



# NR578 Standardized Procedure Worksheet

## 1. Definition

### a. Disease or condition

**Menopause** is a milestone in women's lives that naturally happens on average at the age of 52 and is defined as amenorrhea for a consecutive 12-month period (Ellington et al., 2022). Premature menopause may occur before the age of 40 and is usually secondary to a health condition that leads to premature ovarian insufficiency (POI), cancer treatments, or bilateral oophorectomy.

### b. Pathophysiology

The reproductive cycle of a woman is controlled by the hypothalamic-pituitary-ovarian axis. As a woman ages, the number and function of ovarian follicles diminish, and the ovaries atrophy (Santoro et al., 2021). Two pituitary hormones, follicle-stimulating hormone (FSH) and luteinizing hormone (LH), stimulate the ovaries to produce eggs and trigger ovulation, respectively. FSH and LH also promote the secretion of estrogen and progesterone throughout the cycle. Estradiol (E2), the primary form of estrogen, is mainly produced by the ovaries. With declining ovarian function, estrogen levels fluctuate and gradually decline, leading to an increase in FSH and LH levels through a negative feedback mechanism. Declining ovarian function and hormonal fluctuations mark the beginning of perimenopause or menopausal transition, which usually starts in the mid-40s and may last 4-8 years (Ellington et al., 2022). At this time, symptoms such as migraine headaches, mood and mental changes, and hot flashes

may start. Periods may become heavy and irregular until the complete cessation marked as menopause and the start of the postmenopausal period. Low estrogen levels at this stage are responsible for many symptoms associated with menopause, most commonly psychogenic, vasomotor (VMS), and genitourinary (Santoro et al., 2021). In some women, symptoms might be mild and resolve in 1 to 7 years, but other women may have moderate, severe, or persistent symptoms, significantly affecting their quality of life. Low estrogen also promotes an increased rate of bone resorption, which may lead to osteoporosis (Ellington et al., 2022).

### c. Incidence and prevalence

Although menopause is a natural process, there are variations in the age of onset as well as the duration and severity of symptoms. For most women, menopause starts between the ages of 45 and 56, with 5% of women experiencing menopause earlier between 40 and 45 years (Santoro et al., 2021). A cross-sectional survey found that about 68% of women experienced moderate to severe VMS, 74% reported feeling tired or having a low energy level, 66% had problems with sleep, and 50% to 75% reported genitourinary symptoms (Nappi et al., 2021). However, Hispanic and Black women generally start menopause at an earlier age and experience more severe symptoms than White women.

## 2. Assessment

### a. Symptoms

The most prevalent symptoms during menopause are VMS, such as hot flashes and headaches (Ellington et al., 2022). Genitourinary symptoms of menopause (GSM) may include vaginal dryness, burning, pruritus, dyspareunia, dysuria, urinary frequency and urgency. Psychogenic symptoms may present as irritability, anxiety, depression, brain fog, loss of