

## PMS and Sleep: What's the Connection?

By Barbara Brody

✓ Medically Reviewed by Melinda Ratini, DO, MS  
on March 23, 2022

Many women don't need to look at a calendar or open an app to know that their period is approaching, thanks to telltale signs like bloating, breast tenderness, and moodiness. While these are among the best-known symptoms of premenstrual syndrome (PMS), they're hardly the only ones. Also on the list: trouble sleeping.

Research backs that up. About 1 in 10 people have insomnia – trouble falling or staying asleep. But twice as many go through that as they near their period. So says Sara Nowakowski, PhD, a sleep researcher at Baylor College of Medicine.

For some women, the problem at that point in their cycle isn't insomnia. Instead, they don't feel refreshed after sleep, or they need more sleep than usual to feel well-rested. And many say they feel more fatigued during the day.

Women who have other PMS symptoms are more likely to struggle with sleep. And if their PMS is severe, especially if it affects their mood, they "are more apt to have insomnia as well as sleepiness during the day," sleep physiologist Fiona Baker, PhD. She directs the Human Sleep Research Program at the nonprofit Center for Health Sciences at SRI International.

Women with premenstrual dysphoric disorder (PMDD), which is similar to PMS but causes more serious anxiety or depression for a week or two leading up to your period, have the worst luck with sleep as they near "that time of the month." As many as 70% of women with PMDD have insomnia symptoms before their period.

### The Link Between Sleep and PMS

Why do sleep problems and PMS often overlap? "That's the million-dollar question," Nowakowski says. "It's multifaceted."

The simplest explanation is that common PMS symptoms such as bloating, breast tenderness, and pelvic or muscle pain might keep you awake. Feeling depressed, angry, anxious, or irritable – also common PMS symptoms – can easily wreck a good night's rest.

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Sara Nowakowski, PhD

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Mood and sleep are very closely connected. If you're stressed or depressed, you're more likely to have trouble sleeping. But a poor night of sleep might also mess with your mood the next day.

Also, many women appear perfectly "normal" on sleep studies, Baker says, but still have trouble sleeping before their periods.

It's real. "We never want to imply that it's all in your head," Baker says. "It's more that what we're measuring [in the lab] isn't quite picking up what someone is feeling."

### **How Hormones Might Impact Sleep**

If you have sleep changes before your period, there's an excellent chance that shifting hormone levels have something to do with it.

In women with normal menstrual cycles, estrogen and progesterone rise and fall at predictable times.

The average cycle lasts 25 to 36 days. Day 1 is the day you start your period. Right around the middle of your cycle is when you ovulate: an ovary releases an egg. About 5 to 7 days later, estrogen and progesterone levels peak before declining (if you didn't get pregnant).

Progesterone remains higher a little longer than estrogen. So as your period nears – anywhere from 2 weeks to a few days before – you reach a point when progesterone is higher than estrogen. This hormone shift, which happens late in the cycle, might impact your sleep as you get closer to having another period.

Experts believe that it's the *change* in levels, rather than low or high levels of estrogen or progesterone, that have the greatest potential to mess with sleep.

"The worst time for sleep and mood, even in people without major PMS, is during the 4-5 days before your period through the first two days of your period," Nowakowski says. For women who are more sensitive to hormonal shifts, the impact on sleep can be significant.

### **What's Still Unknown**

No one knows exactly how changing hormone levels late in your cycle influence sleep. But experts do know that there are estrogen and progesterone receptors in the brain – including in areas involved in managing sleep.

"Progesterone at higher doses is linked with being sleepy," Baker says, "which is one reason why women with PMS might feel sleepier during the day."

During the later part of your cycle, levels of the brain chemical serotonin also vary. One theory is that not having enough serotonin as your period nears contributes to PMS symptoms like premenstrual depression and food cravings, as well as fatigue and sleep problems.

Your body temperature may also be involved. It rises slightly after ovulation and remains up until you get your period again (as long as you're not pregnant). Because body temperature naturally dips a bit before and during sleep, running a bit hotter than usual might make it harder to fall asleep or sleep well throughout the night.

Temperature can also impact your circadian rhythms (your body clock), Baker says. Some research shows that women with PMDD make less melatonin, a hormone that helps tell your body it's time to rest.

### How to Sleep Better Before Your Period

If you often have trouble sleeping before your period, there are things you can do to feel better overall.

**Cut back on salt, sugar, caffeine, and alcohol.** Resist the cravings you may feel for chips or candy. Nowakowski recommends cutting back on salt and sugar (which is inflammatory) in an effort to reduce bloating. Instead, aim to eat more protein and complex carbohydrates. She also suggests cutting back on caffeine (a stimulant) and alcohol (a depressant).

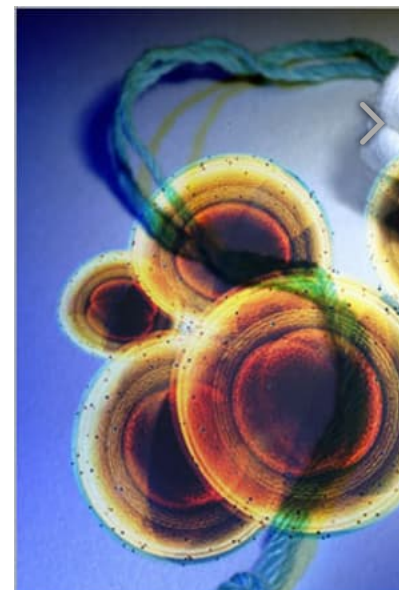
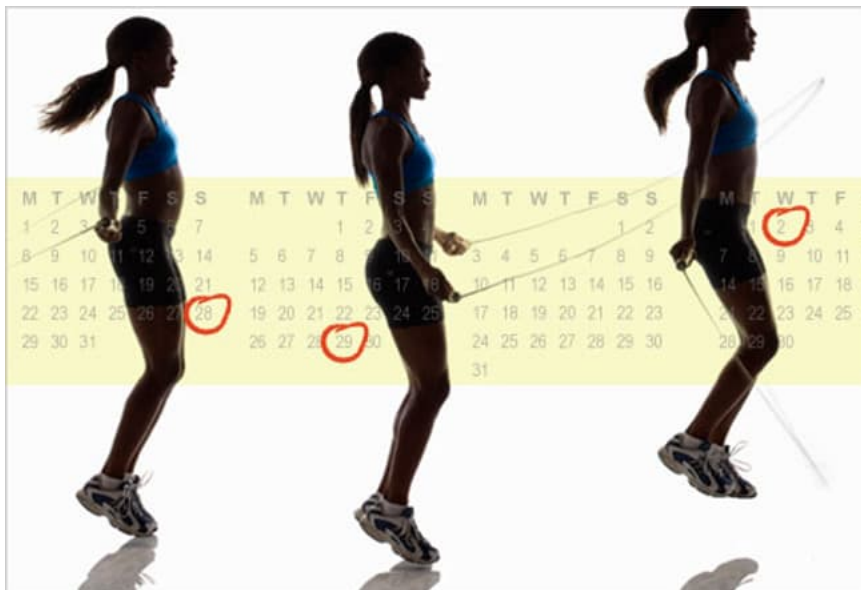
**Address your stress.** Stress is a notorious sleep wrecker. Practicing stress management – for instance, by exercising or meditating or deep breathing – can help.

**Talk to your doctor.** If your PMS is severe – perhaps you think you might have PMDD – talk to your doctor. Depending on your symptoms, hormonal contraceptives or antidepressants might help both your mood and sleep issues.

**Consider therapy.** If your main challenge is sleep – and practicing basic sleep hygiene measures like going to bed and waking up at the same time every day isn't helping – you might also consider CBT-I, which is a type of cognitive behavioral therapy that focuses on changing thoughts and behaviors that are driving your sleep problems.

#### SLIDESHOW

### Answers to Your Top Period Questions



#### What If I Skip a Period?

Relax. It's normal for your period *not* to be normal -- especially in the first few years after starting your period . Stress, exercise, and sickness can all cause you to miss one. It can happen if you gain or lose a lot of weight. Of course, it can also happen if you're pregnant. If you skip more than two in a row, see your doctor.

Reviewed by Renee Alli on 2/11/2021

#### 1 / 12 Do Tampons Cause Toxic Shock Syndrom

Tampons rarely cause infections leading to TSS. To prevent TSS, use a tampon every 4 hours or so. Wear a thinner tampon course, it can also happen if you're pregnant. If you skip more than two in a row, see your doctor. 3 days after your period starts, see your doctor.

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PHOTO CREDITS:

SOURCES:

Fiona Baker, PhD, director, Human Sleep Research Program, Center for Health Sciences, SRI International.

Mayo Clinic: "Insomnia treatment: Cognitive Behavioral Therapy Instead of Sleeping Pills;" "Premenstrual Syndrome (PMS)."

Merck Manual: "Menstrual Cycle."

Sara Nowakowski, PhD, associate professor, Baylor College of Medicine.

Office on Women's Health: "Premenstrual Dysphoric Disorder (PMDD)."

*Sleep*: "Effects of Exogenous Melatonin on Sleep and Circadian Rhythms in Women with Premenstrual Dysphoric Disorder."

Sleep Foundation: "PMS and Insomnia."

Sleep.org: "Body Temperature and Sleep: Why You Get Hot During Sleep."

*Sleep Medicine Clinics*: "Menstrual Cycle Effects on Sleep."