



# Treating Adrenal Cancer

## General treatment information

After the cancer is diagnosed, your doctor will discuss your treatment options with you. It is important to take time and think about all of the choices. In choosing a treatment plan, factors to consider include your overall physical health and the stage of the cancer. Sometimes it is a good idea to get a second opinion. A second opinion can provide more information and help you feel more confident about the treatment plan that is chosen. Another reason for people with adrenal cortical cancer to get a second opinion is that, because these cancers are so rare, only large cancer centers will have much experience in treating them.

The main types of treatment for adrenal cancer are:

- [Surgery](#)
- [Radiation](#)
- [Chemotherapy](#)
- [Other drugs](#)

Depending on the [type](#) and [stage](#) of your cancer, you may need more than one type of treatment. Doctors on your cancer treatment team might include:

- A surgeon: a doctor who uses surgery to treat cancers or other problems
- An endocrinologist: a doctor who treats diseases in glands that secrete hormones
- A radiation oncologist: a doctor who uses radiation to treat cancer
- A medical oncologist: a doctor who uses chemotherapy and other medicines to treat cancer

Many other specialists may be involved in your care as well, including nurse practitioners, nurses, psychologists, social workers, rehabilitation specialists, and other health professionals. The next few sections describe the types of treatment used for adrenal cancers. This is followed by [a discussion of when these treatments are used in](#)

[different situations.](#)

It is important to discuss all of your treatment options, including their goals and possible side effects, with your doctors to help make the decision that best fits your needs. It's also very important to ask questions if there is anything you're not sure about. You can find some good questions to ask in the section, "[What should you ask your doctor about adrenal cancer?](#)"

## **Thinking about taking part in a clinical trial**

Clinical trials are carefully controlled research studies that are done to get a closer look at promising new treatments or procedures. Clinical trials are one way to get state-of-the-art cancer treatment. In some cases they may be the only way to get access to newer treatments. They are also the best way for doctors to learn better methods to treat cancer. Still, they are not right for everyone.

If you would like to learn more about clinical trials that might be right for you, start by asking your doctor if your clinic or hospital conducts clinical trials. You can also call our clinical trials matching service at 1-800-303-5691 for a list of studies that meet your medical needs, or see "[Clinical Trials](#)" to learn more.

## **Considering complementary and alternative methods**

You may hear about alternative or complementary methods that your doctor hasn't mentioned to treat your cancer or relieve symptoms. These methods can include vitamins, herbs, and special diets, or other methods such as acupuncture or massage, to name a few.

Complementary methods refer to treatments that are used along with your regular medical care. Alternative treatments are used instead of a doctor's medical treatment. Although some of these methods might be helpful in relieving symptoms or helping you feel better, many have not been proven to work. Some might even be dangerous.

Be sure to talk to your cancer care team about any method you are thinking about using. They can help you learn what is known (or not known) about the method, which can help you make an informed decision. See "[Complementary and Alternative Medicine](#)" to learn more.

## **Help getting through cancer treatment**

Your cancer care team will be your first source of information and support, but there are other resources for help when you need it. Hospital- or clinic-based support services are an important part of your care. These might include nursing or social work services, financial aid, nutritional advice, rehab, or spiritual help.

The American Cancer Society also [has programs and services](#) – including rides to treatment, lodging, support groups, and more – to help you get through treatment. Call our National Cancer Information Center at 1-800-227-2345 and speak with one of our trained specialists on call 24 hours a day, every day.

*The treatment information given here is not official policy of the American Cancer Society and is not intended as medical advice to replace the expertise and judgment of your cancer care team. It is intended to help you and your family make informed decisions, together with your doctor. Your doctor may have reasons for suggesting a treatment plan different from these general treatment options. Don't hesitate to ask him or her questions about your treatment options.*

- [References](#)

[See all references for Adrenal Cancer](#)

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## Surgery for Adrenal Cancer

The main treatment for adrenal cancer is removal of the adrenal gland, which is called an **adrenalectomy**. The surgeon will try to remove as much of the cancer as possible, including any areas of cancer spread. If nearby lymph nodes are enlarged, they will need to be removed and checked for cancer spread.

One way to remove the adrenal gland is through an incision in the back, just below the ribs. This works well for small tumors, but it can be hard to see larger tumors well.

To remove most adrenal cancers, the surgeon makes the incision through the front of the abdomen. This lets the surgeon see the tumor more clearly and makes it easier to see if it has spread. It also gives the surgeon room to remove a large cancer that has spread (locally) to tissues and organs near the adrenal gland. For example, if the cancer

has grown into the kidney, all or part of the kidney must also be removed. If it has grown into the muscle and fat around the adrenal gland, these tissues will need to be removed as well.

Sometimes, the cancer has grown into the inferior vena cava, the large vein that carries blood from the lower body to the heart. Removing these cancers completely requires a very extensive operation to remove the tumor and preserve the vein. To remove the tumor from the vein, the surgeon may need to bypass the body's circulation by putting the patient on a heart-lung bypass pump like that used in heart surgery. If the cancer has grown into the liver, the part of the liver containing the cancer may need to be removed as well.

It is also possible to remove small adrenal tumors through a hollow lighted tube called a **laparoscope**. The laparoscope is a thin tube with a tiny video camera on the end that is inserted through a small surgical opening in the patient's side. Other instruments inserted through this tube or through other very small incisions are used to remove the adrenal gland. The main advantage of this method is that because the incisions are smaller, patients recover from surgery more quickly.

Although laparoscopic surgery is often used to treat adenomas, it often is not an option for treating larger adrenal cancers. That is because it is important to remove the tumor in one piece. To remove a large tumor with a laparoscope, the surgeon might have to break it up into small pieces first. Doing that raises the risk of the cancer spreading. Also, adrenal cancers that have grown into nearby tissues or lymph nodes can be hard to remove completely using laparoscopy.

For more about surgery, see *our section* [Cancer Surgery](#).

- [References](#)

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## Radiation Therapy for Adrenal Cancer

Radiation therapy uses high-energy radiation to kill cancer cells. **External beam radiation therapy** focuses radiation on the cancer from a machine outside the body. Treatments are often given once or twice a day, 5 days a week for several weeks. Each treatment lasts only a few minutes, and is similar to having a regular x-ray test. As with a diagnostic x-ray, the radiation passes through the skin and other tissues before it reaches the tumor. The actual radiation exposure time is very short, and most of the treatment time is spent precisely positioning the patient so that the radiation is aimed accurately at the cancer.

**Brachytherapy** (internal radiation therapy) uses small pellets of radioactive material placed next to or directly into the cancer, sometimes in thin plastic tubes. The tubes containing the pellets are left in place for a few days and then removed. The actual time is determined by the strength of the radioactive pellets and the size of the tumor. This type of radiation is not often used to treat adrenal cortical carcinoma.

Radiation therapy is not used often as the main initial treatment for adrenal cancer because the cancer cells are not easy to kill with x-rays. Radiation may be used after surgery to help keep the tumor from coming back. This is called **adjuvant therapy**. Radiation can also be used to treat areas of cancer spread, such as in the bones or brain.

Common [side effects](#) of radiation therapy include:

- Nausea and vomiting
- Diarrhea (if an area of the abdomen is treated)
- Skin changes in the area being treated, which can range from redness to blistering and peeling
- Hair loss in the area being treated
- Fatigue
- Low blood counts

More information can be found in our section on [Radiation Therapy](#).

- [References](#)

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# Chemotherapy for Adrenal Cancer

Chemotherapy (chemo) is systemic when drugs are given into a vein or by mouth (in pill form). These drugs enter the bloodstream and reach throughout the body, making this treatment useful for cancer that has spread (metastasized) to organs beyond the adrenal gland. Chemo does not work very well in adrenal cancer, so it is most often used for adrenal gland cancer that has become too widespread to be removed with surgery. Chemo does not cure adrenal cancer.

## Mitotane

The drug most often used for people with adrenal cancer is mitotane. Mitotane blocks hormone production by the adrenal gland and also destroys both adrenal cancer cells and healthy adrenal tissue. This drug can suppress the usual adrenal steroid hormone production from your other, normal adrenal gland. This can lead to low levels of cortisol and other hormones, which can make you feel weak and sick. If this occurs, you will need to take steroid hormone pills to bring your hormone levels up to normal. Mitotane can also alter levels of other hormones, such as thyroid hormone or testosterone. If that occurs, you would need drugs to replace these hormones as well.

Sometimes mitotane is given for a period of time after surgery has removed all the (visible) cancer. This is called adjuvant therapy and is meant to kill any cells that were left behind, but were too small to see. Giving the drug this way may prevent or delay the return of the cancer.

If the cancer has not been completely removed by surgery or has come back, mitotane will shrink the cancer in some patients. On average, the response lasts about one year, but can be longer for some patients.

Mitotane is particularly helpful for people with adrenal cancers who have problems caused by excessive hormone production. Even when it doesn't shrink the tumor, mitotane can reduce abnormal hormone production and relieve symptoms. About 80% of patients with excess hormone production are helped by mitotane. This drug can cause [major side effects](#), however. The most common are nausea, vomiting, diarrhea, rashes, confusion, and sleepiness. Sometimes lower doses of the drug can still be effective and cause fewer side effects. This drug is a pill and is taken 3 to 4 times a day. Like other types of chemo, treatment with mitotane needs to be supervised closely by a doctor.

## Other chemo drugs used for adrenal cancer

Other chemo drugs are sometimes combined with mitotane to treat advanced adrenal cancer. The drugs used most often are:

- The combination of cisplatin, doxorubicin (Adriamycin<sup>®</sup>), and etoposide (VP-16) plus mitotane
- Streptozocin plus mitotane

Some other chemo drugs are used less often, such as:

- Paclitaxel (Taxol<sup>®</sup>)
- 5-fluorouracil (5-FU)
- Vincristine (Oncovin<sup>®</sup>)

These drugs may be given in different combinations and are often given with mitotane.

Chemotherapy drugs kill cancer cells but also damage some normal cells, which can cause some side effects. Careful attention must be given to avoid or minimize chemo side effects. Side effects from chemo depend on the type of drugs, the amount taken, and the length of treatment. Common side effects might include:

- Nausea and vomiting
- Loss of appetite
- Loss of hair
- Hand and foot rashes
- Mouth sores
- Low blood counts

Because chemotherapy can damage the blood-producing cells of the bone marrow, patients may have low blood cell counts. This can lead to:

- Increased risk of infection (due to a shortage of white blood cells)
- Bleeding or bruising after minor cuts or injuries (due to a shortage of blood platelets)
- Anemia (due to low red blood cell counts)

**Most side effects disappear once treatment is stopped.** Hair will grow back after treatment ends, though it might look different. There are good treatments for many of the side effects of chemotherapy. For example, very good drugs are available to prevent or reduce nausea and vomiting.

Some chemo side effects can last a long time or even be permanent. For example, doxorubicin can damage the heart muscle over time. Your health care team will watch the dose of this drug closely, to make sure that the dose isn't high enough to cause this

damage. Cisplatin and paclitaxel can both cause nerve damage (called *neuropathy*), leading to painful tingling and numbness in the hands and feet. This tends to get better after chemo stops, but it might not go away completely.

More information about chemotherapy can be found in the [Chemotherapy](#) section.

- [References](#)

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## Other Drugs Used to Treat Adrenal Cancer

Drugs other than mitotane may be used to block hormone production by the cancer or lower the effects of the hormones. Treatment with some of these drugs may need to be supervised by an endocrinologist (hormone doctor) because they affect several hormone systems and might make it necessary to replace other hormones.

Ketoconazole and metyrapone can reduce adrenal steroid hormone production. This can help relieve symptoms caused by these hormones, but doesn't shrink the cancer.

Some drugs block the effects of the hormones made by the tumor. These include:

- Spironolactone (Aldactone<sup>®</sup>), which decreases effects of aldosterone
- Mifepristone (Korlym<sup>®</sup>), which decreases cortisol effects
- Tamoxifen, toremifene (Fareston<sup>®</sup>), and fulvestrant (Faslodex<sup>®</sup>) can block the effects of estrogen. These drugs are more often used to treat a certain type of breast cancer, but can be useful in some patients (often men) who have adrenal tumors that make estrogen.

- [References](#)

[See all references for Adrenal Cancer](#)



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# Treating Adrenal Cancer by Stage

## Stages I and II

[Surgery](#) is the main treatment for stage I and stage II adrenal cancer. The entire adrenal gland will be removed. Since a person has 2 adrenal glands, removal of the diseased one does not generally cause problems for the patient. If nearby lymph nodes are enlarged, they will be removed as well and checked to see if they contain cancer cells. Most surgeons do not remove these lymph nodes if their size is normal. In many cases, no further treatment may be necessary. If the tumor was not removed completely, treatment with [radiation](#) and/or mitotane may be given after surgery to help keep the cancer from coming back.

These treatments may also be given if the tumor has a higher chance of coming back later because it was large or appears to be growing fast (when looked at under the microscope). When treatment is given after surgery has removed all visible cancer, it is called *adjuvant therapy*. The goal of adjuvant therapy is to kill any cancer cells that may have been left behind but are too small to be seen. Killing these cells lowers the chance of the cancer coming back later.

## Stage III

[Surgery](#) is also the main treatment for stage III adrenal cancer. The goal of surgery is to remove all of the cancer. The adrenal gland with the tumor is always removed, and the surgeon might also need to remove some tissue around the adrenal gland, including part (or all) of the nearby kidney and part of the liver. The lymph nodes near the adrenal gland will also be removed. After surgery, adjuvant treatment with [radiation](#) and/or mitotane may be given to help keep the cancer from coming back.

## Stage IV

If it is possible to remove all of the cancer, then [surgery](#) may be done. When the cancer

has spread to other parts of the body, it usually cannot be cured with surgery. Some doctors may still recommend surgery to remove as much of the tumor as possible. This type of surgery is called *debulking*. Removing most of the cancer may help reduce symptoms by lowering the production of hormones. [Radiation therapy](#) may also be used to treat any areas of cancer that are causing symptoms. For example, radiation can help people when cancer that has spread to the bones is causing pain. Mitotane therapy is also an option. Treatment may begin right away or it may be postponed until the cancer is causing symptoms. [Other chemotherapy \(chemo\) drugs](#) may also be used.

## Recurrent adrenal cancer

Cancer is called *recurrent* when it comes back after treatment. Recurrence can be local (in or near the same place it started) or distant (spread to organs such as the lungs or bone). Local recurrence may be treated with [surgery](#) to remove the cancer. This is more likely to be done if all of the cancer can be removed. Distant recurrence is treated like stage IV disease. Debulking surgery may be done to relieve symptoms. People with recurrent disease are often treated with mitotane. They may also receive chemo and/or [radiation therapy](#). If the mitotane doesn't work or cannot be tolerated, [other drugs](#) can be given to lower hormone production.

Most of the time, these treatments provide only temporary help because the tumor will eventually continue to grow. When this happens and these treatments are no longer helping, treatment aimed at providing as good a quality of life as possible may be the best choice. The best drugs to treat pain are morphine and other narcotic drugs. Many studies have shown that taking morphine as directed for pain does not mean a person will become addicted.

There are many other ways your doctor can help maintain your quality of life and control your symptoms. This means that you must tell your doctor how you are feeling and what symptoms you are having. Many patients don't like to disappoint their doctors by telling them they are not feeling well. This does no one any good.

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