

## **Pediatric Cancer Fact Sheet**

- Cancer is the leading cause of death by disease in children in the U.S.
- There has not been a significant treatment breakthrough in the deadliest childhood cancers [neuroblastoma, sarcomas, brain and other central nervous system tumors] in 30 years.
- Pediatric cancers are uniquely challenging because they are not preventable, do not result from lifestyle choices and there is no established early detection screening process or way to determine which children are at risk.
- The National Cancer Institute (NCI) spends approximately \$4.84 billion annually on cancer research; with about \$253 million, or 5.4% dedicated to pediatric cancer.
- Early symptoms for the deadliest pediatric cancers often masquerade as normal aches and pains such as headache, fatigue or joint pain, increasing the percentage of children who are not diagnosed at the earliest stages.
- Nearly three-quarters of childhood cancer survivors will develop a chronic health problem within 30 years of diagnosis. [Sloan-Kettering]
- The standard treatments for pediatric cancer (chemotherapy, surgery and radiation) have not changed in decades and are fraught with long term toxicities and side effects that can cause chronic suffering, secondary cancers and various significant disorders.

### **Neuroblastoma**

- Neuroblastoma is a cancer of the sympathetic nervous system that most often occurs in a child's adrenal glands and can spread to lymph nodes, liver, bones and bone marrow.
- In 75% of cases it is present in liver, bone marrow and bone by the time of diagnosis.
- The survival rate for advanced stage neuroblastoma in children less than one year old is approximately 30%.
- This is the most common cancer in infants; the median age of diagnosis is two years, with approximately 90% of cases occurring in children five years or younger. [chop.edu + ACS]
- In these high risk cases, most will have a relapse; long term survival after relapse is less than 5%.
- The cause of neuroblastoma is unknown.

### **Brain and other central nervous system (CNS) tumors**

- Brain and CNS cancers include glial and neuronal tumors which are invasive and rapidly growing, can spread through the cerebrospinal fluid and frequently metastasize to different locations in the brain and spine.

- Brain tumors and CNS related cancer account for approximately 17% of pediatric cancers. [nci.org]
- The proportion of deaths from tumors of the central nervous system in pediatric cancer patients has increased from 18 percent to 30 percent. [nci.org]
- The cause of brain and CNS cancers is not known in the majority of children although some genetic risk factors have been identified. [ynhh.org]

## **Sarcomas**

### **Ewing's Sarcoma**

- Ewing's sarcoma is a cancerous tumor that occurs in children and young adults. It most commonly appears in the limbs, pelvis, or chest; although it can appear anywhere in the body, including the soft tissue near bones.
- It is commonly diagnosed during puberty, , though it can happen anytime during childhood.
- Metastasis at the time of diagnosis is present in approximately one third of children. [medline plus]
- Approximately half of all people with Ewing's sarcoma of bone are under 15 years of age at diagnosis. [cancerindex.org]

### **Osteosarcoma**

- Osteosarcoma, the most common cancerous bone tumor in children, begins at the ends of bones, where new tissue develops. It most often emerges in the bones of the thigh, upper arm, and shin, although it can occur in any part of the body.
- It usually develops during puberty (average age, 15 years) when there is rapid growth.
- Boys and girls have a similar incidence rate until late adolescence, when boys are affected at a higher rate. [medline plus]
- Most osteosarcomas arise from random and unpredictable errors in the DNA of growing bones during a growth spurt. [kidshealth.org]
- In rare cases, osteosarcoma is a genetic condition, but in general, its cause is unknown.

### **Rhabdomyosarcoma**

- Rhabdomyosarcoma is a cancerous tumors of muscle.[acor.org]
- It is frequently diagnosed in young children, but it can occur at anytime during childhood.
- It is a fast-growing, highly malignant tumor which accounts for over half of the soft tissue sarcomas in children. [acor.org]
- It accounts for 5-8% of total childhood cancers. [acor.org]
- The cause of most rhabdomyosarcoma are unknown, although children with certain rare genetic disorders have a higher risk of developing it.[cancerbackup.org]