance**

You may be prescribed a tablet called Metformin which is usually prescribed to treat diabetes. Metformin works by encouraging insulin to carry sugar from the blood into the body's cells more efficiently, thereby overcoming insulin resistance. This should result in a decrease in the blood level of insulin, which may help to counteract the symptoms of PCOS, including hirsutism and period problems.

## **Side Effects of Metformin**

As with any medication there can be side-effects. For metformin, these can include: an upset stomach, nausea, diarrhoea and a metallic taste in your mouth. These side effects are reduced if the dose of metformin is slowly increased over three to four weeks and the tablets are taken with or immediately after food.

## **Losing Weight**

Weight loss is one of the most effective methods for managing the symptoms of PCOS. Diet and physical activity can help to maintain a healthy weight, which will lower glucose levels, reduce insulin resistance, and reduces testosterone levels. This then improves your chance of ovulating, which improves any period and fertility problems you may have. Excess hair growth and acne should also improve. For example, many overweight women with PCOS who manage to lose 5% of their body weight find their periods become more regular. There are several options available to help with weight loss, these options are identical to those recommended for women without PCOS and include diet and exercise. Advice from a dietitian and attendance at groups (e.g. Weight Watchers) may be beneficial. Depending on your weight and other health issues, your doctor may recommend you try medication to help you lose weight.

## **What improvements should I expect to see and how soon?**

Whatever the treatment, any greasiness of your scalp and face should improve in the first couple of weeks. Acne will usually improve a few weeks later. Abnormal hair growth may take four to six months before you notice any changes, depending on your chosen treatment.

Many women manage their symptoms and long-term associated risks without any need for medical intervention. This can be achieved through healthy diet and exercising regularly.

## **Further information**

**Please feel free to contact the Endocrine Specialist Nurses with any questions you may have. There is an answer machine where you can leave your name and contact details. We will return all calls.**

**The Endocrinology Specialist Nurses**

**Tel: 0151 706 2417**

**Textphone number: 18001 0151 706 2417**

**Related Patient information leaflets:**

**The Menstrual Cycle (PIF 1054)**

**Verity**

**Unit AS20.01**

**The Aberdeen Centre**

**22-24 Highbury Grove**

**London**

**N5 2EA**

**[www.verity-pcos.org.uk](http://www.verity-pcos.org.uk)**

**NHS Choices**

**[www.nhs.uk](http://www.nhs.uk)**

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Following your discharge from hospital or attendance at your outpatient appointment you will receive a text asking if you would recommend our service to others. Please take the time to text back, you will not be charged for the text and can opt out at any point. Your co-operation is greatly appreciated.

## Further information

All Trust approved information is available on request in alternative formats, including other languages, easy read, large print, audio, Braille, moon and electronically.

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