



Postmenopausal Health

Most women who read this publication are interested in the issues related to menopause and perimenopause. However, health problems in the years that follow—during postmenopause—are relevant as well.

Decisions made around menopause affect a woman's health for the rest of her life.

Women who reach menopause early, whether spontaneous or induced, have a greater need for this information, as they spend more years in postmenopause.

In the postmenopausal years, all women experience the physical effects of aging and may also be affected by the hormone changes responsible for menopause. These changes can include serious health conditions, such as heart disease, diabetes, osteoporosis, and cancer. Determining risk factors for these diseases as early as possible allows women to employ preventive strategies. Menopause presents an opportunity for a woman to undergo a personal risk evaluation, whether it's for the first time or a reassessment.

Heart Disease

Many women think of heart disease as a man's disease. In reality, diseases of the heart and circulatory system (cardiovascular diseases) are the number-one killer of women in North America. After age 55, more than half of all deaths in women are caused by cardiovascular disease.

More women than men die from heart disease. This may be because heart disease is often detected at later stages in women than in men because women's symptoms can be different

than men's. Chest pain without heart disease is very common in younger women, but in older women, chest pain has a higher likelihood of being related to heart disease.

While a man's risk for heart disease increases significantly after age 45, a woman's risk increases after menopause, whatever her age. Women who experience premature menopause, spontaneous or induced, may have an even greater risk for heart disease. Heart disease rates in postmenopausal women are two to three times higher than those in premenopausal women of the same age, leading some to suggest that the body's estrogen provides some protective benefits. Research to clarify this relationship is ongoing.

The most common form of heart disease is coronary artery disease (sometimes called coronary heart disease). The coronary arteries supply the heart muscle with nutrients and oxygen. Coronary artery disease results when the buildup of plaque (fatty deposits) in the lining of coronary blood vessels reduces blood flow. When one of these arteries becomes completely blocked, depriving the heart muscle of oxygen, a heart attack occurs. Outside the heart, diseased blood vessels can cause adverse conditions such as stroke and high blood pressure. Poor circulation in the limbs can lead to difficulty walking and even to loss of limbs.

A careful assessment of a woman's heart disease risk is very important, and menopause is an excellent time to take stock. Studies have identified several factors that increase a woman's risk for heart disease (see Box on this page). The higher a woman's risk, the more aggressive her preventive strategy should be.



Heart Disease Risk Factors for Women

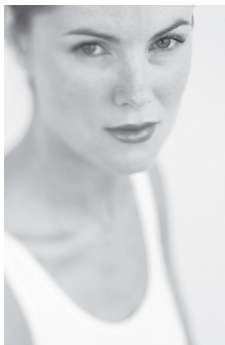
- Age 55 or older
- Black race/ethnicity
- Current cigarette smoking
- Physical inactivity
- Weight more than 20% over ideal
- Waistline more than 35 inches (88 cm)
- High blood pressure
- Abnormal cholesterol or triglyceride levels
- Stress
- Diabetes
- Drinking more than seven alcoholic beverages each week
- Family history: A father or brother who had a heart attack before age 55; a mother or sister who had a heart attack before age 65; a close blood relative who had a stroke.
- Premature menopause, especially if reached before age 35

Maintaining Heart Health

While some risk factors cannot be changed, others can be controlled or modified to create a more heart-healthy lifestyle. The following are risk factors that can be changed with lifestyle modification and/or various therapies.

Don't smoke. Of all the lifestyle factors that can be changed, smoking cessation has the greatest impact on saving lives. Smokers are considerably more likely to have a heart attack than nonsmokers. But there's good news. When a woman stops smoking, no matter how

long or how much she smoked, her risk of heart disease drops rapidly. There are many other good reasons not to smoke. These include increased vitality, improved appearance, and decreased risk of osteoporosis and cancer of the cervix, lungs, mouth, and throat. There are numerous programs and aids available to help women quit smoking.



A sedentary lifestyle is almost as great a risk factor for heart disease as smoking.

Control blood pressure. Hypertension (high blood pressure) is defined as an arm cuff reading greater than 140/90 mm Hg. It is preferable to keep blood pressure below 120/80. Even mild elevations can double the risk of stroke or heart attack. High blood pressure becomes more common as women age. In fact, more than 50% of all women over age 55 are affected. Black women are especially susceptible. Regular blood pressure testing is important because high blood pressure rarely causes symptoms.

High blood pressure can be controlled by eating a healthy diet, limiting the intake of salt and alcohol, exercising on a regular basis, and reducing stress. Controlling weight is also important; losing just 5 to 10 pounds (2.3-4.5 kg) often brings blood pressure down to normal. If these measures alone fail to control blood pressure, several prescription medications (including diuretics) are available to enhance the beneficial effects of these lifestyle modifications. The evidence supporting the use of antihypertensive drugs to prevent a wide range of adverse health effects is very strong.

Control cholesterol. Abnormal levels of cholesterol in the blood can cause a buildup of plaque on the inner walls of the arteries that supply blood to the heart and the rest of the body. This is called atherosclerosis (hardening

of the arteries). Plaque slows blood flow and can block a vessel entirely. If this happens to a blood vessel in the heart, a heart attack can occur. If this happens to a blood vessel in the brain, a stroke can occur.

Bringing cholesterol levels to within normal limits has a significant impact on heart disease risk. Total cholesterol should be less than 200 mg/dL (5.17 mmol/L). Other goals include maintaining high levels of high-density lipoprotein cholesterol (HDL, the “good cholesterol”) and low levels of low-density lipoprotein cholesterol (LDL, the “bad cholesterol”). Target levels for HDL are at least 50 mg/dL (1.29 mmol/L); for LDL, optimal levels are less than 100 mg/dL (2.59 mmol/L), even lower for women with heart disease risks.

Cholesterol-healthy tips include eating food with little or no cholesterol or animal fat and avoiding hydrogenated oil and trans-fatty acids found in foods and prepared foods with a long shelf life. Exercising on a regular basis and controlling weight are also beneficial.

Consuming low-fat soy foods or supplements (25 mg soy protein daily) may improve cholesterol levels slightly. When diet and exercise alone aren’t enough, a cholesterol-lowering prescription medication can be added. These medications, called statins, have been shown to reduce the risk of a first major heart attack. Oral estrogen therapy can also increase HDL and lower LDL, but is no longer recommended for preventing heart disease.

Control triglycerides. Most fats in the blood exist as triglycerides. A healthy level of less than 150 mg/dL (1.69 mmol/L) can usually be maintained by limiting alcohol intake, avoiding food with fat and sugar, exercising regularly, keeping weight under control, and not smoking.

Prevent diabetes. People with diabetes (high levels of blood sugar) are two to four times more likely to develop cardiovascular disease. (See more about diabetes, including how to lower risk, on this page.)

Exercise regularly. A sedentary lifestyle is almost as great a risk factor for heart disease as smoking because of diminished circulation and weight gain. Regular physical activity promotes heart health and has been shown to reduce the risk of heart attacks in women. For heart health, all women should aim for at least 30 minutes of moderate intensity aerobic exercise (brisk walking, for example) most days—provided that this level is first approved by their healthcare provider.

Maintain healthy weight or lose weight if overweight. Women who keep their weight at recommended levels have up to 50% less risk for heart disease. Women who are significantly overweight can reduce health risks substantially by losing just 10% of their weight.

Improve nutrition. Choose a diet that includes a variety of fruits, vegetables, grains, low- or nonfat dairy products, fish, legumes, and sources of protein low in saturated and trans fat (such as poultry, lean meats, and plant sources). Avoid foods that have a high amount of cholesterol and saturated and trans fat. Limiting salt may help control high blood pressure. Alcohol consumption should not exceed one or two drinks a day, and no more than seven per week.

Reduce stress. A stressful lifestyle increases risk of heart disease and many other health problems. Exercise, meditation, and relaxation techniques can significantly reduce stress.

If at high risk for heart disease, take a baby aspirin daily. Studies have found that daily low-dose “baby” aspirin (81 mg) lowers a woman’s risk if she is at high risk for heart disease. Daily aspirin use may carry more risks than benefits for women not at risk for heart disease.

Don’t use estrogen therapy to prevent heart disease. Previously, estrogen therapy was thought to reduce the risk of heart disease, primarily because of its beneficial effects on cholesterol. However, more recent studies have shown that some types of hormone therapy increase the risk of heart disease, blood clots, and stroke. Recently, there has been debate on whether the age at which a woman begins estrogen therapy makes a difference, as some studies show heart benefits when starting hormones closer to menopause. It appears in some studies that only when a woman with a risk of heart disease starts hormone therapy after menopause that problems could arise. Current government recommendations are cautious, stating that estrogen should not be used to prevent heart disease. Also, a woman with heart disease should not begin estrogen therapy without careful consideration of the risks. (See more about hormone therapy on page 54.)

Diabetes

With diabetes, either the body doesn’t produce enough insulin or the cells aren’t able to use the insulin, or a person is so overweight that normal insulin production is inadequate. Insulin transports the glucose from circulating blood into the cells. This is necessary for the body to utilize glucose (sugar), the basic fuel for the cells. When glucose doesn’t go into the cells, it builds up in the blood. If a fasting blood glucose level is above 126 mg/dL (7.0 mmol/L), diabetes is diagnosed.

Diabetes is a serious disease—the fifth-deadliest disease in the United States. The number of people diagnosed with diabetes is continually increasing, mostly because of its association with obesity. About one-third of women with the disease don't know they have it. And given the current epidemic of obesity, more and more are at risk for developing diabetes.

Diabetes increases the risk of cardiovascular disease two to four times, adding to the increased risk seen with age. Even when blood glucose levels are under control, diabetes increases the risk of heart attack and stroke. (See more about reducing cardiovascular risk on page 38.) Diabetes is also associated with an increased risk of other adverse health conditions, including vision loss, kidney failure, uterine cancer, gallstones, nerve damage (sometimes leading to amputation), and premature menopause. However, most people with diabetes can live long and happy lives with proper medical care and attention to healthy habits.

As people age, they are more likely to develop the most common type of diabetes—type 2 diabetes, sometimes called adult-onset diabetes. But since diabetes can't be cured, it makes more sense to take steps to prevent it. Evidence strongly suggests that healthy lifestyles can prevent most cases of type 2 diabetes.

Several risk factors for developing type 2 diabetes have been identified. Some of these can't be altered, but others can. Obesity is the number one risk factor, responsible for an estimated 80% to 95% of the current dramatic increase in type 2 diabetes in the developed world. Obesity is defined as a body mass index of 30 kg/m² or more, a calculation that considers both body weight and height. For example, a woman is considered “obese”

when she is 5 feet 4 inches (163 cm) tall and weighs 174 pounds (79 kg) or more—or when she is 5 feet 8 inches (173 cm) tall and weighs 197 pounds (89 kg) or more. The definition of “overweight” is somewhat lower.

Excess body fat appears to play a strong role in insulin resistance, but the way the fat is distributed is also significant. Weight concentrated around the abdomen and in the upper part of the body (apple-shaped rather than pear-shaped individuals with wide hips) is associated with insulin resistance and diabetes, as well as heart disease. In fact, just about every risk factor for heart disease (see page 39) is also a risk factor for type 2 diabetes.

Other risk factors for type 2 diabetes cannot be altered. These include advancing age, family history of diabetes, personal history of gestational diabetes (diabetes arising during pregnancy), nonwhite race/ethnicity, and menopause.

Women with risk factors should be screened for diabetes around menopause. Women who have diabetes are strongly urged to work with their healthcare providers to manage the disease and have a healthy lifestyle. Diet, exercise, and weight control are especially important for any woman who is at high risk or has the disease. Overweight women can improve their blood sugar control by losing weight. Medication will also often be needed to control blood sugar.

Osteoporosis

Postmenopausal osteoporosis is a skeletal disorder in which bone strength has weakened to a point where the bone is fragile and at higher risk of fractures. Bone strength and thus fracture risk are dependent on both bone quality and bone mineral density.

Compression fractures of the vertebrae of the spine are the most frequent type of osteoporotic fracture, and most do not cause noticeable symptoms. However, women who have multiple spine fractures or who have severe or recent fractures may experience chronic back pain. In severe cases, loss of height or curvature of the upper back may result. Having had one recent spine fracture substantially increases a woman's risk for more fractures in the immediate future.

Hip fractures related to osteoporosis, although not as frequent as spine fractures, are more serious. Nearly one-quarter of hip fracture victims over age 50 die within 1 year of their fracture, typically from pneumonia due to lack of mobility. About one-third have some long-term loss of mobility. Only about one-third of survivors are able to return to independent living.

Bones grow during childhood and adolescence, reaching their strongest point (peak bone mass) between the ages of 20 and 30. From then on, bone loss occurs gradually for the remainder of life, with acceleration to about 2% per year at 2 to 3 years before menopause until 3 to 4 years afterward. Then, bone loss slows to about 1% to 1.5% per year until, by age 80, many women have lost about 30% of their peak bone mass.

Both an inadequate amount of bone made during growth years and an increased rate of bone loss in adulthood can contribute to osteoporosis. But other factors have been identified that increase a woman's risk for having weak bones, including heredity (the greatest influence), lack of exercise, certain medical conditions and treatments, and menopause (especially premature menopause). The consequence of osteoporosis is fracture.



Major Risk Factors for Osteoporotic Fracture

- Advanced age
- Low bone mineral density
- Previous fracture (other than skull, facial bone, ankle, finger, and toe) as an adult
- History of hip fracture in a parent
- Weight under 127 pounds (57.7 kg)
- Current smoking, any amount
- Lack of adequate calcium and vitamin D
- More than two alcoholic drinks per day
- Use of certain bone-robbing prescription medicines (such as steroids for more than 3 months)
- Increased risk of falls (from impaired vision, poor balance, dizziness from medication, etc.)

Research has shown that several factors increase a woman's risk for osteoporotic fractures. (See Box on this page.)

Although some decline in bone strength in women can be attributed to aging, lower estrogen levels are the major cause. Women experiencing premature menopause, either spontaneous or induced, are at greater risk for weakened bones than other women the same age who have not reached menopause. However, by age 70, when fractures are more likely to occur, these women are at the same risk as women who reached menopause at the average age.



*Menopause
heralds a
steep decline
in bone
strength.*

Evaluation

Early detection of bone loss can lead to treatment that may prevent further bone loss and reduce the chance of fracture. All postmenopausal women should be assessed by a healthcare provider for risk factors for osteoporosis and fracture and the telltale signs of bone loss. Prolonged and severe pain in the middle of the back is a possible indicator of osteoporotic spine fractures. Changes in the shape of the spine and loss of height are additional signs. While it's normal to lose some height while aging, most experts agree that a loss of 1.5 inches (3 cm) or more is cause for concern. But because these signs can occur without osteoporosis and osteoporosis may have no signs, further tests are required to make the diagnosis.

Standard x-rays are not sensitive enough to reveal osteoporosis until a considerable amount of bone has already been lost. Measuring BMD is the best way to evaluate bone strength and predict fracture risk. Today, BMD is measured in ways that are not only more accurate than standard x-ray, but are also safe and painless. However, women often question whether and when to obtain a BMD measurement. NAMS has evaluated all the pertinent clinical studies, leading to its recommendation of BMD testing for two groups—all postmenopausal women who are 65 and older, and all postmenopausal women with medical causes of bone loss, regardless of age.

Healthy women younger than 65 do not need testing, according to NAMS, unless they are postmenopausal and also have at least one of the following risk factors for fracture: current smoker, weight below 127 pounds (57.7 kg), history of hip fracture in a parent, and previous

fracture (other than skull, facial bone, ankle, finger, and toe) after menopause. Measuring BMD in other women may sometimes be recommended on an individual basis, but it is not cost-effective for large populations.

Although there are several tests to measure BMD, dual-energy x-ray absorptiometry (DXA) is the best, exposing a woman to only about 10% of the radiation used in a chest x-ray. DXA is preferred for diagnosing osteoporosis because it measures spine, hip, and total body BMD, the important sites of osteoporotic fractures. Ultrasound, which does not require radiation, is used to measure bone density in peripheral body sites, such as the wrist or heel. Ultrasound measurements can be used to predict fracture risk; however, they cannot be used to make the diagnosis of osteoporosis or to monitor the effects of therapy.

Testing of BMD is not needed very often since bone density declines only about 1% to 1.5% each year. For most postmenopausal women who are not being treated for osteoporosis, repeat DXA testing is not useful until 3 to 5 years have passed. Throughout life, bone is constantly renewed, with old bone being broken down and new bone being formed—a process called bone remodeling. Lab tests can measure bone breakdown products in the blood and urine. Although these measurements are not helpful for diagnosis of osteoporosis, some healthcare providers find them useful in monitoring response to osteoporosis treatment.

Prevention & Treatment

The primary goal of osteoporosis therapy is to prevent fractures by stopping or slowing loss of bone mass, maintaining bone strength, and minimizing or eliminating factors that contribute to falls and fractures. Although fractures due to

osteoporosis typically occur in later years (age 82 is average for hip fracture, mid-70s for spine), it's important to address bone health as early as possible. Since menopause heralds a steep decline in bone strength, it is an excellent opportunity to get serious about bone health.

Lifestyle modification and nonprescription therapies. Maintaining a healthy lifestyle—including not smoking, regular weight-bearing exercise, and adequate intake of calcium and vitamin D—may slow bone loss in the early postmenopausal years and reduce fracture risk. Adequate intake of calcium and vitamin D is also essential when using any medication prescribed for osteoporosis.

It is important that women assess their daily dietary calcium intake and add a supplement when appropriate. Most women in North America consume about 600 mg of calcium per day, while the recommended daily intake is at least 1,200 mg per day. Calcium is best absorbed through dietary sources, but supplements such as calcium carbonate and calcium citrate are safe and effective. Calcium carbonate should be taken with meals and limited to 500 mg or less per dose. Vitamin D is essential for the intestinal absorption of calcium. Although exposure to sunlight provides vitamin D, sunscreen use will block it. Taking a quality multivitamin usually ensures the daily requirement of 400 international units (IU), although some women may need more. (See more about calcium and vitamin D on page 67.)

Falls are the cause of nearly 90% of all osteoporotic fractures. Reducing risk of falls is, therefore, an important bone-health strategy. Institute fall prevention measures such as providing ample lighting, removing obstructions to walking, and using nonskid rugs on floors

and decals or mats in the shower. For women at high risk for falls and fracture, install grab bars in the shower. Tapering or stopping alcoholic beverages or medications that can cause dizziness is also important, especially for elderly women.

Prescription therapies. Several types of effective “bone drugs” are available, allowing healthcare providers to recommend the type most appropriate for each woman. Long-term use may be needed, since bone loss usually resumes after therapy ends. However, studies have not evaluated the safety or effectiveness of available therapies over many years of use. Thus, women experiencing early menopause, whether spontaneous or induced, and their healthcare providers have little research to rely on when they consider the potential benefits versus risks if these therapies are used. Keep in mind that a bone-healthy lifestyle will also enhance the positive effects of prescription therapies for women who require them.

The following are the primary prescription medications available for osteoporosis management.

– **Bisphosphonates.** These are nonhormonal, bone-specific drugs that decrease the activity of bone-dissolving cells. These drugs preserve bone density and bone strength as well as reduce fracture risk. They are considered by many to be the first choice for treating osteoporosis. However, because food reduces their absorption, tablets of bisphosphonates must be taken on an empty stomach (usually in the morning), with water only, at least 30 minutes before drinking other liquids, eating, or taking other medicines or supplements, including calcium. Possible side effects include esophageal irritation caused by acid reflux as stomach acids splash onto the lower esophagus.

New dosage forms are available to make taking the drug more manageable and reduce the risk of gastric irritation.

Bisphosphonates in general use are the following.

- Alendronate (Fosamax tablets or liquid) is approved in the United States and Canada for postmenopausal osteoporosis prevention and treatment. It significantly increases bone density in the spine and hip, and significantly decreases the risk of spine and nonspine fractures. Alendronate is available in both daily and once-weekly doses.
- Risedronate (Actonel tablets) is approved in the United States and Canada for postmenopausal osteoporosis prevention and treatment. It has been shown to significantly reduce hip fractures in women with osteoporosis. It also reduces the risk of spine fractures after only 1 year of therapy. Risedronate is also available in daily and once-weekly dosages.
- Ibandronate (Boniva tablets or injection) is approved in the United States for postmenopausal osteoporosis and prevention. It is available in once-a-month dosing and is the only bisphosphonate shown to reduce vertebral fracture risk with a drug-free interval of more than 1 week. However, like other orally administered bisphosphonates, it may cause upper gastrointestinal side effects.
- Etidronate (Didronel tablets) is FDA approved for the treatment of another bone disorder, Paget's disease. Nevertheless, some clinicians prescribe it in lower doses for postmenopausal osteoporosis. In Canada, it is approved for osteoporosis treatment. Also in Canada, an etidronate

plus calcium product is available (Didrocal). When prescribed for osteoporosis, etidronate must be taken cyclically (2 weeks out of every 3 months) to prevent abnormalities in bone mineralization.

- **Estrogen-containing hormone therapy.** The primary indication for systemic, estrogen therapy (ET) is to treat menopause symptoms such as hot flashes. But ET also increases bone mass and decreases the risk of fractures of the spine and hip. Estrogen's benefits are not reduced when a progestogen is added for women with a uterus (known as estrogen-progestogen therapy or EPT). Many ET and EPT products have been proven effective and are approved in the United States and Canada for preventing (although not for treating) postmenopausal osteoporosis. When menopause symptoms are controlled or cease, continued hormone therapy can still be considered for bone effects, weighing its benefits and risks against those of alternate therapies. Studies have shown a bone mineral density loss of 3% to 6% during the first year after stopping estrogen therapy. (See more about hormone therapy on page 54.)

- **Raloxifene.** Marketed as Evista tablets, raloxifene is approved in the United States and Canada for the prevention and treatment of osteoporosis. Raloxifene belongs to a class of drugs called SERMs (selective estrogen-receptor modulators), which act like estrogen in some parts of the body and like an antiestrogen in other parts. Raloxifene prevents bone loss and reduces the risk of spine fractures, but its effectiveness in reducing hip and other fractures is uncertain. Unlike estrogen, raloxifene does not help with short-term menopause symptoms, and may actually increase hot flashes in some women. Also unlike estrogen, it does not appear to affect the uterus, and may decrease the

risk of breast cancer. Like estrogen, raloxifene increases the risk of developing blood clots and should not be taken by women with a history of or risks for blood clots, such as prolonged immobility. Ongoing research may reveal beneficial actions beyond bone protection.

- **Parathyroid hormone.** The newest type of osteoporosis therapy, parathyroid hormone (PTH), actually stimulates new bone formation. The end result is better bone strength. PTH is a hormone, but not a hormone like estrogen. Marketed as teriparatide (Forteo), this drug is approved in the United States and Canada for treating osteoporosis and is reserved for women at high risk for a fracture. PTH improves BMD and reduces the risk of spine and nonspine fractures. Most side effects, such as nausea, dizziness, and leg cramps, are mild. However, women need to take daily injections and the cost of therapy is high. A small risk of a rare but serious bone cancer has been found in some animal studies of PTH, but the significance of this finding in humans is uncertain. Therapy is indicated for no longer than 18 to 24 months, but—as with the other agents—bone loss resumes when it is stopped.

- **Calcitonin.** This agent is also a hormone, but not like estrogen. Calcitonin is an osteoporosis drug available as a nasal spray in the United States (marketed as Miacalcin Nasal Spray, Fortical Nasal Spray) and an injection (Miacalcin Injection). Available in Canada are a nasal spray (Miacalcin Nasal Spray) and an injection (Calcimar Solution, Caltine), but these injectables are not approved for osteoporosis. Because its effectiveness has not been observed in women just past menopause, calcitonin use is reserved for women with osteoporosis who are at least 5 years beyond menopause. Calcitonin is less potent than the other agents, but it

is sometimes prescribed to reduce pain from spine fractures. Calcitonin is relatively safe and has no serious side effects. However, the nasal spray may cause some minor nose irritation.

Using each medication the way it has been prescribed is essential for avoiding fracture. Other drugs are sometimes prescribed by clinicians for treating bone loss, but none are government approved for this use, and research documenting effectiveness is lacking. New therapies are being studied and may be approved in the near future.

The treatment of osteoporosis needs to be long term in most women. Given the uncertainties of long-term safety with these therapies, careful monitoring is required. During therapy, it is appropriate to reevaluate the treatment goals and the choice of medication on an ongoing basis through periodic checkups and follow-up BMD testing. An appropriate interval for repeat BMD testing with DXA is 2 years or more.

Cancer

Menopause is not associated with increased cancer risk. However, some cancer rates typically increase with age, so postmenopausal women should be informed about the most common cancers that may affect them. Also, some of the therapies used to treat menopause symptoms are associated with an increased or a decreased risk of certain types of cancer.

Each year, thousands of women are cured of cancer, and those diagnosed today have a much better chance of living longer than in the past. In North America, about two out of every five women diagnosed with cancer will be alive 5 years after diagnosis. Even more women are reducing their risk by learning to be “cancer smart.” Being informed and discussing concerns with a healthcare provider are key steps toward optimal health.

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Factors That Increase Breast Cancer Risk

- Advancing age: Nearly half of all cases occur in women 65 years and older. Current estimates predict that by age 50, 2% of U.S. and Canadian women will have developed breast cancer—by 60, about 5%; by 70, about 7%; and by 80, about 10%.
- Personal history of female cancer (such as breast or uterus) or, possibly, colon cancer.
- Genetics: a woman's risk for developing breast cancer is also increased if her mother, sister, or daughter had the disease, especially if before menopause; however, most breast cancers occur in women without a family history of breast cancer.
- Long menstrual history (menstrual periods that started early and/or ended late in life).
- Never having had children or having a first child after age 30.
- High breast tissue density (a mammographic measurement of the amount of glandular breast tissue relative to fatty tissue in the breast).
- Having had one or more previous breast biopsies, especially if any showed a change in cell tissue known as atypical hyperplasia (the breast biopsy itself does not increase cancer risk).
- Late menopause (after age 55).
- Being more than 20% over ideal weight after menopause, especially if more than 40 pounds (18 kg) were gained since menopause; studies show that overweight women with breast cancer are also more likely to die from their disease.
- Drinking more than one alcoholic drink per day.
- Lack of exercise.
- Diet low in vegetables and fruit.
- Radiation treatment for cancer.
- Use of postmenopausal hormone therapy with estrogen-progestogen (estrogen alone is not associated with increased risk).
- Never having breastfed (breastfeeding has been shown to have a protective effect for breast cancer).

The most common types of cancer for women are presented in the following sections.

Breast Cancer

Breast cancer is perhaps the cancer women fear most. This fear comes not only from the possibility of dying from the disease, but also from the rigorous demands of treatment and the probability of cancer recurrence. Moreover, many midlife women have personally seen relatives or friends go through breast cancer treatment or have lost loved ones to the disease.

Breast cancer is the most frequently diagnosed cancer in women and is the second-highest cause of cancer death in North American women (after lung cancer). Fortunately, the percentage of women dying from breast cancer has started to decline in recent years. Smaller, less-advanced cancers can now be detected earlier with mammography. U.S. statistics show that if breast cancer is detected while still localized (not spread to outside the breast), the 5-year survival rate is 98%, a dramatic improvement from 80% in the 1950s. The same improvements in cancer survival have also been seen in Canadian women. Several risk factors for breast cancer have been identified (see Box on this page).

Role of ET/EPT. There are no studies that provide insight into the role of hormone therapy and the risk of breast cancer in women experiencing early menopause, whether spontaneous or induced. However, for women who experience spontaneous menopause at the typical age, current data support a link between an increased risk of breast cancer and using one type of hormone therapy—estrogen combined with a progestogen (EPT)—particularly after several

years of use. Women without a uterus who use estrogen therapy (ET) alone may not have this risk. Shorter term use of ET or EPT during perimenopause to relieve hot flashes and other menopause-related symptoms does not appear to increase breast cancer risk. All ET and EPT products are contraindicated in women with known or suspected breast cancer as well as in those with a history of breast cancer. (See more about hormone therapy on page 54.)

Early detection. Since many breast cancer risk factors cannot be altered, early detection is the best strategy. Once a woman reaches adulthood, monthly breast self-examination and an annual examination by a healthcare provider during regular physical checkups are recommended. If anything unusual is found, such as a lump or nipple discharge, both a mammogram (breast x-ray) and follow-up with a clinician are appropriate. Mammograms are generally recommended as a screening test, even when nothing unusual is found.

Recommendations for mammography screening intervals vary. Some experts recommend annual mammograms beginning at age 40, as well as before starting hormone therapy, while others recommend longer intervals. All agree that women over 50 should have a mammogram every 1 to 2 years.

The value of mammograms in detecting breast cancer is affected by several factors. For example, high hormone levels cause breasts to appear more “dense” (or cloudy) on a mammogram, making the test more difficult to interpret. In women before menopause, when hormone levels are high, mammograms are harder to read and have more false positives. For these women, the best time for a manual exam and mammogram is immediately after their monthly period when

hormone levels are low. Hormone therapy also makes breasts appear denser on a mammogram. For postmenopausal women using EPT, the best time for a manual exam and mammogram is immediately after therapy-induced uterine bleeding stops. Breast density remains consistently high for women on continuous combined EPT or for those using estrogen alone, although density is less the more years beyond menopause. Women with fibrocystic (lumpy) breasts or breast implants also have denser breasts, making abnormalities more difficult to detect. Ultrasound is sometimes used to further investigate suspicious mammogram findings. MRI and digital mammography are new screening techniques that may be helpful in some women.

Although most breast lumps are noncancerous, all lumps should be evaluated even if a mammogram is negative. A biopsy (small tissue specimen) may be necessary to rule out cancer. Studies repeatedly show that early diagnosis of breast cancer is linked to higher cure rates.

Endometrial (Uterine) Cancer

Cancer can develop on the inside lining of the uterus, called the endometrium. Fewer than 3 in 100 women past age 50 will develop endometrial cancer in their remaining lifetime, and far fewer will die from the disease. When detected while the cancer is still localized, white women with endometrial cancer have a 5-year survival rate of 96% and black women about 86%. (Naturally, women who have undergone hysterectomy have no risk for endometrial cancer.)

Risk factors for developing endometrial cancer include use of estrogen without progestogen, use of tamoxifen (for breast cancer therapy), menarche (starting periods) earlier than age 12, late menopause (after age 51), not ovulating regularly during menstrual years (excluding

An annual pelvic examination is recommended for all women.



pregnancy and lactation), infertility or never being pregnant, obesity, diabetes, gallbladder disease, and, perhaps, high blood pressure and hereditary colon cancer. Previous pregnancy and oral contraceptive use appear to provide some protection against endometrial cancer.

Annual pelvic exams are recommended for all women. If a woman has risk factors for endometrial cancer, including unexplained abnormal uterine bleeding, an endometrial biopsy may be recommended as well. The Pap smear, which is so effective in detecting cervical cancer, is not a reliable test to detect uterine cancer. Transvaginal ultrasound and sonohysterography (an ultrasound view of the uterus, sometimes with the uterus filled with salt water) are being used by some clinicians to determine the thickness of the endometrium and to look for endometrial cancer and other causes of postmenopausal or abnormal uterine bleeding.

Role of ET/EPT. Using estrogen without a progestogen—also called “unopposed” estrogen therapy or ET—for 3 years or more has been associated with a marked increase in endometrial cancer. Most endometrial cancers that occur while taking unopposed ET are low-grade cancers and do not reduce a woman’s lifespan if detected early and treated with hysterectomy. Adding the proper type and amount of progestogen to estrogen counteracts the increased risk of endometrial cancer, reducing the risk to the level of taking no hormones at all. As a result, most experts recommend that all women with an intact uterus should use a progestogen with ET. (See more about hormone therapy on page 54.)

Cervical Cancer

The death rate from cancer of the cervix (the opening to the uterus inside the vagina) has

dropped sharply among white and black women in the United States and Canada, but it remains a serious concern. In the United States, almost 10,400 cases of cervical cancer are diagnosed yearly, and over 3,700 deaths per year are expected from the disease. If diagnosed early, invasive cervical cancer is highly treatable. The 5-year survival rate for U.S. women is 73%.

Neither menopause nor hormone therapy used for menopause symptoms has been linked to increased cervical cancer risk. The primary causes of cervical cancer are specific types of human papillomavirus (HPV), an infection acquired primarily through sexual relations. Women who began having sexual intercourse at an early age or who have many sexual partners are at increased risk. However, a woman may be infected with HPV even if she has only one sexual partner. Importantly, HPV infections are common in healthy, sexually active women and only rarely result in cervical cancer. Persistence of the infection and progression to cancer may be influenced by many factors, such as smoking, poor nutrition, and a weak immune system (such as from HIV infection). In both men and women, HPV infection is sometimes associated with benign (noncancerous) growths in the genital area, called condylomata or genital warts. Most women who carry the virus have no signs or symptoms of HPV.

A vaccine to prevent cancer-related types of HPV has been approved in the United States and Canada for use in adolescents. Studies are underway in older women to determine if the vaccine will benefit them.

The Pap smear is a screening test to detect abnormal change in the cells of the cervix. It is a simple office procedure in which cells

are swabbed from the cervix and analyzed under a microscope. Properly performed, the test can detect abnormal cells before they become cancerous. The cure rate in women with precancerous lesions is nearly 100%. Sometimes, a closer look at the cervix will be needed, using an instrument called a colposcope, as well as a biopsy of any abnormalities prior to treatment. Despite the importance of the Pap smear, about 50% of U.S. women diagnosed with cervical cancer have never had the test.

An annual pelvic exam and Pap smear are recommended to check for cervical changes. Women without cervical cancer risk factors who have had three consecutive normal Pap smears may be tested less often, but they should continue to have yearly pelvic and breast exams. If a Pap smear shows abnormalities or if the woman has a history of cancer or a weak immune system, testing may be needed more often.

Women who have had a hysterectomy generally don't need a Pap smear unless the uterus was removed because of cervical cancer or precancer, or she has a history of exposure to DES (diethylstilbestrol, a hormone prescribed between 1938 and 1971 to prevent miscarriages and other pregnancy-related problems). If the cervix was not removed during the hysterectomy, a woman still needs a regular Pap test.

Ovarian Cancer

Statistics show that U.S. and Canadian women have a low incidence of cancer of the ovaries. Ovarian cancer represents about 3% of all cancers in the United States and Canada, yet it causes more deaths than any other cancer

of the reproductive system, primarily because it is usually diagnosed at an advanced and less curable stage. When ovarian cancer is detected early, 94% of women survive at least 5 years. However, only about 19% of all cases are diagnosed at this stage.

Ovarian cancer risk is not affected by menopause, but the risk does increase with age, particularly in women without children or in those with a family history of breast or ovarian cancer. Lowered risk of ovarian cancer is associated with previous pregnancy, past use of birth control pills, and bilateral tubal ligation (both fallopian tubes surgically closed or "tied" to prevent pregnancy). The large Women's Health Initiative (WHI) study suggests that using hormone therapy, either as ET or EPT, does not increase ovarian cancer risk, although other studies have raised this concern.

No satisfactory screening tests for ovarian cancer are currently available. Pap smears rarely detect ovarian cancer. Transvaginal ultrasound and a blood test for the tumor marker CA125 have been used to screen women at high risk of ovarian cancer, but studies have not proven the value of this approach. To help detect changes in the ovaries, an annual pelvic exam is recommended, especially for women over age 40.

Because of ovarian cancer risk, some healthcare providers advocate removal of the ovaries when a hysterectomy is performed, especially as women approach the typical age of menopause. However, since removing the ovaries results in surgical menopause, this decision should be made carefully after a full discussion of the pros and cons.

Lung Cancer

Today, lung cancer has surpassed breast cancer as the leading cause of cancer death in North American women. The number of newly diagnosed cases continues to rise. These alarming statistics reflect the increasing numbers of women who smoke cigarettes, by far the most important risk factor in developing this disease. Unfortunately, there is no effective screening test for lung cancer.

Of all the lifestyle-related risk factors that can be changed, smoking cessation has the greatest impact on reducing lung cancer deaths. Exposure to secondhand tobacco smoke also poses health risks. One study reports that the risk of lung cancer is approximately 30% higher for wives of smokers than for wives of nonsmokers.

Colon & Rectal Cancer

After lung and breast cancer, colorectal cancer is the next most common cause of cancer death in U.S. and Canadian women. It includes cancers of the colon (the lower part of the intestine) and the rectum (the part of the intestine that leads from the colon to the anus). Colorectal cancer is not associated with menopause but with age; more than 90% of colorectal cases occur in those 50 and older. Other nonmodifiable risk factors include a family history of colorectal cancer or having colorectal polyps or inflammatory bowel disease.

Colorectal cancer risk may be lowered through smoking cessation, exercise, healthy diet (high in fruits and vegetables, low in fats), adequate calcium intake, or taking daily aspirin or a nonsteroidal anti-inflammatory drug (such as ibuprofen). Studies have suggested that

EPT use may be protective against colorectal cancer. However, hormone therapy should not be used solely for this purpose because harm likely exceeds benefits.

Colon cancer typically begins as precancerous colon polyps and can be prevented if the polyps are detected and removed. When colorectal cancer is found early, 90% of those treated will survive at least 5 years. However, only 39% of colorectal cancers are found at this stage, primarily because of low rates of screening.

Women at average risk of colorectal cancer should be screened at or after the age of 50 years.

The U.S. guidelines for screening women at average risk include the following: annual testing of stool for blood (called a fecal occult blood test) combined with a flexible sigmoidoscopy (a test to view inside the rectum and lower colon) every 5 years; double-contrast barium enema every 5 years; or a colonoscopy (which views the entire colon, including areas beyond the reach of the sigmoidoscope) every 10 years. Canadian guidelines for population-based screening for colorectal cancer are still under consideration. Pilot projects are underway to determine the most effective screening methods. Individual centers that have already implemented screening tend to use guidelines similar to those recommended in the United States.

Colonoscopy is the most thorough of all these options, evaluating the entire colon and allowing biopsies and complete removal of precancerous polyps in a single procedure. However, it requires sedation, is the most costly of the tests available, and has a greater risk than the alternatives. Barium enema is

least effective because of its inferior quality as a diagnostic procedure. Thus, barium enema should probably be recommended only for those who cannot tolerate sedation. In those cases, virtual colonoscopy (using a special x-ray method called a CT scan to examine the colon) may be preferred. While it does not require sedation and is safer than conventional colonoscopy, it still requires thorough laxative preparation and may be beyond financial reach, as it is most likely not covered by insurance. Regardless of the screening option selected, a digital rectal examination should be part of every woman's annual physical exam.

Women at high risk (because of their history of colorectal cancer or precancerous polyps, or because of an immediate family member with this history) require more frequent testing. Screening should begin at a younger age than 50 for women who have an immediate family member with a history of colorectal cancer or precancerous polyps. A woman diagnosed with breast cancer is not considered to be at increased risk of developing colorectal cancer. 🌸

Lung cancer is the leading cause of cancer death in North American women.

