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Hormone Replacement Therapy

Overview

- Alternative Names
- Information
- Summary of Risks/Benefits
- Forms of HRT
- Healthy Lifestyle
- Calling Your Health Care Provider

News & Features

Hormone replacement therapy (HRT) is medication containing one or more female hormones, commonly estrogen plus progestin (synthetic progesterone). Some women receive estrogen-only therapy (usually women who have had their uterus removed).

HRT is most often used to treat symptoms of menopause such as "hot flashes," vaginal dryness, mood swings, sleep disorders, and decreased sexual desire. This medication may be taken in the form of a pill, a patch, or vaginal cream.

Times Essentials

Recent findings and perspectives on medical research.

Earlier Hormone Therapy Elevates Risk of Breast Cancer, Researchers Say

By DENISE GRADY

A British study of more than a million women indicates that those at the highest risk took hormones before or soon after menopause began.

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Alternative Names

[Back to Top](#)

HRT; ERT; Estrogen replacement therapy

Information

[Back to Top](#)

Based on early studies, many physicians used to believe that HRT might be beneficial for reducing the risk of heart disease and bone fractures caused by osteoporosis (thinning of the bones) in addition to treating menopausal symptoms. The results of a new study, called the Women's Health Initiative (WHI), has led physicians to revise their recommendations regarding HRT.

The WHI, started in 1993, has enrolled 161,809 women, ages 50 - 79, in 40 different medical centers. Part of the study was intended to examine the health benefits and the risks of hormone replacement therapy, including the risk of developing breast cancer, heart attacks, strokes, and blood clots.

In July 2002, one component of the WHI, which studied the use of estrogen and progestin in women who had a uterus, was stopped early because the health risks exceeded the health benefits. The main reason for stopping the estrogen-progestin study was because of a 26% increase in breast cancer.

In March 2004, a second component of the WHI, which studied estrogen-only therapy in women who no longer had a uterus (see [hysterectomy](#)), was stopped early. This was primarily because of an increase in the risk for strokes.

The information below includes detailed information from the WHI study about each risk. A summary follows at the end.

MENOPAUSE SYMPTOMS

During menopause, the amount of estrogen produced by a woman's ovaries drops. These naturally occurring low estrogen levels may cause symptoms that include hot flashes, sleep problems, mood swings, and vaginal dryness.

Most women experience relief from the hot flashes, sleep difficulties, and vaginal dryness within a few weeks of taking HRT. Short-term use (2-4 years) of HRT to treat the symptoms of menopause still appears to be safe at this time. Usually, hot flashes and night sweats are less severe after a

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couple of years -- especially if HRT is tapered gradually.

HEART DISEASE

Estrogen helps decrease "bad" cholesterol and increase "good" cholesterol in the bloodstream. Because lower levels of "bad" cholesterol and higher levels of "good" cholesterol are associated with a decreased risk of heart disease, researchers thought that HRT should lower risk by changing these levels.

However, the WHI has shown that this is not true. The number of heart attacks actually increased 29% among women taking estrogen and progestin. Put another way, WHI researchers estimate that 37 of every 10,000 women taking HRT will have a heart attack, while 30 in 10,000 not taking HRT will have a heart attack.

The Heart Estrogen/progestin Replacement Study (HERS) published earlier in 2002 also showed no benefit for the heart of taking estrogen and progestin. These women were followed for almost 7 years.

HRT should not be given strictly for the prevention of high cholesterol or heart disease. Generally, lifestyle changes and medications to lower cholesterol and control blood pressure are recommended for those conditions.

STROKES

The WHI study showed a 41% increase in strokes among the women taking estrogen/progestin. For every 10,000 women taking HRT, 29 will have a stroke, compared with 21 in 10,000 women not taking HRT.

An increased risk of stroke was also seen in the estrogen-only therapy.

BLOOD CLOTS/THROMBOEMBOLIC DISEASE

The increased risk of blood clots from taking estrogen has been recognized for years. Generally, this risk has been associated with the use of oral contraceptives that contain high doses of estrogen. It is further increased for women who smoke cigarettes.

The WHI study confirmed an increase in the number of blood clots in women taking estrogen/progestin. For every 10,000 women taking HRT, 34 will develop clots in their lungs or legs, while 16 in 10,000 not taking HRT will develop blood clots.

OSTEOPOROSIS

A woman's body produces less estrogen during and after menopause, which may affect her bone strength. The WHI study showed that women taking HRT had 34% fewer hip fractures and 24% fewer fractures than women not receiving hormones.

However, the short-term use of HRT to relieve symptoms at the time of menopause does little to prevent fractures in women when they reach 75-80 years of age. Women who take estrogen to maintain bone density must continue taking estrogen because the beneficial effects on bones disappear when it is discontinued.

Women who are considering taking HRT to prevent osteoporosis should discuss with their physician their individual risk of coronary heart disease, stroke, blood clots, and breast cancer.

Instead, supplemental calcium and increasing vitamin D intake may be recommended for some women to help prevent and treat loss of bone mass. Other lifestyle changes, such as adding an exercise regimen to your routine and not smoking, may help in the prevention and treatment of osteoporosis as well.

In addition, there are some medications available specifically for prevention and treatment of osteoporosis. These include risedronate, calcitonin, etidronate, and alendronate.

BREAST CANCER

The WHI estrogen/progestin trial was stopped primarily because of a 26% increased risk of breast cancer found in women taking hormone therapy. For every 10,000 women taking estrogen/progestin, 38 will develop invasive breast cancer; of 10,000 women not taking HRT, 30 will develop the disease.

The second component of the WHI study, which looked at estrogen alone in women who no longer have a uterus, did not find any increased risk of breast cancer.

UTERINE CANCER/ENDOMETRIAL CANCER

Taking estrogen alone causes the lining of the uterus to grow. The risk for endometrial cancer is six to eight times higher in women who take estrogen, compared with those who do not.

Progestin works to decrease the lining of the uterus. For women who still have their uterus, most doctors prescribe progestin (a synthetic progesterone) to counteract the effect of the estrogen.

The WHI study did not find any difference in endometrial cancer rates



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between the women who took hormones and those who did not. Depending on the form of HRT, taking progestin may cause bleeding similar to a period. This combination of estrogen and progesterone may be in the form of one pill, or it may be two separate pills.

OVARIAN CANCER

In another study, published by the National Cancer Institute in 2002, women who use estrogen therapy alone have an increased risk of developing ovarian cancer. This risk increases with the number of years a woman uses estrogen.

For women who used estrogen for 20 or more years, the risk of ovarian cancer was three times that of women who did not use estrogen.

This study did not have enough women to assess the potential risk of an estrogen/progestin combination on the risk of ovarian cancer.

COLON CANCER

The WHI study found a 37% lower risk of colon cancer in women who took estrogen/progestin than in women not on HRT. For every 10,000 women taking estrogen/progestin, 10 will develop colon cancer; of 10,000 women not taking HRT, 16 will develop the disease. This is a relatively new finding, and further studies are needed to confirm these results.

GALLBLADDER DISEASE

Several studies have shown that women who use estrogen/progestin therapy are at increased risk of developing gallstones.

URINARY INCONTINENCE

HRT has not been found to improve or reduce the incidence of incontinence after menopause.

DEPRESSION

Studies have shown that women who suffer from common vasomotor symptoms of menopause, mood swings, and sleep problems benefit from HRT in the overall quality of their life. However, there is no scientific evidence that HRT is helpful in the treatment of major depression.

ALZHEIMER'S DISEASE

Studies have not shown that HRT slows down the symptoms of Alzheimer's disease. Studies are ongoing as to whether there is any benefit to HRT with regard to other memory loss.

SIDE EFFECTS FROM HRT

As with all medicines, there are side effects associated with HRT. Some women taking HRT may experience water retention, bloating, nausea, breast soreness, mood swings, and headaches. Changing the dosage or the form of HRT may help to alleviate these side effects.

Some women have irregular bleeding when they start taking HRT, but changing the dosage often eliminates this side effect.

Summary of Risks/Benefits

[Back to Top](#)

The WHI study shows relatively small *absolute* increases in the risk of heart disease, breast cancer, blood clots, and stroke to an individual woman. However, when the entire population of postmenopausal women and the number of years a woman may be on HRT are considered -- the number of strokes, heart attacks, breast cancer cases, and blood clots appears to outweigh the protective effect of HRT on bones.

Some women may still wish to consider HRT for short-term treatment of menopausal symptoms. The key is to weigh the risks associated with taking HRT against a particular woman's risk of heart disease or osteoporosis without taking HRT. Every woman is different. Therefore, your entire medical history should be evaluated individually when considering HRT.

Forms of HRT

[Back to Top](#)

HRT is available in various forms, including pills, patches, and vaginal creams. Your health care provider will start you on a regimen that is best suited for you. It may be necessary to try more than one regimen before finding the one that works best for you.

- * Cyclic hormone therapy is often recommended. With this therapy, estrogen is taken in pill form for 25 days, with progestin added somewhere between days 10 - 14. The estrogen and progestin are taken together for the remainder of the 25 days. Then, no pills are taken for 3 - 5 days. There will be monthly bleeding with cyclic therapy.
- * Continuous, combined therapy is where estrogen and progestin are taken together every day. When this therapy is started, or when switching from cyclic to continuous therapy, women may experience irregular bleeding. Most women stop bleeding within one year after

- * starting this therapy.
- * HRT is also available as a patch which is applied to the abdomen or the thigh. This patch allows the estrogen to be absorbed through the skin into the bloodstream. Some women prefer this method because they do not have to take pills.
- * Vaginal cream containing estrogen may be given to women for vaginal dryness. The cream is usually given along with one of the other forms of HRT because the cream may not relieve many of the other symptoms and does not appear to protect against bone disease.

Additional medications may be recommended for some women with severe symptoms from menopause, or women who are at very high risk for osteoporosis or heart disease. One of these supplemental drugs might be androgen, a male hormone given with estrogen to relieve severe hot flashes.

Healthy Lifestyle

[Back to Top](#)

In addition to taking HRT, there are other things that can help women adjust to the changes in life during menopause. Eating healthy foods and getting regular exercise will also help to decrease bone loss and maintain healthy heart muscle.

Calling Your Health Care Provider

[Back to Top](#)

It is important to have regular checkups with your health care provider when taking HRT. If you have continual vaginal bleeding during HRT, or for any other unusual symptoms, call your health care provider.

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