

Aaron A. Cohen-Gadol, M.D., M.Sc.

Skull Base and Cerebrovascular Surgery
Epilepsy Surgery and Brain Mapping



Specialty Areas

Skull Base and Cerebrovascular Surgery
Epilepsy Surgery and Brain Mapping

Medical School

University of Southern California (USC)
Keck School of Medicine, Los Angeles, CA 1993-1997
M.D. Degree with Highest Distinction, May 1997

Residency

University of California, San Diego
San Diego, CA, July 1997 – June 1999

Neurological Surgery, Mayo Clinic
Rochester, MN, July 1999 - June 2002

Chief Resident Associate
Mayo Clinic
Rochester, MN, July 2004 - June 2005

Master's Degree

Clinical Research - Mayo Graduate School
Rochester, MN, July 2003 - June 2005

Fellowships

Epilepsy Surgery and Brain Mapping/Tumor Surgery
Pediatrics and Adults
Mentor: Dr. Dennis D. Spencer
Yale University
New Haven, CT, July 2002 - June 2003

Stereotactic/Functional Neurosurgery
Movement Disorders/Radiosurgery/Pain
Mentor: Dr. Antonio A.F. De Salles
University of California at Los Angeles (UCLA)
Los Angeles, CA, July 2005 - October 2005

Skull Base/Cerebrovascular Surgery
Mentors: Drs. Al-Mefty, Yaşargil, and Krisht
University of Arkansas Medical Sciences Center (UAMS)
Little Rock, AR, November 2005 - June 2006

Board Certifications and Licensure

American Board of Neurological Surgery (ABNS): Board Eligible
Indiana: Number 01062386A
California: Number A68020
Minnesota: Number 42401
Arkansas: Number E-4433

Hospital Affiliations

Methodist Hospital
St. Vincent Hospital

Experience

University of California at Los Angeles (UCLA)
Attending Neurosurgeon
Los Angeles, CA
July 2005 - October 2005

University of Arkansas Medical Sciences Center
Instructor in Neurosurgery
Attending Neurosurgeon
Little Rock, AR
November 2005 - June 2006

Arkansas Children Hospital
Attending Neurosurgeon
Little Rock, AR
November 2005 - June 2006

Indianapolis Neurosurgical Group (ING)
Clarian Neuroscience Center (Methodist, Indiana University, and Riley Hospitals)
Clinical Assistant Professor
Indiana University Department of Neurosurgery
Indianapolis, IN
September 2006 - present

Professional Memberships

American Association of Neurological Surgeons (AANS)
Congress of Neurological Surgeons (CNS)
Council of State Neurosurgical Societies (CSNS)
American Epilepsy Society (AES)
International Brain Mapping and Intra-operative Surgical
Planning Society (IBMISPS)
The Hemispherectomy Foundation – Co-Chair of the Medical Advisory Board

Books/Book Chapters

Cohen-Gadol, A. A., and D. D. Spencer. *The Legacy of Harvey Cushing: Profiles of Patient Care*. Thieme, New York 2007.

Melamed, I., and A. A. Cohen-Gadol. Early post-surgical management of patients with epilepsy. In *Textbook of Epilepsy Surgery*, edited by H. Luders et al (in press).

Connolly, P. J., D. D. Spencer, and A. A. Cohen-Gadol. History of Epilepsy Surgery. In *Textbook of Epilepsy Surgery*, edited by H. Luders et al (in press).

Cohen-Gadol, A. A. and O. Al-Mefty. Skull Base Tumors. In *Neuro-Oncology: The Essentials*, edited by M. S. Berger, and M. Bernstein (in press).

Cohen-Gadol, A. A., and D. D. Spencer. MRI-normal medial temporal lobe epilepsy has a less favorable surgical outcome. In *Epilepsy Surgery: Principles and Controversies* edited by J. W. Miller et al. New York: Taylor & Francis Group, 2006: 100-104.

Publications

Miles PD, Romeo O, Higo K, Cohen-Gadol AA, Rafaat K, Olesky JM. TNF-Alpha induced insulin resistance in vivo and its prevention by Troglitazone. *Diabetes* 46:1678-83, 1997.

Miles PD, Hart M, Romeo O, Cheng J, Cohen-Gadol AA, Rafaat K, Moossa AR, Olefsky J. Mechanisms of insulin resistance in experimental hyperinsulinemic dogs. *J Clin Invest* 101: 202-11, 1998.

Chen JC, O'Day S, Morton D, Essner R, Cohen-Gadol AA, MacPherson D, Giannotta SL, Petrovich Z, Yu C, Apuzzo ML. Stereotactic radiosurgery in the treatment of metastatic disease to the brain. *Stereotact Funct Neurosurg* 73(1-4):60-3, 1999.

Lavine SD, Petrovich Z, Cohen-Gadol AA, Masri LS, Morton DL, O'Day SJ, Essner R, Zelman V, Yu C, Luxton G, Apuzzo ML. Gamma knife radiosurgery for

metastatic melanoma: An analysis of survival, outcome, and complications. *Neurosurgery* 44(1):59-66, 1999.

Kadyrov NA, Friedman JA, Nichols DA, Cohen-Gadol AA, Link MJ, Piepgras DG. Endovascular treatment of an internal carotid artery pseudoaneurysm following transphenoidal surgery. Case Report. *J Neurosurg* 96(3):624-7, 2002.

Wetjen NM, Cohen-Gadol AA, Maher CO, Marsh WR, Meyer FB, Cascino GD. Frontal lobe epilepsy: diagnosis and surgical management. *Neurosurg Rev* 24:119-138, 2002.

Cohen-Gadol AA, Britton JW, Friedman JA, Marsh WR. Transient postictal MR abnormality of the corpus callosum in a patient with epilepsy: Case report and review of the literature. *J Neurosurg* 97:714-717, 2002.

Ecker RD, Goerss SJ, Meyer FB, Cohen-Gadol AA, Britton JW, Levine JA. Vision of the future: Initial experience with real-time intraoperative high-resolution dynamic infrared imaging (DIRI). *J Neurosurg* 97:1460-1471, 2002.

Cohen-Gadol AA, Dekutoski MB, Kim CW, Quast LM, Krauss WE. Safety of supplemental endplate screws in thoracic pedicle hook fixation. *J Neurosurg-Spine* 98:31-35, 2003.

Inoue T, Cohen-Gadol AA, Krauss WE. Low-pressure headaches and spinal cord herniation: Case report. *J Neurosurg-Spine* 98:93-95, 2003.

Cohen-Gadol AA, Britton JW, Wetjen NM, Marsh WR, Meyer FB, Raffel C. Neurostimulation therapies in epilepsy: current modalities and future directions. *Mayo Clin Proc.* 78(2):238-48, 2003.

Cohen-Gadol AA, White CB, Dekutoski MB, Shaughnessy WJ. Arterial-esophageal fistula: A complication of nasogastric tube placement following lumbar spine surgery: Case report. *Spine* 28(5):E98-E101, 2003.

Cohen-Gadol AA, Zikel OM, Scheithauer BW, Krauss WE. Spinal meningiomas in patients under age 50: A 21 year experience. *J Neurosurg-Spine* 98:258-63, 2003.

Cohen-Gadol AA, Zikel OM, Aksamit AJ, Miller GM, Scheithauer BW, Krauss WE. Spinal cord biopsy: A review of 38 cases. *Neurosurgery* 52(4):806-16, 2003.

Cohen-Gadol AA, Stoffman MR, Spencer DD. Emerging surgical and radiotherapeutic techniques for treating epilepsy. *Curr Opin Neurol* 16:213-219, 2003.

Cohen-Gadol AA, Pichelmann MA, Link MJ, Scheithauer BW, Krecke KN, Young WF, Hardy J, Giannini C. Granular cell tumor of the neurohypophysis: a clinicopathologic study of 11 cases. *Mayo Clin Proc* 78:567-573, 2003.

Cohen-Gadol AA, Britton JW, Collignon F, Bates LM, Cascino GD, Meyer FB. Central lobule seizures: the use of awake cortical mapping and subdural grid monitoring for resection of seizure focus. *J Neurosurg* 98: 1255-62, 2003.

Cohen-Gadol AA, Matsumoto JY, Ahlskog JE, Swansen MA, McClelland R, Davis DH. Selective peripheral denervation for intractable torticollis: Experience with 168 patients at the Mayo Clinic. *J Neurosurg* 98: 1247-54, 2003.

Cohen-Gadol AA, Davis DH. Selective peripheral denervation for intractable torticollis: Experience with 168 patients at the Mayo Clinic Editorial response letter [Comment]. *J Neurosurg* 100:172, 2004.

Cohen-Gadol AA, Leavitt JA, Lynch JJ, Marsh WR, Meyer FB, Cascino GD. A prospective analysis of diplopia after temporal lobectomy for mesial temporal lobe sclerosis. *J Neurosurg* 99:496-499, 2003.

Maher CO, Cohen-Gadol AA, Raffel C. Cortical resection for epilepsy in children with linear sebaceous nevus syndrome. *Pediatr Neurosurg* 39: 129-35, 2003.

Cohen-Gadol AA, Koch CA, Raffel C, Spinner RJ. Confirmation of research publications reported by neurological surgery residency applicants. *Surg Neurol* 60: 280-4, 2003.

Mclver JI, Link MJ, Giannini C, Cohen-Gadol AA, Driscoll C. Choroid plexus papilloma and meningioma: coincidental posterior fossa tumors. Case report and review of the literature. *Surg Neurol* 60: 360-365, 2003.

Cohen-Gadol AA, Spencer DD. The use of an antereomedial subdural strip in the evaluation of medial temporal lobe epilepsy - Technical note. *J Neurosurg* 99:921-23, 2003.

Collignon FP, Cohen-Gadol AA, Piepgras DG. Hemangiopericytoma of the confluence of sinuses and the transverse sinuses: Case report. *J Neurosurg* 99:1085-88, 2003.

Cohen-Gadol AA, Spencer DD. Inauguration of pediatric neurosurgery by Harvey W. Cushing: his contributions to the surgery of posterior fossa tumors in children. *J Neurosurg: Peds* 100(2 Suppl):225-31, 2004.

Cohen-Gadol AA, DiLuna ML, Spencer DD. Partial epilepsy presenting as episodic dyspnea: a specific network involved in limbic seizure propagation. *J Neurosurg* 100(3): 565-7, 2004.

Cohen-Gadol AA, Britton, JW, Worrell GA, Meyer, FB. Transient cortical abnormalities on magnetic resonance imaging after status epilepticus – Case report. *Surg Neurol* 61:479-82, 2004.

Cohen-Gadol AA, Krauss WE, Spinner RJ. Delayed central nervous system superficial siderosis following brachial plexus avulsion injury. *Neurosurg Focus* 16: Article 10, 2004.

Collignon FP, Cohen-Gadol AA, Krauss, WE. Circumferential decompression of the foramen magnum for the treatment of syringomyelia associated with basilar invagination. *Neurosurg Rev* 27:168-72, 2004.

Cohen-Gadol AA, White JB, Lynch JJ, Miller GM, Krauss WE. Synovial cysts of the thoracic spine. *J Neurosurg-Spine* 1:52-57, 2004.

Cohen-Gadol AA, Ozduman K, Bronen RA, Kim JH, Spencer DD. Long-term outcome after epilepsy surgery for focal cortical dysplasia. *J Neurosurg* 101:55-65, 2004.

Schäuble B, Cascino GD, Pollock BE, Gorman DA, Weigand S, Cohen-Gadol AA, McClelland RL. Seizure outcomes after stereotactic radiosurgery for cerebral arteriovenous malformations. *Neurology* 63:683-687, 2004.

Cohen-Gadol AA, Spencer DD. Harvey W. Cushing and cerebrovascular surgery: Part II: Vascular malformations. *J Neurosurg* 101:553-559, 2004.

Cohen-Gadol AA, Spencer DD. Harvey W. Cushing and cerebrovascular surgery: Part I: Aneurysms. *J Neurosurg* 101:547-552, 2004.

Cohen-Gadol AA, DiLuna ML, Piepmeier J, Spencer DD. Non-enhancing de novo glioblastomas: report of two cases. *Neurosurg Rev* 27:281-285, 2004.

Cohen-Gadol AA, Pan JW, Kim JH, Spencer DD, Hetherington HH. Mesial temporal lobe epilepsy: a proton magnetic resonance spectroscopy study and a histopathologic analysis. *J Neurosurg* 101:613-620, 2004.

Cohen-Gadol AA, Westerveld M, Alvarez-Carilles J, Stoddard KR, Spencer DD. Intracarotid amygdala memory and hippocampal MRI volumetry: validity of the Wada test as an indicator of hippocampal integrity among the candidates for epilepsy surgery. *J Neurosurg* 101:926-31, 2004.

Cohen-Gadol AA, Spencer, DD. Epilepsy surgery in 2005. *Neurosurgery Quarterly* 14:198-203, 2004.

Cohen-Gadol AA, Spencer DD. The development of techniques for resection of spinal cord tumors by Harvey W. Cushing. *J Neurosurg-Spine* 2: 92-97, 2005.

Cohen-Gadol AA, Piepgras DG, Krishnamurthy S, Fessler RD. Residency work-hours reform: the results of a national survey of the program directors and residents in neurosurgery training programs. *Neurosurgery* 56:398-403, 2005.

Cohen-Gadol AA, Atkinson P, Krauss WE. CNS superficial siderosis following spinal surgery: case report. *J Neurosurg-Spine* 2:206-208, 2005.

Cohen-Gadol AA, Homan MJ, Laws ER, Atkinson JDL, Miller R. The Mayo brothers and Harvey Cushing: a review of their personal letters through their 39-year friendship. *J Neurosurg* 102:391-396, 2005.

Pan JW, Kim JH, Cohen-Gadol AA, Pan C, Spencer DD, Hetherington HP. Regional energetic dysfunction in hippocampal epilepsy. *Acta Neurol Scand* 111:218-24, 2005.

Voorhees JR, Cohen-Gadol AA, Laws ER, Spencer DD. Battling blood loss in neurosurgery: Harvey Cushing's embrace of electrosurgery. *J Neurosurg* 102:745-752, 2005.

Cohen-Gadol AA, Voorhees JR, Laws ER, Spencer DD. Battling blood loss in neurosurgery: Harvey Cushing's embrace of electrosurgery. Editorial response letter [Comment] *J Neurosurg* 102: 599-600, 2005.

Voorhees JR, Cohen-Gadol AA, Spencer DD. The early evolution of neurological surgery: conquering increased intracranial pressure, infection, and blood loss. *Neurosurg Focus* 18:(4)e2, 2005.

Jacob JT, Cohen-Gadol AA, Maher CO, Meyer FB. Transorbital penetrating brain stem injury in a child: case report. *J Neurosurg-Peds*: 102:350-352, 2005.

Krauss WE, Edwards DA, Cohen-Gadol AA. Transthoracic discectomy without interbody fusion. *Surg Neurol* 63:403-8, 2005.

Cohen-Gadol AA, Nahed BV, Voorhees JR, Spencer DD. Cushing's experience with the surgical treatment of spinal dysraphism. *J Neurosurg-Peds* 102:441-444, 2005.

Cohen-Gadol AA, Bradley CC, Williamson A, Kim JH, Westerveld M, Duckrow BB, Spencer DD. Normal magnetic resonance imaging and medial temporal lobe epilepsy: the clinical syndrome of paradoxical temporal lobe epilepsy. *J Neurosurg* 102:902-909, 2005.

Spencer, DD, Cohen-Gadol AA. Normal magnetic resonance imaging and medial temporal lobe epilepsy: the clinical syndrome of paradoxical temporal lobe epilepsy. Editorial response letter [Comment] *J Neurosurg* (in press).

Cohen-Gadol AA, Laws ER, Spencer DD. The evolution of Harvey Cushing's surgical approach to pituitary tumors from transsphenoidal to transfrontal. *J Neurosurg* 103:372-377, 2005.

Maramattom BV, Cohen-Gadol AA, Wijdicks EFM, Kallmes D. Segmental cutaneous hemangioma and spinal arteriovenous malformation (Cobb Syndrome): A case report and historical perspective. *J Neurosurg-Spine* 3:249-252, 2005.

Cohen-Gadol AA, Liu JK, Laws ER. Cushing's first case of transsphenoidal surgery: the launch of pituitary surgery era. *J Neurosurg* 103: 570-574, 2005.

Jacob JT, Cohen-Gadol AA, Scheithauer BW, Krauss WE. Intramedullary spinal cord gangliocytoma: case report and a review of the literature. *Neurosurg Rev* 28:326-329, 2005.

Liu JK, Cohen-Gadol AA, Laws ER Jr, Cole CD, Kan P, Couldwell WT. Harvey Cushing and Oscar Hirsch: Early forefathers of modern transsphenoidal surgery. *J Neurosurg* 103:1096-1104, 2005.

Cohen-Gadol AA, Jacob JT, Edwards DA, Krauss WE. Coexistence of intracranial and spinal cavernous malformations: a study of prevalence and natural history. *J Neurosurg* 104:376-381, 2006.

Cohen-Gadol AA, Wilhelmi BG, Collignon F, White JB, Britton JW, Cambier DM, Christianson TJH, Marsh WR, Meyer FB, Cascino GD. Long-term outcome of epilepsy surgery among 399 patients with non-lesional seizure foci including mesial temporal lobe sclerosis. *J Neurosurg* 104:513-524, 2006.

Cohen-Gadol AA, Mokri B, Piepgras DG, Meyer FB, Atkinson JL. Surgical anatomy of dural defects in spontaneous spinal cerebrospinal fluid leaks. *Neurosurgery* 58: 238-245, 2006.

Kumar N, Cohen-Gadol AA, Wright A, Miller GM, Ahlskog JE. Superficial siderosis. *Neurology* 66:1144-1152, 2006.

Cohen-Gadol AA, Pollock BE. Radiosurgery for arteriovenous malformations in children. *J Neurosurg* 104:388-391, 2006.

Collignon F, Wetjen NM, Cohen-Gadol AA, Cascino GD, Parisi J, Meyer FB, Marsh WR, Roche P, Weigand SD. Altered expression of connexin subtypes in mesial temporal lobe epilepsy in humans. *J Neurosurg* 105:77-87, 2006.

Clarke MJ, Cohen-Gadol AA, Ebersold MJ, Cabanela ME. Long-term incidence of subaxial cervical spine instability following cervical arthrodesis surgery in patients with rheumatoid arthritis. *Surg Neurol* 66:136-40, 2006.

Maher CO, Cohen-Gadol AA, Raffel C. Pediatric neurosurgery. *Prog Neurol Surg* 19:97-106, 2006.

Tubbs RS, Loukas M, Shoja MM, Cohen-Gadol AA, Wellons JC 3rd, Oakes WJ. Roots of neuroanatomy, neurology, and neurosurgery as found in the Bible and Talmud. *Neurosurgery*. 63(1):156-62; discussion 162-3, 2008.

Tubbs RS, Parmar A, Noordeh N, Rogers C, Rogers N, Loukas M, Shoja MM, Cohen-Gadol AA, Ital J. Surgical anatomy of the radial nerve and profunda brachii artery within the triangular interval. *Anat Embryol*. Jul-Sep;113(3):129-34, 2008.

Van Gompel JJ, Stead SM, Giannini C, Meyer FB, Marsh WR, Fountain E, So E, Cohen-Gadol AA, Lee KH, Worrell GA. Phase I trial: safety and feasibility of intracranial electroencephalography using hybrid subdural electrodes containing macro- and microelectrode arrays. *Neurosurg Focus*. Sep;25(3):E23, 2008.

Tubbs RS, Loukas M, Shoja MM, Shokouhi G, Wellons JC, Oakes WJ, Cohen-Gadol AA. The contralateral long thoracic nerve as a donor for upper brachial plexus neurotization procedures: A cadaveric feasibility study. *J Neurosurg*. Sep 26, 2008.

Shelton BA, O'Hara E, Tubbs RS, Shoja MM, Barker FG, Cohen-Gadol AA. Emergency suboccipital decompression for respiratory arrest during supratentorial surgery: the untold story of a surgeon's courage in times of despair. *J Neurosurg*. Oct. 31, 2008.

Voorhees JR, Tubbs RS, Nahed B, Cohen-Gadol AA. William S. Halsted and Harvey W. Cushing: reflections on their complex association. *J Neurosurg*. Oct 31, 2008.

Akard W. Tubbs RS, Seymour ZA, Hitselberger WE, Cohen-Gadol AA. Evolution of techniques for the resection of vestibular schwannomas: from saving life to saving function. *J Neurosurg*. Nov. 7, 2008.

Cohen-Gadol AA. Acute ventriculoperitoneal shunt malfunction following opening of the spinal subarachnoid space. *Childs Nerv Syst* Jan 29, 2009.

Tubbs RS, El-Zammer D, Rogers ME, Kelly DR, Lott R, Chua GD, Shoja MM, Loukas M, Oakes WJ, Cohen-Gadol AA. The existence of hypoglossal root ganglion cells in adult humans: potential clinical implications. *Surg Radiol Anat*. Mar., 31(3): 173-176, 2009.

Shoja MM, Tubbs RS, Loukas M, Khalili M, Alakbarli F, Cohen-Gadol AA. Vasovagal synope in the Canon of Avicenna: The first mention of carotid artery hypersensitivity. *Int J Cardiol*. Mar 28, 2009 (Epub ahead of print).

Wahl CJ, Tubbs RS, Spencer DD, Cohen-Gadol AA. Harvey Cushing as a book collector, bibliophile, and archivist: the precedence for the genesis of the Brain Tumor Registry. *J Neurosurg*. April 3, 2009 (Epub ahead of print).

Cohen-Gadol AA, Geryk B, Binder DK, Tubbs RS. Conquering the third ventricular chamber. *J Neurosurg*. April 10, 2009 (Epub ahead of print).

Tubbs RS, Miller J, Loukas M, Shoja MM, Shokouhi G, Cohen-Gadol AA. Surgical and anatomical landmarks for the perineal branch of the posterior femoral cutaneous nerve: implications in perineal pain syndromes. *J Neurosurg*. April 10, 2009 (Epub ahead of print).

Tubbs RS, Loukas M, Hill M, Shoja MM, Cohen-Gadol AA. Richard Lower (1631-1691): acknowledging his notable contributions to the exploration of the nervous system. *J Neurosurg*. April 10, 2009 (Epub ahead of print).

Tubbs RS, Loukas M, Shoja MM, Cohen-Gadol AA. Emergency transorbital ventricular puncture: refinement of external landmarks. *J Neurosurg*. April 17, 2009 (Epub ahead of print).

Tubbs RS, Apadin N, Uz A, Sullivan A, Loukas M, Shoja MM, Cohen-Gadol AA. Anatomy of the lateral intermuscular septum of the arm and its relationships to the radial nerve and its proximal branches. *J Neurosurg* April 17, 2009 (Epub ahead of print).

Tubbs RS, Loukas M, Shoja MM, Wellons JC, Cohen-Gadol AA. Feasibility of ventricular expansion postmortem: a novel laboratory model for neurosurgical training that simulates intraventricular endoscopic surgery. *J Neurosurg*. April 24, 2009 (Epub ahead of print).

Tubbs RS, Shoja MM, Loukas M, Oakes WJ, Cohen-Gadol AA. William Henry Battle and Battle's sign: mastoid ecchymosis as an indicator of basilar skull fracture. *J Neurosurg*. April 24, 2009 (Epub ahead of print).

Cohen-Gadol AA, Friedman JA, Friedman JD, Tubbs RS, Munis JR, Meyer FB. Neurosurgical management of intracranial lesions in the pregnant patient: a 36-year institutional experience and review of literature. *J Neurosurg*. May 1, 2009 (Epub ahead of print).

Tubbs RS, Groat C, Loukas M, Shoja MM, Ardalan MR, Cohen-Gadol AA. Pierre Dionis (1643-1718): surgeon and anatomist. *Singapore Med J*. 2009 April;50(4):447-449.

Presentations

Junna, M. R., R. D. Buechler, A. A. Cohen-Gadol, and G. D. Cascino. Prognostic Importance of Risk Factors for Temporal Lobe Epilepsy in Patients Undergoing Surgical Treatment. Presented at the American Epilepsy Society meeting, December 2007.

Cohen-Gadol, Aaron. Some of Harvey Cushing's Contributions to Posterior Fossa Neurosurgery. Presented at UCLA Neurosurgery Ground Rounds, August 2005.

Liu, J. K., D. Abeloff, A. A. Cohen-Gadol, R. W. Crosby, G. P. Lees, and W. T. Couldwell. Max Brödel: His art, legacy, and contributions to neurosurgery through medical illustration Presented to the American Association of Neurological Surgeons, New Orleans, 2005.

Cohen-Gadol, Aaron. Perforating arteries of the proximal anterior cerebral circulation: surgical anatomy and clinical implications. Presented at Mayo Clinic Neurosurgery Department Ground Rounds, October 8, 2004.

Cohen-Gadol, A. A., D. G. Piepgras, S. Krishnamurthy, and R. D. Fessler. Resident duty-hours reform: The results of a national survey of the program directors and residents in neurosurgery training programs. Presented to the Congress of Neurological Surgeons, San Francisco, 2004.