

## CURRICULUM VITAE

### **Name: Sunil J. Patel, M.D., FACS**

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**Citizenship:** US

### **Education:**

1976-78 Kalonga Secondary School, Kabwe, Zambia, 'O' Levels Examination in 8 subjects (Cambridge University, UK)  
1978-81 Clemson University, Clemson, S C, Undergraduate Physics  
1981-85 Medical University of South Carolina, Charleston, S C, Doctor of Medicine

### **Internship:**

1985-86 General Surgery: Medical University of South Carolina, Charleston, SC

### **Residency/Fellowships:**

1986-91 Residency in Neurological Surgery: Medical University of South Carolina, Charleston, SC  
1991-91 Fellowship in Microneurosurgery: Nagoya University School of Medicine, Nagoya, Japan  
1992-93 Fellowship in Cranial Base Surgery: University of Pittsburgh, Pittsburgh, PA,  
1993 Fellowship in Microvascular Neurosurgery: University of Pittsburgh, Pittsburgh, PA

### **Specialty/Board Certification:**

1996 American Board of Neurological Surgery

### **Licensure:**

1986-Present South Carolina  
1992-93 Pennsylvania

### **Faculty Appointments:**

1991-2000 Assistant Professor, Department of Neurological Surgery, Medical University of South Carolina, Charleston, SC  
1996-2000 Assistant Professor (Joint appointment), Department of Otolaryngology, Medical University of South Carolina, SC  
2000-2005 Associate Professor, Medical University of South Carolina, Departments of Neurological Surgery & Otolaryngology  
2005-present Professor, Medical University of South Carolina, Departments of Neurosciences & Otolaryngology

### **Administrative Appointments:**

2001-2003 Vice Chairman, Department of Neurological Surgery, Medical University of South Carolina, Charleston, SC  
2003-2004 Interim Chairman, Department of Neurological Surgery, Medical University of South Carolina, Charleston, SC

2004-2007 Chief, Division of Neurosurgery, Medical University of South Carolina, Charleston, SC  
2004-Present Neurosurgery Residency Program Director  
2004-Present Clinical Chair, Department of Neurosciences, Medical University of South Carolina, Charleston, SC

**Hospital Appointments:**

1991-Active Attending, MUSC Medical Center, Charleston, SC  
1991-Active Consultant / Attending, Veterans Administration Hospital, Charleston, SC  
1993-Active Research Associate, Hollings Cancer Center, Medical University of South Carolina  
1993-97 Consultant, Charleston Memorial Hosp, Charleston, SC  
1993-96 Neurosurgery Intensive Care Unit Committee, MUSC  
1993-96 Critical Care Committee, MUSC  
1997-99 Faculty Senate, MUSC  
1996-97 O.R. Multi-disciplinary Committee, MUSC  
1996-2000 Co-Medical Director of Neurosurgery & Surgical Trauma, MUSC  
1996-97 Children's Hospital Executive Committee, MUSC  
1998-Active Neurosurgery OR Improvement Committee, MUSC  
2005 Search Committee for Anesthesiology & Perioperative Medicine Chair, MUSC  
2005 Clinical Research Task Force, MUSC  
2005-2006 Co-Medical Director of MUSC  
2006 College of Graduate Studies Credentials Committee, MUSC  
2006 Search Committee for Chair of Department of Surgery, MUSC  
2006 Institutional Planning Committee, MUSC  
2006-2007 Medical Executive Committee, MUSC  
2007-2010 College of Medicine Curriculum Committee, MUSC

**Professional/Scientific Societies:**

**National/International Societies**

Alpha Omega Alpha (elected as a junior student-MUSC)  
American Association for Cancer Research  
American Association of Neurological Surgeons  
American College of Surgeons  
American Heart & Stroke Associations  
American Medical Association (AMA)  
American Society of Clinical Oncology  
American Society of Hypertension  
Congress of Neurological Surgeons (CNS)  
International College of Surgeons  
International Society of Neurosurgical Instrument Inventors (ISNII)  
North American Skull Base Society  
Society of Neuro-Oncology  
The Society of Neurological Surgeons

**Local/Regional Societies**

Charleston County Medical Society  
South Carolina Medical Association (SCMA)  
South Carolina Neurosurgical Society  
South Carolina Oncology Society  
Southern Association for Oncology  
Southern Medical Association  
Southern Neurosurgical Society  
Southern Pain Society

**Awards, Honors, Membership in Honorary Societies**

1980	Edgar A. Brown Scholarship (Clemson University)
1983	Alpha Omega Alpha Membership awarded Junior Year(MUSC)
1985	Lange Medical Student Achievement Award (MUSC)
1986	Shock Society Resident Award (MUSC)
1988	Low Country Regional EMS Certificate of Appreciation (Charleston, SC)
1991	Sugita Scholarship (Microneurosurgery; Nagoya, Japan)
1999	Health Sciences Teachers Award Nominee (MUSC)
2001	Humanism in Medicine Award Nominee (MUSC)
2007	Humanism in Medicine Award Nominee (MUSC)
2008	Pfizer Humanist Award (MUSC)

**Academic Committee Activities:**

1997-99	University: Faculty Senate
2007	University: Search Committee for Chair of Department of Surgery
2001-Active	College: 'Top 30' Producers Committee Department: In Charge of Research Compliance
2007-Active	Clinical Advisory Council for Center of Biomedical Research Excellence proposal

**Teaching Responsibilities**

**1. Undergraduate Medical Education:**

- Gross Anatomy – Annual Head & Neck Clinical Correlation Lecture (1993-present)
- Parallel Curriculum – Student Rotation (1997-2002)
- Brain Tumor Clinic/Lecture (Once Weekly) – Third Year Surgery Rotation (1997-present)
- Summer Research Students (one or two students every summer) (1998-present)

**2. Graduate Medical Education:**

- Train Neurosurgical residents
- Participate in Weekly Neurosurgery Teaching Conferences
- Neurology Resident Core Lectures (twice a year)

**3. Continuing Medical Education:**

- 'Neurovascular compression syndromes'. CME Lecture. Orangeburg Regional Medical Center. November 2000.
- 'Neurovascular Compression Syndromes'. CME Lecture. Conway Hospital. August 2000.
- Neuroscience Grand Rounds (once a year)

**Major Clinical Interests and Responsibilities:**

**1. Neuro-oncology**

- Manage majority of the tumor patients referred to the Department of Neurological Surgery
- Director of the Brain Tumor Program
- Brain Tumor Clinic at the Hollings Cancer Center
- Conduct clinical trials

**2. Cranial Base Surgery (tumors, vascular)**

- Cranial Base Surgery Program – in collaboration with Otolaryngology (1993)
- Joint Appointment with Otolaryngology
- Pituitary Clinic – in collaboration with Endocrinology

**3. Neurovascular compression syndromes**

- Evaluation and management of patients with trigeminal neuralgia, glossopharyngeal neuralgia, tinnitus, benign positional vertigo. torticollis, hemifacial spasms

- Facial Pain Clinic

**RESEARCH:**

**Active**

**Phase III, Multi-Center Study of Intratumoral/Interstitial Therapy with TransMID Compared to Best Standard of Care in Patients with Progressive and/or Recurrent, Non-Resectable Glioblastoma Multiforme**

Principal Investigator

Start Date: June 2004

Fund Source: Extramural - XENOVA BIOMEDIX LTD

**Award amount: \$845,830**

**Proteolytic control of glioblastoma**

Consultant (No Salary)

Project Dates: Aug 2003 - Jul 2008

Fund Source: **Extramural** - NIH

**Award amount: \$1,095,000**

**Phase I, Multi-Center Study of Intratumoral/Interstitial Therapy with HN66000 (TransMID) in patients Between 5 and 18 Years of Age with Progressive or Recurrent Glioblastoma Multiforme or Anaplastic Astrocytoma**

Consultant

Start Date: 2002

Fund Source: Extramural - XENOVA BIOMEDIX LTD

**Award amount: \$333,019**

**Arterial Compression of the Ventro-Lateral Medulla in Neurogenic Hypertension**

Principal Investigator (Effort: 75%)

Project Dates: 4/1/2002 - 3/31/2007

Fund Source: **Extramural**- NIH (K-23)

**Award Amount: \$731,270**

**Past Research/Grants**

**Phase II Treatment of Adults with Progressive, Persistent or Recurrent Meningioma with Temodar. Multi-institutional Study.**

Institutional Principal Investigator (Effort: 0.5%)

Project Start Date: 11/2001

Fund Source: **Extramural**- Duke University and Schering Pharmaceuticals.

**Award Amount: \$2000 (Start-up) plus \$800 per subject.**

**New Drug Delivery System for Malignant Glioma.**

Co-Principal Investigator (Effort: 0.5%)

Project Dates: 10/1/00 - 9/30/01

Fund Source: **Extramural** - American Cancer Society

**Award Amount: \$17,000**

**Phase II Open Label Multicenter trial of intramural I-131-TNT for the treatment of newly diagnosed and recurrent malignant glioma**

Principal Investigator (Effort: 1.0%)

Project Start Date: 12/01/98

Fund Source: **Extramural** - Techniclone Corporation

**Award Amount: \$866,458**

**Phase I Open Label dose escalating study of intramural I-131-TNT for the treatment of recurrent malignant glioma.**

Principal Investigator (Effort: 10%)

Project Dates: 2/1/98 - 12/2000

Fund Source: **Extramural** - Techniclone Corporation

**Award Amount: \$459,441**

**Multicenter Phase II Trial of Intramural/Interstitial Therapy with HN66000 (Immunotoxin) in Patients with Refractory and Progressive Glioblastoma Multiforme or Anaplastic Astrocytoma.**

Principal Investigator (Effort: 5.0%)

Project Dates: 11/1/96 - 8/31/99

Fund Source: **Extramural** - Nycomed

**Award Amount: \$600,000**

**IV Ranitidine for Prevention of UGI Hemorrhage in Patients with Acute Head Injury.**

Co-Principal Investigator (Effort: 0.5%)

Project Dates: 4/1/96 -9/30/96

Fund Source: **Extramural** - Glaxo, Inc.

**Award Amount: \$50,000**

**Efficacy & Safety of Multiple IV Bolus Injections of Selfotel with Placebo in Intubated Severe Closed Traumatic Brain-Injured Patients.**

Co-Investigator (Effort: 0.5%)

Project Dates: 7/1/96 - 10/15/96

Fund Source: **Extramural** - Ciba-Geigy, Inc.

**Award Amount: \$350,000**

**Essential (Neurogenic) Hypertension and Medullary Compression - MRI Study**

Principal Investigator (Effort: 1%)

Project Dates: 7/1/96 - 6/30/97

Fund Source: **Intramural** - Medical University of South Carolina

**Award Amount: \$13,000**

**Rapid Loading of Carbamazepine Suspension in Critically Ill Neurosurgical Patients.**

Co-Principal Investigator (Effort: 0.5%)

Project Dates: 2/1/95 - 6/30/97

Fund Source: **Extramural** - Pharmaceutical Company

**Award Amount: \$ 9,000**

**Study of trialized and methylprednisolone sodium succinate in patients with acute spinal cord injury.**

Co-Investigator (Effort: 0.5%)

Project Dates: 6/1/95 -5/30/97

Fund Source: **Extramural** - NASCIS III, Yale University, NIH-NINCDS Grant

**Award Amount: \$200,000**

**Investigate the use of combined approaches for jugular foramen lesions: a cadaver study.**

Principal Investigator (Effort: 75%)

Project Dates: 8/1/93 - 10/31/93

Fund Source: **Intramural** - Institutional (University of Pittsburgh)

**Award Amount: ?**

**Investigative the role of leukotrienes C and D in a canine acute respiratory distress syndrome model.**

Co-Principal Investigator (Effort: 100%)

Project Dates: 7/1/85 - 6/30/86

Fund Source: **Intramural** - Medical University of South Carolina

**Award Amount: \$ 9,000**

**Computer-assisted quantum chemical calculations on amino acid and nucleotide interactions.**

Co-Investigator (Effort: 5%)

Project Dates: 6/15/78 - 7/15/79

Fund Source: **Intramural** - Clemson University

**Lectures and Presentations**

**Invited Lectures/Presentations**

1. Management of Head and Spine Injuries. Lecture - Low Country Regional EMS Training Seminars. Charleston, South Carolina - 1987-1989.
2. Management of Head and Spine Injuries. Lecture - Orangeburg EMS Training Seminars. Orangeburg, South Carolina - 1988.
3. Pathophysiology and Management of Intracranial Pressure. Lecture - Neurological Intensive Care for the Critical Care Nurse. Course - Medical University of South Carolina. Charleston, South Carolina - 1989.
4. Neurointensive Care Monitoring. Lecture - Critical Care Nursing Seminars, Veterans Administration Hospital. Charleston, South Carolina - 1989.
5. Neurological Injuries: Early Management and Rehabilitation. Lecture - Department of Physical Therapy, Medical University of South Carolina. Charleston, South Carolina - 1989.
6. Management of cervical spine dislocation - the MUSC experience. **Patel SJ**, Perot PL. Society of Neurological Surgeons. Charleston, SC: 1991.
7. Subfrontal, interhemispheric approach for total resection of craniopharyngioma. **Patel SJ**, Sugita K. Advances in Neurosurgery. Nagoya, Japan: 1991.
8. Skull Base Surgery - Postoperative Management. Lowcountry Neuroscience Nursing Association. Charleston, South Carolina - December 1993.
9. Skull Base Surgery -Past, Present and Future, Neurology Grand Rounds, Medical University of South Carolina. Charleston, South Carolina - March 1994.
10. Management of Intracerebral Hemorrhage. Orangeburg Regional Medical Center Noon Conference. Orangeburg, South Carolina - June 1994.
11. Skull Base Surgery, Techniques for Routine Neurosurgical Procedures. South Carolina Association of Neurological Surgeons. Charleston, South Carolina - April 1994.
12. Reflex Sympathetic Dystrophy - Pathophysiology, Diagnosis and Management. Carolina Hospital Systems, Physical Medicine and Rehabilitation Center. Florence, South Carolina - October 1994.
13. Essential Hypertension: Is This a Neurosurgical Disease? 54th Annual meeting of the Japan Neurosurgical Society, October 18-20, 1995.
14. Surgery for Cavernous Sinus Meningiomas: Review of 114 Cases. 54th Annual Meeting of the Japan Neurosurgical Society, October 18-20, 1995.

15. Lateral Approaches to the Clivus. Panelist for Seminar on Approaches for Clival Lesions. 54th Annual Meeting of the Japan Neurosurgical Society, October 18-20, 1995.
16. 'Diagnosis and Management of Head Injury'. Intensive Review in Emergency Medicine. Charleston, South Carolina - September 1995.
17. Stroke as a 'Brain Attack'. Emergency Room Physicians Clinical Update, Medical University of South Carolina, Charleston, South Carolina, November 9, 1995.
18. Facial Pain. Perspectives in Pain Management. Charleston, South Carolina, December, 1995.
19. 'Results of Phase II Trial of Convection-Enhanced Distribution of Recombinant Immunotoxin in Patients With Recurrent Malignant Gliomas'. Oldfield EH, Broaddus WC, Bruce J, Trask T, Laske DW, McDonald J, **Patel SJ**, Weingart JD, Wharen RE, Youle R. American Association of Neurological Surgeons Annual Meeting. San Francisco: 2000.
20. 'Transcondylar approach to the foramen magnum – pros and cons'. Presented at the Indian Skull Base Society Annual Meeting, Lucknow, October 2000.
21. 'Management of the internal carotid artery in skull base surgery'. Invited Guest. Lecture presented at the Indian Skull Base Society annual meeting, Lucknow, October 2000.
22. 'The role of surgery in the management of cavernous sinus meningiomas in 2000'. Invited Guest. Lecture presented at the Indian Skull Base Society annual meeting, Lucknow, October 2000.
23. 'Neurovascular compression syndromes'. CME Lecture. Orangeburg Regional Medical Center. November 2000.
24. 'Neurovascular Compression Syndromes'. CME Lecture. Conway Hospital. August 2000.
25. 'Neurovascular compression Syndromes'. Ophthalmology Resident Lecture – 2001, MUSC.
26. 'Management of the Carotid Artery during surgery for cranial base tumors'. Head and Neck Tumor Board – 2001, Hollings Cancer Center.
27. 'Results of Phase I/II Open-Label, Non-Randomized, Multicenter Study of Interstitial <sup>131</sup>I-chTNT-1/B For the Treatment of Newly Diagnosed or Recurrent Malignant Glioma'. **Patel SJ**, Laske D, Jensen R, Shapiro W. Phase III Investigators Meeting, Peregrine Pharmaceuticals, Miami, Florida. February 2002.
28. 'Neurogenic Hypertension - Old Ideas, New facts'. MUSC Endocrinology Grand Rounds. March, 2002.
29. 'Diagnosis, management and novel therapies for Brain Tumors'. In Service for MUSC Main Operating Room Recovery Nurses, March 2002.
30. 'Neurosurgical considerations in Cranial Base Approaches'. MUSC Otolaryngology Grand Rounds. April, 2002.
31. 'Novel Treatments for Malignant Brain Tumors.' Guest Speaker. Neurological Surgeons and Oncologists, Columbia SC, May, 2002
32. 'Essential Hypertension: Is this a Neurosurgical Disease ?' Hypertension Grand Rounds, Division of Hypertension, U T Southwest, Dallas, TX. October, 2002

33. Advances in treatment of CNS Malignancies. Guest Speaker. Neurological Surgeons and Oncology Physicians, Spartanburg, SC, November, 2002
34. Neurovascular compression syndromes'. Lowcountry Neuroscience Nursing Society. MUSC Hospital Amphitheater. December, 2002.
35. 'Head & Neck Anatomy – Clinical Correlation' Gross Anatomy Lecture, MUSC, Charleston SC. Dec 2002
36. Advances in treatment of CNS Malignancies. Medical and Surgical Neuro-Oncology Physicians, Myrtle Beach/Georgetown. January, 2003
37. Advances in treatment of Malignant Gliomas. Medical and Surgical Neuro-Oncology Physicians, Florence, SC. April, 2003
38. Advances in treatment of Malignant Gliomas. Medical and Surgical Neuro-Oncology Physicians, Greenville, SC. June, 2003
39. Advances in the Treatment of Malignant Gliomas: Bypassing the Blood-Brain Barrier. Neurosurgeons, Savannah, GA. June 2003
40. 'Head & Neck Anatomy – Clinical Correlation' Gross Anatomy Lecture, MUSC, Charleston SC. July 3<sup>rd</sup>, 2003
41. 'Head & Neck Anatomy – Clinical Correlation' Gross Anatomy Lecture, MUSC, Charleston SC. Dec 11, 2003
42. The Role of the Medulla in Essential Hypertension, Department of Neurosurgery, Catholic University, Santiago, Chile, December 16, 2003
43. Kyphoplasty: A new treatment option for vertebral compression fractures. MUSC/Hollings Cancer Center Hematology/Oncology Seminar Series, July 9, 2004.
44. Novel Delivery Techniques. Neuro-Oncology Update Conference, Charleston, SC, October 30, 2004.
45. Treatment of Low Grade Gliomas, Chilean Neurosurgery Society Annual Meeting, Catholic University, Santiago, Chile. December 3, 2004
46. Convection Enhanced Delivery of drugs for gliomas. Chilean Neurosurgery Society Annual Meeting, Catholic University, Santiago, Chile. December 3, 2004
47. THOPS 16 Session (Chairman): Stereotactic and functional Neurosurgery 4. 13<sup>th</sup> World Congress, Morocco. June 23, 2005.
48. Exploring careers in surgery: women in surgery 2006. Surgery Education Conference, Medical University of South Carolina, April 22, 2006.
49. Sympathetically medicated essential hypertension-old concept, new evidence, Neurology Grand Rounds, University of MN. May 11, 2006.
50. Conventional enhanced COTARA for treatment of malignant glioma – Phase I/II results. Neurosurgery Department, University of MN. May 12, 2006.
51. 3<sup>rd</sup> Annual Neurosciences Update for the Clinician, guest speaker. Self Regional Healthcare, Greenwood, SC, March 8, 2008.

52. Neurogenically Mediated Hypertension Conference. Universidad Finis Terrae, Santiago, Chile. April, 2008.
53. Neurosurgical Approach to Pituitary Tumors. College of Medicine, Endocrine Grand Rounds, Medical University of South Carolina, Charleston, SC, Jan 8, 2009.
54. Hope for Autism and 2009 International Vaccine Risk Symposium. American Chiropractic Autism Board. Charleston, SC, May 16, 2009.

### **Abstract Presentations**

1. **Patel SJ**, Reines HD: Leukotrienes C4 and D4 in bronchoalveolar lavage of canine ARDS model. Shock Society Meeting, Scottsdale, Arizona: 1986.
2. **Patel SJ**, Sekhar LN, Cass S: Surgical approaches to resect extensive glomus jugular tumors. North American Skull Base Society Meeting. Scottsdale, Arizona: 1993.
3. **Patel SJ**, Sekhar LN: Increased incidence of stroke in patients with elective ICA balloon occlusion followed by surgical sacrifice. North American Skull Base Society Meeting. Scottsdale, Arizona: 1993.
4. **Patel SJ**, Sekhar LN: Combined approaches for resection of jugular tumors. A review of 12 cases. American Association of Neurological Surgeons Meeting. Boston, Massachusetts: 1993
5. **Patel SJ**, Sekhar LN: Resection of cavernous sinus meningiomas - Results and Complications in 114 Cases. North American Skull Base Society/German Skull Base Society. Orlando, Florida: 1994.
6. **Patel SJ**: 'Essential Hypertension: Is This a Neurosurgical Disease?' 54th Annual meeting of the Japan Neurosurgical Society, October 18-20, 1995.
7. **Patel SJ**: 'Surgery for Cavernous Sinus Meningiomas: Review of 114 Cases'. 54th Annual Meeting of the Japan Neurosurgical Society, October 18-20, 1995.
8. **Patel SJ**: 'Lateral Approaches to the Clivus'. Approaches for Clival Lesions. 54th Annual Meeting of the Japan Neurosurgical Society, October 18-20, 1995.
9. Grambling-Babb P, Miller MJ, Scott TR, Crumbley AJ, Handy JR, **Patel SJ**, Cuddy BG, Roy RC, Zile MR: Efficacy and Safety of High Thoracic epidural Analgesia Producing Sympathetic Blockade to Tread Medically and Surgically Refractory Angina Pectoris. American College of Cardiology 45th Annual Scientific Session, Orlando, Florida: March 24-27, 1996.
10. O'Neil M , Diggins D, **Patel SJ**: Rapid Loading of Critically Ill Adult Neurosurgical Patients with Carbamazepin Suspension. Society of Critical Care Medicine 25th Educational and Scientific Symposium. New Orleans, LA: 1996.
11. Vaughn TM, Cuddy BG, **Patel SJ**: 'Reconstruction of cranio-cervical junction after resection of clivo-cervical tumors'.(Poster). Congress of Neurological Surgeons. New Orleans. LA: 1997.
12. Dring R, **Patel SJ**: 'Factors influencing the trends in length of stay, hospital costs and outcomes in patients undergoing craniotomies'. (Poster. Congress of Neurological Surgeons. New Orleans, LA: 1997.

13. **Patel SJ**: 'Further Modification of Standard Bayonet Microinstruments for Use in Key-Hole Operations'. 2nd Congress of International Society for Neurosurgical Instrument Inventors. Berlin, Germany: 1997.
14. **Patel SJ**: 'The Use of a Surgical Head-Mounted Stereoscopic Display in Endoscopic Procedures'. 2nd Congress of International Society for Neurosurgical Instrument Inventors. Berlin, Germany: 1997.
15. **Patel SJ**: Essential Hypertension-Is this a neurosurgical disease? Society of University Neurosurgeons, Annual Meeting. Memphis, TN: 1998.
16. McCutcheon Q, Weber P, **Patel SJ**: 'Skull Base lesions mimicking meningiomas: Can surgery be avoided?' 9th Annual Meeting North American Skull Base Society Kamuela, HI: 1998.
17. Weber P, **Patel SJ**: 'The petrosal approach for basilar artery aneurysm'. 9th Annual Meeting North American Skull Base Society. Kamuela, HI: 1998.
18. **Patel, SJ**: 'Neurological complications and avoidance during anterior skull base approach surgery'. 9th Annual Meeting North-American Skull Base Society. Kamuela, HI: 1998.
19. Ray S, **Patel, SJ**, Banik, N: 'Altered expression of bcl-2 family members and cysteine proteases in human brain tumors'. Society for Neuroscience. Miami Beach, FL: 1999.
20. Ray SK, **Patel SJ**, Wilford GG, Saido TC, Haines S.J., Hogan EL, Banik NL: 'Increased calpain expression and activity in human brain tumors'. Biochemistry & Molecular Biology '99. San Francisco: 1999.
21. Bloodworth GA, Spicer KM, **Patel SJ**: 'Demonstration of clinical utility of merged 3-dimensional data sets'. Society of Nuclear Medicine. Los Angeles, CA: 1999.
22. **Patel SJ**, Weber P, Warren TB: 'Bone dust cranioplasty after retro-mastoid craniotomy'. Georgia Neurosurgical Society. Sea Island, GA: 1999.
23. **Patel SJ**, Spicer K, Van Tassel P, Gordon L, Chergey A, Haines S.J: 'Results in a dose-escalating trial of intra-tumoral infusion with I-131/ch-TNT-1/B in the treatment of recurrent malignant glioma'. NeuroOncology 1999;1 :S111.
24. Bohning DE, Vera C, Vincent DJ, Shastri A, Roberts DR, **Patel SJ**, George M 'Time course of BOLD-MRI sensorimotor response to median nerve stimulation'. Human Brain Mapping, 1999.
25. Ray SK, **Patel SJ**, Wilford GG, Banik NL. 'Increased calpain expression and activity in human brain tumors'. The FASEB Journal 1999;13/7:A1435.
26. Welsh CT, **Patel SJ**, Smith MT, Haines SJ: 'Heterogeneity of demoplastic infantile gangliogliomas'. Neuropathology Conference San Diego CA: 1999.
27. Esce P, VanTassel P, **Patel SJ**: 'Regional drug distribution with intra-tumoral infusion of ch TNT-1/B-Iodine-131 in the treatment of malignant gliomas'. Congress of Neurological Surgeons, Boston, MA: 1999.
28. **Patel SJ**, Spicer K, VanTassel P, Haines S, Gordon L: 'Phase I results of Intra-tumoral infusion of I-131 ch-TNT-1/B in the treatment of recurrent malignant gliomas'. Congress of Neurological Surgeons. Boston, MA: 1999.
29. Burkhalter WH, Vincent DJ, Cure' JK, **Patel SJ**: 'MRA in Diagnosing Vascular Compression of the Brainstem as the Etiology of Certain Disease States'. American Society of Neuroradiology, 2000

30. **Patel SJ**, Laske D, Jensen R, Aher A, Shapiro W, Chew T, Shan J: 'Phase 2 Open-Label, Non-Randomized, Multicenter Study of Interstitial 131 I-chTNT-1/B For the Treatment of Newly Diagnosed or Recurrent Malignant Glioma'. ASCO: 2000
31. VanTassel P, **Patel SJ**, Muntz-Pope B, Bloodworth G, Spicer KM: 'Imaging of glioblastomas treated with intratumoral I-131 labeled antibody'. American Society of Neuroradiology Annual Meeting. Atlanta, GA: 2000.
32. Bloodworth GA , Spicer Km, Gordon L, **Patel SJ**: 'Correlation of Phantom & MR-SPECT Fused Images with Varying Pixel Intensity Thresholds for Tumor Volume Determination'. Society of Nuclear Medicine. 2000.
33. Spicer KM , **Patel SJ**, Gordon L, VanTassel P, Bloodworth GA: 'Intra-cerebral distribution of I-131-chTNT-1/B: Comparison of drug vs tumor volume with single/dual catheter infusions'. 47th Annual Meeting Society of Nuclear Medicine. 2000.
34. Ray SK, **Patel SJ**, Hogan EL, Banik NL: 'Altered expression of apoptosis-related genes and DNA fragmentation in brain tumors'. American Society of Neurochemistry, 31st Annual Meeting. Chicago, Illinois: 2000.
35. **Patel SJ**, Gajjar D, Egan B: 'Vascular compression of the ventro-lateral medulla in sympathetically mediated essential hypertension'. American Association of Neurological Surgeons Annual Meeting. San Francisco: 2000.
36. **Patel SJ**, Vera CL, Vincent D, Harvey S: 'Vasomotor mapping of the medulla oblongata'. Presented at the Congress of Neurological Surgeons Annual Meeting, San Antonio, TX: September 2000.
37. **Patel SJ**, Vera C: 'Medullary mapping for blood pressure responses to electrical stimulation'. American Association of Neurological Surgeons Annual Meeting. San Francisco: 2000.
38. **Patel SJ**, Laske D, Jensen R, Aher A, Shapiro W, Chew T, Shan J: 'Phase 2 Open-Label, Non-Randomized, Multicenter Study of Interstitial 131 I-chTNT-1/B For the Treatment of Newly Diagnosed or Recurrent Malignant Glioma'. ASCO: 2000.
39. Noone MC, Osguthorpe JD, **Patel SJ**: 'Pericranial flap for closure of paramedian anterior skull base defects.' American Academy of Otolaryngology-Head and Neck Surgery Denver, CO: September 9-12, 2001.
40. Haines SJ, **Patel SJ**. 'Malignant transformation of acoustic neuroma following radiosurgery. Neurosurgical Society of America. Annual Meeting, Kiawah Island: April 2002.
41. Welsh CT, Smith MT, and **Patel SJ**: Intracranial myelolipoma - a remarkable site for an unusual tumor. To be presented at the American Association of Neuropathology, Denver, CO: June 2002.
42. Sur P, **Patel SJ**, Griesemer DA, Ray SK, Banik NL: 'Dexamethasone decreases temozolamide induced apoptosis in human glioblastoma T98G cells. Submitted for presentation at the 32<sup>nd</sup> Annual Meeting Society of Neurosciences, Orlando, FL: 2002.
43. Sekhon BK, Khan M, Barbosa E, **Patel SJ**, Singh I, Singh AK: N-Acetyl cysteine protects against injury in an animal model of transient focal cerebral ischemia. Submitted for presentation at the 33rd Annual Meeting of the American Society for Neurochemistry Palm Beach, Fl: June 22 - 26, 2002.

44. Vincent D, Roberts D, **Patel SJ**: Functional magnetic resonance Imaging Studies show change in location of active motor cortex after tumor resection. 8<sup>th</sup> International Conference on “Functional Mapping of the Human Brain”, Sendai, Japan: June 6, 2002.
45. **Patel SJ**, Nicholas J, Rossi P. Treatment of high grade gliomas with regional targeted toxin. 27<sup>th</sup> European Society for Medical Oncology Congress, Nice, France: October 18-22, 2002.
46. **Patel SJ**, Rossi P: Phase II multi-center trial of intra-tumoral/interstitial therapy with Transmid in patients with refractory and progressive glioblastoma multiforme and anaplastic astrocytoma. Society for Neuro-Oncology, 7<sup>th</sup> Annual meeting, San Diego, CA: November 21-24, 2002.
47. **Patel SJ**, Nicholas J, Sribnick E, Egan B: Vasomotor mapping of the ventro-lateral medulla. 13<sup>th</sup> International Symposium on the Autonomic Nervous System, Hilton, Head, SC: October 24-27, 2002.
48. **Patel SJ**: Electrical Stimulation of the Human Ventro-lateral Medulla for Vasomotor Mapping. Annual Meeting of the Southern Neurosurgical Society, Orlando, FL: March 13-15, 2003.
49. **Patel SJ**, Sribnick E, Nicholas J, Egan B: Vasomotor and Sympathetic mapping of the human ventro-lateral medulla. American Society of Hypertension Eighteenth Annual Scientific Meeting, New York, NY: May 14-17, 2003.
50. Sur P, Sribnick EA, Ramsey R, Cooper H, **Patel SJ**, Ray SK, Banik N.: Dexamethasone antagonizes temozolamide induced apoptosis in human glioblastoma. Society of Neuroscience 33<sup>rd</sup> Annual Meeting, New Orleans, LA: November 8-12, 2003.
51. **Patel SJ**, Coffee R, Nicholas J, Egan B: Arterial compression of the ventro-lateral medulla in essential hypertension: a multivariate analysis. 14<sup>th</sup> International Symposium on Autonomic Nervous System, St. Thomas, US Virgin Islands: November 5-8, 2003.
52. Das A, Patel KD, Weinberg MS, **Patel SJ**, Banik NL, Ray SK: Dexamethasone antagonizes temozolamide-induced apoptosis in human glioblastoma cell line U87MG. MUSC Summer Student Research Day Presentation, November 2003.
53. **Patel SJ**, Coffee R, Nicholas J, Egan B. Arterial compression of the ventro-lateral medulla in essential hypertension: a multivariate analysis. *Clinical Autonomic Research* 13(5):362, Oct 2003.
54. Nicholas J, Leal B, **Patel S**, Patel A. Arterial compression of the retro-olivary sulcus of the ventrolateral medulla in essential hypertension. *Circulation* 109(7):47, 2004.
55. Nicholas J, Leal B, Patel A, **Patel SJ**. Arterial compression of the retro-olivary sulcus of the ventro-lateral medulla in essential hypertension. 44<sup>th</sup> Annual Conference on Cardiovascular Diseases Epidemiology and Prevention. San Francisco, CA, March 3-6, 2004.
56. Das A, Ray SK, Weinberg MS, **Patel SJ**, Banik NL: Modulatory effect of dexamethasone on temozolamide induced apoptosis in human glioblastoma U87MG cell. 95th American Association for Cancer Research Annual Meeting, Orlando, FL: March 27-31, 2004.
57. Nicholas J, **Patel SJ**: Arterial compression of the ventro-lateral medulla in essential hypertension: A multivariate analysis. MUSC Neuroscience Symposium, Charleston, SC, March 19, 2004.
58. Das A, Ray SK, Karamakar S, **Patel SJ**, Ray, SK. All-trans retinoic acid decreased telomerase activity and increased IFN-g and taxol induced apoptosis in human glioblastoma T98G cells. Society of Neuroscience 34<sup>th</sup> Annual Meeting, San Diego, 2004.

59. Das A, Karmakar S, **Patel SJ**, Banik NL, Ray SK. Differentiation in rat C6 glioblastoma cells enhanced sensitivity to taxol or IFN-g for apoptosis. ASN Annual Meeting, New York, August 2004.
60. Yallapragada AV, Maru NK, Patel NG, Matzelle DD, Stucki BI, **Patel SJ**, Ray SK, Banik NL: Melatonin prevented neuronal death by attenuating calpain expression and activity in the lesion and caudal penumbra following spinal cord injury in rats. Student Research Day, Medical University of South Carolina, Charleston, SC, November 5, 2004.
61. Neal JG, **Patel SJ**, Kulbersh JS, Osguthorpe JD, Schlosser, RD: Comparison of three techniques for transsphenoidal pituitary surgery. ENT Southern Section, 2004.
62. Das A, Karmakar S, **Patel SJ**, Banik NL, Ray SK: ALL-trans retinoic acid and 13-cis retinoic acid differentiated C6 glioblastoma cells and decreased telomerase activity leading to increased sensitivity to IFN- $\gamma$  and taxol for apoptosis. American Association for Cancer Research Annual Meeting, April 2005.
63. Sur P, Sribnick EA, **Patel SJ**, Ray SK, Banik, NL: Antagonistic effect of dexamethasone in temozolamide-induced apoptosis in human malignant glioblastoma T98G cells. American Association for Cancer Research Annual Meeting, April 2005.
64. **Patel SJ**: Activation of multiple molecular mechanisms for mediation of apoptosis in human malignant glioblastoma cell lines T98G and U87MG following exposure to L-sulforaphane. American Association for Cancer Research Annual Meeting, April 2005.
65. Karmakar S, Das A, Tomlinson S, Banik NL, **Patel SJ**: Treatment with combination of all-trans retinoic acid and taxol induced differentiation and apoptosis in human glioblastoma U87MG cells xenografted in athymic nude mice. American Association for Cancer Research Annual Meeting, April 2005.
66. Das A, Karmakar S, **Patel SJ**, Priest DG, Banik NL, Ray SK: Differentiation of human glioblastoma U87MG cells with all-trans retinoic acid (ATRA) or 13-cis retinoic acid (13CRA) down regulated telomerase activity and enhanced sensitivity to interferon-gamma (IFN- $\gamma$ ) or taxol for apoptosis. American Association for Cancer Research Annual Meeting, April 2005.
67. Das A, Karmakar S, **Patel SJ**, Banik NL, Ray SK: Exploration of the potential of N-(4-hydroxyphenyl) retinamide (4-HPR) for induction of both differentiation and apoptosis in two human malignant glioblastoma cell lines T98G and U897MG. American Association for Cancer Research Annual Meeting, April 2005.
68. Karmakar S, Das A, **Patel SJ**, Banik NL, Ray SK: Combination of retinoid and favinoid controlled the growth of human malignant neuroblastoma SH-SY5Y cells in culture as well as in xenografted athymic nude mice. American Association for Cancer Research Annual Meeting, April 2005.
69. Karmakar S, Das A, Yallapragada AV, Norris JS, **Patel SJ**, Banik NL, Ray SK: Induction of calpain and intrinsic caspase pathways for apoptosis in human malignant neuroblastoma cell line Sh-SY5Y following exposure to diallyl sulfide (DAS) and diallyl disulfide (DADS). American Association for Cancer Research Annual Meeting, April 2005.
70. Neal JG, Patel S, Kulbersh JS, Osguthorpe JD, Schlosser RJ. Comparison of techniques for trans-sphenoidal pituitary surgery. American Rhinologic Society, Boca Raton, FL, May 14, 2005.
71. Karmakar S, Banik NL, **Patel SJ**, Ray SK. A combination therapy for enhancement of apoptosis in human malignant glioblastoma T98G and U87MG cells xenografted in nude mice. International Symposium on Translational Research: Apoptosis and cancer, December 18-21, 2005.

72. Karmakar S, Banik NL, **Patel SJ**, Ray SK. Molecular mechanism of inositol hexaphosphate mediated apoptosis in human malignant glioblastoma T98G cells. Neurosciences 2006.
73. Nicholas JS, Thomas JC, Rumboldt Z, Tumminello P, **Patel S**. The effect of statin pre-treatment on infarct volume and discharge disposition in ischemic stroke patients with diabetes. European Stroke Conference. Glasgow, United Kingdom, May 29-June 1, 2007.
74. Nicholas JS, Thomas JC, Rumboldt Z, Tumminello P, **Patel SJ**. The effect of statin pre-treatment on infarct volume in ischemic stroke. American Society of Neuroradiology Annual Meeting 2007.
75. D'Agostino S, Frankel B, Patel S, Wang, C, Giglio P, LaPointe M. Treatment of recurrent glioblastoma multiforme by targeting subventricular progenitor cells with intrathecal chemotherapeutic agent cytarabine (ARA-C). South Carolina Medical Association, Hilton Head 2007.
76. Surajit Karmakar, Naren L. Banik, **Sunil J. Patel**, Swapan K. Ray. Garlic compounds activated cysteine proteases for apoptosis in human malignant neuroblastoma SH-SY5Y cells. American Association for Cancer Research April 2007 Annual Meeting.
77. S. Karmakar, NL Banik, **SJ Patel**, SK Ray. Molecular mechanism of inositol hexaphosphate-mediated apoptosis in human malignant glioblastoma T98G cells. American Association for Cancer Research April 2007 Annual Meeting.
78. Tina Mao, Surajit Karmakar, Naren L. Banik, **Sunil J. Patel**, Swapan K. Ray. Inositol hexaphosphate induced apoptosis in human malignant glioblastoma U87MG. American Association for Cancer Research April 2007 Annual Meeting.
79. Wise SK, Harvey RJ, Patel SJ, Frankel B, Schlosser RJ. Endoscopic Repair of Skull Base Defects Presenting with Pneumocephalus. American Rhinologic Society, Washington DC, September 2007.
80. Wise SK, Harvey RJ, Patel SJ, Frankel B, Schlosser RJ. Factors contributing to failure in endoscopic repair of skull base defects. American Rhinologic Society, Washington DC, September 2007.
81. Nicholas JS, Thomas JC, Rumboldt Z, Tumminello P, Patel SJ. The effect of statin pre-treatment on infarct volume and discharge disposition in ischemic stroke patients with diabetes. Cerebrovascular Diseases 23:Sup2:88. 2007.
82. Ruppert B, Cynthia W, Giglio P, Jenrette J, Johnson I, Patel S, Fortney J, Przybylek. Rosetted glioneuronal tumor of the spinal cord with diffuse leptomeningeal neuraxis dissemination. Thirteenth Annual Meeting of the Society of Neuro Oncology, Las Vegas, Nevada, November 2008.
83. Cooper L, Jenrette J, Giglio P, Patel SJ. Balloon Brachytherapy vs Chemotherapy for Recurrent Malignant Gliomas. Society for Neuro-Oncology and the AANS/CNS Section on Tumors, New Orleans, Louisiana, October 2009.
84. S. Lewis Cooper M.D.1, John A. Fortney, M.D.1, Amy E. Wahlquist, M.S.3, Elizabeth Garrett-Mayer, Ph.D.3, **Sunil J. Patel**, M.D.2, Pierre Giglio, M.D.2, Joseph M. Jenrette, M.D. 1. Balloon Brachytherapy vs Chemotherapy for Recurrent Malignant Gliomas  
Departments of Radiation Oncology<sup>1</sup>, Neurosciences<sup>2</sup>, and Medicine, Division of Biostatistics and Epidemiology <sup>3</sup>, Medical University of South Carolina, Charleston, SC
85. Open-label, dose confirmation and dosimetry study of interstitial <sup>131</sup>I-chTNT-1/b MAb for the treatment of recurrent glioblastoma multiforme (GBM) – final results.

W. R. Shapiro, K. Judy, S. J. Patel, R. A. Lustig, K. Spicer, S. Shen, J. Lai, J. Shan; St Joseph's Hosp and Medcl, Phoenix, AZ; University of Pennsylvania, Philadelphia, PA; MUSC, Charleston, SC; Hosp of Univ of Pennsylvania, Philadelphia, PA; University of Alabama, Birmingham, AL; Peregrine Pharmaceuticals, Tustin, CA; Peregrine Pharm Inc, Tustin, CA.  
American Society of Clinical Oncology, Chicago Illinois, June 2010.

### **Extramural Professional**

- 1992 Cranial Base Surgery and Radiosurgery Practical Workshop. Faculty. University of Pittsburgh
- 1993 Lateral Approaches to the Skull Base - Cadaver Dissection Course. Faculty. American Association of Neurological Surgeons, Boston, MA
- 1993 Anterior and Lateral Skull Base Approaches: Cadaveric Workshop. Faculty. 10th International Congress of Neurological Surgery, Acapulco, Mexico
- 1994 Lateral Skull Base Approaches - Cadaver Dissection Course. Faculty. AANS Meeting, San Diego, CA
- 1996 Extreme Lateral/Transcondylar Approach - didactic and cadaver dissection course. Faculty. North American Skull Base Society Meeting. San Diego, CA
- 1996 Lateral Approaches to tumors and aneurysms - Cadaver dissection course. Faculty. Congress of Neurological Surgeons. Montreal, Canada
- 1999 Lateral Skull Base Approaches Cadaveric Workshop. Co-Director. Congress of Neurological Surgeons 49th Annual Meeting. Boston, MA
- 1999 Skull Base Surgery Cadaveric Workshop. Faculty. Asian-Oceanic Skull Base Society Meeting. K.E.M. Hospital Mumbai, India
- 2000 Lateral Skull Base Approaches. Practical Course. Co-Director. At the Congress of Neurological Surgeons 50<sup>th</sup> Annual Meeting, San Antonio, TX: September 2000
- 2002 Phase 1 intra-tumoral infusion of Transmid for recurrent malignant glioma – Pediatric Trials Investigators meeting, Bermuda: August 2-5. 2002.
- 2002 Phase III intra-tumoral Cotara infusion for recurrent malignant glioma. European Investigators meeting. Malaga, Spain: June 2002.
- 2003 Kyphon Inflatable Bone Tamp Technology Course, Savannah, GA, May 2003.
- 2007 Kyphon X-Stop Interspinous Process Decompression System, Charleston, SC, May 2007.
- 2007 Medtronic Training, Orlando, FL September 8, 2007.
- 2008 Experts in Hypertension Seminar Series, American Society of Hypertension. Application of JNC 7 & Trial Results to Clinical Practice. Charleston, SC, May 10, 2008.

## **Publications**

### **Peer Reviewed Publications**

1. Handa T, Suzuki Y, Saito K, Sugita K, **Patel SJ**. Isolated intramedullary spinal artery aneurysm presenting with quadriplegia. Case report. [Review] [19 refs] *Journal of Neurosurgery*. 77(1):148-50, 1992 Jul.
2. **Patel SJ**, Sekhar LN, Cass SP, Hirsch BE. Combined approaches for resection of extensive glomus jugular tumors. *Journal of Neurosurgery*. 80(6):1026-38, June 1994.
3. Suzuki Y, Sugimoto T, Shibuya M, Sugita K, **Patel SJ**. Meningiomas: Correlation Between MRI Characteristics and Operative Findings Including Consistency. *ACTA Neurochir*. 129(1-2):39-46, 1994.
4. O'Neil M, Probst L, **Patel SJ**. Felbamate-induced delayed anaphylaxis. *The Annals of Pharmacotherapy*; 29:430, 1995.
5. Mace JC, **Patel SJ**. Pseudotumor cerebri. *Journal - South Carolina Medical Association*. 92(1):11-13, Jan 1996.
6. O'Neil MG, Perdun CS, Wilson MB, McGowan ST, **Patel SJ**. Felbamate-associated fatal acute hepatic necrosis. *Neurology*; 46:1457-9. 1996.
7. Pinosky ML, Fishman RL, Reeves ST, Harvey SC, **Patel SJ**, Palesch Y, Dorman BH. The Effect of Bupivacaine Skull Block on the Hemodynamic Response to Craniotomy. *Anesth Anal* 1;83:1256-61, 1996.
8. Sekhar LN , **Patel SJ**, Cusimano M, Wright DC, Sen CN, Bank WO. Surgical treatment of meningiomas involving the cavernous sinus: evolving ideas based on a ten year experience. *Acta Neurochir Suppl (Wein)* 65:58-62, 1996.
9. **Patel SJ**, Spicer K, Van Tassel P, Gordon L, Chergey A, Haines S.J. Results in a dose-escalating trial of intra-tumoral infusion with I-131/ch-TNT-1/B in the treatment of recurrent malignant glioma. *Neuro-Oncology* 1:S111, 1999.
10. Jones C , Lapointe M, **Patel SJ**, Shah, J. Gel based local delivery of BCNU. *Proceed Int'l. Symp., Control Rel., Bioact Mater*, 26: 1999 .
11. McCutchen TQ, Smith MT, Jenrette JM, Van Tassel P, **Patel SJ**, Thomas CR Jr. Interparenchymal hemorrhagic neurocytoma: an atypical presentation of a rare CNS tumor. *Medical & Pediatric Oncology*. 32(6):440-6, June 1999.
12. Ray SK , **Patel SJ**, Wilford GG, Banik NL. Increased calpain expression and activity in human brain tumors. *The FASEB Journal* 13/7:A1435, 1999.
13. Vera CL, **Patel SJ**, Naso W. "Dual pathology" and the significance of surgical outcome in "Dostoevsky's epilepsy". *Epileptic Disorders*, 2(1):21-5, March 2000.
14. Ray SK, **Patel SJ**, Hogan EL, Banik NL. Altered expression of apoptosis-related genes and DNA fragmentation in brain tumors. *J Neurochem*: 74:S11; 2000.
15. Gajjar D, Egan B, Cure J, Rust P, VanTassel P, **Patel SJ**. Vascular compression of the rostral ventrolateral medulla in sympathetic mediated essential hypertension. *Hypertension*. 36(1):78-82, July 2000.
16. Doolittle ND, Anderson CP, Bleyer WA, Cairncross JG, Cloughesy T, Eck SL, Guastadisegni P, Hall WA, Muldoon LL, **Patel SJ**, Peereboom D, Siegal T, Neuwelt EA. Importance of dose

- intensity in neuro-oncology clinical trials: summary report of the Sixth Annual Meeting of the Blood-Brain Barrier Disruption Consortium. *Neuro-Oncology*. 3(1):46-54, Jan 2001.
17. Miller JJ, Weber PC, **Patel SJ**, Ramey J. Intracranial surgery: to shave or not to shave?. [Journal Article] *Otology & Neurotology*. 22(6):908-11, Nov 2001.
  18. Osguthorpe, J. David, Patel, Sunil. Craniofacial Approaches to Tumors of the Anterior Skull Base. *Otolaryngologic Clinics of North America* 34(6):1123-1142, Dec 2001.
  19. Riyadh Al-Okaili and **Patel, SJ**. Brain abscess following endovascular coiling of saccular aneurysm: a case report. *Am J Neuroradiol* 23:697-699, April 2002.
  20. Ray SK, **Patel SJ**, Welsh CT, Wilford GG, Hogan EL, Banik NL. Molecular Evidence of Apoptotic Death in Malignant Brain Tumors Including Glioblastoma Multiforme: Upregulation of Calpain and Caspase-3. *Journal of Neuroscience Research*. 69(2):197-206, Jul 2002.
  21. Noone MC, Osguthorpe JD, **Patel S**. Pericranial flap for closure of paramedian anterior skull base defects. *Otolaryngology-Head and Neck Surgery* 127(6):494-500, Dec 2002.
  22. Sekhon B, Sekhon C, Mushfiquddin K, **Patel SJ**, Singh I, Singh AK: N-Acetyl cysteine protects against injury in a rat model of focal cerebral ischemia. *Brain Research* 971, 1-8, 2003.
  23. Hatakeyama H, Saito K, Nagatani T, **Patel SJ**, Yoshida J: Schwannoma in the Crural Cistern Removed Without Permanent Functional Deficits – Case Report. *Neurologia medico-chirurgica* 43(2), February 2003.
  24. **Patel SJ**, Sribnick E, Nicholas J, Egan B. Vasomotor and Sympathetic mapping of the human ventro-lateral medulla. *American Journal of Hypertension* 16 (5, Part 2):220A, May 2003.
  25. Das A, Banik NL, **Patel SJ**, Ray, SK. Dexamethasone protected human glioblastoma U87MG cells from temozolomide induced apoptosis by maintaining Bax:Bcl-2 ration and preventing proteolytic activities. *Molecular Cancer* 3:36:1-10, 2004.
  26. Sur P, Sribnick E, **Patel S**, Ray S, Banik N. Dexamethasone decreases temozolomide-induced apoptosis in human glioblastoma T98G cells. *Glia* 50:160-167, 2005.
  27. Nicholas J, D'Agostino SJ, **Patel S**. Arterial compression of the retro-olivary sulcus of the ventrolateral medulla in essential hypertension and diabetes. *Jrnl of Hypertension* 47(part 2): 982-985, 2005.
  28. **Patel, SJ**, Shapiro, WR, Laske, DW, Jensen, RL, Asher, AL, Wessels, BW, Carpenter, SP, Shan, JS. Safety and feasibility of convection-enhanced delivery of cotara for the treatment of malignant glioma: Initial experience in 51 patients. *Neurosurgery* 56:1243-1253, 2005.
  29. Karamakar S, Weinberg, MS, Banik, NL, **Patel, SJ**, Ray, SK. Activation of multiple molecular mechanisms for apoptosis in human malignant glioblastoma T98G and U87MG cells treated with sulforaphane. *Neurosciences* 141 1265-1280. 2005
  30. Coffee, RE, Nicholas, JS, Egan, BM, Rumboldt Z, D'Agostina S, **Patel, SJ**. Arterial compression of the retro-olivary sulcus of the ventrolateral medulla in essential hypertension: a multivariate analysis. *Jrnl of Hypertension* 23(11), 2027-31, 2005.
  31. Vandergrift, WA, **Patel, SJ**. Convection-enhanced delivery of immunotoxins and radio-isotopes for the treatment of malignant gliomas. *Neurosurgical Focus* 20(4):E13, 2006.

32. Karmakar S, Banik, NL, **Patel, SJ**, Ray, SK. Curcumin activated both receptor-mediated and mitochondria-mediated protected glioblastoma T98G cells. *Neuroscie let.* Aug 30 2006: 407(1):53-8.
33. S. Pai, C.T. Welsh, **S. Patel**, Z. Rumboldt. Idiopathic hypertrophic spinal pachymeningitis: Report of two cases with typical MR imaging findings. *Case Report - Am J Neuroradio* 28 590-592. March 2007.
34. Karmakar, Surajit, Banik, Naren L., **Patel, Sunil J.**, Ray, Swapan K. 5-aminolevulinic acid-based photodynamic therapy suppressed survival factors and activated proteases for apoptosis in human glioblastoma U87MG cells. *Neurosci Lett* Mar 2007: 415(3): 242-7.
35. Neal JA, Patel S, Kulbersh JS, Osguthorpe JD, Schlosser RJ. Comparison of techniques for trans-sphenoidal pituitary surgery. *Am J Rhinol* 2007: 21 (2):203-6.
36. Karmakar, Surajit, Banik, Naren L., **Patel, Sunil J.**, Ray, Swapan K. Combination of all-*trans* retinoic acid and taxol regresses glioblastoma t98G xenografts in nude mice. *Apoptosis* :12:2077-2087, 2007.
37. Nicholas JS, Swearingen C, Thomas JC, Rumboldt Z, Tumminello P, Patel SJ. The effect of statin pre-treatment on infarct volume in ischemic stroke. *Neuroepidemiology* 2008:31(1):48-56.
38. Harvey, Richard J., Nogueira, Joao F., Schlosser, Rodney J., Patel, Sunil J., Vellutini, Eduardo, Stamm, Aldo C. Closure of large skull base defects after endoscopic transnasal craniotomy. *J Neurosurg*: Dec 5, 2008.
39. Saunders LL, Selassie AW, Hill EG, Nicholas JS, Varma AK, Lackland DT, **Patel SJ**. Traumatic Spinal Cord Injury Mortality, 1981-1998. *J Trauma* 2009; 66:184-190.  
Watkins, John M, Marshall, David T., **Patel, Sunil**, Giglio, Pierre, Herrin, Amy E., Garrett-Mayer, Elizabeth, Jenerette, Joseph M. III. High-dose radiotherapy to 78 Gy with or without Temozolomide for high grade gliomas. *J. Neurocol*, 14 January 2009.
40. Watkins, John M, Marshall, David T., **Patel, Sunil**, Giglio, Pierre, Herrin, Amy E., Garrett-Mayer, Elizabeth, Jenerette, Joseph M. III. High-dose radiotherapy to 78 Gy with or without Temozolomide for high grade gliomas. *J. Neurocol*, 14 January 2009.
41. R. Harvey, J. Smith, S. Wise, S. Patel, B. Frankel, R. Schlosser. Intra-cranial complications before and after endoscopic skull base reconstruction. *Am J of Rhino*. In press 2008.
42. Wise, SK, Harvey RJ, Neal JG, Patel SJ, Frankel BM, Schlosser RJ. Factors contributing to failure in skull base defect repair. *Am J of Rhino*. revisions submitted in 2007
43. Wise SK, Harvey RJ, Neal JG, Patel SJ, Frankel BM, Schlosser RJ. Endoscopic repair of skull base defects presenting with pneumocephalus. *Am J of Rhino* revisions submitted 2007
44. Jones TM, Wren M, Skinner H, Vandergrift WA, Patel SJ. Epstein-Barr virus associated leiomyoma of the spinal dura: a case report. Submitted in 2008

#### Non-Peer Reviewed Publications

1. **Patel SJ**, Sekhar LN. Surgery of the Skull Base: The Next Challenges. In: Raimondi A, ed. *Critical Reviews in Neurosurgery*, 1993.

2. **Patel SJ**, Sekhar LN. Surgery for cavernous sinus meningiomas. *Neurosurg Quarterly* 3 (3):155-164, 1993.
3. Sekhar LN, **Patel SJ**. Permanent occlusion of the internal carotid artery during skull-base and vascular surgery: is it really safe? [Editorial]. *American Journal of Otolaryngology*. 14(5):421-2, Sept 1993.
4. Osguthorpe JD, **Patel SJ**, Hochman M. Howard G. Jenrette J. Cooke J. Horton J. Weber P. Multi-disciplinary approach to cranial base tumors. [Review]*Journal - South Carolina Medical Association*. 90(10):450-4, Oct 1994.
5. Osguthorpe JD, **Patel SJ**. Craniofacial approaches to sinus malignancy. [Review] *Otolaryngologic Clinics of North America*. 28(6):1239-57, Dec 1995.
6. George MS, Vincent DJ, Roberts D, Bohning D E, **Patel SJ**, Vera C, Cure J, Horton J, Young, Y. Presurgical mapping of regional brain activity using echo planar BOLD MRI. *Advances in Clinical Research (Picker)* 1997:1 - 4.
7. Osguthorpe JD, **Patel SJ**. Multidisciplinary approaches for cranial base tumors. *J S C Med Assoc*, 1998.
8. Osguthorpe JD and **Patel SJ**. Skull base tumor surgery: craniofacial approaches to tumors of the anterior skull base. *Otol Clin North Am* 34:6, 1123-42, Dec 2001.
9. Weber P, and **Patel SJ**. Jugulotympanic Paragangliomas. *Otolaryngology Clinics of N. Am.*, *Otol Clin North Am* 34:6, 1231-1240, Dec 2001.

#### Book Chapters

1. **Patel SJ**, Sekhar LN. Surgical treatment of tumors involving the cavernous sinus. In: Wilkins R and Rengachary S, ed. *Neurosurgery*. McGraw-Hill, 1996 (vol 2).
2. Pallini R, **Patel SJ**. Salvinelli F, DeLa Cruz A, Wright DC, Sekhar LN. Petroclival tumors anterolateral approaches: extended frontal approach. In: Pallini R. ed. *Skull Base Approaches for Otolaryngologists*. 392-406, 1996
3. **Patel SJ**, Wen DYK, Haines S.J. Posterior fossa: surgical considerations In: Cotrell, J.E. & Smith, D.S., ed. *Anesthesia and Neurosurgery* 4th edition. Mosby, 1999.
4. **Patel SJ**, Stephen J. Haines. Chordomas and chondrosarcomas in children. In: Griffith Harsh (ed). *Chordomas and Chondrosarcomas of the Skull Base and Spine*. New York: Thieme, 2003.
5. **Patel SJ**, Haines S.J. Fibrous Dysplasia, osteopetrosis and ossifying fibroma fibrous dysplasia, osteopetrosis and ossifying fibroma. In: Fessler RG, Sekhar LN, ed. *Atlas of Neurosurgical Techniques*. New York: Thieme, 2002.