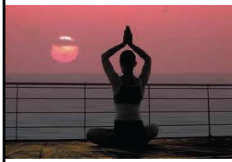


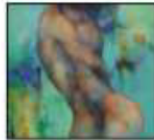
## The 4 “S’s” of Optimal Aging:

### *Sex, Sleep, Stress and Social Networks*



Barbara J. Steinberg, DDS  
Clinical Professor of Surgery  
Drexel University College of Medicine

#### SEX



- Benefits:
  - Men who have sex  $\geq 3$  a week can cut the risk of heart attack in half
  - Men who have regular sex can halve their chances of having a stroke
  - 200 calories / 30 mins of sexual activity
  - Helps brain produce neurotransmitters - chemical messengers that help mellow mood
  - Releases sleep-inducing endorphins

#### SEX



- Benefits:
  - Having sex once or twice a week boosts the immune system by approximately 30%
  - Sex tones the pelvic muscles that support the uterus, bladder, and bowel – meaning control of urine
  - After reaching climax oxytocin releases endorphins which help alleviate pain from menstrual cramps, arthritis, etc.

#### SEX



- Benefits:
  - Women who have sex once per week have more regular menstrual cycles
  - It curbs irritability – tactile stimulation soothes nerves
  - Sex can trigger the onset of labor when you are at term
  - ↑ blood flow to the pelvis keeping female genitalia healthy

An active sex life slows the aging process!

## Sleep Deprivation Can Lead to Serious Health Issues

- *Coronary artery disease*
- *Changes in hormone levels that control appetite causing obesity*
- *Anxiety*
- *Relationship between depression and sleep issues*
- *Migraines*
- *Decreased function of immune system*



## Sleep Deprivation Can Lead to Serious Health Issues

- *Increased sensitivity to pain*
- *Insulin resistance*
- *Possible link to prostate, breast and colon cancer*
- *Memory loss*
  - *Increased incidence in Alzheimer biomarkers*
- *Car crashes due to fatigue*



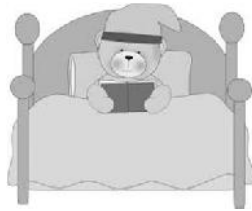
## Avoid "Sleep Stealers"

- *Alcohol*
- *Caffeine*
- *Heavy eating before bed*
- *Sleeping in a warm room (>70 °F)*
- *Dozing*
- *Electronic devices with back-lit displays*
- *Long-term exposures to any artificial light*
- *Pets in the bed or bedroom*
- *Worrying*
- *Exercising too close to bedtime*



## Practice Good Sleep Hygiene

- *Exercise regularly during the day*
- *Create a pleasant sleep environment*
  - *Curtains that block out light and noise*
  - *Comfortable mattress and sheets*
- *Create rituals*
  - *Warm bath*
  - *Read a book*
  - *Listen to soft music*
  - *Pray*
  - *Meditate*
- *Don't go to bed until your regular bedtime*



## Practice Good Sleep Hygiene

- *Get help for a snoring bed partner*
  - *Could be sleep apnea*
- *If none of these tips have worked, consult a physician.*



## Stress Effects:

- *Eating disorders*
- *Stomach ailments*
- *Skin reactions*
- *Emotional conditions*
  - *Blue or irritable mood*
  - *Depression*



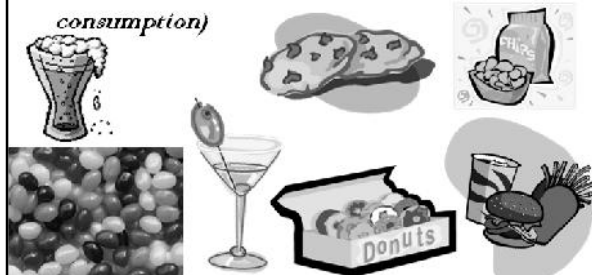
## Stress Effects:

- *Sleep problems*
- *Concentration difficulty*
- *Heart disease*
- *Lowered immune response*
- *Cancer*
  - *Possible link between stress and the development of breast and ovarian cancer*



## Stress Effects:

- *Provokes negative behaviors (e.g. binging on junk food, smoking, excessive alcohol consumption)*



## Tips for Managing Stress:

- *Improve your diet*
- *Make time for exercise*
- *Connect with family and friends and people you enjoy being around*
- *Rediscover your favorite hobbies*
- *Yoga*
- *Tai chi*
- *Meditation*
- *Vacations*
- *May require professional help*



## Mindfulness Meditation (Mindfulness-Based Stress Reduction)

*Defined as nonjudgmental, moment-to-moment-awareness, or the ability to pay attention deliberately, on purpose, and in the present moment*



## Mindfulness Meditation Benefits

- *Bolstered immune functioning*
- *Improved memory and cognition associated with increases in gray matter density in the brain*
- *Reduction in stress hormones*

**"Just the practice of focusing your awareness on something quiets down your mind and allows you to feel that inner sense of peace. Even a minute of meditation will carry you through the day."**

*Dean Ornish, MD  
Clinical Professor of Medicine UCSF  
Founder of Preventive Medicine Research Institute*

# SLEEP DURATION RECOMMENDATIONS

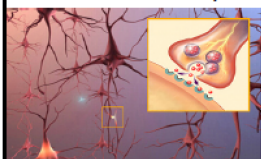


**SLEEPFOUNDATION.ORG | SLEEP.ORG**

Hirshkowitz M, The National Sleep Foundation's sleep time duration recommendations: methodology and results summary, Sleep Health (2015), <http://dx.doi.org/10.1016/j.sleh.2014.12.010>

## Alzheimer's Disease (AD)

- Estimated 5.3 million Americans have AD
  - 1 in 8 people  $\geq$  65 yrs.
  - More common in women
- Projections: by 2030- 7.7 million people  
by 2050- 11-16 million people



## Alzheimer's Disease

### 10 Warning Signs

- Memory loss that disrupts daily life
- Challenges in planning or solving problems
- Difficulty completing familiar tasks at home, at work or at leisure
- Confusion with time and place
- Trouble understanding visual images and spatial relationships
- New problems with words in speaking or writing

## Alzheimer's Disease

### 10 Warning Signs (con't)

- Misplacing things and losing the ability to retrace steps
- Decreased or poor judgment
- Withdrawal from work or social activities
- Changes in mood and personality

## Simple Lifestyle Measures May Help Maintain Cognition As We Age

- Control blood pressure, cholesterol, and blood sugar levels
- Quit smoking (smoking increases blood pressure)
- Stay physically active (e.g. dancing, tennis, bicycling, or any physical activity you enjoy)



## Simple Lifestyle Measures May Help Maintain Cognition As We Age

- Stay mentally active
  - Exercise the mind with mental challenges as you age (e.g. play chess, bridge, learn a new language, crosswords, games, reading, puzzles, etc.)



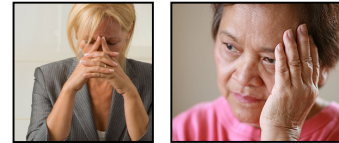
### Simple Lifestyle Measures May Help Maintain Cognition As We Age

- Maintain a strong social network
  - Support system of family and friends
  - Stay socially connected and interact with people



### Simple Lifestyle Measures May Help Maintain Cognition As We Age

- Manage your mood
  - Anxiety, worry, anger, and depression have been linked with higher rates of cognitive impairment
  - May require professional help



### Simple Lifestyle Measures May Help Maintain Cognition As We Age

- Avoid head injury
  - Take steps to prevent falls
- Get enough sleep
  - Short term memory improves when you get plenty of sleep (at least 7 hours a night)
- Heart healthy diet
  - Whole grains and fatty fish are linked to production of high density lipoproteins which are associated with the preservation of memory



## *Menopausal Hormone Therapy*

### *Guidelines on Hormone Therapy for Menopause by the International Menopause Society*

- *Hormone therapy continues to be the most effective treatment for menopause symptoms such as vasomotor symptoms and urogenital atrophy*

## *Menopausal Hormone Therapy*

### *Guidelines on Hormone Therapy for Menopause by the International Menopause Society (cont.)*

- *Menopausal hormone therapy, including tibolone and the combination of conjugated equine estrogens and bazedoxifene (CE/BZA), is the most effective treatment for symptoms associated with menopause*

## *Menopausal Hormone Therapy*

### *Guidelines on Hormone Therapy for Menopause by the International Menopause Society (cont.)*

- *If menopausal hormone therapy is contraindicated or not desired, selective serotonin reuptake inhibitors or serotonin-norepinephrine reuptake inhibitors such as paroxetine, escitalopram, venlafaxine, and desvenlafaxine may be considered, as well as gabapentin.*

## *Menopausal Hormone Therapy*

### *Guidelines on Hormone Therapy for Menopause by the International Menopause Society (cont.)*

- *Menopausal hormone therapy can be initiated in postmenopausal women at risk of fracture or osteoporosis before 60 yr of age or within 10 yr after menopause*





## Treating Hot Flashes

Hot flashes are the most common bothersome symptom of menopause. Your hot flashes may occur during the day or at night (also known as night sweats). Your hot flashes may be mild and tolerable, moderate and troublesome, or severe and debilitating. Hot flashes get better with time. Although most women have hot flashes for a few years, some women have them for decades. It is not known why some women have severe hot flashes for many years while others have no hot flashes or mild ones that resolve quickly. If your hot flashes are mild or moderate, you may find relief by changing your lifestyle. If you have severe hot flashes, you may still benefit from lifestyle changes, but also may choose to take a nonprescription remedy or a prescription medication, including hormones to help you manage your symptoms.

### Lifestyle changes

Researchers find that women with hot flashes have more sensitive thermostats in their brain, so are comfortable only in a small range of temperatures. Staying cool and reducing stress are the principal lifestyle changes to treat your hot flashes. Some women can find relief with these options:

- Avoid warm rooms, hot drinks, hot foods, alcohol, caffeine, excess stress, and cigarette smoking. Wear layers of clothing made from light, breathable fabrics, removing a layer or two when you're hot and replacing them when you're cooler. Cooling products, including sprays, gels, and the Chillow pillow may be helpful.
- To reduce stress and promote more restful sleep, exercise regularly, but not too close to bedtime. Meditation, yoga, qigong, tai chi, biofeedback, acupuncture, or massage also will lower your stress levels.
- When a hot flash is starting, try "paced respiration"—slow, deep, abdominal breathing, in through your nose and out through your mouth. Breathe only 5 to 7 times per minute, much more slowly than usual.
- Try different strategies to stay cool while sleeping. Dress in light, breathable nightclothes. Use layered bedding that can be easily removed during the night. Cool down with a bedside fan. Keep a frozen cold pack or bag of frozen peas under your pillow, and turn the pillow often so that your head is always resting on a cool surface. If you wake at night, sip cool water. Try different techniques for getting back to sleep, such as meditation, paced respiration, or getting out of bed and reading until you become sleepy.
- Women who are overweight have more hot flashes, so maintain a healthy weight and exercise regularly to decrease bothersome hot flashes and improve your overall health.

### Nonprescription remedies

Although many nonprescription remedies reduce hot flashes, it's likely that this is because of the "placebo effect." When nonprescription treatments are studied scientifically, they typically are as effective as a placebo (inactive medication). Even if relief is because of the placebo effect, you can expect your hot flashes to decrease by approximately 30% with most nonprescription remedies such as soy, herbs, or acupuncture.

Nonprescription products do not receive careful oversight from the government and generally are not studied carefully enough to know all potential risks and side effects, especially with long-term use. Consider purchasing products made in North America that follow good manufacturing practices. Let your healthcare provider know if you are taking a nonprescription remedy.



Nonprescription remedies you may consider for hot flash relief include

- Soy: Eat one or two servings of soy foods daily (containing isoflavones), such as low-fat varieties of tofu, tempeh, soymilk, or roasted soy nuts. Supplements containing soy isoflavones, such as Promensil, reduce hot flashes in some studies.
- Herbs: Supplements containing certain herbs like black cohosh, such as Remifemin, decrease hot flashes in some studies.

## Prescription therapies

The following prescription medications reduce hot flashes more than placebos in scientific studies. They may be good options if you have frequent, bothersome hot flashes. Every medication has risks and side effects. Review your medical history with your healthcare provider when considering a prescription medication.

### *Hormonal options*

- Prescription hormone therapy with estrogen is the most effective treatment for hot flashes. Although using hormones can increase your risk of breast cancer and cardiovascular disease, studies show that benefits may outweigh risks for healthy women younger than age 60 with moderate to severe hot flashes. The goal is to use the lowest dose of hormone therapy that treats your symptoms for the shortest time necessary. Women with a uterus need to combine estrogen with a progestogen.
- A new option for women with a uterus combines estrogen with bazedoxifene to protect the uterus (Duavee). Bazedoxifene is an estrogen agonist/antagonist, which means it works like estrogen in some tissues and opposes estrogen's actions in others.
- If it has not been a full year since your last period and you are a healthy nonsmoker, you may consider a combination estrogen-progestin birth control pill. This will provide contraception, hot flash relief, and regular periods.

### *Nonhormonal options*

You also may consider the following nonhormonal medications. They are more effective than placebo in scientific studies, although not as effective as hormone therapy. Low-dose paroxetine (Brisdelle) is the only government-approved nonhormonal option for treating hot flashes.

- Certain drugs approved to treat depression reduce hot flashes in women without depression. Effective drugs include paroxetine (Paxil), venlafaxine (Effexor), and escitalopram (Lexapro). You should not take paroxetine if you take tamoxifen for breast cancer.
- Gabapentin (Neurontin) is a drug approved to treat epilepsy, migraine, and nerve pain, but it also reduces hot flashes. It can cause excessive sleepiness, so it is an especially good option if you have bothersome night sweats and take your gabapentin at bedtime.
- Sleeping medications such as Ambien, Lunesta, and Benadryl will not reduce your hot flashes but may help you sleep through them. Available both by prescription and nonprescription.



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## Menopause and Sleep Problems

Some women experience menopause-related sleep problems, especially if hormone changes cause hot flashes or sweats during the night. Lack of sleep and poor-quality sleep can make you tired, irritable, and moody. When you are tired, you may have difficulty concentrating, remembering things, working efficiently, and coping with daily stresses. You may be less patient with family and friends. Difficulty coping can lead to more stress, which can make sleep problems even worse. Adequate sleep is required for good health.

You have had enough sleep when you can function in an alert state during waking hours. Most adults need between 7 and 9 hours of sleep each night. During the menopause transition, you may find that you have more trouble falling asleep, staying asleep, or waking up feeling refreshed. These interventions may improve your sleep:

### Lifestyle changes

- Maintain an environment that promotes sleep. Think quiet, cool, and dark. A white noise machine may be helpful. If you have night sweats, try a bedside fan, light pajamas and bedding, and placing an ice pack under your pillow—turning the pillow over during the night so that your face rests on the cool side.
- Try relaxation techniques such as meditation or slow deep-breathing exercises. You can learn these techniques through books, videos, and classes.
- Avoid TV, computer screens, smart phones, and electronic readers for at least an hour before bedtime, because the light from these devices may disrupt sleep.
- Follow the 15-minute rule. If you do not fall asleep within 15 minutes, get up, leave the bedroom, and do something relaxing in another room, such as reading a book or magazine or listening to quiet music. Return to bed when you are drowsy.
- Follow a regular sleep routine. Try to wake up and go to bed at about the same time each day, even on weekends.
- Use the bedroom only for sleep and sex.
- Avoid stimulants such as alcohol, caffeine, and nicotine throughout the entire day, not just during the evening. Although alcohol is initially a sedative, it often results in disrupted sleep. The stimulant effects of caffeine may last up to 20 hours. Coffee, tea, and cola are not the only culprits. Many pain relievers, diuretics, allergy and cold medications, and weight-control aids also contain caffeine.
- Avoid eating a large meal or sweets right before bedtime. This may disrupt sleep—and also promote weight gain.
- If your sleep is disrupted by your partner's late-night activities or snoring, discuss how this is affecting your sleep and consider solutions. Snoring may be a sign of sleep apnea, so your partner may benefit from seeing his or her healthcare provider.

- Exercise almost every day. Daily exercise improves sleep, but avoid strenuous exercise close to bedtime.
- If your sleep problems do not respond to lifestyle changes, consult your healthcare provider about other treatment options and to rule out specific causes of sleep problems such as thyroid abnormalities, depression, anxiety, allergies, restless leg syndrome, or sleep apnea (breathing problems during sleep). Women with serious sleep disturbances may benefit from consultation with a sleep specialist.

## Treatments

- Herbs and supplements: Melatonin, valerian, chamomile, lavender, lemon balm, and passion flower may be mild sedatives, although scientific data are limited. Government oversight of herbs and supplements is limited, so purchase products made in the United States under good manufacturing practices.
- Over-the-counter sleep aids: Many contain diphenhydramine (eg, Benadryl) and may help you fall asleep and stay asleep. Try low doses (25 mg or less) to reduce the risk of morning grogginess.
- Cognitive behavioral therapy (CBT): CBT is a specific form of psychotherapy that effectively treats many sleep problems.
- Prescription sleep medications: Medications approved to treat sleep problems may be helpful to break a cycle of insomnia but ideally should be used only as a short-term solution. Some result in morning fatigue, they can become less effective over time, and they can be habit forming. The grogginess associated with sleep medications can increase the risk of falls, so try to avoid sleep medications if you are at increased risk of falling.
- Treatments for night sweats: If you have bothersome hot flashes and/or night sweats that disrupt sleep, consider treating your nighttime symptoms to improve your sleep. Effective treatments for night sweats include hormone therapy and nonhormonal medications such as certain low-dose antidepressants. Hormone therapy has other benefits and risks, so you should speak with your healthcare provider to see whether hormones or other medications that treat night sweats are right for you.
- With any medication you choose for sleep, always use the lowest dose that treats your sleep problems for the shortest time needed.

For more information about sleep problems, review *Your Guide to Healthy Sleep* ([www.nhlbi.nih.gov/files/docs/public/sleep/healthy\\_sleep.pdf](http://www.nhlbi.nih.gov/files/docs/public/sleep/healthy_sleep.pdf)) from the National Heart, Lung, and Blood Institute, as well as the National Sleep Foundation website, [www.sleepfoundation.org](http://www.sleepfoundation.org).



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## Vaginal Dryness

Bothersome symptoms of the vagina and vulva (outer lips of the vagina) are common in women of all ages but increase with menopause. The decrease in estrogen with menopause is a major contributor to vaginal dryness, itching, burning, discomfort, and pain during intercourse or other sexual activity. *Vaginal atrophy* is the medical term that describes these changes, and when combined with bladder symptoms after menopause, it is called *genitourinary syndrome of menopause*. Symptoms of vaginal atrophy may significantly affect your quality of life, sexual satisfaction, and relationship with your partner.

Menopause-related vaginal symptoms may be bothersome early in the menopause transition or start after several years of decreased estrogen levels. Unlike hot flashes, which generally improve with time, vaginal symptoms typically worsen with time due to both aging and a prolonged lack of estrogen.

### Menopause and aging can affect the vagina in the following ways:

- Vaginal tissues become thin, dry, and less elastic
- Vaginal secretions decrease with reduced lubrication
- Vaginal infections increase (as the healthy acidic pH of the vagina increases)
- Discomfort with urination and increased urinary tract infections can occur
- Fragile, dry, inflamed vaginal tissues may tear and bleed
- Women with menopause induced by cancer treatments may have additional injury to the vaginal tissues from chemotherapy or pelvic radiation
- Aromatase inhibitors taken by many women with breast cancer result in extremely low estrogen levels, often causing severe symptoms of vaginal dryness and decreased lubrication
- Vaginal changes often result in pain with sexual activity or pelvic exams
- Women with discomfort from vaginal atrophy often engage in less frequent intercourse or other sexual activity, which can cause the vagina to become shorter, narrower, and less elastic
- For some women, pain, narrowing of the vagina, and involuntary tightening of vaginal muscles (vaginismus) can intensify to the point where sexual intercourse or other sexual activity is no longer pleasurable or even possible

### Treatment options

Although symptoms of vaginal dryness and atrophy can be very bothersome, the good news is that effective treatment options are available. These include different forms of low-dose estrogen applied directly to the vagina, as well as nonhormone treatments. You may combine nonhormone and hormone treatments for optimal symptom relief.

#### Nonhormone remedies

- **Vaginal lubricants** reduce discomfort with sexual activity when the vagina is dry by decreasing friction. Water-soluble products are advised, because the oil in some products may cause vaginal irritation. There are many effective brands available without a prescription, such as K-Y Jelly, Astroglide, K-Y Silk-E, Slippery Stuff, and Just Like Me.
- **Vaginal moisturizers** line the wall of the vagina and maintain vaginal moisture. Such as with your face or hands, the vagina should be moisturized on a regular basis, for example, several times weekly at bedtime. Effective products include Replens and K-Y Liquibeads.
- **Regular sexual stimulation** promotes vaginal blood flow and secretions. Sexual stimulation with a partner, alone, or with a device (such as a vibrator) can improve vaginal health.
- **Expanding your views of sexual pleasure** to include such “outercourse” options as extended caressing, mutual masturbation, and massage is an effective way to make painful vaginal penetration (intercourse) more comfortable or provide a way to remain sexually intimate in place of intercourse.
- **Pelvic floor exercises** can both strengthen weak vaginal muscles and relax tight ones.
- **Vaginal dilators** can stretch and enlarge the vagina after many years of severe vaginal atrophy, especially if sexual activity is infrequent and the vagina has become too short and narrow for intercourse. Involuntary tightening of vaginal muscles (vaginismus), a learned response to pain, often contributes to discomfort during intercourse or other sexual activity. In addition to regular use of vaginal estrogens, lubricants, and moisturizers, several months of daily “exercises” with lubricated vaginal dilators can help. Dilators can be

purchased from pharmacies and medical supply stores and used with the guidance of a gynecologist, physical therapist, or sex therapist. Remember, the vagina can diminish in size and its supporting muscles can weaken, so “use it or lose it”!

#### Vaginal estrogen therapy

- **An effective and safe treatment** available by prescription, low-dose local estrogen is applied directly to the vagina to increase the thickness and elasticity of vaginal tissues, restore a healthy vaginal pH, increase vaginal secretions, and relieve vaginal dryness and discomfort with sexual activity. Improvements usually occur within a few weeks, although complete relief may take several months.
- **Short-term treatment** may even be an option for women with a history of breast or uterine cancer but only after careful consideration of risks and benefits with a healthcare provider.
- **Government-approved low-dose vaginal estrogen products** are available by prescription as vaginal creams (used 2 or 3 nights weekly), a vaginal estradiol tablet (used twice weekly), and an estradiol vaginal ring (changed every 3 months). All are highly effective. You may wish to try several different forms and choose the one you prefer.
- **Standard doses** of estrogen therapy provided to treat hot flashes also treat vaginal dryness, although some women still benefit from additional low-dose vaginal estrogen treatment. If only vaginal symptoms are present, low doses of estrogen applied to the vagina are recommended.

#### Nonestrogen therapy

- **Ospemifene (Osphena)** is an oral tablet for the treatment of painful intercourse secondary to vaginal atrophy. Ospemifene is an estrogen agonist/antagonist, which means it works like estrogen in some tissues and opposes estrogen's actions in others.

**Note:** Not all vaginal symptoms are related to menopause. For instance, yeast infections, allergic reactions, and certain skin conditions can affect the midlife vagina, so consult your healthcare provider if symptoms do not improve with treatment.

### Treatment Option Summary

#### Vaginal lubricants (nonprescription)

Many available brands, including K-Y Jelly, Astroglide, K-Y Silk-E, Slippery Stuff, Just Like Me

#### Vaginal moisturizers (nonprescription)

Many available products, including Replens and K-Y Liquibeads

#### Vaginal “exercise”

- Sexual activity (with or without a partner)
- Stretching exercises with lubricated vaginal dilators
- Pelvic floor physical therapy

#### Vaginal estrogen therapy (prescription required)

- Estrace or Premarin vaginal cream (1/2-1 gram, placed in vagina 2-3 times weekly)
- Estring (small, flexible estradiol ring placed in vagina and changed every 3 months)
- Vagifem (estradiol tablet placed in vagina twice weekly)

#### Oral nonestrogen therapy (prescription required)

- Ospemifene (Osphena)—an oral tablet that treats painful intercourse caused by vaginal atrophy



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## Bioidentical Hormone Therapy: Custom Compounded versus Government Approved

Many types of hormone therapy are available for you to use for your menopause symptoms. These include hormones that are manufactured to be chemically identical to the naturally occurring hormones produced by your ovaries during the reproductive years, principally estradiol, progesterone, and testosterone. Many of these products are derived from natural sources, including yams or soy. Although the term *bioidentical hormones* often is used to refer to these identical copies of natural hormones (typically prescribed as custom mixes or compounds for an individual woman), *bioidentical hormones* is a term invented by marketers and has no clear scientific meaning.

Although natural hormones are not necessarily safer or more effective than other forms of estrogen and progestogen, some women prefer to use hormones after menopause that are identical to those their ovaries produced when they were younger.

If you prefer to treat your bothersome menopause symptoms with hormones that are chemically identical to those you produced naturally before menopause, ask your healthcare provider to prescribe estradiol and progesterone products that are scientifically tested and government approved. Estradiol is available as an oral tablet, skin patch, topical gel, topical spray, and vaginal ring. Low doses of estradiol used in the vagina (to treat vaginal dryness and painful intercourse but not hot flashes) are available as a vaginal tablet, cream, and ring. Progesterone is available as an oral capsule (see table below for product names).

### Bioidentical custom-compounded hormones

Some healthcare providers prescribe custom-mixed (*custom-compounded*) bioidentical hormones containing one or more natural hormones mixed in differing amounts. These products not only contain the active hormone(s) but also other ingredients to create a cream, gel, lozenge, tablet, spray, or skin pellet. Healthcare providers who prescribe bioidentical hormones often claim that these products are more safe and effective than clinically tested and government-approved hormones produced by large pharmaceutical companies. They also may assert that bioidentical hormones slow the aging process. There is no scientific evidence to support any of these claims.

Government-approved hormone products are required by law to come with a package insert that describes possible risks and side effects. Custom-compounded hormones are not required to come with this information, but this does not mean they are safer. They contain the same active hormones (such as estradiol and progesterone), so they share the same risks.

Custom-compounded hormones allow for individualized doses and mixtures; however, this may result in reduced efficacy or greater risk. These compounds do not have government approval because individually mixed recipes are not tested to verify that the right amount of hormone is absorbed to provide predictable hormone levels in blood and tissue. If you have a uterus, there are no studies showing that the amount of progesterone in these custom-mixed hormones is enough to protect you from developing uterine cancer.



There is a long history of pharmacies providing a wide range of compounded products, typically when an equivalent government-approved product is not available. Because preparation methods vary from one pharmacist to another and between pharmacies, you may receive different amounts of active medication every time you fill the prescription. Inactive ingredients may vary from batch to batch as well. Sterile production technique and freedom from undesired contaminants are additional concerns. Expense is another issue, because most custom-compounded preparations are viewed as experimental drugs and are not covered by insurance plans.

## Determining the right dose

The right dose of hormones for you is the lowest dose of estrogen that treats your menopause symptoms combined with enough progestogen to protect your uterus from cancer. It is not necessary to check blood, urine, or saliva hormone levels to find the right dose. During reproductive life, estrogen levels vary throughout the menstrual cycle and during each day, so there is no perfect hormone level for any woman.

## Recommendations for natural hormone therapy options

If you prefer to use hormones for your menopause symptoms that are identical to the hormones you produced naturally before menopause, ask your healthcare provider for government-approved products containing estradiol and progesterone. There is no benefit to using custom-compounded hormones, and there may be additional risks.

### Government-Approved Natural Hormone Therapy Products

#### Estradiol

##### ***Systemic doses of estradiol for treatment of hot flashes***

- Oral tablet: Estrace, generics
- Skin patch: Alora, Climara, Esclim, Menostar, Vivelle (Dot), Estraderm, generics
- Skin gel/cream: EstroGel, Elestrin, Divigel, Estrasorb
- Skin spray: Evamist
- Vaginal ring: Femring

##### ***Low doses of vaginal estradiol for treatment of vaginal dryness and pain with intercourse***

- Vaginal cream: Estrace vaginal cream
- Vaginal ring: Estring
- Vaginal tablet: Vagifem

#### Progesterone

- Oral tablet: Prometrium



This *MenoNote*, developed by the Consumer Education Committee of The North American Menopause Society, provides current general information but not specific medical advice. It is not intended to substitute for the judgment of a person's healthcare provider. Additional information can be found at [www.menopause.org](http://www.menopause.org).

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## MenoPro Mobile App

### A Mobile App for Women Bothered by Menopause Symptoms

[Home](#) > [For Women](#) > *MenoPro* Mobile App



Dr. JoAnn Manson discusses release of *MenoPro*—October 15, 2014

*MenoPro* is a free mobile app from The North American Menopause Society (NAMS) to help you and your clinician work together to personalize treatment decisions on the basis of a your personal preferences (hormone vs nonhormone options), taking into account your medical history and risk factor status. The app has two modes, one for clinicians and one for women, to facilitate shared decision making. *MenoPro* is available for [iOS \(iPhone, iPad\)](#) and for [Android](#) devices.

The *MenoPro* app has several unique features, including the ability to calculate your 10-year risk of heart disease and stroke, which is important in deciding whether a treatment option is safe for you. It also has links to online tools that assess your risk of breast cancer and osteoporosis and fracture.

*MenoPro* was developed in collaboration with NAMS and includes links to NAMS education materials, including a downloadable *MenoNote* on behavioral and lifestyle modifications to reduce hot flashes, and information pages on the pros and cons of hormone versus nonhormone therapy options, a discussion of pill versus patch therapy, and information on treatment options for vaginal dryness and pain with sexual activities, with links to tables with information about different medications. These pages can be printed out or directly accessed from your phone or tablet.

*MenoPro* already has thousands of users and has been very helpful to clinicians in their practices and to women in helping them make informed choices about managing menopause symptoms.

*MenoPro* contains no advertising and was developed without any industry or pharmaceutical company support.

We hope this mobile app will be helpful to you in working together with your clinician to make informed choices about the management of your menopause symptoms.



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