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tumors we talk about here. We are talking about tumors that start in cells in the brain or

The brain and spinal cord are called the central nervous system (CNS). They serve as the main “processing center” for all of the nervous system.

The brain and spinal cord are surrounded and protected by a special liquid, called cerebrospinal fluid (CSF). The brain is also protected by the skull. The spinal cord is protected by the stack of spinal bones called vertebrae.

Different parts of the brain control different things, like the way we see, move, feel, or think. The spinal cord connects the brain to nerves all over the body to carry messages back and forth.

Are there different kinds of brain and spinal cord tumors?

There are many [kinds of brain and spinal cord tumors](#)¹. Your doctor can tell you more

very fast. Common symptoms are headaches and seizures. Others are blurry vision, feeling sick to your stomach, and changes in the way you feel or act. Of course, these symptoms can have other causes as well.

The doctor will ask you questions about your health and do a physical exam.

If your doctor thinks you might have a tumor, they may send you to a **neurologist** or a **neurosurgeon**. These are doctors who treat problems in the nervous system.

Tests that you might have

If signs are pointing to a brain or spinal cord tumor, [tests](#)³ will be done to find out. Here are some of the tests you may need:

MRI scan: This test uses radio waves and strong magnets to make detailed pictures of the inside of the body. MRI is the best for the nervous system.

What do I need to do next?

Surgery

[Surgery](#)⁴ is the first treatment for most people. Surgery may be used to:

- Get a biopsy sample
- Take out the tumor
- Make the tumor smaller so it can be better treated with radiation or chemo
- Help prevent or treat problems from the tumor (like putting in a tube to drain fluid from around the brain)

There are many kinds of surgery. The type used depends on where the tumor is and how big it is. Radiation may be used with surgery to try to cure the tumor or help keep it from growing.

Ask your doctor what type of surgery you will need. Every type has pros and cons.

Side effects of surgery

Any type of surgery can have risks and side effects, like bleeding or infections. Ask the doctor what you can expect. If you have problems, let your doctors know. Doctors who treat people with brain and spinal cord tumors should be able to help you with any problems that come up.

Radiation treatments

[Radiation](#)⁵ uses high-energy rays (like x-rays) to kill cancer cells. It may be used:

- After surgery to kill any tumor cells left behind
- As the main treatment if surgery can't be done
- To help ease or prevent problems from the tumor

There are different ways to give radiation treatments.

Radiation is usually aimed at the tumor from a machine outside the body. This is called external beam radiation. The radiation may be given all at once or in smaller doses given over a few days or weeks.

Radiation can also be given by putting tiny seeds of radiation into or near the tumor. This is called brachytherapy . This kind of radiation is most often given along with external beam radiation.

Side effects of radiation treatments

If your doctor suggests radiation treatment, talk about what side effects might happen. Radiation might cause some people to feel tired, or feel sick and throw up. If large parts of the brain are treated, radiation can change how the brain works.

Most side effects get better after treatment ends. Some might last longer. Talk to your cancer care team about what you can expect during and after treatment. There may be ways to ease side effects.

Chemo

[Chemo](#)⁶ is the short word for chemotherapy, the use of drugs to fight cancer. The drugs are often given through a needle into a vein or taken as a pill. These drugs go into the blood and spread through the body.

Chemo can also be put right into the CSF or right into the brain during surgery. Ask your doctor how you will get chemo.

Chemo is often given in cycles or rounds. Each round of treatment is followed by a break. Sometimes more than one chemo drug might be given. Treatment often lasts for many months.

Side effects of chemo

Chemo might make you feel very tired, sick to your stomach, and cause your hair to fall out. But these problems go away after treatment ends.

There are ways to treat most chemo side effects. If you have side effects, talk to your cancer care team so they can help.

Targeted drugs

[Targeted drugs](#)⁷ are made to work mostly on the changes in cells that make them cancer. These drugs affect mainly tumor cells and not normal cells in the body. They may work even if other treatment doesn't. They may be given alone or along with chemo to treat certain types of brain and spinal cord tumors.

Side effects of targeted drugs

Side effects depend on which drug is used. These effects usually go away after

treatment ends.

There are ways to treat most of the side effects caused by targeted drugs. If you have [side effects](#)⁸, talk to your cancer care team so they can help.

Other drugs

Some [other drugs](#)⁹ don't treat tumors directly, but they can still be helpful. For example:

- **Steroid drugs** can help reduce swelling in the brain.
- **Anti-seizure drugs** can help lower the risk of seizures.
- **Hormones** might be needed if the tumor or its treatment damages the pituitary gland, which sits just under the brain.

Electric field therapy

For some types of brain tumors, [sets of electrodes](#)¹⁰ can be placed on the scalp for most of the day. They make mild electric currents that seem to slow the growth of some tumor cells. They can be used along with or instead of chemo. Side effects tend to be mild.

Clinical trials

Clinical trials are research studies that test new drugs or other treatments in people. They compare standard treatments with others that may be better.

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. See [Clinical Trials](#)¹¹ to learn more.

Clinical trials are one way to get the newest treatments. They are the best way for doctors to find better ways to treat tumors. But they might not be right for everyone. If your doctor can find a clinical trial that's studying the kind of tumor you have, it's up to you whether to take part. And if you do sign up for a clinical trial, you can always stop at any time.

symptoms. These may not always be standard medical treatments. These treatments may be vitamins, herbs, diets, and other things. You may wonder about these treatments.

Some of these are known to help, but many have not been tested. Some have been shown not to help. A few have even been found to be harmful. Talk to your doctor about anything you're thinking about using, whether it's a vitamin, an herb, a diet, or anything else.

Questions to ask the doctor

- What treatment do you think is best for me?
- What's the goal of this treatment? Do you think it could cure the tumor?
- Will treatment include surgery? If so, who will do the surgery?
- What will the surgery be like?
- Will I need other types of treatment, too?
- What will these treatments be like?
- What's the goal of these treatments?
- What side effects could I have from these treatments?
- What can I do about side effects that I might have?
- Is there a clinical trial that might be right for me?
- What about vitamins or diets that friends tell me about? How will I know if they are safe?
- How soon do I need to start treatment?
- What should I do to be ready for treatment?
- Is there anything I can do to help the treatment work better?
- What's the next step?

What will happen after treatment?

Some tumors can be removed (or destroyed) completely, but others might not be. Even if it's gone, it can be hard not to worry about it coming back. Whether the tumor is gone or you are still getting treatment, you will still need to see your doctor.

Be sure to go to all of these follow-up visits. Your doctors will ask about symptoms, do physical exams, and may do tests to see if the tumor has grown or come back. They will also test you to see if treatment has damaged your brain. If needed, they will help you learn to deal with the changes.

12. www.cancer.org/cancer/managing-cancer/treatment-types/complementary-and-integrative-medicine/complementary-and-alternative-methods-and-cancer.html
13. www.cancer.org

Words to know

Biopsy (BY-op-see): Taking out a small piece of tissue to see if there are cancer cells in it.

Central nervous system: The brain and the spinal cord, which serve as the main “processing center” for all of the nervous system. Often called the CNS.

Cerebrospinal fluid (suh-**REE**-bro-SPY-nuhl FLEW-id): The clear liquid that surrounds and cushions the brain and spinal cord. Often called CSF.

Debulking: Removing as much of the tumor as is safely possible. For tumors that can't be removed completely, this might be done to help with symptoms or to help other treatments like radiation or chemo work better.

Grade: A number given to a tumor based on how quickly a tumor is likely to grow and spread into nearby normal tissue, and on how the tumor cells look. Brain and spinal cord tumors are given a grade from I (1) to IV(4), with grade IV tumors tending to grow and spread the fastest.

Malignant (mah-LIG-nent): A tumor that grows quickly and often grows into nearby normal tissues.

Neurologist (nur-AHL-uh-jist): A doctor who specializes in treating nervous system problems or diseases.

Neurosurgeon(**NUR**-o-SUR-jun): A doctor who specializes in using surgery to treat nervous system problems or diseases.

Neuroradiologist (NUR-o-ray-dee-**AHL**-uh-jist): A doctor who specializes in using imaging tests to look at the nervous system.

Ommaya reservoir (o-MY-uh REZ-er-vahr): A plastic, dome-shaped drum that's put just under the scalp during surgery. A tube attached to it goes into the brain where it reaches the CSF. Doctors and nurses can use a thin needle to give chemo through the drum or to take out CSF for testing.

VP shunt: Also called a ventriculoperitoneal (ven-TRIK-yew-lo-pair-ih-tuh-**NEE**-ahl) shunt. A thin tube used to drain extra CSF to ease pressure in the brain. Surgery is done to put one end of the shunt in the brain and the other end in the abdomen (belly). The tube runs under the skin of the neck and chest. The flow of CSF is controlled by a valve in the tubing. Shunts may be short-term or permanent.

How can I learn more?

We have a lot more information for you. You can find it online at www.cancer.org¹³. Or, you can call our toll-free number at 1-800-227-2345 to talk to one of our cancer information specialists.

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