



Treating Liver Cancer

After liver cancer is diagnosed and staged, your cancer care team will discuss your treatment options with you.

Which treatments are used for liver cancer?

In creating your treatment plan, important factors to consider include the stage (extent) of the cancer and the health of the rest of your liver. But you and your cancer care team will also want to take into account the possible side effects of treatment, your overall health, and the chances of curing the disease, extending life, or relieving symptoms. Based on these factors, your treatment options may include:

- [Surgery](#) (partial hepatectomy or liver transplant)
- [Tumor ablation](#)
- [Tumor embolization](#)
- [Radiation therapy](#)
- [Targeted therapy](#)
- [Immunotherapy](#)
- [Chemotherapy](#)

Which doctors treat liver cancer?

Depending on your situation, you may have different types of doctors on your treatment team. These doctors may include:

- A **surgeon**: a doctor who treats diseases with surgery.
- A **radiation oncologist**: a doctor who treats cancer with radiation therapy.
- A **medical oncologist**: a doctor who treats cancer with medicines such as chemotherapy.

- A **gastroenterologist**: a doctor who specializes in treating diseases of the digestive system, including the liver.

Many other health care professionals may be involved in your care as well, including physician assistants (PAs), nurse practitioners (NPs), nurses, nutrition specialists, social workers, and other health professionals.

Making treatment decisions

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. Some important things to consider include:

- Your age and expected life span
- Any other serious health conditions you have
- The [stage \(extent\) of your cancer](#)
- Whether or not surgery can remove (resect) the cancer
- The likelihood that treatment will cure the cancer (or help in some other way)
- Your feelings about the possible side effects from treatment

You may feel that you must make a decision quickly, but it's important to give yourself time to absorb the information you have just learned. It's also very important to ask questions if there is anything you're not sure about. See [What should you ask your health care team about liver cancer?](#) for ideas.

Getting a second opinion

If time allows, you may also want to get a [second opinion](#) from another doctor or medical team. This can give you more information and help you feel more certain about the treatment plan you choose. If you aren't sure where to go for a second opinion, ask your doctor for help.

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. Sometimes 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 might meet your medical needs, or see the [Clinical Trials](#) section of our website to learn more.

Considering complementary and alternative methods

You may hear about complementary or alternative 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.

As you consider your options, look for "red flags" that might suggest fraud. Does the method promise to cure all or most cancers? Are you told not to have regular medical treatments? Is the treatment a "secret" that requires you to visit certain providers or travel to another country?

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 the [Complementary and Alternative Medicine](#) section of our website to learn more.

Choosing to stop treatment or choosing no treatment at all

For some people, when treatments have been tried and are no longer controlling the cancer, it could be time to weigh the benefits and risks of continuing to try new treatments. Whether or not you continue treatment, there are still things you can do to help maintain or improve your quality of life. Learn more in [If Cancer Treatments Stop Working](#).

Some people, especially if the cancer is advanced, might not want to be treated at all. There are many reasons you might decide not to get cancer treatment, but it's important to talk this through with your doctors before you make this decision. Remember that even if you choose not to treat the cancer, you can still get help for pain or other symptoms.

Help getting through 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 next few sections describe the various types of treatments used for liver cancer. This is followed by a description of the [most common approaches used for these cancers based on their stage](#).

The treatment information in this document 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.

Liver Cancer Surgery

At this time, surgery, either with resection (removal of the tumor) or a liver transplant, offers the only reasonable chance to cure liver cancer. If all cancer in the liver is successfully removed, you will have the best outlook.

Partial hepatectomy

Surgery to remove part of the liver is called *partial hepatectomy*. This operation is considered for a single tumor that has not grown into blood vessels. It is only an option in patients with good liver function who are healthy enough for surgery. Unfortunately, most liver cancers cannot be completely removed. Often the cancer is in too many different parts of the liver, is too large, or has spread beyond the liver.

[Imaging tests](#), such as CT or MRI with angiography are done first to see if the cancer can be removed completely. Still, sometimes during surgery the cancer is found to be too large or spread too far to be removed, and the surgery has to be cancelled.

Most patients with liver cancer in the United States also have cirrhosis. In someone with severe cirrhosis, removing even a small amount of liver tissue at the edges of a cancer might not leave enough liver behind to perform essential functions.

People with cirrhosis are eligible for surgery only if the cancer is small and they still have a reasonable amount of liver function left. Doctors often assess this function by assigning a Child-Pugh score (see [Liver Cancer Stages](#)), which is a measure of cirrhosis based on certain lab tests and symptoms.

Patients in class A are most likely to have enough liver function to have surgery. Patients in class B are less likely to be able to have surgery. Surgery is not typically an option for patients in class C.

Possible risks and side effects: Liver resection is a major, serious operation that should only be done by skilled and experienced surgeons. Because people with liver cancer usually have other liver problems besides the cancer, surgeons have to remove enough of the liver to try to get all of the cancer, yet leave enough behind for the liver to function adequately.

A lot of blood passes through the liver, and bleeding after surgery is a major concern. On top of this, the liver normally makes substances that help the blood clot. Damage to the liver (both before the surgery and during the surgery itself) can add to potential bleeding problems.

Other possible problems are similar to those seen with other major surgeries and can include infections, complications from anesthesia, blood clots, and pneumonia.

Another concern is that because the remaining liver still has the underlying disease that led to the cancer, sometimes a new liver cancer can develop afterward.

Liver transplant

When it is available, a liver transplant may be the best option for some people with small liver cancers. Liver transplants can be an option for those with tumors that cannot be removed with surgery, either because of the location of the tumors or because the liver is too diseased for the patient to withstand removing part of it. In general, it is used to treat patients with small tumors (either 1 tumor smaller than 5 cm across or 2 to 3

tumors no larger than 3 cm) that have not invaded nearby blood vessels. It can also rarely be an option for patients with resectable cancers (cancers that can be removed completely).

According to the Organ Procurement and Transplantation Network, about 1,300 liver transplants were done in people with cancer in the liver in the United States in 2012, the last year for which numbers are available. In most cases, the patients had liver cancer but some had bile duct cancer.

With a transplant, not only is the risk of a second new liver cancer significantly reduced, but the new liver will function normally.

Unfortunately, the opportunities for liver transplants are limited. Only about 6,500 livers are available for transplant each year, and most of these are used for patients with diseases other than liver cancer. Increasing awareness about the importance of organ donation is an essential public health goal that could make this treatment available to more patients with liver cancer and other serious liver diseases.

Most livers used for transplants come from people who have just died. But some patients receive part of a liver from a living donor (usually a close relative) for transplant. The liver can regenerate some of its lost function over time if part of it is removed. Still, the surgery does carry some risks for the donor. About 350 living donor liver transplants are done in the United States each year. Only a small number of them are for patients with liver cancer.

People needing a transplant must wait until a liver is available, which can take too long for some people with liver cancer. In many cases a person may get other treatments, such as [embolization](#) or [ablation](#) (described in following sections), while waiting for a liver transplant. Or doctors may suggest surgery or other treatments first and then a transplant if the cancer comes back.

Possible risks and side effects: Like partial hepatectomy, a liver transplant is a major operation with serious risks (bleeding, infection, blood clots, complications from anesthesia, etc.). But there are some additional risks after this surgery.

People who get a liver transplant are given drugs to help suppress their immune systems to prevent their bodies from rejecting the new organ. These drugs have their own risks and side effects, especially the risk of getting serious [infections](#). By suppressing the immune system, these drugs might also allow any liver cancer that had spread outside of the liver to grow even faster than before. Some of the drugs used to prevent rejection can also cause high blood pressure, high cholesterol, and diabetes; can weaken the bones and kidneys; and can even lead to a [new cancer](#).

After a liver transplant, regular blood tests are done to check for signs of the body rejecting the new liver. Sometimes liver biopsies are also taken to see if rejection is occurring and if changes are needed in the anti-rejection medicines.

- [References](#)

[See all references for Liver Cancer](#)

Last Medical Review: March 31, 2016 Last Revised: April 28, 2016

American Cancer Society medical information is copyrighted material. For reprint requests, please see our [Content Usage Policy](#).

Tumor Ablation for Liver Cancer

[Ablation](#) is treatment that destroys liver tumors without removing them. These techniques are used in patients with a few small tumors and when surgery is not a good option (often because of poor health or reduced liver function). They are less likely to cure the cancer than surgery, but they can still be very helpful for some people. These treatments are also sometimes used in patients waiting for a liver transplant.

Ablation is best used for tumors no larger than about 3 cm across (a little over an inch). For slightly larger tumors (3 to 5 cm across), it may be used along with [embolization](#) (see next section). Because ablation often destroys some of the normal tissue around the tumor, it might not be a good choice for treating tumors near major blood vessels, the diaphragm, or major bile ducts.

People getting this type of treatment typically do not require a hospital stay. Often, ablation can be done without [surgery](#) by inserting a needle or probe into the tumor through the skin. The needle or probe is guided into place with ultrasound or CT scanning. Sometimes, though, to be sure the treatment is aimed at the right place, it may be done during surgery.

Radiofrequency ablation (RFA)

This procedure uses high-energy radio waves for treatment. The doctor inserts a thin, needle-like probe into the tumor. A high-frequency current is then passed through the tip of the probe, which heats the tumor and destroys the cancer cells. This is a common treatment method for small tumors.

Ethanol (alcohol) ablation

This is also known as *percutaneous ethanol injection (PEI)*. In this procedure, concentrated alcohol is injected directly into the tumor to kill cancer cells.

Microwave thermotherapy

In this procedure, microwaves transmitted through the probe are used to heat and destroy the abnormal tissue.

Cryosurgery (cryotherapy)

This procedure destroys a tumor by freezing it using a thin metal probe. The probe is guided into the tumor and then very cold gasses are passed through the probe to freeze the tumor, killing the cancer cells. This method may be used to treat larger tumors than the other ablation techniques, but it sometimes requires general anesthesia (where you are deeply asleep and not able to feel pain).

Side effects of ablation therapy

Possible side effects after ablation therapy include abdominal pain, infection in the liver, and bleeding into the chest cavity or abdomen. Serious complications are uncommon, but they are possible.

- [References](#)

[See all references for Liver Cancer](#)

Last Medical Review: March 31, 2016 Last Revised: April 28, 2016

American Cancer Society medical information is copyrighted material. For reprint requests, please see our [Content Usage Policy](#).

Embolization Therapy for Liver Cancer

Embolization is a procedure that injects substances to try to block or reduce the blood flow to cancer cells in the liver.

The liver is unusual in that it has 2 blood supplies. Most normal liver cells are fed by branches of the portal vein, whereas cancer cells in the liver are usually fed by branches of the hepatic artery. Blocking the branch of the hepatic artery feeding the tumor helps kill off the cancer cells, but it leaves most of the healthy liver cells unharmed because they get their blood supply from the portal vein.

Embolization is an option for some patients with tumors that cannot be removed by surgery. It can be used for tumors that are too large to be treated with ablation (usually larger than 5 cm across). It can also be used with ablation. Embolization does reduce some of the blood supply to the normal liver tissue, so it may not be a good option for some patients whose liver has been damaged by diseases such as hepatitis or cirrhosis.

People getting this type of treatment typically do not stay in the hospital.

It isn't yet clear which type of embolization has a better long-term outcome.

Arterial embolization

Arterial embolization is also known as *trans-arterial embolization* (or TAE). In this procedure a catheter (a thin, flexible tube) is put into an artery through a small cut in the inner thigh and threaded up into the hepatic artery in the liver. A dye is usually injected into the bloodstream at this time to help the doctor monitor the path of the catheter via angiography, a special type of x-ray. Once the catheter is in place, small particles are injected into the artery to plug it up.

Chemoembolization

This approach, also known as *trans-arterial chemoembolization* (or TACE) combines embolization with chemotherapy. Most often, this is done either by using tiny beads that give off a chemotherapy drug for the embolization. TACE can also be done by giving chemotherapy through the catheter directly into the artery, then plugging up the artery.

Radioembolization

This technique combines embolization with radiation therapy and is sometimes known as *trans-arterial radioembolization*.

In the United States, this is done by injecting small beads (called *microspheres*) that have a radioactive isotope (yttrium-90) stuck to them into the hepatic artery. Brand

names for these beads include TheraSphere[®] and SIR-Spheres[®]. Once infused, the beads lodge in the blood vessels near the tumor, where they give small amounts of radiation to the tumor site for several days. The radiation travels a very short distance, so its effects are limited mainly to the tumor.

Side effects of embolization

Possible complications after embolization include abdominal pain, fever, nausea, infection in the liver, gallbladder inflammation, and blood clots in the main blood vessels of the liver. Because healthy liver tissue can be affected, there is a risk that liver function will get worse after embolization. This risk is higher if a large branch of the hepatic artery is embolized. Serious complications are not common, but they are possible.

- [References](#)

[See all references for Liver Cancer](#)

Last Medical Review: March 31, 2016 Last Revised: April 28, 2016

American Cancer Society medical information is copyrighted material. For reprint requests, please see our [Content Usage Policy](#).

Radiation Therapy for Liver Cancer

Radiation therapy uses high-energy rays to kill cancer cells. There are different kinds of radiation therapy.

External beam radiation therapy

This type of radiation therapy focuses radiation delivered from outside the body on the cancer. This can sometimes be used to shrink liver tumors to relieve symptoms such as pain, but it is not used as often as other local treatments such as ablation or embolization. Although liver cancer cells are sensitive to radiation, this treatment can't be used at very high doses because normal liver tissue is also easily damaged by radiation.

Before your treatments start, the radiation team will take careful measurements to

determine the correct angles for aiming the radiation beams and the proper dose of radiation. Radiation therapy is much like getting an x-ray, but the radiation is stronger. The procedure itself is painless. Each treatment lasts only a few minutes, although the setup time – getting you into place for treatment – usually takes longer. Most often, radiation treatments are given 5 days a week for several weeks.

With newer radiation techniques such as 3-dimensional conformal radiation therapy (3D-CRT), doctors can better target liver tumors while reducing the radiation to nearby healthy tissues. This may make it more effective and reduce side effects.

Stereotactic body radiation therapy (SBRT) is a technique that allows treatment to be completed in a short-time. Radiation therapy usually means getting small doses of radiation 5 days a week for several weeks, SBRT uses very focused beams of high-dose radiation given on one or a few days. Beams are aimed at the tumor from many different angles. To target the radiation precisely, the person is put in a specially designed body frame for each treatment.

Radioembolization

As mentioned in [Embolization Therapy for Liver Cancer](#), tumors in the liver can be treated with radiation by injecting small radioactive beads into the hepatic artery. They lodge in the liver near tumors and give off small amounts of radiation that travel only a short distance.

Side effects of radiation therapy

Side effects of external radiation therapy can include:

- Skin changes, which range from redness (like a sunburn) to blistering and peeling where the radiation enters the body
- [Nausea and vomiting](#)
- [Fatigue](#)
- [Low blood counts](#)

These improve after treatment ends.

Side effects tend to be more severe if radiation and chemotherapy are given together.

Learn more about Radiation Therapy, visit our website.

- [References](#)

[See all references for Liver Cancer](#)

Last Medical Review: March 31, 2016 Last Revised: April 28, 2016

American Cancer Society medical information is copyrighted material. For reprint requests, please see our [Content Usage Policy](#).

Targeted Therapy for Liver Cancer

As researchers have learned more about the changes in cells that cause cancer, they have been able to develop newer drugs that specifically target these changes. Targeted drugs work differently from standard chemotherapy drugs (which are described in [Chemotherapy for Liver Cancer](#)). They often have different (and sometimes less severe) side effects.

Like chemotherapy, these drugs enter the bloodstream and reach all areas of the body, which makes them potentially useful against cancers that have spread to distant organs. Because standard chemotherapy has not been effective in most patients with liver cancer, doctors have been looking at targeted therapies more.

Sorafenib (Nexavar)

Sorafenib is a targeted drug that works in 2 ways. It helps block tumors from forming new blood vessels, which they need to grow. It also targets some of the proteins on cancer cells that normally help them grow.

Sorafenib is a pill that is taken twice daily. The most common side effects of this drug include fatigue, rash, loss of appetite, diarrhea, high blood pressure, and redness, pain, swelling, or blisters on the palms of the hands or soles of the feet.

Less common but more serious side effects can include problems with blood flow to the heart, and perforations (holes) in the stomach or intestines.

Regorafenib (Stivarga)

Regorafenib blocks several proteins that normally either help tumor cells grow or help form new blood vessels to feed the tumor. Blocking these proteins can help stop the growth of cancer cells.

This drug can be used to treat liver cancer if sorafenib is no longer helpful. It is taken as pills, typically once a day for 3 weeks, followed by a week off.

Common side effects can include fatigue, loss of appetite, hand-foot syndrome (redness and irritation of the hands and feet), high blood pressure, fever, infections, weight loss, diarrhea, and abdominal (belly) pain.

Less common but more serious side effects can include serious liver damage, severe bleeding, problems with blood flow to the heart, and perforations (holes) in the stomach or intestines.

More information about targeted therapy drugs can be found in [Targeted Cancer Therapy](#).

- [References](#)

[See all references for Liver Cancer](#)

Last Medical Review: March 31, 2016 Last Revised: April 27, 2017

American Cancer Society medical information is copyrighted material. For reprint requests, please see our [Content Usage Policy](#).

Immunotherapy for Liver Cancer

Immunotherapy is the use of medicines that help a person's own immune system find and destroy cancer cells. It can be used to treat some people with liver cancer.

Immune checkpoint inhibitors

An important part of the immune system is its ability to keep itself from attacking normal cells in the body. To do this, it uses “checkpoints” – molecules on immune cells that need to be turned on (or off) to start an immune response. Cancer cells sometimes use these checkpoints to avoid being attacked by the immune system. But newer drugs that target these checkpoints hold a lot of promise as cancer treatments.

Nivolumab (Opdivo) targets PD-1, a protein on immune system cells called T cells that normally helps keep these cells from attacking other cells in the body. By blocking PD-1,

this drug boosts the immune response against cancer cells. This can shrink some tumors or slow their growth.

This drug can be used in people with liver cancer who have previously been treated with the [targeted drug](#) sorafenib (Nexavar).

Nivolumab is given as an intravenous (IV) infusion, typically every 2 weeks.

Possible side effects

Side effects of this drug can include:

- Feeling tired or weak
- Fever
- Cough
- Nausea
- Itching
- Skin rash
- Loss of appetite
- Muscle or joint pain
- Constipation or diarrhea

Other, more serious side effects occur less often:

Infusion reactions: Some people might have an infusion reaction while getting this drug. This is like an allergic reaction, and can include fever, chills, flushing of the face, rash, itchy skin, feeling dizzy, wheezing, and trouble breathing. It's important to tell your doctor or nurse right away if you have any of these symptoms while getting this drug.

Autoimmune reactions: This drug works by basically removing the brakes on the body's immune system. Sometimes the immune system starts attacking other parts of the body, which can cause serious or even life-threatening problems in the lungs, intestines, liver, hormone-making glands, kidneys, skin, or other organs.

It's very important to report any new side effects to your health care team promptly. If serious side effects do occur, treatment may need to be stopped and you may get high doses of corticosteroids to suppress your immune system.

To learn more about how immunotherapy drugs are used to treat cancer, see [Cancer Immunotherapy](#).

To learn about some of the side effects listed here and how to manage them, see [Managing Cancer-related Side Effects](#).

- [References](#)

Last Medical Review: October 2, 2017 Last Revised: October 2, 2017

American Cancer Society medical information is copyrighted material. For reprint requests, please see our [Content Usage Policy](#).

Chemotherapy for Liver Cancer

Chemotherapy (chemo) is treatment with drugs to destroy cancer cells. Systemic (whole body) chemotherapy uses anti-cancer drugs that are injected into a vein or given by mouth. These drugs enter the bloodstream and reach all areas of the body, making this treatment potentially useful for cancers that have spread to distant organs.

Liver cancer resists most chemo drugs. The drugs that have been most effective as systemic chemo in liver cancer are doxorubicin (Adriamycin), 5-fluorouracil, and cisplatin. But even these drugs shrink only a small portion of tumors, and the responses often do not last long. Even with combinations of drugs, in most studies systemic chemo has not helped patients live longer.

Hepatic artery infusion

Because of the poor response to systemic chemo, doctors have studied putting chemo drugs directly into the hepatic artery to see if it might be more effective. This technique is known as *hepatic artery infusion (HAI)*. The chemo goes into the liver through the hepatic artery, but the healthy liver breaks down most of the drug before it can reach the rest of the body. This gets more chemo to the tumor than systemic chemo but doesn't increase side effects. The drugs most commonly used include floxuridine (FUDR), cisplatin, mitomycin C, and doxorubicin.

Early studies have found that HAI is often effective in shrinking tumors, but more research is still needed. This technique may not be useful in all patients because it often requires surgery to insert a catheter into the hepatic artery, an operation that many liver cancer patients may not be able to tolerate.

Side effects of chemotherapy

Chemo drugs attack cells that are dividing quickly, which is why they work against cancer cells. But other cells in the body, such as those in the bone marrow, the lining of the mouth and intestines, and the hair follicles, also divide quickly. These cells are also likely to be affected by chemo, which can lead to side effects.

The [side effects of chemo](#) depend on the type and dose of drugs given and the length of time they are taken. Common side effects include:

- Hair loss
- Mouth sores
- Loss of appetite
- Nausea and vomiting
- Diarrhea
- Increased chance of infections (from low white blood cell counts)
- Easy bruising or bleeding (from low blood platelet counts)
- Fatigue (from low red blood cell counts)

These side effects usually don't last long and go away after treatment is finished. There are often ways to lessen them. For example, drugs can be given to help prevent or reduce nausea and vomiting. Be sure to ask your doctor or nurse about drugs to help reduce side effects.

Along with the possible side effects in the list above, some drugs may have their own specific side effects. Ask your health care team what you can expect.

You should report any side effects you notice while getting chemotherapy to your medical team so that you can be treated promptly. In some cases, the doses of the chemotherapy drugs may need to be reduced or treatment may need to be delayed or stopped to prevent side effects from getting worse.

Learn more about chemotherapy, explore the [Chemotherapy section](#) of our website.

- [References](#)

[See all references for Liver Cancer](#)

Last Medical Review: March 31, 2016 Last Revised: April 28, 2016

American Cancer Society medical information is copyrighted material. For reprint requests, please see our [Content Usage Policy](#).

Treatment of Liver Cancer, by Stage

Although the AJCC (TNM) staging system (see [Liver Cancer Stages](#)) is often used to describe the spread of a liver cancer precisely, doctors use a more practical system to determine treatment options. Liver cancers are categorized as: potentially resectable or transplantable, unresectable, inoperable with only local disease, and advanced.

Potentially resectable or transplantable liver cancers (stage I and some stage II tumors)

Potentially resectable: If your cancer is early stage and the rest of your liver is healthy, [surgery](#) (partial hepatectomy) may cure you. Only a small number of people with liver cancer are in this category. An important factor affecting outcome is the size of the tumor(s) and if nearby blood vessels are affected. Larger tumors or those that invade blood vessels are more likely to come back in the liver or spread elsewhere after surgery. The function of the rest of the liver and your general health are also important. For some people with early-stage liver cancer, a liver transplant could be another option.

[Clinical trials](#) are now looking at whether patients who have a partial hepatectomy will be helped by getting other treatments in addition to surgery. Some studies have found that using [chemoembolization](#) or other treatments along with surgery may help some patients live longer. Still, not all studies have found this, and more research is needed to know the value (if any) of adding other treatments to surgery.

Potentially transplantable: If your cancer is at an early stage, but the rest of your liver isn't healthy, you may be able to be treated with a liver transplant. Liver transplant may also be an option if the tumor is in a part of the liver that makes it hard to remove (such as very close to a large blood vessel). Candidates for liver transplant might have to wait a long time for a liver to become available. While they are waiting, they are often given other treatments, such as [ablation](#) or [embolization](#), to keep the cancer in check.

Unresectable liver cancers (some T1 to T4, N0, M0 tumors)

Unresectable cancers include cancers that haven't yet spread to lymph nodes or distant sites, but can't be removed safely by partial hepatectomy. This might be because:

- The tumor is too large to be removed safely
- The tumor is in a part of the liver that makes it hard to remove (such as very close to a large blood vessel)
- There are several tumors or the cancer has spread throughout the liver

Treatment options include [ablation](#), [embolization](#), or both for the liver tumor(s). Other options may include [targeted therapy](#), [immunotherapy](#), [chemotherapy](#) (either systemic or by hepatic artery infusion), and/or [radiation therapy](#). In some cases, treatment may shrink the tumor(s) enough so that [surgery](#) (partial hepatectomy or transplant) may become possible.

These treatments won't cure the cancer, but they can reduce symptoms and may even help you live longer. Because these cancers can be hard to treat, clinical trials of newer treatments may offer a good option in many cases.

Inoperable liver cancers with only local disease

These cancers are small enough and in the right place to be removed but the patient isn't healthy enough for surgery. Treatment options include [ablation](#), [embolization](#), or both for the liver tumor(s). Other options may include [targeted therapy](#), [immunotherapy](#), [chemotherapy](#) (either systemic or by hepatic artery infusion), and/or [radiation therapy](#).

Advanced (metastatic) liver cancers (includes all N1 or M1 tumors)

Advanced liver cancer has spread either to the lymph nodes or to other organs. Because these cancers are widespread, they cannot be treated with surgery.

If your liver is functioning well enough (Child-Pugh class A or B), the [targeted therapy](#) drug sorafenib (Nexavar) may help control the growth of the cancer for a time and may help you live longer. If this drug is no longer working, the targeted drug regorafenib (Stivarga) or the [immunotherapy](#) drug nivolumab (Opdivo) might be helpful.

As with localized unresectable liver cancer, clinical trials of targeted therapies, new approaches to chemotherapy (new drugs and ways to deliver chemotherapy), new forms of radiation therapy, and other new treatments may help you. These [clinical trials](#) are also important for improving the outcome for future patients.

Treatments such as radiation might also be used to help relieve [pain](#) and other symptoms. Please be sure to discuss any symptoms you have with your cancer team, so they can treat them effectively.

Recurrent liver cancer

Cancer that comes back after treatment is called *recurrent*. Recurrence can be local (in or near the same place it started) or distant (spread to organs such as the lungs or bone). Treatment of liver cancer that returns after initial therapy depends on many factors, including where it comes back, the type of initial treatment, and how well the liver is functioning. Patients with localized resectable disease that recurs in the liver might be eligible for further [surgery](#) or local treatments like [ablation](#) or [embolization](#). If the cancer is widespread, [targeted therapy](#), [immunotherapy](#), or [chemotherapy](#) drugs may be options. Patients may also wish to ask their doctor whether a [clinical trial](#) may be right for them.

Treatment can also be given to [relieve pain and other side effects](#). Please be sure to discuss any symptoms you have with your cancer care team, so they may be treated effectively.

- [References](#)

[See all references for Liver Cancer](#)

Last Medical Review: March 31, 2016 Last Revised: October 3, 2017

American Cancer Society medical information is copyrighted material. For reprint requests, please see our [Content Usage Policy](#).

2016 Copyright American Cancer Society

For additional assistance please contact your American Cancer Society
1-800-227-2345 or www.cancer.org