



## **Ravish Patwardhan, M.D. Founder and Director**

Dr. Ravish Patwardhan is one of the country's leading neurosurgeons. His practice, The Comprehensive Neurosurgery Network (LLC), Shreveport, La., provides treatment for neurological disorders of the brain, spine, and peripheral nerves, using the latest techniques to perform minimally invasive and highly specialized neurosurgery.

Dr. Patwardhan was the first in North America to perform a novel laser procedure to eradicate a brain tumor, using the Visualase minimally invasive system (Visualase, Inc., Houston). Combining an access technique he developed through The Interactive Neuroscience Center (LLC), the two companies have since collaborated, and he is both a consultant and vested member with the company. In October, 2008, Dr. Patwardhan was the first in the world to reroute a nerve for bladder function restoration after a gunshot wound to the spine, a procedure he did in conjunction with pioneering Chinese urologist Dr. Xiao. He is highly skilled and professionally trained in some of the latest neurosurgical techniques, including awake brain mapping and gamma knife radiosurgery.

Dr. Patwardhan also founded The Interactive Neuroscience Center (LLC) in 2007, which remains on the forefront of neurological research and development. He has presented at 40 conferences and professional meetings covering issues such as functional imaging/electrostimulation, head trauma, vagal nerve stimulation, brain tumors, deep brain stimulation, and epilepsy. He has published articles in over 30 professional journals.

Dr. Patwardhan is also deeply involved in public service. In 2006, he founded Re-Vitalize Philanthropic Foundation, a non-profit organization with a mission to facilitate medical care to the underserved members of the community, and help transform underprivileged neighborhoods worldwide –working alongside with educational institutions, spiritually-oriented organizations, and benefactor companies. He is also involved in local partnerships and capital projects that build lodgings to accommodate families of patients hospitalized at Level I Trauma Center in Shreveport.

Dr. Patwardhan is an active member of a number of professional societies, including American Association of Neurological Surgeons, American Epilepsy Society, Congress of Neurological Surgeons, Louisiana State Medical Society, and Shreveport Medical Society. He previously taught medical students and residents in his role as an Assistant Professor at Louisiana State University's Department of Neurosurgery.

Dr. Patwardhan completed his neurosurgical residency at Louisiana State University Medical School in Shreveport, where he also served as Chief Resident. He also completed a fellowship in epilepsy and functional neurosurgery at UCLA. Prior to relocating to Shreveport, he was a resident at the University of Alabama at Birmingham. He holds a medical degree from UCLA School of Medicine in Los Angeles, and a bachelor's degree in Biomedical Sciences from U. C. Riverside, where he also majored in electrical engineering.

## Fact Sheet

### The Company

Since its inception in 2006, the Comprehensive Neurosurgery Network founded by Dr. Ravish Patwardhan has experienced many milestones. The practice, which specializes in minimally invasive techniques treating brain and spine problems, has expanded remarkably, having treated and built relationships with thousands of patients, young and old, suffering from a variety of neurosurgical conditions.

Comprehensive Neurosurgery has since affiliated with an extensive network, which includes an independent clinical practice, research and development group, and philanthropic foundation, among others.

Through the practice, Dr. Patwardhan offers unique procedures not offered elsewhere in North Louisiana for Parkinson's disease, tremor, epilepsy, depression-treating surgery, and awake brain mapping for brain tumor resection and other disorders. Dr. Patwardhan is one of only a few in the world to have performed certain procedures. Unique 'firsts' include restoration of bladder function following a gunshot wound six years later (in collaboration with Chinese Urologist Dr. Xiao, who invented the procedure) and use of the Visualase® laser probe technique to eradicate a brain tumor in an awake patient (who could then subsequently go home the same day).

### Executive Team

#### ***Ravish Patwardhan, M.D., Neurosurgeon and Director***

Dr. Ravish Patwardhan, Founder and Director of the CNS Network, LLC is a graduate of the UCLA School of Medicine. In addition, to completion of routine neurosurgical training (performing most brain, spine, and peripheral nerve procedures), he has subspecialty training allowing performance of deep brain stimulation, epilepsy, and pain-relieving neurosurgical procedures. Dr. Patwardhan has more than 14 years of experience in the neurosurgery industry and has performed thousands of operations on both pediatric and adult patients. Dr. Patwardhan has published several peer-reviewed studies on brain trauma, epilepsy, and spinal procedures. He is also a frequent speaker on the newest treatments and advances on brain and spinal surgeries. Please see link for his [curriculum vitae](#).

#### ***Michelle Akin, PA-C, Physician Assistant***

Michelle Akin brings ten years of experience in neurosurgery, making her one of the most experienced physician assistants in the field in the local area. Since joining the team, she has already contributed to the efficiency, medical expertise, and compassionate care which are hallmarks of our practice.

#### ***Karen Black, RN, Nurse Specialist***

Karen Black assists in the coordination of patient care, ranging from assistance via phone calls to seeing patients in clinic, insurance pre-certification, and scheduling of studies. She brings experience from extensive inpatient and outpatient nursing, to assist in patient care with our practice.

#### ***Carmen Fletcher, Patient Care Coordinator***

Carmen coordinates patient scheduling, along with initial and subsequent outpatient office visits. With prior experience in busy physician offices, she works to accomplish the mission of treating patients in a friendly and efficient manner.

#### ***Tim Gilbert PhD, Clinical Trials & Special Projects Director***

Tim is a lifelong educator serving in many capacities for over 25 years public education. He served on the medical school faculty at LSUHSC-Shreveport, and has recently worked across the nation with colleges and universities refining their assessment and accreditation processes. He is responsible for initiation and ongoing matters relating to clinical trials, keeping the practice on the forefront of medical advancements and ensuring patients are offered the latest technology available. He is also involved in special projects related to multiple entities of the Comprehensive Neurosurgery Network.

***Marilyn Goodwin, RHIA, Business Manager***

Marilyn Goodwin brings years of experience related to billing, coding and administrative accounting matters to the practice. She is responsible for accounts receivable.

***Darlene Hall, Director of Operations***

Darlene Hall is a previous Vice-President of Willis-Knighton Health System, and has extensive business and administrative experience. She coordinates numerous aspects of the practice in this role, as Director of Operations.

***Debra Lindsey, CME, Community Outreach Director***

Debra Lindsey is a certified marketing executive with more than 25 years of experience. For the past 13 years, she was the Senior Vice President of Marketing for the Greater Shreveport Chamber of Commerce. She is responsible for marketing and developing community partnerships to help educate others about the practice and its network of excellence.

***Debra Myers, RNFA, Nurse Specialist***

Debra Myers has specialty training experience as an operating room nurse, assisting in the performance of numerous routine as well as specialized neurosurgical procedures including deep brain stimulation. In her present role, she helps coordinate patient care both in the clinic and surgical settings.

***Amy Shafer, Office Manager***

Amy Shafer has over a decade of experience in management, and helps coordinate patient care. Often “the first voice you hear on the phone” along with Carmen, she is instrumental in the scheduling of appointments, ordering diagnostic tests, and other daily practice-related organizational duties.

**Company Contact:**

Debra Lindsey  
Comprehensive Neurosurgery Network, LLC  
8001 Youree Drive, Ste. 970  
Shreveport, LA 71101  
(318) 773-1452  
[dl@brainandspinecare.com](mailto:dl@brainandspinecare.com)

## **Ravish Patwardhan, M.D.**

### **Suggested Topics for Speaking Engagements, Articles for Publication...**

- Advances in Brain and Spine Surgery – 30 minute presentation; 45 minute with Q&A
- Faith in the Workplace – 30 minute presentation
- The WHO study and the link between cell phones and brain tumors
- Deep brain stimulation: Treatment options for obesity, depression, Tourette's and more
- Neurological complications and pregnancy: 'How Pregnancy Affects the Brain'
- Hypothalamus: The Brain Pathway that Regulates Body Weight and Appetite
- How Rechargeable Spinal Cord Stimulators alleviate Chronic Pain
- Short-Term Memory vs. Long Term Memory – how your brain is wired
- New curative techniques for Parkinson's Disease
- Curing epilepsy through surgery
- Tips for winter sports participants to prevent brain injuries.
- Major League Baseball fights concussions with new helmet technology
- How vagus nerve stimulation helps severe depression
- A neurosurgeon's perspective on healthcare reform
- How brain mapping prevents damage during brain surgery
- How a brain surgeon applies the concepts of electrical engineering to better understand the brain
- Pacemakers hold new key to Parkinson's cure
- Long term effects of an NFL career on the brain

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curriculum vitae

**RAVISH PATWARDHAN M.D.**

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**NEUROSURGEON**



**FOUNDER & DIRECTOR**

**The Comprehensive NeuroSurgery Network, LLC**

[www.brainspinecare.com](http://www.brainspinecare.com)

**The Interactive Neuroscience Center, LLC**

[www.neuroscience.ws](http://www.neuroscience.ws)

**FOUNDER & PRESIDENT**

**Re-VITALIZE! PHILANTHROPIC FOUNDATION**

**A Non-profit organization**

[www.brainspinecare.com/community](http://www.brainspinecare.com/community)

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**PRACTICE TYPE** General Neurosurgery of Brain, Spine, & Peripheral Nerves  
Minimally invasive Neurosurgery  
Highly specialized Neurosurgery using latest techniques

**PRACTICE SETTING** Willis-Knighton Pierremont, Suite 970,  
8001 Youree Drive, Shreveport, LA 71119

**CONTACT INFORMATION** Tel (318) 797-5543; Fax (318) 797-7608;  
Website: [www.brainspinecare.com](http://www.brainspinecare.com)  
Email: [rp@brainspinecare.com](mailto:rp@brainspinecare.com)

**CITIZENSHIP** United States

## EDUCATION

### **Bachelor of Science (B.S.)**

1993

UCR/UCLA Accelerated (7-year) Program in Biomedical Sciences  
Riverside, California  
Double Major:  
(1) Biomedical Sciences  
(2) Electrical Engineering

### **Doctor of Medicine (M.D.)**

1996

UCLA School of Medicine  
Los Angeles, California

## ACADEMIC & PRIVATE PRACTICE POSITIONS

### Clinical

#### **Intern** - General Surgery

1996-1997

University of Alabama, Birmingham  
Department of Surgery  
Birmingham, Alabama

#### **Resident** - Neurosurgery

1997-2001

University of Alabama  
Division of Neurosurgery  
Birmingham, Alabama  
Cleared Neurosurgery written Board exam for credit, 2001

#### **Chief Resident** - Neurosurgery

2002-2004

Department of Neurosurgery  
Louisiana State University - Shreveport  
Shreveport, Louisiana

#### **Fellow**

7-10/2003

Epilepsy Neurosurgery (Dr. Itzhak Fried & Dr. Gary Mathern);  
Functional Neurosurgery (Dr. Antonio DeSalles);  
Neurosurgical Treatments for Pain (Dr. Antonio DeSalles &  
Dr. Joshua Prager)  
Division of Neurosurgery  
U.C.L.A. School of Medicine  
Los Angeles, California

#### **Assistant Professor**

4/2004-3/2006

Functional, Epilepsy, Minimally Invasive, & General Neurosurgery  
Department of Neurosurgery  
LSUHSC-Shreveport, Louisiana

**Founder, Director, & Neurosurgeon**

3/2006-Present

The Comprehensive Neurosurgery Network, LLC  
An Independent, Solo Private Practice based at Willis-Knighton  
Pierremont, with privileges at Schumpert and Lifecare hospitals also

**Additional Training**

Transcranial Doppler Fellowship Certification 1994  
Cerebral Blood Flow Laboratory  
Division of Neurosurgery, UCLA Medical Center  
Los Angeles, California

Gamma Knife Radiosurgery 2003  
Department of Neurosurgery, University of Pittsburgh,  
Pittsburgh, Pennsylvania

U.C.L.A. Brain Mapping Center 2003  
Transcranial Magnetic Stimulation (TMS) Laboratory  
Los Angeles, California

Clinical Trials (GCP) Fundamentals Training 2004  
LSU Health Sciences Center  
Shreveport, Louisiana

Association of Clinical Research Professionals 2007  
Member  
"Project Management" course  
Houston, Texas

**RESEARCH POSITIONS**

Staff Research Associate 1993  
UCLA Microneurosurgical Skull Base Laboratory  
[Dr. Mario Ammirati, Director]  
Division of Neurosurgery  
UCLA School of Medicine  
Los Angeles, California

Research Assistant 1994-1996  
UCLA Cerebral Blood Flow Laboratory  
[Dr. Neil A. Martin, Director]  
Division of Neurosurgery  
UCLA School of Medicine  
Los Angeles, California





Researcher 1996  
Clinical Neurophysiology Lab – Microelectrode  
Construction for Epilepsy & Functional Monitoring  
Division of Neurosurgery (UCLA),  
Department of Electrical Engineering (UCLA), &  
Jet Propulsion Laboratory  
Los Angeles, California

Project Director & Investigator 1999  
The role of ninth cranial nerve stimulation for seizure  
control in both animal and human cadaveric models  
Cardiac Rhythm Management Laboratory  
Department of Cardiology  
University of Alabama, Birmingham  
Birmingham, Alabama

Co-Principal Investigator 1999  
The role of diffusion-perfusion MRI in spinal cord injury  
[Dr. Mark N Hadley, Co-Principal Investigator]  
University of Alabama, Birmingham  
Birmingham, Alabama

Co-Principal Investigator 2000  
A solution for differentiating fatty versus nervous tissue  
University of Alabama, Birmingham  
Birmingham, Alabama

Principal Investigator 2002-2004  
A prospective study determining the incidence of  
non-convulsive status epilepticus in adults suffering  
post-traumatic severe brain injury  
Louisiana State University Health Sciences Center - Shreveport  
Shreveport, Louisiana (Co-P.I. 2002-2004; P.I. 2004-)

Co-Principal Investigator 2003  
The role of doxycycline as a metalloproteinase inhibitor  
in spontaneous hypertensive intracerebral hemorrhage  
Louisiana State University Health Sciences Center - Shreveport  
Shreveport, Louisiana

Principal Investigator 2003  
The use of frameless navigation for deep brain stimulation  
U.C.L.A.  
Los Angeles, California



## **MEMBERSHIP**

American Association of Neurological Surgeons	1996 - Present
American Epilepsy Society	2002 - Present
American Medical Association	1993 - Present
California Medical Association	1994 - 1996
Congress of Neurological Surgeons	1996 - Present
Louisiana State Medical Society (including Delegate in '02,'06)	2002 - Present
Louisiana State Medical Society Membership Committee	2006
Shreveport Medical Society	2002 - Present
World Society for Stereotactic and Functional Neurosurgery	2002

## **PUBLICATIONS IN PRINT**

### **Chapters in books & Articles in referenced journals**

1. Martin NA, **Patwardhan RV**, Alexander MJ, Africk CZ, Lee JH, Shalmon E, Hovda DA, Becker DP: Characterization of cerebral hemodynamic phases following severe head trauma: hypoperfusion, hyperemia, and vasospasm. *Journal of Neurosurgery* 87:9-19, 1997.
2. Perez-Cruet M, **Patwardhan RV**, Mawad ME, Klucznik RP, Rose JE: Treatment of dissecting pseudoaneurysm of the cervical internal carotid artery using a wall stent and detachable coils: Case Report. *Neurosurgery* 40(3):622-626, 1997.
3. **Patwardhan RV**, Martin NA: "Venous Angiomas," in Welch M, Caplan L, Reis D, Siesjo B, Weir B (eds.): *Primer on cerebrovascular diseases*, Academic Press, San Diego, 1996.
4. American association of clinical anatomists, Educational affairs committee: The clinical anatomy of several invasive procedures. *Clinical anatomy* 12:43-54, 1999.
5. **Patwardhan RV**, Stong B, Bebin M, Mathisen J, Grabb PA: Efficacy of vagal nerve stimulation in children with medically refractory epilepsy. *Neurosurgery* 47:1353-1358, 2000.
6. **Patwardhan RV**, Hadley MN: "The history of surgery for ruptured disc," in Dagi TF (ed.): *Neurosurgery clinics of North America*, 12(1):173-180, 2000.
7. **Patwardhan RV**, Tubbs RS, Killingsworth C, Rollins D, Smith W, Ideker R: Ninth cranial nerve stimulation for epilepsy control Part I: Efficacy in an animal model, *Pediatric Neurosurgery* 36(5):236-243, 2002.
8. Tubbs RS, **Patwardhan RV**, Oakes WJ: Ninth cranial nerve stimulation for epilepsy control Part II: Surgical feasibility in humans. *Pediatric Neurosurgery* 36(5):244-247, 2002.

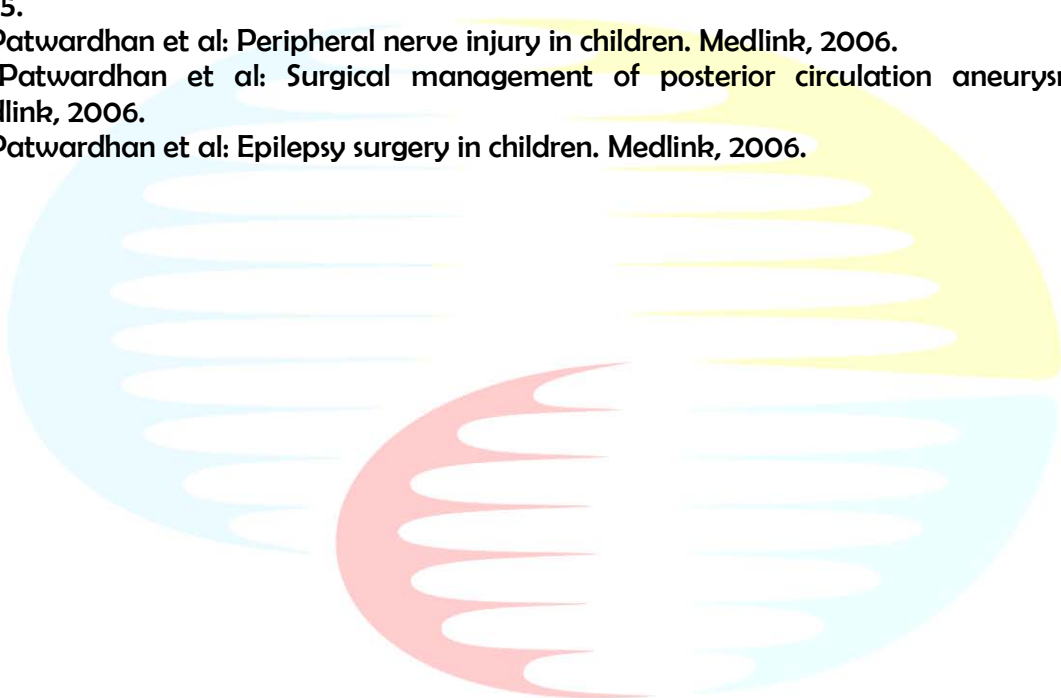
9. Tubbs RS, **Patwardhan RV**, Palmer CA, Kelley DR, Elton S, Blount JP, Bebin M, Grabb PA: Histological appearance of a chronically stimulated vagus nerve in a pediatric patient. *Pediatric Neurosurgery* 35:99-102, 2001.
10. **Patwardhan RV**, Tubbs RS, Leonard RJ, Kelly D, Killingsworth CR, Rollins DL, Smith WM, Ideker RE, Oakes WJ: Discernment of adipose versus nervous tissue using a novel solvent: a potential application in lipomyelomeningoceles. *Pediatric Neurosurgery* 36(6):314-319, 2002.
11. Tubbs RS, **Patwardhan RV**, Wellons JC 3rd, Oakes WJ: Cortical representation of Hering's nerve: a possible anatomical pathway for seizure cessation following electrical stimulation. *Pediatric Neurosurgery* 37(5):235-239, 2002.
12. Tubbs RS, Wellons JC 3rd, **Patwardhan RV**, Oakes WJ, Wyss JM: The effectiveness of Hering's nerve stimulation in controlling penicillin-induced seizures in the rat is dependent on the amygdala. *Pediatric Neurosurgery* 37(5):231-234, 2002.
13. **Patwardhan RV**, Shorter C, Willis BK, Smith D, Caldito GC, Nanda A: Survival trends in elderly patients with glioblastoma multiforme: Resective surgery, radiation, and chemotherapy. *Surg Neurol.* 62(3):207-215, 2004.
14. Nanda A, Williams RG, Polin RS, Jawahar A, Acharya R, **Patwardhan RV**: Cervical spondylotic myelopathy. *Medlink*, 2003.
15. Weilbaecher C, **Patwardhan RV**, Nanda A: Sellar metastases: Three cases and review of the literature. *Neurology India* 52(3):365-368,2004.
16. Dubey A, **Patwardhan RV**, Sampath S, Santosh V, Kolluri S, Nanda A: Intracranial fungal granuloma: Analysis of 40 patients and review of the literature. *Surgical Neurology* 63(3):254-260,2005.
17. **Patwardhan RV**, Mathern G: Epilepsy surgery. *American Academy of Neurology (AAN) Continuum*, 2005.
18. **Patwardhan RV**, Nanda A: Implanted Ventricular Shunts: The billion-dollar-a-year cost of hydrocephalus treatment. *Neurosurgery* 56(1):139-145,2005.
19. **Patwardhan RV**: Concerns of the young neurosurgeon. Invited editorial comment, *Surg Neurol* 61(4):404-406,2004.
20. **Patwardhan RV**, Kelley R: Epilepsy imaging techniques in animal models: CT and MR. Invited Commentary. *Neuroscience Imaging*. 2005.
21. Nanda A, **Patwardhan RV**: Reviewer comment in response to Friedrich et al, "Reconstruction of sphenoid wing dysplasia in a case of neurofibromatosis type 1." *Skull Base* 13(4):216-217, 2003.

25. **Patwardhan RV**, Calvert JW, Besio W, Kusaka G, Kusaka I, Zhang J, Nanda A: Technical note: preliminary results in development of a novel intracisternal penicillin seizure model in the rat. *Front Biosci* 10:3009-3012, 2005.
26. **Patwardhan RV**, Besio W, Calvert JW, Kusaka G, Kusaka I, Zhang J, Nanda A: Electroconvulsive therapy for seizure control: preliminary data in a new seizure generation and control model. *Front Biosci* 10:3013-3019, 2005.
27. **Patwardhan RV**, Dellabadia J Jr, Rashidi M, Grier L, Nanda A: Control of refractory status epilepticus precipitated by anticonvulsant withdrawal using left vagus nerve stimulation: a case report. *Surg Neurol.* 64(2):170-173, 2005.
28. **Patwardhan RV**, Fowler M, Willis BK, Nanda A: Idiopathic primary pan intraventricular hemorrhage in a child. *Neurol India* 53(3):373-374, 2005.
29. Acharya R, **Patwardhan RV**, Smith DR, Willis BK, Fowler M, Nanda A: Intraspinal synovial cysts: a retrospective study. *Neurol India* 54(1):38-41, 2006.
30. **Patwardhan RV**, Minagar A, Kelley RE, Nanda A: Neurosurgical treatment of multiple sclerosis. 289(3):320-325, 2006.
31. Koka K, **Patwardhan R**, Besio W: Computer simulation and tank experimental verification of concentric ring electrodes. 3:2243-2246, 2004. *Conf Proc IEEE Eng Med Biol Soc.*
32. Nathan CO, Chakradeo V, Malhotra K, D'Agostino H, **Patwardhan R**: The voice-controlled robotic assist scope holder AESOP for the endoscopic approach to the sella. *Skull Base.* 16(3):123-131, 2006.
33. **Patwardhan R**, Cardenas R, Myers D, Ware P, Nanda A: Left vagus nerve stimulation for depression: first implantation case post-FDA approval and review of the literature. *J La State Med Soc.* 159(1):38-41, 2007.
34. Hunt K, **Patwardhan RV**: Trigeminal neuralgia: a modern day review. *Int Rev Neurobiol.* 79:621-631, 2007.
35. Crane L, **Patwardhan RV**: Neurosurgery and Stroke. Submitted for publication, *Neurological Research*, 2007.

*Additional Contributions (updates to Medlink, expanding on previous clinical summaries to update these – electronically published, with multiple authors, order unspecified below):*

1. Patwardhan et al: Contemporary issues in spinal cord injury management. *Medlink*, 2006.

2. Patwardhan RV, Nanda A: Cervical spondylotic myelopathy. Medlink, 2005.
3. Patwardhan RV, Baskaya M, Vannemreddy P, Nanda A: Neurovascular trauma. Medlink, 2005.
4. Patwardhan RV, Acharya R, Nanda A: Brachial plexus injuries. Medlink, 2005.
5. Patwardhan et al: Transcranial Doppler applications to neurosurgery. Medlink, 2006.
6. Patwardhan et al: Thoracolumbar spine stabilization procedures. Medlink, 2006.
7. Patwardhan et al: Pathophysiology of closed head injury. Medlink, 2006.
8. Patwardhan et al: Surgery for hemispheric gliomas. Medlink, 2006.
9. Patwardhan et al: Surgery for meningiomas. Medlink, 2006.
10. Patwardhan et al: Neurosurgical management of neuropathic pain. Medlink, 2005.
11. Patwardhan et al: Multimodality monitoring of the neurosurgery patient. Medlink, 2005.
12. Patwardhan et al: Peripheral nerve injury in children. Medlink, 2006.
13. Patwardhan et al: Surgical management of posterior circulation aneurysms. Medlink, 2006.
14. Patwardhan et al: Epilepsy surgery in children. Medlink, 2006.



*The*  
**C**OMPREHENSIVE **NEURO**SURGERY  
n • e • t • w • o • r • k  
LLC

## **Novel Procedures**

First in the world: successful "nerve rerouting for bladder function restoration seven years after a gunshot wound to the spine" in collaboration with Dr. Chuan-Guo Xiao from China.

First in North America: "awake laser ablation of brain tumor" in conjunction with Visualase from Houston, Texas.

## **Inventions/Patents & Grand Rounds/Other Presentations**

### **Inventions**

#### **Devices**

March, 1996

Microtriad Device  
Division of Neurosurgery/Division of Mechanical,  
Aerospace, & Nuclear Engineering  
U.C.L.A.  
Jet Propulsion Laboratory  
Los Angeles, California

"A seizure defibrillator"  
[In conjunction with Dr. Walter Besio, Louisiana Tech]  
Department of Neurosurgery  
Louisiana State University, Shreveport  
Shreveport, Louisiana

April, 2002

#### **Techniques/Methods**

September, 1999

"Ninth cranial nerve stimulation for epilepsy control"  
Departments of Cardiology and Surgery (Neurosurgery)  
University of Alabama, Birmingham

### **Patents**

(1) "A neurological probe with macro- and microelectrodes and microdialysis catheter with same."

Patwardhan RV, Li W, Hong W, Behnke E, Ho C-M, Wilson C.  
Provisional patent filed 1996  
University of California,  
Los Angeles, California

(2) "Carotid sinus nerve stimulation for epilepsy control."

Patwardhan RV, Tubbs RS  
Provisional patent filed 2000  
University of Alabama, Birmingham  
Birmingham, Alabama

(3) "A device for brain stimulation for epilepsy control"

Patwardhan RV, Besio WG  
Provisional patent filed October 2003; Final patent pending, 2004  
Shreveport, Louisiana



## **Patents continued**

(4) "Countersunk Anterior Pedicle Screw Instrumentation System" (CAPSID)  
Patwardhan RV, Karim AS, Smith DR, Nanda A  
Provisional patent filed December, 2004

(5) "A novel, simple device for accurate placement of intracranial objects"  
Patwardhan RV  
The Interactive Neuroscience Center, LLC -- Pending provisional patent filed 2007

## **Grand Rounds Presentations**

(1) Department of Pediatrics Grand Rounds December 20, 1994  
Martin Luther King, Jr./Drew Medical Center  
"Hydrocephalus: Interface between pediatrics and neurosurgery"  
Los Angeles, California

(2) Division of Neurosurgery Grand Rounds February 15, 1995  
UCLA Medical Center, Center for the Health Sciences  
"Cerebrovascular imaging including Spiral CT & MRA:  
Development of the best diagnostic protocol"  
Los Angeles, California

(3) Division of Plastic Surgery Grand Rounds May 16, 1997  
University of Alabama Medical Center  
"Therapeutic modalities for pain"  
Birmingham, Alabama

(4) Neurology/Neurosurgery Grand Rounds 2001  
University of Alabama Medical Center  
"Brain stimulation and recording: The history of 4 techniques"  
Birmingham, Alabama

(5) Neurosurgery Grand Rounds February, 2003  
LSU-Shreveport Health Sciences Center  
"Gamma knife radiosurgery: A comprehensive review."  
Shreveport, Louisiana

(6) Neurosurgery Grand Rounds LLC March, 2003  
LSU-Shreveport Health Sciences Center  
"Cervical spine injury treatment: Evidence-based medicine."  
Shreveport, Louisiana

(7) Trauma (and separately Medical Intensive Care) April, 2004  
Grand Rounds  
LSU-Shreveport Health Sciences Center  
"Traumatic Brain Injury: Evidence-based medicine"  
Shreveport, Louisiana February,

## **Grand Rounds Presentations continued**

(8) Neurology Grand Rounds  
LSU-Shreveport Health Sciences Center  
"Epilepsy Surgery"  
Shreveport, Louisiana

March, 2004

## **Special Neurosurgical Topic Presentations**

(1) UCLA Neuropsychiatric Institute  
"Anxiolytic Capsulotomy. Current trends in neurosurgical treatment of the most common psychiatric disorders"  
Los Angeles, California

October 25, 1994

(2) Department of Medicine  
UCLA Medical Center, Center for the Health Sciences  
"Pituitary adenomas: Diagnosis, clinical presentation, and treatment"  
Los Angeles, California

June 15, 1995

(3) Department of Obstetrics & Gynecology  
UCLA Medical Center, Center for the Health Sciences  
"Neurological & Neurosurgical complications of pregnancy"  
Los Angeles, California

August 24, 1995

(4) Department of Anesthesiology  
Oliveview/UCLA Medical Center  
"Intracranial pressure: Implications in anesthesiology"  
Sylmar, California

September, 1995

(5) Department of Family Practice  
UCLA Medical Center, Center for the Health Sciences  
"Analysis of a headache"  
Los Angeles, California  
Department of Surgery

March 9, 1996

(6) Division of Trauma & Critical Care  
UAB Medical Center, University Hospital  
"Head Injury - A practical approach"  
Los Angeles, California

March 9, 1996

(7) U.A.B. Division of Neurosurgery  
Annual Galbraith Lecture Presentations  
"Efficacy of vagal nerve stimulation in children with medically refractory epilepsy." Birmingham, Alabama

November, 1999



**Special Neurosurgical Topic Presentations continued**

(8) U.A.B. Division of Neurosurgery  
Annual Galbraith Lecture Presentations  
"Stimulation of Herring's nerve (cranial nerve IX) in  
epilepsy control." Birmingham, Alabama

November, 1999

(9) U.A.B. Division of Neurosurgery  
Annual Galbraith Lecture Presentations  
"The role of diffusion-perfusion MRI in spinal cord injury:  
Preliminary studies." Birmingham, Alabama

November, 1999

(10) U.A.B. Division of Neurosurgery  
Annual Galbraith Lecture Presentations  
"Lipomyelomeningoceles: Development of a novel solvent for  
discerning adipose versus nervous tissue"  
Birmingham, Alabama

November, 2000

(11) Neurosurgery Conference  
UCLA Division of Neurosurgery  
"Importance of cerebral grid mapping for para-eloquent region  
resection: Case illustration in a cortical dysplasia patient"  
Los Angeles, California

August, 2003

(12) Honors Thesis  
Honors Thesis Presentation:  
"Human cerebral hemodynamics following traumatic brain injury"  
Dr. Neil A. Martin, Mentor  
UCLA School of Medicine  
Los Angeles, California

February, 1996

(13) Exhibits  
UCLA History & Special Collections Division  
Louise Darling Biomedical Library  
"An introduction to contemporary Neurosurgery"  
- by Ravish V. Patwardhan & Steven Ojemann  
Los Angeles, California

March, 1996

(14) Invited Speaker  
LAMMICO  
"Brain & Spine Surgery: What's New & Legal Implications"  
(Co-presented with Mrs. Rendi Wiggins, Attorney, PADWBC)  
Point Clear, Alabama

August 9, 2007

(15) Guest Faculty  
"Bladder Restoration and Nerve Rerouting Conference  
(Sponsored by Beaumont Hospital)  
Dearborn, Michigan

September 11-12, 2009

(16) Invited Speaker  
Louisiana Tech University  
"Brain & Spine Advances"  
Ruston, Louisiana

October 15, 2009

(17) Invited Speaker  
"The Journey: Novice Student to Neurosurgeon"  
Surgery Interest Group  
LSU Health Sciences Center  
Shreveport, Louisiana

November 17, 2009

(18) Invited Speaker  
Northwestern State University, College of Nursing  
"Brain & Spine Advances"  
Shreveport, Louisiana

November 19, 2009

(19) Invited Speaker  
Louisiana State University – Alexandria, School of Nursing  
"Brain & Spine Advances"  
Alexandria, Louisiana

November 19, 2009

(20) Invited Speaker  
Louisiana Society of Radiologic Technologists Mid-Winter Conference  
"Brain & Spine Advances"  
Shreveport, Louisiana

February 27, 2010

### **Books**

"Brain Surgery in Real Life"  
Written by Ravish V. Patwardhan  
Illustrated by Steven Goldberg  
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### **Honorary Address**

Baccalaureate Address, Commencement 1996  
Key Alumnus Speaker  
John F. Kennedy High School (Alma Mater)  
La Palma, California  
June 8, 1996

## **PAPERS PRESENTED AT PROFESSIONAL MEETINGS**

1. Ammirati M, Ma J, **Patwardhan RV**, Cheatham M, Becker DP: Surgical strategies in lesions of the clivus, First European Skull Base Society Congress, 1993.
2. Ammirati M, Ma J, **Patwardhan RV**, Cheatham M, Becker DP: Comparison and evaluation of anterior skull base approaches: Development of a neurosurgical protocol. Joint Annual Meeting, North American & German Skull Base Societies, 1994.
3. **Patwardhan RV**, Martin NA, Hovda DA: Can TCD measurements be used to estimate cerebral blood flow? Neurotrauma Conference, 1994.  
Abstract in: Journal of Neurotrauma, February, 1995.
4. Martin NA, Benalcazar HE, Alexandar M, **Patwardhan RV**, Zane C, Doberstein C, Hovda DA: Characterization of cerebral hemodynamic phases that follow severe head trauma (hypoperfusion, hyperemia, vasospasm, resolution). International Neurotrauma Symposium, 1995.  
Abstract in: Journal of Neurotrauma, 12(3):432; June, 1995.
5. **Patwardhan RV**, Martin NA, Benalcazar HE, Hovda DA: Characterization of cerebral hemodynamic phases that follow mild-moderate head trauma (hypoperfusion, hyperemia, resolution). International Neurotrauma Symposium, 1995.  
Abstract in: Journal of Neurotrauma, 12(3):490; June, 1995.
6. **Patwardhan RV**, Martin NA, Hovda DA: Can TCD measurements be used to estimate cerebral blood flow? International Neurotrauma Symposium, 1995.  
Abstract in: Journal of Neurotrauma, 12(3):432; June, 1995.
7. Alsina GA, King W, **Patwardhan RV**, Martin NA: Combined transcranial Doppler and cerebral blood flow in aneurysmal subarachnoid hemorrhage and vasospasm. International Cerebral Blood Flow Conference, 1995.
8. Martin NA, Alexander M, **Patwardhan RV**, Zane C, Becker DP: The Cerebral Hemodynamic Phases in Head Injury. American Academy of Neurological Surgery, 1995.
9. Martin NA, **Patwardhan RV**: The relationship of outcome to post-traumatic cerebral hemodynamics: A prospective study. American Association of Neurological Surgeons Conference Annual Meeting, 1996.
10. **Patwardhan RV**, Martin NA: The effects of age on post-traumatic cerebral hemodynamics: A prospective study. . American Association of Neurological Surgeons, 1996.

11. Lee JH, **Patwardhan RV**, Martin NA: Associations with the presence of subarachnoid hemorrhage (SAH) on initial CT scans. The Institute of Applied Physiology and Medicine, 1996.
12. Glenn TC, **Patwardhan RV**, Martin NA: Age affects cerebral blood flow and outcome in adult head trauma patients. The Institute of Applied Physiology and Medicine, 1996.
13. Counelis GJ, **Patwardhan RV**, Martin NA: Association of early intracranial hypertension and cerebral blood flow. The Institute of Applied Physiology and Medicine, 1996.
14. **Patwardhan RV**, Lee JH, Martin NA: Physiologic predictors of outcome following traumatic brain injury. The Congress of Neurological Surgeons, 1996.
15. **Patwardhan RV**, Stong B, Bebin M, Mathisen J, Grabb PA: Vagal nerve stimulation in children with medically refractory epilepsy. The Congress of Neurological Surgeons, 2000.
16. **Patwardhan RV**, Tubbs RS, Killingsworth C, Rollins D, Smith W, Ideker R: Stimulation of Herring's nerve (cranial nerve IX) in epilepsy control. The Congress of Neurological Surgeons, 2000.
17. Tubbs RS, **Patwardhan RV**: Feasibility of Herring's nerve stimulation in humans: An anatomic study. The Congress of Neurological Surgeons, 2000.
18. **Patwardhan RV**, Tubbs RS, Leonard RJ, Kelly D, Killingsworth CR, Rollins DL, Smith WM, Ideker RE, Oakes WJ: Discernment of adipose versus nervous tissue using a novel solvent: a potential application in lipomyelomeningoceles. American Association of Neurological Surgeons/Congress of Neurological Surgeons Section on Pediatric Neurological Surgery Annual Meeting, 2001.
19. Acharya R, **Patwardhan RV**, Smith DR, Willis BK, Fowler M, Nanda A: Intraspinal synovial cysts: A nine year experience. Congress of Neurological Surgeons, Annual meeting, Philadelphia, Pennsylvania, 2002.
20. Jawahar A, **Patwardhan RV**, DeLaune A, Willis BK, Ampil F, Nanda A: Symptomatic Radiation Necrosis Following Whole Brain and Stereotactic Radiation: Total Dose, Volume, and Time Interval. American Association of Neurological Surgeons (AANS) Annual Meeting, San Diego, California, 2003.
21. Dubey A, **Patwardhan RV**, Sampath S, Santosh V, Kolluri S, Nanda A: Intracranial fungal granuloma: Analysis of 40 patients and review of the literature. Congress of Neurological Surgeons (CNS) Annual Meeting, Denver, Colorado, 2003.

22. **Patwardhan RV**, Calvert JW, Kusaka G, Kusaka I, Zhang J, Nanda A: Development of a novel, minimally invasive, quick-onset animal model of epilepsy. Congress of Neurological Surgeons (CNS) Annual Meeting, Denver, Colorado, 2003.
23. **Patwardhan RV**, Calvert JW, Kusaka G, Kusaka I, Zhang J, Nanda A: Can electroconvulsive therapy control a seizure by "pacing" it? Congress of Neurological Surgeons (CNS) Annual Meeting, Denver, Colorado, 2003.
24. **Patwardhan RV**, Shorter C, Willis BK, Smith DR, Caldito G, Reddy P, Nanda A: Survival trends in elderly patients with glioblastoma multiforme: Resective surgery, radiation, and chemotherapy. Congress of Neurological Surgeons (CNS) Annual Meeting, Denver, Colorado, 2003.
25. **Patwardhan RV**, Nanda A: Economics, neurosurgical intervention, and disposition in patients suffering primary hypertensive intracerebral hemorrhage. AANS Annual Meeting, Orlando, Florida, 2004.
26. **Patwardhan RV**, Nanda A: Do race, socioeconomic status, and type of hospital improve inpatient mortality in patients suffering primary hypertensive intracerebral hemorrhage? AANS Annual Meeting, Orlando, Florida, 2004.
27. **Patwardhan RV**, Nanda A: Stereotactic radiosurgery vs. open neurosurgical decompression for trigeminal neuralgia: Economic cost, length of stay, and discharge disposition. AANS Annual Meeting, Orlando, Florida, 2004.
28. **Patwardhan RV**, Nanda A: Unruptured intracranial aneurysms: Referral source, treating institution, cost provider, inpatient mortality, and disposition. AANS Annual Meeting, Orlando, Florida, 2004.
29. **Patwardhan RV**, Caldito G, Nanda A: Intracranial Benign Cranial Nerve Tumors: Referral Source, Treating Institution, Type of Treatment, Cost Provider, and Disposition. AANS Annual Meeting, Orlando, Florida, 2004.
30. **Patwardhan RV**, Caldito G, Nanda A: Stereotactic Radiosurgery: Referral sources, treating institution types, diagnoses treated, and disposition. AANS Annual Meeting, Orlando, Florida, 2004.
31. **Patwardhan RV**, Nanda A: Socioeconomics of stereotactic radiosurgery: Characterization of costs, cost providers, socioeconomic status, and race. AANS Annual Meeting, Orlando, Florida, 2004.
32. **Patwardhan RV**, Nanda A: Implanted brain stimulators: Referral sources, treating institution types, diagnoses treated, and disposition. AANS Annual Meeting, Orlando, Florida, 2004.



33. **Patwardhan RV**, Nanda A: Socioeconomics of implanted brain stimulators: Characterization of costs, cost providers, socioeconomic status, and race. AANS Annual Meeting, Orlando, Florida, 2004.
34. **Patwardhan RV**, Nanda A: Peripheral stimulators for epilepsy: Referral sources, treating institution types, cost providers, socioeconomic factors, and disposition. AANS Annual Meeting, Orlando, Florida, 2004.
35. **Patwardhan RV**, Nanda A: Implanted Ventricular Shunts: The Billion-Dollar-a-Year Problem. AANS Annual Meeting, Orlando, Florida, 2004.
36. **Patwardhan RV**, Behnke EJ, Krahl S, DeSalles AAF: "Off-target measurements in deep-brain stimulation: How much off-target and why?" AANS Meeting, Orlando, Florida, 2004.
37. **Patwardhan RV**, Calvert JW, Kusaka G, Kusaka K, Besio W, Zhang J, Nanda A: Novel modelling and treatment of status epilepticus. Louisiana State Neurosurgical Society, 2004.
38. **Patwardhan RV**, Nanda A: Novel modelling and treatment of status epilepticus. Louisiana State Neurosurgical Society, 2004.
39. Nanda A, **Patwardhan RV**: The far lateral skull base approach: The LSU-Shreveport experience. Louisiana State Neurosurgical Society, 2004.
40. **Patwardhan RV**, Nanda A: Utilization of older vs. newer neurosurgical treatments: The impact on socioeconomic status and race. CNS Annual Meeting, San Francisco, California, 2004
41. Weilbaecher C, **Patwardhan RV**, Nanda A: Pleuro-spinal fistulae recognition, treatment, and prognosis: Presentation of two cases. Louisiana Association of Neurological Surgery (LANS) Annual Meeting, 2005.
42. **Patwardhan RV**, Dellabadia J, Glabus M, Gonzalez-Toledo E, Pinkston J, D'Agostino H, Rao A: Functional imaging/electrostimulation for neurosurgical treatment: Illustration via three cases. Louisiana Association of Neurological Surgery (LANS) Annual Meeting, 2005.

## AWARDS

<b>NCAA All-Conference Academic &amp; Athletic Award</b> California Collegiate Athletic Association	1991
<b>Alpha Omega Alpha Research Fellowship</b> UCLA School of Medicine National Nominee	1995
<b>AANS Best Poster at Meeting</b> Stereotactic Section, E-poster "Stereotactic radiosurgery vs. open neurosurgical decompression for trigeminal neuralgia: Economic cost, length of stay, and discharge disposition." Orlando, Florida	May 1, 2004
<b>AANS Best Poster at Meeting</b> General Section, E-poster "Economics, neurosurgical intervention, and disposition in patients suffering primary hypertensive intracerebral hemorrhage." Orlando, Florida	May 1, 2004
<b>Cone Pevehouse, MD Award</b> AANS -- Best abstract submitted by a Resident: "Do Race, Socioeconomic Status and Type of Hospital Improve Inpatient Mortality in Patients Suffering Primary Hypertensive Intracerebral Hemorrhage?" Orlando, Florida	May, 2004
<b>Outstanding Young Alumnus Award</b> University of California, Riverside	2006
<b>Northwest Louisiana Young Professional of the Year</b> Greater Shreveport Chamber of Commerce	2007
<b>Small Business of the Year</b> Greater Shreveport Chamber of Commerce LLC	2009

## OTHER CONTRIBUTIONS TO JURIED OR REFERRED PUBLICATIONS

Reviewer, Radiology Diagnostico  
Reviewer, Surgical Neurology  
Reviewer, Clinical Anatomy  
Reviewer, IEEE



## **GRANTS & CONTRACTS FUNDED**

### **Center for NMR Research and Development**

"Assessment of spinal cord perfusion using diffusion-perfusion MRI" (\$10,000)  
University of Alabama at Birmingham, Birmingham, Alabama 2001

### **Dean Echols Award for Best Scientific Paper presented by a Resident**

"Treatment of GBM in elderly patients: Surgery, Radiation, and Chemotherapy?"  
(\$500)  
Louisiana Neurosurgical Society  
New Orleans, Louisiana  
January, 2003

### **Medtronic Fellowship Grant in Functional Neurosurgery**

(\$10,000) July, 2003

Also Wrote and submitted one NIH R01 grant in 10/2004, one NIH R03 in 10/2003, one NIH R21 in 10/2003, and a grant to the Michael J Fox Foundation for different topics, which were not funded.

*Documentation of teaching activities: Please See Teacher's Portfolio Link*

## **MAJOR AREAS OF RESEARCH INTEREST**

- (1) Epilepsy Neurosurgery  
Electrical brain stimulation for seizure control
- (2) Functional Neurosurgery  
Brain mapping techniques for neurosurgical planning/function localization
- (3) Community outreach (and distant outreach via medical missions)  
To empower local and distant populations by education regarding medicine

## **OTHER TRAINING**

Greater Shreveport Leadership Program 2005-2006

LANO (Louisiana Association of Non-Profit Organizations) – presently enrolled, 2007

## **UNIVERSITY SERVICE**

### **Graduate Medical Education Committee (GMEC)**

2002-2003

LSU-Shreveport Health Sciences Center  
Shreveport, Louisiana

<b>Operating Room Committee</b> LSU-Shreveport Health Sciences Center Shreveport, Louisiana	2003
<b>Trauma Committee</b> LSU-Shreveport Health Sciences Center Shreveport, Louisiana	2003
<b>Clinical Board</b> LSU-Shreveport Health Sciences Center Shreveport, Louisiana	2004

**PUBLIC SERVICE**

<b>North Louisiana Epilepsy Support Group</b> <b>Invited speaker</b> "Epilepsy surgery: Past, present, and future." Willis Knighton North Hospital, Shreveport, Louisiana	May, 2003
<b>ThinkFIRST Invited Physician Speaker</b> Shreveport Courthouse and local schools, Louisiana	February, 2004
<b>Junior Achievement Volunteer</b> 4 <sup>th</sup> Grade class: "Our Region" Central Elementary School, Shreveport, Louisiana	October, 2004
<b>Member</b> <b>Leadership Shreveport</b> Shreveport, Louisiana	2005
<b>Co-Program Chair</b> <b>Young Professionals Formation Committee</b> Chamber of Commerce, Shreveport, Louisiana	2006
<b>Founder &amp; President</b> Re-Vitalize! Philanthropic Foundation Shreveport, Louisiana	2006 LLC
<b>Board Member</b> <b>Greater Shreveport Chamber of Commerce</b> Shreveport, Louisiana	2007
<b>Vice-Chair of Membership &amp; Marketing</b> <b>Greater Shreveport Chamber of Commerce</b> Shreveport, Louisiana	2008

**Board Member** 2008  
**American Red Cross – Northwest Louisiana Region**  
Shreveport, Louisiana

**Board Member** 2008  
**Community Renewal International**  
Shreveport, Louisiana

**Board Member** 2008  
**Shreveport Symphony**  
Shreveport, Louisiana

**Board Member** 2008  
**Shreveport Opera**  
Shreveport, Louisiana

**Board Member** 2008  
**Shreveport Medical Society**  
Shreveport, Louisiana

**Member** 2008  
**The Committee of One Hundred**  
Shreveport, Louisiana

**Member** 2008  
**Business Exchange, Incorporated**  
Shreveport, Louisiana

**Member** 2008  
**Leadership Louisiana**  
**Council for A Better Louisiana (CABL)**  
Shreveport, Louisiana

**Member** 2009  
**Clinton Global Initiative**  
New York City, NY

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## **MISCELLANEOUS**

Acknowledgment in: Human Gross Anatomy  
by Robert J. Leonard, Ph.D.  
U.C. Riverside  
Oxford 1995

Various Press Releases for article regarding vagus nerve stimulation in children, other articles (National Public Radio, WebMD, Medscape, ChuMD.com, Shreveport Times, et al.)

## **OTHER INTERESTS**

### *Sport Activities and Other Interests*

Private Pilot -- Single-engine propeller plane license

Scuba Diving -- Open Water PADI Certification

SCAQ/Masters Swimming

Skydiving -- AFF Solo

Various road running races, including NCAA National Championships, City of Los Angeles Xth Anniversary Marathon, and triathlon races

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## **REFERENCES**

Roy Griggs  
President, Griggs Enterprises  
Shreveport, Louisiana

Rod Masteller  
Senior Pastor  
Summer Grove Baptist Church  
Shreveport, Louisiana

David Abdehou, M.D.  
Internal Medicine  
Shreveport, Louisiana

Mack McCarter  
Coordinator,  
Community Renewal International  
Shreveport, Louisiana

David Cavanaugh, M.D.  
Neurosurgeon,  
The Spine Institute of Louisiana  
Shreveport, Louisiana



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