

Menopause



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KEYWORDS

- Menopause • Hot flashes • Vulvovaginal atrophy • Vasomotor symptoms
- Hormone therapy • Estrogen

KEY POINTS

- Hot flashes and menstrual irregularity are hallmarks of the menopausal transition.
- Genitourinary symptoms predominate in the postmenopause phase.
- Although various treatment options are available, systemic estrogen is the most effective treatment of vasomotor symptoms, and vaginal estrogen is the most effective treatment of vulvovaginal atrophy.
- Estrogen therapy is safe for most women; it should be prescribed at the lowest effective dose and for the shortest period of time necessary to control symptoms.

DEFINITION OF MENOPAUSE

Menopause is defined retrospectively as the cessation of spontaneous menses for 12 months. Worldwide, most women enter menopause between the ages of 49 and 52 years.¹ In the United States, the average age of menopause is 51 years. An estimated 6000 US women reach menopause each day, and with increasing life expectancy, will spend approximately 40% of their lives in the postmenopause phase. Factors associated with earlier menopause include smoking, lower body mass index, nulliparity, and lower educational attainment.^{2,3}

Although menopause is often seen as a single point in time, correlating with the cessation of ovarian production of oocytes, the menopausal transition actually occurs over several years and is a dynamic period when women experience

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predictable changes to their menstrual cycle. The Stages of Reproductive Aging Workshop staging system (STRAW+10) is considered the gold standard for characterizing the changes associated with reproductive aging. This staging system consists of three phases (reproductive, menopausal transition, and postmenopause), and includes seven stages within the phases. It describes the typical duration, menstrual cycle characteristics, hormone levels, antral follicle count, and symptoms for each stage.⁴

PHYSIOLOGY OF MENOPAUSE

Women are born with their full complement of oocytes and during their reproductive years, these oocytes are gradually depleted through ovulation and atresia. The decreased numbers of oocytes secrete less inhibin B, decreasing the ovarian negative feedback on follicle-stimulating hormone (FSH). The resultant increase in FSH level leads to more follicular recruitment and an accelerated follicular loss, with preservation of estradiol levels in early menopausal transition. Eventually, the depletion of follicles results in variability in the ovarian response to FSH, widely fluctuating estrogen levels, and loss of the normal reproductive cycle. When all the ovarian follicles are depleted, the ovary is unable to respond to even high levels of FSH and estrogen levels decline. The postmenopausal period is characterized hormonally by an elevated FSH (>30 mIU/mL) and low estradiol levels (**Box 1**).⁵

VASOMOTOR SYMPTOMS

Hot flashes and night sweats are common, affecting 65% of women.⁶ Women experience hot flashes as spontaneous sensations of warmth, usually felt on the chest, neck, and face, often associated with perspiration and then a chill, and sometimes with palpitations and anxiety. They usually last less than 5 minutes but sometimes last up to 30 minutes. They are sometimes triggered by warm environments, stress, or hot food and beverages.⁶ Night sweats are hot flashes that occur at night and often interfere with sleep. The precise cause of vasomotor symptoms is not known but is thought to be related to low estrogen levels (and possibly changes in FSH and inhibin B), which affect endorphin concentrations in the hypothalamus.

Box 1

Signs and symptoms of menopause

Menopausal Transition

- Menstrual irregularity
- Hot flashes
- Night sweats
- Sleep disruption

Postmenopause

- Vaginal dryness
- Vulvovaginal atrophy
- Lower urinary tract symptoms
- Dyspareunia

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