

Paediatric cancers: Understanding childhood cancer.

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Cancer is a disease that affects people of all ages, including children. Paediatric cancers are those that occur in children under the age of 18. Childhood cancers are rare, accounting for less than 1% of all new cancer cases in the United States each year. However, they remain a significant health concern, and the impact of childhood cancer can be devastating for patients and their families. There are many different types of paediatric cancers, each with unique characteristics and treatment approaches. Some of the most common types of childhood cancer include:

Leukemia: Leukemia is a cancer of the blood and bone marrow. It is the most common type of childhood cancer, accounting for approximately one-third of all cases. There are several subtypes of leukemia, including acute lymphoblastic leukemia (ALL) and acute myeloid leukemia (AML) [1].

Brain and central nervous system (CNS) tumours: Brain and CNS tumours are the second most common type of childhood cancer. These tumours can be benign or malignant and can occur anywhere in the brain or spinal cord.

Neuroblastoma: Neuroblastoma is a cancer that develops in immature nerve cells. It usually occurs in the adrenal glands, but can also develop in other areas of the body.

Wilms tumour: Wilms tumour is a cancer that develops in the kidneys. It is most commonly diagnosed in children between the ages of 2 and 5.

Lymphoma: Lymphoma is a cancer of the lymphatic system, which is part of the immune system. There are two main types of lymphoma: Hodgkin lymphoma and non-Hodgkin lymphoma.

The symptoms of paediatric cancers can vary depending on the type and stage of the cancer. Some common symptoms include:

- Unexplained weight loss or loss of appetite
- Fatigue or weakness
- Fever or night sweats
- Pain, especially bone pain or headaches
- Swelling or lumps, especially in the abdomen, neck, or armpit
- Changes in vision or hearing
- Persistent cough or shortness of breath
- Changes in bowel or bladder habits
- Diagnosis and Treatment of Paediatric Cancers

Diagnosing paediatric cancers can be challenging, as the symptoms can be vague and non-specific. If a child is suspected of having cancer, their doctor will usually perform a series of tests, including blood tests, imaging studies, and a biopsy (removal of a small sample of tissue for examination). The treatment of paediatric cancers depends on several factors, including the type and stage of the cancer, the child's age and overall health, and the preferences of the child and their family. Treatment may include surgery, chemotherapy, radiation therapy, or a combination of these approaches [2].

In recent years, there have been significant advances in the treatment of paediatric cancers. Many children with cancer are now able to receive highly targeted therapies that are tailored to their specific cancer type and molecular characteristics. These targeted therapies can be more effective and less toxic than traditional chemotherapy. Coping with paediatric cancer can be a daunting and emotional experience for both children and their families. In addition to medical treatment, children with cancer may need emotional and social support to help them navigate the challenges of cancer treatment and survivorship. Many hospitals and cancer centers have comprehensive support programs for children and families, including counselling, support groups, and educational resources. These programs can help families better understand the diagnosis and treatment of cancer, connect with other families who are going through similar experiences, and address any practical or financial challenges that may arise [3].

The emotional toll of paediatric cancer can be especially challenging for families. Parents may feel overwhelmed by the diagnosis, worried about their child's future and unsure about how to support their child during treatment. Siblings may feel left out or neglected, as the focus of the family shifts to the child with cancer. It is essential for families to have access to emotional and social support during this difficult time. Support groups can provide a safe and supportive environment for children and families to share their experiences, learn coping strategies, and connect with others who are going through similar challenges. In addition to support groups, there are many resources available to families of children with cancer. The American Childhood Cancer Organization (ACCO) provides a wide range of resources and support services for families, including financial assistance, advocacy, and educational resources [4].

Despite the progress that has been made in the treatment of paediatric cancers, there is still much that we do not know

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about these diseases. Childhood cancers are often biologically different from adult cancers, and research specifically focused on paediatric cancers is critical to developing better treatments and improving outcomes for children with cancer. There are many ongoing research efforts aimed at understanding the biology of paediatric cancers and developing new treatments. These efforts include the identification of genetic mutations and other molecular features that are unique to paediatric cancers, the development of targeted therapies that are tailored to these features, and the testing of new immunotherapies that harness the power of the immune system to fight cancer. Advocacy and support are essential components of the effort to improve outcomes for children with cancer. Advocacy efforts can help raise awareness of childhood cancer and the unique needs of children with cancer, as well as promote research funding and policy changes that support paediatric cancer research and care. Support from the broader community is also critical in supporting families of children with cancer. Fundraising efforts, such as charity walks or other events, can help raise funds for research and support programs for families. Donations of time, resources, and expertise can also be invaluable in supporting children and families affected by cancer.

Paediatric cancers are a significant health concern, and the impact of childhood cancer can be devastating for patients and their families. However, with advances in treatment and supportive care, many children with cancer are able to survive and thrive. Early diagnosis, appropriate treatment,

and emotional and social support are critical components of the effort to improve outcomes for children with cancer. Continued research efforts aimed at understanding the biology of paediatric cancers and developing new treatments are also essential. By working together to raise awareness, provide support, and promote research, we can continue to make progress in the fight against paediatric cancer and improve outcomes for children with cancer and their families [5].

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