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Chapter **1**

Sensible Solutions for a Difficult Condition

This chapter can help you get on the right course if you suffer — or suspect that you suffer — from polycystic ovary syndrome (PCOS); or if you have a friend, relative, or partner who has the condition and you want a quick overview of the most important things that you need to know about PCOS.

This chapter gives an overview of the entire book, so you get a feel for what PCOS really is, as well as treatments and lifestyle changes aimed at reducing the symptoms.

Note: PCOS may be renamed in the future to *metabolic reproductive syndrome*, or something similar, so as to better reflect its true nature as a complex, multi-system endocrine disorder, rather than primarily a gynecological condition focused solely on ovarian cysts. Experts believe there is a need to more accurately represent the underlying pathophysiology and systemic implications of the condition, encouraging a more comprehensive approach to management and research. The new name is expected to be finalized and adopted by the end of 2026, following a global consensus process. The official name change within

the International Classification of Diseases (ICD) could take a few more years after that.

Understanding PCOS

Polycystic ovary syndrome (PCOS) is the most common ovarian-function disorder in premenopausal women. Yet, until recently, it was one of the least-understood conditions. Research into the causes and symptoms of PCOS has shown it to have consequences more far-reaching than the obvious physical symptoms; the long-term effects extend into menopause and beyond.

Defining the condition

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

- » *Oligo-ovulation* (irregular ovulation) or *anovulation* (a complete lack of ovulation)
- » Clinical or biochemical signs of high *androgen* (male hormone) levels
- » *Polycystic ovaries*, which means ovaries that have many small cysts (normal ovaries have five or six *follicles*, small, fluid-filled sacs that contain immature eggs), whereas polycystic ovaries have ten or more



TECHNICAL
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The hormones involved in controlling periods and, ultimately, reproduction, are produced in the pituitary gland, located in the brain. In women who have PCOS, two of these hormones — luteinizing hormone (LH) and follicle-stimulating hormone (FSH) — are produced in abnormal proportions. The imbalance of these two hormones prevents the follicles in the ovary from developing properly: The follicles tend to remain small and don't mature enough to release an egg. As a result, a string of small follicles, or cysts, form on the ovary, giving rise to the characteristic polycystic ovary that gives the disorder its name.



REMEMBER

Polycystic ovaries alone can't lead to a diagnosis of PCOS. If the symptoms of PCOS do develop, that marks the change from simply having symptom-free polycystic ovaries to having PCOS. Around 20 percent of women have polycystic ovaries but no symptoms of PCOS.

PCOS STATISTICS

The rates of PCOS appear to be increasing, which is most likely related to the rise in obesity rates in the United States. Around 68 percent of all adults in the United States are now overweight or obese, and, even more alarming, 20 percent of children ages 6 to 11 and 18 percent of teens are overweight. The potential increase in being overweight, even in children, could herald the development of even more women developing PCOS in the future.

These PCOS statistics offer more on how this disorder affects women of nearly all ages:

- Around 5 to 6 million American women and 110 million women worldwide have PCOS.
- PCOS can start in girls as young as age 11.
- About 8 to 13 percent of American women of childbearing age have PCOS.
- Around 50 percent of women who have PCOS don't know that they have this condition.

IT'S IN THE GENES

Researchers in the United States studied 215 mothers of women who have PCOS and compared them with mothers of women who didn't have PCOS. Results showed that mothers of women who have PCOS themselves had some of the symptoms of PCOS, including high cholesterol levels, insulin resistance, and other metabolic abnormalities associated with PCOS.

In addition, a high proportion of these mothers who had daughters who have PCOS reported that they had had menstrual irregularities. Those mothers who reported menstrual problems had higher male hormone levels than those who didn't report irregularities.

All this data points to the fact that the mothers of daughters who have PCOS have a much higher incidence of PCOS symptoms than mothers of non-PCOS daughters. Whether the mothers were diagnosed with PCOS or not, the data suggests that PCOS has a genetic tendency.

Knowing you're at risk

Researchers haven't yet identified the exact cause of PCOS, but certain conditions do predispose women to developing it:

- » **Being obese, especially if obesity began before puberty:** Being overweight before puberty appears to increase male androgen levels.
- » **Elevated insulin levels:** High insulin levels stimulate increased male hormone production.
- » **Genetics:** You're at increased risk if your mother or sister has the condition or if your father has female family members who have PCOS.



TECHNICAL
STUFF

Here are the stats showing the genetic tendency toward PCOS (you can read more about this link in the sidebar “It’s in the genes,” in this chapter):

- » Twenty to forty percent of PCOS sufferers have mothers who also have PCOS.
- » Women may also inherit the tendency to develop PCOS from their father.
- » One study showed that 20 percent of women who had PCOS had relatives on both sides of their family who had PCOS.
- » In another study, 77 percent of women who had PCOS had a close relative who also had PCOS; 50 percent had a mother or sister who had the disorder, and 25 percent had a maternal or paternal aunt who had PCOS.
- » As many as 20 to 30 percent of women who have PCOS are at normal weight, a condition called *lean PCOS*.

Additionally, studies have shown that women with PCOS have multiple genes associated with insulin resistance, abnormal ovarian and adrenal production, and other enzyme abnormalities.

Research hasn't identified a single gene responsible for PCOS. Developing PCOS may be a complex issue that involves genetic, environmental, and lifestyle components, such as early diet.

The most common PCOS symptoms include the following:

- » **Weight gain, especially around the belly:** Turn to Chapter 2 for more on the causes and effects of weight gain in women who have PCOS, and check out Chapter 5 for help with losing weight.
- » **Increased hairiness on the face and other regions (called *hirsutism*):** Excess *androgens* (male hormones) cause these symptoms. We talk more

about the effects and treatments of excess hair where you don't want it in Chapter 2.

- » **Male pattern baldness or thinning hair:** Chapter 2 also talks about this symptom, another side effect of increased male hormones.
- » **Oily skin with acne:** Another side effect of androgen production that we cover it in greater detail in Chapter 2.
- » **Absent or irregular menstrual cycles:** This condition can lead to infertility. You can find out more about the issues of the menstrual cycle in Chapter 10 and ways to improve fertility in Chapter 11.
- » **Insulin resistance:** Being *insulin resistant* means that your body can't use insulin efficiently. This condition leads to high circulating blood levels of insulin (called *hyperinsulinemia*). High levels of insulin in the blood may cause PCOS symptoms to worsen gradually. If you have insulin resistance, you have a greater chance of being diagnosed with PCOS and also developing type 2 diabetes. See Chapter 3 for an in-depth discussion of insulin resistance and its role in PCOS.

Taking Your First Steps toward Living with PCOS

If you suspect that you have PCOS, your first reaction may be panic, followed by anger or depression. Without proper care, PCOS can impact nearly every aspect of your life, so fear, anxiety, and worry are normal reactions — but don't hold onto them for too long! Be proactive in your care by taking positive steps toward improving your health and finding a medical care partner who can guide you on the way.

But also remember, first and foremost, that this is *your* medical condition and *your* life. No one has more motivation or more to gain from getting PCOS under control than you do. Take these first steps:

- » **Find a knowledgeable medical practitioner.** This may or may not be your current family doctor or gynecologist. Finding someone who has a real interest in PCOS may take some sleuthing and involvement in support groups (group members normally have the inside track on who's good at treating the condition), which leads to the next point.



TIP

- » **Get involved with a support group.** If you can find support groups in your area, tap into their resources because they're your best source for competent and concerned medical care. If you have no local support groups, connect with people online. Chapter 16 has a list of resources on PCOS, including helpful websites if you don't have any active groups in your area (or you're not the joining type).
 - » **Do your research.** Some practitioners may not be up on the latest info on PCOS, so make sure you are. Read everything that you can find online, particularly from reputable organizations such as the American College of Obstetricians and Gynecologists (www.acog.org), The American Association of Gynecologic Laparoscopists (AAGL [.org](http://www.aagl.org)), Mayo Clinic (www.mayoclinic.com), or the Polycystic Ovarian Syndrome Association (www.pcosupport.org).
- Take with a grain of salt anything that you read on lesser-known sites — the Internet is home to a number of charlatans with questionable medical practices. Check out applicable books from your library, but pay attention to the publication dates to make sure you're getting the latest info. Invest in a few well-recommended books (you're on your way with this one!).
- » **Stay active and involved with life.** PCOS isn't life-threatening, but it can cause dangerous complications if it gets out of control. Letting PCOS become your whole life is as unproductive as ignoring it completely.
 - » **Find ways to cope with stress.** After you're diagnosed, you may feel some relief because you have confirmation 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. Empower yourself by knowing what PCOS is and what you can do about it so that you're in control — this strategy can help to lessen the emotional frustrations.

Planning a 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. To decrease symptoms of PCOS, you need to tackle the following issues:

- » **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. (See Chapter 3 for the details on how insulin resistance develops and how it causes many of the symptoms associated with PCOS.)

- » **Restoring normal ovulation, which helps restore normal fertility:** Chapters in Part 3 tell you how to improve menstrual symptoms and increase your chances of getting pregnant.
- » **Stopping androgen levels in the blood from rising:** Elevated androgen levels can cause the physical symptoms of PCOS, such as acne and hairiness, in addition to interfering with hormones responsible for fertility. (See Chapter 2 for more in-depth detail on androgen levels and PCOS.)

Although medications may help, you also can do your part by mounting a three-pronged attack with the following tools at your disposal:

- » **Diet:** Follow a diet that allows a steady trickle of *glucose* (a sugar that the body uses for energy) into the bloodstream. Choose wholegrain, high-fiber foods, plenty of fruits and vegetables, and a minimum of processed and sugary foods. See Chapter 4 for more on a PCOS-friendly diet.
- » **Exercise:** Strive to be more physically active on a day-to-day basis and throughout the day. Exercise both improves mood and helps with weight loss. See Chapter 6 for more on getting and staying active.
- » **Emotional well-being:** If you lack motivation or are moody and/or depressed, try some techniques for mood lifting and motivation. Maintaining a positive attitude can have a positive effect on your physical, as well as your mental, health. Chapter 9 offers ways to keep your spirits up while you deal with PCOS, and Chapter 15 has tips on being mindful of your eating habits.



TIP

Even if you're at a normal weight, research shows that if you have PCOS, you still have a tendency to have higher blood concentrations of insulin compared to women of the same weight who don't have PCOS. So, eat a balanced diet that releases glucose in a steady way and stay physically active, even if you don't have a weight problem.

Your doctor, health practitioner, or a dietitian, and you need to tailor your treatment to your lifestyle and the symptoms that you're experiencing; but you all also need to take into consideration whether you want to get pregnant. If you're not planning on having a baby just yet, treatment needs to focus on the following issues:

- » Correcting abnormal hormone levels
- » Losing 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

- » Losing weight to help you ovulate more regularly (because a healthy diet with increased physical activity allows more efficient use of insulin and decreases blood glucose levels, both of which can help regulate female hormone levels responsible for a normal menstrual cycle)
- » Promoting ovulation with ovulation-induction medications

Maximizing your health before you conceive and normalizing blood glucose and blood insulin levels help ensure that, if you do conceive, you have less risk of miscarrying or having a baby with birth defects, preterm delivery, or any of the other problems outlined in Chapter 12.

Putting diet under the spotlight

The high insulin levels 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. You have to balance various factors: calorie intake (to avoid excess weight gain), the types of carbohydrates that you eat (to stabilize blood sugars), keeping saturated fat and salt intake down, and so on.

A PCOS-friendly diet helps you to

- » Maintain a healthy weight or lose weight so that you can achieve 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.

For detailed information on developing a PCOS-friendly diet and how to lose weight successfully, head to Chapters 4 and 5.



TIP

Avoid diets that restrict the intake of certain groups of foods or ban them completely. Also, avoid diets that advocate that you take certain supplements because such diets probably are unbalanced (if you're eating a balanced diet, you probably don't have a need for supplements, except for ones you have been prescribed by a health practitioner). Low-carb diets are often advocated in popular books and websites for PCOS, but most doctors and dietitians don't recommend them for a variety of reasons. We devote Chapter 13 to helping you identify signs of diets that we recommend you avoid.

Getting 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 improving your mental state. Chapter 6 tells you everything that you need to know about the benefits of exercising, including different ways to exercise and how to vary your routine.

Benefits of exercise

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

- » To help maintain weight loss and allow 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 of physical activity a day.
- » To improve the relative amount of muscle to fat, as well as overall body shape.
- » To improve insulin sensitivity.
- » To increase the levels of high-density lipoprotein (HDL), or “good” cholesterol, in the blood.
- » To reduce blood pressure.
- » To decrease your risk of developing heart disease and diabetes.
- » To improve bone density, reducing your risk of developing osteoporosis.
- » To improve your psychological health, such as self-confidence, well-being, and self-image.



TIP

To maximize 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 weights) and some stretching and flexibility work to maintain strain-free movement. Chapter 6 explains what you need to know about the benefits of physical activity and how best to do it.

Tips for exercising success



TIP

People who take up exercise have a high dropout rate. To avoid becoming one of these statistics, plan ahead and keep a few things in mind:

- » **Don't be too ambitious, or you can never keep it up.** Instead of swearing that you'll swim for 30 minutes, run for 30 minutes, and bike for 30 minutes every day, shoot for something manageable, like a 30-minute walk.

- » **Plan to do a form of exercise that fits into your lifestyle and that you enjoy doing.** If getting to a gym is difficult for you, choose an exercise that you can do at home. When in doubt, opt for walking — you can do that anywhere, and you don't need anything other than a good pair of shoes.
- » **If you don't have time to exercise — and who ever does, unless they're motivated enough to make time for it? — incorporate exercise into your daily routine.** For example, if you normally stop in at the grocery store to pick up a few things every day, think about walking or even bicycling there, instead of driving or taking the bus.



REMEMBER

The amount of moving about that you do throughout the day is as important as any formal exercise session that you do. So, think about how you can build in more activity throughout the day (take the stairs instead of the elevator, park far away from the mall entrance, and so on).

Looking after the inside

Knowing the wonderful results that you can achieve by diet and exercise can help motivate you, but if an overload of stress, anxiety, or depression is preventing you from following through, having an encyclopedic knowledge of PCOS doesn't really do you a lot of good. To act on your knowledge about what you should do, you need to feel empowered with the knowledge that you understand your condition, feel ready to take action, and feel on a fairly even keel, emotionally speaking.



REMEMBER

An important key to getting well is to treat yourself kindly. Recognize that PCOS is a major stressor in your life and give yourself permission to work through the feelings associated with it. To diminish the symptoms associated with PCOS, you must also recognize the emotional effects of PCOS, accept them, and figure out how to deal with them in a healthy way.

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, you may face a long and painful journey to a diagnosis.

Chapter 9 explains in more detail the effects of PCOS on your emotional well-being and offers strategies and advice on how to avoid or lessen the effects of the most common emotional pitfalls.

Trying Medications and More

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 dietitians. (We discuss these factors in the section “Planning a Three-Pronged Attack,” earlier in this chapter.) However, sometimes you can’t control all your PCOS symptoms with just diet and exercise, so in this section, we discuss other ways you can get extra support.

Medications

Even if you get to work on the diet, exercise, and motivational advice in this book, your doctor may think that you also need some medication to help reduce your symptoms, especially if you’re at risk of developing other diseases, such as diabetes, heart disease, or possibly even *endometrial cancer* (cancer of the uterine lining).



REMEMBER

Only take medication that your doctor or specialist prescribes especially for you.

Depending on your symptoms, medications can play an important part in your PCOS treatment. If you’re having trouble getting pregnant, medications often become a necessity. Medications also can help with hair loss and acne, as well as insulin resistance (and treating insulin resistance can decrease your chance of developing diabetes, as well as long-term complications such as high cholesterol and heart disease). Chapter 7 is loaded with information on the types of medications used to treat aspects of PCOS.

When you read up on PCOS, you may find that some authors recommend a whole plethora of herbal remedies and supplements to help treat PCOS. Most of the claims for their efficacy cannot be substantiated. Go to Chapter 8 for more information about supplements and herbals.



WARNING

Be wary of advice from unproven sources. Supplements and herbal remedies are not regulated as strictly as drugs by the FDA, and some 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.

Alternative/complementary therapies

Try natural remedies only if you follow the advice of an experienced, qualified practitioner who has an interest in women’s health, including fertility. At present, no thorough clinical trials have been completed on alternative therapies which result in them being allowed to make outright claims that they work in this area.

However, you can try some treatments that may help you relax and that should be relatively safe, including acupuncture, massage, and reflexology. Chapter 8 discusses alternative therapies — both good and bad.

What about surgery?

Medical professionals rarely recommend any form of surgery to treat PCOS. In some cases, however, a technique known as *ovarian drilling* may help women who are trying to get pregnant but who don't respond to medications given to regulate menstrual cycles and start ovulation. During this procedure, a doctor punctures a small hole in the ovary by using an electric needle or laser that destroys part of the ovary. This is done under anesthesia. In most cases, drug therapy is tried before ovarian drilling would be considered.

Ovarian drilling can help decrease male hormone levels by reducing the number of cells producing those hormones; but the effect is usually short-lived, and the procedure can cause scarring in the ovary and negatively affect fertility, which is why doctors use it only as a last resort, if even then.

Living a Lifetime with PCOS

Unfortunately, menstrual irregularities and the metabolic symptoms (such as insulin resistance and abnormal blood fat levels) caused by PCOS can lead to diseases that persist throughout life. Also, unfortunately, neither the removal of ovaries nor going through menopause seems to eliminate the symptoms. However, you can look for a light at the end of the tunnel: the fact that by adopting a healthy lifestyle, you can reduce most symptoms to levels that don't have a significant impact on your daily living.



REMEMBER

No cure exists for PCOS, but in many cases, you can control the symptoms. Treatment involves breaking the vicious cycle of insulin resistance and being overweight, which leads to even higher insulin levels and triggers worsening PCOS symptoms. Remember, too, that not all women who have PCOS are obese or even overweight — you can have PCOS symptoms, even when you're at a normal weight.



TIP

If you know that PCOS runs in your family (it may be an inherited condition), you can try to prevent it from developing in the first place or minimize its effects by staying within the right weight range. A ratio called the body mass index (BMI) can provide a measure of your ideal weight. To figure your BMI, go to www.nhlbi.nih.gov/calculate-your-bmi. (Chapter 5 has more information on BMI.)

You can also check how much fat you're carrying, particularly in the danger area around your middle, by measuring your waist circumference. You're in the danger zone (as a woman) if your waist circumference is more than 31½ inches. See Chapter 5 for more on this and other weighty issues of PCOS.

Monitoring mood and motivation

Vicious cycles commonly occur for women who have PCOS. Getting into shape and reducing the symptoms can seem such an uphill struggle that you may want to just give up. But in giving up, you feel more and more depressed and believe that you need to take extreme actions. However, extreme actions just set you up for failure again — and the circle continues.

To help you avoid the PCOS merry-go-round, keep the following in mind:

- » **Everyone trips up from time to time.** When it happens to you, pick yourself up and set yourself back on the road.
- » **Keep a food/exercise/mood diary.** If keeping a diary permanently seems like too much for you to take on, just fill it in for a week or two initially, and then go back to the practice if you feel your resolve is slacking. A diary can remind you what you did when things were going well, but it can also reveal problems when things don't go so well.
- » **Start gradually.** Maybe begin with a ten-minute walk every day — everybody has ten minutes to spare, right? — and work your way up gradually to your goal. Adding a minute to your walk every few days probably doesn't seem that hard. And before you know it, you'll be walking 30 minutes or more.
- » **Set yourself mini goals along the way.** Reward yourself with something other than food (maybe a day at the spa or a trip to the theater) each time that you achieve a mini goal.



REMEMBER

Make sure that you can incorporate the changes easily into your lifestyle and that you can keep them up long term. Starting small, building up over time, and setting mini goals to achieve — and be rewarded for achieving them — can help ensure you stick with healthier habits for the long term.

Avoiding eating disorders

With so much emphasis placed on staying at a normal weight if you have PCOS, some women fall into the pattern of thinking that if a little weight loss is good, a lot is better. Or they begin to think that weight loss is the overarching goal, rather than one part of a healthier lifestyle. Beliefs like these can lead to eating disorders.



WARNING

If you have a distorted pattern of thinking about and behaving around food, you may have an eating disorder. If you have an eating disorder, you also have a pre-occupation and/or obsession with food, and you probably have little to no control over your eating (or lack of eating).

Any eating disorder requires professional help. And you need to acknowledge the triggers for this behavior — they're frequently mood-based, especially feelings of low self-esteem.