

# Menopause

- What is menopause?
  - Menopause marks the end of a woman's ability to reproduce, and the ovaries no longer produce significant amounts of estrogen.
  - The ovaries will slow down production of hormones before stopping completely, and this presents as irregular cycles, commonly referred to as "perimenopause."
  - We can see menopause on labs when estrogen is very low, and the pituitary hormones LH & FSH are high.
  - When a woman's periods have stopped for a full year, menopause is complete.
- What are the symptoms of menopause?
  - The classic picture involves unpredictable sweating "hot flashes" that are typically worse at night, vaginal dryness, reduction in libido and discomfort during sex. Sometimes memory problems and depression can occur as well.
- When does menopause occur?
  - The average age of menopause in the United States is approximately 51 years old.
    - If it happens at an age younger than 40, it is called "primary ovarian failure"
  - It can also occur when a woman's ovaries are removed surgically, or when she is treated with certain medications that block the ovaries from working.
- I had [an early] menopause, what should I do?
  - When women undergo menopause for any reason prior to the average age, it is important for many aspects of her cardiac, sexual and bone health to provide the missing estrogen.
  - We know from large studies that this hormone replacement is extremely important at the earlier ages of menopause, and in this age group the risk of complications in the first 5 years is quite low.
- Who should NOT receive menopausal hormone replacement?
  - Women who had prior blood clots or stroke.
  - Women who have known breast or endometrial cancer or who have strong family histories of breast cancer.
  - Women with active liver disease.
  - Women with any new vaginal bleeding after menopause.
- What hormones are used to treat menopause?
  - Estrogen
    - **This is the gold standard for relieving the symptoms associated with menopause.**
    - Endocrine societies endorse the use of estrogen patches rather than pills because this method of delivering estrogen most closely mimics how the body would produce estrogen, and it appears to have the lowest associated risks.

- Progesterone
  - **This is mandatory for women on estrogen who still have a uterus to prevent endometrial cancer.**
  - For women who do not have a uterus, taking progesterone does not provide any additional benefits than estrogen by itself.
- Testosterone
  - The Endocrine Society recommends against the routine use of testosterone in women. There are specialized scenarios where a trial of testosterone can be attempted.
- “Bio-identical” hormones
  - This refers to a group of plant-based hormones that have been modified to match human hormones. Most frequently these are custom compounded by a pharmacy into gels/creams that are applied daily.
  - The most common hormones that are compounded are
    - Estradiol, estriol & estrone
    - Progesterone
    - Testosterone
    - DHEA
    - Sermorelin (growth hormone)
  - The North American Menopause Society, American College of Obstetricians & Gynecologists as well as The Endocrine Society recommend **against** the use of these compounded formulations because there are no large scale studies evaluating safety, effectiveness or validity of their dosing.
- What if I don't want hormone therapy?
  - There have been many studies investigating the use of other medications, usually the newer forms of antidepressants called SSRIs to improve the menopausal symptoms.
  - These types of medications will not provide the benefits to bone health, sexual function, etc. that we expect from hormones.
- How do we know the treatment is effective?
  - The primary goal is to resolve the symptoms associated with menopause, specifically the sweats and the sexual function.
  - It is not standard of practice to follow hormone levels to adjust dosing.