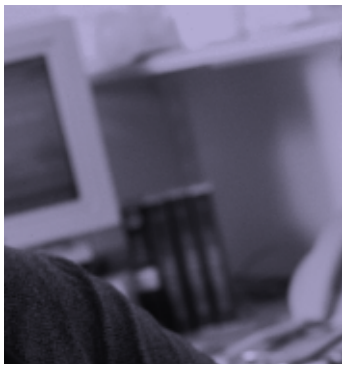
Consumer Reports Health.org

BEST BUY DRUGS

Evaluating Prescription Drugs Used to Treat:

The Symptoms of Menopause

Comparing Effectiveness, Safety, and Price



Our Recommendations

Conflicting research and advice on the safety of hormones has been rife for a decade. This report incorporates the latest evidence to help you make sense of an often confusing topic.

First, you should know that medicines containing various forms of the female hormones estrogen and progestin are highly effective at reducing the symptoms of menopause. Studies show that 70 to 90 percent of women experience an average 75 percent reduction in the frequency of hot flashes and night sweats. The drugs also effectively reduce vaginal dryness.

But these benefits must be weighed against serious adverse effects that hormones can cause. They have been firmly linked to a higher risk of heart disease, breast cancer, blood clots, and strokes. Recent research, however, has helped clarify which women are most at risk for such problems and which can consider using hormone products. From that research we make the following recommendations:

- Don't take hormones if your symptoms are mild and can be managed by changing your lifestyle and habits, such as quitting smoking, sleeping in a cooler room, reducing stress, exercising regularly, and limiting caffeine and alcohol.

- Don't take hormones if you have heart disease, or have had a stroke or cancer of the breast, ovaries or uterus.

- Don't take hormones if you have diabetes, high cholesterol or high blood pressure, all of which are risk factors for heart disease; hormones may add to that risk. Also, consider avoiding hormones if your father or mother died early from heart disease.

- If hormone treatment is not precluded by the above factors, if your symptoms are severe, and if you are in the first five to ten years of menopause, talk to your doctor about hormones. They could significantly improve your quality of life and pose a low risk of adverse effects for you. The evidence is strong, for example, that healthy women aged 50 to 59 who have a low risk of heart disease or breast cancer and who have entered menopause within the past five years incur no added risk of heart disease when they take hormones. However, they still face an increased risk of breast cancer, blood clots, and stroke.

- Always take hormones for the shortest time possible and at the lowest dose.

- Tell your doctor about your complete medical history. Ultimately, every decision about hormone use must be made on a case-by-case basis between a woman and her doctor.

- Hormones should never be used to treat mood swings, irritability, depression, anxiety, mental lapses, forgetfulness, cognitive difficulties, reduced libido, urinary incontinence, back pain, chronic pain, joint pain, stiffness, or fatigue. They don't help these conditions and could make them worse.

- Be cautious if a doctor or pharmacist recommends using so-called bio-identical hormone products made in pharmacies. They are not regulated by the FDA and have not been shown to be better or safer than commercial products.

Studies continue to examine whether any one form of estrogen or estrogen plus progestin (there are many) is more effective or safer than others. There are hints and suggestions of advantages for some forms of estrogen and some types of products. But none of this research is definitive at this time.

Importantly, women differ in their responses to hormone products. For example, pills work better for some women while patches work better for others. Also, as has been known for some time, hormone products containing only estrogen pose less risk of heart disease and breast cancer than those containing both estrogen and progestin. However, women who have not had a hysterectomy (surgical removal of the uterus) must take both because estrogen-only products have been conclusively linked to a much higher incidence of cancer of the uterine lining (endometrial cancer).

Many hormone products are available as less expensive generics, and some brand-name products are reasonably priced, too. Taking into account the wide array of products available to meet women's individual needs and preferences, we chose the following as *Best Buys* if you need a hormone product:

- *Generic estradiol (pills)*
- *Gynodiol (estradiol pills)*
- *Menest (esterified estrogen pills)*
- *Generic estropipate (pills)*
- *Generic medroxyprogesterone (pills)*
- *Generic estradiol (skin patch)*
- *Estraderm (estradiol skin patch)*
- *Prempro (estrogen-progestin combination pill)*
- *Prefest (estrogen-progestin combination pill)*
- *Climara Pro (estrogen-progestin skin patch)*
- *Combipatch (estrogen-progestin skin patch)*
- *Premarin vaginal cream (conjugated equine estrogen)*
- *FemRing (estradiol vaginal ring)*
- *Estring (estradiol vaginal ring)*

All these medicines are as effective as other hormone drugs, and several are quite a bit less expensive. Most generic estradiol pills, for example, cost less than $15 a month, and could save you up to $400 a year compared to brand-name Premarin, one of the largest selling products in this class. Likewise, we'd urge you to choose a generic estrogen-only hormone patch if that is clinically appropriate for you; it could save you around $300 a year.

This report was last updated in October 2008.

Welcome

This report on hormone drugs (estrogens and progestins) to treat the symptoms of menopause is part of a Consumers Union and *Consumer Reports* project to help you find safe, effective medicines that give you the most value for your health-care dollar. To learn more about the project, go to ConsumerReportsHealth.org/BestBuyDrugs.

Estrogens and progestins are used in birth control pills and in an array of products targeted at reducing the symptoms some women develop during menopause – hot flashes, night sweats, sleep disturbance, and vaginal dryness. Contrary to decades of drug marketing, most experts now agree that menopause – the permanent cessation of menstrual periods and a decline in the body's production of estrogen and progestins – is *not* a medical condition that must be treated. It is a normal event that is inevitable as a woman ages.

That said, some women experience symptoms that may reduce their quality of life. Those symptoms can be eased and sometimes completely eliminated by taking prescription estrogen and progestin medicines.

About 25 million women in the U.S. will move through the menopausal transition over the next decade. The majority — about 70% — will develop some menopausal symptoms. The severity of symptoms and the degree to which they interfere with functioning and quality of life ranges broadly. Of the women that experience any problems, most will experience only mild to moderate symptoms. But about 20% will have severe symptoms.

Treatment of menopausal women with hormones was routine medical practice until about six years ago. Up until that time, many doctors had recommended that most menopausal women – even those with no symptoms or only mild ones – use hormones not only to reduce symptoms but also to prevent heart disease, osteoporosis, dementia and incontinence. In 2002, however, the results of a long-awaited large study (the Women's Health Initiative, or WHI) showed that after five years of treatment with hormones, women actually had an *increased* risk of heart disease, breast cancer, blood clots, stroke, urinary incontinence, and dementia. The increased risks were small but noteworthy on all counts.

Tremendous anxiety and confusion followed this shocking finding and the widespread media reports that attended it. Many women stopped taking hormones.

Now, six years later, numerous detailed analyses have further clarified the risks and benefits of hormones and a more balanced approach to their appropriate use has begun to emerge. The most important finding is that younger menopausal women (under 60) may not increase their

risk of heart disease if they take hormones, but they still face an elevated risk of breast cancer, blood clots, and stroke.

Some of the initial confusion occurred because the original findings of the WHI and other studies of women taking hormones didn't fully separate out results for younger (under 60) versus older (over 60) menopausal women or for women who started taking hormones relatively soon after entering menopause versus those who did not begin taking the drugs for five, ten, or more years after entering menopause.

This report adds to other resources available – including many Web sites and some excellent books – to help you and your doctor evaluate whether hormone treatment is right for you, and if so, which medicine to use.

We draw on three careful evaluations of the scientific evidence as well as reviews conducted by the International Menopause Society, the North American Menopause Society, and the American Association of Clinical Endocrinologists, to compare the effectiveness and safety of hormone drugs available in the U.S. The drugs we evaluate are listed on the next page. As you can see, there is an array of products. These include pills, skin patches, skin creams and gels, vaginal creams, dissolving tablets, and vaginal ring inserts.

We divide between products that contain only estrogen, those that contain both estrogen and progestin, and those that contain a progestin alone. We also indicate whether generic versions are available for every type of product.

Some hormone products are less used now, notably estrogen pellets. Recently, however, individualized hormone compounds made by some pharmacists have been making a come-back. Such "bio-identical" hormone products are often accompanied by claims that they are "natural" and identical to hormones in the body and that they are safer than prescription hormone drugs. None of these claims are supported by medical evidence and we advise caution in using such products.

Hormones are also sometimes prescribed to prevent bone loss (osteoporosis) and fractures. Bone loss accelerates during and after menopause. Most experts now advise that hormones *not* be used for this purpose alone. However, for women who take hormones to relieve menopausal symptoms, preservation of bone and bone density can be a side benefit. But the benefit disappears after you stop taking the drug and thus, overall, may be minimal if you are in your 50s and take hormones for only a year or two.

Hormones are not the only medicines used to treat menopausal symptoms. Indeed, a range of both prescription and nonprescription treatments have been tried over the years. Antidepressants such as fluoxetine (Prozac) and paroxetine (Paxil) have benefitted some women, for example. Various pain medicines, and some high blood pressure drugs, have

Generic Name	Brand Name(s)	Available as a Generic Drug?
Estrogen only pills		
Estradiol	Gynodiol, Femtrace	Yes
Conjugated equine estrogens	Premarin	No
Synthetic conjugated estrogens	Cenestin	No
Esterified estrogen	Menest	Yes
Estropipate	Ogen	Yes
Estrogen-only skin patches, creams, sprays		
Estradiol	Alora, Climara, Divigel, Esclim, Estrogel, Estroderm, Estrosorb, Menostar, Vivelle, Vivelle Dot, Evamist (spray, not available generically)	Yes
Estrogen-only vaginal creams, tablets or rings		
Conjugated equine estrogen	Premarin cream	No
Estradiol	Estrace, Estring, FemRing, VagiFem	No
Estrogen plus progestin pills		
Conjugated equine estrogens plus medroxyprogesterone	Prempro, Premphase,	No
Ethinylestradiol plus norethindrone	FemHRT	No
Estradiol plus norethindrone	Activella	No
Estradiol plus norgestimate	Prefest	No
Estradiol plus drospirenone	Angeliq	No
Estrogen plus progestin skin patches		
Estadiol plus norethindrone	CombiPatch	No
Estradiol plus levonorgestril	Climara Pro	No
Progestin only pills		
Medroxyprogesterone acetate	Provera	Yes
Norethindrone acetate	Aygestin	Yes
Progesterone	Prometrium	No

also been tried. But studies show these medicines are *not nearly as effective as hormones* in relieving the discomforts of menopause. And all have their own set of side effects and risks.

A newcomer to the hormone drug medicine chest is tibolone. Although not yet available in the United States, the drug has been shown to be effective at relieving hot flashes and vaginal dryness. However, it has not been shown to have safety advantages over other hormone drugs, and it may present a higher risk of strokes than some others. We would advise against it's use for now.

Some dietary supplements are also used to relieve menopausal symptoms. So far evidence does not provide strong support for any of these options, which include phytoestrogens or isoflavones. These occur naturally in some foods, such as soybeans, chick peas, and other legumes. Other supplements sometimes touted for menopause are ginseng, vitamin E, and pills containing black cohosh.

Studies indicate that a healthy lifestyle and some simple preventive measures can help ease the discomforts of menopause and reduce the need for hormone treatment. (See the box on the next page.) Unfortunately, studies examining the impact of increased exercise and physical activity on menopause symptoms have yielded conflicting findings to date. That said, regular exercise has such positive health benefits generally – and enhances one's sense of well-being – that it is often recommended as one way woman may ease menopause symptoms.

This report was last updated in October 2008.

What are Hormones and Who Needs Them?

The various estrogens and progestin are sex hormones. They are made primarily in the ovaries, which are reproductive glands located on either side of the uterus. Levels of both hormones gradually decline or fluctuate for most women through their forties, and then production typically plummets in the early to mid 50s after the last period. In the U.S., the average age at which women experience menopause is 51, but it can begin as young as age 40 and as old as age 60. Hormone pills, patches, creams and vaginal rings all seek to relieve the symptoms of menopause.

A few definitions will help you understand menopause and talk with your doctor about it. The term *perimenopause* refers to the period of time before menopause when menstruation becomes irregular and when you may start experiencing symptoms. Perimenopause usually lasts several years, with symptoms sometimes worsening over time. The word menopause refers to the point you reach when you have not had a period for 12 months. The term *postmenopausal* refers to the years *after* you have reached menopause. The term *menopausal transition* refers to the period from perimenopause to menopause.

Table 1 on page 9 describes the main symptoms that can begin in perimenopause and continue well into postmenopause. The severity of these symptoms ranges widely and may fluctuate over time. Most women have very few or mild discomforts, but 1 in 5 have severe symptoms. On average, the symptoms last up to four years, but millions of women experience symptoms for many years.

Importantly, Table 1 also lists symptoms that were once thought to be linked to menopause but which recent studies indicate are not. Some of these symptoms – such as mood swings, depression, and reduced libido – could be exacerbated by the decline of your hormone levels. But studies have not shown that hormone levels or menopause actually cause them. Indeed, the normal process of aging may bring about several of the symptoms or conditions listed in column 2 of Table 1. The existence of other ills and diseases may also precipitate them.

Thus, treatment with hormones is no longer considered appropriate for the symptoms or conditions listed in column 2 of Table 1: *Mood swings, irritability depression, anxiety, mental lapses, forgetfulness, cognitive difficulties, reduced libido, urinary incontinence and urge to urinate, back pain, chronic pain, joint pain and stiffness, and fatigue.* Other, better treatments for these conditions exist. And some studies have actually shown that hormone treatment *can worsen* some of these conditions.

Treatment with hormones is considered appropriate for women who have the discomforts listed in column 1, which have been clearly linked to the biological changes triggered by menopause.

Lifestyle and Environmental Adjustments to Ease the Symptoms of Menopause

- Dress in layers, so you can remove clothes as needed
- Wear natural fabrics, such as cotton and silk
- Keep room temperatures cool or use a fan, especially at night
- Sleep with fewer blankets
- Drink cold beverages rather than hot ones
- Limit intake of caffeine and alcohol
- Eat smaller meals and avoid spicy food
- Get regular exercise
- Reduce stress
- Don't smoke
- Try relaxation techniques, meditation or yoga

The decision whether to take hormones or not, and which one, is usually driven by the following factors:

- Symptoms and their severity
- Medical history
- Age
- Whether you have had a hysterectomy and/or your ovaries removed
- Risk of heart disease, certain kinds of cancer, and osteoporosis
- Tolerance of the risk
- Vulnerability to side effects
- Personal circumstances

Table 1. Is Menopause to Blame?

The Main Symptoms of Menopause	Symptoms Not Linked to Menopause
■ *Hot Flashes and Flushing* – Both involve feelings of intense heat in your face, chest, or over the surface of your body. Your skin may appear flushed, red, or have red blotches. This is caused by blood vessels expanding in your skin; your skin temperature actually rises. This in turn leads to sweating, which can make you feel chilled, and even shiver. You may also feel faint or weak.	■ *Mood swings, irritability depression, anxiety* – May be secondary to the symptoms in column 1. For example, may be triggered by several days of poor sleep.
■ *Night Sweats* – These are simply hot flashes that occur at night. Because you are under the covers, your heated skin has produced sweat, sometimes quite a lot. It's not uncommon to awaken to wet sheets and feel chilled.	■ *Reduced libido* – May be secondary to vaginal dryness and pain on intercourse. Could also be associated with other biological changes as the body ages, but that is in dispute.
■ *Sleep disturbances* – You may find that you are awakened more easily, sleep more lightly or can not get back to sleep easily once you awaken. This can happen with or without night sweats.	■ *Mental lapses, forgetfulness, and cognitive difficulties* – These increase as we get older. Men experience them, too.
■ *Vaginal dryness* – Reduced estrogen levels bring about changes that result in a lack of vaginal lubrication. Intercourse can be uncomfortable and even painful.	■ *Urinary incontinence* – Tissues in the bladder and urethra thin as you age. Hormone decline could be partly to blame. Other treatments are available. Hormone treatment may actually increase the risk.
	■ *Physical changes* – Weight gain is common as we age. Distribution of fat may also shift – for example from thighs and hips to abdomen. Hair may also thin.
	■ *Physical symptoms* – Back pain, chronic pain, joint pain and stiffness, fatigue.

Symptoms and Severity

If your symptoms are mild and not that bothersome, we advise against hormone treatment. First, the symptoms will probably go away or ease over time. And they can probably be relieved through lifestyle or environmental adjustments – such as sleeping in a cool room and wearing loose fitting layers of clothes. The box on page 8 lists some of those adjustments.

If, however, your symptoms are significantly reducing your quality of life or creating real difficulties (such as preventing a good night's sleep for days or weeks on end), and if lifestyle changes don't ease your symptoms at all, you may be a candidate for hormone treatment.

It's important to note that women experience the symptoms of menopause very differently. Some may be bothered mostly by hot flashes, others by vaginal dryness, and still others by sleep disturbances. Your symptoms may determine your best treatment options.

If your main problem is vaginal dryness, for example, your doctor may recommend a gel or cream instead

of pills. Most gels and creams contain low doses of estrogen and need to be applied only once or twice a week. Hormone-containing vaginal rings are another option. The rings have the advantage of convenience: they are inserted and left in place for three months, and some can be changed by a woman herself. Vaginal creams and rings still release estrogen into the blood stream and thus they are still presumed to pose the same risks associated with other forms of hormone treatment.

If, on the other hand, you have hot flashes, night sweats, and trouble sleeping, your doctor will likely recommend a hormone pill or patch.

Medical History

This is the most important criterion guiding your decision. If you have a personal (or even a family) history of heart disease, stroke, or cancer of the breast, uterus or ovaries, you should strongly consider *avoiding hormone therapy* because of the risks it poses.

Of course, there may be extenuating circumstances. If you are among the 1 in 5 women who have severe, debilitating menopausal symptoms, some doctors may be comfortable prescribing hormones for you in the first few years of menopause, even if you have a history of the conditions mentioned above.

Although hormones appear to raise the risk of dementia, a family history of early dementia is usually not a factor that should prevent short-term (one to two years) hormone treatment. That's because the risk appears to be only for women aged 65 and over. The evidence to date suggests that younger menopausal women (50 to 55) do not face any increased risk of dementia with short-term use of hormones.

If you have osteoporosis, your doctor may actually lean to prescribing hormones if he thinks you need them, even if you do have some other risks. That's because hormones have been proven to reduce the chance of bone fractures after menopause. In ways still unclear, they seem to help preserve strong bones. However, typically, a lowered incidence of bone fractures is only seen after many years of hormone use. And drugs specifically developed to reduce bone loss do so more effectively than hormone treatment.

Age

As mentioned in the Welcome section, the latest studies indicate that the risks of short-term use of hormones are low for healthy women who are younger than 60 and who are at low risk of developing heart disease or breast cancer.

The age cut-off of 60 is by no means hard and fast, though, and the timing of treatment is important, too. For example, if a healthy woman enters menopause relatively late – say, at age 58 – and has severe symptoms, the risks associated with taking hormones for several years may be fairly low. But the same woman should not be prescribed hormones for the first time past age 68 or so.

Hysterectomy and Removal of Ovaries

Whether on not you have had a hysterectomy – removal of your uterus – will substantially affect your treatment options. Hysterectomies that remove only the uterus do not lead to menopause, but some women have their ovaries removed at the same time as their uterus and this almost always causes sudden menopause in women who are pre-menopausal. Severe menopausal symptoms can result, leading to a possible need for hormone treatment.

Women with intact uteruses and ovaries are almost always prescribed hormone pills or patches that contain both an estrogen and progestin. That's because studies have conclusively shown that such women have a much higher risk of endometrial cancer when treated with estrogen alone. (The endometrium is the lining of the uterus.)

Since the combination of estrogen and progestin poses more risk than estrogen alone, the practical result of this dilemma is that women with intact uteruses and ovaries must take extra care in using hormone therapy.

Risk of Heart Disease, Certain Kinds of Cancer, and Osteoporosis

Certain factors and behaviors increase your chances of being at risk for the adverse effects of hormone treatment. Most are well known: smoking, lack of exercise, excess body weight, poor diet, and excess consumption of alcoholic beverages. But you may also have high blood pressure, elevated cholesterol,

Hormone Treatment Side Effects
Most women experience one or more of these. About one in five stops taking hormones because of side effects.

- Abnormal vaginal bleeding (light or heavy periods, and sometimes both alternating)
- Nausea
- Breast tenderness
- Headaches
- Weight changes
- Dizziness
- Increased need to urinate
- Rash (with skin patches mostly)

or diabetes. All of these conditions put you at higher risk of stroke, heart disease, and heart attack to begin with. And taking hormones will add to those risks. So, unless your symptoms are truly severe, we recommend that you avoid hormone treatment if you have these risk factors for heart disease. We also advise caution if your father or mother died young (age 60 or younger) from heart disease, or if your mother has ever had breast cancer.

Indeed, breast cancer risk has stirred great concern among women considering hormone treatment. The recent re-analysis of the WHI study findings found that even younger women (50 to 59) who took hormones had some increased risk of breast cancer, but this risk was present only after four to five years of continuous use. (Namely, after *an average* of 5.2 years of use, women on the hormones had 3 chances in 100 of developing breast cancer versus 2 chances in 100 for women not taking hormones.)

Risk Tolerance

Understanding medical risk can be tricky. For example, you may read a news report that says that something caused a 50 percent increase in the risk of cancer or heart disease. That sounds scary. But it could apply to the risk increasing from 1 chance in 100 to 1.5 chances in a 100. Or it could apply to the risk increasing from 50 chances in a 100 to 75 chances in 100. Also, people differ in their psychological response to disease or treatment statistics. You may feel that any elevated risk of developing an illness or dying *from taking a drug* is totally unacceptable while another person may think a small risk of problems is worth it if a drug brings true relief and significantly improves their quality of life.

With this in mind, here's a sampling of what the WHI study found *for every 10,000 women* taking an estrogen-progestin combination drug (Prempro) after 5 years of continuous use, compared to those taking a placebo:

- 8 more cases of breast cancer
- 7 more cases of heart disease
- 8 more strokes
- 18 more cases of blood clots
- 5 fewer hip fractures
- 6 fewer cases of colorectal cancer.

There's another statistical way to portray what happened to the women in the WHI study that emphasizes the effects of duration of treatment. For women taking estrogen plus progesterone, combined risk of heart disease, breast cancer, stroke, and blood clots was:

- 1 in 1000 over 1 year
- 1 in 200 over five years
- 1 in 100 over 10 years

Vulnerability to Side Effects

Some women are more vulnerable than others to the annoying side effects of hormones. (See the box on this page for a list.) You can't know this in advance, but it may be a factor in whether you continue taking hormones, and for how long. The critical questions will be whether the benefits outweigh the problems.

In particular, vaginal bleeding and breast tenderness are consistently reported by women and tend to be the most bothersome. The precise rates of these effects differ in the studies done to date. Studies indicate, variously, that from 10 to 19 percent of women can expect to have breast tenderness and from 22 to 37 percent can expect to experience heavier-than-usual vaginal bleeding.

In general, women who took higher doses experienced both these problems more severely. Thus, the practice in recent years of prescribing much lower doses may have reduced the risk of side effects.

Some studies have found that conjugated equine estrogen, either alone or with progestin, can increase the risk of urinary incontinence and worsen it in women who were already experiencing it. If you have this side effect, you may want to talk with your doctor about trying something else.

Personal Circumstances

Finally, other factors may affect your decision about hormone use. For example, if you are not sexually active, vaginal dryness – if it does not cause irritation and itching – may not be something that bothers you. If you live in the hot south, the environment may well exacerbate the discomfort of your hot flashes and night sweats – even if you have air conditioning.

Women of differing ethnic backgrounds experience menopause in varying ways. For example, Asian women appear to experience fewer hot flashes than Hispanic, African American or Caucasian women in the United States.

Unfortunately, almost all the research to date on the relief of menopausal symptoms has been conducted primarily on Caucasian women. In addition, study results have not been separated out by race or ethnic factors. Thus, while it's known that the experience of menopause (and rates of osteoporosis and fracture) differ by race and culture, we do not know how estrogen's effectiveness and safety vary in these subpopulations.

More than other classes of prescription drugs, hormone treatment involves choices that are driven by your risks, personal preferences, and circumstances. Your doctor should help you sort all this out. But you may also want to consult other resources – books and trusted web sites – as well as this report.

Choosing a Hormone Treatment – Our *Best Buy* Picks

All the hormone products listed in Table 2 on page 14 are effective at reducing the symptoms of menopause. Studies to date have mostly focused on hot flashes and night sweats, and have consistently found that 70 to 90 percent of women experience an average 75 percent reduction in the frequency of these two major symptoms.

Studies have not found that any one form of estrogen or estrogen plus progestin is more effective than any other. For example, patches produce results similar to pills. However, as discussed previously, some products are intended for targeted uses. Hormone-containing creams and gels are intended primarily to relieve vaginal dryness, for instance, and are usually not as effective in reducing hot flashes, night sweats, and sleep problems.

Importantly, women differ in their responses to hormone products. For some, pills work better while for others patches work better.

While there is emerging evidence that esterified estrogen pills – for example, Menest – may carry a lower risk of blood clots and strokes than conjugated equine estrogen, this has not been proven. Likewise, there have been hints from some studies that women using skin patches have less risk of blood clots compared to those taking pills. We would urge you to discuss these recent findings with your doctor since new studies on the safety of hormones are being published all the time.

Two new hormone products have hit the market in recent years. Neither seems to have any distinct advantages over older products. These include drospirenone/estradiol (Angeliq) tablets and an estradiol spray called Evamist. The drospirenone contained in Angeliq is a unique form of progestin, but the drug poses the same risks of breast cancer, heart disease, and stroke as other hormone products. It also may increase potassium levels, so it should not be used by women with kidney, liver or adrenal problems. The estradiol spray is applied to the forearm, which may be more convenient for some women. But, again, the drug should not be presumed to be any safer than other forms of estrogen.

As for cost, many hormone products are available as generics and most of the brand-name products are reasonably priced, too. (See Table 2.) That makes hormone treatment accessible and affordable for women who do need it. But, while cost is generally not a barrier, certain choices will save you more money. Taking into account the wide array of products to meet women's individual needs and preferences, we chose the following as *Best Buys*:

- *Generic estradiol (pills)*
- *Gynodiol (estradiol pills)*
- *Menest (esterified estrogen pills)*
- *Generic estropipate (pills)*
- *Generic medroxyprogesterone (pills)*
- *Generic estradiol (skin patch)*
- *Estraderm (estradiol skin patch)*
- *Prempro (estrogen-progestin combination pill)*
- *Prefest (estrogen-progestin combination pill)*
- *Climara Pro (estrogen-progestin skin patch)*
- *Combipatch (estrogen-progestin skin patch)*
- *Premarin vaginal cream (conjugated equine estrogen)*
- *FemRing (estradiol vaginal ring)*
- *Estring (estradiol vaginal ring)*

All these medicines are as effective as other hormone drugs, and several are much expensive. Most generic estradiol pills, for example, cost less than $15 a month, and could save you up to $400 a year compared to brand-name Premarin, one of the largest selling hormone products. Likewise, we'd urge you to choose a generic estrogen-only hormone patch if that is clinically appropriate for you; it could save you around $300 a year.

Again, with the exception of some new drugs, most hormone products are reasonably priced. Our *Best Buy* picks are primarily intended to give you a broad choice of hormone products at the best price possible. The monthly costs we present are averages. We'd recommend that you shop around at both neighborhood pharmacies and on the Internet to get the best price you can, since drug costs vary from pharmacy to pharmacy.

Table 2. Hormone Product Doses and Costs

Generic Name	Brand Name[1]	Dose Ranges (or concentration)	Frequency of Use[2]	Average Monthly Cost[3]
Estrogen-only pills				
Estradiol	Estrace	0.5-2.0mg	1 daily	$49-$63
CR BEST BUY Estradiol	Generic	0.5-2.0mg	1 daily	$7-$13
CR BEST BUY Estradiol	Gynodiol	1.0-2.0mg	1 daily	$10-$16
Estradiol	Femtrace	0.45-1.8mg	1 daily	$48-$62
Conjugated equine estrogen	Premarin	0.3-1.25mg	1 daily	$47-$48
Synthetic conjugated estrogen	Cenestin	0.3-1.25mg	1 daily	$51-$52
Synthetic conjugated estrogen	Enjuvia	0.3-1.25mg	1 daily	$48
CR BEST BUY Esterified estrogens	Menest	0.3-2.5mg	1 daily	$18-$68
Estropipate	Ogen	0.625-2.5mg	1 daily	$35-$85
CR BEST BUY Estropipate	Generic	0.625-3.0mg	1 daily	$11-$25
Estrogen-only skin patches				
Estradiol	Climara	0.025-0.1mg per 24 hours	1 weekly	$52-$53
CR BEST BUY Estradiol	Estraderm	0.05-0.1mg per 24 hours	1 weekly	$23-$59
Estradiol	Menostar	0.014mg per 24 hours	1 weekly	$58
Estradiol	Vivelle, Vivelle Dot	0.025-0.1mg per 24 hours	2 weekly	$48-$54
Estradiol	Alora	0.025-0.1mg per 24 hours	2 per week	$43-$48
CR BEST BUY Estradiol	Generic	0.05-1.0mg per 24 hours	2 per week	$37-$38
Estrogen-only skin creams				
Estradiol	Estrogel	1.25 grams	Once daily	$70-$105
Estradiol	Estrasorb	2.5 grams	Twice daily	$61
Estradiol	Divigel	0.25-1.0mg	Once daily	$73

Table 2. Hormone Product Doses and Costs (continued)

Generic Name	Brand Name[1]	Dose Ranges (or concentration)	Frequency of Use[2]	Average Monthly Cost[3]
Estrogen-only spray				
Estradiol	Evamist	1.53-4.59 mg	1-3 sprays daily	$52
Estrogen plus progestin pills				
CR BEST BUY Conjugated equine estrogen/medroxyprogesterone	Prempro, Premphase	0.3mg/1.5mg-0.625mg/5.0mg	1 daily	$60
CR BEST BUY Estradiol plus norgestimate	Prefest	1mg/0.09mg	1 daily	$58
Estradiol plus norethindrone	Activella	1mg/0.5mg	1 daily	$61-$65
Ethinylestradiol plus norethindrone	Femhrt	0.5mg/2.5mcg - 1.0mg/5.0mcg	1 daily	$59-$61
Estradiol plus drospirenone	Angeliq	1mg/0.5mg	1 daily	$73
Estrogen plus progestin skin patches				
CR BEST BUY Estradiol plus levonorgestrel	Climara Pro	0.045mg/0.015mg per 24 hours	1 weekly	$53
CR BEST BUY Estradiol plus norethindrone	CombiPatch	0.05mg/0.14mg per 24 hours	2 per week	$53
Estrogen-only vaginal creams, tablets or rings				
CR BEST BUY Conjugated equine estrogen	Premarin Cream	0.625mg/gram	0.5 to 2 grams a day	$25-$100[4]
Estradiol	Estrace Cream	1.5mg/gram	1 to 2 grams a day	$50-$150[4]
Estradiol tablet	VagiFem	0.025mg	1 per day for two weeks then 10 a month	$42-$93
CR BEST BUY Estradiol	FemRing	0.05-0.1mg per 24 hours	One every 3 months	$51-$55
CR BEST BUY Estradiol	Estring	0.0075mg per 24 hours	One every 3 months	$53
Estradiol	Elestrin	.0125 mg	1 to 2 pumps daily	$121
Progesterone pills				
Medroxy-progesterone	Provera	2.5mg	1 per day	$25-$27

Table 2. Hormone Product Doses and Costs (continued)

Generic Name	Brand Name[1]	Dose Ranges (or concentration)	Frequency of Use[2]	Average Monthly Cost[3]
Progesterone pills (continued)				
Medroxy progesterone	Provera	5mg to 10mg	1 per day part of month	$40-$55
CR BEST BUY Medroxy progesterone	Generic	2.5mg	1 per day	$3-$8
CR BEST BUY Medroxy progesterone	Generic	5mg to 10mg	1 per day part of month	$2-$16
Norethindrone	Aygestin	5mg	1 per day, part of month only	$37
Norethindrone	Generic	5 mg	1 per day, part of month only	$30-$46
Progesterone	Prometrium	100mg, 200mg	Usually part of the month	$23-$45

1. "Generic" means that this line gives the average price or price range of several or many generic versions.
2. As typically prescribed. May vary and that will affect the cost.
3. Prices reflect nationwide average retail price for June, 2008 rounded to nearest dollar. Monthly cost ranges reflects varying price of different doses. Lower doses are less expensive, higher doses more expensive. Prices were derived by *Consumer Reports Best Buy Drugs* from data provided by Wolters Kluwer Health Pharmaceutical Audit Suite. The company Destination Rx assisted in calculating dose ranges and average prices. Wolters Kluwer Health is not involved in our analysis or recommendations.
4. The cost of these vaginal creams is highly dependent on use. They come in tubes that cost from $25 to over $100. As we sought prices for the products online and through Wolters Kluwer Health, we learned that prices for the exact same size tubes for both products are quite variable. Also, women use varying amounts to get relief, though typically they are not intended for use more than 21 days per month. As a result, we have given a general price range for both.

Talking With Your Doctor

It's important for you to know that the information we present in this report is not meant to substitute for a doctor's judgment. But we hope it will help your doctor and you arrive at a decision about which hormone drug is best for you, and which gives you the most value for your health care dollar.

Bear in mind that many people are reluctant to discuss the cost of medicines with their doctors and that studies show doctors do not routinely take price into account when prescribing medicines. Unless you bring it up, your doctors may assume that cost is not a factor for you.

Many people (including physicians) also believe that newer drugs are always or almost always better. While that's a natural assumption to make, the fact is that it's not true. Studies consistently show that many older medicines are as good as, and in some cases better than, newer medicines. Think of them as "tried and true," particularly when it comes to their safety record. Newer drugs have not yet met the test of time, and unexpected problems can and do crop up once they hit the market.

Of course, some newer prescription drugs are indeed more effective and safer. Talk with your doctor about the pluses and minuses of newer versus older medicines, including generic drugs.

Prescription medicines go "generic" when a company's patents on a drug lapse, usually after about 12 to 15 years. At that point, other companies can make and sell the drug.

Generics are almost always much less expensive than newer brand-name medicines, but they are not lesser quality drugs. Indeed, most generics remain useful medicines even many years after first being marketed. That's why today about 55% of all prescriptions in the U.S. are for generics.

Another important issue to talk with your doctor about is keeping a record of the drugs you are taking. There are several reasons for this:

- First, if you see several doctors, each may not be aware of medicines the others have prescribed.
- Second, since people differ in their response to medications, it is very common for doctors to prescribe several before finding one that works best.
- Third, many people take several prescription medicines, non-prescription drugs, and dietary supplements at the same time. These can interact in ways that can either reduce the benefit you get from the drug, or be dangerous.
- And fourth, the names of prescription drugs – both generic and brand – are often hard to pronounce and remember.

For all these reasons, it's important to keep a written list of *all* the drugs and supplements you are taking, and to periodically review this list with your doctors.

Always be sure, too, that you understand the dose of the medicine being prescribed for you and how many pills you are expected to take each day. Your doctor should tell you this information. When you fill a prescription at the pharmacy, or if you get it by mail, you may want to check to see that the dose and the number of pills per day on the pill bottle match the amounts that your doctor told you.

How We Picked the *Best Buy* Hormone Drugs

Our evaluation of the hormone drugs is based on three systematic evaluations of the scientific evidence as well as the conclusions of reviews conducted by the International Menopause Society, the North American Menopause Society, and the American Association of Clinical Endocrinologists.

Oregon Health & Science University's Drug Effectiveness Review Project (DERP) conducted two systematic analyses of the scientific evidence on hormone therapy for menopause. In the first analysis, conducted in 2005, DERP screened close to 2,000 scientific papers. In addition, pharmaceutical companies submitted 58 papers or data sets. The analysis focused on 42 controlled clinical trials which evaluated hormones as a treatment for hot flashes and night sweats. An additional 62 trials were evaluated which focused on hormones as a treatment for low bone density or to prevent bone fractures. In the second analysis, conducted in 2007, DERP screen an additional 313 scientific papers, and focused on 43 studies that looked at the effectiveness of hormones for improving menopausal symptoms or osteoporosis. The safety of the drugs was also evaluated.

DERP is a first-of-its-kind 13-state initiative to evaluate the comparative effectiveness and safety of hundreds of prescription drugs. A consultant to *Consumer Reports Best Buy Drugs* is also a member of the Oregon-based research team, which has no financial interest in any pharmaceutical company or product. The full 2007 DERP review of estrogen-containing drugs is available at http://www.ohsu.edu/ohsuedu/research/policycenter/customcf/derp/product/HT_Final_Report_Update%203.pdf. (This is a long and technical document written for physicians.)

The Oregon-based research team also conducted a review of studies on other methods of treating menopausal symptoms. This was done for the National Institutes of Health and used by an expert panel to make recommendations on hormone treatment for menopausal symptoms in May 2005. We used some of the materials from this review and the NIH recommendations as resources for this report.

We also consulted an analysis conducted by RegenceRx, a group affiliated with the Regence Group, a company that owns Blue Cross and Blue Shield plans in four states in the Pacific Northwest. That analysis, dated February 2005, systematically probed the findings of dozens of studies on hormone treatment conducted between January 1999 and January 2005.

In addition, we adapted material from *Consumer Reports Health*, an online subscription Web site presenting treatment options and ratings (Go to ConsumerReportsHealth.org.)

The drug costs we cite were obtained from a healthcare information company which tracks the sales of prescription drugs in the U.S. Prices for a drug can vary quite widely, even within a single city or town. All the prices in this report are national averages based on sales of prescription drugs in retail outlets. They reflect the cash price paid for a month's supply of each drug in June 2008.

Consumers Union and *Consumer Reports* is solely responsible for selected the Best Buy Drugs. Our methodology is described in more detail in the Methods section at www.ConsumerReportsHealth.org/BestBuyDrugs.

About Us

Consumers Union, publisher of *Consumer Reports*™ magazine, is an independent and non-profit organization whose mission since 1936 has been to provide consumers with unbiased information on goods and services and to create a fair marketplace. Consumers Union's main Web site is ConsumerUnion.org. The magazine's Web site is ConsumerReports.org. Our new health Web site is ConsumerReportsHealth.org.

Consumer Reports Best Buy Drugs™ is a public education project administered by Consumers Union. It is partially grant funded. Principle current outside funding comes from the state Attorney General Consumer and Prescriber Education Grant Program, which is funded by the multi-state settlement of consumer fraud claims regarding the marketing of the presciption drug Neurontin.

The Engelberg Foundation, a private philanthropy, provided a major grant to fund the creation of the project from 2004 to 2007. Additional initial funding came from the National Library of Medicine, part of the National Institutes of Health.

A more detailed explanation of the project is available at ConsumerReportsHealth.org.

Sharing this Report

This report should not be viewed as a substitute for consultation with a medical or health professional. The information is meant to enhance communication with your doctor, not replace it. Use of our drug reports is also at your own risk. Consumers Union can not be liable for any loss, injury, or other damages related to your use of this report.

You should not make any changes in your medicines without first consulting a physician.

We followed a rigorous editorial process to ensure that the information in this report and on the *Consumer Reports Best Buy Drugs* website is accurate and describes generally accepted clinical practices. If we find, or are alerted to, an error, we will correct this as quickly as possible. However, *Consumer Reports* and its authors, editors, publishers, licensors and any suppliers cannot be responsible for medical errors or omissions, or any consequences from the use of the information on this site.

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