Patient information: Postmenopausal hormone therapy (Beyond the Basics)

INTRODUCTION

Menopause is defined as the time in a woman's life, usually between 45 and 55 years, when the ovaries stop producing eggs and menstrual periods end. For several years before menopause, menstrual periods become irregular, and many women develop hot flashes, night sweats, difficulty falling and staying asleep, and vaginal dryness. This stage is called perimenopause or the menopausal transition. A woman is said to be postmenopausal when she has not had menstrual bleeding for at least 12 months.

The **average** age of menopause is approximately 51 years, but 5 percent of women become postmenopausal before age 45 years and 5 percent become postmenopausal after age 55.

During the transition to menopause, the ovarian production of estrogen decreases by more than 90 percent. The decrease in ovarian estrogen production may cause symptoms such as hot flashes and a dry vagina. Some research indicates that the transition to menopause may also be associated with an increase in anxiety and depression in some women. There are a number of options available to ease the symptoms of menopause, including estrogen. This article explains how estrogen works and discusses the risks and benefits of postmenopausal hormone use.

Other articles about menopause are also available. (See "Patient information: Menopause (Beyond the Basics)" and "Patient information: Nonhormonal treatments for menopausal symptoms (Beyond the Basics)".)

More detailed information about postmenopausal hormone therapy is available by subscription. (See "Treatment of menopausal symptoms with hormone therapy".)

WHAT IS POSTMENOPAUSAL HORMONE THERAPY?

Postmenopausal hormone therapy is the term used to describe the two hormones, estrogen and progestin, that are given to relieve bothersome symptoms of menopause. Estrogen is the hormone that relieves the symptoms. Women with a uterus must also take progestin (a progesterone-like hormone) to prevent uterine cancer. This is because estrogen alone can cause the lining of the uterus to overgrow (potentially leading to uterine cancer).

Women who have had a hysterectomy do not have a uterus and cannot develop uterine cancer. These women are treated with estrogen alone.

Types of estrogen — Estrogen is available in many different forms. For hot flashes, it can be taken as an oral pill, a transdermal patch (worn on the skin), or a "ring" or tablet that is inserted into the vagina. There are also creams and sprays that can be put on the skin.

The "standard" dose of oral (by mouth) conjugated estrogen is 0.45 mg or 0.625 mg, although a lower dose of 0.3 mg may relieve menopausal symptoms for many women. Many women prefer taking a different type of estrogen called “estradiol” by mouth or with a skin patch. Experts recommend starting with a low dose. If the lowest dose does not improve your symptoms, your doctor or nurse might recommend a higher dose.

Estrogen pill — There are many types of estrogen pills. One of the most commonly used brands, called Premarin, is made from the urine of pregnant horses (mares). Other preparations are derived from plant sources. All types of estrogen can help to relieve menopausal symptoms.

Combination pills that include both estrogen and progestin are available. (See 'Types of progestin' below.)

Low-dose birth control pill — Very-low-dose birth control pills are a good option for women in their 40s who have bothersome hot flashes, irregular bleeding, and who still need a reliable form of birth control. Birth control pills are generally NOT recommended for postmenopausal women because the dose of estrogen is higher than needed to relieve hot flashes. (See "Patient information: Hormonal methods of birth control (Beyond the Basics)".)

Estrogen patch — There are many brands of estrogen patches. A combination estrogen and progestin patch is also available. Some patches need to be replaced every few days, while others are only replaced once a week.

Estrogen patches work as well as estrogen pills to increase bone density and treat menopausal symptoms. Women with a uterus who use an estrogen patch must also take a progestin to decrease the risk of uterine cancer (see 'Types of progestin' below). Estrogen patch treatment may be associated with fewer blood clots in the legs than treatment with oral estrogen.

Vaginal estrogen — Women with vaginal dryness can also be treated with very low doses of estrogen that treat the dryness but not hot flashes (because the dose is too low to get into the bloodstream). Vaginal estrogen comes in a cream, vaginal ring, or vaginal estrogen tablets. The low-dose vaginal estrogens do not usually require the use of a progestin pill. Vaginal estrogen used to treat dryness is discussed in a separate article. (See "Patient information: Vaginal dryness (Beyond the Basics)".)

Types of progestin — Postmenopausal women with a uterus who are treated with estrogen alone have an increased risk of developing uterine cancer and hyperplasia (a precursor to uterine cancer). Taking a second hormone, progestin, minimizes this risk. (See "Patient information: Endometrial cancer diagnosis and staging (Beyond the Basics)".)

●Oral progestins – The most commonly prescribed progestin pill is medroxyprogesterone acetate. Other types of progestin pills (norethindrone, norgestrel) are also available.

A natural progesterone, called Prometrium, is another option. There is also a generic form of natural progesterone. Natural progesterone has no negative effect on lipids and may be a good choice for women with high cholesterol levels.

●Intrauterine progestin – An intrauterine device (IUD) is a device that releases progestin (called Mirena or Skylar) to prevent pregnancy. This type of IUD has also been used in menopausal women to minimize the risk of developing uterine cancer. However, the IUD is not currently approved in the US for use in menopausal women.

"Natural" or "bioidentical" products — Many postmenopausal women are turning to "natural" or "bioidentical" hormone therapy as an alternative to conventional hormones. The "bioidentical" approach uses an individualized dose of hormones that is made by a pharmacy as pills, creams, or vaginal suppositories. The quality of these products is not regulated. The dose of hormones can vary from batch to batch.

The hormones most commonly included in bioidentical products are estradiol, estrone, estriol, progesterone, testosterone, and DHEA. You may be asked to provide a saliva or blood sample to measure your baseline hormone levels. Based upon the results, the prescriber selects the individual hormones and doses, which are then made by a compounding pharmacy.

Supporters of this approach claim that bioidentical hormones are safer and have fewer side effects than commercially available preparations. However, there is no scientific proof that this is true. Expert groups recommend that women should not adopt this approach because the hormone products do not have adequate quality control.

RISKS AND BENEFITS OF HORMONE THERAPY

The Women's Health Initiative (WHI) was a large study designed to find out if hormone therapy would reduce the risk of heart attacks (coronary heart disease [CHD]) after menopause. The study found that taking estrogen-progestin in combination actually increases the risk of heart attacks, breast cancer, blood clots, and strokes in older postmenopausal women. (See "Postmenopausal hormone therapy: Benefits and risks".)

The results of the estrogen-only study were different. Women who took estrogen alone had a small increase in the risk of stroke and blood clots, but there was no increased risk of heart attacks or breast cancer.

Heart attacks — The risk of having a heart attack related to use of hormone therapy appears to depend on your age. There is NO increased risk of heart attacks related to hormone therapy in women who:

●Became menopausal less than 10 years before starting hormones **or**

●Were 50 to 59 years when they took hormone therapy

Women who become menopausal more than 10 years ago or over age 60 years were at increased risk of having a heart attack related to hormone therapy.

Breast cancer — There is a small increased risk of breast cancer in women who took combined estrogen-progestin therapy, but not in women who took estrogen alone. Experts think that it takes

about 10 years or more of estrogen use (alone) before the risk goes up, but only 5 to 6 years if you take both hormones. After that, the risk will continue to go higher if you keep taking estrogen. This is discussed in detail separately. (See "Postmenopausal hormone therapy and the risk of breast cancer".)

Osteoporotic fracture — The risk of breaking a bone at the hip or spine because of osteoporosis is lower in women who take estrogen-progestin or estrogen alone. However, hormone therapy is not recommended to prevent or treat osteoporosis because there are bone medicines (called bisphosphonates) that have fewer serious risks. (See "Patient information: Osteoporosis prevention and treatment (Beyond the Basics)".)

Dementia — In women who took combined estrogen-progestin or estrogen alone, there was no significant improvement in memory or thinking, but there was an increase in the risk of developing dementia. But some experts think that estrogen treatment might be helpful for preventing dementia if you take it in the early years after menopause (although this is not proven); taking it many years after menopause seems to be harmful.

Depression — Some women develop depression for the first time during the few years leading up to menopause. Some studies show that estrogen treatment helps to improve mood and decrease depression. However, some women need to be treated with both estrogen and an antidepressant to feel completely better. (See "Patient information: Depression in adults (Beyond the Basics)".)

Sleep problems — Many perimenopausal and postmenopausal women have sleep problems. Sometimes this is because they have hot flashes at night that interfere with sleep (night sweats). But women can have trouble sleeping even if they don't have hot flashes. This can be due to disorders like restless leg syndrome and sleep apnea. Estrogen treatment is very effective for improving sleep in women with night sweats.

WHO SHOULD TAKE HORMONE THERAPY?

The most common reason for taking hormone therapy is to treat bothersome menopausal symptoms, such as hot flashes or vaginal dryness. Most experts agree that hormone therapy is safe for healthy women who have menopausal symptoms. If you decide to take hormones, you should take them for the shortest period of time possible. Short-term use of hormones (less than five years) does not seem to increase the risk of breast cancer.

Most experts recommend that you eventually decrease and stop taking hormone therapy. If you are taking pills, one way to do this is to skip one pill per week. If you are using a patch, your doctor or nurse can give you a lower-dose patch.

If menopausal symptoms return as you lower your dose of hormones, you can try hormone therapy alternatives. (See "Patient information: Nonhormonal treatments for menopausal symptoms (Beyond the Basics)".)

Who should avoid hormones? — Hormone therapy is not recommended for women with the following:

- Current or past history of breast cancer

●Coronary heart disease

●A previous blood clot, heart attack, or stroke

●Women at high risk for these complications

Women with breast cancer — Women with breast cancer often experience early menopause due to breast cancer treatments. In these women, estrogen or hormone therapy (by mouth or patch) is NOT recommended. The hormones could increase the chance of the cancer coming back.

Alternatives to hormone therapy are available and are often effective in relieving bothersome menopausal symptoms. These alternatives are discussed in detail in a separate article. (See "Patient information: Nonhormonal treatments for menopausal symptoms (Beyond the Basics)".)

WHERE TO GET MORE INFORMATION

Your healthcare provider is the best source of information for questions and concerns related to your medical problem.

This article will be updated as needed on our web site (www.uptodate.com/patients). Related topics for patients, as well as selected articles written for healthcare professionals, are also available. Some of the most relevant are listed below.

Patient level information — UpToDate offers two types of patient education materials.

The Basics — The Basics patient education pieces answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials.

Patient information: Menopause (The Basics)
Patient information: Sex problems in women (The Basics)
Patient information: Atrophic vaginitis (The Basics)

Beyond the Basics — Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are best for patients who want in-depth information and are comfortable with some medical jargon.

Patient information: Menopause (Beyond the Basics)
Patient information: Nonhormonal treatments for menopausal symptoms (Beyond the Basics)
Patient information: Hormonal methods of birth control (Beyond the Basics)
Patient information: Vaginal dryness (Beyond the Basics)
Patient information: Endometrial cancer diagnosis and staging (Beyond the Basics)
Patient information: Gallstones (Beyond the Basics)
Patient information: Osteoporosis prevention and treatment (Beyond the Basics)
Patient information: Colon and rectal cancer screening (Beyond the Basics)
Patient information: Depression in adults (Beyond the Basics)

Professional level information — Professional level articles are designed to keep doctors and other health professionals up-to-date on the latest medical findings. These articles are thorough, long, and complex, and they contain multiple references to the research on which they are based.

Professional level articles are best for people who are comfortable with a lot of medical terminology and who want to read the same materials their doctors are reading.

Androgen production and therapy in women
Clinical manifestations and diagnosis of vaginal atrophy
Continuous postmenopausal hormone therapy
Estrogen and cognitive function
Menopausal hot flashes
Postmenopausal hormone therapy and cardiovascular risk
Postmenopausal hormone therapy and the risk of breast cancer
Postmenopausal hormone therapy in the prevention and treatment of osteoporosis
Postmenopausal hormone therapy: Benefits and risks
Preparations for postmenopausal hormone therapy
Treatment of menopausal symptoms with hormone therapy
Treatment of vaginal atrophy

The following organizations also provide reliable health information.

●National Library of Medicine

(www.nlm.nih.gov/medlineplus/hormonereplacementtherapy.html)

●Hormone Health Network

(http://www.hormone.org/diseases-and-conditions/womens-health/menopause-map#/intro/)

(http://www.hormone.org/diseases-and-conditions/womens-health/menopause)

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Literature review current through: Oct 2013. | This topic last updated: May 31, 2013.

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4. Rossouw JE, Anderson GL, Prentice RL, et al. Risks and benefits of estrogen plus progestin in healthy postmenopausal women: principal results From the Women's Health Initiative randomized controlled trial. JAMA 2002; 288:321.