

## Let's Talk about PCOS (polycystic ovary syndrome)

### The mystery behind your missing periods, and ways you can make them regular again

by Warda Nawaz, PharmD, Freelance Health Writer, April 12, 2023

It's been months since your last period. You were expecting to bleed once a month every year until menopause, yet, your periods are mostly absent, even though you're sure you've done nothing wrong. Sometimes you go an entire year without getting a single period.

When you tell your doctor what's going on, they complete an ultrasound and order some blood tests. They then hand you the diagnosis of PCOS. Now what?

[PCOS](#), or polycystic ovarian syndrome, is a condition that happens when there's an excess of testosterone in your body, along with possible cysts on the ovary, and lack of ovulation. You have no idea how you ended up with an excess of a male sex hormone even though you're female and look female. And you don't know why your ovaries stopped ovulating (releasing an egg) even though you haven't hit menopause yet. You're young and you should have reproductive potential.

The doctor might hand you a birth control pill prescription and send you home. Meanwhile, you are confused and don't understand how this happened or what this all means. You also don't know if you have to leave your fate to the pill for the rest of your life in order to get a period every month.

### What is PCOS, anyway?

“PCOS is a complex condition with a lot of genetic, lifestyle, and hormonal interactions at play,” says Jennifer Clements, MD, a physician in Integrative Medicine and expertise in lifestyle and obesity, from Savannah, Georgia. “It's both a reproductive and metabolic problem.” [There is no single cause of PCOS](#), and there is no known cure. But rest assured, symptoms can be managed with therapy and lifestyle modifications.

“About 70-80% of patients with PCOS also have insulin resistance,” says Dr. Clements. This can eventually lead to the development of diabetes. Other complications that often occur with PCOS include increased weight, especially around the abdomen, obesity, increased risk of developing heart disease, and difficulty getting pregnant. PCOS can also increase the chances of developing [endometrial cancer by 2-3 times](#).

### Who is at risk?

According to a 2021 medical review, PCOS affects [about 1 in 6 women](#) of reproductive age, and more frequently affects [Mexican, Native American, and Spanish women](#). When asked about this disparity, Dr. Clements states, “What's important to consider is who is getting medical care and being diagnosed. There are many people not getting help.” In her own experience as a consultant

with Mochi Health, Dr. Clements has stated that most of her patients with PCOS have been White.

### **What factors cause PCOS?**

[Many complex factors](#), including a [combination of environmental and genetic factors](#), are thought to contribute to the development of PCOS. Though researchers aren't sure of the exact cause, the main culprit is thought to be an [abnormality in the cells of the ovary](#), which leads to excessive production of androgens. Androgens are sex hormones that give men their male sexual characteristics. In females, [an excess of androgens](#) can lead to a loss of periods.

Individual factors, such as [obesity](#), can also affect the development of PCOS symptoms.

Regardless of the cause, the common denominator seen in PCOS is hormonal imbalance.

### **Poor Diet, Poor Lifestyle & Unhealthy Social Structure**

“In Western society, we are consuming highly processed, easy, palatable foods which can promote weight gain,” says Dr. Clements. “Weight gain is associated with irregular periods.”

When asked if social inequality and lower income play a role, Dr. Clements responded, “It makes intuitive sense that a person who does not have access to a provider, does not have health insurance, or lives in a food desert is going to be relying on these easy, highly processed foods that lack nutrition. These foods have been shown to be weight-promoting.”

It's important to note that while living in an obesogenic environment is frustrating, it's not your fault. Even if you have access to healthy foods, your day (or night job) may also be playing a role in compromising your metabolic and hormonal health. “People who work the night shift and have disturbances in their circadian rhythm have metabolic disturbances and have a higher chance of developing insulin resistance, obesity, and cancer,” adds Dr. Clements. Armed with this knowledge, you have the option to choose a job that aligns with your health goals and does not wreak havoc on your normal biological functioning. It's okay to say “no” to jobs that you know will harm your personal health.

### **Stress and Abnormal Sexual Function**

Today, we live in a world that's growing increasingly more stressful. “Even though we might not feel the stress, our bodies might,” says Dr. Clements. Stress, whether environmental, emotional, or physical, can disrupt the normal hormone production in the body, because stress acts on the HPA axis (hypothalamus, pituitary gland, and adrenal glands). Cortisol is released by the adrenal glands in response to stress, and it acts on almost every tissue in the body one way or another. Cortisol tries to dampen the stress reaction, in an attempt to maintain balance in the body in the face of threat. The brain needs to focus on the threat, forgetting about hunger and sexual drive. Because reproduction becomes unimportant during [chronic stress](#), it is no wonder a person's sexual function will be negatively impacted. This includes a loss in sexual interest, decreased sperm production, and even loss of periods.

[A landmark study conducted in Korea in 2022](#) found that the levels of perceived stress, anxiety, and fatigue were significantly higher in women with irregular menstrual cycles compared to women with regular menstrual cycles. This illustrates the relationship between high levels of stress and negative sexual functioning.

## **Imbalance of Estrogen and Progesterone**

You may be wondering why there's an imbalance of estrogen and progesterone in your body. This is because, according to Dr. Clements, fat is estrogenic (meaning that fat promotes estrogen production). Because many people who have PCOS are also overweight, they also have higher than normal levels of estrogen in the body. But estrogen is good for women, right? Not quite.

Normally, [estrogen helps the uterus lining grow](#), and progesterone helps maintain an environment for possible pregnancy. But in PCOS, the ovaries produce [little to no progesterone](#). Without the proper balance of the two hormones, you get a [uterus that continues to grow unopposed](#) because of estrogen, which can increase [endometrial cancer risk](#). High levels of estrogen also make you stop ovulating, which can make it difficult for you to get pregnant.

## **Being Overweight**

[Being overweight](#) increases the risk of irregular menstrual bleeding. In the U.S., about [6 out of 10 women](#) who have PCOS are also obese. "A lot of time, we're sedentary," Dr. Clements commented. "Not only are we eating more processed foods, but we can easily obtain food by driving to a grocery store. We're not working for our food." This leads to unhealthy weight gain, which leads to metabolic symptoms found in PCOS.

## **PCOS Symptoms**

Most problematic symptoms in PCOS occur due to [higher levels of inflammation](#) in the body, including [excess testosterone, excessive insulin, and low progesterone levels](#). These symptoms include:

- Hirsutism (excessive hair growth on face and body, in a male fashion)
- Infrequent periods or a total lack of periods
- Acne
- Scalp hair loss
- Increased fat storage, especially around the abdomen
- Decreased appetite
- Development of diabetes
- Lack of ovulation
- Increased blood pressure

## How You Can Manage PCOS

### Lose Weight

Because increased weight is correlated with insulin resistance, losing weight can help restore your periods, by [increasing insulin sensitivity](#) and [lowering testosterone](#) levels in the body. “A 5-10% weight reduction can tremendously decrease disease burden and help restore your periods,” says Dr. Clements. While weight loss is challenging with PCOS because of insulin resistance, it can be done. [Reducing stress](#) and [getting enough sleep](#) are crucial steps in losing weight.

Because the stress hormone, cortisol, deposits fat in the abdomen, reducing stress can help you gain control of your health. Eating nutrient-dense foods with [low glycemic index](#) can also help promote healthy weight. Try to incorporate low-glycemic foods such as lentils, beans, fruits, green leafy vegetables, nuts, olives, oils, chicken, lean red meat, fish, and soy milk into your diet, and avoid highly processed, sugary foods.

### Increase Physical Activity

An affordable and accessible way to improve your health is to [move](#). Regular physical activity improves [insulin sensitivity](#) in the body and improves the metabolism of sugar. If you don't usually exercise, start by taking small steps first. Walking daily is a great form of exercise. If you sit for long periods of time, incorporate breaks so you can walk. It is recommended that adults [get 150 minutes of moderate-intensity physical activity every week](#), and 2 days of muscle-strengthening activity such as lifting weights. If you are just starting out, the [American Heart Association recommends that you set a goal](#) you can accomplish today. “Any movement is better than nothing,” adds Dr. Clements. “Don't give up because you think it's doing nothing. Find simple weight exercises and try to fit it into your busy schedule. The more you do it, the stronger you get.”

### Get Sunshine & Vitamin D

People who don't get enough sunshine or go outdoors often have low vitamin D. It has been shown that [lack of vitamin D is correlated with insulin resistance](#) associated with PCOS. Consider getting your vitamin D levels checked with your doctor. If diagnosed with low vitamin D, supplement with 1 tablet of vitamin D daily until your levels are restored. “The dose should be individualized based on your needs,” adds Dr. Clements. You can also obtain vitamin D from animal-sourced foods, such as egg yolks, salmon, sardines, vitamin D-fortified milk, and tuna. Vitamin D can also help [improve menstrual frequency](#).

### To Restore Periods, Take Combined Oral Contraceptives (COCs, aka Birth Control Pills)

It's hard to manage PCOS symptoms with lifestyle changes alone, says Dr. Clements. If pregnancy is not the goal, then [taking the birth control pill](#) is a good option. Birth control pills help [regulate periods](#), and they also [help lower androgen levels in the body](#). They also help [increase sex hormone binding globulin \(SHBG\) levels](#), an enzyme that binds free testosterone, leading to lower levels of available testosterone in the body. Lower testosterone, in turn, helps reduce bothersome symptoms of [acne, hirsutism, and hair loss](#). Birth control pills can

also [lower your risk of developing endometrial cancer](#), and lower the levels of LH and FSH, which in turn helps decrease levels of testosterone even further.

This is why birth control pills are often the [first treatment option](#) provided to people with PCOS. They do a lot of good! However, be aware that birth control pills can cause bloating and [nausea, and a host of other side effects](#). These pills can also increase feelings of [depression](#), so use these pills if you can tolerate them.

### **If Intolerant to COCs, Consider Provera, a Progestin-Only Pill**

Medroxyprogesterone, or Provera, is a progestin-only prescription pill used to treat abnormal bleeding of the uterus. An advantage of this pill is that it helps [avoid bothersome estrogen-related side effects](#) such as weight gain, bloating, increased blood pressure, and headaches. If you've tried the regular birth control pill, and you didn't tolerate it well, then medroxyprogesterone pill may be the next best option for you. This pill is taken once a month for 5-10 days, and withdrawal bleeding occurs a few days after the last dose. The bleeding associated with this pill is usually lighter than the withdrawal bleeding associated with the combined oral contraceptive pill.

Because this pill can make the bones thinner, consider taking calcium and vitamin D supplements to keep your bones strong and healthy and maintain a balanced diet and exercise, which can increase bone density.

### **Key Takeaways**

PCOS is a complex condition, with multiple lifestyle, genetic, and environmental factors. It is characterized by metabolic and hormonal symptoms that make it difficult to get pregnant and bleed regularly during your menstrual cycle. This condition is best managed with medications and lifestyle changes, such as daily physical activity and healthy eating habits. The best approach to treat your symptoms depends on your personal health status and your tolerance to the birth control pill. It will also depend on your treatment goals.

Remember that no matter your social situation, it isn't your fault that you have PCOS. However, the solution isn't simple and will require effort. "Work with your provider and get social support," adds Dr. Clements. Armed with knowledge, you are capable of tackling PCOS head-on and taking back control of your reproductive health.

## References

1. Barthelmeß EK, Naz RK. Polycystic ovary syndrome: current status and future perspective. *Front Biosci (Elite Ed)*. 2014;6:104-119. Accessed July 13, 2022. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4341818/>
2. Bednarska S, Siejka A. The pathogenesis and treatment of polycystic ovary syndrome: What's new? *Adv Clin Exp Med*. 2017;26(2):359-367. doi:[10.17219/acem/59380](https://doi.org/10.17219/acem/59380)
3. Szczuko M, Kikut J, Szczuko U, et al. Nutrition Strategy and Life Style in Polycystic Ovary Syndrome—Narrative Review. *Nutrients*. 2021;13(7):2452. doi:[10.3390/nu13072452](https://doi.org/10.3390/nu13072452)
4. Maté, G. Stress and Emotional Competence. In: *When the Body Says No: Exploring the Stress-Disease Connection*. Alfred A. Knopf; 2003:32-33
5. Chu B, Marwaha K, Sanvictores T, Ayers D. Physiology, Stress Reaction. In: *StatPearls*. StatPearls Publishing; 2022. Accessed March 16, 2023. <https://www.ncbi.nlm.nih.gov/books/NBK541120/>
6. Bae J, Park S, Kwon JW. Factors associated with menstrual cycle irregularity and menopause. *BMC Womens Health*. 2018;18(1):36. doi:[10.1186/s12905-018-0528-x](https://doi.org/10.1186/s12905-018-0528-x)
7. El-Ibiary S. Contraception. In: DiPiro JT, Yee GC, Michael Posey LL, Haines ST, Nolin TD, Ellingrod VL. eds. *DiPiro: Pharmacotherapy A Pathophysiologic Approach, 12 e*. McGraw Hill; 2021.
8. CDC. Move More; Sit Less. Centers for Disease Control and Prevention. Published March 23, 2023. Accessed April 3, 2023. <https://www.cdc.gov/physicalactivity/basics/adults/index.htm>
9. Bridgeman MM, Rollins CJ. Chapter 23: Essential and Conditionally Essential Nutrients. In: *Handbook of Nonprescription Drugs: An Interactive Approach to Self-Care, 20th Edition*. The American Pharmacists Association; 2020. doi:[10.21019/9781582123172.ch23](https://doi.org/10.21019/9781582123172.ch23)
10. Oral Contraceptives [package insert]. [https://www.accessdata.fda.gov/drugsatfda\\_docs/label/2005/021690ppi.pdf](https://www.accessdata.fda.gov/drugsatfda_docs/label/2005/021690ppi.pdf). Accessed April 12, 2023.
11. Medroxyprogesterone. Lexicomp. Accessed April 6, 2023. [https://online-lexi-com.ezproxy.cnsu.edu/lco/action/doc/retrieve/docid/pdh\\_f/130164?cesid=0clX3TilZit&searchUrl=%2Ffco%2Faction%2Fsearch%3Fq%3Dmedroxyprogesterone%26t%3Dname%26acs%3Dfalse%26acq%3Dmedroxyprogesterone#usep](https://online-lexi-com.ezproxy.cnsu.edu/lco/action/doc/retrieve/docid/pdh_f/130164?cesid=0clX3TilZit&searchUrl=%2Ffco%2Faction%2Fsearch%3Fq%3Dmedroxyprogesterone%26t%3Dname%26acs%3Dfalse%26acq%3Dmedroxyprogesterone#usep)
12. de Melo NR. Estrogen-Free Oral Hormonal Contraception: Benefits of the Progestin-Only Pill. *Womens Health (Lond Engl)*. 2010;6(5):721-735. doi:[10.2217/WHE.10.36](https://doi.org/10.2217/WHE.10.36)