

LATE SIDE EFFECT	DESCRIPTION	WAYS TO MANAGE
Bone Loss	<ul style="list-style-type: none"> • Chemotherapy, steroid medicines, hormonal therapy, or radiation therapy may cause thinning of the bones. • With radiation therapy, bone loss will occur only in the part of the body that was treated. 	<p>After cancer treatment, you should have regular check-ups. During these visits, your doctor or nurse will do a physical exam and may order tests to check for bone loss. You can help lower your risk of bone loss by:</p> <ul style="list-style-type: none"> • Not smoking or using other tobacco products • Eating foods that are rich in calcium and vitamin D • Walking, jogging, or doing other weight-bearing exercise • Limiting how much alcohol you drink • If you had radiation to the head and neck, also see Mouth Changes for tips on managing bone loss in your jaw.
Brain Changes	<p>Some chemotherapy drugs and radiation therapy to the brain can cause problems months or years after treatment ends. Late effects may include:</p> <ul style="list-style-type: none"> • Memory loss • Problems doing math • Problems concentrating • Slow processing of information • Personality changes • Movement problems <p>Radiation to the brain can cause radiation necrosis. This problem may happen when an area of dead tissue forms at the site of the brain tumor. Radiation necrosis can cause movement problems, problems concentrating, slow processing of information, and headaches.</p>	<p>After cancer treatment, you should have regular check-ups. If you have symptoms of brain changes, you will have tests to see whether they are due to the cancer or are late side effects of your treatment. If you have late side effects, your doctor or nurse:</p> <ul style="list-style-type: none"> • Will talk with you about ways to manage late side effects • May refer you to a physical, occupational, or speech therapist who can help with problems caused by late side effects • May prescribe medicine or suggest surgery to help with the symptoms

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Eye Problems	<p>Chemotherapy, hormone therapy, immunotherapy, and steroid medicines may increase the risk of cataracts. Cataracts are a problem in which the lens of your eye becomes cloudy. Cataracts can cause:</p> <ul style="list-style-type: none"> • Blurred, cloudy, or double vision • Sensitivity to light • Trouble seeing at night <p>Some chemotherapy drugs can cause dry eye syndrome. This is a problem in which your eyes do not produce enough tears.</p> <ul style="list-style-type: none"> • Symptoms include feeling as if your eyes are dry or have something in them. 	<p>If you are at risk for cataracts, you should have regular visits with an ophthalmologist (a medical doctor who treats eye problems).</p> <ul style="list-style-type: none"> • If cataracts become serious, they can be treated with surgery. • In this type of surgery, an eye surgeon will remove the clouded lens and replace it with a plastic lens. You will usually have local anesthesia and be able to go home the same day. <p>If you develop dry eye syndrome, your doctor may prescribe regular treatment with eye drops or ointments.</p>
Hearing Loss	<ul style="list-style-type: none"> • Watch for signs of hearing loss. Let your doctor know right away if you notice changes in your hearing. • Treatment with certain chemotherapy drugs (in particular, cisplatin and high doses of carboplatin) and high doses of radiation to the brain can cause hearing loss. 	<ul style="list-style-type: none"> • See an audiologist. An audiologist is a professional trained in hearing disorders. • If you had a cancer treatment that can cause hearing loss, you should have at least one visit with an audiologist after you have finished treatment. • Depending on the type and dose of cancer treatment that you received, you may need to see an audiologist more often.

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Heart Problems	<p>Certain cancer drugs, chemotherapy, and radiation therapy to the chest may cause heart problems.</p> <p>Examples of drugs that tend to cause heart problems include:</p> <ul style="list-style-type: none"> • Trastuzumab • Doxorubicin • Daunorubicin (Cerubidine) • Epirubicin (Ellence) • Cyclophosphamide (Neosar) <p>Heart problems caused by cancer treatment may include:</p> <ul style="list-style-type: none"> • A weakening of the heart muscle, which is known as congestive heart failure. <ul style="list-style-type: none"> ○ It can cause shortness of breath, dizziness, and swollen hands or feet. • Coronary artery disease, which occurs when the small blood vessels that supply blood and oxygen to the heart become narrow. <ul style="list-style-type: none"> ○ It can cause chest pain or shortness of breath. ○ This problem is more common in those who had high doses of radiation therapy to the chest. 	<p>After cancer treatment, you should have regular check-ups. If you have heart problems, your doctor or nurse might suggest that you:</p> <p>Eat a heart-healthy diet: A heart-healthy diet includes a variety of fruits, vegetables, and whole grains. It also includes lean meats, poultry, fish, beans, and fat-free or low-fat milk or milk products. Your doctor will probably recommend that you follow a diet low in salt, because salt can cause extra fluid to build up in your body, making heart problems worse. <i>The American Heart Association</i> has many tips for heart-healthy eating.</p> <p>Watch fluid intake: Drinking too much fluid can worsen heart problems, so it's important for people who have heart failure to drink the correct amounts and types of fluid. Talk with your doctor about what amounts and types of fluid you should have each day. Let your doctor know right away if you have sudden weight gain. This could mean extra fluid is building up. Also, if you have heart failure, you shouldn't drink alcohol.</p> <p>Lose weight if you're overweight or obese: Carrying extra weight can put added strain on your heart. Work with your health care team to lose weight safely.</p> <p>Exercise: The right type and amount of exercise can help keep you and your heart healthy. Talk with your doctor about which activities you can safely do. Exercise can help you become more fit and stay as active as possible.</p> <p>Quit smoking and avoid using illegal drugs: Talk with your doctor about programs and products that can help you quit smoking. Also, try to avoid secondhand smoke. Smoking and drugs can make heart failure worse and harm your health.</p> <p>Get enough rest: <i>See Sleep Problems above under SIDE EFFECT AND POSSIBLE CAUSE.</i></p> <p>Take medicines prescribed by your doctor: Your doctor may prescribe medicines based on the type of heart problem you have, how severe it is, and your response to certain medicines.</p>

LATE SIDE EFFECT	DESCRIPTION	NON-DRUG TREATMENT FOR HOT FLASHES AND NIGHT SWEATS IN PATIENTS WITH CANCER	DRUG TREATMENT FOR HOT FLASHES AND NIGHT SWEATS IN PATIENTS WITH CANCER
<p>Hot Flashes and Night Sweats</p>	<p>In patients with cancer, hot flashes and night sweats may be caused by the tumor, its treatment, or other conditions.</p> <p>Sweating happens with disease conditions such as fever and may occur without disease in warm climates, during exercise, and during hot flashes in menopause.</p> <p>Sweating helps balance body temperature by allowing heat to evaporate through the skin.</p> <p>Hot flashes and night sweats are common in patients with cancer and in cancer survivors. They are more common in women but can also occur in men.</p> <p>Many patients treated for breast cancer and prostate cancer have hot flashes.</p> <p>Menopause in women can have natural, surgical, or chemical causes.</p> <p>Chemical menopause in women with cancer is caused by certain types of chemotherapy, radiation, or hormone therapy with androgen (a male hormone).</p>	<p>Treatments that help patients cope with stress and anxiety may help manage hot flashes.</p> <p>Treatments that change how patients deal with stress, anxiety, and negative emotions may help manage hot flashes. These are called psychological interventions. Psychological interventions help patients gain a sense of control and develop coping skills to manage symptoms. Staying calm and managing stress may lower levels of a hormone called serotonin that can trigger hot flashes.</p> <p>Psychological interventions may help hot flashes and related problems when used together with drug treatment.</p> <p>Hypnosis may help relieve hot flashes.</p> <p>Hypnosis is a trance-like state that allows a person to be more aware, focused, and open to suggestion. Under hypnosis, the person can concentrate more clearly on a specific thought, feeling, or sensation without becoming distracted.</p> <p>In hypnosis, a therapist helps the patient to deeply relax and focus on cooling thoughts. This may lower stress levels, balance body temperature, and calm the heart rate and breathing rate.</p> <p>Comfort measures may help relieve night sweats related to cancer.</p> <p>Comfort measures may be used to treat night sweats related to cancer. Since body temperature goes up before a hot flash, doing the following may control body</p>	<p>Hot flashes may be controlled with estrogen replacement therapy.</p> <p>Hot flashes during natural or treatment-related menopause can be controlled with estrogen replacement therapy. However, many women are not able to take estrogen replacement (for example, women who have or had breast cancer). Hormone replacement therapy that combines estrogen with progestin may increase the risk of breast cancer or breast cancer recurrence.</p> <p>Other drugs may be useful in some patients.</p> <p>Studies of non-estrogen drugs to treat hot flashes in women with a history of breast cancer have reported that many of them do not work as well as estrogen replacement or have side effects. Megestrol (a drug like progesterone), certain antidepressants, anticonvulsants, and clonidine (a drug used to treat high blood pressure) are non-estrogen drugs used to control hot flashes. Some antidepressants may change how other drugs, work in the body.</p>

<p>Hot Flashes and Night Sweats <i>Continued</i></p>	<p>Treatment for breast cancer and prostate cancer can cause menopause or menopause-like effects, including severe hot flashes.</p> <p>Certain types of drugs can cause night sweats. Drugs that may cause night sweats include the following:</p> <ul style="list-style-type: none"> • Tamoxifen. • Aromatase inhibitors. • Opioids. • Tricyclic antidepressants • Steroids. 	<p>temperature and help control symptoms:</p> <ul style="list-style-type: none"> • Wear loose-fitting clothes made of cotton. • Use fans and open windows to keep air moving. • Practice relaxation training and slow, deep breathing. <p>Herbs and dietary supplements should be used with caution.</p> <p>Most studies of soy and black cohosh show they are no better than a placebo in reducing hot flashes. <i>Soy contains estrogen-like substances; the effect of soy on the risk of breast cancer growth or recurrence is not clear.</i> Studies of ground flaxseed to treat hot flashes have shown mixed results. Claims are made about several other plant-based and natural products as remedies for hot flashes. These include dong quai, milk thistle, red clover, licorice root extract, and chaste tree berry. Since little is known about how these products work or whether they affect the risk of breast cancer, women should be cautious about using them.</p> <p>Acupuncture has been studied in the treatment of hot flashes.</p> <p>Pilot studies of acupuncture and randomized clinical trials that compare true acupuncture and sham (inactive) treatment have been done in patients with hot flashes and results are mixed. A review of many studies combined showed that acupuncture had slight or no effects in breast cancer patients with hot flashes. (See the Vasomotor symptoms section in the PDQ health professional summary on Acupuncture for more information.)</p>	<p>Side effects of drug therapy may include the following:</p> <ul style="list-style-type: none"> • Antidepressants used to treat hot flashes over a short period of time may cause nausea, drowsiness, dry mouth, and changes in appetite. • Anticonvulsants used to treat hot flashes may cause drowsiness, dizziness, and trouble concentrating. • Clonidine may cause dry mouth, drowsiness, constipation, and insomnia. <p>Patients may respond in different ways to drug therapy. It is important that the patient's health care providers know about all medicines, dietary supplements, and herbs the patient is taking.</p> <p>If one medicine does not improve symptoms, switching to another medicine may help.</p>
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Joint Changes	<ul style="list-style-type: none"> • Radiation therapy, some chemotherapy drugs, and steroids can cause scar tissue, weakness, and bone loss. • These problems can lead to loss of motion in joints, such as your jaw, shoulders, hips, or knees. • If you receive radiation therapy, these problems will occur only in the part of the body that was treated. 	<p>It is important to be aware of early signs of joint problems so these can be addressed before they worsen. These signs include:</p> <ul style="list-style-type: none"> • Trouble opening your mouth wide • Pain when you make certain movements, such as reaching over your head or putting your hand in a back pocket <p>Talk with your doctor or nurse. He or she may refer you to a physical therapist, which will assess your joint problems and give you exercises to do.</p> <p>Physical therapy exercises can decrease pain, increase strength, and improve movement.</p>
Lung Problems	<ul style="list-style-type: none"> • Chemotherapy and radiation therapy to the chest may damage the lungs. • Cancer survivors who received both chemotherapy and radiation therapy to the chest may have a higher risk of lung damage. • Lung damage can cause shortness of breath, wheezing, fever, dry cough, congestion, and feeling tired. • Tell your doctor if you have any of these symptoms. 	<p>Oxygen therapy: If you have serious trouble breathing, your doctor may prescribe oxygen therapy. Oxygen is most often given through nasal prongs or a mask that fits over your mouth and nose. In some cases, you might receive oxygen through a ventilator.</p> <p>Lose weight if you're overweight or obese: Excess weight can make it hard to breathe. Work with your doctor and health care team to lose weight safely.</p> <p>Exercise: Talk with your doctor about which activities you can safely do. Exercise can help you become more fit and stay as active as possible.</p> <p>Quit smoking and avoid using illegal drugs: Talk with your doctor about programs and products that can help you quit smoking. Also, try to avoid secondhand smoke. Smoking and drugs can worsen lung problems and harm your health. For help to quit smoking, visit Smokefree.gov or call toll-free, 1-800-QUIT-NOW (1-800-784-8669).</p> <p>Take medicines prescribed by your doctor: Your doctor can prescribe medicines to help you relax when it is hard to breathe, relieve discomfort, and treat pain.</p> <p>Some people with lung problems take steroid pills. Steroids can interfere with the way the body uses specific nutrients, including calcium, potassium, sodium, protein, and vitamins C and D. If you take steroid pills for lung problems, it is very important to eat a balanced diet. A healthy diet that includes foods from each food group can make up for some of the effects of steroid therapy.</p>

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Mouth Changes	<ul style="list-style-type: none"> • Radiation therapy to your head or neck and some chemotherapy drugs can cause late side effects in your mouth. • Problems may include dry mouth, cavities, or bone loss in the jaw. 	<p>Visit your dentist You may be asked to have your teeth checked every 1 to 2 months for at least 6 months after radiation treatment ends. During this time, your dentist will look for changes in your mouth, teeth, and jaw.</p> <p>Exercise your jaw Your doctor or nurse may suggest that you open and close your mouth 20 times as far as you can without causing pain, three times a day, even if your jaw isn't stiff.</p> <p>Stimulate saliva Your doctor or nurse may suggest that you drink 8 to 10 cups of liquid per day. Keep a water bottle handy so you can sip throughout the day. You may also find sucking on sugarless candy or chewing gum helpful.</p> <p>Take good care of your teeth and gums Floss and use a mouthwash with fluoride every day. Brush your teeth after meals and before you go to bed. Also, avoid mouthwashes that contain alcohol.</p> <p>Explore your treatment options Ask your dentist to contact your radiation oncologist before you have dental or gum surgery. There may be other treatment options besides surgery. Also, do not have teeth pulled from the part of your mouth that received radiation.</p>
Second Primary Cancer	<ul style="list-style-type: none"> • Cancer treatment can sometimes cause a new cancer many years after you have finished treatment. • When a new primary cancer occurs in a person with a history of cancer, it is known as a second primary cancer. • Second primary cancers do not occur very often, but they can happen. 	<ul style="list-style-type: none"> • Talk with your doctor about the types of second cancers you may be at risk for. • Have regular check-ups for the rest of your life to check for cancer—the one you were treated for and any new cancer that may occur. Your doctor can suggest tests you may need to look for a new cancer and how often you should have them. • Tell your doctor if you have any new symptoms or problems.