

CLINICAL QUIZ**How Much Do You Know About Menopause?**

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WHAT IS MENOPAUSE?

Menopause is defined as the cessation of a woman's menstrual period for 12 consecutive months, a clinical diagnosis made after having ruled out any other causes of secondary amenorrhea.^{1,2} Perimenopause is the phase immediately before, or one year after, the cessation of periods, during which women may exhibit clinical features of menopause.³ The physiological and psychological changes that occur as a result of declining ovarian estrogen production include vasomotor symptoms, vulvar and vaginal atrophy, sleep and mood disturbances, decreased libido and increased risk of osteoporosis and cardiac disease.^{1,3} Obesity and diabetes risk has also been shown to increase after menopause.¹

In the 1990s, hormone therapy (HT) was introduced, and was well received by both health care practitioners and patients alike for its effective control of bothersome menopausal symptoms.³ However, in 2002, the Women's Health Initiative Study,⁴ along with several other randomized control studies, indicated that a closer examination of the risks and benefits of HT was necessary. While osteoporotic fractures were prevented, results indicated an increase in cardiovascular events, thromboembolism, breast cancer and cholecystitis among patients on combined estrogen-progestin HT.²⁻⁴ Estrogen-only HT was linked to an increase in cardiovascular disease, thromboembolism and ovarian cancer.⁴ While the designs of these studies have been disputed, the attitude towards hormonal therapy has shifted in the last several years.³ Today's approach to the treatment of menopausal symptoms and disease prevention focuses on individualized therapy with increasing focus on lifestyle modifications. Avoiding alcohol, caffeine and nicotine have shown to decrease hot flashes and improve sleep, while regular, vigorous exercise and a healthy diet are linked to decreased risk of obesity, osteoporosis and diabetes.^{1,3} Good evidence also exists demonstrating a decrease in colon, endometrial and breast cancer in regular exercisers.³ HT is now reserved for short-term management of moderate to severe menopausal symptoms after a full discussion of the

risk and benefits with the patient.³ Its use should also be reassessed on an annual basis with each patient.

This clinical quiz will test your knowledge of menopause. The answers are provided at the end of the quiz.

- 1) **What percentage of women is either perimenopausal or have completed menopause by age 50?**
 - a) 25%
 - b) 50%
 - c) 75%
 - d) 100%

- 2) **The most common cause of secondary amenorrhea is:**
 - a) Uterine disorders
 - b) Ovarian dysfunction
 - c) Hypothalamic dysfunction
 - d) Pituitary dysfunction
 - e) Pregnancy

- 3) **Which of the following non-hormonal agents have proven the most efficacious in reducing bothersome vasomotor symptoms associated with menopause?**
 - a) Selective norepinephrine reuptake inhibitors
 - b) Clonidine
 - c) Benzodiazepines
 - d) A and B only
 - e) All of the above

- 4) **Conjugated estrogen cream, intravaginal sustained-release estradiol ring and estradiol vaginal tablets are all effective treatments for vulvovaginal atrophy.**
 - a) True
 - b) False

- 5) **Black cohosh and red clover are well-studied herbal remedies that relieve many of the symptoms of menopause.**
- True
 - False
- 6) **The initial step in the diagnosis and treatment of decreased libido should be:**
- A biopsychosexual assessment of both the woman and her partner
 - Available androgen assay
 - Androgen plus estrogen replacement therapy
 - A review of systems to rule out medical conditions that may impact libido
- 7) **Estrogen therapy is currently recommended for decreasing the risk of developing dementia in postmenopausal women.**
- True
 - False
- 8) **Studies show that depressive symptoms associated with menopause are highest at:**
- Premenopause
 - Perimenopause
 - Postmenopause
 - All stages have equal reported rates of depression
- 9) **In recent studies, including the Women's Health Initiative Study of 2002,⁴ hormone therapy has been identified as increasing the risk for all but which types of cancer?**
- Ovarian cancer
 - Breast cancer
 - Colon cancer
 - Cervical cancer
- 10) **Oral unopposed estrogen therapy/continuation of therapy would be inappropriate in all but which of the following cases?**
- A 68-year-old woman admitted to hospital with a hip fracture and a bone mineral density study consistent with osteopenia. Past medical history includes appendectomy in her early 20's and deep vein thrombosis in her left calf five years ago.
 - A 49-year-old ex-smoker wants relief from her hot flashes and insomnia. Past medical history includes a hysterectomy with intact ovaries one year ago and hypertension with associated angina.
 - A 55-year-old woman has been on unopposed estrogens for six years. Her 57 year-old sister has recently been diagnosed with ovarian cancer and her brother had a myocardial infarction at age 65. No previous significant medical history.
 - A 51-year-old woman wants relief from her vaginal dryness during intercourse. Her hot flashes are minimal. She has recently been diagnosed with type 2 diabetes and her body mass index is 28.

CLINICAL QUIZ ANSWERS

1: C

By age 50, 75% of women are either perimenopausal (38%) or will have completed menopause (37%). Only 2% of women are pre-menopausal by 55 years of age.³

2: E

The most common cause of secondary amenorrhea is pregnancy, which should be considered before other investigations.¹ Among other causes, hypothalamic and pituitary dysfunction account for 54% of cases of secondary amenorrhea, including low body mass, physiological stress, hyperprolactinemia and Sheehan syndrome. Ovarian disorders, such as polycystic ovarian syndrome and premature ovarian failure account for 40% of cases, while uterine conditions such as Asherman's syndrome and adrenal dysfunction comprise the remainder.¹

3: D

Studies have demonstrated that use selective norepinephrine reuptake inhibitors reduced hot flashes in menopausal women by two-fold compared with placebo. Early research suggests selective serotonin reuptake inhibitors users have similar results.⁵ The α_2 adrenergic agonist clonidine, as well as gabapentin and bupropion, and an ergotamine/phenobarbital combination have also shown to be effective in reducing vasomotor symptoms.³ Benzodiazepines have no direct effect on vasomotor symptoms.

4: A

True.³ Vaginal administration of estrogens allows for a local response and thus a lower estrogenic dose is needed to achieve therapeutic doses.¹

5: B

False. While complementary and alternative medicine serves a large consumer market, unfortunately the efficacy and safety of these herbal remedies are not well studied and may even be harmful to patients.³

6: D

A thorough history and physical examination to rule out a medical cause of decreased libido such as a thyroid or mood disorder should first be undertaken. A biopsychosocial assessment of both the woman and her partner is the next investigation that should be done when a menopausal patient complains of decreased libido. Routine evaluation of sex hormones and available androgen assays are not useful and do not correlate well with sexual function.³ Once the diagnosis of an interest/arousal disorder is made, replacement androgen-estradiol combinations may be considered as a treatment option.¹

7: B

False. In fact, preliminary results from the estrogen-only arm of the Women's Health Initiative (WHI) Memory Study⁶ indicated a trend towards increased risk of dementia and/or mild cognitive impairment in patients taking once daily oral conjugated estrogen compared with placebo.¹

8: B

The shifting hormonal balance occurring in the perimenopausal phase has been hypothesized to account for increased depressive symptoms in a study of American women.⁷ It appears that depressive symptoms decrease after menopause.

9: C

Combined estrogen-progestin hormone replacement therapy was confirmed by the WHI study as reducing the risk of colon cancer in women. Long-term (more than 5 years) unopposed estrogen use is associated with increased risk of endometrial cancer, and with a slight increase in risk of developing ovarian cancer.^{1,4} Women taking estrogen with continuous progestins, however, were found to have a slightly lower risk of developing endometrial cancer.⁴ The Nurses' Health Study in 1995⁸ showed that women taking hormone therapy for more than five years had a relative risk of 1.46 of developing breast cancer, and that this risk increases with age.^{1, 3} The role of progestins in breast cancer risk is still unclear. Thus, short-term use (less than four years) is an acceptable treatment modality for most patients, but must be reevaluated on an annual basis.

10: C

Despite estrogen's bone-building properties, deep vein thrombosis is an absolute contraindication to estrogen therapy in A. Oral unopposed estrogen therapy would be inappropriate in D, as the patient should first try a local administration of estrogen in the forms of creams or a slow-release ring that would offer less systemic absorption. She could also use an over-the-counter gel lubricant during intercourse. The patient in B should not be offered unopposed estrogen given her cardiac history. First-degree relatives with significant medical history are not absolute contraindications to hormone therapy; therefore, after a discussion of risks and benefits with the patient in C, hormone therapy may be appropriate.

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Author Biography

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