

CURRICULUM VITAE

Justin M. Brown, M.D.

DEMOGRAPHIC INFORMATION

Current Appointment:

Assistant Professor, Department of Neurological Surgery and
Division of Plastic and Reconstructive Surgery
Associate Director, Center for Nerve Injury and Paralysis
Washington University School of Medicine
St. Louis, Missouri

EDUCATION AND TRAINING

Undergraduate

James Madison University
Harrisonburg, Virginia
Major: Psychology
(transferred prior to completion)

Vanderbilt University
Nashville, Tennessee
Major: Psychology Track II: Neuroscience
Degree: Bachelor of Sciences, *Cum Laude*, 1996

Graduate

Eastern Virginia Medical School
Norfolk, Virginia
Degree: Doctor of Medicine, 2001

Postgraduate:

Intern, Michael E. DeBakey Department of Surgery,
Baylor College of Medicine, Houston, TX,
Dr. F. Charles Brunickardi, 2001 – 2002.

Resident, Department of Neurosurgery, Baylor College of Medicine, Houston, TX, Dr. Robert Grossman/Dr. Raymond Sawaya, 2002- 2007.

Fellowship:

Peripheral Nerve Fellow, Division of Plastic and Reconstructive Surgery, Washington University School of Medicine, St. Louis, MO, Dr. Susan E. Mackinnon, 2007-2008.

ACADEMIC POSITIONS:

Assistant Professor, 2008 - present.
Department of Neurological Surgery and Division of Plastic and Reconstructive Surgery. Washington University School of Medicine, St. Louis, MO.

Associate Director, 2008 - present.
Center for Nerve Injury and Paralysis. Washington University School of Medicine, St. Louis, MO.

HOSPITAL APPOINTMENTS:

Barnes Jewish Hospital, 2007 – present.
Barnes Jewish West County Hospital, 2007 – present.
St. Louis Children’s Hospital, 2008 – present.

COMMITTEES:

AANS/CNS Section on Disorders of Spine and Peripheral Nerves CPT
Committee Member, 2009 – present.

ORGANIZATIONAL ACTIVITIES

American Society of Reconstructive Microsurgery, Candidate Member,
January 2010 – Present.

International Society for Restorative Neurology, Founding member and
President, 2009 – Present.

Congress of Neurological Surgeons, Resident Member

2003- 2009, Active Member, January 2009- Present.

American Association of Neurological Surgeons, Resident Member 2002- 2009, Active Provisional Member, February 2009- Present.

AANS/CNS Section on Disorders of Spine and Peripheral Nerves, Active Member, February 2009- Present.

*Member of CPT Committee of Section, February 2009- Present

Southern Neurosurgical Society, Candidate Member, February 2009- Present.

American Society for Peripheral Nerve, Active Member, 2010 - Present.

American Spinal Injury Association, Active Member, February 2009- Present.

International Spinal Cord Society, Active Member, May 2009 - Present.

International Society for Motor Control, Active Member, December 2009- Present.

American Association for Hand Surgery, Active Member, August 2009- Present.

Society for Neuroscience, Regular Member, May 2009 – Present.

HONORS:

Member *PSI CHI*, National Honor Society in Psychology
Awarded 1995

Member *Alpha Omega Alpha* Honor Medical Society
Awarded June, 2001.

Young Investigator Award, 2nd Congress of the International Society for Reconstructive Neurosurgery. Taipei, Taiwan 2007.

Sanford Larson Research Award, AANS/CNS Section on Disorders of the Spine and Peripheral Nerves. For “Objective Quantification of Postural Correlates of Multilevel Nerve Compression”. Phoenix, Arizona, 2009. (Included research funding)

GRANT SUPPORT

Previous Support:

NIH/NHLBI Training Grant, Grant No. 5 T35 HL007815-14
“Develop a Normative Kinematic Profile Quantifying SSPD in persons without Disability Before and After Interventions which Alter Afferent Input from the Extremity”
Summer Fellowship Student James Essenberg
Justin M Brown, MD, Principle Investigator
May, 2009 – July, 2009

Dean’s Summer Fellowship Grant
“Objective Assessment of Hand Function Using Video Motion capture: Applications to Upper Extremity Peripheral Nerve Surgery”
Summer Fellowship Student Maryam Saheb-Al-Zamani
Justin M Brown, MD, Principle Investigator
May, 2009 – July, 2009

Department of Defense and Henry M. Jackson Foundation for the Advancement of Military Medicine, Award No. MDA 905-02-2-0007
“Comprehensive Resource for the Management of Peripheral Nerve Trauma”
Justin M Brown, Co-Investigator
3/1/2009 – 2/29/2010 \$250,000

Current Support:

Sanford Larson Research Award
“Objective Quantification of Postural Correlates of Multilevel Nerve Compression”
Justin M Brown, MD, Principle Investigator
March 2009 \$30,000

RESEARCH ACTIVITIES

Research Assistant

Dr. Ronald G. Wiley, Laboratory of Experimental Neurology, Vanderbilt University. Utilized cell population-specific immunotoxins to develop animal models of aspects of both Alzheimer’s and Parkinson’s diseases. 1995 – 1996.

Research Assistant

Dr. Ronald G. Wiley, Laboratory of Experimental Neurology, Vanderbilt University. Investigated the use of intrathecal administration of cell-specific neurotoxins to further elucidate the spinal descending pain modulation system. Summer, 1998.

Co-Investigator

Dr. Julia K. Terzis, Microsurgical Research Center, International Institute of Reconstructive Microsurgery, Department of Surgery, Eastern Virginia Medical School. Explored the neuroprotective and regenerative properties of brain-derived neurotrophic factor in a rat model of a C7 root avulsion injury when delivered via a viral vector. 2000 – 2001

Co-Investigator

Comprehensive Web-Based Surgical Resource: Peripheral Nerve Surgery for Military Physicians. Grant from the Henry M. Jackson Foundation for the Advancement of Military Medicine. To construct a multimedia website to be an “on-line fellowship” demonstrating the nuances of each peripheral nerve reconstructive procedure. July 2008 – February 2010.

PI

Computer-Assisted Evaluation of Outcomes following Nerve Reconstruction Procedures. Serial assessments of patients following nerve grafting or transfer procedures for careful identification of deficits produced and results gained, utilizing video motion capture technology and surface electromyography. July 2008 – ongoing.

PI

Postural Correlates of Upper Extremity Neuropathy Syndromes. Utilizing Motion Analysis technology to identify shoulder, neck and back postures and dynamics for correlation with the development of neuropathy syndromes. July 2008 – ongoing. Funding through Sanford Larson Award.

PI

Pathological Shoulder/Scapular Postures and Dynamics in Multi-Level Upper Extremity Neuropathies with Applications of Lidocaine, Tourniquet or Transcutaneous Stimulation. October 2009 – ongoing.

LECTURES/PRESENTATIONS

Brown, J.M.: *Thoracic Outlet Syndrome.* St. Louis Evening Series class, SSM Rehabilitation/DePaul Health Center. St. Louis, Missouri. May 6, 2010.

Brown, J.M.: *The Effect of a Peripheral Nerve Lesion Upon Postural Control.* 2nd Asian and Oceanian Conference of Physical and Rehabilitation Medicine, Symposium on Motor Control of Spinal Cord Injury. Taipei, Taiwan. May 1, 2010.

Brown, J.M., Dimitrijevic, M.R.: *Spontaneous Recovery in Spinal Cord Injury*. 3rd Annual Conference for the International Association of Neurorestoratology. Beijing, China. April 25, 2010.

Brown, J.M., Dimitrijevic, M.R.: *Human Spinal Cord Model of Injury and Strategies for Repair*. 3rd Annual Conference for the International Association of Neurorestoratology. Beijing, China. April 25, 2010.

Brown, J.M.: *Nerve Transfers*. Orthopedic Surgery Grand Rounds. Changhai Hospital of the Second Military Medical University. Shanghai, China. April 22, 2010.

Brown, J.M.: *Nerve Transfers and Potential Applications in Spinal Cord Injury*. General Assembly Teaching Conference, Nantong Rich Hospital. Nantong-Jiangsu China. April 20, 2010.

Brown, J.M.: *Advantages and Limitations of Nerve Transfers in the Upper Extremity*. Japanese Society for Surgery of the Hand (JSSH) Annual Meeting. Niigata, Japan. April 17, 2010.

Brown, J.M.: *The Expanding Indications for Nerve Transfers*. Combined Neurosciences Conference. Vanderbilt University. Nashville, Tennessee. April 9, 2010

Brown, J.M.: *An Introduction to Peripheral Neurosurgery*. Presented to Medical Students at Washington University School of Medicine, Department of Neurosurgery. March 8, 2010.

Brown, J.M.: *Nerve-Related Pain: Neuritis, Neuropathy and Neuromas*. Department of Pain Management Grand Rounds Presentation. Washington University School of Medicine, St. Louis MO. January 21, 2010.

Justin M. Brown, M.D.; William E Janes BS, James Essenberg, BA; Jack Engsberg, PhD: *Altered Shoulder Posture and Dynamics Resulting from an Ischemia-Induced Model of Upper Extremity Neuropathy*. Digital presentation at AANS/CNS Section on Disorders of the Spine and Peripheral Nerve. January 2010.

Yee, A.; Janes, WE; Essenberg, JM; Saheb-Al-Zamani, M; Mackinnon, SE; **Brown, JM.** *Objective quantification of scapular kinematics using an infrared motion capture system*. American Society for Peripheral Nerve Annual Meeting, Boca Raton Florida, January 2010.

Brown, J.M. *Reconstructive Neurosurgery: Applying Nerve Transfers to Upper Motor Neuron Disorders*. Staff Presentation, St. Louis VA Medical Center. December 9, 2009.

Brown, J.M.: *The Double Nerve Transfer for Restoration of Shoulder Function.* Presented at the Center for Nerve Injury and Paralysis Seminar, “New Techniques in Perineal Nerve Reconstruction”. Washington University School of Medicine. November 14, 2009.

M. Saheb-Al-Zamani, J. Engsborg, **J.M. Brown:** *Objective Assessment of Hand Function Using Video Motion Capture.* Presented at 4th Annual Research Training Symposium and Poster Session. October 28, 2009.

J.M. Essenberg, W.E. Janes, J.R. Engsborg, **J.M. Brown:** *Alterations in proximal shoulder kinematics following tourniquet-induced ischemia.* Presented at 4th Annual Research Training Symposium and Poster Session. October 28, 2009.

Brown JM: *Neurosurgery in SCI: Deafferentation and the Lower Motoneuron in Cervical SCI.* Presented at American Spinal Injury Association’s 35th Annual Scientific Meeting. Dallas, TX. September 23, 2009.

Brown JM: *Nerve Injuries: From Neuropathy to Nerve Palsy.* Presented at Christian Northeast Hospital Grand Rounds. St. Louis, MO. August 7, 2009.

Brown JM: *Nerve Tumors: What We Should Know About Them.* Presented at 13th Annual Esser Course, Beurs World Trade Center, Rotterdam, Netherlands. June, 2009.

Brown JM: *Nerve Injury, Repair and Regeneration.* Washington University Department of Neurosurgery resident education lecture. April 2009

Brown JM: *From Neuropathy to Reconstructive Neurosurgery.* Presented at Washington University SOM Department of Neurology Grand Rounds. March 2009

Brown JM: *Nerve Transfers: From Peripheral to Central Indications.* Presented at Washington University SOM Department of Neurorehabilitation Grand Rounds. March 2009

Brown JM: *Coding in Peripheral Nerve Surgery.* Presented at AANS/CNS Section on Disorders of the Spine and Peripheral Nerves Annual Meeting. March 2009

Brown JM: *Diagnosing & Addressing Lower Motor Neuron Injuries in the SCI Patient.* Presented at therapist inservice meeting at The Rehabilitation Institute of St. Louis. February, 2009.

Brown JM: *Diagnosing & Addressing Lower Motor Neuron Injuries in the SCI Patient.* Presented at the 7th International Symposium on Experimental Spinal Cord Repair and Regeneration. Brescia, Italy, February 2009. Co-moderator of 2nd morning session, February 21st.

Brown JM: *MRI Interpretation Amongst Other Indicators of Malignancy in Peripheral Nerve Sheath Tumor.* Presented at American Society for Peripheral Nerve, Annual Meeting, Maui, Hawaii. January, 2009.

Mackinnon SE, **Brown JM:** *Nerve Transfers for the Upper Extremity-What Works.* Presented at American Association for Hand Surgeons, Annual Meeting, Maui, Hawaii. January, 2009.

Brown JM: *Nerve Transfers: From Peripheral to Central Indications.* Presented at “Cookies and Research,” Shepherd Center, Atlanta, Georgia. December 2008

Brown JM: *Understanding Entrapment Neuropathy.* Presented at Anderson Hospital CME Symposium, Maryville, IL. November, 2008.

Brown JM: *Functional Neurosurgery of the Chronic Spinal Cord Injury Patient.* Presented at Vienna Summer School: “Summer School for the Biological Treatment of Chronic Spinal Cord Injury”. October, 2008

Brown, JM: *Nerve Injury & Nerve Transfers.* Presented at Southwest Medical Group’s lunch CME Program. September, 2008

Brown JM: *Improving Results of Brachial Plexus Surgery with Nerve Transfers.* Presented at University of Illinois at Peoria, Department of Neurological Surgery during visiting professorship, September, 2008

Brown JM: *Nerve Transfers and Brachial Plexus Surgery.* Grand Rounds Presentation at Saint Louis University, Department of Neurosurgery. July, 2008

Brown JM: *Nerve Transfers in the Forearm and Hand.* Annual Research Symposium, Washington University Department of Neurological Surgery, June, 2008

Brown JM: *Nerve Transfers in the Forearm and Hand.*

1st Sino-European Meeting on Brachial Plexus Microreconstructive Surgery, Venice, Italy. April, 2008

Brown JM: *Reconstructive Neurosurgery: Nerve Transfers.* Grand Rounds Presentation, Washington University Department of Neurological Surgery, February, 2008

Brown JM: *Reconstructive Neurosurgery: Nerve Transfers.* Grand Rounds Presentation, Barrow Neurological Institute, Department of Neurological Surgery, Phoenix, Arizona, January, 2008

Brown JM: *Reconstructive Neurosurgery: Nerve Transfers.* Grand Rounds Presentation, University of Florida Department of Neurological Surgery, Gainesville, Florida, November, 2007

Brown JM: *Nerve Transfers for the Restoration of Continence.* Grand Rounds Presentation, Washington University Division of Plastic and Reconstructive Surgery, November, 2007.

Brown JM: *Reconstructive Neurosurgery: Nerve Transfers.* Grand Rounds Presentation, Ohio State University Medical Center, Department of Neurological Surgery, Columbus, Ohio, October, 2007

Brown, JM: *Neurophysiologic Considerations for Strategies to Restore Neurocontrol of Locomotion in Chronic Spinal Cord Injury.* Poster presentation at the 2nd Congress of the International Society of Reconstructive Neurosurgery and the 5th Scientific Meeting of the WFNS Neurorehabilitation Committee. September 13-16, 2007. Taipei, Taiwan.

Brown, JM: *Where We Are and Where We Are Going in Reconstructive Neurosurgery of the Spinal Cord and Related Peripheral Nerves.* International Symposium on Spinal Cord Motor Control “From Denervated Muscles to Neurocontrol of Locomotion” with the 22nd Dr. Janez Faganel Memorial Lecture. Ljubljana, Slovenia. September 2006.

Brown, JM: *The Surgical Management of Spina Bifida and Its Sequelae.* Neurosurgery Grand Rounds Lecture, Baylor College of Medicine, Houston, Texas, January, 2006.

Brown, JM: *Current Surgical Management of Brachial Plexus Injuries, Including Novel Nerve Transfers.* Neurosurgery Grand Rounds Lecture, Baylor College of Medicine, Houston, Texas, January, 2006.

Brown, JM: *A Case of Intracranial Rosai-Dorfman Disease Mimicking Meningiomatosis.* Neurosurgery Grand Rounds Lecture, University of Texas M.D. Anderson Cancer Center, Houston, Texas, October, 2005.

Brown, JM: *A Single-Stage Dorsal Approach for the En Bloc Resection of a Sacral Chordoma.* Neurosurgery Grand Rounds Lecture, Baylor College of Medicine, Houston, Texas, August, 2005.

Brown, JM: *Recovery of Speech Function following a devastating Left Hemisphere Brain Injury: A Case Report and Demonstration.* Neurosurgery Grand Rounds Lecture, Baylor College of Medicine, Houston, Texas, May, 2005.

PUBLICATIONS

Brown JM, Tung TH, Mackinnon SE: *Median to Radial Nerve Transfer to Restore Wrist and Finger Extension: Technical Nuances.* Neurosurgery. 2010 January 28.

Sachanandani NS, **Brown JM,** Zaidman C, Brown SS, Mackinnon SE: *Intraneural Perineurioma of the Median Nerve: Case Report and Literature Review.* Hand (NY). 2009 Oct 30.

Brown JM, Yee A, Mackinnon SE. *Distal median to ulnar nerve transfers to restore ulnar motor and sensory function within the hand: technical nuances.* Neurosurgery. 2009 Nov;65(5):966-77; discussion 977-8.

Brown JM, Mohktee D, Evangelista MS, Mackinnon SE: *Scratch Collapse Test Localizes Osborne's Band as the Point of Maximal Nerve Compression in Cubital Tunnel Syndrome.* Hand (N Y). 2009 Sep 23.

Brown JM, Yee A, Ivens R, Dribben Wm, Mackinnon SE: *Post-Cervical Parsonage-Turner Syndrome Represents a Subset of C5 Palsy: 6 Cases and Review of Literature.* Submitted to Neurosurgery, approval pending. April 2009

Brown JM, Shah MN, Mackinnon SE: *Distal Nerve Transfers: a biology-based rationale.* Neurosurgical Focus 26 (2):E12, February 2009

Brown JM, Mackinnon SE: *Nerve Transfers in the Forearm and Hand.* Hand Clinics, Volume 24, Issue 4, November 2008, Pages 319-340

Mokhtee D, **Brown JM,** Mackinnon SE, Tung TH: *Reconstruction of Posterior Interosseous Nerve Injury Following Biceps Tendon Repair: Case Report and Cadaveric Study.* Hand (NY). 2008 Oct 15.

C. M. McPherson, **J. Brown**, A. W. Kim and F. DeMonte. *Regression of Intracranial Rosai-Dorfman Disease Following Corticosteroid Therapy. Case Report.* Journal of Neurosurgery, 2006 May; 104(5):840-4.

EDUCATIONAL ACTIVITIES

Faculty

Operative Techniques with the Masters: Operative Pearls, Pitfalls and Avoidance of Complications. St. Louis, MO. June 2007

Washington University Resident Cadaver Spine and Peripheral Nerve Training Seminar. St. Louis, MO. November 2008.

Washington University Center for Nerve Injury and Paralysis Seminar, “New Techniques in Peripheral Nerve Reconstruction”. St. Louis, MO. November 2009.

Visiting Professorships

University of Illinois at Peoria, Department of Neurosurgery, September 2008

MENTORED STUDENTS

Medical Students

1. Maryam Saheb-Al-Zamani Washington University School of Medicine
May – July, 2009
“Objective Assessment of Hand Function Using Video Motion Capture”
Presented at 4th Annual Research Training Symposium and Poster Session.
October 28, 2009.
2. James Essenberg Washington University School of Medicine
May – July, 2009
“Alterations in proximal shoulder kinematics following tourniquet-induced ischemia”. Presented at 4th Annual Research Training Symposium and
Poster Session. October 28, 2009.
3. William Janes Washington University School of Medicine
July 2008 – Present
Postural Correlates of Upper Extremity Neuropathy Syndromes. Utilizing
Motion Analysis technology to identify shoulder, neck and back postures
and dynamics for correlation with the development of neuropathy
syndromes. July 2008 – ongoing. Funding through Sanford Larson
Award.

BOARDS/EXAMINATIONS

Completed Steps 1-3 of United States Medical Licensure Examination

Completed Part I of Neurosurgery Boards Examination