



# Neuroblastoma

**N**euroblastomas are tumors that start in early sympathetic nervous system cells of a developing embryo or fetus. This type of cancer occurs in infants and children and is rare in those over 10 years of age. Approximately 1 in 3 neuroblastomas begin in the adrenal glands, 1 in 4 begin in the sympathetic nervous system in the abdomen, and the remainder mostly start in the sympathetic ganglia near the spine in the chest, neck or pelvis. Some neuroblastomas will resolve themselves when cancer cells die on their own or mature on their own into normal ganglion cells and stop dividing.

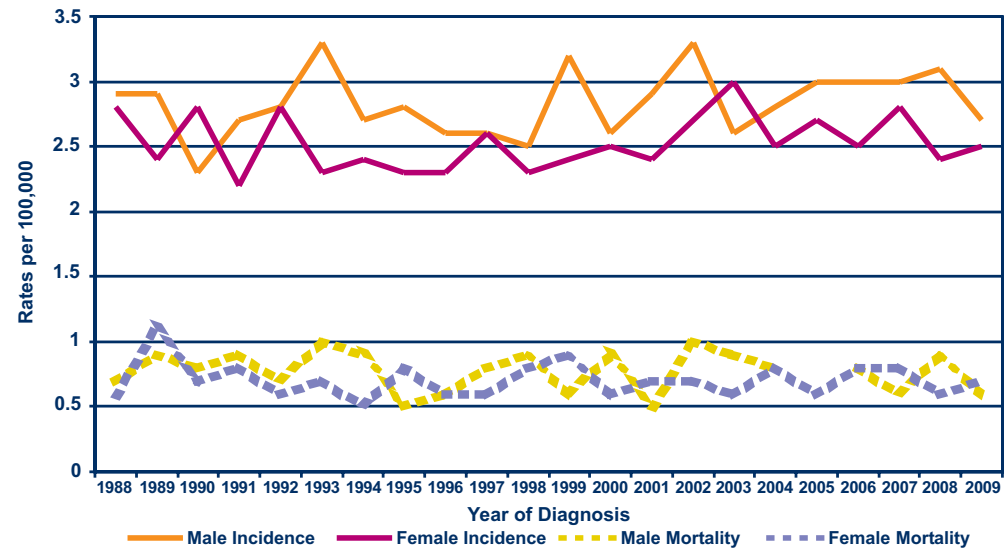
There are about 700 new cases of neuroblastoma in the United States each year. Neuroblastomas account for 6% of childhood cancers. Brain and other nervous system cancers (including neuroblastomas) account for 31% of childhood cancers. In California, incidence rates for childhood brain and

other nervous system cancers did not change significantly from 1988 to 2009 among males or females. Childhood brain and other nervous system mortality rates in California have been steadily dropping an average of 1.0

percent per year among males and 0.7 percent per year among females (Figure 1).

Incidence (I) and mortality (M) rates for childhood brain and other nervous

**Figure 1: Age-Adjusted Childhood Brain and Central Nervous System Cancer Incidence and Mortality Rates by Sex In California, 1988-2009, Ages 0-19**



Prepared by the Cancer Registry of Greater California  
Source: California Cancer Registry

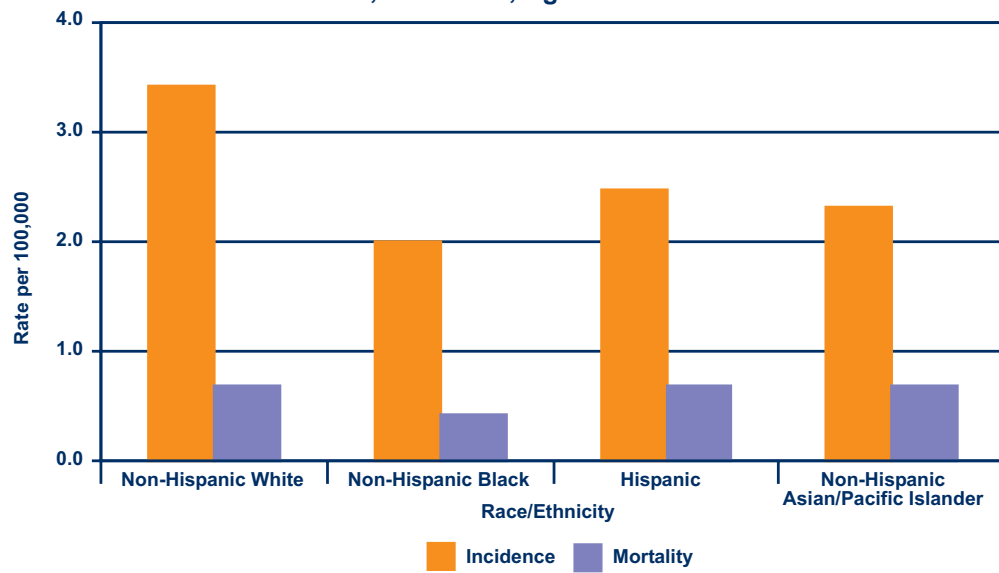
Over

system tumors are highest among non-Hispanic whites (I=3.4 per 100,000; M= 0.7 per 100,000), followed by Hispanics (I= 2.5 per 100,000; M= 0.7 per 100,000), then non-Asians/Pacific Islanders (I= 2.3 per 100,000; M= 0.7 per 100,000), and are lowest among non-Hispanic blacks (I= 2.0 per 100,000; M= 0.4 per 100,000) (See Figure 2).

In California from 2000 through 2009, the majority of childhood brain and other nervous system tumor patients were diagnosed at the localized stage (75.6 percent), with only 14.8 percent diagnosed at the regional stage and 7.1 percent at the distant stage. Five-year relative survival, a measure of the likelihood of surviving a specified

cancer five years past diagnosis, is highest among those diagnosed at the localized stage, and similar for those with regional and distant stage diagnoses (See Table 1).

**Figure 2. Five-Year Age-Adjusted Childhood Brain and Central Nervous System Cancer Incidence and Mortality Rates by Race/Ethnicity in California, 2005-2009, Ages 0-19**



Prepared by the Cancer Registry of Greater California  
Source: California Cancer Registry

**Table 1: Stage Distribution and Five-Year Relative Survival by Stage at Diagnosis for Childhood Brain and Other Nervous System Cancer (Males and Females Combined), California, 2000-2009, Ages 0-19**

Stage at Diagnosis	Stage Distribution	Five-Year Relative Survival
Localized (Confined to Primary Site)	75.6%	75.3%
Regional (Spread to Regional Lymph Nodes)	14.8%	55.6%
Distant (Metastasized to Other Organs)	7.1%	54.6%
Unknown Stage	2.6%	72.9%

Source: California Cancer Registry  
Prepared by the Cancer Registry of Greater California.