

Table 31.1
Benign Brain Tumors

A Comparison of Benign/Borderline and Malignant Brain Tumors
Counts, Percents and Age-Adjusted Incidence Rates^a by WHO Histology Grouping, 2010-2014

WHO Histology Grouping	Benign/Borderline			Malignant		
	Count	Percent	Rate	Count	Percent	Rate
Brain						
Diffuse astrocytoma (protoplasma, fibrillary)	-	-	-	285	0.9%	0.1
Anaplastic astrocytoma	-	-	-	1,937	6.2%	0.4
Glioblastoma	-	-	-	14,843	47.1%	3.2
Pilocytic astrocytoma	-	-	-	1,252	4.0%	0.3
Unique astrocytoma variants	408	0.5%	0.1	171	0.5%	0.0
Oligodendroglioma	-	-	-	1,027	3.3%	0.2
Anaplastic oligodendroglioma	-	-	-	501	1.6%	0.1
Ependymoma/anaplastic ependymoma	-	-	-	586	1.9%	0.1
Ependymoma variants	-	-	-	-	-	-
Mixed glioma	-	-	-	830	2.6%	0.2
Astrocytoma, NOS	-	-	-	1,475	4.7%	0.3
Glioma, NOS	95	0.1%	0.0	1,580	5.0%	0.4
Choroid plexus	187	0.2%	0.0	47	0.1%	0.0
Neuroepithelial	-	-	-	84	0.3%	0.0
Neuronal/glial, neuronal and mixed	966	1.3%	0.2	54	0.2%	0.0
Embryonal/primitive/medulloblastoma	-	-	-	913	2.9%	0.2
Nerve sheath	307	0.4%	0.1	-	-	-
Meningioma	237	0.3%	0.1	-	-	-
Other mesenchymal	164	0.2%	0.0	71	0.2%	0.0
Hemangioma and hemangioblastoma	2,028	2.7%	0.5	-	-	-
Germ cell tumors, cysts, and heterotopias	83	0.1%	0.0	120	0.4%	0.0
Chordoma/chondrosarcoma	-	-	-	29	0.1%	0.0
Craniopharyngioma	94	0.1%	0.0	-	-	-
Neoplasm, unspecified	1,415	1.9%	0.3	1,290	4.1%	0.3
Other histologies ^b	25	0.0%	0.0	63	0.2%	0.0
Intracranial Meninges						
Neuroepithelial	-	-	-	-	-	-
Nerve sheath	-	-	-	-	-	-
Meningioma	37,246	49.5%	8.1	383	1.2%	0.1
Other mesenchymal	61	0.1%	0.0	30	0.1%	0.0
Hemangioma and hemangioblastoma	41	0.1%	0.0	-	-	-
Chordoma/chondrosarcoma	-	-	-	-	-	-
Neoplasm, unspecified	77	0.1%	0.0	-	-	-
Other histologies ^b	-	-	-	-	-	-
Cranial Nerves and Other CNS						
Glioblastoma	-	-	-	-	-	-
Pilocytic astrocytoma	-	-	-	102	0.3%	0.0
Astrocytoma, NOS	-	-	-	-	-	-
Glioma, NOS	17	0.0%	0.0	219	0.7%	0.1
Neuronal/glial, neuronal and mixed	24	0.0%	0.0	-	-	-
Nerve sheath	7,462	9.9%	1.6	21	0.1%	0.0
Meningioma	23	0.0%	0.0	-	-	-
Other mesenchymal	-	-	-	-	-	-
Hemangioma and hemangioblastoma	33	0.0%	0.0	-	-	-
Germ cell tumors, cysts, and heterotopias	-	-	-	-	-	-
Chordoma/chondrosarcoma	-	-	-	-	-	-
Neoplasm, unspecified	40	0.1%	0.0	-	-	-
Other histologies ^b	-	-	-	-	-	-

Source: SEER 18 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey and Georgia excluding ATL/RG).

Count and percent may not sum to total due to suppression and rounding.

^a Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130). The histologic groupings exclude lymphomas, mesotheliomas, and Kaposi Sarcoma.

^b Includes histologies not included in current groupings.

- Statistic not shown due to fewer than 16 cases during the time period.

Table 31.1 - continued
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A Comparison of Benign/Borderline and Malignant Brain Tumors
Counts, Percents and Age-Adjusted Incidence Rates^a by WHO Histology Grouping, 2010-2014

WHO Histology Grouping	Benign/Borderline			Malignant		
	Count	Percent	Rate	Count	Percent	Rate
Sellar Region						
Glioblastoma	-	-	-	-	-	-
Pilocytic astrocytoma	-	-	-	-	-	-
Ependymoma/anaplastic ependymoma	-	-	-	-	-	-
Glioma, NOS	-	-	-	-	-	-
Pineal parenchymal	112	0.1%	0.0	113	0.4%	0.0
Embryonal/primitive/medulloblastoma	-	-	-	-	-	-
Nerve sheath	-	-	-	-	-	-
Meningioma	-	-	-	-	-	-
Other mesenchymal	-	-	-	-	-	-
Germ cell tumors, cysts, and heterotopias	-	-	-	176	0.6%	0.0
Chordoma/chondrosarcoma	-	-	-	-	-	-
Pituitary	18,979	25.2%	4.2	52	0.2%	0.0
Craniopharyngioma	753	1.0%	0.2	-	-	-
Neoplasm, unspecified	339	0.5%	0.1	21	0.1%	0.0
Other histologies ^b	-	-	-	-	-	-
Spinal Cord						
Diffuse astrocytoma (protoplasma, fibrillary)	-	-	-	-	-	-
Anaplastic astrocytoma	-	-	-	20	0.1%	0.0
Glioblastoma	-	-	-	35	0.1%	0.0
Pilocytic astrocytoma	-	-	-	75	0.2%	0.0
Unique astrocytoma variants	-	-	-	-	-	-
Ependymoma/anaplastic ependymoma	18	0.0%	0.0	480	1.5%	0.1
Ependymoma variants	408	0.5%	0.1	-	-	-
Mixed glioma	-	-	-	-	-	-
Astrocytoma, NOS	-	-	-	70	0.2%	0.0
Glioma, NOS	-	-	-	27	0.1%	0.0
Neuronal/glial, neuronal and mixed	91	0.1%	0.0	25	0.1%	0.0
Embryonal/primitive/medulloblastoma	-	-	-	25	0.1%	0.0
Nerve sheath	1,183	1.6%	0.3	23	0.1%	0.0
Meningioma	43	0.1%	0.0	-	-	-
Other mesenchymal	136	0.2%	0.0	17	0.1%	0.0
Hemangioma and hemangioblastoma	205	0.3%	0.0	-	-	-
Chordoma/chondrosarcoma	-	-	-	22	0.1%	0.0
Neoplasm, unspecified	110	0.1%	0.0	21	0.1%	0.0
Other histologies ^b	-	-	-	-	-	-
Spinal Meninges						
Ependymoma/anaplastic ependymoma	-	-	-	-	-	-
Neuronal/glial, neuronal and mixed	-	-	-	-	-	-
Nerve sheath	28	0.0%	0.0	-	-	-
Meningioma	1,561	2.1%	0.3	-	-	-
Other mesenchymal	24	0.0%	0.0	-	-	-
Hemangioma and hemangioblastoma	-	-	-	-	-	-
Neoplasm, unspecified	-	-	-	-	-	-
Other histologies ^b	-	-	-	-	-	-
Total	75,218	100.0%	16.6	31,481	100.0%	6.9

Source: SEER 18 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey and Georgia excluding ATL/RG).

Count and percent may not sum to total due to suppression and rounding.

^a Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).
The histologic groupings exclude lymphomas, mesotheliomas, and Kaposi Sarcoma.

^b Includes histologies not included in current groupings.

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Table 31.2
Benign Brain Tumors

Age-Adjusted SEER Incidence Rates^a for Benign Brain Tumors, 2010-2014
By Race, Sex and Age

Brain and Other Nervous System(Benign/Borderline)
Excluding Endocrine Glands and Related Structures

Age	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
All Ages	12.0	8.6	15.0	12.2	8.7	15.3	12.2	8.4	15.1
Ages <20	1.5	1.5	1.5	1.6	1.6	1.6	1.1	1.2	1.1
Ages 20-44	5.7	4.2	7.3	6.0	4.4	7.6	5.3	3.4	7.0
Ages 45-64	17.6	11.7	23.1	17.7	11.9	23.5	17.7	11.5	23.1
Ages 65-74	35.9	24.7	45.7	36.0	24.7	46.0	38.2	27.3	46.3
Ages 75-84	50.2	35.9	60.7	50.3	36.6	60.6	54.6	38.7	64.4
Ages 85+	63.7	48.3	71.7	64.4	48.8	72.5	66.5	43.5	76.1

Brain and Other Nervous System(Benign/Borderline)
Including Endocrine Glands and Related Structures

Age	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
All Ages	16.6	12.8	20.0	16.4	12.7	19.9	19.3	15.2	22.6
Ages <20	2.5	2.1	2.8	2.6	2.2	3.0	1.9	1.7	2.2
Ages 20-44	10.5	7.3	13.8	10.6	7.5	13.8	11.4	6.8	15.7
Ages 45-64	23.8	18.4	28.9	23.4	18.1	28.7	28.4	23.0	33.3
Ages 65-74	45.3	36.4	53.1	44.2	35.0	52.4	56.3	50.9	60.4
Ages 75-84	59.4	48.1	67.8	58.7	47.9	66.8	73.2	62.9	79.4
Ages 85+	69.2	56.3	75.8	69.3	56.3	76.0	79.5	59.5	87.8

Source: SEER 18 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey and Georgia excluding ATL/RG).

^a Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).
- Rate not shown due to fewer than 16 cases during the time period.