

# WHO classification of central nervous system tumors

A simplified version of the WHO classification of central nervous system tumors from 2007.<sup>[1]</sup>

## 1. Neuroepithelial tissue tumors

### 1.1. Astrocyte tumors

1.1.1 Pilocytic astrocytoma (MKN-O 9421/1, WHO grade I)

1.1.1a *Pilomyxoid astrocytoma* (MKN-O 9425/3, WHO grade II)

1.1.2 Subependymal gigantocellular astrocytoma (MKN-O 9384/1, WHO grade I)

1.1.3 Pleomorphic xanthoastrocytoma (MKN-O 9424/3, WHO grade II)

1.1.4 Diffuse astrocytoma (MKN-O 9400/3, WHO grade II)

1.1.5 Anaplastic astrocytoma (MKN-O 9401/3, WHO grade III)

1.1.6. Glioblastoma (MKN-O 9440/3, WHO grade IV)

1.1.6a *Gigantocellular glioblastoma* (MKN-O 9441/3, WHO grade IV)

1.1.6b *Gliosarcoma* (MKN-O 9442/3, WHO grade IV)

1.1.7 Cerebral glioma (MKN-O 9381/3, WHO grade III)

### 1.2. 'Oligodendroglial tumors'

1.2.1 Oligodendroglioma (MKN-O 9450/3, WHO grade II)

1.2.2 Anaplastic oligodendroglioma (MKN-O 9451/3, WHO grade III)

### 1.3. Oligoastrocytic tumors

1.3.1 Oligoastrocytoma (MKN-O 9382/3, WHO grade II)

1.3.2 Anaplastic oligoastrocytoma (MKN-O 9382/3, WHO grade III)

### 1.4. Ependymal tumors

1.4.1 Subependymoma (MKN-O 9383/1, WHO grade I)

1.4.2 Myxopapillary ependymoma (MKN-O 9394/1, WHO grade I)

1.4.3 Ependymoma (MKN-O 9391/3, WHO grade II)

1.4.4 Anaplastic ependymoma (MKN-O 9392/3, WHO grade III)

### 1.5. Tumors of the choroid plexus

1.5.1 Papilloma of choroidal plexus (MKN-O 9390/0, WHO grade I)

1.5.2 Atypical choroidal plexus papilloma (MKN-O 9390/1, WHO grade II)

1.5.3 Choroidal plexus cancer (MKN-O 9390/3, WHO grade III)

### 1.6. Other neuroepithelial tumors

1.6.1 Astroblastoma (MKN-O 9430/3, WHO grade I)

1.6.2 Chordoid glioma of the third ventricle (MKN-O 9444/1, WHO grade II)

1.6.3 Angiocentric glioma (MKN-O 9431/1, WHO grade I)

### 1.7. Neuronal and mixed neuronal-glial tumors

1.7.1 Dysplastic cerebellar gangliocytoma (Lhermitte-Duclos) (MKN-O 9493/0)

1.7.2 Desmoplastic infantile astrocytoma / ganglioglioma (MKN-O 9412/1, WHO grade I)

1.7.3 Dysembryoplastic neuroepithelial tumor (MKN-O 9413/0, WHO grade I)

1.7.4 Gangliocytoma (MKN-O 9492/0, WHO grade I)

1.7.5 Ganglioglioma (MKN-O 9505/1, WHO grade I)

1.7.6 Anaplastic ganglioglioma (MKN-O 9505/3, WHO grade III)

1.7.7 Central neurocytoma (MKN-O 9506/1, WHO grade II)

1.7.8 Extraventricular neurocytoma (MKN-O 9506/1, WHO grade II)

1.7.9 Cerebellar liponeurocytoma (MKN-O 9506/1, WHO grade II)

1.7.10 Papillary glioneuronal tumor (MKN-O 9509/1, WHO grade I)

1.7.11 Rosettes forming glioneuronal tumor of the fourth ventricle (MKN-O 9509/1, WHO grade I)

1.7.12 Paraganglioma (MKN-O 8680/1, WHO grade I)

### 1.8. Tumors of the pineal gland

1.8.1 Pineocytoma (MKN-O 9361/1, WHO grade I)

1.8.2 Pine parenchymal tumor of medium differentiation (MKN-O 9362/3, WHO grade II, III)

- 1.8.3 Pineoblastoma (MKN-O 9362/3, WHO grade IV)
- 1.8.4 Papillary tumor of the pineal area (MKN-O 9395/3, WHO grade II, III)

### 1.9. Embryonic tumors

- 1.9.1 Medulloblastoma (MKN-O 9470/3, WHO grade IV)
  - 1.9.1b *Medulloblastoma with extensive nodularity* (MKN-O 9471/3, WHO grade IV)
  - 1.9.1c *Anaplastic medulloblastoma* (MKN-O 9474/3, WHO grade IV)
- 1.9.2. Primitive neuroectodermal tumor (ICD-O 9473/3, WHO grade IV)
  - 1.9.2a *Neuroblastoma* (MKN-O 9500/3, WHO grade IV)
- 1.9.3 Atypical teratoid / rhabdoid tumor (MKN-O 9508/3, WHO grade IV)

## 2. Tumors of the cranial and spinal nerves

- 2.1 Schwannom (MKN-O 9560/0, WHO grade I)
- 2.2 Neurofibromo (MKN-O 9540/0, WHO grade I)
- 2.3 Perineurium (MKN-O 9571/0, 9571/3, WHO grade I, II, III)
- 2.4 Malignant tumor of peripheral nerve sheath (MPNST) (MKN-O 9540/3, WHO grade II, III, IV)

## 3. Tumors arising from meninx

### 3.1 tumors from "meningothelium"

- 3.1.1 Meningeom (ICD-O 9530/0, WHO grade I)
  - 3.1.1I *Atypical meningioma* (MKN-O 9539/1, WHO grade II)
  - 3.1.1o *Anaplastic meningioma* (MKN-O 9530/3, WHO grade III)

### 3.2 Mesenchymal tumors

- 3.2.1 Lipom (MKN-O 8850/0)
- 3.2.2 Angiolipoma (MKN-O 8861/0)
- 3.2.3 Hibernata (MKN-O 8880/0)
- 3.2.4 Liposarcom (MKN-O 8850/3)
- 3.2.5 Solitary fibrous tumor (MKN-O 8815/0)
- 3.2.6 Fibrosarcom (MKN-O 8810/3)
- 3.2.7 Malignant fibrous histiocytooma (MKN-O 8830/3)
- 3.2.8 Leiomyoma (MKN-O 8890/0)
- 3.2.9 Leiomyosarcom (MKN-O 8890/3)
- 3.2.10 Rhabdomyom (MKN-O 8900/0)
- 3.2.11 Rhabdomyosarcom (MKN-O 8900/3)
- 3.2.12 Chondroma (MKN-O 9220/0)
- 3.2.13 Chondrosarcom (MKN-O 9220/3)
- 3.2.14 Osteom (MKN-O 9180/0)
- 3.2.15 Osteosarcom (MKN-O 9180/3)
- 3.2.16 Osteochondroma (MKN-O 9210/0)
- 3.2.17 Haemangioma (MKN-O 9120/0)
- 3.2.18 Epithelioid hemangioendothelioma (MKN-O 9133/1)
- 3.2.19 Hemangiopericytoma (MKN-O 9150/1, WHO grade II)
- 3.2.20 Anaplastic hemangiopericytoma (MKN-O 9150/3, WHO grade III)
- 3.2.21 Angiosarcom (MKN-O 9120/3)
- 3.2.22 Kaposi Sarcom (MKN-O 9140/3)
- 3.2.23 Ewing's tumor - PNET (MKN-O 9364/3)

### 3.3 Primary melanocytic lesions

- 3.3.1 Diffuse melanocytosis (MKN-O 8728/0)
- 3.3.2 Melanocytoma (MKN-O 8728/1)
- 3.3.3 Malignant melanoma (ICD-O 8720/3)
- 3.3.4 Meningeal melanomatosis (ICD-O 8728/3)

### 3.4 Other mening neoplasia

- 3.4.1 Hemangioblastoma (MKN-O 9161/1, WHO grade I)

## 4. Hematopoietic cell tumors

- 4.1 Malignant lymphoma (ICD-O 9590/3)
- 4.2 Plasmocytoma (MKN-O 9731/3)
- 4.3 Granulocyte sarcoma (ICD-O 9930/3)

## 5. Germ cell tumors

- 5.1 Germinom (MKN-O 9064/3)
- 5.2 Embryonic carcinoma (MKN-O 9070/3)
- 5.3 Yolk sac tumor (MKN-O 9071/3)
- 5.4 Choriocarcinoma (MKN-O 9100/3)
- 5.5 Teratom (MKN-O 9080/1)
- 5.6 Mixed germinal tumors (ICD-O 9085/3)

## 6. Tumors of the Turkish Saddle Area

- 6.1 Craniopharyngeal (MKN-O 9350/1, WHO grade I)
- 6.2 Granular Cell Tumor (ICD-O 9582/0, WHO grade I)
- 6.3 Pituicytoma (MKN-O 9432/1, WHO grade I)
- 6.4 Spindle cell adenohypophysis oncocytoma (ICD-O 8991/0, WHO grade I)

## 7. Metastatic tumors

### Links

- *This article is a translation of the article *WHO classification of tumors of the central nervous system* on Wikipedia.*

### Reference

1.
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### Source

- ws:WHO klasifikace nádorů centrální nervové soustavy