

# Brain Cancer: Overview



## What is brain cancer?

Cancer starts when cells change (mutate) and grow out of control. The changed (abnormal) cells often grow to form a lump or mass called a tumor. Cancer cells can also grow into (invade) nearby areas. They can spread to other parts of the body, too. This is called metastasis. Unlike cancers from other body parts, cancers that start in the brain rarely spread (metastasize).

The brain controls the body. It's needed for complex functions such as language and thoughts. It controls the things we need to do, such as talk, walk, and chew our food. It also does the things that need to happen to keep us alive, like control our breathing, heartbeat, and digestion. The brain is the center of these things and others, such as how we feel, how we think, how we remember, and how we use our senses such as sight and touch. When you have a tumor, the brain can't do some of its work correctly.

There are two types of brain tumors:

- **Primary tumor.** This kind of tumor starts in cells in the brain.
- **Secondary (metastatic) tumor.** This kind of tumor is from a cancer that starts in another part of the body, then spreads to the brain. In adults, most brain tumors start outside the brain and spread (metastasize) to the brain.

There are two types of **primary brain tumors**:

- **Benign tumor.** This kind of tumor is not cancer. It tends to grow slowly. Most benign brain tumors don't grow into nearby tissue. Once removed, they usually don't grow back. Brain tumors can cause serious damage even if they are benign. The damage is related to the type of tumor, where it is in the brain, and how large it is.
- **Malignant tumor.** This kind of tumor is cancer. It usually grows fast and invades nearby tissues. This can make it hard to remove.

Primary brain tumors are named by the type of brain tissue where they start growing. There are many types of primary brain tumors. The most common primary brain tumors are called gliomas. They start in the supportive glial cells of the brain.

## Who is at risk for brain cancer?

A risk factor is anything that may increase your chance of having a disease. The exact cause of someone's cancer may not be known. But risk factors can make it more likely for a person to have cancer. Some risk factors may not be in your control. But others may be things you can change.

Most brain tumors occur in people without any known risk factors. Still, there are some things that may increase your risk for brain tumors, such as:

- Radiation exposure to the brain or head
- Certain inherited syndromes, including neurofibromatosis type 1 (NF1) or 2 (NF2), Li-Fraumeni syndrome, and von Hippel-Lindau disease. About 1 in 20 brain tumors may be linked to these.
- Family history of brain tumors
- Age. Older adults and children are more likely to get brain tumors.

Talk with your healthcare provider about your risk factors for a brain tumor and what you can do about them.

## Can brain cancer be prevented?

Researchers don't yet know how to prevent this type of cancer.

## What are the symptoms of a brain tumor?

Brain tumor symptoms depend on the size of the tumor and where it is in the brain. They vary from person to person. Symptoms are caused by the damage the tumor does to the brain and increased pressure inside the skull.

The most common symptoms of a brain tumor include:

- Headaches
- Nausea and vomiting
- Weakness or loss of feeling
- Balance and coordination changes or trouble walking
- Changes in vision or abnormal eye movements
- Changes in personality, memory, or speech
- Hearing problems
- Appetite loss
- Changes in alertness, from increased sleepiness to coma
- Uncontrollable convulsions of the body (seizures)
- Stroke-like symptoms

Many of these may be caused by other health problems. Still, it's important to see a healthcare provider if you have these symptoms. Only a healthcare provider can tell if you have a tumor.

## How is brain cancer diagnosed?

If your healthcare provider thinks you may have a brain tumor, you'll need exams and tests to be sure. Your healthcare provider will ask you about your health history, your symptoms, risk factors, and family history of disease. You will have physical and nervous system exams. A neurology exam checks your vision, hearing, and speech as well as sensations to touch, strength, and reflexes. Your provider may ask questions to assess your memory and learning ability. You may be asked to walk or do other activities to look at your walking, coordination, and balance. You may also have an MRI or CT scan done to get images of your brain and other parts of your body.

You may need a biopsy to remove a small piece of tumor (sample) to diagnose the type of brain tumor. The tissue sample is sent to a lab to be looked at under a microscope. More tests will be done on the tissue.

After a diagnosis of a brain tumor, you may have other tests. These help your healthcare providers learn more about the tumor. They can help find out where the tumor is, what kind of tumor it is, and whether it's cancer. Imaging scans can also be used to look at the blood vessels around the tumor and figure out treatment choices.

Be sure to ask your healthcare provider to explain the details of your tumor to you in a way you can understand.

## How is brain cancer treated?

Your treatment choices depend on the type of brain cancer you have, test results, and your choices. The goal of treatment may be to cure you, control the cancer, or help ease problems caused by the cancer. Talk with your healthcare team about your treatment choices, the goals of treatment, and the possible risks and side effects.

Types of treatment for cancer are either local or systemic. Local treatments remove, destroy, or control cancer cells in one area. Surgery and radiation are local treatments. Systemic treatment is used to destroy or control cancer cells that may have traveled around your body. When taken by pill or injection, chemotherapy is a systemic treatment. You may have just one treatment or a combination of treatments.

Different types of brain tumor treatments have different goals. The types of treatment may include:

- Surgery
- Radiation therapy
- Chemotherapy
- Targeted therapy
- Alternating electric field therapy. This is also called tumor treating fields therapy or electric tumor treatment fields.
- Supportive care to help relieve symptoms caused by the tumor or its treatment

Talk with your healthcare providers about your treatment choices. Make a list of questions. Think about the benefits and possible side effects of each choice. Talk about your concerns with your healthcare provider before making a decision.

## What are treatment side effects?

Cancer treatment, such as chemotherapy and radiation, can damage normal cells. This can cause side effects, such as hair loss, mouth sores, and vomiting. Talk with your healthcare provider about short- and long-term side effects linked with your treatment. There are often ways to manage them. There may be things you can do and medicines you can take to help prevent or control many treatment side effects. Ask what symptoms you should report and how to contact your healthcare team after hours and on weekends and holidays.

## Coping with brain cancer

Many people feel worried, depressed, and stressed when dealing with cancer. Getting treatment for cancer can be hard on your mind and body. Keep talking with your healthcare team about any problems or concerns you have. Work together to ease the effect of cancer and its symptoms on your daily life.

Here are some tips:

- Talk with your family or friends.
- Ask your healthcare team or social worker for help.
- Speak with a counselor.
- Talk with a spiritual advisor, such as a minister or rabbi.
- Ask your healthcare team about medicines for depression or anxiety.
- Keep socially active.
- Join a cancer support group in person or online.

Cancer treatment is also hard on the body. To help yourself stay healthier, try to:

- Eat a healthy diet, with a focus on high-protein foods.
- Drink plenty of water, fruit juices, and other liquids.
- Keep physically active.
- Rest as much as needed.
- Talk with your healthcare team about ways to manage treatment side effects.
- Take your medicines as directed by your team.

## When should I call my healthcare provider?

Your healthcare provider will talk with you about when to call. You may be told to call if you have any of the below:

- New symptoms or symptoms that get worse
- Signs of an infection, such as a fever
- Side effects of treatment that affect your daily function or don't get better with treatment

Ask your healthcare provider about what signs to watch for and when to call. Know how to get help after office hours and on weekends and holidays.

## Key points about brain cancer

- Primary brain cancer starts in cells in the brain. Secondary brain cancer is much more common. It starts in another part of the body and spreads (metastasizes) to the brain.
- There are many types of brain cancer. Some grow fast, and some grow very slowly.
- Common brain tumor symptoms include headache, nausea and vomiting, seizures, and hearing, vision, or speech changes.
- Brain tumors are diagnosed with imaging scans, other tests, and possibly a brain biopsy. These are needed to know if a brain tumor is cancer, exactly where it is in the brain, and what kind of brain cancer it is.
- Brain cancer treatment might include surgery, radiation, chemotherapy, targeted therapy, and other treatments. Combinations of these treatments may be done.
- Benign (not cancer) brain tumors may need to be treated if they're causing symptoms by pressing on the brain.
- Some types of brain tumors often come back after treatment, so close follow-up is needed.

## Next steps

Tips to help you get the most from a visit to your healthcare provider:

- Know the reason for your visit and what you want to happen.
- Before your visit, write down questions you want answered.
- Bring someone with you to help you ask questions and remember what your provider tells you.
- At the visit, write down the name of a new diagnosis and any new medicines, treatments, or tests. Also write down any new instructions your provider gives you.
- Know why a new medicine or treatment is prescribed and how it will help you. Also know what the side effects are.
- Ask if your condition can be treated in other ways.
- Know why a test or procedure is recommended and what the results could mean.
- Know what to expect if you do not take the medicine or have the test or procedure.
- If you have a follow-up appointment, write down the date, time, and purpose for that visit.
- Know how you can contact your healthcare provider if you have questions, especially after office hours or on weekends.

© 2000-2027 The StayWell Company, LLC. All rights reserved. This information is not intended as a substitute for professional medical care. Always follow your healthcare professional's instructions  
This information is not intended as a substitute for professional medical care. Always follow your Healthcare professional's instructions. Copyright Krames LLC.