

A microscopic image showing a dense population of small, round, blue-stained cells, characteristic of small round blue cell tumors. The cells are uniform in size and shape, with prominent nuclei and scant cytoplasm. The background is a light, pinkish-purple color, likely representing the surrounding tissue or stroma.

# **Small Round Blue Cell Tumors**

**Lymphoma Tumor Board**

**November 6, 2015**

# Small round blue cell tumors

- **Lymphoma**
- **Neuroblastoma**
- **Rhabdomyosarcoma**
- **Ewing sarcoma/primitive neuroectodermal tumor (PNET)**
- Desmoplastic small round cell tumor
- Poorly differentiated synovial sarcoma
- Small cell osteosarcoma
- *DDx: Wilm's tumor*

# Small round blue cell tumors - Immunohistochemistry

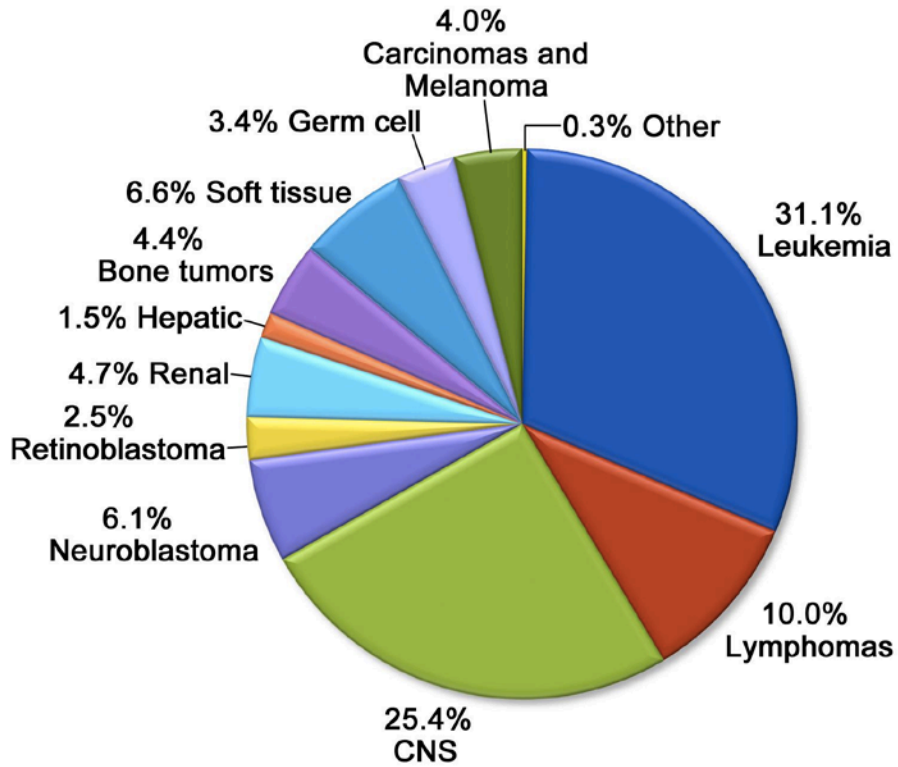
Tumor type	Immunohistochemical markers
Lymphoma	CD45; CD30 (HD, ALCL); CD20 (B-NHL); CD3 (T-NHL)
Neuroblastoma	NSE ( neuron-specific enolase); S100
Rhabdomyosarcoma	Desmin, myosin, MyoD
Ewing sarcoma/PNET	PAS+ (Glycogen); NSE; CD99

# Small round blue cell tumors - Cytogenetics

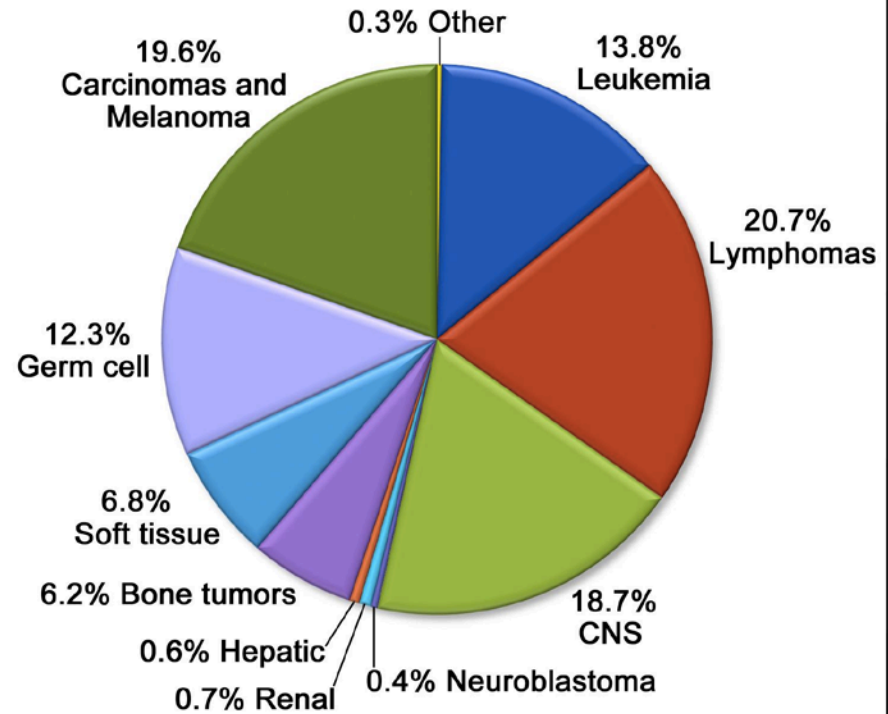
Tumor type	Cytogenetic/FISH/molecular markers
Lymphoma	<i>e.g.</i> , t(8;14) <i>MYC/IGH</i> ; t(2;5) <i>NPM/ALK</i>
Neuroblastoma	<i>MYCN</i> amplification; added material 17q
Rhabdomyosarcoma	Chromosomal translocations involving 13
Ewing sarcoma/PNET	<i>EWSR1</i> gene rearrangement, <i>e.g.</i> <i>EWSR1/FLI1</i> gene fusion (90%)

## Age-Adjusted and Age-Specific Cancer Incidence Rates for Patients 0-19 Years of Age (SEER 2005-2009)

### 0-14 Years



### 15-19 Years



# Geographic origin of neuroblastoma

