

Science Explains What Happens During Menopause

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STORY AT-A-GLANCE

- › Menopause is a natural life stage that occurs when the ovaries have reduced function; it's associated with lower levels of estrogen and other hormones, and marks the period when fertility ends
- › Perimenopause, or the menopausal transition, is the process leading up to menopause; perimenopause may begin around the ages of 45 to 55 and lasts an average of seven years
- › Sometime during the mid-40s, shifting hormone levels typically begin, as egg cells, which are surrounded by granulosa cells that produce hormones, are reduced in numbers
- › During this time, eggs are released less frequently, leading to irregular menstrual cycles
- › Perimenopause, which means "around menopause," occurs as ovulation becomes less predictable, leading to changes in menstrual cycles, including longer or shorter intervals between periods, changes in flow and skipping some periods
- › Menopause marks the moment when ovulation and menstruation stop, coinciding with a drop in estrogen levels

Most women experience menopause between the ages of 45 and 55. Described as the final menstrual period, which is typically declared "final" after periods have stopped for 12 consecutive months, menopause is a natural life stage that occurs when the ovaries have reduced function. It's associated with lower levels of estrogen and other hormones, and marks the period when fertility ends.¹

Some women experience few or no symptoms prior to and during menopause, while others experience physical and mental disturbances for months or years. As noted by the North American Menopause Society (NAMS), “Each woman’s menopause experience is different.”²

What Happens During Menopause?

Technically, menopause is the moment when ovulation and menstruation stop, coinciding with a drop in estrogen levels.³ However, the process leading up to that moment begins years earlier, during a stage known as perimenopause or the menopausal transition. This stage, which may begin around the ages of 45 to 55, lasts an average of seven years, but this varies significantly, sometimes spanning a decade or more.

If a woman enters perimenopause at age 40 or younger, it’s considered early or premature perimenopause. This occurs in about 1% of women, for reasons unknown.⁴

Each woman’s journey is different, as during perimenopause, production of the hormones estrogen and progesterone, which are produced by the ovaries, varies.⁵ As estrogen levels decrease, it can lead to a variety of symptoms. According to the National Institute on Aging:⁶

“The menopausal transition affects each woman uniquely and in various ways. The body begins to use energy differently, fat cells change, and women may gain weight more easily. You may experience changes in your bone or heart health, your body shape and composition, or your physical function.”

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Perimenopause, which means “around menopause,” occurs as ovulation becomes less predictable, leading to changes in menstrual cycles, including longer or shorter intervals

between periods, changes in flow and skipping some periods. As noted by the Mayo Clinic:⁷

“If you have a persistent change of seven days or more in the length of your menstrual cycle, you may be in early perimenopause. If you have a space of 60 days or more between periods, you're likely in late perimenopause.”

While fertility decreases during perimenopause, it's still possible to conceive and become pregnant during this time. The average age of menopause for U.S. women is 52, but it can occur as early as the 40s or as late as the 60s.⁸ Induced menopause, which occurs when menopause occurs due to removal of the ovaries, use of certain medications, chemotherapy or radiation for cancer treatment, may occur at different ages.⁹

A blood test to check levels of follicle-stimulating hormone (FSH) is sometimes used to check for menopause, as levels rise as ovulation decreases; however, it's not considered an accurate indicator because FSH levels can go up and down.¹⁰

Hot Flashes – The Hallmark of Menopause

During the menopausal transition, women may experience a range of symptoms. Among the most common are vasomotor symptoms, more often known as hot flashes and night sweats (hot flashes that occur at night), which affect 50% to 75% of women during the menopausal transition.¹¹ What exactly are hot flashes – the characteristic sign of menopause? NAMS explains:¹²

“Although their exact cause still isn't fully understood, hot flashes are thought to be the result of changes in the hypothalamus, the part of the brain that regulates the body's temperature. If the hypothalamus senses that a woman is too warm, it starts a chain of events to cool her down. Blood vessels near the surface of the skin begin to dilate (enlarge), increasing blood flow to the surface in an attempt to dissipate body heat.”

This produces a red, flushed look to the face and neck in light-skinned women. It may also make a woman perspire to cool the body down. Women may sense their hearts beating faster. A cold chill often follows a hot flash. A few women experience only the chill ...

Some hot flashes are easily tolerated, some can be annoying or embarrassing, and others can be debilitating ... Most women experience hot flashes for 6 months to 2 years, although some reports suggest that they last considerably longer – as long as 10 years, depending on when they began. For a small proportion of women, they may never go away.”

If hot flashes are interfering with your quality of life, a number of natural remedies are available to help. Among them:¹³

- **Black cohosh** – This herb often leads to a significant reduction in hot flashes, along with an improvement in mood, at a dose of 40 milligrams per day. “Black cohosh is an effective and safe treatment option for the relieving of vasomotor symptoms,” according to research published in *Gynecological Endocrinology*.¹⁴ NAMS explains:¹⁵

“Recent research suggests that black cohosh does not act like estrogen, as once thought. This reduces concerns about its effect on hormone-sensitive tissue (eg, uterus, breast). Black cohosh has had a good safety record over a number of years. There have been reports linking black cohosh to liver problems, and this connection continues to be studied.”

- **Red clover** – A systematic review and meta-analysis revealed red clover helped reduce the daily frequency of hot flashes.¹⁶
- **Evening primrose oil** – Taking evening primrose oil twice daily decreased the frequency and severity of night sweats in postmenopausal women.¹⁷ It’s also been found to decrease the intensity of hot flashes among menopausal women.¹⁸

Other Signs and Symptoms of Perimenopause

Sleep problems are another common symptom that occurs during menopausal transition. Not only can changing hormone levels influence sleep but night sweats can also keep you up at night. Among women with severe hot flashes at night, sleep becomes so disrupted that close to 44% meet the criteria for chronic insomnia. As noted by the Sleep Foundation, menopause affects sleep in multiple ways:¹⁹

“Estrogen plays a role in the metabolism of serotonin and other neurotransmitters that affect our sleep-wake cycle. Estrogen also helps keep our body temperature low at night, and therefore more conducive to restful sleep. Estrogen also has an antidepressant effect. With less estrogen, women may experience higher body temperatures, lower quality sleep, and poorer mood.”

Mood changes are also common, with some research describing the menopausal transition as a “period of biologic vulnerability with noticeable physiologic, psychological, and somatic symptoms,” including a higher vulnerability to depression.²⁰

Women with a history of depression are up to five times more likely to be diagnosed with major depressive disorder during menopause.²¹ And although it shouldn't be considered “normal” to be depressed during this time, women in perimenopause have nearly double the rate of depression as women who haven't yet entered this stage.²²

A range of vaginal and sexual changes are also common. In 2014, the term “genitourinary syndrome of menopause” (GSM) was introduced to describe “a chronic, progressive, vulvovaginal, sexual, and lower urinary tract condition characterized by a broad spectrum of signs and symptoms.”²³ It affects both premenopausal and postmenopausal women and is thought to be related to the lack of estrogen during this time.

In addition to vaginal dryness, pain and reduced lubrication during intercourse, women may experience recurrent urinary tract infections and stress incontinence. An estimated 15% of premenopausal women, and up to 70% of postmenopausal women, experience GSM-like symptoms.²⁴ Additional symptoms experienced during perimenopause include:²⁵

Breast tenderness	Fatigue	Dry skin
Hair loss/texture changes	Headaches and/or migraines	Heart palpitations
Joint pain	Weight gain	Low libido
Urinary leaks and urgency	Brain fog	Forgetfulness
Impaired short-term memory	Inability to focus	Inattentiveness
Poor word retrieval	Anxiety	Difficulty concentrating
Feeling not like yourself	Impatience	Irritability
Low motivation or energy	Mood swings	Tearfulness

Natural Strategies for Menopause

Leading a healthy lifestyle — including prioritizing healthy diet, sleep and stress relief — is important during perimenopause. Maintaining a healthy weight may also help relieve symptoms, including hot flashes,²⁶ while staying physically active promotes physical and mental health during menopause.²⁷

Eating a diet high in refined carbohydrates, such as sweetened beverages and other ultraprocessed foods, is linked to depression in postmenopausal women²⁸ and may have a similar affect during perimenopause. Nutritional interventions, such as omega-3 fats, also show promise for managing mood and anxiety symptoms in women during the menopausal transition.²⁹

While some women consider hormone replacement therapy, others rely on mind and body practices. More than 60% of women have found complementary and alternative

medicine (CAM) to be effective for menopausal symptoms.³⁰ For instance, ashwagandha root extract may help to relieve mild to moderate symptoms of menopause in perimenopausal women.³¹

Hypnosis and cognitive behavioral therapy have also been found to help relieve vasomotor, sexual dysfunction and sleep problems related to menopause.³² Relaxation techniques³³ and mindfulness-based stress reduction are additional options to support mental and emotional health during the menopausal transition.³⁴

Because perimenopause and menopause are complex and unique to the individual, working with a holistic health care practitioner can help you develop a comprehensive health care plan to address your symptoms and goals.

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