



Patients Treated with Leksell Gamma Knife®



1968 - 2017

TREATMENTS REPORTED 2017 BY REGION AND INDICATION

	Asia	Europe	Latin America	Middle East & Africa	North America	Grand Total
Benign Tumors	15870	9507	387	1883	4262	31909
Craniopharyngioma	320	49	16	54	22	461
Diffuse Astrocytoma, Grade II	203	32	11	120	9	375
Dysembryoplastic Neuroepithelial Tumor (DNET)	19	3		8	1	31
Ependymoma	120	31	1	14	13	179
Ganglioglioma	21	4		3	10	38
Glomus Tumor	103	136	20	22	67	348
Hemangioblastoma	150	63	5	6	39	263
Hemangioma	156	12	3		6	177
Hemangiopericytoma, Grade II	99	31	2	5	33	170
Jugular Foramen Schwannoma	142	27		7	20	196
Juvenile Pilocytic Astrocytoma	26	18		7	6	57
Meningioma Grade I (typical)	6362	4473	117	697	1860	13509
Meningioma Grade II (atypical)	655	271		97	185	1208
Neurocytoma	77	14		3	14	108
Oligodendroglioma, Grade II+A81	49	19	2	14	8	92
Other Benign Tumor	586	124	10	69	132	921
Other Schwannoma	264	71	2	7	55	399
Pineal Region Tumor	139	14	2	39	7	201
Pituitary Adenoma	2998	809	107	292	472	4678
Plexomorphic Xanthoastrocytoma (PXA)	13	2				15
Trigeminal Schwannoma	319	84	6	13	80	502
Vestibular Schwannoma	3049	3220	83	406	1223	7981
Functional Disorders	1582	1432	65	247	2286	5612
Cluster Headache	2	1	1		3	7
Essential Tremor	11	28	3	2	174	218
Hypothalamic Hamartoma	8	16	3	1		28
Intractable Pain	1	17			1	19
Mesial Temporal Lobe Epilepsy	7	8		1		16
OCD	6	3	5		13	27
Other Behavioral Disorders	1	12	1		3	17
Other Epilepsy	24	4		2		30
Other Movement Disorders	14	3				17
Other Pain Disorders	1	3	1	1	22	28
Parkinson's Disease	14	89		3	10	116
Trigeminal Neuralgia	1493	1248	51	237	2060	5089
Malignant Tumors	18643	7940	139	302	11678	38702
Anaplastic Astrocytoma, Grade III	145	32	2	46	41	266
Chondrosarcoma	68	8	2	7	7	92
Chordoma	142	28	7	11	15	203
Ependymoma (anaplastic), Grade II or III	64	35		2	10	111
Esthesioneuroblastoma	8	1			8	17
Glioblastoma	383	346	11	84	300	1124
Hemangiopericytoma, Grade III (anaplastic)	74	7			8	89
Medulloblastoma/PNET	44	13		4	3	64
Meningioma (anaplastic), Grade III	178	46	43		57	324
Metastatic Tumor	16673	7188	69	127	10904	34961
Nasopharyngeal Carcinoma	65	4	2	2	20	93
Oligodendroglioma (anaplastic), Grade II or III	75	17		5	14	111

Other Malignant Tumor	697	210	3	14	262	1186
Solitary Fibrous Tumor	27	5			29	61
Ocular Disorders	78	222	7	4	12	323
Glaucoma	2					2
Other Ocular Disorder	55	60	1	2	2	120
Uveal Melanoma	21	162	6	2	10	201
Vascular Disorders	4115	2026	138	345	746	7370
Aneurysm	8	3			1	12
AVM	2823	1557	124	264	687	5455
Cavernous Malformation	901	440	12	78	33	1464
Dural Arteriovenous Fistula	285	18	2		16	321
Other Vascular Disorder	98	8		3	9	118
Grand Total	40288	21127	736	2781	18984	83916

90% of all Leksell Gamma Knife centers submitted their 2017 treatment data

ACCUMULATED TREATMENTS REPORTED BY REGION AND INDICATION

	Asia	Europe	Latin America	Middle East & Africa	North America	Grand Total
Benign Tumors	204742	113225	3458	17242	75907	414574
Benign Glial Tumors (Grade I and II)	5389	1342	63	470	1013	8277
Craniopharyngioma	5274	1147	74	442	683	7620
Diffuse Astrocytoma, Grade II	280	52	17	214	29	592
Dysembryoplastic Neuroepithelial Tumor (DNET)	59	10		12	1	82
Ependymoma	471	207	14	61	93	846
Fibrillary Astrocytoma, Grade II	67	36	5	8	15	131
Ganglioglioma	165	50		12	25	252
Glomus Tumor	1093	1423	101	411	1216	4244
Hemangioblastoma	2230	856	33	125	847	4091
Hemangioma	496	45	16	3	41	601
Hemangiopericytoma	1002	435	11	45	492	1985
Hemangiopericytoma, Grade II	236	92	3	16	74	421
Jugular Foramen Schwannoma	494	116	11	19	46	686
Juvenile Pilocytic Astrocytoma	88	83	3	70	30	274
Meningioma	56345	35678	894	5153	27690	125760
Meningioma Grade I (typical)	17578	13064	323	2063	5444	38472
Meningioma Grade II (atypical)	1542	608	32	171	512	2865
Neurocytoma	291	90		32	50	463
Oligodendroglioma, Grade II+A81	143	53	3	27	27	253
Other Benign Tumor	7441	2050	104	531	2132	12258
Other Schwannoma	3110	873	29	126	1104	5242
Pineal Region Tumor	4378	624	46	406	459	5913
Pituitary Adenoma	50639	13489	720	2882	9884	77614
Plexomorphic Xanthoastrocytoma (PXA)	28	8	1		2	39
Trigeminal Schwannoma	4114	1222	38	206	1423	7003
Vestibular Schwannoma	41789	39572	917	3737	22575	108590
Functional Disorders	22005	15227	592	1275	42567	81666
Cluster Headache	6	6	1		17	30
Depression	3					3
Epilepsy	2333	337	4	34	116	2824
Essential Tremor	68	119	18	4	911	1120
Hypothalamic Hamartoma	30	91	13	6	8	148
Intractable Pain	240	251	5	5	351	852
Mesial Temporal Lobe Epilepsy	136	25	2	11	1	175
OCD	134	84	25	1	98	342
Other Behavioral Disorders	40	24	19	5	16	104
Other Epilepsy	145	21	3	13	3	185
Other Functional Disorder	491	137	9	4	890	1531
Other Movement Disorders	30	28	3	4	15	80
Other Pain Disorders	26	11	1	1	78	117
Parkinson's Disease	1075	886	56	32	550	2599
Trigeminal Neuralgia	17248	13207	433	1155	39513	71556
Malignant Tumors	269096	80949	1722	3386	143744	498897
Anaplastic Astrocytoma, Grade III	415	102	5	68	95	685
Chondrosarcoma	712	197	15	54	318	1296
Chordoma	2227	525	35	141	520	3448

Ependymoma (anaplastic), Grade II or III	182	115	1	12	35	345
Esthesioneuroblastoma	14	3			22	39
Glioblastoma	1113	788	20	120	853	2894
Hemangiopericytoma, Grade III (anaplastic)	147	26	1	1	32	207
Malignant Glial Tumor (grade III and IV)	18608	3965	120	862	11586	35141
Medulloblastoma	195	24	3	4	24	250
Medulloblastoma/PNET	98	48	1	5	19	171
Meningioma (anaplastic), Grade III	522	83	54	10	110	779
Metastatic Tumor	233742	72562	1379	1526	124801	434010
Nasopharyngeal Carcinoma	1456	237	13	17	549	2272
Oligodendroglioma (anaplastic), Grade II or III	126	58	1	12	52	249
Other Malignant Tumor	9470	2198	74	554	4554	16850
Solitary Fibrous Tumor	69	18			174	261
Ocular Disorders	617	3240	81	32	170	4140
Glaucoma	49	269	2		3	323
Other Ocular Disorder	284	182	27	14	48	555
Uveal Melanoma	284	2789	52	18	119	3262
Vascular Disorders	65777	34781	2126	3688	18990	125362
Aneurysm	330	36	1	1	104	472
AVM	50226	30213	1951	2824	17478	102692
Cavernous Malformation	9552	3474	157	558	600	14341
Dural Arteriovenous Fistula	1138	132	7	9	163	1449
Other Vascular Disorder	4531	926	10	296	645	6408
Grand Total	562237	247422	7979	25623	281378	1124639

The percentage of centers submitting their numbers each year has varied between 68-100% from 1968 to 2017

*Essential Tremor treatments reported as Other Functional Disorders prior to 2012

**Meningioma Grade I & II treatments reported as Meningioma prior to 2015

***Glioblastoma reported as Malignant Glial Tumor (Grade III & IV) prior to 2015

****Malignant Glial Tumor (Grade III & IV) treatments broken down by indication from 2015

*****Epilepsy treatments broken down by indication from 2015