

## ***GENESIS Obstetrics & Gynecology***

***Bruce B. Baniyas, MD***

3075 Governor's Place Blvd Suite 210

Kettering, Ohio 45409

Phone (937) 293-5200 • Fax (937) 424-5925

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### **MENOPAUSE**

Menopause is a normal biological event that marks the end of a woman's reproductive years. It is the point when menstruation stops permanently. On average, menopause occurs at age 51, but like the beginning of menstruation in adolescence, timing varies from person to person.

Menopause is the last stage of a gradual biological process in which the ovaries reduce their production of female sex hormones. Estrogen production in the body diminishes slowly over a period of years, commonly resulting in hot flashes, night sweats, mood swings, and memory loss. This gradual phase before the permanent cessation of menstrual periods is sometimes called perimenopause. The process of menopause is considered complete when a woman has not menstruated for an entire year. Another type of menopause, known as surgical menopause, occurs if both ovaries are removed for medical reasons. This may be done at the time of a hysterectomy (removal of the uterus).

Living without the protective effects of estrogen increases a woman's risk for developing serious medical conditions, including osteoporosis and cardiovascular disease. There are a variety of treatments available, however, to help ease the symptoms of and reduce health risks associated with menopause.

#### **Signs and Symptoms**

Each woman experiences her own variation of the typical symptoms of menopause. Some studies even suggest that the signs and symptoms of menopause may vary between cultural groups. In general, however, the loss of estrogen that occurs during menopause causes the following symptoms:

- Irregular menstrual cycles—menstrual bleeding slows, becomes erratic, and then stops permanently (the process takes about 4 years)
- Hot flashes—flushing of face and chest (may be accompanied by heart palpitations, dizziness, headaches)
- Night sweats
- Cold hands and feet
- Vaginal changes—dryness, itching, bleeding after intercourse
- Urinary changes—frequent urination, burning during urination, urinating at night, incontinence
- Insomnia
- Mood changes—depression, irritability, tension (usually occurs with sleep disturbances)
- Loss of skin tone leading to wrinkles
- Weight gain and change in weight distribution with increased fat in the central, abdominal area

Over time, depleted estrogen levels can contribute to the development of more serious medical conditions, including the following:

- Osteoporosis
- Cardiovascular disease
- Alzheimer's disease
- Macular degeneration (a serious eye disorder and the leading cause of blindness in the Western world)
- Glaucoma
- Colon cancer

#### **Causes**

Menopause is caused by a gradual reduction in the amount of estrogen produced in the ovaries. Estrogen, a female hormone produced primarily by the ovaries, is essential for the reproductive process and influences menstrual cycles, pregnancy, some aspects of mood, and the aging process. In the years leading up to menopause, the ovaries become less functional and produce lower amounts of estrogen and progesterone (another female hormone). Studies indicate that women who smoke may reach menopause at a younger age than those who do not smoke. Some researchers speculate that the timing of menopause onset may be hereditary, but the evidence to support this claim is limited.

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Although menopause usually occurs naturally, it can be artificially induced through surgical removal of the ovaries (this is called surgical menopause). Menopause can also be caused by ovarian failure from cancer therapy, such as chemotherapy or radiation treatments.

### Risk Factors

Menopause is part of the natural aging process in all women, unless it is caused by surgical removal of both ovaries. (This operation, known as a bilateral oophorectomy, may be performed at the time of a hysterectomy). Surgical menopause tends to cause a more abrupt onset of symptoms. The following risk factors may also hasten the onset of menopausal symptoms:

- Radiation, and/or chemotherapy
- Premature ovarian failure
- Smoking
- Hypothyroidism—diminished production of thyroid hormone
- Insufficient production of hormones by the adrenal glands

### Diagnosis

In general, menopause is considered complete when a woman has not menstruated for at least 1 year. A healthcare provider will perform an examination that includes a Pap smear, blood tests looking at hormone and cholesterol levels, and, possibly, a bone density measurement. It is important to have a thorough discussion with the healthcare provider regarding the benefits and risks of different options for reducing symptoms and health risks. If vaginal bleeding resumes unexpectedly once menopause has occurred, your doctor may consider a test called an endometrial biopsy. In this test (performed in the office), a gynecologist takes a sample of the uterine lining (the endometrium) and examines them under the microscope for abnormal changes.

### Preventive Care

The following preventive measures may help diminish symptoms and reduce the risk of serious complications (such as osteoporosis and cardiovascular disease) associated with menopause:

- Quitting smoking—smokers tend to begin menopause 1 to 2 years earlier than nonsmokers; smokers are also at an increased risk for heart disease and osteoporosis
- Taking calcium supplements—helps protect against bone loss
- Exercising—slows the rate of bone loss, reduces hot flashes, and improves mood
- Consuming low-fat diets—helps prevent cardiovascular disease by decreasing LDL "bad" cholesterol and by lowering the chances of weight gain
- Taking certain medications (such as estrogen or non-hormonal medications)—prevents long-term illnesses associated with menopause, such as osteoporosis
- Avoiding caffeine—some studies suggest that caffeine consumption may be a risk factor for osteoporosis in postmenopausal women

### Treatment Approach

The goal in treating menopause is to alleviate symptoms and reduce the risk for long-term medical conditions, such as heart disease, breast cancer, and osteoporosis. There are a variety of treatment options available to menopausal women. To help determine the most appropriate treatment, it is important for each woman to discuss personal risks and benefits with her healthcare provider.

To combat symptoms and prevent the development of osteoporosis associated with diminished estrogen levels, hormone replacement therapy (HRT) may be considered. HRT involves the administration of the female sex hormones, estrogen and progesterone. Estrogen replacement therapy (ERT) refers to the administration of estrogen alone. ERT has proven to be very effective in relieving many of the symptoms of menopause, and is also thought to help prevent osteoporosis.

Hormone treatment for menopause is quite controversial, however. Preliminary research suggested that HRT might help prevent heart disease. But, the latest and largest studies report that that is not the case. In fact, HRT may increase your risk for both heart disease and stroke. Also, of particular concern is that taking ERT can put you at increased risk for breast cancer.

Based on these concerns and scientific evidence to date, physicians are unable to recommend long term use of HRT. For some women, taking HRT for a short period of time (like 1 to 2 years) to relieve symptoms of menopause may be fine.

In addition, there are non-hormonal medications and non-drug therapies that can help reduce your risk for long-term medical conditions associated with menopause:

- Selective estrogen receptor modulators (SERMs) help prevent osteoporosis
- Calcium, vitamin D, and other nutrients increase bone mineral density
- Soy foods help diminish hot flashes and improve cholesterol which, in turn, may reduce the risk of heart disease
- Exercise boosts bone mineral density, reduces hot flashes, and improves mood
- Low-fat diets reduce the risk of heart disease

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## Exercise

The benefits of exercise include:

- Slowing the rate of bone loss (through weight-bearing exercises)
- Reducing hot flashes
- Boosting mood
- Enhancing memory and concentration
- Improving cholesterol
- Improving pelvic muscle tone through Kegel exercises
- Maintenance of general health and strength, particularly for elderly who are better able to maintain independence if they exercise

## Diet

The right diet can help a woman battle many of the risks and discomforts associated with menopause. A low-fat, low-cholesterol diet, for example, may diminish the risk of heart disease in menopausal women by providing the following benefits:

- Less of a rise in LDL cholesterol and triglycerides (both are bad forms of cholesterol)
- At least short-term lowering of blood pressure
- Diminished weight gain

In addition, soy-based foods like tofu have been shown to help minimize certain symptoms of menopause, including hot flashes. Adding plenty of calcium to the diet can also help a menopausal woman avoid bone loss. (Foods rich in calcium include dairy products, leafy green vegetables, almonds, and dried beans). High fiber meals may also help lower a woman's risk of high cholesterol and heart disease.

## Medications

There are many medications available in the form of natural and synthetic hormones (estrogen and progesterone) to treat symptoms of menopause. Commonly referred to as hormone replacement therapy (HRT), these medications are usually administered in pill form, although skin patches and vaginal creams may also be used.

The following information represents a summary of the most commonly used hormone medications. A woman and her healthcare provider can discuss the pros and cons of all treatment options to determine which approach is most appropriate.

## Estrogen

Estrogen replacement therapy (ERT) refers to the administration of the female sex hormone, estrogen. In addition to reducing the symptoms of menopause, ERT is thought to help prevent the devastating effects of osteoporosis. Most studies showing long-term beneficial effects for ERT have examined this hormone alone.

The decision regarding whether to take estrogen depends on several factors including the severity of your menopausal symptoms as well as your risk for osteoporosis and breast cancer.

Studies indicate that estrogen helps to reduce hot flashes and vaginal dryness. It can also slow bone loss thereby minimizing fractures associated with osteoporosis, and improve cholesterol levels. Women who take estrogen may be at lower risk for Alzheimer's disease, colon cancer, and macular degeneration.

Despite these potential advantages, studies indicate that estrogen increases the risk of developing breast cancer and, possibly, gallbladder disease, asthma, liver disease, blood clots, stroke, and, if used without progesterone, uterine cancer. Side effects of estrogen use include bloating, nausea, and breast tenderness.

Estrogen is available in a variety of forms—estradiol is considered the strongest form and estropipate the weakest. Mixtures of estrogens (also known as conjugated estrogens) are also often prescribed.

## Estrogens (or estrogen derivatives)

- Conjugated equine estrogens—available as tablet, cream, or injection
- Conjugated synthetic estrogens—tablet
- Dienestrol—vaginal cream
- Esterified estrogens—tablet
- Estradiol—tablet, cream, transdermal patch, vaginal ring, or injection
- Estriol—a weak estrogen; available in Europe in oral, topical, or vaginal gel forms; made in compounding pharmacies in the United States as tablet, capsule, or gel that include 10% estradiol, 10% estrone, and 80% estriol; serum levels of estradiol and estrone should be followed and the dosage adjusted if levels fall outside the therapeutic range

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- Estropipate—tablet, cream
- Ethinyl estradiol—tablet

### Progesterone

Estrogen stimulates the growth of the inner lining of the uterus (endometrium); it is the endometrium that sheds during menstruation. ERT used after menopause can also stimulate endometrium growth, but this growth may occur uncontrollably and even result in cancer. Progesterone counteracts this dangerous effect on the uterus and reduces the risk of developing uterine cancer by causing monthly shedding of the endometrium. Therefore, when a menopausal woman has not had a hysterectomy (has an intact uterus), progesterone is used in combination with estrogen.

In rare instances, progesterone may be used without estrogen to treat hot flashes and other symptoms of menopause. Generally, however, most physicians recommend that women who have a uterus use a combination of estrogen and progesterone to combat symptoms of menopause and reduce the risk of uterine cancer. Progesterone is available in synthetic forms (progestins) and natural forms. Natural progesterones appear to cause fewer side effects than synthetic progesterones.

Progesterones frequently prescribed include:

- Medroxyprogesterone acetate—tablet or injection
- Norethindrone acetate—tablet
- Micronized progesterone—tablet, cream, or suppository

### Combination Therapy

Combinations of estrogen and progesterone in a single pill may be prescribed to make the daily treatment regimen easier.

Common combination prescriptions include:

- Conjugated estrogens and medroxyprogesterone—tablet
- Estradiol and norethindrone—tablet or patch
- Estradiol and micronized progesterone—tablet

### Testosterone

Although generally considered a male hormone, testosterone may be prescribed to a woman in small amounts in combination with estrogen. Testosterone appears to improve bone mass, sexual drive, and mental alertness. Side effects of this therapy include increased body hair, acne, fluid retention, anxiety, and depression. The long-term risks of testosterone are not well known at this time.

Common prescriptions with testosterone include:

- Estrogen Esterified and Testosterone

### Selective Estrogen-Receptor Modulators (SERMs)

A woman who either cannot or who chooses not to take estrogen may be advised to try a class of drugs called selective estrogen-receptor modulators (SERMs). Raloxifene, the main drug in this category used for menopause, helps to prevent osteoporosis without increasing a woman's risk of developing breast or uterine cancer. These medications do not improve symptoms of menopause, however, and may even make those symptoms worse.

### Bisphosphonates

Another class of medications, the biphosphonates, is used primarily for women with early signs of bone loss or osteoporosis, and cannot take hormones. Alendronate, one type of biphosphonate, helps to build bone mass, particularly once osteoporosis has set in.

### Nutrition and Dietary

Please discuss these options and concerns with Dr. Banias.

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Patient Initials

\_\_\_\_\_  
Date

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