

# DANIEL M. LIEBERMAN, MD

## Curriculum Vitae

### Office Locations:

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### Education:

- 1983 – 1987 Bachelor of Science: Mathematics and Computer Science  
Pepperdine University, Malibu, California
- 1987 – 1991 Medical Doctor  
University of Arizona, College of Medicine, Tucson, Arizona
- 1991 – 1994 Staff Fellow – CNS Implantation Laboratory, Surgical Neurology Branch,  
National Institute of Neurologic Disorders and Stroke,  
National Institutes of Health, Bethesda, Maryland
- 1994 – 1995 Intern – Department of General Surgery  
University of California, San Francisco, California
- 1995 – 1999 Resident – Department of Neurological Surgery  
University of California, San Francisco, California
- 1999 – 2000 Chief Resident – Department of Neurological Surgery  
University of California, San Francisco, California

### Employment History:

- 2007 – present President and CEO  
Palindrome HealthCare, LLC
- 2005 – present President and CEO  
doclopedia, LLC
- 2003 – present President and CEO  
Arizona Center for Neurosurgery, LTD
- 2000 – 2003 Partner  
Neurological Surgeons, PC

### Certification and Licensure:

Arizona State License #28519  
Drug Enforcement Administration #BL5008188  
American Board of Neurologic Surgery Certification 2006  
American Board of Neurologic Surgery Primary Examination, 1998  
National Board of Medical Examiners (Parts I, II, III), 1995

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### Volunteer Work:

2005 – 2006 President, Parent Teacher Organization, Pardes Jewish Day School

2006 – 2007 Medical Advisor to the Board of Epi-Hab.

### Honors and Awards:

*Special Appreciation Award*, presented by the University of California San Francisco Department of Pediatrics in recognition of outstanding patient care and dedication to teaching, 1999.

*Resident Research Award*, presented by the Hydrocephalus Foundation at the Joint Section on Pediatric Neurosurgery of the American Association of Neurological Surgeons and Congress of Neurological Surgeons Annual Meeting, New Orleans, Louisiana, 1998.

*Resident Research Award*, presented by the Joint Section on Stereotactic and Functional Neurosurgery of the American Association of Neurological Surgeons and Congress of Neurological Surgeons, 1996.

*Outstanding Summer Student Award*, presented by the National Institute of Neurologic Disorders and Stroke of the National Institutes of Health, 1989.

Cum Laude graduate of Pepperdine University, 1987.

Alpha Chi National Honor Society at Pepperdine University, 1986.

### Professional Appointments:

2006 – present Fellow, International College of Surgeons

2005 – present Chair Governing Board, Surgical Specialty Hospital of Arizona

2005 – 2007 Director, Camelback Community Bank, Phoenix, AZ.

2004 – present Adjunct Faculty,  
The Biodesign Institute, Arizona State University

2002 Adjunct Professor, Department of Bioengineering,  
Arizona State University

2003 – 2005 Chair, Neuroscience Division, Banner Good Samaritan Medical Center

1988 – 2001 Class Representative, University of Arizona College of Medicine

1993 – 1994 Animal Care and Use Committee, National Institutes of Neurologic Disorders and Stroke

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### Grants and Awards:

Research Career Award, National Institutes of Health, 1998 - 2000, \$80,000.

### Intellectual Property:

Doclopedia, Trademark, Int Cls: 35 and 42, registration no. 3,384,139, serial no. 77-085,003, filed 1/17/2007.

Spinal Vertebral Fusion Implant and Method, US Pat # 6837905, 1/4/05.

Spinal Vertebral Fusion Implant and Method, continuation in part (10/257,000) 6/04, patent pending.

Guide for Insertion into the Spinal Epidural Space Through a Tubular Retractor, submitted 9/26/04, patent pending.

Method and Apparatus for Irrigation and Drainage of the Brain's Subdural Space Using Percutaneous Approach (10/646,903) filed 8/22/03, patent pending.

Method and Apparatus for Irrigation and Drainage of the Brain's Subdural Space Using Percutaneous Approach – continuation in part, patent pending.

Health Care Payment System and Method (11/215,656) filed 8/30/05, patent pending.

### Research Publications:

Lieberman DM, Matz PG, Rosegay HR: History of the strain gauge and the measurement of intracranial pressure from engineers to physiologists and clinicians, *J Trauma*. 2002 Jan;52(1):172-8.

Lieberman DM, Corthesy ME, Cummins A, Oldfield EH: Reversal of experimental parkinsonism by using selective chemical ablation of the medical globus pallidus. *J Neurosurg* 1999; 90(5) 928-34.

Smoots DW, Geyer JR, Lieberman DM, Berger MS: Predicting disease progression in childhood cerebellar astrocytoma. **Child's Nervous System** 1998; 14(11): 636-48.

Laske DW, Morrison PF, Lieberman DM, Corthesy ME, Reynolds JC, Stewart-Henney PA, Koong SS, Cummins A, Paik CH, and Oldfield EH: Chronic interstitial infusion of protein to primate brain: determination of drug distribution and clearance with single-photon emission computerized tomography imaging. *J. Neurosurg* 87:586-94, 1997.

Lieberman DM, Laske DW, Morrison PF, Bankiewicz KS, Oldfield EH. Convection-enhanced distribution of large molecules in gray matter during interstitial drug infusion. *J. Neurosurg* 1995; 82:1021-9.

Weeks BS, Lieberman DM, Johnson B, et al. Neurotoxicity of the human immunodeficiency virus type 1 tat transactivator to PC12 cells requires the Tat amino acid 45-58 basic domain. *J. Neurosci Res.* 1995; 42:34-40.

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Wang J, Lieberman D, Tabubo H, Finberg JP, Oldfield EH, Bankiewicz KS. Effects of gliosis on dopamine metabolism in rat striatum. *Brain Res.* 1994; 663: 199-205.

### Research Publications continued:

Yadid G, Pacak K, Golomb E, et al. Glycine stimulates striatal dopamine release in conscious rats. *Dr. J. Pharmacol.* 1993; 110:50-3.

Saris SC, Spiess P, Lieberman DM, Lin S, Walbridge S, Oldfield EH. Treatment of mutine primary brain tumors with systemic interleukin-2 and tumor-infiltrating lymphocytes. *J. Neurosurg* 1992; 76:513-9.

### Book Chapters:

Lieberman DM, Russo C, Berger M: Brain Tumors during the first two years of life. *Principles and practice of pediatric neurosurgery.* Albright L, McCutcheon I eds. Thieme, London, 1998.

Lieberman DM, Berger MS, Surgical treatment of brain tumors during the first two years of life. *Operative Techniques in Pediatric Neurosurgery.* Albright I, McCutcheon I eds. Thieme, London, 1999.

### Published Letters:

Lieberman D. Intracerebral microdialysis. *J. Neurosurg* 1996; 85:984-5.

### Oral Presentations at Scientific Meetings:

Lieberman DM, Matz PG, Rosegay H: History of the strain gauge and the measurement of intracranial pressure: from engineers to physiologists and clinicians, The American Association of Neurological Surgeons 67th annual meeting, April 24-29, New Orleans, LA, 1999.

Lieberman DM, Lester S, Holland M, Wood M, Hemphill C, Matej I, gauges G: In vitro detention of fluid flow in ventriculoperitoneal shunts (VPS) using contrast enhanced ultrasound. AANS/CNS Section on Pediatric Neurological Surgery of The American Association of Neurological Surgeons and Congress of Neurological Surgeons - Indianapolis, IN. December 1-4, 1998.

Lieberman DM, McCormack B, Pitts L, Sluckey A, Weinstein PR: Is anterior resection of odontoid pseudotumor necessary for reversal of myelopathy? Congress of Neurologic Surgeons Annual Meeting, - Seattle, WA, 1998. Also presented at the Western Neurosurgical Society, Napa Valley, CA 1998.

Manley GT, Lieberman DM, Eichbaum E, Beck C, Wachhorst S, Chestnut R, McCormack B: Odontoid screw fixation results in 36 patients and comparative analysis of alternative techniques. Congress of Neurologic Surgeons Annual Meeting - Seattle, WA, 1998.

McCormack B, Lieberman D, Eichbaum E, Beck C, Wachhorst S, Manley G: Odontoid screw fixation: results in 36 patients and comparative analysis of alternative techniques. Western Neurosurgical Society, Napa Valley, CA 1998.

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Lieberman DM, Eichbaum E, McCormack B: When is posterior transarticular facet screw fixation the surgical procedure of choice for atlantoaxial arthrodesis? North American Spine Society, San Francisco, CA, 1998.

### Oral Presentations at Scientific Meetings continued:

Lieberman DM, Gulla V, Lamiborn K, McCormack B, Risks, benefits and alternatives to atlantoaxial arthrodesis with posterior transarticular facet screws. The American Association of Neurologic Surgeons 66th annual meeting - Philadelphia, PA, 1998.

Lieberman DM, Geyer D, Smoots R, Berger M, Predicting disease progression in childhood cerebellar astrocytoma. The Annual Meeting of the Joint Section on Pediatric Neurological Surgery New Orleans, LA, December 2 - 5, 1997.

Andrew K. Metzger, M.D., Yuriko A. Minn, B.A., Daniel Lieberman, M.D., Andrew W. Bollen, M.D., Charles B. Wilson, M.D., Burt G. Feuerstein, M.D., Ph.D. Malignant meningiomas frequently lose multiple chromosomal regions in addition to 22q: putative meningioma progression loci identified by comparative genomic hybridization. Oral presentation, Congress of Neurologic Surgeons Annual Meeting, New Orleans, LA November 1997.

Lieberman DM, Corthesy ME, Oldfield EH. Selective lesioning of large brain structures by high-flow microinfusion of neurotoxins: chemopallidotomy reverses experimental parkinsonism, American Association of Neurologic Surgeons 64th annual meeting - Plenary Session 1, Minneapolis, MN, April 27 - May 6, 1996.

Corthesy ME, Laske DW, Lieberman DM, et al. Chronic interstitial infusion with implanted pumps in primates: SPECT imaging determination of brain drug distribution and clearance. The American Association of Neurologic Surgeons Annual Meeting, 1995.

DeVroom HL, Ilercil O, Katz D, et al. Clinical experience with convection enhanced drug delivery in the brain. Paper, Tumor: CNS 1994 Annual Meeting, 1994.

### Poster Presentations:

McCormack BM, Lieberman D: Fusion techniques in patients with symptomatic as odontoid. Congress of neurologic surgeons, Boston, MA 1999.

Lieberman DM, Grant E, Wood M, Barbaro N: Image-guided, frame based stereotaxic technique for use in experimental neurosurgery. Congress of Neurologic Surgeons, Seattle, WA 1998.

Lieberman DM, Chang SM, Aldape KD, Vigneron DB, Wilson CB. Diffuse subarachnoid spread of Juvenile Pilocytic Astrocytoma. Poster presentation, Annual Meeting of the Joint Section on Pediatric: Neurological Surgery New Orleans, LA, December 2 - 5, 1997.

Lieberman DM, Weeks B, Kleinman H, Laske D, Oldfield EH. How does HIV damage the central nervous system without infecting it? Congress of Neurological Surgeons 43rd

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annual meeting - posters - stereotaxic and functional. Vol. Stereotaxic and functional posters. Vancouver, B.C.: Congress of neurological surgeons 43rd annual meeting, 1993.

### **Poster Presentations continued:**

Lieberman DM, Takubo H, Wang J, Bankiewicz KS, Cummins A, Rosenstein J. Direct interstitial injection of neurotrophic factors in hemiparkinsonism rats. Congress of neurological surgeons 43rd annual meeting - Posters - stereotaxic and functional, Vancouver, BC, 1993. Vol. 1.

Lieberman DM, Bankiewicz KS, Laske DS, Wang J, Cummins A, Oldfield EH. Convection-enhanced distribution of large molecules in the striatum of the Rhesus Macaque. Vol. Functional and stereotaxic posters. Vancouver, B.C.: Congress of neurological surgeons 43rd annual meeting, 1993-261.

Tornatore C, Bankiewicz KS, Lieberman DM, Major E. Implantation and survival of a human fetal astrocyte cell line in the basal ganglia of the non-human primate Rhesus.

### **Research:**

Deep Brain Stimulation for treatment of medically refractory Parkinson Disease, Principal Investigator, IDE, 2001.

Eon™ Paddle Study

Mobi-C cervical Disc Prosthesis Anterior Cervical Interbody Mechanical Device

A Multi-Center, Prospective, Randomized, Controlled Clinical Trial Comparing the Safety and Effectiveness of the XXX Prosthesis to Conventional Anterior Cervical Discectomy and Fusion in the Treatment of Symptomatic Degenerative Disc Disease (DDD) in the Cervical Spine