PEYMAN PAKZABAN, M.D.
CURRICULUM VITAE

Professional Data and Contact Information

Clinical Specialty:	Neurosurgery
Practice Name:	Peyman Pakzaban, M.D., P.A. (*DBA:* Houston MicroNeurosurgery)
Hospital Affiliations:	Bayshore Medical Center Patients Medical Center Memorial Hermann Southeast Hospital
Office Location:	3801 Vista Rd., Suite 440 Pasadena, Texas 77504 Phone: 713.941.0008 Fax: 713.941.6262
E-mail:	doctor@pakzaban.com
Web Site:	www.pakzaban.com
Clinical Interests:	Spine microsurgery and instrumentation Brain and pituitary tumors Aneurysms and vascular malformations Stereotactic and computer-aided image-guided surgery Surgery for trigeminal neuralgia Deep brain stimulation for movement disorders Vagus nerve stimulation for epilepsy
Research Interests:	Minimally invasive spine surgery Intraoperative spine localization
Boards and Licensure:	Board-Certified by the American Board of Neurological Surgery Licensed by the Texas Medical Board (License Number: H8305)

Education

Massachusetts General Hospital – Harvard Medical School, Boston, MA

1995-1996: Chief Residency in Neurosurgery, Massachusetts General Hospital
1990-1995: Residency in Neurosurgery, Massachusetts General Hospital
1992-1994: Fellowship in Neurobiology, NeuroRegeneration Laboratory, Harvard Program in Neuroscience
1989-1990: Internship in General Surgery, Massachusetts General Hospital

Baylor College of Medicine, Houston, TX

1985 – 1989: Doctor of Medicine with Highest Honors

Massachusetts Institute of Technology, Cambridge, MA

1981-1985: Bachelor of Science, Chemical Engineering
Bachelor of Science, Biology

Honors and Awards

Texas State House of Representatives (2009):
Honorary Resolution for Invention of Laser-Guided Spine Localizer

American Association of Neurological Surgeons (1994):
Neurosurgery Resident Research Award

McLean Hospital / Harvard Medical School (1994):
Alfred Pope Award for Young Investigators

Baylor College of Medicine (1985-1989):

Graduated with highest honors
DeBakey Scholar Award for the Highest Level of Academic Achievement
Stanley W. Olson Award for Academic Excellence
Alpha Omega Alpha Medical Honor Society
High Honors on Basic Science Curriculum
Harris Busch Award in Pharmacology and Therapeutics
Stuart A. Wallace Award in Pathology
Awards of Excellence in Neurosurgery, Neurology and Pathophysiology
Ishiyaku Annual Award, 1987

Massachusetts Institute of Technology (1981-1985):

McCormack Award for Excellence in Undergraduate Research
Chemical Engineering Outstanding Senior Award

Portsmouth Abbey Preparatory School (1978-1981):

Summa Cum Laude
Rensselaer Polytechnic Institute Mathematics Award
Francis I. Brady Physics Medal

Administrative Positions

2006-Present: Governing Board Member, Patients Medical Center
2007-2008: Vice-Chairman, Department of Surgery, Patients Medical Center
2007-2008: Chairman, O.R. Committee, Bayshore Medical Center
2008-Present: Chairman, Surgical Services Executive Committee, Bayshore Medical Center
2008-Present: Member, Medical Executive Committee, Bayshore Medical Center
2009-Present: Chairman, Department of Surgical Subspecialties, Bayshore Medical Center

Academic Appointments

1989-1996: Fellow in Surgery, Harvard University

Professional Associations:

American Association of Neurological Surgeons
Congress of Neurological Surgeons
AANS/CNS Joint Section for Cerebrovascular Disease
American Stroke Association
American Medical Association
Association for Ethics in Spine Surgery
Texas Medical Association
Harris County Medical Society
American Society for Neural Transplantation
Alpha Omega Alpha Medical Honor Society

Patents and Inventions

1. Non-Invasive Method and Apparatus to Locate Incision Site for Spinal Surgery – U.S. patent application 12/143,683 filed June 20, 2008.

2. Apparatus and Method for Minimally Invasive Insertion of a Connecting Rod between Pedicle Screws – Provisional U.S. patent application 61119367

3. Guidance Device and Method for Percutaneous Pedicle Localization, Access, and Screw Insertion in Spine Surgery – Provisional U.S. patent application 61173974

Publications

1. Pakzaban, P. A Non-Invasive Laser-Guided Pre-Incision Localizer for Spine Surgery. *J Neurosurg Spine.* 2009 Feb;10:145-153.

2. Pakzaban P. Chiari Malformation. *eMedicine.* November 2008; http://emedicine.medscape.com/article/1343720-overview

3. Pakzaban P. Responses: Minimally Symptomatic Cervical Spondylotic Myelopathy. *AANS Neurosurgeon.* 2008; 17(2):45.

4. Pakzaban P. Spinal Instability and Spinal Fusion Surgery. *eMedicine.* March 2008; http://emedicine.medscape.com/article/1483583-overview

5. Pakzaban P. Giant Prolactinoma and Hook Effect. *Neurology.*2000 Nov;55(9):1415-6.

6. Pakzaban P, Westmark K, Westmark R. Chiasmal apoplexy due to hemorrhage from a pituitary adenoma into the optic chiasm: case report. *Neurosurgery.* 2000 Jun;46(6):1511-3; discussion 1513-4.

7. Dinsmore JH, Pakzaban P, Deacon TW, Burns L, Isacson O. Survival of transplanted porcine neural cells treated with F(ab')2 antibody fragments directed against donor MHC class-I in a rodent model. *Transplantation Proceedings.* 1996 Apr;28(2):817-8.

8. Dinsmore J, Ratliff J, Deacon T, Pakzaban P, Jacoby D, Galpern W, Isacson O. Embryonic stem cells differentiated in vitro as a novel source of cells for transplantation. *Cell Transplantation.* 1996 Mar-Apr;5(2):131-43.

9. Pakzaban P. Clinical problem-solving: diagnosing spousal abuse. *New England Journal of Medicine.* 1995 Dec 21;333(25):1709; discussion 1711.

10. Isacson O, Deacon TW, Pakzaban P, Galpern WR, Dinsmore J, Burns LH. Transplanted xenogeneic neural cells in neurodegenerative disease models exhibit remarkable axonal target specificity and distinct growth patterns of glial and axonal fibres. *Nature Medicine.* 1995 Nov;1(11):1189-94.

11. Pakzaban P, Deacon TW, Burns LH, Dinsmore J, Isacson O. A novel mode of immunoprotection of neural xenotransplants: masking of donor major histocompatibility complex class I enhances transplant survival in the central nervous system. *Neuroscience.* 1995 Apr;65(4):983-96.

12. Burns LH, Pakzaban P, Deacon TW, Brownell AL, Tatter SB, Jenkins BG, Isacson O. Selective putaminal excitotoxic lesions in non-human primates model the movement disorder of Huntington disease. *Neuroscience.* 1995 Feb;64(4):1007-17.

13. Deacon TW, Pakzaban P, Isacson O. The lateral ganglionic eminence is the origin of cells committed to striatal phenotypes: neural transplantation and developmental

evidence. *Brain Research*. 1994 Dec 30;668(1-2):211-9.

14. Deacon TW, Pakzaban P, Burns LH, Dinsmore J, Isacson O. Cytoarchitectonic development, axon-glia relationships, and long distance axon growth of porcine striatal xenografts in rats. *Experimental Neurology*. 1994 Nov;130(1):151-67.

15. Pakzaban P, Isacson O. Neural xenotransplantation: reconstruction of neuronal circuitry across species barriers. *Neuroscience*. 1994 Oct;62(4):989-1001.

16. Pakzaban P, Geller AI, Isacson O. Effect of exogenous nerve growth factor on neurotoxicity of and neuronal gene delivery by a herpes simplex amplicon vector in the rat brain. *Human Gene Therapy*. 1994 Aug;5(8):987-95.

17. Pakzaban P, Chiocca EA. Nerve growth factor protects against herpes simplex virus type 1 neurotoxicity in the rat striatum. *Neuroreport*. 1994 Apr14;5(8):993-6.

18. Wullner U, Pakzaban P, Brownell AL, Hantraye P, Burns L, Shoup T, Elmaleh D, Petto AJ, Spealman RD, Brownell GL, et al. Dopamine terminal loss and onset of motor symptoms in MPTP-treated monkeys: a positron emission tomography study with 11C-CFT. *Experimental Neurology*. 1994 Apr;126(2):305-9.

19. Uhler TA, Frim DM, Pakzaban P, Isacson O. The effects of megadose methylprednisolone and U-78517F on toxicity mediated by glutamate receptors in the rat neostriatum. *Neurosurgery*. 1994 Jan;34(1):122-7; discussion 127-8.

20. Ogilvy CS, Pakzaban P, Lee JM. Oculomotor nerve cavernous angioma in a patient with Roberts syndrome. *Surgical Neurology*. 1993 Jul;40(1):39-42.

21. Pakzaban P, Deacon TW, Burns LH, Isacson O. Increased proportion of acetylcholinesterase-rich zones and improved morphological integration in host striatum of fetal grafts derived from the lateral but not the medial ganglionic eminence. *Experimental Brain Research*. 1993;97(1):13-22.

22. Braun AG, Pakzaban P, Toqan MA, Beer JM. Generation of biologically active substances in a natural gas flame. *Environmental Health Perspectives*. 1987 Jun;72:297-303.

23. Pakzaban P. Mutagenic activity of polycyclic aromatic hydrocarbons generated in turbulent diffusion flames. *Bachelor of Science Thesis, Dept. of Chemical Engineering, MIT*. 1985.

Book Chapters

24. Pakzaban P, Ogilvy CS. Intracranial dural arteriovenous malformations. In (Eds.) Ojemann RG, Ogilvy CS, Crowell RM, Heros RC: *Surgical Management of Neurovascular Disease*. Third Edition, Williams and Wilkins, Baltimore. 1995: 503-518.

25. Pakzaban P, Burns LH, Isacson O: Xenotransplantation, Brain. In (Eds.) Adelman G, Smith BH: *Encyclopedia of Neuroscience*, Second Edition, Elsevier, Amsterdam. 1996.

26. Isacson O, Pakzaban P, Galpren WR: Transplating fetal neural xenogeneic cells in Parkinson's and Huntington's disease models. In (Eds.) Freeman TB, Widner H: *Cell Transplantation for Neurological Disorders*, Humana Press Inc., Totowa. 1998.

Abstracts and Scientific Presentations

27. Isacson O, Deacon TW, Galpren WR, Burns LH, Dinsmore J, Pakzaban P: Maintained neurotropic specificity in reconstruction of adult CNS by neural transplants. Society for Neuroscience 691. 10, 1995.

28. Isacson O, Schumacher JM, Dinsmore J, Deacon TW, Galpren WR, Pakzaban P, tatter S, Dempsey P: Transplantation of porcine neural cells to restore connections and function in Parkinsons and Huntingtons diseases. Cellular and Molecular Treatment of Neurological Diseases Conference, 1995.

29. Deacon TW, Pakzaban P, Burns LH, Galpren WR, Isacson O: Target-specific long distance axon growth from porcine striatal and ventral mesencephalon xenografts in rats. Cellular and Molecular Treatment of Neurological Diseases Conference, 1995.

30. Galpren WR, Tatter SB, Burns LH, Pakzaban P, Deacon TW, Dinsmore J, Isacson O: Xenotransplantation of fetal porcine ventral mesencephalon results in functional recovery in a rat model of Parkinsons disease. Cellular and Molecular Treatment of Neurological Diseases Conference, 1995.

31. Pakzaban P, Deacon TW, Burns LH, Dinsmore J, Isacson O: A novel mode of protection of CNS xenotransplants against immune rejection: Masking of donor major histocompatibility complex class I enhances graft survival. American Association of Neurological Surgeons, 1995.

32. Galpren WR, Tatter SB, Burns LH, Pakzaban P, Deacon TW, Dinsmore J, Isacson O: Xenotransplantation of fetal porcine ventral mesencephalon results in functional recovery in a rat model of Parkinson's disease. American Association of Neurological Surgeons, 1995.

33. Isacson O, Tatter SB, Pakzaban P, Burns LH, Deacon TW, Dinsmore J, Brownell A-L, Jenkins BG, Elmaleh D: Fetal lateral ganglionic eminence xenotransplantation in a new primate model of Huntington's disease. American Association of Neurological Surgeons, 1995.

34. Pakzaban P and Isacson O: Effect of nerve growth factor on neurotoxicity of and neuronal gene delivery by a herpes simplex amplicon vector in the rat brain. Congress of Neurological Surgeons, 1994.

35. Pakzaban P, Burns LH, Deacon TW, Tatter SB, Isacson O: A primate model of Huntington disease produced by selective excitotoxic lesions of the posterior putamen. Congress of Neurological Surgeons, 1994.

36. Pakzaban P, Deacon TW, Burns LH, Dinsmore J, Isacson O: Enhanced survival of neural xenografts after masking donor major histocompatibility complex class I. Society for Neuroscience, 1994.

37. Burns LH, Pakzaban P, Deacon TW, Dinsmore J, Isacson O: Xenotransplantation of porcine ventral mesencephalic neuroblasts restores function in primates with chronic MPTP-induced parkinsonism. Society for Neuroscience, 1994.

38. Deacon TW, Pakzaban P, Burns LH, Galpren WR, Isacson O: Target-specific long distance axon growth from porcine striatal and ventral mesencephalon xenografts in rats. Society for Neuroscience, 1994.

39. Isacson O, Deacon TW, Pakzaban P, Burns LH, Galpren WR, Dinsmore J, Tatter SB, LeBlanc C, Park J. Long distance graft growth of astroglial fibers is associated with axonal white matter tracts but not axonal grey matter target zones. Society for Neuroscience , 1994.

40. Tatter SB, Pakzaban P, Burns LH, Deacon TW, Brownell A-L, Jenkins BG, Schumacher JM, Isacson O. Fetal lateral ganglionic eminence xenotransplantation in a new primate model of Huntington's disease. Society for Neuroscience, 1994.

41. Dinsmore J, Pakzaban P, Deacon TW, Ratliff J, Frim DM, Isacson O. Intracerebral transplantation of neurons differentiated in vitro from pluripotent embryonic stem cells. Society for Neuroscience , 1994.

42. Sanberg PR, Borlongan CV, Freeman TB, Koutouzis TK, Cahill DW, Norgren R, Isacson O, Pakzaban P. Transplantation of striatal human fetal tissue in excitotoxin model of Huntington's disease: Neuroanatomical and behavioral effects. Society for Neuroscience , 1994.

43. Isacson O, Deacon TW, Pakzaban P, Burns LH. Axonal growth, glial migration and CNS reconnection by xenografts. 5th International Symposium on Neural Transplantation, 1994.

44. Burns LH, Galpren WR, Pakzaban P, Deacon TW, Isacson O. Xenografting of porcine ventral mesencephalon in rat and primate models of Parkinson's disease. 5th International Symposium on Neural Transplantation, 1994.

45. Pakzaban P, Deacon TW, Dinsmore J, Burns L, Isacson O: Porcine neuroblasts as an alternative to human fetal cells in neural transplantation. American Association of Neurological Surgeons, 1994.

46. Pakzaban P, Deacon TW, Burns LH, Isacson O: Selective dissection of the lateral ganglionic eminence increases the proportion of AChE-rich zones in fetal striatal

transplants. Society for Neuroscience, 1993.

47. Deacon TW, Pakzaban P, Dinsmore J, Burns L, Isacson O: Axonal growth by fetal porcine striatal grafts in rats. Society for Neuroscience, 1993.

48. Uhler TA, Frim DM, Pakzaban P, Schumacher J, Rosenberg W, Isacson O: Pretreatment with mega-dose methylprednisolone increases quinolinate toxicity in the rat striatum. Society for Neuroscience , 1993.

49. Pakzaban P, Yawn D, Mawad M, Shenaq S, Narayan R: Development of human fibrin adhesive as an embolic agents: in vitro kinetics and in vivo trials. American Association of Neurological Surgeons , 1989.

50. Pakzaban P, Roudebush L, Cartwright J, et al: The use of a viscoelastic coagulation analyzer to monitor coagulation kinetics of human fibrin adhesive. American Association of Clinical Pathology, 1988.