

## Understanding Menopause

by Dr. W. David Hager

The middle years of a woman's life are surrounded by more myth and mystery than any other season she confronts. These myths can cause much fear and anxiety in the lives of middle-aged women as they approach and deal with menopause and its effects.

### What Is Menopause?

Menopause is a normal time in a woman's life when her ovaries begin to shut down the production of the hormones estrogen, progesterone, and testosterone. Testosterone is usually considered to be a "male hormone" but it is also produced in small amounts in women and plays a role in sexual desire. Menopause is defined as one year of amenorrhea (no periods). The stage of life immediately preceding menopause, in which women transition from regular menstrual periods to no menstrual periods at all, is called *perimenopause*. There are currently more than 45 million postmenopausal women in the United States and this number is steadily increasing.

Menopause does not occur at a specific age, although most women go through menopause near midlife. The mean age for menopause for women in the United States is roughly 51 years, but in some cases it may occur much earlier or later.

Menopause normally occurs as a result of natural aging, but it can start prematurely if the ovaries cease to function for any reason such as chemotherapy or radiation. Many women become menopausal as a result of surgical removal of the ovaries prior to normal menopause. Removal of the uterus alone does not cause menopause; the ovaries produce hormones, not the uterus.

### Myths of Menopause

Some of the myths plaguing our thinking concerning menopause include:

- Menopause is the beginning of a downhill course in life.
- Menopause is a time of diminished productivity and contribution to society.
- Menopause always occurs at the age when the individual's mother became menopausal.
- Menopause is often the end of normal sexual desire.

These misconceptions are not consistently true, and should not discourage those entering this phase of their lives.

Another common misconception is that hormone therapy can make menopausal women fertile again. The use of supplemental hormones does not restore ovarian function or fertility. Menopausal women are considered permanently infertile after they have had cessation of menses for 12 consecutive months.

### The Normal Menstrual Cycle

Because menopause is the time in a woman's life when menstruation ceases, it is important to understand what occurs during the normal menstrual cycle.

The reproductive years consist of the time from menarche, or the start of normal menses, until menopause. The ovaries produce the hormones estrogen and progesterone.

Estrogen is produced throughout the menstrual cycle—for most women, a 28-day cycle. Estrogen stimulates the endometrium, or the lining of the uterus, to thicken and become more

vascular (becomes enriched with blood vessels). This is to provide a potential home for a fertilized egg, which implants in and gets its blood supply from the uterine wall.

The production of progesterone is increased in the latter half of the cycle and further stimulates and supports the endometrial lining. If the egg is not fertilized after ovulation, the estrogen and progesterone levels fall, endometrial support declines, and menstruation results.

### Symptoms of Menopause

As women approach menopause, their ovaries begin to produce less estrogen and progesterone, and ovulation becomes less frequent. As a result, menstrual periods are more irregular. When periods occur, the menstrual flow is often different as well. Instead of four to seven days of normal flow, a woman may bleed one day, spot for two days, bleed a day and spot for three more, or menses may become very scant.

Classic menopausal symptoms include:

- Hot flashes
- Sweating, especially at night
- Sleep disturbances
- Irritability
- Mood swings, including depression, altered self-esteem, and anger
- Low frustration tolerance
- Vaginal dryness, which can cause discomfort with urination and intercourse
- Alteration of short-term memory
- Difficulty concentrating, and
- Some hair growth on the face, arms, chest or abdomen.

### Diagnosis

Menopause is often diagnosed when a middle-aged woman displays classic symptoms of the condition and cessation of menses. If there is any question about the diagnosis, a blood test can be taken to measure the level of follicle stimulating hormone, or FSH. During menopause, this hormone is elevated because the brain attempts to stimulate the ovaries, but they do not respond. Measurement of FSH levels should not be used to determine the appropriate dose of estrogen to use in treatment, however.

### Physical Changes

In addition to the symptoms above, other changes occurring in menopausal women can be dangerous.

In menopause, the risk of heart attack and stroke increase. This occurs, it is thought, because estrogen, which helps to decrease plaque formation in the walls of arteries preventing atherosclerosis, is now being produced in much lower levels.

Estrogen also acts to increase HDL, or “good” cholesterol, while lowering total cholesterol. Lowered estrogen levels in menopause may increase LDL, or “bad” cholesterol, and lower HDL, thus increasing the risk of heart attack and stroke. Remember that heart attack is still the overall leading cause of death among women.

Calcium loss from bone is a normal part of the aging process. From the age of 28 on, women begin to lose bone mass. This loss is greatest in the first few years of menopause, when 1 percent to 2 percent of bone mass may be lost each year. Estrogen acts to help keep calcium in

bone so it remains strong. Even with weight-bearing exercises and adequate calcium/vitamin D intake, a woman's bones may become less dense if estrogen is not present.

Seventy-five percent or more of the bone loss that occurs in women during the first 15 years after menopause is attributable to estrogen deficiency rather than aging itself. A combination of estrogen therapy and calcium use can result in the stability of bone density and a decrease in compression fractures of the spine and hip during menopause.

Insufficient estrogen levels have also been associated with altered memory, macular degeneration in the eye (which may cause blindness), and colon cancer. Lower estrogen levels can also result in the skin becoming drier and thinner. Testosterone production from the ovaries and adrenal glands continues in menopause. However, since it is no longer countered by estrogen production, it may contribute to thinning or loss of hair from the head, while stimulating in some women the growth of fine hair on the face, chin, and neck.

#### Treatment: Benefits and Risks

The treatment of menopause is not limited to hormone therapy. A well-balanced, low-fat diet, adequate weight bearing exercise, 1,200 to 1,500 milligrams of calcium with 400 to 800 IU of vitamin D a day are recommended. Most physicians recommend estrogen as well, because it relieves menopausal symptoms and decreases the risk of osteoporosis. However, if you decide to initiate hormonal therapy, it is best to do this early in menopause. Some providers even recommend starting treatment in the perimenopausal years with low dose birth control pills. The latest data from the Women's Health Initiative (WHI) indicate if estrogen is started at 59 years or less that there is not an increased risk of cardiovascular disease. There is also a small decrease in the risk of colon cancer and macular degeneration of the eye with estrogen therapy. On the downside, estrogen slightly increases the risk of blood clots, and women who already have underlying heart disease are placed at an increased risk of heart attack and stroke, especially during their first year of estrogen use. While the American Heart Association does not currently recommend that estrogen be used as a means of protecting women against cardiovascular disease, research indicates that estrogen may provide some protective benefits for the heart if started at or near the onset of menopause.

The greatest concern of estrogen therapy is related to breast cancer. Some experts feel there is an increased risk, and others feel there is no increased risk among women who take estrogen. The Centers for Disease Control and Prevention published a summary of several studies in which they found no increased risk in the first five years of estrogen therapy, but a 30-percent increase after 15 years. This risk of breast cancer appears to begin after 4 to 5 years of consecutive use. Interestingly, women who develop breast cancer while on estrogen have a lower risk of dying from their cancer than women who develop breast cancer when not on estrogen.

The WHI study was a large study conducted by the National Institutes of Health that demonstrated an increased risk of breast cancer among menopausal women after four consecutive years of estrogen plus progesterone use. While the increased risk was statistically significant, the increased number of breast cancer cases was rather small. For menopausal women who undertook no hormone therapy the risk of developing breast cancer was 30 out of 10,000. For menopausal women who took estrogen plus progesterone daily for a year, the risk of developing breast cancer increased to only 38 women out of 10,000. Thus, continuous estrogen plus progesterone hormone therapy resulted in a 0.08% annual increased risk of breast cancer.

Many now believe that it is the combined use of estrogen and progesterone that increases the risk of breast cancer rather than the use of estrogen alone. Among women in the WHI study

who took estrogen alone there was not an increased risk of breast cancer. However, estrogen alone increases the risk of endometrial cancer. Unless a woman has had a hysterectomy, it is recommended that she take progesterone to counteract the effects of estrogen on the lining of the uterus. With the addition of progesterone, the risk of endometrial cancer is greatly decreased.

For most women, the benefits of hormone therapy outweigh the risks, considering the relief of menopausal discomfort as well as the complications following hip or spinal compression fractures, especially after 65 years of age. Research shows that, on average, women taking estrogen live longer and healthier lives than women who don't take estrogen replacement.

Like any medical therapy, hormone replacement must be customized to the individual woman. Hormone therapy is not a "one size fits all" formula. The risks and benefits of as well as the dosage and duration of treatment must be discussed with your physician. Because each woman is unique, there are several methods of hormone therapy options available. Estrogen can be taken in pill form which is self explanatory, delivered transdermally (across the skin) via a patch or cutaneous gel, or administered by using a vaginal ring (Femring®). The skin patch allows the estrogen into the body without passing from the digestive system through the liver as is the case when it is taken orally. The major benefit of transdermal absorption, and thus the avoidance of liver metabolism of the hormone, is among women who have hepatic disease. Some women don't like patches because they can loosen with sweating or bathing, and because some patients develop a skin rash. Estrogen creams or gels that are absorbed through the skin are also available. Other methods of providing estrogen without it being metabolized by the liver are injections or pellets that can be implanted under the skin. Currently, neither of these methods are commonly used. Finally, a vaginal ring is a thin, flexible ring inserted into the vagina which slowly releases the hormone.

Estrogen and progesterone can be taken together daily in a single pill, or combined in a patch or cream. With this combination, most women eventually stop having periods. Unfortunately, some women have continuous spotting for a number of months before their periods stop completely.

Estrogen and progesterone can also be administered cyclically: The estrogen is taken daily, either in pill or patch, and the progesterone is taken for 12 days a month. With this regimen, most women will have periods. When menses become very light, conversion to daily estrogen and progesterone usually results in no periods.

If you have a strong family history of breast cancer in a primary relative (mother or sister), you may want to consider the benefits and risks of hormone therapy more carefully. There does not appear to be a significant increased risk of breast cancer above the general population with a diagnosis in a secondary relative (aunt, cousin, or grandmother). On the other hand, if you have a family history of osteoporosis, hormone therapy should be strongly considered. Women who already have heart disease may not be good candidates to start estrogen. It is recommended that women take the lowest dose of hormonal medication that will relieve symptoms so the dose should be progressively decreased to find this level.

Because the rate of bone loss is greatest during the early years of menopause, women who choose hormone therapy should begin early. In any event, be sure to discuss all the ramifications and the potential risks and benefits with your health-care provider.

A woman's ovaries also naturally produce testosterone. After menopause, this hormone (which affects energy and the sex drive) can fall. Blood tests can be performed to see if replacement is needed. Some women prefer "natural methods" of hormone delivery, using botanical or other homeopathic preparations. Although these forms of medication can relieve the

symptoms of menopause, they are not as closely scrutinized by the Food and Drug Administration (FDA), and their potency and effectiveness can vary widely. There is little documentation of the effectiveness of these preparations on the risk of heart attack, stroke, osteoporosis, colon cancer, macular degeneration, or Alzheimer's disease.

The decision about whether to undergo hormone therapy and if so, in what form, should be determined after a discussion with your health care provider—and prayer with the Master Physician.

### New Medications

For women who cannot take estrogen or who do not wish to take estrogen, there are now other medications that can be utilized to maintain or improve bone density. New drugs called *selective estrogen receptor modulators* (SERMs), such as raloxifene and tamoxifen, can block the effect of estrogen on breast tissue and mimic estrogen's beneficial effects in other body systems. The benefits may include a decrease in osteoporosis and cholesterol. Menopausal symptoms such as hot flashes, night sweats and vaginal dryness are not relieved however.

Raloxifene (sold under the trade name Evista®) does lower cholesterol levels and appears to have some effect in preventing osteoporosis. Raloxifene may be beneficial for women who fear estrogen or who have breast cancer and need osteoporosis prevention. In the properly screened women, these medications offer many benefits. However, there are some potential side effects associated with SERMs to consider. For example, there is an increased risk of blood clots (thrombosis) with raloxifene, and if a woman is going to be inactive she should discontinue taking it. Additionally, tamoxifen can stimulate abnormal changes in the endometrium; thus if there is any abnormal bleeding it must be evaluated by a physician.

For women with elevated total cholesterol and LDL, a class of drugs called *statins* may be used. For those with osteoporosis or osteopenia (a condition in which bone mineral density is lower than normal but not low enough to be defined as osteoporosis) another class of drugs known as *bisphosphonates* may be used. Bisphosphonates decrease the loss of calcium from the bone and slow or prevent deterioration of the bone architecture. Commonly prescribed bisphosphonates include Fosamax® (alendronate), Boniva® (ibandronate), and Actonel® (risedronate).

### Living With Menopause

Menopause does not have to be an unwelcome intrusion into your life. The following suggestions can help minimize the impact of menopause:

- Stay informed, follow a well-balanced diet and exercise regularly.
- Keep your mind occupied by interacting with others, reading, and studying.
- Spend time with God in Bible study, prayer and meditation and reach out to others with visits, letters and prayers.
- Take the vitamins and minerals you need and consider hormonal therapy.

In addition, be sure to schedule the following:

- Regular physical examinations and Pap tests. Newer guidelines by the American Cancer Society state that if a woman is thirty years old and has had three consecutive negative Pap tests, she can space this test out to every 2 to 3 years. The American College of Obstetricians and Gynecologists has also adopted these same guidelines.
- A mammogram and clinical breast exam every year after age 40 and a monthly breast self-examination.

- A test for blood in the stool every year and beginning at age 50, a colonoscopy every 5 to 10 years (more frequently if polyps in the colon have previously been detected or a strong family history of colon cancer exists).
- A check of cholesterol and lipids every one to two years and thyroid function every five years.

Some doctors recommend an ultrasound scan of the pelvis to evaluate the ovaries every one to two years. Beginning at age 65, a bone density can be measured in the spine and hip unless there is a strong family history of osteoporosis, steroid use, smoking, or fracture unrelated to a trauma in which case screening should begin at age 50. This is especially useful when women are trying to decide if they will take hormones.

There is much confusion about menopause and perimenopause, and the lay literature is saturated with poorly reported information or misinformation. Hormone therapy is not a “one size fits all” for women in menopause. Thus, it is important to share your questions and concerns with your health-care provider and construct a plan that is customized to your needs.

Remember that these can be the best years of your life, the years of a beautiful, mature woman. To paraphrase Proverbs 20:29: “The glory of the young is their strength, gray hair the splendor of the old.” Remember also at this glorious time of life the scriptural admonition to care for yourself. “Do you not know that your body is a temple of the Holy Spirit, who is in you, whom you have received from God? You are not your own; you were bought at a price. Therefore honor God with your body.” (I Cor. 6:19-20).

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