

## Chapter 1

# Sensible and Straightforward Solutions for a Difficult Condition

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### *In This Chapter*

- ▶ Understanding PCOS and its symptoms
  - ▶ Looking at treatment options
  - ▶ Working out what you can do to help yourself
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**T**his chapter is a great place to start to get on the right course if you suffer or suspect you suffer from PCOS, or if you have a friend, relative, or partner with the condition and you want a quick overview of the most important things you need to know about it.

This chapter gives an overview of the entire book; so in one chapter you get a feel for what PCOS really is and what its symptoms are. Most importantly you get an overview of treatments that are aimed at reducing the symptoms, mostly looking at what you can do for yourself.

## *Understanding PCOS*

PCOS is the most common ovarian function disorder in women during the period of time before the menopause arrives. An estimated 20 per cent of women have polycystic ovaries (PCO), but despite having small cysts on their ovaries, they don't have any symptoms of PCOS. For actual PCOS, where definite symptoms are present, the incidence in women is as high as 5–10 per cent and the rate appears to be increasing.

## *Defining the condition*

According to the American Society for Reproductive Medicine, PCOS is defined by having any two of the following signs and symptoms:

- ✓ Lack of ovulation for an extended period of time (which probably manifests itself as the stopping of your monthly period).
- ✓ High levels of androgens (male hormones).
- ✓ Many small cysts on the ovaries (normal ovaries have 5–6 follicles (cells), whereas polycystic ovaries have ten or more).



The hormones involved in controlling periods, and ultimately reproduction, are produced in the pituitary gland located in the brain. In PCOS two of these, called luteinising hormone (LH) and follicle stimulating hormone (FSH), are produced in proportions that are off kilter. The imbalance of these two hormones is thought to prevent the follicles in the ovary from developing properly: They tend to remain small and don't mature enough to release an egg. As a result, a string of small follicles forms on the ovary giving rise to the characteristic polycystic ovary.

## *Trigger factors*

PCOS is often described as being a condition of hormone imbalances and probably has a genetic basis, so you may inherit it from a parent. You are more likely to develop PCOS if:

- ✓ You have a relative with PCOS (female relative of course!).
- ✓ You have a relative with type 2 diabetes (male or female).
- ✓ Your father went bald prematurely (yes, honest, it's true!).

Obesity is also believed to act as a trigger to PCOS in women with a genetic pre-disposition.

## *You Know You Have PCOS Because . . . : The Symptoms*

The symptoms of PCOS vary from woman to woman and can be present in any combination. They can also change over time and so, if you have PCOS, your symptoms are likely to be different from someone else you know with PCOS.

The most common PCOS symptoms include the following:

- ✓ Weight gain, especially around the tummy.
- ✓ Increased hairiness on the face and other regions (called *hirsutism*).
- ✓ Male pattern baldness or thinning hair.
- ✓ Oily skin with acne.
- ✓ Absent or irregular menstrual cycles which leads to infertility.

For detailed information on the symptoms of PCOS, go to Chapter 2.

## *Weight gain*

Not being able to control weight gain is often the most distressing symptom in PCOS, and unfortunately the rate of obesity in women with PCOS is 50 per cent. If you have found that you are gaining weight easily, you are likely to find that it tends to go on around your middle, a condition that your doctor or specialist calls 'central adiposity'.



The symptoms of PCOS are more severe if you gain a lot of weight; as you lose weight, the symptoms diminish. If you are an overweight woman with PCOS even a modest weight decrease of 5 per cent leads to:

- ✓ A decrease in your insulin level.
- ✓ An improvement in your menstrual cycle (or acts as a trigger for it to start again).
- ✓ Reduced testosterone levels leading to reductions in hirsutism and acne.

## *Emotional manifestations*

If you have PCOS you are more likely to suffer from depression, anxiety, irritability, and mood swings. In fact it can seem as if you have premenstrual syndrome (PMS); the difference is that in PCOS, the symptoms don't just appear before a period.

The emotional symptoms that accompany PCOS may be due to one, or all, of the following:

- ✓ Hormone disturbances.
- ✓ A host of upsetting symptoms caused by PCOS.
- ✓ The stress of living with a long-term medical condition.

Another emotional manifestation of PCOS is the tendency toward eating disorders. A link exists between having an abnormal eating behaviour and PCOS. Binge eating and bulimia is more common than in the general population: 1 per cent of women have bulimia in the general population, whereas 6 per cent of women who have PCOS are bulimic. Go the section 'Looking after the inside' for basic info on dealing with an eating disorder; for detailed information about these disorders and PCOS, head to Chapter 2.

## *Insulin resistance*

You may be told that you have insulin resistance if you have PCOS, but this is not something you can see, although it does lead eventually to physical conditions such as diabetes and heart disease. Insulin resistance, with the resultant high level of circulating insulin, is very common in PCOS. This condition is due to the muscles becoming resistant to the action of insulin, so that more insulin has to be pumped out to have any effect. Insulin resistance is more likely if you gain weight.

One of insulin's functions in your body is to help your cells take up glucose which is used to create energy. If you're insulin resistant, not only do you end up feeling tired and lacking in energy, but also, because your cells can't utilise the glucose in the blood, blood sugar levels rise, resulting in type 2 diabetes. Type 2 diabetes is known as a silent but deadly condition because its symptoms can go unnoticed for many years, by which time damage to the eyes and kidney may have occurred and risk factors for heart disease increased.

Insulin resistance also leads to the development of abnormal levels of fats in the blood with rising levels of harmful cholesterol increasing your chances of having heart disease or a stroke. Again you don't know you have high cholesterol unless you have a blood test.



Insulin resistance is the root of most symptoms in PCOS. When insulin resistance is present, normal amounts of insulin are insufficient to bring down blood glucose levels, which are a result of consuming carbohydrates. Your pancreas has to make even more insulin to compensate, which leads to a rise in the amount of insulin circulating through your body. High insulin levels mean that:

- ✓ Your body stores more fat resulting in weight gain.
- ✓ Your ovaries produce more testosterone which has an adverse effect on the reproductive hormones that control the formation of follicles in the ovary. The result is that your menstrual cycle may become irregular or your periods may even stop altogether.

- ✓ Extra testosterone causes more free testosterone to circulate in your body causing acne and hirsutism.

## *Metabolic syndrome (syndrome X)*

You may well ask what on earth this syndrome is. Here's a quick definition: Metabolic syndrome is a cluster of conditions that often occur together, including obesity, high blood sugar, high blood pressure, and high levels of harmful blood fats, and it puts you at an increased risk of getting heart disease and type 2 diabetes.

If you have PCOS, you have an eleven fold increased risk of getting metabolic syndrome. (Fortunately, your risk of getting it decreases if you put into practice some of the advice in this book!). The diagnosis of metabolic syndrome (also known as syndrome X) is made when you have at least three of the following going on in your body:

- ✓ Abdominal obesity (excessive fat tissue in and around the abdomen).
- ✓ Abnormal blood fat levels, which includes high triglycerides, low HDL cholesterol (good cholesterol), and high LDL cholesterol (bad cholesterol). These together cause plaque build-ups in the artery walls.
- ✓ High blood pressure.
- ✓ Insulin resistance where the body can't properly use insulin and more is pumped out to compensate.
- ✓ An increase in certain substances in the blood which increase the likelihood of blood clots.
- ✓ A rise in substances in the blood (with complicated sounding names such as C reactive protein!) that cause inflammation leading to an increased risk of damage to the artery wall and an increased risk of cardiovascular disease.

## *PCOS through Life Stages*

Unless kept in check, PCOS can have an influence on each of your reproductive stages throughout your life. PCOS may be diagnosed at different life stages; for some women it may not be diagnosed until the menopause. At different life stages, the symptoms that lead to a diagnosis of PCOS can differ. Table 1-1 lists what kind of symptoms can be expected at each life stage.

<b>Table 1-1</b>	<b>PCOS and Life Stages</b>
<i>Life Stage</i>	<i>Most Notable Symptoms</i>
Puberty	Early menarche (the start of your periods).
	Acne.
	Weight gain.
	Irregular periods or periods that start then stop altogether.
Adulthood	Weight gain.
	Continued acne and hirsutism.
	Irregular or absent periods.
	Inability to conceive.
During pregnancy	PMS type symptoms.
	Greater tendency towards developing high blood pressure.
	Developing gestational diabetes (diabetes that develops during pregnancy).
	Higher rate of miscarriage.
Menopause	Late menopause.
	Increased tendency to put weight on around the middle.
	Developing type 2 diabetes, high cholesterol, and high blood pressure.
Post menopause	A tendency towards weight gain, insulin resistance, metabolic syndrome, and type 2 diabetes.
	Other symptoms probably diminish.

## *The Three-Pronged Attack*

Unfortunately no cure exists for PCOS, but you can control the symptoms so that the effect of PCOS on your body is minimal. Basically treatment involves the following:

- ✓ Improving insulin sensitivity. This improvement prevents the whole cascade of later problems such as developing type 2 diabetes and abnormal blood fat levels which can give rise to heart disease.
- ✓ Restoring normal ovulation and hence fertility.
- ✓ Stopping the male hormone, androgen, levels in the blood from rising.

Treatment of PCOS therefore involves the three-pronged attack of:

- ✓ **Diet:** using a weight control diet if necessary with low-GI advice.
- ✓ **Exercise:** encouraging you to be more physically active on a day-to-day basis and throughout the day.
- ✓ **Emotional well-being:** If you lack motivation, or are moody and/or depressed, you need to also incorporate some techniques for mood lifting and motivation.



Even if you are normal weight, research has shown that if you have PCOS, you still have a tendency to have raised blood concentrations of insulin compared to women without PCOS of the same weight. Eating a low-GI balanced diet and being physically active is therefore important, even if you don't have a weight problem.

Treatment should be tailored to you and the symptoms you are experiencing, but it should also take into consideration whether you are aiming to get pregnant or not.

If you are not imminently planning a baby, treatment needs to focus on:

- ✓ Correcting abnormal hormone levels.
- ✓ Reducing weight (or maintaining a healthy weight if you aren't overweight).
- ✓ Managing cosmetic concerns, such as increased hairiness where you don't want hair, and the loss of hair on your head where you do want it!

If you're hoping to get pregnant, treatment needs to focus on:

- ✓ Reducing weight, as a healthy diet with increased physical activity allows more efficient use of insulin and decreases blood glucose levels and may help you to ovulate more regularly.
- ✓ Promoting ovulation with ovulation induction medications.

Maximising your health before you conceive and normalising blood sugar and blood insulin levels also make sure that, if you do conceive, there's less risk of miscarrying or having a baby that develops problems.

## *Diet under the spotlight*

The high insulin level commonly found in PCOS sufferers is to blame for the tendency to gain weight and the inability to lose it. That's why, when you have PCOS, your diet is of vital importance because you have to balance several factors: calorie intake (to avoid excess weight gain), carbohydrate intake (to stabilise blood sugars), and so on. Therefore, a PCOS-friendly diet helps you to:

- ✓ Lose weight to get to a healthy weight, or to maintain a healthy weight.
- ✓ Reduce insulin resistance and the risk of developing type 2 diabetes.
- ✓ Reduce the risk of cardiovascular disease.
- ✓ Ensure a balanced and nutritionally adequate dietary intake.

The following sections explain the basic components of the low-GI diet and what you need to know to lose weight (or maintain a healthy weight). For detailed information on the low-GI diet and how to lose weight successfully, head to Part II.

### *Know your GI (glycaemic index)*

Insulin resistance (a key symptom of PCOS) results in high circulating blood levels of insulin, especially when you eat carbs that break down very rapidly resulting in glucose entering the bloodstream very rapidly (glucose is the most common breakdown product of starchy and sugary food). To avoid stimulating a high release of insulin, you want to avoid the foods that result in the biggest increases in blood glucose. That's where the glycaemic index (GI) comes in.



If you have PCOS, you need to eat meals based on low-GI foods, with medium-GI foods taken in moderation and high-GI foods eaten only occasionally. Table 1-2 lists a few examples of low-, medium- and high-GI foods (for more detailed lists, go to Chapter 4).



The glycaemic index (GI) is a method of expressing the glycaemic response of individual foods in relation to the glycaemic response of glucose. Glucose is given a GI of 100 so that other foods are given appropriate numbers relative to this. For example, spaghetti is given a GI of 41. Only carbohydrate containing foods can have a GI value, so for example meat, cheese, and some green vegetables aren't given a GI value.



## Diets to avoid

Avoid diets that restrict the intake of certain groups of foods or ban them completely. Avoid diets that advocate you take certain supplements too. Such diets are likely to be unbalanced. Low-carb diets are often advocated in popular books and Web sites for PCOS. These diets aren't recommended because they:

- ✓ Are high in fat and so are likely to raise your cholesterol level, putting you at a higher risk of heart disease.
- ✓ Tend to be high in protein which may put you at a higher risk of kidney problems, especially if you already have diabetes.
- ✓ Cause you to produce more ketones from the breakdown of fats. As well as making you feel awful and causing your breath to smell, if you do fall pregnant, you can damage the baby with such high ketone levels in the blood.

**Table 1-2**

**GI Ranking of Foods**

<i>Food</i>	<i>GI Ranking</i>
Cornflakes	High
Weetabix	Medium
All Bran	Low
Porridge	Low
White Rice	High
Basmati Rice	Medium
White/Wholemeal bread	High
Mixed grain bread	Low
Pasta	Low
Potato, mashed	High
New potatoes, boiled	Medium
Sweet potato	Low
Baked beans	Low
Apples	Low
Grapes	Low

### ***Balanced eating***

Watching the GI value of food shouldn't be the be-all and end-all of eating for PCOS. Here are some other diet bits you need to keep an eye on:

- ✓ Establish a pattern of regular meals and snacks.
- ✓ Avoid low-carb diets as they don't do your overall health much good.
- ✓ Eat a varied diet to ensure that you have the complete range of vitamins and minerals that your body needs.
- ✓ Fat is twice as high in calories gram for gram as carbs or protein, so don't pile on the spreads, oils, butter, cheese, or mayo, and avoid pastry. The fat you do eat should be the unsaturated type.
- ✓ Salt and alcohol intakes should follow healthy eating and drinking guidelines (see Chapter 3 if you're not sure what the guidelines are).
- ✓ Don't forget to include some oily fish (like mackerel and sardines) in your diet every week.
- ✓ Your requirement for calcium may be higher than expected because of PCOS; so if you're concerned that you don't have much milk, milk products, or alternatives such as calcium fortified soya products, you may need to take a calcium and vitamin D supplement.

### ***Weight loss practicalities***

You can measure your weight in three ways:

- ✓ Body mass index (BMI). You need to aim for a normal Body Mass Index of between 18.5 and 25. BMI is covered in Chapter 5.
- ✓ Body fat percentage. This measurement should be around 20–30 per cent. (You can buy scales for home use that measure this for you.)
- ✓ Waist circumference. For women, a waist circumference measure over 80 centimetres (31.5 inches), regardless of your height or body type, indicates an increased risk of developing heart disease, diabetes, blood pressure, and other related diseases.

If you want to lose weight, you should be aiming for a calorie allowance of around 1500 cals a day, which should allow you to lose about half a kilogram to one kilogram (1 to 2 pounds) a week, depending on how active you are. You also need to make sure that your portion sizes are reasonable – use a smaller plate so that you can't actually serve yourself a meal that is overly large. A healthy dietary plan involves having three meals with two small snacks. For great tasting low-GI recipes, go to Part III.

## *Get physical*

The good news about getting more active is that it offers huge benefits to symptom reduction in PCOS. The benefits extend well beyond PCOS and into many other areas from cancer prevention to lifting moods.

### *Benefits of exercise*

The reasons to exercise if you have PCOS (and for general health) include the following:



- ✓ Helps maintain weight loss and allows you to have a few more calories while on a weight loss diet.

The ideal combination is to lose weight by following a sensible weight control diet along with a minimum of half-an-hour physical activity a day.
- ✓ Improves the relative amount of muscle to fat and improves overall body shape.
- ✓ Improves insulin sensitivity.
- ✓ Increases the levels of good cholesterol in the blood (HDL).
- ✓ Reduces blood pressure.
- ✓ Decreases the risk of developing heart disease and diabetes.
- ✓ Improves bone density and so reduces your risk of developing osteoporosis (brittle bones).
- ✓ Improves your psychological health, such as self-confidence, well-being, and self-image.



To maximise the advantages of doing exercise you need to combine aerobic exercise (which causes you to get a bit breathless) with some resistance training (such as lifting some weights), and some stretching and flexibility work to maintain joint and muscle strain-free movement. Chapter 10 explains what you need to know.

### *Tips for exercising success*

There's a high drop out rate among people who take up exercise. To avoid this drop off yourself, and make sure that you reap the maximum benefits from exercise, plan ahead and bear a few things in mind:

- ✓ Don't be too ambitious or you'll never keep it up!
- ✓ Plan to do exercise that fits into your lifestyle and that you enjoy doing.

- ✓ If time is a barrier, incorporate exercise into your daily routine. For example, if you normally pop to the shops most days to top up on your food shopping, think about walking or cycling there instead.
- ✓ You don't have to join an expensive gym: Do exercise you can perform from home, or just go out for a brisk walk, cycle, or jog.
- ✓ The amount of moving about you do throughout the day is as important as any formal exercise session you undertake. So think about how you can build in more activity throughout the day.

## *Looking after the inside*

Knowing about what wonderful results can be achieved by diet and exercise is all very well, but if you are unable to take the advice due to an overload of stress, anxiety, or depression, having an encyclopaedic knowledge of PCOS is going to do you a fat lot of good. In order to be able to act on your knowledge about what you should do, you need to feel fired up, ready for action, and on a fairly emotional even keel.



An important key to getting well is to treat yourself kindly. Recognise that PCOS is a major stressor in your life and give yourself permission to work through the feelings associated with it. If you are to diminish the symptoms associated with PCOS you must also recognise the emotional effects of PCOS.

PCOS often leads to feelings of anxiety, low self-esteem, and loss of control. The emotional effects of PCOS can start in the teenage years when the symptoms such as weight problems, excess facial or body hair, and acne, start to emerge. To make matters worse, the journey to a diagnosis can be long and painful. Once a diagnosis is made, it can be a relief to know that the symptoms aren't just in your mind. But then you're left with the stress of knowing that you have to cope with a long-term condition. Empowering yourself by knowing what PCOS is about and what you can do about it so that you are in control can help to lessen the emotional frustrations.

### *Dealing with emotional symptoms*

One of the best ways to deal with the emotional fallout of PCOS is to find support from people who understand what you are going through. Online support groups, national associations with local chapters, group meetings, and many other ways are available to get to know people who are struggling with the same problems you have. When you feel isolated you are more likely to experience depression. If the depression is serious you may need to see a counsellor.

Chapter 12 explains in more detail the effects of PCOS on your emotional well-being and offers strategies and advice on how to avoid or ameliorate the most common emotional pitfalls.

### ***Mood and motivation***

Vicious circles are common in PCOS. Getting into shape and reducing the symptoms can seem such an uphill struggle that it may seem easier just to give up and give in. But in doing this you feel more and more depressed and feel that extreme actions are required. However extreme actions just set you up for failure once more and the circle continues. To offset a complete relapse you should bear the following in mind:

- ✓ Tripping up from time-to-time is inevitable. When it happens, pick yourself back up and set yourself back on the road.
- ✓ Start things gradually.
- ✓ Make sure that the changes you make can be incorporated easily into your lifestyle and that you can keep them up long term.
- ✓ Set yourself smaller mini goals along the way and reward yourself with something other than food each time you achieve a mini goal.



Keep a food diary and an exercise diary. If keeping a diary permanently is too much, just fill it in for a week initially, and then from time-to-time when you feel your resolve is slacking. Include keeping a track of your moods too. A diary can remind you what you were doing when things were going well, but it can also help bring things to light when things aren't going so well.

### ***Eating disorders***

If you have a distorted pattern of thinking about food and behaving around food, you may have an eating disorder. If you have an eating disorder you'll also have a pre-occupation and/or obsession with food and your use (or indeed non-use) of food is likely to be out of control.

Any eating disorder requires professional help and usually cognitive behavioural therapy (CBT) is given. Acknowledging what the triggers are to this behaviour is important – they are frequently mood-based, especially feelings of low self-esteem. CBT is given alongside dietary advice aimed at restoring normal meal patterns of three reasonable meals a day plus snacks if appropriate. This restoration of regular meal patterns is to break the cycle of bingeing then purging or starving.

## Trying Out Other Stuff

Paying attention to your diet, your exercise levels, and your emotional health are things that you can do yourself, with a bit of support from friends, family, and some relevant experts such as personal trainers and dieticians. However, there may be times when you feel this just isn't enough and you may have to get extra support, as outlined in the following sections.

### Medication

As well as taking on board the diet, exercise, and motivational advice in this book, it may be that your doctor feels you also need some medication to help reduce your symptoms, as not doing so quickly can put you at risk of developing other diseases such as diabetes, heart disease, or possibly even endometrial cancer (cancer of the womb lining).



You should only take medication that is prescribed by your doctor or specialist especially for you.

#### *For insulin resistance*

Although not favoured by all doctors and PCOS experts, many still use metformin, an insulin sensitising drug, to treat PCOS. The drug seems to help with the following PCOS symptoms:

- ✓ Menstrual regularity and so improvements in fertility.
- ✓ Androgen level reduction leading to reduction in hirsutism and acne.
- ✓ Weight loss.

#### *For acne and hirsutism*

If you have hirsutism and/or acne, you may be prescribed a combined oral contraceptive pill containing the anti-androgen, progesterone. 'Yasmin' and 'Dianette' are two examples of pills containing progesterone. If a contraceptive pill is not required, you may just get prescribed some anti-androgenic medication such as 'Spironolactone' or cyproterone acetate.

#### *For fertility problems*

Lifestyle changes are the best way to address fertility problems, but if some help is needed, you may be prescribed a drug called 'clomid' (clomiphene citrate), often with chorionic gonadotrophin (a reproductive hormone). The two together help the follicles in the ovary to develop properly and for ovulation to occur. If you don't ovulate, no egg is released to be fertilised by the sperm.

### *For weight loss*

If you are finding it tough to lose weight, despite having tried to do so on numerous occasions, and/or your current weight is endangering your health, your doctor may put you on one of the three anti-obesity drugs that are on the market. You need to be carefully monitored while you are on such medication, as these drugs are not without some side effects.

## *Supplements and herbals*

When you read up about PCOS, or surf the Web on the subject, you find that a whole plethora of herbal remedies and supplements are recommended for PCOS. Go to Chapter 11 for more information about supplements and herbals.



Be wary of the advice you find. Supplements and herbal remedies can be harmful, especially if you decide to take them without the backing of a professional medically qualified practitioner. Before you take any herbal or supplement, consult your doctor.

### *Supplements*

The following list explains what supplements you can safely take, unless advised otherwise by a doctor or dietician:

- ✓ **Calcium and vitamin D:** Take these supplements if you don't include much milk or dairy products (or their alternatives such as fortified soya products) in your diet.
- ✓ **Iron supplements:** Iron supplements may be necessary if you have heavy periods and have been found to be anaemic.
- ✓ **A multivitamin and mineral supplement:** If you know your diet has been unbalanced for a while, you may need multivitamin and mineral supplements. Only take a supplement that provides up to the recommended intake of the nutrients and choose one that includes chromium.
- ✓ **Folic acid:** If you are planning on getting pregnant, you want to make sure that you get enough folic acid. The dose advised is 400 micrograms per day.

### *Herbals*

As far as herbals go, the really strong contender as being truly effective in PCOS is *Agnus Castus*. Other herbals may have an effect but so far, the evidence supporting them is still weak.

Agnus Castus is available as a dried berry extract in tablet, capsule, or liquid form. The active ingredients are compounds similar in structure to sex hormones that act on the pituitary gland in the brain to affect ovarian hormonal production, helping to normalise menstruation patterns.

## *Alternative therapies*

Natural remedies should only be tried if you follow the advice of an experienced qualified practitioner with an interest in women's health including fertility. At present, no clinical trials have been completed on alternative therapies in this area. However, you can try some treatments that may help you to relax and which should be relatively safe, including massage and reflexology. Chapter 11 discusses the alternative therapies – both good and bad.