

Toshio Matsushima



Director, Center for Brain and Neurological Function
Professor, International University of Health and Welfare

Education Kyushu University Kyushu University Graduate School

Specialty Cerebral Vascular Disorder (Cerebral Aneurysm, Moyamoya Disease)

Cerebral Tumor

Skull Base Surgery

Functional Surgery (Trigeminal Neuralgia, Hemifacial Spasm and Glossopharyngeal Neuralgia)

Pediatric Neurosurgery (Cerebral Tumor)

Microneurosurgical Anatomy

Work Experience/ Medical training/ Title, etc. Emeritus Professor, Saga University

Former Professor, Neurosurgery, Saga University

Former Vice Director, Saga University Hospital

Director, Advanced Comprehensive Functional Recovery Center, Saga University

Dr. Matsushima has abundant clinical experience in neurovascular decompression for trigeminal neuralgia, hemifacial spasm, and glossopharyngeal neuralgia as well as medical treatments for posterior fossa tumor.

Publications

1: Matsushima T, Kawashima M, Matsushima K, Wanibuchi M. Japanese Neurosurgeons and Microsurgical Anatomy: A Historical Review. *Neurol Med Chir (Tokyo)*. 2015;55 Suppl 1:276-85. PubMed PMID: 26236794.

- 2: Komune N, Matsushima K, Matsushima T, Komune S, Rhoton AL Jr. Surgical approaches to jugular foramen schwannomas: An anatomic study. *Head Neck*. 2015 Jun 4. doi: 10.1002/hed.24156. [Epub ahead of print] PubMed PMID: 26045057.
- 3: Matsushima T, Kawashima M, Matsushima K, Wanibuchi M. Japanese neurosurgeons and microsurgical anatomy: a historical review. *Neurol Med Chir (Tokyo)*. 2015;55(4):276-85. doi: 10.2176/nmc.ra.2014-0408. Epub 2015 Mar 23. PubMed PMID: 25797782.
- 4: Takagi Y, Miyamoto S; COSMO-Japan Study Group. Cognitive Dysfunction Survey of the Japanese Patients with Moyamoya Disease (COSMO-JAPAN Study): study protocol. *Neurol Med Chir (Tokyo)*. 2015;55(3):199-203. doi: 10.2176/nmc.ra.2014-0326. Epub 2015 Feb 20. PubMed PMID: 25739435.
- 5: Masuoka J, Matsushima T, Inoue K, Nakahara Y, Takase Y, Kawashima M. Outcome of microvascular decompression for trigeminal neuralgia treated with the stitched sling retraction technique. *Neurosurg Rev*. 2015 Apr;38(2):361-5; discussion 365. doi: 10.1007/s10143-015-0607-5. Epub 2015 Feb 7. PubMed PMID: 25663308.
- 6: Matsushima T, Kawashima M, Inoue K, Matsushima K, Miki K. Exposure of wide cerebellomedullary cisterns for vascular lesion surgeries in cerebellomedullary cisterns: opening of unilateral cerebellomedullary fissures combined with lateral foramen magnum approach. *World Neurosurg*. 2014 Nov;82(5):e615-21. doi: 10.1016/j.wneu.2014.04.064. Epub 2014 Apr 30. PubMed PMID: 24793562.
- 7: Matsushima K, Kohno M, Komune N, Miki K, Matsushima T, Rhoton AL Jr. Suprajugular extension of the retrosigmoid approach: microsurgical anatomy. *J Neurosurg*. 2014 Aug;121(2):397-407. doi: 10.3171/2014.3.JNS132419. Epub 2014 May 2. PubMed PMID: 24785321.
- 8: Matsushima T, Kawashima M, Inoue K, Matsushima K. Anatomy of the superior petrosal veins and their exposure and management during petrous apex meningioma surgery using the lateral suboccipital retrosigmoid approach. *Neurosurg Rev*. 2014 Oct;37(4):535-456. doi: 10.1007/s10143-014-0548-4. Epub 2014 Apr 30. Review. PubMed PMID: 24781190.
- 9: Matsushima K, Matsushima T, Kuga Y, Kodama Y, Inoue K, Ohnishi H, Rhoton AL Jr. Classification of the superior petrosal veins and sinus based on drainage pattern. *Neurosurgery*. 2014 Jun;10 Suppl 2:357-67; discussion 367. doi: 10.1227/NEU.0000000000000323. PubMed PMID: 24561869.
- 10: Nakahara Y, Kawashima M, Matsushima T, Kouguchi M, Takase Y, Nanri Y, Yakusiji Y. Microvascular decompression surgery for vertebral artery compression of the medulla oblongata: 3 cases with respiratory failure and/or dysphagia. *World Neurosurg*. 2014 Sep-Oct;82(3-4):535.e11-6. doi: 10.1016/j.wneu.2014.01.012. Epub 2014 Jan 25. PubMed PMID: 24473337.
- 11: Okamoto H, Mineta T, Wakamiya T, Tsukamoto H, Katsuta T, Nakagaki H, Matsushima T. Two cases of subfrontal schwannoma, including a rare case located between the endosteal and meningeal layers of the dura. *Neurol Med Chir (Tokyo)*. 2014;54(8):681-5. Epub 2013 Dec 5. PubMed PMID: 24305023.
- 12: Funaki T, Matsushima T, Peris-Celda M, Valentine RJ, Joo W, Rhoton AL Jr. Focal transnasal approach to the upper, middle, and lower clivus. *Neurosurgery*. 2013 Dec;73(2 Suppl Operative):ons155-90; discussion ons190-1. doi: 10.1227/01.neu.0000431469.82215.93. PubMed PMID: 24056315.
- 13: Ogata A, Sonobe M, Kato N, Yamazaki T, Kasuya H, Ikeda G, Miki S, Matsushima T. Carotid artery stenting without post-stenting balloon dilatation. *J Neurointerv Surg*. 2014 Sep;6(7):517-20. doi:

10.1136/neurintsurg-2013-010873. Epub 2013 Sep 7. PubMed PMID: 24014467; PubMed Central PMCID: PMC4145433.

14: Matsushima K, Kawashima M, Matsushima T, Hiraishi T, Noguchi T, Kuraoka A. Posterior condylar canals and posterior condylar emissary veins-a microsurgical and CT anatomical study. *Neurosurg Rev.* 2014 Jan;37(1):115-26. doi: 10.1007/s10143-013-0493-7. Epub 2013 Aug 31. PubMed PMID: 23996282.

15: Uchiyama T, Okamoto H, Koguchi M, Ogata A, Suzuyama K, Matsushima T. [A case of cerebellar variant of posterior reversible encephalopathy syndrome in puerperium]. *No Shinkei Geka.* 2013 Aug;41(8):697-702. Japanese. PubMed PMID: 23907477.

16: Hiraishi T, Matsushima T, Kawashima M, Nakahara Y, Takahashi Y, Ito H, Oishi M, Fujii Y. 3D Computer graphics simulation to obtain optimal surgical exposure during microvascular decompression of the glossopharyngeal nerve. *Neurosurg Rev.* 2013 Oct;36(4):629-35; discussion 635. doi: 10.1007/s10143-013-0479-5. Epub 2013 Jun 15. PubMed PMID: 23771632.

17: Nakahara Y, Matsushima T, Hiraishi T, Takao T, Funaki T, Masuoka J, Kawashima M. Importance of awareness of the rhomboid lip in microvascular decompression surgery for hemifacial spasm. *J Neurosurg.* 2013 Oct;119(4):1038-42. doi: 10.3171/2013.4.JNS121546. Epub 2013 May 24. PubMed PMID: 23706056.

18: Nakamizo A, Kikkawa Y, Hiwatashi A, Matsushima T, Sasaki T. Executive function and diffusion in frontal white matter of adults with moyamoya disease. *J Stroke Cerebrovasc Dis.* 2014 Mar;23(3):457-61. doi: 10.1016/j.jstrokecerebrovasdis.2013.03.022. Epub 2013 Apr 20. PubMed PMID: 23608368.

19: Ogata A, Kawashima M, Matsushima T. Behçet's disease with ruptured anterior communicating artery aneurysm following ruptured thoracic aortic aneurysm. *Neurol Med Chir (Tokyo).* 2013;53(3):189-91. PubMed PMID: 23524505.

20: Koguchi M, Suzuyama K, Uchiyama T, Okamoto H, Takase Y, Kawashima M, Matsushima T. [Blood blister-like aneurysm on the posterior wall of the internal carotid artery causing subarachnoid hemorrhage: a case report]. *No Shinkei Geka.* 2013 Mar;41(3):229-34. Japanese. PubMed PMID: 23459520.

21: Hagihara N, Matsushima T, Kawashima M, Hikita T. The C2 ganglion sectioning epidural approach to craniocervical junction chordoma: a technical case report. *Neurol India.* 2012 Nov-Dec;60(6):638-42. doi: 10.4103/0028-3886.105201. PubMed PMID: 23287329.

22: Kawashima M, Takase Y, Matsushima T. Surgical treatment for vertebral artery-posterior inferior cerebellar artery aneurysms: special reference to the importance of the cerebellomedullary fissure dissection. *J Neurosurg.* 2013 Feb;118(2):460-4. doi: 10.3171/2012.10.JNS12603. Epub 2012 Nov 23. PubMed PMID: 23176340.

23: Okamoto H, Ogata A, Kosugi M, Takashima H, Sakata S, Matsushima T. Cavernous sinus thrombophlebitis related to dental infection-two case reports. *Neurol Med Chir (Tokyo).* 2012;52(10):757-60. PubMed PMID: 23095272.

24: Inoue K, Yoshioka F, Nakahara Y, Kawashima M, Matsushima T. Obstructive hydrocephalus following aqueductal stenosis caused by supra- and infratentorial developmental venous anomaly: case report. *Childs Nerv Syst.* 2013 Feb;29(2):329-34. doi: 10.1007/s00381-012-1934-2. Epub 2012 Oct 10. PubMed PMID: 23053361.

- 25: Matsushima T, Inoue K, Kawashima M, Inoue T. History of the development of surgical treatments for moyamoya disease. *Neurol Med Chir (Tokyo)*. 2012;52(5):278-86. PubMed PMID: 22688063.
- 26: Matsushima T, Abe H, Kawashima M, Inoue T. Exposure of the wide interior of the fourth ventricle without splitting the vermis: importance of cutting procedures for the tela choroidea. *Neurosurg Rev*. 2012 Oct;35(4):563-71; discussion 571-2. doi: 10.1007/s10143-012-0384-3. Epub 2012 Apr 12. PubMed PMID: 22527626.
- 27: Kondo A, Date I, Endo S, Fujii K, Fujii Y, Fujimaki T, Hasegawa M, Hatayama T, Hongo K, Inoue T, Ishikawa M, Ito M, Kayama T, Kohmura E, Matsushima T, Munemoto S, Nagahiro S, Ohno K, Okamura T, Ryu H, Shigeno T, Shirane R, Tagusagawa Y, Tanabe H, Yamada K, Yamakami I. A proposal for standardized analysis of the results of microvascular decompression for trigeminal neuralgia and hemifacial spasm. *Acta Neurochir (Wien)*. 2012 May;154(5):773-8. doi: 10.1007/s00701-012-1277-5. Epub 2012 Feb 11. PubMed PMID: 22327325.
- 28: Takao T, Kouguchi M, Nakahara Y, Kawashima M, Matsushima T. [Three-dimensional images of petrosal veins for preoperative evaluation: four case reports]. *No Shinkei Geka*. 2011 Dec;39(12):1175-81. Japanese. PubMed PMID: 22128273.
- 29: Matsushima K, Kawashima M, Suzuyama K, Takase Y, Takao T, Matsushima T. Thrombosed giant aneurysm of the distal anterior cerebral artery treated with aneurysm resection and proximal pericallosal artery-callosomarginal artery end-to-end anastomosis: Case report and review of the literature. *Surg Neurol Int*. 2011;2:135. doi: 10.4103/2152-7806.85608. Epub 2011 Sep 30. PubMed PMID: 22059130; PubMed Central PMCID: PMC3205492.
- 30: Koguchi M, Nakahara Y, Kawashima M, Takase Y, Matsushima T. [Successful microvascular decompression of the medulla oblongata for a case with respiratory failure: case report]. *No Shinkei Geka*. 2011 Nov;39(11):1085-9. Japanese. PubMed PMID: 22036821.
- 31: Nakahara Y, Ogata A, Takase Y, Maeda K, Okamoto H, Matsushima T, Sakata S. Treatment of dural arteriovenous fistula presenting as typical symptoms of hydrocephalus caused by venous congestion: case report. *Neurol Med Chir (Tokyo)*. 2011;51(3):229-32. PubMed PMID: 21441742.
- 32: Masuoka J, Matsushima T, Kawashima M, Nakahara Y, Funaki T, Mineta T. Stitched sling retraction technique for microvascular decompression: procedures and techniques based on an anatomical viewpoint. *Neurosurg Rev*. 2011 Jul;34(3):373-9; discussion 379-80. doi: 10.1007/s10143-011-0310-0. Epub 2011 Feb 24. PubMed PMID: 21347661.
- 33: Funaki T, Matsushima T, Masuoka J, Nakahara Y, Takase Y, Kawashima M. Adhesion of rhomboid lip to lower cranial nerves as special consideration in microvascular decompression for hemifacial spasm: Report of two cases. *Surg Neurol Int*. 2010 Nov 18;1:71. doi: 10.4103/2152-7806.72581. PubMed PMID: 21170363; PubMed Central PMCID: PMC2997223.
- 34: Matsushima T, Kawashima M, Masuoka J, Mineta T, Inoue T. Transcondylar fossa (supracondylar transjugular tubercle) approach: anatomic basis for the approach, surgical procedures, and surgical experience. *Skull Base*. 2010 Mar;20(2):83-91. doi: 10.1055/s-0029-1242193. PubMed PMID: 20808532; PubMed Central PMCID: PMC2853075.
- 35: Kawashima M, Noguchi T, Yakushiji Y, Takase Y, Matsushima T. Leptomeningeal collateral and cerebral hemodynamics in patients with ICA and MCA steno-occlusion. *Neurol Res*. 2011 Apr;33(3):307-13. doi: 10.1179/016164110x12714125204434. Epub 2010 Aug 16. PubMed PMID: 20712925.

- 36: Masuoka J, Yoshioka F, Ohgushi H, Kawashima M, Matsushima T. Meningioma manifesting as cerebral infarction. *Neurol Med Chir (Tokyo)*. 2010;50(7):585-7. PubMed PMID: 20671387.
- 37: Kawashima M, Matsushima T, Inoue T, Mineta T, Masuoka J, Hirakawa N. Microvascular decompression for glossopharyngeal neuralgia through the transcondylar fossa (supracondylar transjugular tubercle) approach. *Neurosurgery*. 2010 Jun;66(6 Suppl Operative):275-80; discussion 280. doi: 10.1227/01.NEU.0000369662.36524.CF. PubMed PMID: 20489516.
- 38: Ogata A, Suzuyama K, Koga H, Takase Y, Matsushima T. [Cerebral vasospasm after coil embolization for unruptured internal carotid artery aneurysm: case report]. *No Shinkei Geka*. 2010 Jan;38(1):47-51. Review. Japanese. PubMed PMID: 20085102.
- 39: Inoue K, Seker A, Osawa S, Alencastro LF, Matsushima T, Rhoton AL Jr. Microsurgical and endoscopic anatomy of the supratentorial arachnoidal membranes and cisterns. *Neurosurgery*. 2009 Oct;65(4):644-64; discussion 665. doi: 10.1227/01.NEU.0000351774.81674.32. PubMed PMID: 19834369.
- 40: Masuoka J, Wakamiya T, Mineta T, Takase Y, Kawashima M, Matsushima T. Thrombosis of the superior petrosal vein mimicking brain tumor. Case report. *Neurol Med Chir (Tokyo)*. 2009 Aug;49(8):359-61. PubMed PMID: 19707002.
- 41: Kawashima M, Yamada M, Sato S, Oka H, Fujii K, Matsushima T. Hemifacial spasm caused by vascular compression of the distal portion of the facial nerve associated with configuration variation of the facial and vestibulocochlear nerve complex. *Turk Neurosurg*. 2009 Jul;19(3):269-75. PubMed PMID: 19621293.
- 42: Kawashima M, Matsushima T, Nakahara Y, Takase Y, Masuoka J, Ohata K. Trans-cerebellomedullary fissure approach with special reference to lateral route. *Neurosurg Rev*. 2009 Oct;32(4):457-64. doi: 10.1007/s10143-009-0211-7. Epub 2009 Jul 17. PubMed PMID: 19609581.
- 43: Masuoka J, Matsushima T, Hikita T, Inoue E. Cerebellar swelling after sacrifice of the superior petrosal vein during microvascular decompression for trigeminal neuralgia. *J Clin Neurosci*. 2009 Oct;16(10):1342-4. doi: 10.1016/j.jocn.2008.12.024. Epub 2009 Jul 2. PubMed PMID: 19576780.
- 44: Shimoji K, Miyajima M, Karagiozov K, Yatomi K, Matsushima T, Arai H. Surgical considerations in fourth ventricular ependymoma with the transcerebellomedullary fissure approach in focus. *Childs Nerv Syst*. 2009 Oct;25(10):1221-8. doi: 10.1007/s00381-009-0835-5. Epub 2009 Apr 10. PubMed PMID: 19360422.
- 45: Masuoka J, Sakata S, Maeda K, Matsushima T. Intracranial pial single-channel arteriovenous fistula presenting with significant brain edema. *J Neurosurg*. 2008 Sep;109(3):497-501. doi: 10.3171/JNS/2008/109/9/0497. PubMed PMID: 18759583.
- 46: Kawashima M, Rhoton AL Jr, Matsushima T. Comparison of posterior approaches to the posterior incisural space: microsurgical anatomy and proposal of a new method, the occipital bi-transtentorial/falcine approach. *Neurosurgery*. 2008 Jun;62(6 Suppl 3):1136-49. doi: 10.1227/01.neu.0000333780.12058.44. PubMed PMID: 18695535.
- 47: Matsushima T, Mineta T. [Microvascular compression syndrome: review and update of microvascular decompression surgery]. *No Shinkei Geka*. 2008 Apr;36(4):303-13. Review. Japanese. PubMed PMID: 18411795.
- 48: Nagata S, Matsushima T, Morioka T, Matsukado K, Mihara F, Sasaki T, Fukui M. Unilaterally

symptomatic moyamoya disease in children: long-term follow-up of 20 patients. *Neurosurgery*. 2006 Oct;59(4):830-6; discussion 836-7. PubMed PMID: 17038947.

49: Huynh-Le P, Matsushima T, Muratani H, Hikita T, Hirokawa E. Persistent primitive hypoglossal artery associated with proximal posterior inferior cerebellar artery aneurysm. *Surg Neurol*. 2004 Dec;62(6):546-51; discussion 551. PubMed PMID: 15576127.

50: Phuong HL, Matsushima T, Hisada K, Matsumoto K. Glossopharyngeal neuralgia due to an epidermoid tumour in the cerebellopontine angle. *J Clin Neurosci*. 2004 Sep;11(7):758-60. PubMed PMID: 15337142.

51: Matsushima T, Huynh-Le P, Miyazono M. Trigeminal neuralgia caused by venous compression. *Neurosurgery*. 2004 Aug;55(2):334-7; discussion 338-9. PubMed PMID: 15271239.

52: Hitotsumatsu T, Matsushima T, Inoue T. Microvascular decompression for treatment of trigeminal neuralgia, hemifacial spasm, and glossopharyngeal neuralgia: three surgical approach variations: technical note. *Neurosurgery*. 2003 Dec;53(6):1436-41; discussion 1442-3. Review. PubMed PMID: 14633313.

53: Kawashima M, Matsushima T, Sasaki T. Surgical strategy for distal anterior cerebral artery aneurysms: microsurgical anatomy. *J Neurosurg*. 2003 Sep;99(3):517-25. PubMed PMID: 12959440.

54: Amano T, Inoha S, Wu CM, Matsushima T, Ikezaki K. Serum alpha1-antitrypsin level and phenotype associated with familial moyamoya disease. *Childs Nerv Syst*. 2003 Sep;19(9):655-8. Epub 2003 Jul 25. PubMed PMID: 12955420.

55: Kawashima M, Tanriover N, Rhoton AL Jr, Ulm AJ, Matsushima T. Comparison of the far lateral and extreme lateral variants of the atlanto-occipital transarticular approach to anterior extradural lesions of the craniovertebral junction. *Neurosurgery*. 2003 Sep;53(3):662-74; discussion 674-5. PubMed PMID: 12943582.

56: Miyazono M, Inoue T, Matsushima T. [A surgical case of hemifacial spasm caused by a tortuous, enlarged, and calcified vertebral artery]. *No Shinkei Geka*. 2003 Apr;31(4):437-41. Review. Japanese. PubMed PMID: 12704826.

57: Mihara F, Kuwabara Y, Yoshiura T, Tanaka A, Kaneko K, Sasaki M, Honda H, Matsushima T. Semi-quantitative CBF and CBF ratios obtained using perfusion-weighted MR imaging. *Neuroreport*. 2003 Apr 15;14(5):725-7. PubMed PMID: 12692471.

58: Kawashima M, Matsushima T, Miyazono M, Hirokawa E, Baba H. Two surgical cases of internal carotid-ophthalmic artery aneurysms: special reference to the usefulness of three-dimensional CT angiography. *Neurol Res*. 2002 Dec;24(8):825-8. PubMed PMID: 12500708.

59: Kai Y, Amano T, Inamura T, Matsushima T, Takamatsu M, Kai E, Fukui M. An infant with an intradural lipoma of the cervical spine extending into the posterior fossa. *J Clin Neurosci*. 2003 Jan;10(1):127-30. PubMed PMID: 12464545.

60: Kawashima M, Rhoton AL Jr, Matsushima T. Comparison of posterior approaches to the posterior incisural space: microsurgical anatomy and proposal of a new method, the occipital bi-transtentorial/falcine approach. *Neurosurgery*. 2002 Nov;51(5):1208-20; discussion 1220-1. PubMed PMID: 12383366.

61: Hata N, Matsushima T, Miyazono M, Yoshida F, Matsukado K, Karashima A. [A case of a ruptured

anterior communicating aneurysm which was originally the smallest of several unruptured aneurysms]. No Shinkei Geka. 2002 Apr;30(4):411-4. Japanese. PubMed PMID: 11968828.

62: Goto Y, Matsushima T, Natori Y, Inamura T, Tobimatsu S. Delayed effects of the microvascular decompression on hemifacial spasm: a retrospective study of 131 consecutive operated cases. Neurol Res. 2002 Apr;24(3):296-300. PubMed PMID: 11958425.

63: Hata N, Inamura T, Matsushima T, Yoshimoto K, Ikezaki K, Nakamizo A, Inoha S, Fukui M. [A case of pineoblastoma primary presenting a pineal hemorrhage causing obstructive hydrocephalus]. No Shinkei Geka. 2002 Jan;30(1):65-70. Japanese. PubMed PMID: 11806109.

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