

What is children's brain cancer?

Brain and other central nervous system (CNS) tumours occur when abnormal cells in these organs grow in an uncontrolled way.¹

What are the different types of brain cancer in children?

There are many different types of cells in the brain and other parts of the CNS, and each of these can develop into different types of tumours that need to be treated in different ways. The most common types of brain and other CNS tumours in children are gliomas, ependymomas and medulloblastomas.^{1,2}

Other types of brain and spinal cord tumours include atypical teratoid rhabdoid tumours (ATRT), primitive neuroectodermal tumours (CNS-PNET), pineoblastoma and CNS germ cell tumours.^{1,2}

What are the symptoms of childhood brain cancer?

Symptoms of brain and other CNS tumours can depend on where the tumour is, how fast it is growing and the child's age. Symptoms are not the same in every child, but can include:^{3,4,5}

- ▶ headaches^{3,4,5}
- ▶ nausea or vomiting^{3,4,5}
- ▶ problems with vision, hearing or speech^{3,5}
- ▶ problems with balance or coordination^{3,5}
- ▶ weakness or numbness in a part of the body, especially only on one side
- ▶ back pain⁵
- ▶ changes in behaviour³
- ▶ weight loss or weight gain for no reason⁵
- ▶ seizures (fits)^{3,5}
- ▶ drowsiness or coma.³

Very young children or babies may not be able to tell you their symptoms. Symptoms in young children can also include:

- ▶ irritability^{3,4}
- ▶ loss of appetite^{3,4}
- ▶ delays in development^{3,4,5}
- ▶ failure to thrive – where a child fails to gain weight appropriately⁴
- ▶ decrease in physical or intellectual abilities, or losing abilities that they had before³
- ▶ increase in head size or swelling of the soft spots of the skull.^{3,4}

There are a number of conditions that may cause these symptoms, not just brain cancer. If any of these symptoms are experienced, it is important that they are discussed with a doctor.

What are the risk factors of childhood brain cancer?

A risk factor is anything that increases a person's chance of developing a certain condition or disease, such as brain cancer. In children, very few risk factors have been identified that increase the chance of developing cancer. For most children with cancer, the underlying cause is unknown.

The causes of brain and other CNS tumours are not well understood, but factors associated with a higher chance of developing brain and other CNS tumours include the following:¹

- ▶ family history
- ▶ genetic conditions
- ▶ exposure to radiation.

How is childhood brain cancer diagnosed?

Your child will have a number of tests to investigate their symptoms and confirm a diagnosis of a brain or other CNS tumour, including:

- ▶ medical history and physical examination, including a neurological examination⁶
- ▶ blood tests⁶
- ▶ urine tests⁶
- ▶ medical imaging, which may include:
 - X-ray⁷
 - computed tomography (CT) scan^{4,8}
 - magnetic resonance imaging (MRI)^{4,8}
 - positron emission tomography (PET) scan^{4,8}
- ▶ biopsy – where a small sample of the tumour is removed to be examined under a microscope^{4,8}
- ▶ lumbar puncture (spinal tap) – where a sample of cerebrospinal fluid is taken to be examined under a microscope.⁸

Treatment options

Treatment and care of children with cancer is usually provided by a team of health professionals called a multidisciplinary team. The team will be led by a childhood cancer specialist (paediatric oncologist).

Treatment for brain and other CNS tumours depends on the age of your child, the stage of the disease, the biological features of the cancer and other factors identified during diagnosis. Treatment will be tailored to your child's particular situation, and may involve one or more of the following:

- ▶ surgery^{4,9}
- ▶ chemotherapy^{4,9}
- ▶ radiation therapy^{4,9}
- ▶ targeted therapy^{4,9}
- ▶ other treatments⁷
- ▶ careful observation.¹⁰

For more information visit childrenscancer.canceraustralia.gov.au

Finding support

Diagnosis of cancer in a child is a very difficult time for the child, their family and their friends. You might feel overwhelmed, scared, anxious or angry. These are all normal feelings. It is very important to seek support from family, friends, health professionals or other services to help you, your child and your family cope with cancer.

Talk to your child's treatment team if you are having difficulties coping.

The Cancer Council in your state or territory can give you general information about cancer, as well as information on resources and support groups in your local area. Call the Cancer Council Helpline from anywhere in Australia for the cost of a local call on **13 11 20**.

For additional specific information about childhood cancer, contact any of the major children's hospitals and networks in your state or territory.

References

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