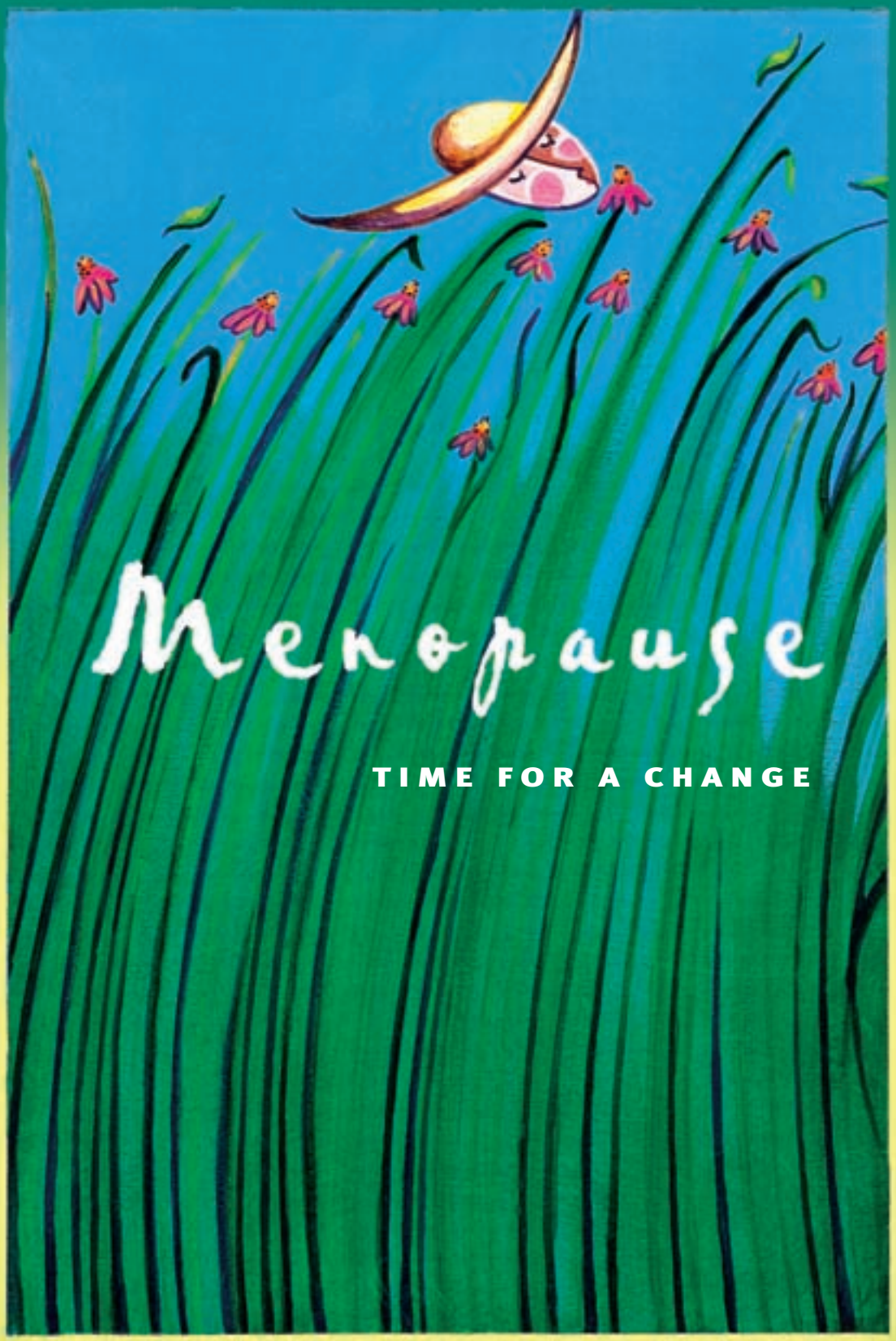

Menopause

TIME FOR A CHANGE

National Institute on Aging

National Institutes of Health
U.S. Department of Health & Human Services

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If you are a woman in her mid forties or early fifties, you may feel like your body is changing, but you may not know what is happening. Maybe your periods are not the same. You don't sleep as well as you always have. Or your waist is getting thicker. You may not be paying much attention to these changes until one day, if you're like many women, *it* happens—a hot flash! One minute you feel perfectly comfortable, and the next you are sweating and flushed—for no apparent reason. You may be surprised. You may feel "too young." You ask yourself—could this be the start of my transition through menopause?

This booklet begins with an explanation of what is happening during the menopausal transition. It will tell you about some of the common signs that you are beginning this transition and give you information about handling bothersome symptoms. There is a discussion of some health problems that become more common after menopause, as well as suggestions for staying healthy. There is a resource list for more information. This booklet, based on research conducted by scientists, represents what we know now about the menopausal transition.

AN INTRODUCTION TO Menopause

Menopause, also known as "the change" or "change of life," is a normal part of a woman's life. It is a point in time—the last menstrual cycle, the last period. The years leading up to that last period, when women might be experiencing menopausal symptoms like changes in their monthly cycles or hot flashes, are called the menopausal transition. It is a common mistake to use the word menopause to describe this whole transition.

The menopausal transition occurs at a time in a woman's reproductive life when the production of estrogen and progesterone, two hormones made by the ovaries, may vary dramatically and unpredictably. The ovaries are two small glands found on either side of the top of the uterus or womb. Before menopause, they hold eggs, one or more of which are released during a menstrual cycle. If the egg then joins with sperm following sexual intercourse and attaches itself inside the uterus, pregnancy is the result. Ovaries also produce chemical substances known as hormones, which travel through the blood to other tissues to control how cells work. One of these, estrogen, has effects on cells in many parts of the body including the reproductive organs, brain, heart and blood vessels, and bone.

Usually in her forties, a woman's body starts changing. Some differences, such as a thickening waist, can happen because she is getting older, but others, like vaginal dryness, are caused by changes in her hormone levels. As a woman ages and especially as she gets closer to menopause, her ovaries get smaller. This time of changes in hormone levels and menstrual cycles is called the menopausal transition. You might also hear it called perimenopause. It usually lasts several years until 12 months after your last period. Once a woman has gone a full 12 months without a period, she can be fairly sure that she has been through menopause and is now in postmenopause. The chart on page 5 shows how the patterns of hormone production change as women go from their reproductive years through the menopausal transition to postmenopause. Postmenopause lasts the rest of a woman's life.

Going through menopause is a little like driving on an unfamiliar, twisting road with an unclear destination. You may not be sure of all that is happening, where you

REPRODUCTIVE AGING IN WOMEN

	Reproductive Years			Menopausal Transition			Postmenopause
	First Period					Final Period	
Average Age*	9-15	16-30	31-42	Early transition 40s	Late transition late 40s, early 50s	51	50s and beyond
Menstrual Cycles	Variable	Regular	Regular	Lengths of cycles vary increasingly	2 or more skipped periods	No period**	No periods
Signs and Symptoms			Fertility progressively declining		Hot flashes, irritability, and sleep disturbance. Bone loss begins.	Same as previous	Vaginal dryness, bone loss. Hot flashes can persist. For a few women, hot flashes continue into their 60s and 70s.

*These are average ages. Women vary a great deal in the age at which they go through each of these stages.
**Menopause is said to have occurred after twelve months without a period.

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are going, or what's coming next. In fact, you won't realize you have reached your destination (menopause) until you are past it and see it in your rearview mirror.

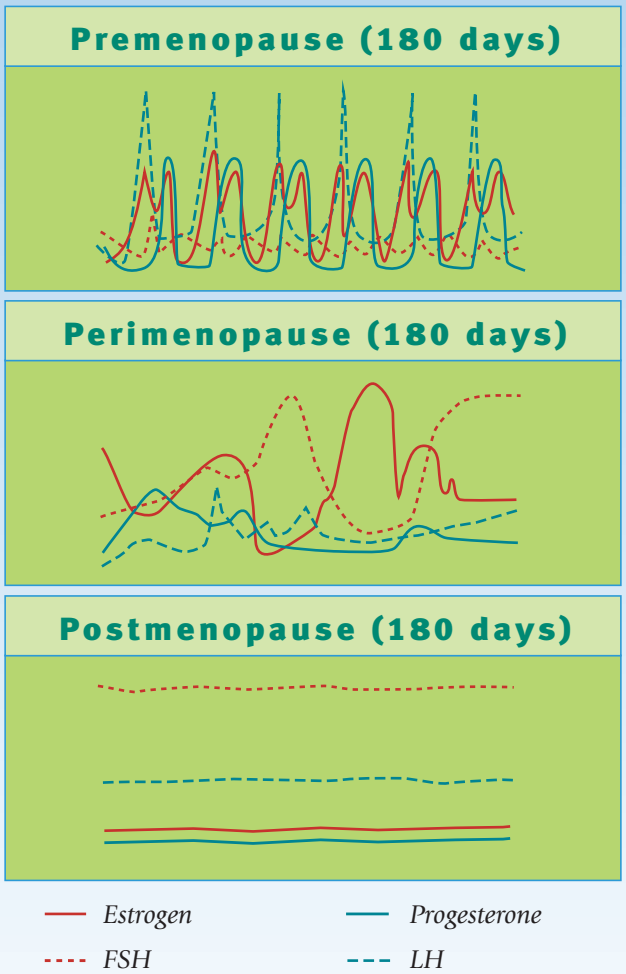
The average age of menopause is 51. That means that almost half of all women have their last period and reach menopause before that age, and some women may not have even started perimenopause yet.

It's not easy to know when you are in the menopausal transition. Menopausal symptoms, along with a physical examination, medical history, and maybe some blood tests, may provide useful clues. But, it is not possible to correctly predict when a woman's final period will be. Your doctor could test the amount of estrogen in your blood or the level of FSH (follicle-stimulating hormone), another hormone that changes at this time. But, levels of both estrogen and FSH normally go up and down during your menstrual cycle. So, these test results alone cannot be used to predict or confirm menopause.

Levels of two other female hormones, progesterone and luteinizing hormone (LH), also rise and fall during your menstrual cycle. Progesterone levels drop after menopause, and LH levels go up (see chart on page 5).

Even though your monthly periods are not regular anymore, you can get pregnant during the menopausal transition. In fact, the irregular periods common in menopause make it harder to predict when an ovary is releasing an egg, the time when sexual intercourse is most likely to result in a pregnancy.

Do not assume that a couple of missed periods mean you are beginning the menopausal transition. Check with your doctor to see if you are pregnant or if there is another medical cause for your missed periods.



Excerpted from the September 1999 issue of the *Harvard Women's Health Watch*, ©1999, President and Fellows, Harvard College.

OTHER CONDITIONS SIMILAR TO NATURAL MENOPAUSE

At any age before natural menopause, an operation to remove both ovaries or the uterus results in "surgical menopause." The medical term for the operation is a hysterectomy (surgery to remove the uterus) or bilateral oophorectomy (surgery to remove both ovaries). Removing either both ovaries or the uterus stops monthly periods right away. If the surgeon removes the uterus but is able to leave one or both ovaries, estrogen and progesterone might still continue to be made for a while longer. However, research suggests that, after a hysterectomy, the ovaries may stop making these hormones sooner than might normally be expected.

A woman who has either a hysterectomy or both ovaries removed often faces more intense menopausal symptoms than a woman who reaches menopause naturally. Removing both ovaries abruptly cuts off hormone production. If you are having this surgery, discuss how to manage your symptoms with your doctor before your

operation. Without treatment, symptoms may begin soon after surgery. Surgical menopause also puts you at early risk for bone loss and heart disease. Stay in touch with your doctor as you recover.

Usually menopause happens naturally, but some women develop symptoms of menopause and stop having menstrual cycles much earlier than expected. Before age 40, a menopause-like condition can happen for no known reason, or it can be caused by radiation treatment, some medicines like those used in chemotherapy, an autoimmunity (some of a woman's own body cells attacking her ovary or ovaries), or genetic errors. Radiation can make your ovaries stop working, as can some treatments like chemotherapy for cancer.

In the past when menopausal symptoms developed before age 40, it was referred to as "premature menopause." However, the term "premature menopause" is no longer considered scientifically accurate. That's because some women with this condition have ovaries that produce hormones irregularly and a return of menstrual periods, and some can even

become pregnant after the diagnosis. The terms "premature ovarian failure" or "primary ovarian insufficiency" are now used to describe this condition. Women with this problem may experience symptoms of menopause like hot flashes and vaginal dryness.

Signs OF THE MENOPAUSAL TRANSITION

Many things can happen in a woman's body because of the changes in hormone patterns (see chart, *Changes in Hormone Level Patterns,* on page 5) that begin during the menopausal transition. Some women are bothered by only a few symptoms during perimenopause. Others are very uncomfortable, while the rest hardly feel any different. Scientists are trying to understand how the hormone changes during the menopausal transition may affect a woman's periods and menopausal symptoms.

There are several common symptoms around this time of life, which may be caused by the shifting hormone levels of the menopausal transition. To learn more about managing these symptoms, see the chapter, *What You Can Do for Hot Flashes and Other Menopausal Symptoms*, starting on page 11.

Menstrual cycle changes. The first thing many women notice is a change in their periods. They might start coming farther apart or closer together. They might last longer or end sooner. The flow could be heavier or lighter.

Hot flashes and night sweats. Many women also start to be bothered by hot flashes or flushes and/or night sweats. The medical term is vasomotor symptoms. During a hot flash, your face and upper body begin to feel hot. Your skin gets flushed or red because blood vessels close to the surface are expanding. You might start sweating a lot, sometimes followed by cold shivering. Some hot flashes leave you with only a slight feeling of warmth or a light blush. Others may drench your clothes. Night sweats are hot flashes with sweating that happen during your sleep. They can be strong enough to wake you up at night.

Hot flashes can happen several times an hour, a few times a day, or just once or twice a week. They usually occur for just a few years and then stop, but about one woman in every ten women might have hot flashes into her sixties and seventies.

Some studies suggest that as many as three-fourths of white women have hot flashes and/or night sweats. A different study found that African-American women are more likely to report having hot flashes and night sweats than are Hispanic or white women. Japanese and Chinese women were the least likely to report this symptom.

Your skin and other tissues. As you age, your skin becomes drier. You might also start to lose fatty tissue and a protein material known as collagen under your skin and also in the areas near your vagina and urinary tract. These losses can make your skin thinner and less elastic. If your vaginal tissues are affected, these changes can make them drier and more likely to tear and become infected. Sexual intercourse may become painful.

Sleep and fatigue. Many women report having problems sleeping and feeling tired, especially in the years just before menopause and during postmenopause. But, it is difficult to know if sleep changes are a part of growing older, the result of hormone changes, or both.

Sometimes, it is night sweats that wake you in the middle of the night, or it might be that you have to go to the bathroom. Either way, once awake, you can then have trouble getting back to sleep. Perhaps you can't fall asleep in the first place, or you find yourself waking too early in the morning. When this happens over and over, you will become very tired. And feeling tired can affect everything you do during the day.

OTHER CHANGES

Scientists are working to understand how hormonal changes lead to menstrual cycle irregularities, hot flashes, night sweats, and vaginal changes. They are also trying to learn more about other changes around the menopausal transition that you may experience. Some may be the result of changes in the amounts of hormones made by your body as you go through menopause; some may be related to growing older.

Sexuality. You might notice changes in your interest in having sex (called libido) or in your ability to become sexually aroused. After menopause, some women say that freedom from concerns about pregnancy lets them feel more open to sex and more relaxed in general. Other women report losing interest in sex. If such changes bother you, talk to a doctor to make sure there is no other cause. For example, medicines, such as those prescribed to treat high blood pressure, depression, and cholesterol problems, might play a role.

Mood. There is some evidence that stress, a history of depression, and poor general health are more likely to contribute to mood changes, anxiety, and irritability during mid-life than do hormonal fluctuations. So, while women at mid-life are sometimes portrayed as having extreme mood swings, this may not be a true picture. The specific connection of mood to the hormone changes of menopause is not clear.

Physical changes. Mid-life is a time when you may see changes in your body, especially in its shape and makeup. Your joints or muscles might ache or feel stiff. Your waist might be getting thicker, and you could be gaining weight. Shifts in your body makeup such as the loss of muscle and increases in fatty tissue also take place. Muscle helps us burn a lot of calories, so losing muscle mass over time can make it harder to burn off calories and easier to gain weight.

Memory. Often, people start worrying about their memory as they get into their forties and fifties. Sometimes, it's that "tip of the tongue" problem—you can't think of a familiar word, or you can't remember the name of someone you know. Then a couple of hours later the missing word just pops into your head. Or you walk into another room for something and, once there, can't remember what you wanted. Both middle-aged men and women describe short-term memory problems. Problems like these are probably normal, but other types of memory loss might not be. For example, forgetting where you put the car keys is normal, but forgetting how to drive the car is not.

Mid-life is a time that may bring new or greater sources of stress, and this stress can also add to memory problems. Stress is how the body responds to changes (both good and bad) and challenges in order to prepare to protect itself if needed. Some experts suspect that when you have a lot going on in your life, it can be harder to remember as much as you once did. Although mild, short-lived stress actually may improve learning in some situations, the complicated sources of stress in mid-life might interfere with your learning something new in the first place. So, sometimes, it's not that you forgot things that happened recently, it's that your brain never recorded it as something to remember.

WHAT YOU CAN DO FOR Hot Flashes AND OTHER MENOPAUSAL SYMPTOMS

Check with your doctor if you experience a troubling change in how you feel. Symptoms that might seem like the menopausal transition, even hot flashes, night sweats, and irregular periods, may have other causes.

Menopause is a natural stage of life. It is not something that you must take medicine for. If your doctor says you are in the menopausal transition and the symptoms are not bothering you, you don't have to do anything about them. If your symptoms are making you very uncomfortable, there are things you can do to relieve your discomfort. Your treatment should be chosen based on your own symptoms and health risks. What your sister or friend does may not be the right choice for you. Talk to your doctor about the best approach for you.

Whatever approach you choose, if you decide to treat your menopausal symptoms, remember that it is not a permanent decision. At every checkup, talk with your doctor about your symptoms or concerns. Find out if there have been any new research findings or different treatments. If you are using menopausal hormone therapy, maybe you need a higher dose for more relief, or maybe you want to try a lower, perhaps safer dose. Discuss whether you still need to treat your menopausal symptoms.

HOT FLASHES AND NIGHT SWEATS

If hot flashes and/or night sweats are interfering with your daily activities, don't hesitate to seek relief. There are some practical steps you can try to ease hot flashes and/or night sweats:

- Sleep in a cool room.
- Dress in layers, which can be removed at the start of a hot flash.
- Have a drink of cold water or juice when you feel a hot flash coming on.
- Use sheets and clothing that let your skin "breathe."
- Don't smoke.

You could try to keep a written record of what you were doing just before a hot flash started. This might reveal some triggers for your hot flashes which you could then try to avoid.

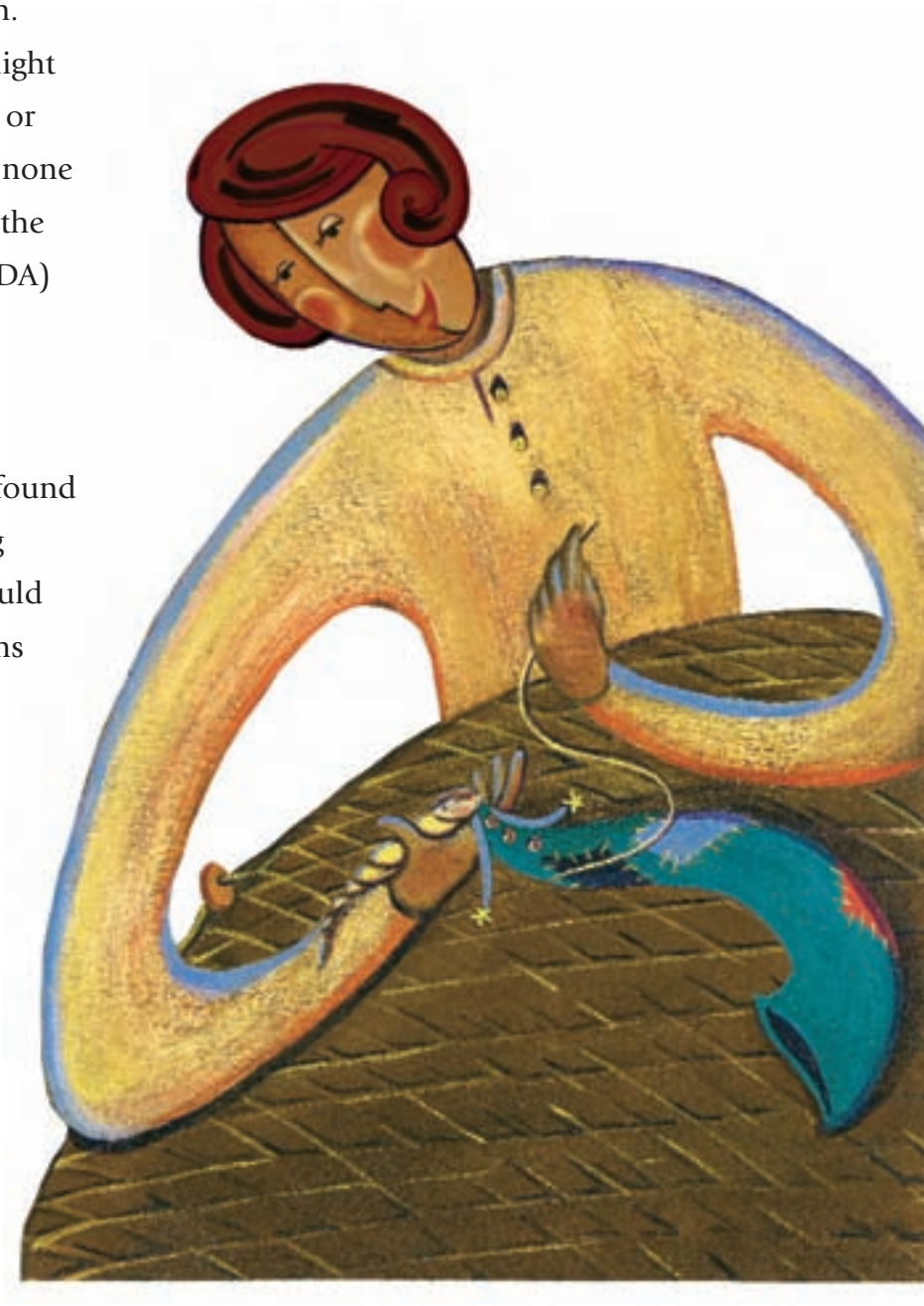
There are also lifestyle changes you can try. Exercise can improve your quality of life and may help with hot flashes. It will also help reduce your risk of heart disease and osteoporosis. Stopping smoking and losing weight might lower your risk of hot flashes. Studies in small groups of women suggest that slow, deep breathing, known as relaxation breathing, may also help reduce hot flashes.

What is relaxation breathing?

Deep breathing, relaxation breathing, and paced respiration all refer to a method used to reduce stress. It involves breathing in (inhaling) deeply and breathing out (exhaling) at an even pace. Do this for several minutes while in a comfortable position. You should slowly breathe in through your nose. With a hand on your stomach right below your ribs, you should first feel your stomach push your hand out, and then your chest should fill. Slowly exhale through your mouth, first letting your lungs empty and then feeling your stomach sink back. You can do this almost anywhere and several times during the day, whenever you feel stressed. You can also try this if you feel a hot flash beginning or if you need to relax before falling asleep.

Your doctor might recommend certain prescription medicines to help manage hot flashes. For example, studies suggest that gabapentin, a medicine used for epilepsy, pain, and some mood disorders, might ease hot flashes in some women. There are a few antidepressants that might also help, even if you aren't depressed or don't have mood problems. However, none of these drugs have been approved by the U.S. Food and Drug Administration (FDA) for relieving hot flashes, and there are many questions that scientists are still working on answering.

More than sixty years ago, experts found that giving estrogen to a woman going through the menopausal transition could relieve some of the annoying symptoms like hot flashes. Estrogen remains the most effective medicine approved by the FDA for hot flashes, night sweats, and vaginal dryness. But, now we know that a few women who use estrogen may develop serious health problems as a result. This approach, now known as menopausal hormone therapy (MHT), used to be called hormone replacement therapy or HRT.



What about hormones for symptoms of menopause?

Menopausal hormone therapy (MHT) uses hormones to ease the symptoms of menopause or to prevent osteoporosis. The hormones are estrogen alone for a woman who no longer has her uterus or estrogen with progesterone or a progestin (a progesterone-like medicine) for a woman with a uterus. When a woman is taking estrogen, progesterone or a progestin is needed to protect the lining of the uterus, the endometrium. This lowers the chance of unwanted endometrial thickening and of endometrial cancer, an uncommon, but possible result of using estrogen alone.

Estrogen and progesterone/progestin come in many different forms—pills, creams, or skin patches, for example—and a variety of types and doses. The FDA recommends that MHT be used at the lowest dose that relieves symptoms for the shortest time needed.

Similar to the effect of using low-dose birth control pills before menopause, using menopausal hormone therapy before your last period can make it difficult to know when menopause has occurred. That is, you might continue to have a period because of the hormones you are taking even after your ovaries are no longer making estrogen and progesterone.

If you have had a hysterectomy with your ovaries removed also, your doctor might suggest that you start using estrogen right after the operation. This may prevent hot flashes and other symptoms. If, later, you decide to stop using estrogen, however, bothersome menopausal symptoms could still start, even years after the surgery.

Many women find MHT relieves their menopausal symptoms, but not all women should use this therapy. If you are considering using MHT for troublesome menopausal symptoms or to prevent osteoporosis, you can read an up-to-date discussion of MHT, including the benefits and risks of both MHT and bioidentical or natural hormones, in the ***Hormones and Menopause*** tip sheet from the National Institute on Aging (NIA). Contact the NIA Information Center, listed in ***For More Information,*** for a free copy.

MENSTRUAL CYCLE PROBLEMS

If you are having a problem with heavy bleeding during your period, your doctor might suggest that you use a low-dose birth control pill. This will make your menstrual cycle and flow more regular, prevent pregnancy, and help with hot flashes. However, using the pill could make it hard for you to know when you have reached menopause—you will probably continue to have periods, even after your ovaries are no longer making estrogen and progesterone, because of the hormones in the pills. If you are the right age for menopause, you might need to stop the birth control pill for 12 months to see whether or not you have a period. If you don't want to become pregnant during that time, you will need to use some other method of birth control.

VAGINAL DRYNESS

Vaginal dryness can be very uncomfortable and may get in the way of a normal sex life. A water-based lubricant, but not petroleum jelly, may relieve your vaginal discomfort.

The hormone estrogen can also help with vaginal dryness. Women who are using MHT—a patch or pill, for example—for hot flashes should also find relief from their vaginal dryness. For women who are only bothered by vaginal symptoms, inserting a vaginal estrogen tablet or vaginal ring containing estrogen or applying an estrogen cream in the vagina will probably relieve symptoms locally. With estrogen cream, some of the estrogen may enter your bloodstream from the vagina and travel elsewhere in your body as estrogen does before menopause or when you swallow an estrogen pill or use an estrogen patch. We don't know if estrogen cream could relieve hot flashes or cause serious side effects. Both seem to be less likely with a vaginal estrogen tablet, which has a lower dose of estrogen.

SLEEP PROBLEMS

Because different things can cause sleep problems, the solutions vary. If night sweats are disrupting your sleep, treating them could help you sleep better. If you find yourself getting up to go to the bathroom, try limiting fluids shortly before bedtime unless you need a cool drink to handle a hot flash. If you aren't sure what is keeping you from getting to sleep or causing you to wake during the night or early in the morning, there are still some things you can do to get a good night's sleep.

- Be physically active most days of the week but not within 3 hours of bedtime.
- Go to bed and get up at the same time every day, even on weekends, and avoid naps, if possible, in the late afternoon and evening.
- Have a bedtime routine that you follow each night—read a book or magazine, take a bath, watch television.
- Make sure your bedroom and bed are comfortable for sleeping.
- Don't eat a large meal close to bedtime, and stay away from caffeine later in the day.
- After turning off the light, give yourself about 15 minutes to fall asleep. If you don't go to sleep, get out of bed, and only go back when you feel sleepy.
- Try relaxation breathing (see box on page 12).

Do dietary supplements help?

Many people use dietary supplements hoping to improve their nutrition and/or health. Maybe you wonder whether you should use a supplement, such as soy, black cohosh, or wild yam, to relieve your hot flashes instead of using menopausal hormone therapy.

According to the FDA, dietary supplements are products taken by mouth that contain a "dietary ingredient" intended to add to or supplement the diet. These may seem safe because they might come from plants and are "natural." But the truth is we don't know enough about these supplements to know whether they are indeed safe and if they will really ease menopausal symptoms. Supplements are not medicines. They are sold without getting FDA approval for safety and effectiveness as is required for prescription or over-the-counter medicines.

Some herbal substances can have very serious, possibly fatal side effects, like liver damage. And some just don't work as they claim. In 2006 a large, one-year study of black cohosh showed that it did not relieve hot flashes in women approaching menopause.

Plants like soy contain estrogen-like substances called phytoestrogens. Scientists don't know whether phytoestrogens carry the same benefits and risks as prescription estrogens, some of which are made from plants like soy.

Learn as much as you can about a dietary supplement before trying it. Some supplements can change how other medicines work by increasing or weakening their effect. Talk to your doctor before using any supplements, and make sure he or she knows everything you are taking, even vitamins and minerals.

Postmenopausal

HEALTH CONCERNS

How will you feel when you are several years past your last period? Most of your menopausal symptoms are likely to have disappeared. Some, like vaginal dryness, may be an ongoing problem. And for a few women, hot flashes and night sweats continue.

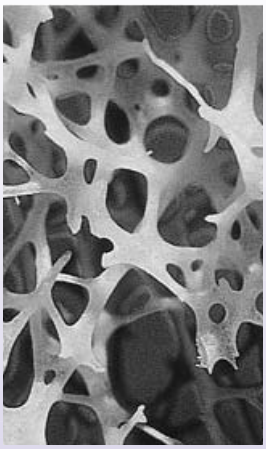
Some other health problems important for women to know about are:

- Osteoporosis
- Cardiovascular disease
- Urinary incontinence

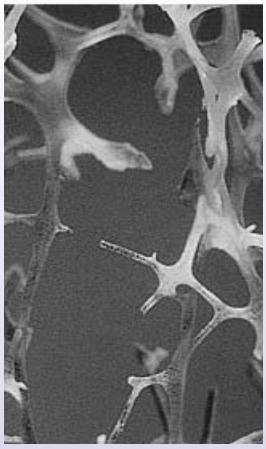
OSTEOPOROSIS

Osteoporosis is a condition in which bones become very weak and can break easily. Often, the first sign of osteoporosis is a bone that cracks, sometimes after just straining or twisting. Bone is constantly changing, removing old bone and adding new bone. Because estrogen plays an important part in building new bone, the decline in estrogen starting with menopause leaves many older women at risk for developing osteoporosis.

In fact, half of American women over the age of 50 will probably have a bone break or fracture later in life because of osteoporosis. For too many, the broken bone, especially if it is a hip fracture, will mean they can no longer live independently. Broken bones because of osteoporosis are also common in the wrist and spine. Breaks in bones of the spine (vertebrae) are especially serious as this can lead to curvature of the spine, loss of height, and pain. A broken hip or wrist is often the result of a fall, but for a woman with osteoporosis in her spine, bending over or coughing strongly can be enough to cause a broken vertebra.



NORMAL BONE



BONE WITH OSTEOPOROSIS

Some women are more at risk of developing osteoporosis than others. Risk factors, things that increase your chance of developing a health problem, include:

- a family history of osteoporosis
- a broken bone while an adult
- surgery to remove both ovaries before natural menopause
- early menopause
- insufficient calcium throughout life
- extended bed rest
- smoking
- long-term heavy drinking
- using certain medicines, such as glucocorticoids or some anticonvulsants, for long periods of time
- being thin or having a small body frame

If you have any of these risk factors or are concerned about the health of your bones, talk to your doctor about what you can do to protect them.

There are steps you can take to prevent osteoporosis after menopause. The first step in preventing osteoporosis is to build as much bone density as possible by age thirty. After that age, some people may begin to lose bone strength. In women, bone loss picks up speed around the time of menopause and slows again a few years later. But bone loss continues into old age. So, if you have daughters or granddaughters, encourage them to exercise and get plenty of calcium and vitamin D while they are younger.

Keeping the bone strength you have at menopause is the next step in preventing osteoporosis. Exercise and a proper diet helped build bone early in life. Those same actions can help maintain its strength or slow its loss now. Regular weight-bearing exercise (such as walking, running, stair climbing, or using weights to exercise) at least three or four times a week can help keep your bones strong. Strengthening and balance exercises can help you avoid falls which could cause a broken bone.

You can also preserve bone density by eating foods rich in calcium and vitamin D or, if needed, taking calcium and vitamin D supplements. Foods high in calcium include milk and milk products (low-fat ones are probably best), canned fish with soft bones such as salmon, dark-green leafy vegetables, and foods with calcium added, like orange juice, bread, and cereals.

If you think you may not be getting enough calcium in your diet, talk with your doctor before trying a calcium supplement. But be careful. Too much calcium can also cause health problems.

Your body uses vitamin D to absorb calcium. Getting between 5 and 30 minutes of sunlight outdoors twice a week will help your body make the vitamin D it needs. But people over the age of 50, especially those who live in northern urban areas, may not be exposed to enough sunlight year round to make enough vitamin D. Cereals and milk fortified with vitamin D, as well as eggs and fatty fish, are good sources of this vitamin.

CALCIUM AND VITAMIN D

RECOMMENDATIONS FROM THE NATIONAL ACADEMY OF SCIENCES*

Calcium:	1,200 mg (milligrams)
	not more than 2,500 mg
Vitamin D:	Age 51-70, 400 IU**
	not more than 2,000 IU
	Age 70 and older, 600 IU
	not more than 2,000 IU

*Total recommendation—from food, drinks, and, if needed, supplements—each day.
** International units

Lifestyle changes can also help protect your bones. If you smoke, preventing bone loss is yet another reason to stop. Women who smoke also seem to go through menopause about 1½ to 2 years earlier than those who don't smoke. And, if you drink alcoholic beverages, be careful how much you drink. Having too much alcohol might cause you to fall and break a bone in addition to other serious health problems.

How will you know if exercise, diet, and lifestyle changes are protecting your bones? If you are over age 65 or if you are 60 to 64 and have any of the risk factors described earlier, don't wait for a broken bone to find out if you have osteoporosis. Talk to your doctor about a bone density test, perhaps a DEXA-scan (dual-energy x-ray absorptiometry), to find out how solid your bones are. Two spots at high risk for fracture will probably be checked—hips and spine.

Sometimes exercise, diet, and lifestyle changes are not enough, and medicines are needed. Medications include bisphosphonates, raloxifene, estrogen, calcitonin, and parathyroid hormone. Some of these build up bone density. Others prevent further bone loss. Talk to your doctor to find out which would be best for you. Contact the National Institute of Arthritis and Musculoskeletal and Skin Diseases, listed in *For More Information,* to learn more.

CARDIOVASCULAR DISEASE

Common cardiovascular diseases include a narrowing and hardening of the arteries (atherosclerosis), chest pain that happens when not enough blood is getting to the heart (angina), heart attack, and stroke. High blood pressure (hypertension) is a strong risk factor for cardiovascular disease and stroke.

Many women think, wrongly, that only men need to worry about cardiovascular disease. Heart disease and stroke affect women too. Women seem to be protected from these diseases until after menopause

when this protection fades. While many women fear breast cancer, in fact heart disease kills 11 times more women every year. That is why it is so important for women to take steps to reduce their risk.

Make sure your blood cholesterol (a fatty substance in the blood), blood pressure, and blood sugar are at normal levels. Regular medical checkups will show whether your results are at normal levels (see chart below). If your blood pressure or blood sugar is too high, follow your doctor's advice to control it. Uncontrolled blood pressure or blood sugar can also lead to heart disease, including a heart attack. Blood sugar that is too high also puts you at risk for diabetes, another strong risk factor for cardiovascular disease.

Around the time of menopause, total cholesterol, LDL (low-density lipoprotein) cholesterol, and triglyceride levels may go up, and your HDL (high-density lipoprotein —the so-called "good" cholesterol) level may go down. High levels of LDLs can, in time, lead to blocked arteries. In turn, blocked arteries can result in a heart attack

KNOW YOUR NUMBERS

The First Step to Heart Health

Factor	Goal
Total Cholesterol	Less than 200 mg/dL
LDL ("Bad") Cholesterol	Goals vary: Less than 100 mg/dL, optimal 100 to 129 mg/dL, near optimal/ above optimal 130 to 159 mg/dL, borderline high 160 to 189 mg/dL, high 190 mg/dL and above, very high
HDL ("Good") Cholesterol	50 mg/dL or higher for a woman
Triglycerides	Less than 150 mg/dL
Blood Pressure	Less than 120/80 mmHg
Fasting Glucose (Blood Sugar)	Less than 100 mg/dL
Waist Measurement	Less than 35" for women
Body Mass Index	Less than 25 Kg/m^2
Exercise	Minimum of 30 minutes most, if not all days of the week

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or stroke. High triglycerides can be another sign that you are at risk for heart disease or diabetes. HDLs (think of H as in healthy) help keep your arteries clear, so that blood can flow freely. Get treatment for high LDL, cholesterol, and triglyceride levels to lower your risk of having a stroke or heart attack.

High triglycerides can also be a sign of metabolic syndrome, a group of conditions that put people at risk for heart disease and diabetes. These include obesity, low HDL level, high blood sugar, insulin resistance (a condition in which the muscle, fat, and liver cells do not properly use the insulin produced by the pancreas), and high blood pressure. Metabolic syndrome is also sometimes called syndrome X. If your doctor says you have metabolic syndrome or if he or she is worried that you might be at risk for it, consider changing your lifestyle.

At a regular checkup your doctor will look for five signs of metabolic syndrome:

- Waist size greater than 35″ in women
- Blood pressure reading of 130/85 or higher
- Fasting blood sugar of 100 mg/dL (milligrams/deciliter) or higher
- High triglycerides (over 150 mg/dL)
- Low HDLs (less than 50 mg/dL in women)

Having only one of these signs can put you at risk for heart disease or for diabetes. If you have at least three of these, you have metabolic syndrome. People with metabolic syndrome are now known to be at much greater risk of heart disease, stroke, and type 2 diabetes.

Lifestyle changes—not smoking, avoiding second-hand smoke, exercising, and following a healthy diet—can also help prevent heart disease. Not smoking or quitting, if you do, will also protect your bones and greatly lower your risk for cancer, especially lung cancer. Work with your doctor to set up a plan to lower your risk of heart disease.

Being physically active at least 30 minutes almost every day will help lower your risk of heart disease. You don't have to be active all at one time. For example, try ten-minute intervals three times a day. Exercise should include endurance, also known as aerobic, activities—the kind that gets your heart pumping, like walking, running, swimming, tennis, or bike-riding.

If you are just beginning to exercise, start slowly. Maybe begin by taking the stairs whenever possible. First walk up one flight of stairs and then add more when you can. When shopping, don't look for the closest parking space—choose one farther away from the stores to add more walking to your day. Or, don't use the bus or subway to go one stop—walk instead. Almost anyone, at any age, can start being more physically active. You might check with your doctor if you aren't used to energetic activity or you have a chronic health problem or a family history of early heart disease.

Heart-healthy nutrition starts with less fat in your diet and more fruits, vegetables, and whole-grain foods. By using nonfat or low-fat dairy products, you can still get the calcium you need for your bones while taking care of your heart. Fruits and vegetables are generally low in unhealthy fats, unless fat is added during cooking.

Keeping a healthy weight will also help prevent heart disease. Exercise and a heart-healthy diet should help you do that. More than 30 minutes of moderate physical activity on most days are needed if you want to lose weight—experts recommend 60 minutes daily. Watching portion sizes when you eat is important. So is limiting added sugars, including drinks like sodas, juices, fruit drinks, and alcohol. And get enough sleep. Some studies show that women who get the least sleep gain the most weight.

These lifestyle changes—exercise, a heart-healthy diet, and weight control—will also help prevent or reverse metabolic syndrome. This, in turn, will lower your risk for heart disease, stroke, or type 2 diabetes—major causes of illness and death in older women.

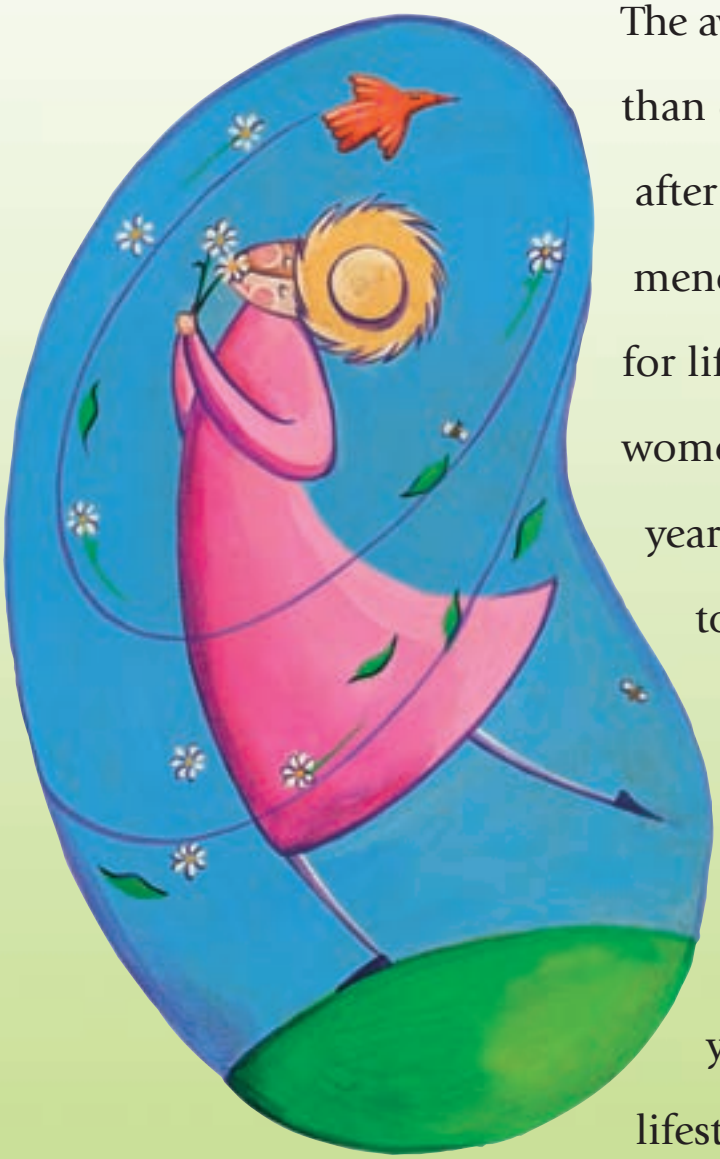
URINARY PROBLEMS

Urinary problems such as frequent infections and urine leakage sometimes also develop at this time. While these changes are not unusual, they are not necessarily related to menopause. You should still see your doctor, who may be able to help you control any of these problems.

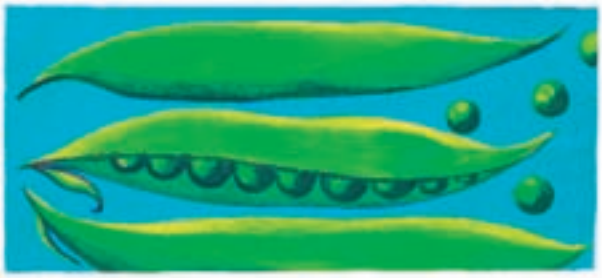
When women have problems controlling their bladder, especially as they grow older, that's called urinary incontinence, and there are several types. If you have stress incontinence, you might leak urine when you sneeze, laugh, cough, or step off a curb. Overflow incontinence means there is a problem emptying the bladder, so you might leak urine because your bladder is always full. Urge incontinence means you can't hold the urine until you get to the toilet. Somewhat similar is functional incontinence, in which you can't get to the toilet in time because physical problems keep you from moving quickly.

Urinary incontinence is treatable—don't try to ignore it or to just live with it. Many things cause urinary incontinence, including muscle weakness, nerve damage, or infection. Your doctor can decide on the cause and suggest the most effective treatment. This might include bladder control training, medicines, implants, or surgery. Contact the National Institute of Diabetes and Digestive and Kidney Diseases, listed in *For More Information*, to learn more.

Staying Healthy



The average woman today has more than one-third of her life ahead of her after menopause. That means the menopausal transition is a good time for lifestyle changes that could help women make the most of the coming years. You've already read some ways to protect or improve your health at this time of life—quitting smoking, exercising daily, and working toward a healthy weight. But, there's even more you can do to stay healthy—other lifestyle changes plus suggestions to help you work with your health care providers more effectively.



GOOD NUTRITION

A balanced diet will give you most of the nutrients and calories your body needs to stay healthy. Eat a variety of foods from the five major food groups. Look for foods that have lots of nutrients, like protein and vitamins, but not a lot of calories. These are called nutrient-dense foods. As you grow older, you need fewer calories for energy, but just as many nutrients.

The USDA Food Guide (see chart below) is one eating plan suggested by the Federal Government's *Dietary Guidelines for Americans, 2005*. Another eating plan also suggested in the Dietary Guidelines is DASH, Dietary Approaches to Stop Hypertension. Contact the National Heart, Lung, and Blood Institute, listed in *For More Information*, for more resources about this plan.

The number of calories a woman over age 50 should eat daily depends on how physically active she is. Basically you need:

- 1,600 calories, if your physical activity level is low
- 1,800 calories, if you are moderately active
- 2,000-2,200 calories, if you have an active lifestyle

The more active you are, the more calories you can eat without gaining weight.

Eating the foods recommended in the USDA Food Guide or in DASH will help you get needed nutrients. But, people over 50 have trouble getting enough of some vitamins and minerals through diet alone, including calcium and vitamin D (see page 20). Just remember that these recommendations include how much of each nutrient you get from food and drinks as well as any supplement you use. Women past menopause who are still having a menstrual cycle because they are using menopausal hormone therapy might need some extra iron over

USDA FOOD GUIDE

Daily Recommendations for Women Age 50 and Older*

Grains—5 to 7 ounces, at least half of which are whole grains

Vegetables—2 to 3 cups with a variety of colors and types

Fruits—1½ to 2 cups

Milk, yogurt, and cheese—3 cups of milk or the equivalent

Meat, poultry, fish, dry beans, eggs, and nuts—5 to 6 ounces of lean meat, poultry, or fish or the equivalent

*From the U.S. Department of Agriculture (USDA)

the 8 mg (milligrams) recommended for women over age 50. Iron, important for healthy red blood cells, is found in meat, duck, peas, beans, and fortified bread and grain products.

Women over 50 also need more of two B vitamins. Getting 2.4 mcg (micrograms) of vitamin B_{12} per day will maintain the health of your blood and nerves. Some foods, such as cereals, are fortified with this vitamin. Vitamin B_{12} is also found in red meat and, to a lesser extent, fish and poultry. But, up to one-third of older people can no longer absorb natural vitamin B_{12} from their food. Furthermore, common medicines taken to control the symptoms of GERD (gastroesophageal reflux disease), also known as acid reflux, slow the release of certain stomach acids and, therefore, interfere with the body's absorption of vitamin B_{12}. You might need a supplement if you have GERD.

Another B vitamin, B_6, helps your body breakdown proteins and make hemoglobin, a part of red blood cells. Women should have 1.5 mg of vitamin B_6 daily. This vitamin is found in fortified cereals, as well as meats, legumes, and eggs.

Don't forget to drink plenty of fluids, especially water. If you drink alcohol, do so in moderation—for a woman, only one drink a day according to the Dietary Guidelines for Americans. A drink could be one 12-ounce beer, 5 ounces of wine, or 1½ ounces of 80-proof distilled spirits.

HEALTH CARE

Eating well, exercising, and not smoking are things you can do for yourself to stay healthy as you get older. It is also important to discuss your goals for healthy aging with your doctor. He or she may be able to help you prevent health problems or recognize problems early when they are probably easier to manage.

See your doctor. Continue to visit your doctor regularly. When you meet with any doctor, be prepared to discuss your family medical history. You might be at increased risk for certain diseases, like diabetes or heart disease, if other close family members had them.

Knowing about this family history will help your doctor decide whether you need any screening tests, like cholesterol or blood sugar tests, more often or earlier than other people your age.

You should have routine screening tests, pelvic and breast exams, and a Pap test for cervical cancer. After age 50, you need to be checked for colon cancer, and don't forget your mammogram every 1 to 2 years, especially if you are still using menopausal hormone therapy. And remember to talk to your doctor about whether or not you are at risk for osteoporosis and what types of physical activity are best for you.

Skin. Check your skin every month for unusual blemishes, especially moles that seem to change size, shape, or color. Have your doctor look at your skin during check-ups. Use sunscreen, SPF 15 or higher, when you are outside during the day. Try to stay out of the sun when it is strongest—from about 11 a.m. until 3 p.m.

Teeth and mouth. See your dentist once or twice a year. Not only will he or she clean your teeth, but the dentist will also check for cavities and gum disease. If you have dentures, you should still see a dentist periodically to check their fit and to look for gum problems.

Eyes. As you age, reading may become harder. You may need to hold things farther away in order to see them clearly. Reading glasses might help. Start regular visits to an eye care professional, who can check for glaucoma. This eye problem becomes more common after your forties. In glaucoma there is increased pressure on the optic nerve. The pressure can permanently damage your vision before you realize you have glaucoma. Special eye drops often control it.

Medications. Make sure all your doctors know which medications you are taking. This includes vitamins, minerals, other dietary supplements, and over-the-counter medicines like aspirin, antacids, or antihistamines. Some of these may change how your prescription medicines work; others might not be safe for you to use at all.

If your health care professional prescribes a medicine, take it as directed. Make sure you understand the possible side effects of the prescribed medicines. Some drug stores

or mail order services keep a computer file of all your prescriptions so they can check for possible drug interactions if a new medicine is added. That is a benefit of getting all your medicines from the same place. But the pharmacist still doesn't know what non-prescription medicines and supplements you are taking, so it is important to keep your doctors informed.

Get vaccines. If you are over age 50, you should get a flu shot every fall, especially if you have other health problems. The Centers for Disease Control and Prevention (CDC) recommends that people over age 65 get the pneumococcal pneumonia vaccine—most need it only once. You should also have a tetanus shot every ten years, or sooner if you have an injury that puts you at risk for getting tetanus. Tetanus or lockjaw is a serious, painful infection that causes muscles all over the body to tighten.

A vaccine to prevent shingles is now available. Most adults 60 years and older should get one dose. Check with your doctor to see what you should do.

Listen to your body. Don't wait for your next checkup if you notice any suspicious changes in your body—swelling, unexpected weight loss or gain, persistent pain, unexplained fevers, a cough that won't go away, or recurring headaches, for example. Check with your doctor about any of these symptoms.

Know the warning signs of a heart attack, although the signs are sometimes less clear in a woman. They include:

- Pain or an uncomfortable feeling in the center of your chest
- Pain or discomfort in other parts of the upper body, including the arms, back, neck, jaw, or stomach
- Other symptoms, such as shortness of breath, breaking out in a cold sweat, nausea, or light-headedness

Call 9-1-1 if you feel chest discomfort, especially with any of the other signs. If 9-1-1 emergency service is not available where you are, call the operator or get someone to drive you to the hospital.

You should also know the warning signs of a stroke. In the case of a stroke, one or more of these signs come on **very** suddenly.

- Numbness or weakness, usually in the face, arm, or leg, and often on just one side
- Strong headache for no reason
- Confusion or trouble speaking or understanding
- Problems seeing with one or both eyes
- Trouble walking, feeling dizzy, losing balance or coordination

There are drugs that can help if you get to an emergency room fast enough. Call the ambulance and get medical help as soon as possible, so you can get treatment that may lessen the damage.

Ovarian cancer (cancer of the ovaries) is rare and difficult to diagnose in its early stages, making it hard to treat. Ovarian cancer is more common in women who:

- Are older
- Have a family history of this disease
- Are overweight

The early symptoms are often similar to signs of other illnesses. They might include:

- Pain in the abdomen or pelvis
- Urinating often or needing to urinate quickly
- Feeling full more quickly than usual when eating
- Frequent bloating in your abdomen

Normally these symptoms are nothing to worry about. But, talk to your doctor if they happen frequently, perhaps more than twelve times a month, or if they continue for more than a few weeks.

PRACTICE SAFE SEX

After menopause, some women may think they needn't worry about sexually transmitted diseases. But, any woman, regardless of her age, who is not in a long-term relationship with a faithful partner and has unprotected sex, is at risk of sexually transmitted disease. If you have more than one sexual partner or have recently begun dating again, you need to be aware of the risk of these diseases and take necessary precautions to make sure you don't become infected.

The list of familiar and unfamiliar sexually transmitted diseases includes syphilis, gonorrhea, Chlamydia, genital herpes, human papillomavirus/genital warts, and HIV/AIDS (human immunodeficiency virus/acquired immunodeficiency syndrome). Some can be cured—Chlamydia, syphilis, and gonorrhea. But some—genital herpes, human papillomavirus/genital warts, and HIV/AIDS—can't. Being informed about HIV/AIDS is critical because an HIV infection that develops into AIDS is life-threatening. HIV/AIDS can be treated, although not cured, and new drugs enable people to live longer with HIV/AIDS.

HIV is found in body fluids such as blood, semen, and vaginal secretions. The virus can enter your body through any opening in the skin. Postmenopausal women are at special risk because of the fragile tissues of the vulva (the external female genital area around the opening of the vagina) and the lining of the vagina. These delicate tissues may be more susceptible to virus-infected fluids.

Don't be afraid to talk to your partner or potential partner about HIV/AIDS. Ask if he or she has been tested for HIV recently. There are other ways women can protect themselves. Check with the FDA and the CDC. Contact the FDA and CDC, listed in *For More Information,* to learn more. Be sure you are making safe choices.

OTHER LIFESTYLE CHANGES

This new phase of your life can be as busy and fulfilling as you would like to make it. Stay active—not only physically, but also mentally. If you don't work outside of the home, you might consider getting a part-time job or volunteering with a nonprofit organization. You might find a hobby or learn to play a musical instrument. Maybe you would enjoy taking a class at a local community college or even working toward a degree. You could join a book group or learn to garden. This is the time to do something you always wanted to try, but never had the time before. Or maybe now is a good time to reconnect with an interest you had when younger.

While exploring new things and keeping active, try to avoid adding stress to your life. Stress can make it harder to deal with the symptoms of menopause. Mid-life can be a complex time for many women. For example, if you have a family, there are probably changes at home—maybe you now have an "empty nest" because your children are leaving home for college, work, or marriage. Maybe you have young children who are still in need of attention, which can be extra challenging if you are tired because you aren't sleeping well at night.

Other possible stresses come from outside the home. If you work, you may be taking a different look at your career, starting to think about retirement, or feeling challenged by younger coworkers. Or, your parents may be having health problems that now need your attention. Maybe a combination of such challenges is causing you stress.

How do you know you are feeling stressed? Perhaps you feel overwhelmed by

life, depressed, or anxious. Do your shoulder muscles feel tight? Do you sometimes realize your hands are clenched? Do you wake up with a sore jaw because you are grinding your teeth or tightening your jaw as you sleep? Do you have headaches, stomach problems, fatigue, trouble sleeping, or high blood pressure? These can be signs of stress.

Avoid stress as much as possible. That might be very hard to do if you are a caregiver—whether of a child or an adult. Try to identify the times when you feel overwhelmed so you can try to keep those situations to a minimum. Take time to relax, eat well, exercise regularly to release tension and feel better overall, and keep in touch with family and friends. Try to find activities that may help get your mind off things that stress you. Maybe even try relaxation breathing (see box on page 12) or meditation. Get enough sleep. Don't be reluctant to ask for help when you need it—from family or friends or even from a professional counselor.

Keep in mind the possibility of saying no when asked to do something that you think will add to your stress, and try not to feel guilty afterward. Some women find accepting the fact that there are some things in life that they can't change is helpful. Set realistic goals for what you want to get done.

Talk to friends or family members who might be going through similar life changes. Sharing ideas about how to handle common new responsibilities like taking care of aging parents might be helpful to everyone.

Would you like to help with medical research?

Research is ongoing in many places. One way people can help with medical research is to take part in a clinical study or trial. A clinical study or trial is specially designed, health-related research involving humans. Scientists often seek participants for their research studies. Some are people with the illness being studied, called "patient volunteers." Sometimes participants are "normal or healthy volunteers" who are not sick. Scientists learn a lot by comparing and contrasting the two groups, especially if both have received the same treatment. Are you interested in taking part in a clinical study—either because of a health problem you have or so you can contribute to medical research? Consider volunteering for a clinical trial. Learn more at *www.clinicaltrials.gov* where you will see a listing of current clinical studies and trials.

Remember...

The menopausal transition is a natural stage for every woman who is in her forties or fifties. If you have no symptoms or if you aren't bothered by the symptoms you have, there is nothing you need do. But, if hot flashes, night sweats, or vaginal dryness are making you uncomfortable, talk to your doctor about ways you can get relief.

Mid-life can be an exciting period in your life. It is a time of change—physical changes, of course, but possibly emotional and social adjustments, too. It might also be a time of acceptance—of these changes and of your evolving roles in life. This is also a time of opportunity and promise—a chance to make healthy changes in your lifestyle that will allow you to get the most out of the rest of your life.

So, don't look back. This is the time to explore your world, expand your horizons, and learn more about yourself.

It's time to enjoy yourself, friends and family, and your life!

FOR MORE Information

To learn more about health and aging and to order *Hormones and Menopause,* a tip sheet on menopausal hormone therapy, contact:

National Institute on Aging (NIA) Information Center
P.O. Box 8057
Gaithersburg, MD 20898-8057
1-800-222-2225 (toll-free)
1-800-222-4225 (TTY/toll-free)
www.nia.nih.gov
www.nia.nih.gov/Espanol

To sign up for regular email alerts about new publications and other information from the NIA, go to *www.nia.nih.gov/HealthInformation.*

Visit NIHSeniorHealth (*www.nihseniorhealth.gov*), a senior-friendly website from the National Institute on Aging and the National Library of Medicine. This website has health information for older adults. Special features make it simple to use. For example, you can click on a button to have the text read out loud or to make the type larger.

To learn more about Alzheimer's disease and memory loss, contact:

Alzheimer's Disease Education and Referral (ADEAR) Center
P.O. Box 8250
Silver Spring, MD 20907-8250
1-800-438-4380 (toll-free)
www.nia.nih.gov/Alzheimers

Other sources of useful information for menopausal and postmenopausal women:

Federal Government Resources

Centers for Disease Control and Prevention (CDC)
1600 Clifton Road
Atlanta, GA 30333
1-800-232-4636 (toll-free)
www.cdc.gov

Department of Agriculture (USDA)
1400 Independence Avenue, SW
Washington, DC 20250
1-202-720-2791
www.usda.gov
www.mypyramid.gov
www.nutrition.gov

Food and Drug Administration (FDA)
10903 New Hampshire Avenue
Silver Spring, MD 20993-0002
1-888-463-6332 (toll-free)
www.fda.gov

Menopausal Hormone Therapy Information
National Institutes of Health
www.nih.gov/PHTindex.htm

National Cancer Institute
National Institutes of Health
6116 Executive Boulevard
Room 300
Bethesda, MD 20892-8322
1-800-422-6237 (toll-free)
www.cancer.gov

National Center for Complementary and Alternative Medicine
National Institutes of Health
P.O. Box 7923
Gaithersburg, MD 20898
1-888-644-6226 (toll-free)
1-866-464-3615 (TTY/toll-free)
www.nccam.nih.gov

National Eye Institute
National Institutes of Health
2020 Vision Place
Bethesda, MD 20892-3655
1-301-496-5248
www.nei.nih.gov

National Heart, Lung, and Blood Institute
National Institutes of Health
Health Information Center
Box 30105
Bethesda, MD 20824-0105
1-301-592-8573
1-240-629-3255 (TTY)
www.nhlbi.nih.gov

National Institute of Allergy and Infectious Diseases
National Institutes of Health
6610 Rockledge Drive, MSC 6612
Bethesda, MD 20892-6612
1-866-284-4107 (toll-free)
1-800-877-8339 (TDD/toll-free)
www.niaid.nih.gov

National Institute of Arthritis and Musculoskeletal and Skin Diseases
National Institutes of Health
1 AMS Circle
Bethesda, MD 20892-3675
1-877-226-4267 (toll-free)
1-301-565-2966 (TTY)
www.niams.nih.gov

National Institute of Child Health and Human Development
National Institutes of Health
P.O. Box 3006
Rockville, MD 20847
1-800-370-2943 (toll-free)
1-888-320-6942 (TTY/toll-free)
www.nichd.nih.gov

National Institute of Dental and Craniofacial Research
National Institutes of Health
31 Center Drive, MSC 2190
Bethesda, MD 20892-2190
1-866-232-4528 (toll-free)
www.nidcr.nih.gov

National Institute of Diabetes and Digestive and Kidney Diseases
National Institutes of Health
Building 31, Room 9A-06
31 Center Drive, MSC 2560
Bethesda, MD 20892-2560
1-301-496-3583
www.niddk.nih.gov

National Institute of Mental Health
National Institutes of Health
6001 Executive Boulevard
Room 8184, MSC 9663
Bethesda, MD 20892-9663
1-866-615-6464 (toll-free)
1-866-415-8051 (TTY/toll-free)
www.nimh.nih.gov

National Institute on Alcohol Abuse and Alcoholism
National Institutes of Health
5635 Fishers Lane, MSC 9304
Bethesda, MD 20892-9304
1-301-443-3860
www.niaaa.nih.gov

National Women's Health Information Center
8270 Willow Oaks Corporate Drive
Fairfax, VA 22031
1-800-994-9662
1-888-220-5446 (TDD/toll-free)
www.womenshealth.gov

Office of Dietary Supplements
National Institutes of Health
6100 Executive Boulevard
Room 3B01, MSC 7517
Bethesda, MD 20892-7517
1-301-435-2920
www.ods.od.nih.gov

The National Library of Medicine has a website, *www.medlineplus.gov*, with information on many health subjects, including menopause. Click on Health Topics. Choose any topic you are interested in, such as *menopause, menopausal hormone therapy,* or *osteoporosis,* by clicking on the first letter of the topic and scrolling down the list to find it.

Non-Profit and Professional Groups

American College of Obstetricians and Gynecologists
409 12th Street, SW
P.O. Box 96920
Washington, DC 20090-6920
1-202-638-5577
www.acog.org

North American Menopause Society
5900 Landerbrook Drive
Suite 390
Mayfield Heights, OH 44124
1-440-442-7550
www.menopause.org

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