

polycystic ovarian syndrome & diabetes

Polycystic Ovarian Syndrome (PCOS) is a hormonal condition that occurs in 5–10% of women between late adolescence and the menopause. It is one of the most common hormonal related problems in women during their reproductive years. Not only is PCOS a leading cause of infertility it can affect the whole body and overall good health.

What are the symptoms?

Women with PCOS usually have a few of the following symptoms:

- > Irregular or absent periods
- > Excessive hair growth or hair loss
- > Difficulty becoming pregnant
- > Acne
- > Weight gain (especially around the mid section) and difficulty losing weight

Usually very few investigations are necessary in PCOS, however a number of hormonal and other blood chemistry changes have been found in studies including:

- > Multiple small follicles in the ovaries
- > Elevated insulin levels
- > Abnormal blood lipids
- > Abnormal glucose metabolism
- > Elevated androgens (although referred to as 'male hormones', these are found normally in small amounts in women).

What is the relationship between PCOS and type 2 diabetes?

Between 50–70% of women with PCOS have high insulin levels (hyperinsulinaemia) caused when cells don't respond effectively to insulin. The body then produces more insulin to try to overcome this resistance.

High insulin levels stimulate fat storage, blood lipid problems such as low HDL-C (good cholesterol) and/or high triglycerides, and the over-production of androgens (so-called 'male hormones'). This can contribute to obesity and an increased risk of heart disease and stroke as well as the other symptoms previously listed.

As women with PCOS are likely to have insulin resistance, they have a greater risk of developing type 2 diabetes, gestational diabetes (diabetes during pregnancy) and pre-diabetes.



PCOS & diabetes

Insulin resistance is a common feature found in people with type 2 diabetes, gestational diabetes (diabetes during pregnancy) and impaired glucose tolerance (pre-diabetes). Insulin is also the key hormone responsible for regulating blood glucose levels. As women with PCOS are likely to have insulin resistance, they have a greater risk of developing these conditions. It is recommended that all obese women with PCOS be tested for type 2 diabetes.

How is PCOS treated?

PCOS is usually diagnosed after careful consideration of the medical history, symptoms, hormonal testing and sometimes ultrasound. Treatment can vary depending on these findings however the diagnosis of PCOS often requires lifestyle changes. These generally include following a healthy, nutritional eating plan, giving up smoking and taking regular physical activity which helps to lose weight and improve insulin sensitivity.

These lifestyle changes not only reduce weight and insulin levels but also the blood lipids improve. In many women the male hormone levels reduce therefore reducing future risks.

The evidence linking PCOS to insulin resistance has led to the use of some of those tablets used in diabetes. These medications, for example Metformin, are known for helping insulin resistance and may be of benefit for a minority of women with infertility due to PCOS. However, Metformin may cause nausea and diarrhoea and is not as effective as lifestyle changes.

Other treatments will focus on the individual symptoms and include such things as the oral contraceptive pill to regulate the menstrual cycle and anti-androgen drugs (eg: cyproterone) to reduce the male hormone effects such as acne or excessive hair growth. However, treatments to combat these may also increase insulin resistance.

For more information

To find out more about PCOS, talk to your doctor or phone the Polycystic Ovarian Syndrome Association of Australia on 02 8250 0222 (www.posaa.asn.au).

Would you like to join Australia's leading diabetes organisation?

- > Dietary services
- > Free magazines
- > Children's services
- > Educational literature
- > Product discounts
- > Support groups

For more information phone **1300 136 588** or visit your State/Territory Organisation's website:

ACT	www.diabetes-act.com.au	NSW	www.diabetesnsw.com.au
NT	www.healthylivingnt.org.au	QLD	www.diabetesqld.org.au
SA	www.diabetessa.com.au	TAS	www.diabetestas.com.au
VIC	www.diabetesvic.org.au	WA	www.diabeteswa.com.au

The design, content and production of this diabetes information sheet has been undertaken by the eight State and Territory member organisations of Diabetes Australia Ltd listed below:

- > Diabetes Australia – NSW
- > Diabetes Australia – Queensland
- > Diabetes ACT
- > Diabetes SA
- > Diabetes WA
- > Healthy Living NT
- > Diabetes Australia – Victoria
- > Diabetes Australia – Tasmania

The original medical and educational content of this information sheet has been reviewed by the Health Care and Education Committee of Diabetes Australia Ltd. Photocopying this publication in its original form is permitted for educational purposes only. Reproduction in any other form by third parties is prohibited. For any matters relating to this information sheet, please contact National Publications at dapubs@tpg.com.au or phone 02 9527 1951.