

# Hormone Therapy Guide



THE UNIVERSITY OF TEXAS  
**MD Anderson**  
**Cancer Center**  
Making Cancer History



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# Hormone Therapy

Hormone therapy treats cancers that need hormones to grow, such as breast or prostate cancer. Hormone therapy includes taking medicine that may:

- Stop cells from making hormones such as estrogen or testosterone
- Prevent cells from using hormones
- Lower the risk of the cancer coming back
- Slow the growth of an advanced cancer

Another name for hormone therapy is endocrine therapy.

Hormone therapy is different from hormone replacement therapy (HRT). Hormone therapy is an “anti-hormone” treatment. It stops or reduces the amount of estrogen or testosterone produced in the body.

HRT is given to women during menopause to lessen menopausal symptoms or to men with low testosterone. It adds estrogen or testosterone to the body. For this reason, HRT is not safe for most women with breast cancer or men with prostate cancer.

## Hormone Therapy and Breast Cancer

Estrogen is the main female hormone. It helps regulate the menstrual cycle and aids in the growth and development of female characteristics, such as breasts. Estrogen can also cause hormone-receptor positive breast cancer cells to grow. When estrogen attaches to a receptor in a breast cancer cell, it sends

a signal to the cell to grow and multiply. Hormone therapy medicines work to stop this signal. This is done by reducing the amount of estrogen in the body or preventing the cells from using estrogen.

Most breast cancers are hormone-receptor positive. This means they need hormones, such as estrogen, to grow. Breast cancer cells are tested to see if they have receptors for estrogen and progesterone. If they do, the breast cancer is considered estrogen-receptor positive (ER+), progesterone-receptor positive (PR+) or both ER+ and PR+. This helps your doctor decide the best treatment for you.

### **Hormone Therapy and Prostate Cancer**

Testosterone is the main male hormone. Most of the body's testosterone is made by the testicles. A small amount is made by adrenal glands, which are glands on top of both kidneys. Testosterone helps build muscle mass, maintain sex drive, and preserve bone strength. It can also cause prostate cancers to grow. Hormone therapy stops testosterone from being made. This starves the cancer cells and causes prostate tumors to shrink.

# What type of hormone therapy will I take?

## Breast Cancer

Hormone therapy may be used to:

- Lower the risk of a hormone-receptor positive breast cancer from returning after treatment has been complete and there is no sign of cancer.
- Help shrink or slow the growth of an advanced stage hormone-receptor positive breast cancer.

When deciding which hormone therapy is best for you, your doctor will consider:

- **Your menopausal status:** Are you pre- or post-menopausal?
- **Your cancer stage:** Do you need hormone therapy to prevent breast cancer from returning or to slow the growth of an advanced breast cancer?
- **Your personal health risks:** Each hormone therapy medicine has possible side effects and health risks. Are you at increased risk of certain medical conditions due to family history or lifestyle factors?

## Hormone Therapy for Early Stage Breast Cancer

If you have finished treatment for breast cancer and have no sign of cancer in your body, your doctor may recommend hormone therapy. This is to help prevent the breast cancer from returning. These medicines may also help prevent a new breast cancer if you still have any remaining breast tissue.

Several medicines are available. Your doctor decides which is best for you based on your menopausal status and medical history.



## **Premenopausal Women**

Before a woman goes through menopause, her ovaries produce a large amount of estrogen. For hormone therapy to work, it must block the action of estrogen in the body or stop the ovaries from producing estrogen.

Premenopausal women are often prescribed tamoxifen (Nolvadex®). Tamoxifen attaches to the estrogen receptor on breast cancer cells. This blocks estrogen from attaching so it cannot send a signal to the cell to grow.

Another option to stop the ovaries from producing estrogen is called ovarian suppression. Goserelin (Zoladex®) and leuprolide (Lupron®) are often prescribed for this purpose. This treatment can be used in combination with another hormone therapy.

## **Postmenopausal Women**

After menopause, the ovaries stop producing estrogen. However, a small amount of estrogen is made in fat and muscle tissues. This is done with the help of a substance called an aromatase enzyme.

Postmenopausal women may be prescribed an aromatase inhibitor. This medicine stops or slows down the aromatase enzyme from making estrogen. This lowers the amount of estrogen in the body. Aromatase inhibitors include anastrozole (Arimidex®), exemestane (Aromasin®) and letrozole (Femara®).

Tamoxifen (Nolvadex®) can also be used in postmenopausal women.



## **Men with Breast Cancer**

In men, about 20% of estrogen is made by the testicles and 80% is made from fat and muscle tissues with the help of an aromatase enzyme.

Men are often prescribed tamoxifen (Nolvadex®). Tamoxifen attaches to the estrogen receptor on breast cancer cells. This blocks estrogen from attaching, so it cannot send a signal to the cell to grow.

Men may also be prescribed an aromatase inhibitor. This medicine stops the aromatase enzyme from making estrogen.

When prescribed an aromatase inhibitor, men are also treated with injections that stops the testicles from making estrogen. Injections may include goserelin (Zoladex®) and leuprolide (Lupron®).





## **Hormone Therapy for Advanced Breast Cancer**

Hormone therapy may be used to treat advanced hormone-receptor positive breast cancers. Because breast cancer needs estrogen to grow, stopping the body from making estrogen or preventing the cells from using estrogen can slow the growth of, or even shrink, the cancer.

A variety of hormone therapies can be used to treat advanced breast cancer. Your doctor will decide which is best for you based on your menopausal status and medical history. They include but are not limited to:

- Goserelin (Zoladex®)
- Leuprolide (Lupron®)
- Fluoxymesterone (Halotestin®, Androxy™)
- Megestrol acetate (Megace®)
- Fulvestrant (Faslodex®)
- Anastrozole (Arimidex®)
- Exemestane (Aromasin®)
- Letrozole (Femara®)

## Prostate Cancer

Hormone treatment is also called androgen deprivation therapy (ADT). It works by stopping or slowing down testosterone, which starves prostate cancer cells. This causes the tumors to shrink.

Men with prostate cancer may be prescribed medicines that block the chemical signal from the brain which tells the testicles to produce testosterone. They include but are not limited to:

- Degarelix (Firmagon®)
- Leuprolide (Lupron® or Eligard®)
- Goserilin (Zoladex®)
- Triptorelin (Trelstar®)
- Relugolix (Orgovyx®)
- Histrelin (Vanats®)

In addition to ADT, your doctor may want you to start another hormone agent. There are 2 different types of these medicines: antiandrogens and steroidogenesis inhibitors.

**Antiandrogens** block testosterone from attaching to cancer cells and prevent growth. Examples of this type of medicine include:

- Apalutamide (Erleada®)
- Bicalutamide (Casodex®)
- Darolutamide (Nubeqa®)
- Enzalutamide (Xtandi®)

**Steroidogenesis inhibitors** stop testosterone from being made by the adrenal glands. Examples of this type of medicine include: abiraterone (Zytiga®) and ketoconazole.

# Common Side Effects of Hormone Therapy

Hormone therapy has some common side effects. Tips to manage side effects and when to call your health care team are outlined below. Even though the side effects are common, very few patients experience these side effects. The most common are fatigue and hot flashes.

## Fatigue

Fatigue from hormone therapy is not the normal tired feeling you have after a busy day. It may be more severe. It lasts longer and can affect your day-to-day activities. Many patients may feel worn out, weak and irritable. You may have a hard time thinking clearly or walking short distances.

### What you can do.

**Exercise.** It may be a surprise, but exercise helps with fatigue. Start slowly and allow your body time to adjust. Try walking, water aerobics, yoga or indoor stationary cycling.

The Integrative Medicine Center offers classes such as yoga at no charge. For more information, call 713-794-4700.

**Use energy wisely.** Do what is most important when you have the most energy. Using your energy wisely during the day can help you have less fatigue. Plan and organize your day. And most importantly, do not be afraid to ask others to help with tasks.

**Eat a balanced diet.** Fatigue can become worse if you are not eating enough or if you are not eating the right foods. Include protein in your diet, such as fish, lean meats, low-fat yogurt and cheeses, eggs and beans. Drink at least 64 ounces of non-caffeinated fluids each day to stay hydrated. Foods rich in vitamins and minerals can also help improve your energy level.

**Sleep well.** Not getting enough good sleep may contribute to fatigue. During the day, exercise regularly and limit naps. Do not drink alcohol, eat or drink caffeine or use nicotine in the late afternoon and evening. Bathe or shower at the end of the day. Turn off the TV and electronics (computers, smartphones and tablets) 1 hour before bedtime. Go to bed and get up at the same time every day, even on weekends.

**Manage stress and relax.** Learning to manage stress and relax can help with your fatigue. Relaxation techniques, such as meditation, deep breathing and visualization may be helpful. Cancer support groups, family and friends can be great for support and understanding.

The Integrative Medicine Center offers stress management classes, such as meditation and journaling and expressive writing at no charge. For more information, call the Integrative Medicine Center at 713-794-4700.

### **How your health care team can help.**

If you have tried the suggestions and still have fatigue, talk with your doctor if any of the following occur:

- Your fatigue does not get better, keeps coming back or becomes severe. **Signs of severe fatigue include spending all day in bed and being unable to do daily activities.**
- Your fatigue cannot be relieved by rest or sleep.
- Your fatigue disrupts your social life or daily routine.

Your doctor may refer you to the MD Anderson Fatigue Clinic. The Fatigue Clinic measures, manages and treats cancer-related fatigue.

Watch the **Cancer-Related Fatigue** video in MyChart under Resources, then Educational Videos or scan the QR code.



If you have a hard time eating a balanced diet, your doctor may recommend you meet with a registered dietitian. Registered dietitians are available in the outpatient clinics and inpatient units at MD Anderson. You can ask them questions about your diet. A member of your health care team can schedule a nutrition appointment for you.

If you have problems sleeping, your doctor may refer you to the Sleep Center.

## Hot Flashes

When your hormone levels change during hormone treatment, the hypothalamus in the brain may send and receive incorrect signals. This may cause flushing (hot flashes) for no apparent reason. A hot flash is a sudden, intense, hot feeling on your face and upper body.

The hypothalamus is responsible for body temperature, sex hormones, appetite and sleep cycles. When it senses the body is too hot, the brain responds by telling the body to cool. To do this, the heart beats faster, blood vessels in the skin dilate (open up) and sweat glands release sweat.

### What you can do.

Lifestyle changes are a safe and effective way to manage hot flashes. The following tips can help safely manage hot flashes.

**Avoid the following.** They can increase the number or severity of hot flashes.

- Smoking
- Alcohol
- Caffeine
- Spicy or hot foods
- Diet pills
- Hot tubs
- Saunas
- Hot showers and baths
- Stressful situations

### Wear:

- Layers for easy removal when you get too warm
- Cotton or other lightweight/breathable fabrics
- Open-neck shirts



**At bedtime:**

- Use cotton sheets (not synthetic fabrics).
- Take a cool shower before bed.
- Wear cotton pajamas.
- Keep a glass of ice water by the bedside..
- Lower the thermostat
- Use a fan.
- Use a thick mattress pad if you have a supportive foam mattress (such as Tempur-Pedic®).

**Exercise regularly.** Patients who exercise have more stable hormone levels, which help prevents hot flashes.

**Do not** use over-the-counter medicines or herbal supplements to treat hot flashes without first talking with your doctor or nurse.

If you have questions about herbal supplements, ask your doctor for a referral to the Integrative Medicine Center. Consultations are available with a doctor and dietitian to discuss the benefit and safety of dietary and herbal supplements.

**How your health care team can help.**

If the tips do not work, call your doctor or nurse. You may be given medicine to help reduce the effects of hot flashes. Medicines that help hot flashes may interfere with other medicines you take. Discuss this with your health care team.

## **Joint Aches and Stiffness**

Some patients have aches in their joints, such as their knees, hips and shoulders. Joints may also feel stiff, similar to arthritis.

### **What you can do.**

To relieve joint aches and stiffness:

- Soak in warm bath water.
- Take a mild pain reliever, such as aspirin, ibuprofen or naproxen.
- Try acupuncture or massage.
- Exercise. Walking, stretching, swimming and yoga are all ways to help joint pain from hormone therapy.

Acupuncture and massage are available in the Integrative Medicine Center. Call 713-794-4700 for more details, including cost or to schedule an appointment.

### **How your health care team can help.**

If nothing relieves the pain and quality of life becomes a concern, talk with your doctor. They may be able to change your medicine. Joint aches are a common side effect of hormone therapy. Several hormone therapies are available. Some patients can better tolerate one over another.



## **Leg Cramps**

The muscles in your legs may ache or cramp. Cramps often occur at night.

### **What you can do.**

If you have leg cramps or muscle aches:

- Drink more water. Drink at least 64 ounces of water each day to stay hydrated.
- Eat foods high in calcium, such as low-fat milk, cheese and dark green leafy vegetables.
- Take calcium supplements.
- Eat potassium-rich foods such as bananas, apricots and orange juice.
- Exercise and stretch your leg muscles on a regular basis.

### **How your health care team can help.**

If leg cramps affect your quality of life, talk with your doctor. Your doctor may order tests to check your electrolyte levels. This may help determine the cause of leg cramps.



## **Mood Swings, Anxiety and Depression**

Hormone therapy treatment may cause some patients to have mood swings, anxiety or depression.

Mood swings are rapid changes in mood. You may be happy one moment, then sad the next.

Anxiety is a normal response to stress. For example, it makes you study harder for a test or be more careful as you walk down a dark street. But if the feelings of anxiety do not go away, it can become a health problem.

Depression occurs when a person feels a deep sense of sadness for a long period of time. You may be depressed if your feeling of sadness is severe or lasts longer than 2 weeks. Other symptoms include having no interest in activities you often enjoy, trouble concentrating or irritability.

It may be hard to tell if these mood changes are caused by the hormone therapy or other stress factors. Fear of cancer returning, change of life plans or other life concerns can lead to mood swings, anxiety or depression.

**What you can do.**

Having people around who care about you can help you feel better and more in control of your feelings. Friends, family, neighbors, church members, coworkers and others in your life can offer help and comfort.

You may find help and comfort from a support group. People in support groups are going through the same thing as you. They can provide emotional support, which shows they care about and are listening to you. Group members can provide practical information and tips about things they have learned along the way. For example, they may recommend a good resource on managing side effects.

For help finding a support group, call Social Work at 713-792-6195.

**How your health care team can help.**

Talk with your doctor if feelings of sadness or anxiety do not go away. They may be able to prescribe medicines to help or refer you to a mental health professional.

Patients often wait to get help for emotional distress. Getting help is a sign of strength rather than weakness. You do not have to cope alone. Professional support is a way to find solutions and have control over the things you can control.

## **Nausea and Appetite Loss**

Nausea is an uneasy, uncomfortable feeling in your stomach. It may or may not lead to vomiting or throwing up. Nausea may come with a loss of appetite.

### **What you can do.**

Take your medicine with food or milk or take it at bedtime to help relieve nausea.

If you feel nauseated:

- Try to eat 6 to 8 small meals or snacks throughout the day. Small meals are easier to handle than large meals and will help you get the nutrients your body needs.
- Drink at least 64 ounces of fluids each day. Try to drink water, ginger ale, sports drinks, fruit-flavored drinks made from dry mixes, frozen fruit bars on sticks, ice chips or carbonated drinks. Gelatin desserts or ice cubes can be made from these fluids.
- Do not eat fatty and fried foods. They are harder to digest. Foods high in fat will cause you to feel full and may cause nausea.
- Stay away from foods with strong odors, which may cause nausea. Cold and bland foods have fewer smells and may be easier to eat.
- After you sleep or rest, eat dry foods, such as crackers, toast, dry cereals or bread sticks before you become active.
- Try not to eat your favorite foods when you have nausea or vomiting. You may later link these foods to nausea.





**How your health care team can help.**

If these tips do not help relieve nausea or appetite loss, talk with your doctor or nurse. Your doctor may be able to prescribe an anti-nausea medicine.

Your doctor may recommend you meet with a registered dietitian. They can help you manage treatment-related side effects, such as nausea and appetite loss. A member of your health care team can schedule a nutrition appointment for you.

## **Hormone Therapy and Women: Vaginal Dryness and Sexual Changes**

Some hormone therapy medicines may cause sexual problems. Often, the main reason is vaginal dryness. When levels of estrogen decrease (which occurs when taking hormone therapy), the walls of the vagina may become dry. This may cause intercourse to be painful and less pleasurable. When this happens, it is common to have a low desire for sexual activity.

Sexual problems may be related to other treatments. Chemotherapy and radiation can damage the ovaries, leading to early menopause. Surgical removal of the ovaries also results in menopause. Menopause lowers the amount of estrogen in the body, leading to symptoms, such as vaginal dryness and hot flashes.

Body image concerns may cause problems for some women. After surgery, some women may not feel as attractive or as feminine as before. This can lower sexual desire and may make it hard to focus on pleasure during sexual activity.

### **What you can do.**

Intimacy and sexuality can be challenging subjects to address even under the best circumstances. For breast cancer survivors and their partners, sexual relationships can present unique problems. Below are some suggestions for adjusting to the changes in sexual function that you and your partner may experience.

## **Talk about your feelings, concerns and worries with your partner.**

Talking with your partner is important to help resolve sexual problems. An open discussion can allow each of you to share fears and worries. It may help to talk outside of the bedroom. Find a more emotionally “neutral” place. Voice your concerns using “I” statements. For example, instead of saying, “You never touch me in a loving way,” say, “I wish you would touch me in a loving way” or “I worry that you do not want to touch me.” When both of you express thoughts in this way, it reduces blaming and defensiveness.

There are a number of books, videos and other resources available at MD Anderson that can provide helpful information on sexuality and cancer.

For more information about sexuality, ask for a copy of **Sexuality and Cancer: A Guide for Patients and Their Partners**. This MD Anderson booklet is available in The Learning Center.

The Learning Center is a patient education library. It has current and reliable information on cancer prevention, treatment, coping and general health. Locations include:

Law Learning Center  
Main Building, Floor 4, Elevator A, 713-745-8063

Levit Learning Center  
Mays Clinic, Floor 2, near Elevator T, 713-563-8010

**Talk with your health care team.** They are often focused on treatment. Unless you bring up the subject, they may never ask about your sexual health. In fact, studies show that many expect patients to ask questions about sexuality. They assume nothing is wrong if the patient doesn't bring it up.

If you have questions about the effects of your treatment on your sex life, it is helpful to write them down before your visit – the more specific, the better. Examples of questions you might have are:

- Are there any alternatives to this treatment that have fewer sexual side effects?
- What should I do if I still have pain during sex after following the recommendations?

If the answer you receive does not fully address your question, be sure to ask if there is someone, such as a social work counselor or nurse, with whom you can discuss this concern further.

**Manage vaginal dryness.** Use a vaginal moisturizer to reduce dryness and itching. These gels and suppositories are placed in the vagina using a tampon-shaped applicator. A typical schedule is 3 times a week, before bedtime. However, you can use them more or less often as needed to manage symptoms. It may take up to 2 months to see results. Meanwhile, vaginal lubricants can be used in addition to moisturizers, especially with sexual activity.

The following are safe and easy to use. They are sold at most drugstores:

- Moisturizers such as Replens®, Lubrin Inserts® or K-Y Silk-E®. These are designed for regular use to maintain vaginal moisture and improve day-to-day comfort.

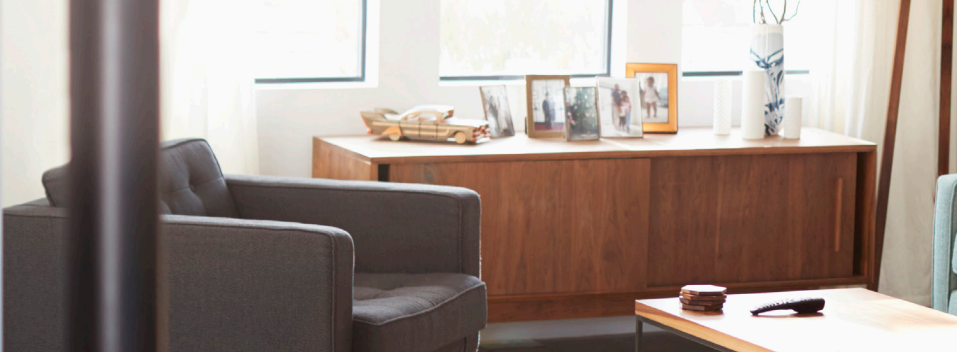
- Silicone-based lubricants such as Überlube®, Just Like Me (Pure Romance)® and Wet Naturals Silky Supreme®. These are designed to use as needed (for example, during sexual activity). However, you may use them as often as needed to improve comfort. Some women who use a regular vaginal moisturizer do not need an additional lubricant. Others with more severe dryness use both regularly.
- Vitamin E liquid capsules: Use a clean pin to put a hole in each end of a vitamin E capsule. Insert the capsule into your vagina. Or you can empty the capsule onto your finger and wipe the vitamin E inside your vagina. On occasion, this can cause vaginal irritation. If irritation occurs, stop use and contact your doctor.

**Do not** use lubricants with the following ingredients, as they may cause irritation:

- Petroleum jellies (Vaseline®)
- Cocoa butter and oils (canola oil, sunflower oil)

Some ingredients may make vaginal dryness and discomfort worse. Try not to use the following:

- Antihistamines (long-term use), such as diphenhydramine (Benadryl®) or chlorpheniramine (Chlor-Trimeton®)
- Decongestants (long-term use), such as pseudoephedrine (Sudafed®)
- Douches (even “natural” douches, such as vinegar or yogurt)
- Hand lotions, perfume, powder, deodorant and soaps in the vaginal area
- Bubble baths
- Tight clothing and synthetic fabrics, such as nylon, polyester and rayon
- Tampons (some panty liners can also irritate the pelvic area)



**Get professional help.** If you have a sexual concern, you and your partner may wonder what to do. Counseling can give you a chance to talk openly about your feelings. It can also allow you to find new ways to cope with your illness.

**How your health care team can help.**

Call your health care team if:

- Trying the suggested tips do not help or vaginal dryness increases within 1 to 3 months.
- There is ongoing itching of the vagina that does not go away. This may be a symptom of other problems.
- There is bleeding with the vaginal dryness.

Your doctor may refer you to sexual counseling. Sexual counseling is offered through the Gynecologic Oncology Center for all female patients at MD Anderson. Services include sexuality education and counseling for individuals and couples. A referral to a general gynecologist can also be made to address medical conditions that interfere with sexual response. Sexual counseling is also available through the psychiatry service.





## **Hormone Therapy and Men: Erectile Dysfunction and Sexual Changes**

Men on hormone therapy may have a loss of libido or desire for sex and trouble with erections (erectile dysfunction or ED). There are treatments to help you to have and keep erections. However, there is no treatment for increasing libido.

Treatments for erectile dysfunction may include:

- Use of erectile assistive aids
- Oral medicines
- Injections
- Penile prosthesis

Discuss your concerns with your health care team to determine which treatment is best for you.

# Body Changes

## Weight Gain

Some patients may have weight gain while on hormone therapy.

## What you can do.

Tips to help manage your weight during treatment include:

- Eat 5 or more servings of fruits and vegetables each day. Choose a variety of colors and methods of preparation. A serving is:
  - 1 cup raw fruits or vegetables
  - ½ cup cooked fruits or vegetables
  - 1 medium sized piece of fruit
- Choose whole grain products. These include whole wheat bread, bran cereals, brown and wild rice, whole wheat pasta, oatmeal, barley, amaranth, millet, buckwheat and quinoa. Limit refined grains such as white bread and white rice.
- Limit red meat (beef, pork or lamb) to no more than 18 ounces per week. Three ounces is about the size of a deck of cards. Do not eat high fat meats such as hot dogs, bologna, bacon and salami. Cut visible fat and skins off of meat and choose low fat cooking methods such as roasting or baking.
- **Do not** drink sugar-sweetened beverages such as colas, fruit punch and sweet tea.
- Limit desserts and fried foods. They are high in calories and have little nutrition.
- Choose skim or low-fat dairy products.



- **Do not** snack on empty calories. When hungry between meals, choose nutritious low-calorie snacks such as:
  - Light microwave popcorn (single serving “mini bags”)
  - Whole fruits
  - Raw veggies (plain or with a low-calorie dip)
  - Plain or light yogurt
  - Frozen fruit and juice bars
  - Hardboiled egg
  - Whole grain crackers with hummus
- Exercise to help burn calories and reduce fatigue.
- Try some healthy recipes from the American Institute for Cancer Research ([www.AICR.org](http://www.AICR.org)).

### **How your health care team can help.**

If weight gain is a concern, your doctor may recommend you meet with a registered dietitian. They can help find the best way to manage weight gain. A member of your health care team can schedule a nutrition appointment for you.

## **Hormone Therapy and Men: Body Changes**

While on ADT you may notice enlargement and increased sensitivity of your breast tissue. This is called gynecomastia. If treatment is interrupted or stopped, the breast sensitivity may go away, but the breast enlargement may not. If this causes you distress, consider wearing a compression shirt or dri-fit T-shirt to flatten your chest and provide support.

If symptoms bother you, talk with your health care team about treatment options to prevent or reduce this side effect. Options may include estrogen therapy, radiation to breast tissue or breast reduction surgery.

Additionally, men on ADT may report some shrinkage of their penis and testicles. The testicles shrink because they are no longer making testosterone and sperm. This may improve when you stop taking hormone therapy.

## **Hormone Therapy and Men: Cardiovascular Risk and Diabetes**

Men on ADT may have an increase in blood sugar, triglycerides and waist size. This will increase your risk for heart disease and diabetes. Therefore, it is important to focus on preventive measures such as regular exercise, maintaining a healthy weight and monitoring your cholesterol and blood pressure.



## Osteoporosis

Osteoporosis is a condition in which a person's bone mass is lost faster than it can be replaced by the body. This results in bones that are weak, less dense and more likely to break.

There are many risk factors for osteoporosis. Women are 4 times more likely to be affected than men. Your risk increases as you age. Risk factors include:

- Not getting enough exercise
- Using tobacco products
- Drinking alcohol
- Not getting enough calcium and vitamin D

Estrogen and testosterone help the body absorb and use calcium. Hormone therapy medicines that lower the amount of estrogen and testosterone in the body increase your risk for osteoporosis. Hormone therapy medicines that may increase your risk for osteoporosis include:

- Aromatase inhibitors, such as anastrozole (Arimidex®), exemestane (Aromasin®) and letrozole (Femara®)
- Goserelin (Zoladex®)
- Leuprolide (Lupron®)

### **What you can do.**

Good bone health can help reduce your risk of osteoporosis. If you are taking a hormone therapy medicine known to increase the risk of osteoporosis, you should:

- Take 1,000 to 1,200 mg of calcium per day from all sources, including diet and supplements. Based on your needs, your doctor may suggest you take more. Foods rich in calcium include low-fat cheeses, yogurt, milk, dark green leafy vegetables and canned fish with bones, such as canned salmon and sardines.
- Take 600 to 800 IU of vitamin D per day. The major food sources of vitamin D are fatty fish, such as salmon and vitamin D fortified foods, such as dairy and cereal products.
- Exercise often.
- Stop smoking.
- Limit caffeine and alcohol.

MD Anderson's Tobacco Treatment Program is free to active MD Anderson patients who are current tobacco users or those who have recently stopped (within the past 12 months). Medicines and counseling are offered for up to 3 months. For more information, call toll-free 1-866-245-0862 or email [QuitNow@MDAnderson.org](mailto:QuitNow@MDAnderson.org).

## **How your health care team can help.**

If you are taking a hormone therapy medicine that is known to increase the risk of osteoporosis, your doctor will order a bone mineral density test on a regular basis to monitor your bone mass. A bone mineral density test is one of the most accurate ways to check your bone health. This test:

- Measures your bone loss over time
- Detects osteoporosis or the risk for developing osteoporosis
- Evaluates your risk for fractures

There are several machines that measure bone density. Some measure bone density in the hip and spine bones. Others measure bone density in the heel, wrist or finger. MD Anderson uses an x-ray scan, called dual-energy x-ray absorptiometry scan (known as DXA or DEXA). It measures bone density in the hip and spine bone and occasionally in the wrist. DXA is the most accurate test.

If the DXA scan shows loss of bone mass, your doctor may prescribe a bisphosphonate. Bisphosphonates are medicines that slow or stop bone loss. This may prevent the development of or treat osteoporosis. Bisphosphonates include alendronate (Fosamax®), ibandronate (Boniva®), risedronate (Actonel®) and zoledronic acid (Reclast®).

If you have bone loss, your doctor may also order a test to check your vitamin D levels. Vitamin D is necessary for your body to absorb calcium.



## Common Questions

### **How well does hormone therapy work?**

Your doctor will talk with you about how well hormone therapy will work for you based upon your specific case. Your doctor will look at many factors, such as:

- Your cancer stage
- Any lymph node involvement
- The size of your tumor
- Any previous treatment
- Any other cancer treatments you may need

Based upon these factors, your doctor can give you specific information about risks and benefits of hormone therapy.





## **How do I take hormone therapy?**

Hormone therapies to treat breast and prostate cancer come as an injection or pill. How long you receive treatment depends on menopausal status and how you respond to the medicines.

Some patients may take a certain type of hormone therapy for several years. Then, they may switch to a different type of hormone therapy for several more years. Patients often have follow-up appointments with their health care team every 3 to 6 months to see how the medicine is working.

A few hormone therapy medicines are given as an injection in the clinic. These include goserelin (Zoladex<sup>®</sup>), leuprolide (Lupron<sup>®</sup>) and fulvestrant (Faslodex<sup>®</sup>).



**It may be hard to take medicine every day.  
What can I do to make it easier?**

To get the most benefit from hormone therapy, it is important to take your hormone therapy medicine for the full length of time needed. This can be hard for some patients. Below are some common reasons patients stop taking their hormone therapy medicine over time and plans to overcome them.

**Remember to take the medicine.** Over time and with fewer appointments, it is easy to simply forget. Your life is returning to normal and you do not have the constant reminders. To help you remember, try the following:

- Use an alarm. Many cell phones, watches and computers have alarms. Program them to go off at the same time each day as a reminder to take your medicine.
- Connect it with a daily ritual. Take your medicine at the same time every day, such as while you are eating breakfast or after you brush your teeth. This will help it become part of your normal routine.
- Use a pill box. If you take other medicines, a pill box can help you organize and remember to take each of them when needed.

**Stay motivated.** Since your cancer treatment is over, you may feel healthy again. Cancer is almost a thing of the past. You do not feel sick, so it is hard to believe you need to take the medicine. You just want to be done with treatment and move on with your life. To find motivation, try the following:

- Know why you need to take this medicine. Talk with your health care team to understand how it helps you and why it is an important part of your cancer treatment.
- Join a support program. It can be helpful to talk with other people who are taking hormone therapy. This provides an opportunity to share ideas and tips with someone going through the same experience.
- Think of cancer as a chronic condition. Many people have chronic illnesses, such as diabetes, and take medicine for many years. Thinking of cancer the same way may be helpful.

**Get help with expenses.** Even with insurance, some hormone therapy medicines can cost a lot. Over time, this can cause a financial burden. For help, try the following:

- Talk with your doctor. Some medicines now have a generic version available. These are often less expensive.
- Ask about financial help. Many drug companies offer financial help to patients to pay for medicines.

Pharmacy Patient Resources can help you apply for financial assistance for medicines. Call 713-563-4965 or stop by one of the MD Anderson Pharmacy locations.

**Understand the risks.** Some hormone therapy medicines may increase your risk for rare but serious health problems. They may include blood clots, stroke, osteoporosis, heart disease or cancer of the uterus. The benefit of taking the medicine may not seem worth the risks. To manage the risks of hormone therapy medicine:

- Talk with your doctor or pharmacist. They can tell you about any risks based on your family and medical history.
- Keep all appointments and follow-up visits. If you are at increased risk of a health problem, your doctor may schedule regular tests or screenings to monitor the situation.

**Manage side effects.** Hormone therapy medicines may cause side effects which may affect your quality of life. For help with side effects, try the following:

- Keep a diary or journal of your side effects and how you feel. Be specific. Include notes on how bad the side effect was and the time of day it occurred. Also note what made it better or worse. This may help you and your health care team better manage your side effects.
- Call your health care team. Many side effects can be managed. If a side effect is bothering you, **do not** wait for your next appointment. Call for help before you get to the point that you want to stop taking your medicine.
- Use the information in this guide to help you manage side effects. The most common side effects of hormone therapy are described with tips on how to manage them.

# Resources

For more information on hormone therapy and possible side effects, talk with your health care team. The following resources may be helpful.

## **MD Anderson Resources**

### **The Learning Center**

[www.MDAnderson.org/TLC](http://www.MDAnderson.org/TLC)

This patient education library provides current and reliable information on cancer prevention, treatment, coping and general health. The Learning Center is located in the:

- Mays Clinic, Floor 2, near Elevator T  
713-563-8010
- Main Building, Floor 4, Elevator A  
713-745-8063

### **Integrative Medicine Center**

713-794-4700

[www.MDAnderson.org/Wellness](http://www.MDAnderson.org/Wellness)

Anyone touched by cancer may enhance their quality of life through comprehensive approaches that focus on the mind, body and spirit. One-on-one consultations are available, in addition to group programs and classes.

- Mays Clinic, Floor 2, near Elevator T

## **Other Resources**

### **American Cancer Society**

800-227-2345

[www.Cancer.org](http://www.Cancer.org)

The American Cancer Society (ACS) is a national voluntary health organization with local offices around the country. The ACS supports research, provides information about cancer, and offers many programs and services to patients and their families.

### **BreastCancer.org**

[www.BreastCancer.org/](http://www.BreastCancer.org/)

This site provides information about symptoms, diagnosis, treatment, side effects, day-to-day matters and lowering risk. In addition to recent news items, it offers a community knowledge exchange and chat rooms. Both a consumer and a professional advisory board guide it.

### **National Cancer Institute**

800-427-6237

[www.Cancer.gov](http://www.Cancer.gov)

For more information about breast cancer and hormone therapy, call the National Cancer Institute's Cancer Information Service. A trained cancer information specialist will answer your questions.

### **Prostate Cancer Foundation**

[www.PCF.org](http://www.PCF.org)

The Prostate Cancer Foundation funds research and provides news, educational materials and supportive stories. You can sign up to receive a monthly newsletter.









