

S3 Table. One-, two-, five-, and ten-year relative survival rates for all primary brain and CNS tumors by histology

Histological group	Cases	Relative survival rate			
		1-Year Rate (95% CI)	2-Year Rate (95% CI)	5-Year Rate (95% CI)	10-Year Rate (95% CI)
Tumors of neuroepithelial tissue	15,770	76.3 (75.6-77.0)	59.7 (58.9-60.4)	46.4 (45.6-47.3)	39.6 (38.5-40.6)
Malignant	14,042	73.6 (72.8-74.3)	55.0 (54.2-55.9)	40.5 (39.6-41.4)	33.2 (32.1-34.3)
Non-malignant	1,728	98.2 (97.4-98.8)	97.1 (96.1-97.8)	94.5 (93.1-95.7)	91.5 (88.8-93.7)
Pilocytic astrocytoma	673	97.1 (95.5-98.2)	95.5 (93.6-96.9)	93.8 (91.5-95.6)	92.6 (89.4-94.9)
Diffuse astrocytoma	1,174	84.8 (82.6-86.8)	72.2 (69.5-74.7)	55.7 (52.5-58.8)	42.3 (38.1-46.3)
Anaplastic astrocytoma	964	71.4 (68.4-74.2)	46.8 (43.5-50.0)	26.2 (23.1-29.4)	17.5 (14.2-21.1)
Unique astrocytoma variants	385	78.6 (74.0-82.4)	65.0 (59.8-69.6)	52.3 (46.7-57.5)	40.4 (32.7-47.9)
Malignant	305	72.9 (67.4-77.6)	55.6 (49.6-61.1)	39.7 (33.7-45.8)	24.2 (16.3-33.0)
Non-malignant	80	100.1 (-)	100.2 (-)	98.7 (89.3-100.1)	99.0 (89.6-100.4)
Glioblastoma	5,754	59.3 (58.0-60.6)	30.4 (29.2-31.7)	12.1 (11.1-13.1)	6.6 (5.6-7.7)
Oligodendroglioma	749	94.0 (92.0-95.5)	88.2 (85.6-90.4)	78.6 (75.0-81.8)	67.7 (62.3-72.6)
Anaplastic oligodendroglioma	577	87.0 (83.9-89.6)	71.5 (67.5-75.2)	52.0 (47.3-56.5)	35.1 (28.4-41.8)
Oligoastrocytic tumors	345	93.4 (90.1-95.6)	82.8 (78.3-86.5)	66.3 (60.4-71.5)	45.2 (35.1-54.9)
Ependymal tumors	1,221	96.0 (94.7-97.0)	93.4 (91.7-94.7)	87.2 (84.8-89.3)	85.2 (82.0-88.0)
Malignant	884	94.9 (93.1-96.2)	91.4 (89.2-93.2)	83.3 (80.3-85.9)	81.2 (77.3-84.6)
Non-malignant	337	98.9 (96.8-99.7)	98.6 (96.3-99.7)	97.9 (94.7-99.8)	96.3 (90.2-99.8)
Glioma malignant, NOS	1,568	71.3 (68.9-73.5)	59.8 (57.2-62.3)	51.0 (48.2-53.7)	46.2 (42.7-49.5)
Choroid plexus tumors	228	92.5 (88.2-95.4)	89.6 (84.6-93.1)	86.6 (80.7-90.9)	83.9 (76.1-89.8)
Malignant	-	- (-)	- (-)	- (-)	- (-)
Non-malignant	194	95.8 (91.7-98.0)	95.1 (90.7-97.7)	92.8 (87.2-96.4)	90.8 (82.5-96.1)
Other neuroepithelial tumors	-	- (-)	- (-)	- (-)	- (-)
Malignant	-	- (-)	- (-)	- (-)	- (-)
Non-malignant	-	- (-)	- (-)	- (-)	- (-)
Neuronal and mixed neuronal-gliial tumors	1,132	96.3 (95.0-97.3)	93.6 (91.9-94.9)	89.9 (87.7-91.7)	85.1 (81.3-88.2)
Malignant	203	86.8 (81.2-90.9)	78.6 (72.0-83.8)	70.5 (62.7-77.1)	56.7 (44.7-67.4)
Non-malignant	929	98.3 (97.2-99.0)	96.8 (95.4-97.8)	94.0 (91.9-95.5)	90.6 (86.6-93.6)
Tumors of the pineal region	206	96.5 (92.8-98.4)	91.1 (85.9-94.5)	83.6 (76.5-88.9)	81.5 (73.4-87.7)
Malignant	80	95.4 (87.6-98.5)	83.0 (72.1-90.1)	68.7 (54.6-79.4)	62.5 (46.4-75.3)
Non-malignant	126	97.2 (92.1-99.2)	95.9 (90.2-98.6)	91.9 (83.5-96.6)	91.8 (82.5-97.2)
Embryonal tumors	762	81.5 (78.5-84.1)	69.7 (66.3-72.9)	58.4 (54.6-62.0)	52.4 (48.2-56.4)

Malignant	720	80.4 (77.3-83.1)	68.1 (64.5-71.4)	56.4 (52.5-60.1)	50.3 (46.1-54.5)
Non-malignant	-	- (-)	- (-)	- (-)	- (-)
Tumors of cranial and spinal nerves	12,604	99.3 (99.1-99.5)	99.4 (99.1-99.6)	99.1 (98.7-99.6)	99.4 (98.4-100.4)
Malignant	92	92.0 (84.0-96.3)	89.3 (80.5-94.6)	80.9 (69.6-88.9)	81.6 (69.5-90.3)
Non-malignant	12,512	99.4 (99.2-99.6)	99.5 (99.2-99.7)	99.3 (98.8-99.7)	99.6 (98.5-100.5)
Nerve sheath tumors	12,596	99.3 (99.1-99.5)	99.4 (99.1-99.6)	99.1 (98.7-99.6)	99.4 (98.4-100.4)
Malignant	89	91.6 (83.4-96.1)	88.7 (79.7-94.2)	81.4 (70.1-89.3)	82.1 (69.9-90.7)
Non-malignant	12,507	99.4 (99.2-99.6)	99.5 (99.2-99.7)	99.3 (98.8-99.7)	99.6 (98.5-100.5)
Other tumors of cranial and spinal nerves	-	- (-)	- (-)	- (-)	- (-)
Malignant	-	- (-)	- (-)	- (-)	- (-)
Non-malignant	-	- (-)	- (-)	- (-)	- (-)
Tumors of meninges	42,612	97.7 (97.5-97.9)	96.9 (96.7-97.2)	95.1 (94.7-95.4)	91.9 (91.1-92.7)
Malignant	748	88.0 (85.3-90.2)	78.7 (75.4-81.7)	68.6 (64.5-72.4)	55.1 (48.5-61.3)
Non-malignant	41,864	97.9 (97.7-98.0)	97.3 (97.0-97.5)	95.6 (95.2-95.9)	92.6 (91.8-93.4)
Meningioma	40,596	97.8 (97.6-98.0)	97.1 (96.9-97.3)	95.3 (94.9-95.7)	92.3 (91.4-93.1)
Malignant	461	89.2 (85.8-92.0)	79.4 (75.1-83.2)	68.9 (63.4-73.9)	52.7 (43.8-61.2)
Non-malignant	40,135	97.9 (97.7-98.1)	97.3 (97.1-97.5)	95.6 (95.2-96.0)	92.7 (91.9-93.5)
Mesenchymal tumors	661	96.5 (94.6-97.7)	94.8 (92.6-96.4)	92.0 (89.1-94.4)	83.1 (75.7-89.1)
Malignant	138	87.4 (80.6-92.1)	80.2 (72.2-86.1)	72.6 (63.4-80.0)	51.0 (30.8-68.7)
Non-malignant	523	98.9 (97.3-99.7)	98.6 (96.8-99.7)	97.2 (94.4-99.1)	91.5 (83.7-96.9)
Primary melanocytic lesions	51	69.1 (54.4-80.1)	48.8 (34.3-62.0)	32.0 (18.0-47.1)	33.4 (18.8-49.2)
Malignant	-	- (-)	- (-)	- (-)	- (-)
Non-malignant	-	- (-)	- (-)	- (-)	- (-)
Other neoplasms related to the meninges	1,304	96.1 (94.8-97.1)	95.0 (93.5-96.2)	92.7 (90.7-94.4)	88.2 (84.1-91.6)
Malignant	112	92.6 (85.7-96.4)	87.6 (79.6-92.8)	77.4 (67.6-84.8)	74.3 (63.6-82.7)
Non-malignant	1,192	96.4 (95.1-97.4)	95.7 (94.2-96.8)	94.3 (92.3-95.9)	89.6 (85.1-93.2)
Lymphomas and hematopoietic neoplasms	1,985	66.9 (64.7-69.0)	53.6 (51.3-55.8)	37.3 (34.8-39.7)	26.3 (23.0-29.6)
Malignant	1,982	66.8 (64.7-68.9)	53.5 (51.2-55.8)	37.1 (34.7-39.6)	26.1 (22.8-29.5)
Non-malignant	-	- (-)	- (-)	- (-)	- (-)
Lymphoma	1,895	65.5 (63.3-67.6)	51.6 (49.2-53.9)	34.5 (32.0-37.0)	22.6 (19.3-26.1)
Other hematopoietic neoplasms	90	95.7 (88.7-98.5)	94.7 (87.4-97.9)	92.7 (84.4-96.9)	94.3 (85.9-98.5)
Malignant	87	95.5 (88.3-98.4)	94.5 (86.9-97.8)	92.3 (83.8-96.7)	93.6 (85.0-98.0)
Non-malignant	-	- (-)	- (-)	- (-)	- (-)
Germ cell tumors and cysts	973	96.2 (94.8-97.3)	93.8 (92.1-95.2)	90.9 (88.8-92.7)	88.7 (85.9-90.9)
germ cell tumors, cysts and heterotopias	973	96.2 (94.8-97.3)	93.8 (92.1-95.2)	90.9 (88.8-92.7)	88.7 (85.9-90.9)

Malignant	737	95.4 (93.7-96.7)	92.8 (90.6-94.5)	89.4 (86.8-91.5)	86.8 (83.6-89.5)
Non-malignant	236	98.6 (95.8-99.6)	97.1 (93.7-98.8)	95.7 (91.6-98.2)	94.5 (88.4-98.1)
Tumors of sellar region	24,049	98.5 (98.4-98.7)	98.3 (98.1-98.5)	97.5 (97.2-97.9)	96.2 (95.5-96.9)
Malignant	-	- (-)	- (-)	- (-)	- (-)
Non-malignant	24,007	98.6 (98.4-98.7)	98.3 (98.1-98.5)	97.5 (97.2-97.9)	96.2 (95.6-96.9)
Tumors of the pituitary	22,595	98.8 (98.6-98.9)	98.6 (98.4-98.8)	98.1 (97.7-98.4)	97.0 (96.3-97.7)
Malignant	-	- (-)	- (-)	- (-)	- (-)
Non-malignant	22,553	98.8 (98.6-98.9)	98.6 (98.4-98.8)	98.1 (97.7-98.4)	97.1 (96.4-97.7)
Craniopharyngioma	1,454	95.2 (94.0-96.3)	93.1 (91.6-94.4)	89.2 (87.2-91.0)	84.0 (80.5-87.0)
Unclassified tumors	14,140	86.7 (86.1-87.3)	84.6 (84.0-85.3)	81.9 (81.2-82.7)	80.3 (79.2-81.3)
Malignant	2,784	58.0 (56.1-59.9)	52.0 (50.0-53.9)	45.8 (43.8-47.9)	42.4 (40.0-44.9)
Non-malignant	11,356	93.6 (93.1-94.1)	92.5 (91.9-93.0)	90.7 (90.0-91.4)	89.6 (88.4-90.6)
Hemangioma	3,380	99.3 (98.9-99.6)	99.2 (98.6-99.6)	98.0 (97.1-98.8)	97.2 (95.1-98.9)
Malignant	-	- (-)	- (-)	- (-)	- (-)
Non-malignant	3,367	99.5 (99.1-99.8)	99.4 (98.8-99.7)	98.2 (97.3-99.0)	97.4 (95.3-99.0)
Neoplasm, unspecified	10,647	82.7 (81.9-83.4)	80.1 (79.2-80.9)	77.0 (76.0-77.9)	75.4 (74.1-76.6)
Malignant	2,762	58.1 (56.1-59.9)	52.0 (50.0-53.9)	45.9 (43.8-47.9)	42.4 (40.0-44.9)
Non-malignant	7,885	91.1 (90.5-91.8)	89.7 (89.0-90.4)	87.7 (86.8-88.6)	86.7 (85.3-88.0)
All other	113	84.6 (76.0-90.6)	79.5 (69.8-86.8)	77.2 (66.2-86.0)	60.4 (35.7-81.5)
Malignant	-	- (-)	- (-)	- (-)	- (-)
Non-malignant	104	87.1 (78.4-92.9)	81.5 (71.5-88.9)	80.3 (68.8-89.1)	62.5 (36.5-84.2)
Total	-	- (-)	- (-)	- (-)	- (-)
Malignant	20,427	72.3 (71.7-72.9)	56.9 (56.2-57.6)	44.1 (43.3-44.8)	37.1 (36.2-38.1)
Non-malignant	91,706	97.7 (97.6-97.8)	97.2 (97.1-97.4)	96.0 (95.8-96.2)	94.2 (93.7-94.6)

CI, confidence interval; CNS, central nervous system; NOS, not otherwise specified. (-) Rates were not presented for categories with 50 or fewer cases.