Polycystic ovary syndrome
All you need to know
This resource is informed by the evidence-based guideline for the assessment and management of polycystic ovary syndrome (PCOS), authored by the PCOS Australian Alliance and auspiced by Jean Hailes for Women’s Health. We are grateful to the Australian Government for their support and funding of the national PCOS evidence-based guideline project and subsequent translational program. In addition, we wish to recognise the important contribution the consumer advocacy support association (POSAA) has made to this resource.
# Contents

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is polycystic ovary syndrome (PCOS)?</td>
<td>2</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>3</td>
</tr>
<tr>
<td>What causes PCOS?</td>
<td>4</td>
</tr>
<tr>
<td>Male-type hormones and insulin</td>
<td>5</td>
</tr>
<tr>
<td>Emotional problems</td>
<td>6</td>
</tr>
<tr>
<td>What do the ovaries do?</td>
<td>7</td>
</tr>
<tr>
<td>Difficulties getting pregnant</td>
<td>8</td>
</tr>
<tr>
<td>Regular periods</td>
<td>8</td>
</tr>
<tr>
<td>Healthy weight</td>
<td>10</td>
</tr>
<tr>
<td>Hair and skin problems</td>
<td>11</td>
</tr>
<tr>
<td>Heart disease and diabetes</td>
<td>12</td>
</tr>
<tr>
<td>Sleep problems</td>
<td>12</td>
</tr>
<tr>
<td>Lifestyle</td>
<td>13</td>
</tr>
<tr>
<td>Tips for healthy eating</td>
<td>14</td>
</tr>
<tr>
<td>Exercise</td>
<td>15</td>
</tr>
<tr>
<td>Conclusion</td>
<td>16</td>
</tr>
</tbody>
</table>
What is polycystic ovary syndrome (PCOS)?

PCOS is a hormonal condition. Hormones are chemical messengers that control the way the body works. For example, during puberty hormone changes send out signals in the body to start periods in girls.

PCOS is a common condition with up to 1 in 5 women of child-bearing age affected.

In PCOS two hormones, insulin and male-type hormones are produced in higher levels, which can result in:

- periods less regular (more or less often)
- emotional problems (anxiety or depression)
- hair growth on face, stomach, back
- acne or pimples
- easy weight gain
- delays getting pregnant
- type 2 diabetes
- more risk factors for heart disease.

Not all women with PCOS will have all of these symptoms as PCOS can vary between women and changes with age.

There is currently a lot of debate about the name ‘polycystic ovary syndrome’. The name of the condition suggests the problem is mainly with the ovaries, when in fact the cause of PCOS is hormonal. The increased levels of male-type hormones are what cause the ovaries to work differently, causing many of the problems listed above.

Healthy tip

Make one small step towards a healthier lifestyle every day.
Diagnosis

Diagram 1. Two out of three of the following are needed for a diagnosis

- Periods less regular (more or less often)
- On an ultrasound picture, ovaries have many partly formed eggs
- Signs of male-type hormones – increased body hair, acne or increased male-type hormones on a blood test

Normally, it takes a couple of years after periods start for them to settle into a regular pattern. Therefore, a diagnosis of PCOS cannot be made during that time. Also, girls taking the contraceptive pill may need to wait until they are off the pill for three months to get a clear diagnosis (another form of contraception will be needed during that time).

Good news
PCOS is treatable and, as women get older, some of the symptoms become less severe.

Not-so-good news
PCOS does not go away and women with it have a higher risk of conditions such as type 2 diabetes, and increased risk factors for heart disease.
What causes PCOS?

PCOS occurs in all groups, but also appears to follow family and ethnic lines, which means it is more common in certain groups such as Indigenous, Asian and North African women. Also, lifestyle patterns such as the way we eat and exercise can make the condition better or worse. Increased weight also increases the likelihood of developing PCOS.

Diagram 2. Factors contributing to the development of PCOS
Male-type hormones, also known as testosterone and androgens, are found in all women in small amounts. Women with PCOS produce slightly higher levels (but not as high as men).

Insulin’s most important job is to help control the sugar (glucose) levels in the body by helping to get it into the cells to be used for energy, or to send it into storage if not needed. This way, the level of glucose in the blood is always kept the same.

- Insulin works like a key to let glucose (energy) into the body cells
- Many women with PCOS have insulin resistance, in which the cells won’t allow insulin to work properly, resulting in higher levels of insulin in the blood
- Higher insulin levels can make people gain weight easier and may increase appetite
- Insulin is able to do its job better if women with PCOS exercise regularly
- Higher insulin levels can eventually lead to pre-diabetes and to type 2 diabetes.

Good news

Being active on most days, eating well and losing a few kilos if needed is the best way to keep insulin and male-type hormones levels lower and working normally.

Diagram 3. The transition from insulin resistance to diabetes
Problems such as anxiety and depression are common in women with PCOS. It is a chronic disease and causes physical changes that can affect mood, personal relationships, body image and self esteem.

It is important to ask questions like:

- am I feeling OK?
- am I enjoying the things that I usually really like to do?
- do I feel tired and worried a lot of the time?

If you are concerned about your answer to any of these questions, it is very important to talk with your doctor and together find ways to improve your mood.

Other things that will help to improve your mood are trying to be more active, and getting support from friends or other women with PCOS.
What do the ovaries do?

The ovaries are small, oval-shaped organs located in the pelvis. Their main job is to help women to get pregnant by producing an egg each month. In women with PCOS, the eggs often don’t fully develop. This is the main cause of difficulties getting pregnant.

Physical activity tip

Make exercise more enjoyable by doing it with a friend or partner.
Difficulties getting pregnant

Most women with PCOS do not have problems getting pregnant, but some will. Also, once pregnant, some women may have more difficulties such as miscarriages and problems during birth.

The best way to increase your chances of getting pregnant is to plan your family earlier in life if possible, as your fertility decreases after the age of 35. It also helps to be as physically active as possible, and to lose a few kilos if overweight. This can make your periods more regular and help your body to produce an egg that can be fertilised.

The healthier you are, the better your chances of getting pregnant and having a healthy pregnancy and a healthy baby. Ensure you eat a healthy, balanced diet, rich in fruit and vegetables, and also take a folate supplement. If, after trying these things you are still unable to get pregnant, your doctor can discuss medical therapies that may help.

Regular periods

It is common for women with PCOS to have periods that do not come for many months, or that come too often.

The best ways to help your periods to become more regular is by:

• lifestyle change (getting active and losing a few kilos if overweight)
• taking the oral contraceptive pill (if not wanting to get pregnant)
• taking a medication called metformin, which can be used for treating women with PCOS who don’t ovulate.

Having regular periods helps keep the uterus healthy, so if you have less than four periods a year, discuss this with your doctor.

Physical activity tip

Go for walks with co-workers at lunch time.
Healthy weight

If overweight, losing as little as 5-10% of body weight or even a few kilos can help improve symptoms such as irregular periods. Weight loss can also help to prevent long-term problems such as type 2 diabetes and heart disease.

The diet that will be of most benefit is a balanced, healthy diet. It is important to weigh yourself weekly, but make sure you know what to do if your weight does go up a little. If you need support to help you to lose weight, then ask your doctor to refer you to someone who can help, such as a dietitian or perhaps an exercise physiologist.
Hair and skin problems

Due to the higher levels of male-type hormones, it is common for women with PCOS to have increased body hair, often on the face, stomach and back, and to also have acne. Some women also have thinning hair on the top of their head. This can be one of the more difficult problems because it can make some women feel that they look different to other women.

Any of the methods of removing hair (threading, electrolysis, hair removal creams, shaving, laser therapy and waxing) can work very well, although shaving the face is not ideal as the hair can regrow more prominently.

Laser therapy is often the most effective long-term solution, but it is important to know that laser therapy works best on light-coloured skin and dark hair and must be performed by an experienced operator.

If, however, these options do not work for you, talk with your doctor about medications. The main medications for these problems are the oral contraceptive pill, though sometimes additional medications called anti-androgens can also be used for six months to help. It is very important not to get pregnant while using this anti-androgen medication, which is why you will also need to take the oral contraceptive pill at the same time.

Healthy tip
Losing even a few kilos can make a very big difference to your health. For example, for a woman weighing 80kg, a 5% weight loss is 4kg.
Heart disease and diabetes

Women with PCOS are more likely to develop type 2 diabetes and to have risk factors for heart disease. There are two important ways to lower the risk of developing these conditions:

- **Know your numbers.** Your doctor will need to order tests to check your glucose and cholesterol levels. Keep your own records of these, along with your weight, blood pressure and waist measurements. This way, if your numbers are increasing you can start to make healthier changes.
- **Change your lifestyle.** The most successful way to prevent these conditions is to be as active as possible, eat a healthy diet and keep your weight stable, or aim for a 5-10% weight loss if you are overweight.

Sleep problems

Women with PCOS often experience sleep problems. These include snoring, uneven breathing patterns during sleep, and sometimes stopping breathing for short periods. These problems may be caused by increased weight. Women report they often wake up feeling tired, with a sore throat, and generally feeling low in energy throughout the day. If this happens to you, discuss it with your doctor.

Healthy tip

Limit alcohol as it is high in calories.
The most successful way to treat PCOS is by living a healthy life. The way you eat, exercise and generally stay healthy is the best way to reduce your symptoms. When making change to your lifestyle, avoid short-term fad diets or changes you can’t keep up for long, make sure you are ready to change and that you have support around you. Importantly, set small achievable goals that you can manage – such as always taking the stairs instead of the lift, trying a pedometer and working out ways to increase your steps each day, changing to low-fat milk, replacing juice with water – and build these up over time. Keep an eye on your weight and aim for prevention of weight gain or slow, steady, small weight losses.
Tips for healthy eating

- Cook your food in a healthy way, such as steaming fish instead of frying it.
- A meal should be mostly vegetables, some protein (such as a palm-sized serve of lean meat, fish, eggs or low-fat dairy), legumes (such as chickpeas or baked beans) and wholegrains.
- Consume fish 2-3 times per week for protein.
- Eat mainly when you are hungry and only enough until you feel just full.
- Watch out for eating when you are tired, stressed or distracted.
- Drink water instead of soft drink, juice or alcohol (these are all high in calories).
- Use healthy cooking oils such as olive, canola or macadamia.
- Eat a small handful of unsalted raw nuts daily.
- Choose high-fibre grains and cereals such as oats, brown rice and wholegrain breads. Include legumes, which are high in fibre and can help to avoid spikes in blood glucose after meals.
Exercise

Regular exercise greatly helps women with PCOS in many ways, such as helping to improve mood and prevent weight gain, type 2 diabetes and heart disease. Try and find ways to exercise that you enjoy, such as walking with friends, and make it a regular part of your routine.
Conclusion

PCOS is a very common condition caused by changes in two main hormones – insulin and male-type hormones. It affects every woman differently, with symptoms such as emotional challenges, increased body hair, acne, weight gain, problems getting pregnant and irregular periods. PCOS does not go away and in the longer term increases the risk factors of type 2 diabetes and heart disease. The best way to manage PCOS is by developing good relationships with health professionals (such as your GP) and by living a healthy lifestyle, with a good diet and regular exercise.

Useful links

Jean Hailes for Women’s Health:
jeanhailes.org.au/health-a-z/pcos

Physical activity tip

When exercising, focus on the benefits such as improved mood, weight maintenance and increased energy levels.
Jean Hailes for Women’s Health

Jean Hailes for Women’s Health provides high-quality, trusted information, to assist you to make decisions about your health. We use the latest research to develop our website and resources on a range of topics, including:

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- breast health
- cardiovascular health
- endometriosis
- fertility and pregnancy
- health checks
- healthy living
- Indigenous health

- menopause
- mental and emotional health
- natural therapies and supplements
- polycystic ovary syndrome (PCOS)
- periods
- sex and sexual health
- vulva, vagina, ovaries and uterus.

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