




# Which birth defects are associated with childhood<sup>a</sup> cancer risk?








Children with **chromosomal birth defects** are **11.6 times** more likely than children born without birth defects to be diagnosed with cancer

<b>Trisomy 21</b> 	Acute lymphoblastic leukemia, acute myeloid leukemia
<b>Trisomy 18</b> 	Hepatoblastoma
<b>Neurofibromatosis</b> 	Astrocytoma, non-rhabdomyosarcoma soft tissue sarcomas



Children with **nonchromosomal birth defects** are **2.5 times** more likely than children born without birth defects to be diagnosed with cancer

 <b>Congenital anomalies of the nervous system</b>	Non-rhabdomyosarcoma soft tissue sarcomas, astrocytoma, ependymoma, epithelial neoplasms
 <b>Congenital anomalies of the heart and circulatory system</b>	Neuroblastoma, hepatoblastoma
 <b>Congenital anomalies of the digestive system</b>	Medulloblastoma, non-Hodgkin lymphoma
 <b>Congenital anomalies of the genitourinary system</b>	Wilms tumor, extracranial germ cell tumors, hepatoblastoma, neuroblastoma, non-rhabdomyosarcoma soft tissue sarcomas
 <b>Congenital anomalies of the musculoskeletal system</b>	Extracranial germ cell tumors, hepatoblastoma



Children with **4 or more major birth defects** are **5.9 times** more likely than children born without birth defects to be diagnosed with cancer

<sup>a</sup>Children were followed up to age 18. The source study pooled data from 4 state cancer registries on 10,181,074 children born from January 1, 1992 to December 31, 2013.

Source: Lupo PJ, Schraw JM, Desrosiers, TA, et al. Association between birth defects and cancer risk among children and adolescents in a population-based assessment of 10 million live births. *JAMA Oncol*. Published online June 20, 2019. doi:10.1001/jamaoncol.2019.1215