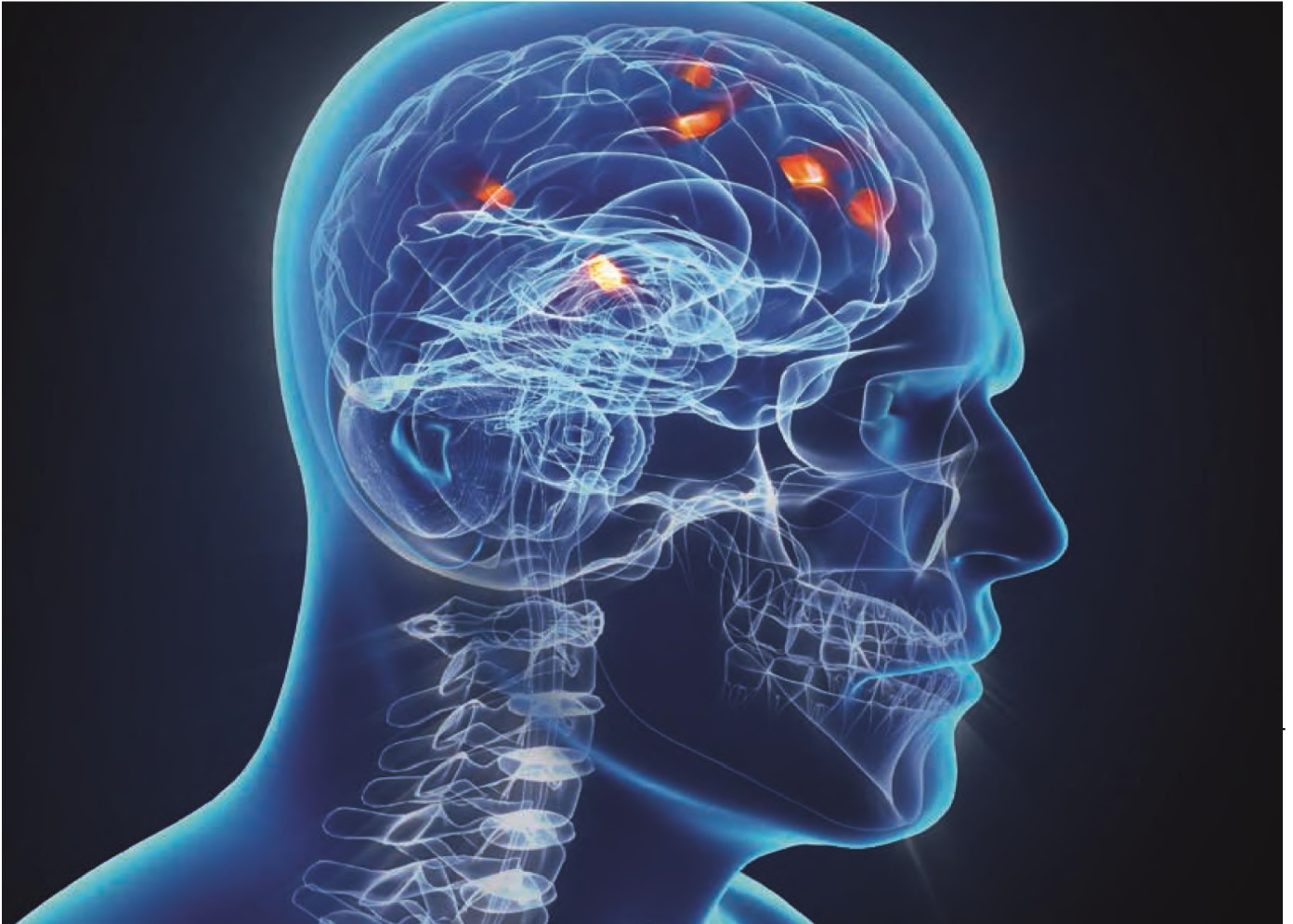


## Patients Treated with Leksell Gamma Knife<sup>®</sup>



1968 - 2020

## 2020 Annual Regional Indications Treated

See Caveats on back cover	Asia	Europe	Latin America	Middle East &	North America	Grand Total
<b>Benign Tumors</b>	<b>13,420</b>	<b>9,349</b>	<b>321</b>	<b>2,073</b>	<b>3,713</b>	<b>28,876</b>
Choroid plexus papilloma	41	11	0	1	8	61
Craniopharyngioma	282	78	2	66	11	439
Diffuse Astrocytoma, Grade II	52	22	10	3	5	92
Ganglioglioma	66	3	0	4	12	85
Germinoma	19	3	3	2	2	29
Hemangioblastoma	177	62	5	11	37	292
Hemangioma	163	25	2	0	9	199
Hemangiopericytoma, Grade II	168	32	0	9	33	242
Jugular Foramen Schwannoma	153	28	0	12	20	213
Juvenile Pilocytic Astrocytoma	49	38	0	27	8	122
Meningioma, all grades	6,263	4,885	120	1,061	1,879	14,208
Neurocytoma	38	10	1	16	15	80
Non germinomatous germ cell tumor	21	1	0	1	0	23
Other Benign Tumor	440	200	13	139	133	925
Other pineal region	44	6	1	29	6	86
Other Schwannoma	230	48	1	27	66	372
Pineoblastoma	19	7	0	4	1	31
Pineocytoma	63	14	0	2	15	94
Pituitary Adenoma	2,209	695	51	258	421	3,634
Trigeminal Schwannoma	274	96	1	25	85	481
Vestibular Schwannoma	2,649	3,085	111	376	947	7,168
<b>Functional Disorders</b>	<b>882</b>	<b>1,487</b>	<b>68</b>	<b>261</b>	<b>1,417</b>	<b>4,115</b>
Cluster Headache	0	1	0	0	1	2
Depression	0	2	1	0	9	12
Essential Tremor	33	119	11	4	61	228
Hypothalamic Hamartoma	7	5	2	3	0	17
Intractable Pain	2	28	3	0	15	48
Mesial Temporal Lobe Epilepsy	8	5	1	3	0	17
OCD	4	20	1	1	16	42
Other Behavioral Disorders	0	2	0	0	5	7
Other Epilepsy	14	2	0	0	1	17
Other Movement Disorders	1	5	0	6	0	12
Parkinson's Disease	7	48	1	4	5	65
Trigeminal Neuralgia	806	1,250	48	240	1,304	3,648
<b>Malignant Tumors</b>	<b>19,249</b>	<b>8,492</b>	<b>229</b>	<b>337</b>	<b>10,086</b>	<b>38,393</b>
Adenoid cystic carcinoma	195	1	0	0	4	200
Anaplastic Astrocytoma, Grade III	116	58	1	1	23	199
Chondrosarcoma	40	9	0	7	3	59
Chordoma	169	25	6	12	22	234
Ependymoma (anaplastic), Grade II or III	103	59	0	13	19	194
Glioblastoma	363	206	9	51	253	882
Medulloblastoma/PNET	31	6	2	1	2	42
Metastatic Tumor	17,558	7,995	206	154	9,591	35,504
Nasopharyngeal Carcinoma	41	3	1	2	7	54
Oligodendroglioma (anaplastic), Grade II or III	52	34	0	2	16	104
Other Malignant Tumor	569	93	4	94	120	880
Squamous cell carcinoma	12	3	0	0	26	41
<b>Ocular Disorders</b>	<b>123</b>	<b>221</b>	<b>2</b>	<b>8</b>	<b>12</b>	<b>366</b>
Glaucoma	0	1	0	0	0	1
Other Ocular Disorder	108	8	0	0	1	117
Uveal Melanoma	15	212	2	8	11	248
<b>Vascular Disorders</b>	<b>3,118</b>	<b>1,461</b>	<b>103</b>	<b>329</b>	<b>508</b>	<b>5,519</b>
AVM	2,098	1,038	84	228	470	3,918
Cavernous Malformation	745	389	16	86	22	1,258
Dural Arteriovenous Fistula	219	18	3	14	11	265
Other Vascular Disorder	56	16	0	1	5	78
<b>Grand Total</b>	<b>36,792</b>	<b>21,010</b>	<b>723</b>	<b>3,008</b>	<b>15,736</b>	<b>77,269</b>

1968-2020 Cumulative Regional Indications Treated

See Caveats on back cover	Asia	Europe	Latin America	Middle East &	North America	Grand Total
<b>Benign Tumors</b>	<b>251,728</b>	<b>143,990</b>	<b>4,962</b>	<b>23,950</b>	<b>88,943</b>	<b>513,573</b>
Benign Glial Tumors (Grade I and II)	5,389	1,342	63	470	1,013	8,277
Choroid plexus papilloma	41	11	0	1	8	61
Craniopharyngioma	6,198	1,361	90	674	743	9,066
Diffuse Astrocytoma, Grade II	590	125	43	351	77	1,186
Dysembryoplastic Neuroepithelial Tumor (DNET)	71	19	0	22	3	115
Ependymoma	674	280	25	78	122	1,179
Fibrillary Astrocytoma, Grade II	67	36	5	8	15	131
Ganglioglioma	300	67	3	19	57	446
Germinoma	19	3	3	2	2	29
Glomus Tumor	1,314	1,676	138	472	1,401	5,001
Hemangioblastoma	2,787	1,041	41	164	1,002	5,035
Hemangioma	863	119	21	72	73	1,148
Hemangiopericytoma	1,002	435	11	45	492	1,985
Hemangiopericytoma, Grade II	615	184	5	36	153	993
Jugular Foramen Schwannoma	938	216	25	42	103	1,324
Juvenile Pilocytic Astrocytoma	205	205	12	102	49	573
Meningioma	56,345	35,678	894	5,153	27,690	125,760
Meningioma Grade I (typical)	31,018	23,226	763	4,126	9,353	68,486
Meningioma Grade II (atypical)	2,916	1,479	55	296	978	5,724
Meningioma, all grades	6,263	4,885	120	1,061	1,879	14,208
Neurocytoma	465	135	3	62	81	746
Non germinomatous germ cell tumor	21	1	0	1	0	23
Oligodendroglioma, Grade II	219	102	4	39	60	424
Other Benign Tumor	9,414	2,663	161	900	2,524	15,662
Other pineal region	44	6	1	29	6	86
Other Schwannoma	4,042	1,217	50	174	1,399	6,882
Pineal Region Tumor	4,671	685	52	490	489	6,387
Pineoblastoma	19	7	0	4	1	31
Pineocytoma	63	14	0	2	15	94
Pituitary Adenoma	59,264	15,691	966	3,777	11,301	90,999
Plexomorphic Xanthoastrocytoma (PXA)	38	14	1	0	7	60
Trigeminal Schwannoma	4,920	1,578	49	263	1,768	8,578
Vestibular Schwannoma	50,933	49,489	1,358	5,015	26,079	132,874
<b>Functional Disorders</b>	<b>25,715</b>	<b>19,975</b>	<b>924</b>	<b>2,070</b>	<b>48,221</b>	<b>96,905</b>
Cluster Headache	7	17	1	0	22	47
Depression	3	2	1	0	9	15
Epilepsy	2,333	337	4	34	116	2,824
Essential Tremor	138	431	42	10	1,276	1,897
Hypothalamic Hamartoma	74	138	17	13	9	251
Intractable Pain	246	324	13	5	381	969
Mesial Temporal Lobe Epilepsy	162	34	3	23	1	223
OCD	155	121	36	5	120	437
Other Behavioral Disorders	43	39	19	6	22	129
Other Epilepsy	198	33	7	15	6	259
Other Functional Disorder	491	137	9	4	890	1,531
Other Movement Disorders	32	42	6	10	19	109
Other Pain Disorders	40	20	4	2	99	165
Parkinson's Disease	1,102	1,083	67	38	569	2,859
Trigeminal Neuralgia	20,691	17,217	695	1,905	44,682	85,190
<b>Malignant Tumors</b>	<b>329,341</b>	<b>107,226</b>	<b>2,439</b>	<b>4,594</b>	<b>180,573</b>	<b>624,173</b>
Adenoid cystic carcinoma	195	1	0	0	4	200
Anaplastic Astrocytoma, Grade III	1,036	302	11	77	182	1,608
Chondrosarcoma	881	217	21	78	339	1,536
Chordoma	2,733	594	50	201	569	4,147
Ependymoma (anaplastic), Grade II or III	376	272	5	148	75	876
Esthesioneuroblastoma	26	4	0	0	33	63
Glioblastoma	2,449	1,530	52	311	1,650	5,992
Hemangiopericytoma, Grade III (anaplastic)	278	45	3	1	57	384
Malignant Glial Tumor (grade III and IV)	18,608	3,965	120	862	11,586	35,141
Medulloblastoma	195	24	3	4	24	250
Medulloblastoma/PNET	334	89	6	8	37	474
Meningioma (anaplastic), Grade III	713	181	66	10	283	1,253
Metastatic Tumor	288,070	97,072	1,985	2,090	159,437	548,654
Nasopharyngeal Carcinoma	1,600	258	16	19	587	2,480
Oligodendroglioma (anaplastic), Grade II or III	514	130	1	24	89	758
Other Malignant Tumor	11,180	2,505	96	759	5,340	19,880
Solitary Fibrous Tumor	141	34	4	2	255	436
Squamous cell carcinoma	12	3	0	0	26	41
<b>Ocular Disorders</b>	<b>1,046</b>	<b>3,840</b>	<b>90</b>	<b>46</b>	<b>212</b>	<b>5,234</b>
Glaucoma	50	271	2	0	3	326
Other Ocular Disorder	661	211	27	14	53	966
Uveal Melanoma	335	3,358	61	32	156	3,942
<b>Vascular Disorders</b>	<b>77,299</b>	<b>40,457</b>	<b>2,589</b>	<b>4,797</b>	<b>21,048</b>	<b>146,190</b>
Aneurysm	332	39	2	1	120	494
AVM	58,005	34,314	2,356	3,648	19,324	117,647
Cavernous Malformation	12,378	4,787	209	815	694	18,883
Dural Arteriovenous Fistula	4,802	1,132	11	321	675	6,941
Other Vascular Disorder	1,782	185	11	12	235	2,225
<b>Grand Total</b>	<b>685,129</b>	<b>315,488</b>	<b>11,004</b>	<b>35,457</b>	<b>338,997</b>	<b>1,386,075</b>



### **Caveats**

- Making detailed year over year comparisons is not advised due to the annual variability in number of centers reporting
- The percentage of centers submitting their numbers each year has varied between 68-100% from 1968 to 2020
- The rate for 2020 is 77%
- Examples of reporting changes:
  - Aneurysm reported as Other Vascular starting from 2020
  - Pineal Region Tumor reported by indication type starting from 2020
  - Meningioma Grade I & II treatments, previously reported separately, reported as Meningioma, All Grades from 2020
  - Glomus Tumor and Choroid plexus papilloma reported individually from 2020
  - Ependymoma, Dysembryoplastic Neuroepithelial Tumor (DNET), Plexomorphic xanthoastrocytoma (PXA), and Oligodendroglioma, Grade II reported as Other Benign Tumor from 2020
  - Glioblastoma before 2015 reported as Malignant Glial Tumor (Grade III & IV)
  - Malignant Glial Tumor (Grade III & IV) treatments reported by indication from 2015
  - Metastatic Tumors reported as either single or multiple from 2020
  - Meningioma (anaplastic), grade III, Esthesioneuroblastoma, Hemangiopericytoma (anaplastic) grade III, Solitary Fibrous Tumor, Glomus Tumor, and Hemangiopericytoma, Grade III treatments reported as Other Malignant Tumor from 2020
  - Squamous cell carcinoma and Adenoid cystic carcinoma reported individually from 2020
  - More specific reporting of Epilepsy indications as of 2013
  - Essential Tremor reported as Other Functional Disorders before 2012
  - Other Pain Disorders removed from 2020 (Trigeminal Neuralgia, Intractable Pain or Cluster Headache are available)

### **Questions? Contact the Society via [info@lgksociety.com](mailto:info@lgksociety.com)**

Please reference the Leksell Gamma Knife® Society when using or distributing the data in this brochure and contact the Secretariat with any questions