



MENOPAUSE

Q. WHAT IS MENOPAUSE?

A. Menopause is the point in a woman's life when menstruation stops permanently, signifying the end of her ability to have children. Menopause is also known as the "change of life," menopause is the last stage of a gradual biological process in which the ovaries reduce their production of female sex hormones--a process that begins about 3 to 5 years before the final menstrual period. This transitional phase is called the climacteric, or perimenopause. The medical definition of menopause is considered when a woman has been without periods for 1 year. On average, this occurs at about age 52.5 years. But like the beginning of menstruation in adolescence, timing varies from person to person. Cigarette smokers tend to reach menopause earlier than nonsmokers. More than one third of the women in the United States, about 36 million, have been through menopause. With a life expectancy of about 81 years, a 52-year-old woman can expect to live more than one third of her life after menopause.

Q. WHAT CAUSES MENOPAUSE?

A. The ovaries contain structures called follicles that hold the egg cells. You are born with about 2 million egg cells and by puberty there are about 300,000 left. Only about 400 to 500 ever mature fully to be released during the menstrual cycle. The rest degenerate over the years. During the reproductive years, the pituitary gland in the brain generates hormones that cause a new egg to be released from its follicle each month. The follicle also increases production of the sex hormones estrogen and progesterone, which thicken the lining of the uterus. This enriched lining is prepared to receive and nourish a fertilized egg following conception. If fertilization does not occur, estrogen and progesterone levels drop, the lining of the uterus breaks down, and menstruation occurs.

For unknown reasons, the ovaries begin to decline in hormone production during the mid-thirties. In the late forties, the process accelerates and hormones fluctuate more, causing irregular menstrual cycles and unpredictable episodes of heavy bleeding. By the early to mid-fifties, periods finally end altogether. However, estrogen production does not completely stop. The ovaries decrease their output significantly, but still may produce a small amount. Also, another form of estrogen is produced in fat tissue with help from the adrenal glands (near the kidney). Although this form of estrogen is weaker than that produced by the ovaries, it increases with age and with the amount of fat tissue.

Progesterone, the other female hormone, works during the second half of the menstrual cycle to create a lining in the uterus as a viable home for an egg, and to

shed the lining if the egg is not fertilized. If you skip a period, your body may not be making enough progesterone to break down the uterine lining. However, your estrogen levels may remain high even though you are not menstruating.

During the perimenopause, hormone levels don't always decline uniformly. They alternately rise and fall again. Changing ovarian hormone levels affect the other glands in the body, which together make up the endocrine system. The endocrine system controls growth, metabolism and reproduction. This system must constantly readjust itself to work effectively. Ovarian hormones also affect all other tissues, including the breasts, vagina, bones, blood vessels, gastrointestinal tract, urinary tract, and skin.

Q. WHAT ARE THE SYMPTOMS OF MENOPAUSE?

A. Menopause is an individualized experience. Some women notice little difference in their bodies or moods, while others find the change extremely bothersome and disruptive. Estrogen and progesterone affect virtually all tissues in the body, but everyone is influenced by them differently.

HOT FLASHES

Hot flashes, or flushes, are the most common symptom of menopause, affecting more than 60% of menopausal women. A hot flash is a sudden sensation of intense heat in the upper part or all of the body. The face and neck may become flushed, with red blotches appearing on the chest, back, and arms. This is often followed by profuse sweating and then cold shivering as body temperature readjusts. A hot flash can last a few moments or 30 minutes or longer.

Hot flashes occur sporadically and may start several years before other signs of menopause. They gradually decline in frequency and intensity as you age. Eighty percent of all women with hot flashes have them for 2 years or less, while a small percentage have them for more than 5 years. Hot flashes can happen at any time. They can be as mild as a light blush, or severe enough to wake you from a deep sleep. Some women even develop insomnia. Others have experienced that caffeine, alcohol, hot drinks, spicy foods, and stressful or frightening events can sometimes trigger a hot flash. However, avoiding these triggers will not necessarily prevent all episodes.

Hot flashes appear to be a direct result of decreasing estrogen levels. In response to falling estrogen levels, your glands release higher amounts of other hormones that affect the brain's thermostat, causing body temperatures to fluctuate. Hormone therapy relieves the discomfort of hot flashes in most cases.

Some women claim that vitamin E offers minor relief, although there has never been a study to confirm it. Aside from hormone therapy, which is not for everyone, here are some suggestions for coping with hot flashes:

- Dress in layers so you can remove them at the first sign of a flash.
- Drink a glass of cold water or juice at the onset of a flash.
- At night keep a thermos of ice water or an ice pack by your bed.
- Use cotton sheets, lingerie and clothing to let your skin "breathe."

VAGINAL/URINARY TRACT CHANGES

With decreasing estrogen levels, the walls of the vagina become thinner, dryer, less elastic, and more vulnerable to infection. These changes can make sexual intercourse uncomfortable or painful. Most women find it helpful to lubricate the vagina. Water-soluble lubricants are preferable, as they help reduce the chance of infection. Try to avoid petroleum jelly; many women are allergic, and it damages condoms.

Tissues in the urinary tract also change with age, sometimes leaving women more susceptible to involuntary loss of urine (incontinence), particularly if certain chronic illnesses or urinary infections are also present. Exercise, coughing, laughing, lifting heavy objects or similar movements that put pressure on the bladder may cause small amounts of urine to leak. Lack of regular physical exercise may contribute to this condition. It's important to know, however, that incontinence is not a normal part of aging, to be masked by using adult diapers. Rather, it is usually a treatable condition that warrants medical evaluation. Recent research has shown that bladder training is a simple and effective treatment for most cases of incontinence and is less expensive and safer than medication or surgery.

Within 4 or 5 years after the final menstrual period, there is an increased chance of vaginal and urinary tract infections. If symptoms such as painful or overly frequent urination occur, consult your doctor. Infections are easily treated with antibiotics, but often tend to recur. To help prevent these infections, urinate before and after intercourse, be sure your bladder is not full for long periods, drink plenty of fluids, and keep your genital area clean. Douching is not thought to be effective in preventing infection.

PSYCHOLOGICAL CHANGES

A popular myth pictures the menopausal woman shifting from raging, angry moods into depressive, doleful slumps with no apparent reason or warning. However, for most women, menopause does not cause unpredictable mood swings, depression, or even stress in most women. In fact, it may even improve mental health for some. This gives further support to the idea that menopause is not necessarily a negative experience.

CHANGES IN SEXUALITY

For some women, menopause brings a decrease in sexual activity. Reduced hormone levels cause subtle changes in the genital tissues and are thought to be linked also to a decline in sexual interest. Lower estrogen levels decrease the blood supply to the vagina and the nerves and glands surrounding it. This makes delicate tissues thinner, drier, and less able to produce secretions to comfortably lubricate before and during intercourse. Avoiding sex is not necessary. Estrogen creams and oral estrogen can restore secretions and tissue elasticity. Water-soluble lubricants can also help.

While changes in hormone production are cited as the major reason for changes in sexual behavior, many other interpersonal, psychological, and cultural factors can come into play. For instance, a Swedish study found that many women use

menopause as an excuse to stop sex completely after years of disinterest. Many physicians, however, question if declining interest is the cause or the result of less frequent intercourse.

Some women actually feel liberated after menopause and report an increased interest in sex. They say they feel relieved that pregnancy is no longer a worry.

Q. WHAT ABOUT OSTEOPOROSIS?

A. One of the most important health issues for middle-aged women is the threat of osteoporosis. It is a condition in which bones become thin, fragile, and highly prone to fracture. Numerous studies over the past 10 years have linked estrogen insufficiency to this gradual, yet debilitating disease. In fact, osteoporosis is more closely related to menopause than to a woman's chronological age.

Bones are made up of healthy, living tissue that continuously performs two processes: breakdown and formation of new bone tissue. The two are closely linked. If breakdown exceeds formation, bone tissue is lost and bones become thin and brittle. Gradually and without discomfort, bone loss leads to a weakened skeleton incapable of supporting normal daily activities.

Each year about 500,000 American women will fracture a vertebrae, the bones that make up the spine, and about 300,000 will fracture a hip. Nationwide, treatment for osteoporotic fractures costs up to \$10 billion per year, with hip fractures the most expensive. Vertebral fractures lead to curvature of the spine, loss of height, and pain. A severe hip fracture is painful and recovery may involve a long period of bed rest. Between 12 and 20% of those who suffer a hip fracture do not survive the 6 months after the fracture. At least half of those who do survive require help in performing daily living activities, and 15 to 25% will need to enter a long-term care facility. Older patients are rarely given the chance for full rehabilitation after a fall. However, with adequate time and care provided in rehabilitation, many people can regain their independence and return to their previous activities.

For osteoporosis, researchers believe that an ounce of prevention is worth a pound of cure. The condition of an older woman's skeleton depends on two things: the peak amount of bone attained before menopause and the rate of the bone loss thereafter. Hereditary factors are important in determining peak bone mass. For instance, studies show that African American women attain a greater spinal mass and therefore have fewer osteoporotic fractures than Caucasian women. Other factors that help increase bone mass include adequate intake of dietary calcium and vitamin D, particularly in young children prior to puberty; exposure to sunlight; and physical exercise. These elements also help slow the rate of bone loss. Certain other physiological stresses can quicken bone loss, such as pregnancy, nursing, and immobility. The biggest culprit in the process of bone loss is estrogen deficiency. Bone loss quickens during perimenopause, the transitional phase when estrogen levels drop significantly.

Doctors believe the best strategy for osteoporosis is prevention because currently available treatments only halt bone loss--they don't rebuild the bone. However, researchers are hopeful that in the future, bone loss will be reversible. Building up your reserves of bone before you start to lose it during perimenopause helps bank

against future losses. The most effective therapy against osteoporosis available today for postmenopausal women is estrogen (see Managing Menopause). Remarkably, estrogen saves more bone tissue than even very large daily doses of calcium. Estrogen is not a panacea, however. While it is a boon for the bones, it also affects all other tissues and organs in the body, and not always positively. Its impact on the other areas of the body must be considered.

Q. WHAT ABOUT CARDIOVASCULAR DISEASE (CVD) IN MENOPAUSAL WOMEN?

A. Heart disease is the number one killer of American women and is responsible for half of all the deaths of women over age 50. Ironically, in past years women were rarely included in clinical heart studies, but finally physicians have realized that it is as much a woman's disease as a man's.

CVDs are disorders of the heart and circulatory system. They include thickening of the arteries (atherosclerosis) that serve the heart and limbs, high blood pressure, angina, and stroke. For reasons unknown, estrogen helps protect women against CVD during the childbearing years. This is true even when they have the same risk factors as men, including smoking, high blood cholesterol levels, and a family history of heart disease. But the protection is temporary. After menopause, the incidence of CVD increases, with each passing year posing a greater risk. The good news, though, is that CVD can be prevented or at least reduced by early recognition, lifestyle changes and, many physicians believe, hormone replacement therapy.

Menopause brings changes in the level of fats in a woman's blood. These fats, called lipids, are used as a source of fuel for all cells. The amount of lipids per unit of blood determines a person's cholesterol count. There are two components of cholesterol: high density lipoprotein (HDL) cholesterol, which is associated with a beneficial, cleansing effect in the bloodstream, and low density lipoprotein (LDL) cholesterol, which encourages fat to accumulate on the walls of arteries and eventually clog them. To remember the difference, think of the H in HDL as the healthy cholesterol, and the L in LDL as lethal. LDL cholesterol appears to increase while HDL decreases in postmenopausal women as a direct result of estrogen deficiency. Elevated LDL and total cholesterol can lead to stroke, heart attack, and death.

HORMONE REPLACEMENT THERAPY

Replacement hormones (estrogen or a combination of estrogen and progestin) have been shown to be effective in relieving conditions usually related to menopause. Hormone replacement therapy (HRT) supplies the estrogen the body no longer makes. It has been used to relieve the symptoms of menopause, such as hot flashes and flushes, sweats, disturbed sleep, and an increased rate of bone loss. Today, this term is used to describe treatment with either estrogen alone or with estrogen and another hormone called progestin. The two hormones help regulate a woman's menstrual cycle and progestin is added to prevent the overgrowth (or hyperplasia) of cells in the lining of the uterus.

THE MANY FORMS OF HRT

METHOD: ORAL ESTROGEN-PROGESTIN COMBINATIONS, EITHER IN CYCLIC OR CONTINUOUS DOSAGES

PROS:

- Short-term use relieves symptoms such as hot flashes, night sweats, vaginal dryness, and sleep interruptions
- May improve mood and psychological well-being
- Long-term use shown to prevent osteoporosis
- Effects on cholesterol suggest that it may protect against heart disease
- Long-term use may prevent colon cancer and Alzheimer's disease, but further study is needed

CONS:

- Can cause vaginal bleeding, bloating, and breast tenderness
- Long term use may increase risk of breast cancer in some patients
- Increases risk of getting blood clots
- Increases risk of developing gallstones

METHOD: ORAL ESTROGEN ONLY

PROS:

- Benefits similar to those listed above
- Estrogen alone may raise breast cancer risk less than estrogen-progestin combined, but further study is needed

CONS:

- Because it raises the risk of endometrial cancer, it is given only to women who have had their uterus removed (hysterectomy)

METHOD: VAGINAL CREAMS, ESTROGEN RING (WHICH RELEASES HORMONE INTO VAGINA OVER 90 DAYS), AND VAGINAL TABLET

PROS:

- All forms relieve vaginal dryness

CONS:

- May not protect as well as oral therapy against osteoporosis and heart disease
- May not relieve hot flashes

METHOD: SKIN PATCHES (SOME FORMULATIONS HAVE ESTROGEN, OTHERS BOTH ESTROGEN AND PROGESTIN)

PROS:

- Benefits are similar to oral therapy, but women who can't tolerate pill forms may be able to tolerate patches.
- Women who have trouble remembering to take pills daily may find weekly patches more convenient.

CONS:

- Appears to protect against osteoporosis as well as oral therapy, but cardiovascular benefits may not be as evident

POTENTIAL SIDE EFFECTS

Some women may have side effects from hormone replacement therapy, such as unwanted vaginal bleeding, headaches, nausea, vaginal discharge, fluid retention, swollen breasts, or weight gain. Other health concerns include: cancer of the uterus when estrogen is taken alone, a potential slight increase in the risk of breast cancer, and abnormal vaginal bleeding.

UTERINE CANCER RISK

Use of estrogen alone, during or after menopause, has been linked to an increase in endometrial cancer (cancer of the uterus). Obviously, this is possible only if the uterus is in place and the patient has not had a hysterectomy. In women who have a uterus and take both estrogen and progestin therapy together, the risk of cancer of the endometrium (lining of the uterus) is actually reduced when compared to women who have a uterus and who do not take estrogen and progestin therapy together.

BREAST CANCER RISK

A major issue surrounding hormone replacement therapy and estrogen replacement therapy is the influence of estrogen on breast cancer. Researchers believe that the longer a woman is exposed to naturally occurring estrogen, the greater risk of developing breast cancer. It has not been proven, however, that estrogen administered at menopause has the same effect. There is disagreement because of wide variations in the populations studied, as well as the doses, timing, and types of estrogen used. An analysis of previous studies suggests that low-dose estrogen taken on a short-term basis (10 years or less) does not pose increased risk of breast cancer. Long-term use (more than 10 years) at a high dose may significantly increase the risk. By how much is still a matter of heated debate. At the very most, researchers think long-term use could possibly increase the risk of getting breast cancer by 30%. This means that incidence would rise from 10 women per 10,000 each year to 13 women per 10,000 each year.

The WHI is a large-scale study of estrogen and combination estrogen plus progestin as preventive therapies for postmenopausal women, designed to assess the long-

term risks and benefits of estrogen replacement therapy (ERT) and combination HRT. It enrolled 27,000 women between 1993 and 1998, scheduled to conclude in 2005. A total of 16,608 women were randomized to combination HRT and placebo.

The combination HRT arm of the study was discontinued, citing as the main factor an increased risk of invasive breast cancer in the group receiving continuous combined HRT compared with the placebo group after an average follow-up of 5.2 years. This, combined with an increase in cardiovascular events in women and active drug vs. those on placebo that began in the first year and persisted, outweighed the benefits, which included a reduced incidence of colon cancer and hip fractures.

The fear of cancer is one of the most common reasons that women are unwilling to use hormone replacement therapy. Interestingly, actual death rates for breast cancer have not risen at all. This may be because estrogen users have more frequent medical visits and obtain more preventive care including yearly mammograms. The WHI study continues to monitor women who are on estrogen alone and do not take progestin (progesterone).

While no one can determine who will eventually develop breast cancer, there are certain risk factors you should be aware of when considering hormone replacement therapy. A family history of breast cancer (sister or mother) is probably the most important risk factor of all. You may also be at an increased risk if: you menstruated before age 12; delayed motherhood until later in life; or have a late menopause (after age 50). Also, the older you are, the higher the risk.

To use or not use hormone replacement therapy is a personal decision to be made by each woman with help from her doctor. Regular breast examinations by a health care professional and self-examination are recommended for women receiving estrogen therapy, as they are for all women.

KNOWN BENEFITS OF ESTROGEN REPLACEMENT

Hormone replacement therapy and estrogen replacement therapy:

- Reduce the risk of osteoporosis.
- Relieve hot flashes.
- May improve mood and psychological well being.
- Can have unpleasant side effects, such as bloating or irritability.
- May increase risk of breast cancer; long-term use may pose the greatest risk.

COUNTERING POSSIBLE HRT SIDE EFFECTS

Side Effect	Strategy
Fluid Retention	Restrict salt intake, maintain adequate water intake, exercise, or try a diuretic
Bloating	Lower the progestogen dose, switch to progesterone or another progestin, or switch to a skin patch
Breast Tenderness	Restrict salt intake, cut down on caffeine and chocolate, lower the estrogen dose, switch to another estrogen, or switch to progesterone or another progestin.
Headaches	Restrict salt, caffeine, and alcohol intake; ensure adequate water intake; lower the dose of estrogen and/or progestogen; or switch to a continuous dosage schedule or a skin patch to avoid hormone fluctuations.
Mood Changes	Restrict salt, caffeine, and alcohol intake; ensure adequate water intake; lower the progestogen dose; switch to progesterone; or change to a continuous-combined HRT regimen to avoid hormone fluctuations.
Nausea	Take oral estrogen tablets with meals, lower the estrogen or progestogen dose, switch to another oral estrogen, or switch to an estrogen patch
Skin Irritation with Patch	Switch to another patch with a different adhesive

OTHER WAYS TO KEEP HEALTHY DURING MENOPAUSE

Good nutrition and regular physical exercise are thought to improve overall health. Some doctors feel these factors can also affect menopause. Although these areas have not been well studied in women, anecdotal evidence is strongly in favor of eating well and exercising to help lower risks for CVD and osteoporosis.

There is no consensus within the medical community about the risks and benefits associated with hormone therapy. There is no agreement on normal hormonal changes associated with aging.

NUTRITION

While everyone agrees that a well-balanced diet is important for good health, there is still much to be learned about what constitutes "well balanced." We do know that variety in the diet helps ensure a better mix of essential nutrients.

Nutritional requirements vary from person to person and change with age. A healthy premenopausal woman should have about 1,000 mgs of calcium per day. A 1994 Consensus Conference at the National Institutes of Health recommended that women after menopause consume 1,500 mgs per day if they are not using hormonal replacement or 1,000 mgs per day in conjunction with hormonal replacement. Foods high in calcium include milk, yogurt, cheese and other dairy products; oysters, sardines and canned salmon with bones; and dark-green leafy vegetables like spinach and broccoli. In calcium tablets, calcium carbonate is most easily absorbed by the body. If you are lactose intolerant, acidophilus milk is more digestible. Vitamin D is also very important for calcium absorption and bone formation. A 1992 study showed that women with postmenopausal osteoporosis who took vitamin D for 3 years significantly reduced the occurrence of new spinal fractures. However, the issue is still controversial. High doses of vitamin D can

cause kidney stones, constipation, or abdominal pain, particularly in women with existing kidney problems. Other nutritional guidelines by the National Research Council include:

Choose foods low in fat, saturated fat, and cholesterol. Fats contain more calories (9 calories per gram) than either carbohydrates or protein (each have only 4 calories per gram). Fat intake should be less than 30 percent of daily calories.

Eat fruits, vegetables, and whole grain cereal products, especially those high in vitamin C and carotene. These include oranges, grapefruit, carrots, winter squash, tomatoes, broccoli, cauliflower, and green leafy vegetables. These foods are good sources of vitamins and minerals and the major sources of dietary fiber. Fiber helps maintain bowel mobility and may reduce the risk of colon cancer. Young and older people alike are encouraged to consume 20 to 30 grams of fiber per day.

Eat very little salt-cured and smoked foods such as sausages, smoked fish and ham, bacon, bologna, and hot dogs. High blood pressure, which may become more serious with heavy salt intake, is more of a risk as you age.

Avoid food and drinks containing processed sugar. Sugar contains empty calories that may substitute for nutritious food and can add excess body weight.

For people who can't eat an adequate diet, supplements may be necessary. A dietician should tailor these to meet your individual nutritional needs. Using supplements without supervision can be risky because large doses of some vitamins may have serious side effects. Vitamins A and D in large doses can be particularly dangerous.

As you age, your body requires less energy because of a decline in physical activity and a loss of lean body mass. Raising your activity level will increase your need for energy and help you avoid gaining weight. Weight gain often occurs in menopausal women, possibly due in part to declining estrogen. In animal studies, scientists found that estrogen is important in regulating weight gain. Animals with their ovaries surgically removed gained weight, even if they were fed the same diet as the animals with intact ovaries. They also found that progesterone counteracts the effect of estrogen. The higher their progesterone levels, the more the animals ate.

EXERCISE

Exercise is extremely important throughout a woman's lifetime and particularly as she gets older. Regular exercise benefits the heart and bones, helps regulate weight, and contributes to a sense of overall well being and improvement in mood. If you are physically inactive you are far more prone to coronary heart disease, obesity, high blood pressure, diabetes, and osteoporosis. Sedentary women may also suffer more from chronic back pain, stiffness, insomnia, and irregularity. They often have poor circulation, weak muscles, shortness of breath, and loss of bone mass. Depression can also be a problem. Women who regularly walk, jog, swim, bike, dance, or perform some other aerobic activity can more easily circumvent these problems and also achieve higher HDL cholesterol levels. Studies show that women performing aerobic activity or muscle-strength training reduced mortality from CVD and cancer.

Just like muscles, bones adhere to the "use it or lose it" rule; they diminish in size and strength with disuse. It has been known for more than 100 years that weight-bearing exercise (walking, running) will help increase bone mass. Exercise stimulates the cells responsible for generating new bone to work overtime. In the past 20 years, studies have shown that bone tissue lost from lack of use can be rebuilt with weight-bearing activity. Studies of athletes show they have greater bone mass compared to non-athletes at the sites related to their sport. In postmenopausal women, moderate exercise preserves bone mass in the spine, helping reduce the risk of fractures.

Exercise is also thought to have a positive effect on mood. During exercise, hormones called endorphins are released in the brain. They are "feel good" hormones involved in the body's positive response to stress. The mood-heightening effect can last for several hours, according to some endocrinologists. Consult your doctor before starting a rigorous exercise program. He or she will help you decide which types of exercises are best for you. An exercise program should start slowly and build up to more strenuous activities. Women who already have osteoporosis of the spine should be careful about exercise that jolts or puts weight on the back, as it could cause a fracture.

MENOPAUSE MUSTS

- Eat a low-fat, high fiber diet, rich in vegetables, fruits, and grains.
- Avoid excessive amounts of alcohol and don't smoke.
- Exercise for at least 30 minutes at a stretch, at least 3 times a week. Include 10 minutes of Kegel exercises to tighten and tone your vaginal area. Reduce your stress level.
- Schedule annual visits to your doctor - including a yearly Pap smear, bone mineral density test, and mammogram.
- Talk to your spouse and your doctor about any issues that affect your health and well-being.
- Take calcium supplements to help maintain bone density.

For additional Information visit: <http://www.knowmenopause.com>

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