

Brain Cancer

Brain cancer is due to the growth of abnormal tumor cells in the brain. Similar tumors occur in the spinal cord. While benign tumors generally do not invade other tissues, malignant (cancerous) tumors contain fast-growing cells that can spread to surrounding healthy brain tissue. Both benign and malignant tumors tend to cause symptoms by putting pressure on surrounding structures; however, malignant tumors tend to invade and destroy adjacent structures. Most brain tumors fall into two categories: primary, which originates in the brain, and metastatic, the more common type, which begins elsewhere in the body and spreads to the brain.

Statistics

- In 2023, an estimated **24,810 new cases** of brain and other cancers that start in the nervous system will be diagnosed in the United States.
- During 2023, brain and other nervous system cancers will claim the lives of an estimated **18,990 Americans**.
- In Texas, an estimated **1,940 new brain and other nervous system cancers** are expected to be diagnosed in 2023, and **1,330 Texans** are expected to die from the disease.
- In children, primary brain and spinal cord tumors account for approximately **25% of childhood cancers, the second most common cancers** after childhood leukemia.
- The likelihood an individual will be diagnosed with a malignant tumor of the brain or spinal cord is **less than 1%** over his or her lifetime.

Risk Factors

Most brain tumors have no known cause and known risk factors are few.

- **Radiation:** Exposure to radiation therapy to the head increases the risk of developing a primary brain tumor.
- **Immune System Disorders:** Patients with compromised immune systems, the Epstein-Barr virus or AIDS, or who have had an organ transplant, have a higher chance of developing lymphomas of the brain.
- **Family History:** A small percentage of brain tumors develop in people with a family history of brain tumors or genetic syndromes.

Symptoms and Signs

Brain cancer symptoms vary between individuals. People with these symptoms should consult their physician:

- Unexplained or recurring nausea and vomiting
- Seizures
- New, recurring, or worsening headaches
- Problems with balance
- Changes in speech, vision, or hearing
- Weakness or numbness in muscles and limbs
- Unexplained drowsiness or coma
- Changes in behavior or personality
- Loss of movement or sensation in an extremity
- Short-term memory loss

Tips for Prevention

Other than reducing radiation exposure, there are no known ways to prevent primary brain or spinal cord tumors. However, in adults, certain lifestyle changes, such as maintaining a healthy weight and quitting smoking, decrease the risk of other cancers in the body which could potentially spread to the brain.

Treatment Options

Treatment for brain cancer is determined by many factors including tumor type, size and location in the brain, whether it's newly diagnosed or a recurrence, the tumor's specific genetic makeup, and your overall health. Brain tumors can be very difficult to treat; therefore, many patients require a team of physicians including a neurosurgeon, neurologist, radiation oncologist, medical oncologist or neuro-oncologist, and an endocrinologist.

Surgery is the main treatment for brain tumors if located within the membranes covering the brain or in an area where removal would not damage the surrounding areas. Brain tumors located in or near sensitive areas can make total removal riskier, or occasionally impossible. Proton therapy is particularly useful in tumors deep in the brain or near sensitive areas

due to the accuracy of the proton beam.

Several other treatments may be used such as radiation therapy, radiosurgery, proton therapy, chemotherapy, targeted therapy, or alternating electric field therapy. Often a combination of treatments is used to provide the best chance of disease control.

About Texas Oncology

With more than 530 physicians and 280 locations, Texas Oncology is an independent private practice that sees more than 71,000 new cancer patients each year. Founded in 1986, Texas Oncology provides comprehensive, multi-disciplinary care, and includes Texas Center for Proton Therapy, Texas Breast Specialists, Texas Colon & Rectal Specialists, Texas Oncology Surgical Specialists, Texas Urology Specialists, Texas Infusion and Imaging Center, and Texas Center for Interventional Surgery. Texas Oncology's robust community-based clinical trials and research program has contributed to the development of more than 100 FDA-approved cancer therapies. Learn more at www.TexasOncology.com.

Sources: American Cancer Society, American Society of Clinical Oncology, Centers for Disease Control and Prevention, National Brain Tumor Society, and National Cancer Institute



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