



## Use of metformin in polycystic ovary syndrome

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**This leaflet provides information on polycystic ovary syndrome (PCOS) and treatment using metformin for patients under the care of the Fertility Clinic. If you have any further questions, then please ring 0118 322 7286 and talk to one of the clinic nurses.**

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### Background

Doctors are still not entirely clear why some women develop polycystic ovary syndrome (PCOS). There is often a hereditary link and a link with diabetes in the family. In recent years it has become clear that PCOS is closely related to a problem with insulin. Insulin is a hormone released from the pancreas after a meal that allows the organs of the body to take up energy in the form of glucose. In PCOS, there is a 'resistance' of cells in the body to insulin, so the pancreas makes more insulin to try and compensate. The excessively high levels of insulin have an effect on the ovary, causing a rise in androgen testosterone levels and preventing ovulation. Metformin is a drug that has been used in the treatment of diabetes for over 30 years. It acts by making the body more sensitive to insulin. Since it does not stimulate production of insulin, it does not cause hypoglycaemia.

### The use of metformin in women with PCOS

There have been several studies looking at the use of metformin in women with PCOS. The majority have shown that metformin can make periods more regular and improve ovulation in women with PCOS. In some cases, we recommend taking clomifene as well as metformin.

### Risks and side effects

- All the evidence is that metformin is safe in pregnancy and recent studies have shown that taking it up to 12-weeks of pregnancy may reduce the risk of miscarriages.
- Metformin can cause nausea, abdominal bloating and flatulence. In severe cases, it can cause vomiting or diarrhoea. Most women tolerate it very well, particularly if the dose is increased gradually. Additionally, to minimise side effects, the tablets should be taken in the middle of a meal or straight after a meal. Side effects usually settle after 1-2 weeks.
- Women with kidney failure or severe liver disease should not take metformin. Patients with kidney damage or significant liver disease are at an increased risk of a very rare side effect of metformin called lactic acidosis.
- Metformin has been used in the treatment of diabetes for over 30 years and has not been associated with any other side effects. However, metformin is only licensed for the treatment of diabetes, not PCOS. Metformin is not an experimental drug but its use in PCOS is relatively new.

## Start metformin gradually

- 500mg a day for 2 weeks, then
- 500mg twice a day for 2 weeks, then
- 500mg three times a day.

**Do not increase the dose if side effects develop – wait until they have settled first.**

If you have any questions or concerns regarding your medication, please call the **Fertility Clinic on 0118 322 7286** and ask to talk to one of the nurses.

## Further information

Further information is available on the following website at [www.verity-pcos.org.uk](http://www.verity-pcos.org.uk).

The clinic doctors produce a number of information sheets especially for this clinic and update them frequently, you can find these on the Trust website here

<https://www.royalberkshire.nhs.uk/leaflets?&s=4780>.

To find out more about our Trust visit [www.royalberkshire.nhs.uk](http://www.royalberkshire.nhs.uk)

**Please ask if you need this information in another language or format.**

RBFT Fertility Clinic, April 2018

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