

JAN MATHIAS ECKERMANN, MD

Brain and Spine Surgeon
Board Certified in Neurological Surgery
Fellow of the American Association of Neurological Surgeons

Previous Positions

- 2017 – 2018 Assistant Professor, Department of Neurological Surgery, UC Irvine
School of Medicine
- 2013 – Present Founder and Director, Kern Neuroscience Institute, Newport Beach and
Bakersfield, California, USA
- 2013 – 2016 Chief, Division of Neurosurgery, Kern County Medical Center (Level II
Trauma Center), Bakersfield, California, USA
- 2011 – 2013 Staff, Division of Neurosurgery, Kern County Medical Center (Level II
Trauma Center), Bakersfield, California, USA

Post-Graduate Education

- Fellowship** Stanford Hospital and Clinics
Stereotactic Radiosurgery Fellowship
Stanford, California, USA
2010 – 2011
- Residency** Loma Linda University Medical Center
Department of Neurosurgery
Loma Linda, California, USA
2005 – 2010
- Internship** Cornell University -Weill Cornell Medicine
New York Presbyterian Hospital
New York, New York, USA
2004 – 2005

Education:

- Medical School** Loma Linda University School of Medicine
Loma Linda, California, USA
2000-2004

Undergraduate

Bachelor of Science in Biophysics
La Sierra University, Riverside, California,
USA 1997-2000

Licensure and Certifications

Medical Board of California #A96203
Nevada State Board of Medical Examiners #19248
California Fluoroscopy Operator/Supervisor License
Board Certified in Neurological Surgery

Patents/Intellectual Property

U.S. Patent No. 8,475,419
Automated Body Fluid Drain Control Apparatus and Method

U.S. Patent No. 9,205,184
Portable Automated Body Fluid Drain Control Apparatus

U.S. Patent No. 9,907,546
Surgical Elevator with Integrated Suction

U.S. Patent No. 10,709,459
Anti-Durotomy Kerrison Rongeur

U.S. Patent No. 11,179,562
Spinal Cord Stimulator Paddle Applicator, Neurostimulation Lead and
Steering Mechanism

Professional Activities**Committees:**

Chair, Peer Review Committee
Adventist Health Bakersfield 2021-present

Medical Executive Committee
Adventist Health Bakersfield 2021-present

Peer Review Committee
Adventist Health Bakersfield 2017 - 2020

O.R. Management Committee 2011 – 2016
Kern County Medical Center, Bakersfield, California

Trauma Committee, 2011- 2016
Kern County Medical Center, Bakersfield, California

O.R. Committee 2005-2010
Loma Linda University Medical Center, Loma Linda, California

Professional Memberships

Congress of Neurological Surgeons (CNS)
North American Neuromodulation Society (NANS)
American Association of Neurological Surgeons (AANS)

Research, Grants and Awards

2020 – 2021	Principal Site Investigator: Prospective Observational Multicenter Study of HF10 Therapy Using Surgical Leads (SURPASS). Sponsored by Nevro Corporation.
2016 – 2020	Principal Site Investigator: Patient Retrospective Outcomes (PRO) Study. Sponsored by Boston Scientific Corporation
August 2012 – 2016	KMC IRB#11013: A Pilot Study of a Novel External Cerebrospinal Fluid Monitoring Device. Prospective clinical trial. IRB protocol renewed 02/14/2013, 12/08/2015
April 2008 – June 2009	Basic Science research under Dr. John H. Zhang. Zhang Neuroscience Laboratories, Loma Lina University. Hypothesis: <i>“Inhaled hydrogen (H2) acts as a neuroprotectant against surgically induced brain injury in a rat model by reducing reactive oxygen species”</i>
June 2001 - August 2001	Research fellowship at the Transplantation Biology Research Center at the Massachusetts General Hospital/Harvard Medical School under Drs. Cooper and Sachs

Publications

Journal:

1. Eckermann JM, Pilitsis J, Vannaboutathong C, Wagner B, Province-Azalde R, Bendel M. Systematic literature review of spinal cord stimulation to treat chronic low back pain without prior spine surgery. *Neuromodulation*. Vol 25 July 2022 648-56
2. Lieberson RE, Eckermann JM, Meyer WJ, Trang TT. An automated, gravity-driven CSF drainage system decreases complications and lowers costs. *Cureus* 2017 Feb 9 (2)
3. Lieberson RE, Veeravagu, A, Eckermann JM, Doty JR, Jiang B, Andrews R, Chang SD. Intramedullary spinal cord metastasis from prostate carcinoma: a case report. *J Med Case Rep*. 2012 Jun 1;6(1):139.
4. Eckermann, JM, Krafft PR, Shoemaker L, Lieberson RE, Chang SD, Colohan A. Potential application of hydrogen in traumatic and surgical brain injury, stroke and neonatal hypoxia-ischemia. *Med Gas Res*. 2012 Apr 19;2(1):11.
5. Jafarian N, Ayer R, Eckermann JM, Tong W, Jafarian N, Applegate RL, Stier G, Martin R, Tang J, Zhang JH. Mucosal tolerance to brain antigens preserves endogenous TGFβ-1 and improves neurological outcomes following experimental craniotomy. *Acta Neurochir Suppl*. 2010 ; 111:283-7
6. Eckermann JM, Chen W, Tong W, Jadhav V, Hsu FPK, Colohan ART, and Zhang, JH. Hydrogen is Neuroprotective Against Surgical Brain Injury. *Medical Gas Research* 2011, 1:7
7. Yan P, Eckermann JM, Qin X, Zhang JH. Ten-year clinical epidemiological trends of intracerebral hemorrhage in Chongqing, China. *Neurol Res* 2010 Jan 21
8. Eckermann JM, Teruya TH, Bianchi C, and Abou-Zamzam AM. Arterial thrombosis and gangrene secondary to arachnidism. *Vascular* 2009 Jul—Aug;17:239-42
9. Eckermann JM and Zhang JH. Invited Commentary to: High concentrations of proagulant microparticles in the cerebrospinal fluid and peripheral blood of patients with acute basal ganglia hemorrhage are associated with poor outcome. *Surgical Neurology* 2009 Mar 26
10. Eckermann, JM, Buhler L, Zhu A, Dor FJMF, Awwad M, and Cooper DKC. Initial Investigation of the Potential of Modified Porcine Erythrocytes for Transfusion in Primates. Original Article. *Xenotransplantation*. 2004 Jan; 11(1):18-26
11. Eckermann JM, Buhler L, Zhu A, Cooper DKC. An investigation of the Potential of Modified Porcine Erythrocytes for Xenogenic Transfusion in Primates. Abstract. *Blood* 2001 Nov (1):53

Abstracts and Presentations

Poster:

1. Eckermann, JM. Technical note on supplementing suboptimal spinal cord stimulator paddle lead placement with percutaneous wire leads. North American Neuromodulation Society (NANS) Annual Meeting (Virtual) January 15-16, 2021, Orlando, Florida
2. Eckermann, JM. Successful Protocol for Decreasing Spinal Cord Stimulator Infections. Congress of Neurological Surgeons (CNS) Annual Meeting, September 24-28, 2016, San Diego, California
3. Duffin C, Schaufelberger S, Meyer WJ, Trang TT, Lieberson RE, and Eckermann JM. Experience with a Novel, Automated, External Cerebrospinal Fluid Drainage

Control Device. Congress of Neurological Surgeons, September 26-30, 2015, New Orleans, Louisiana

4. Eckermann JM, Lieberson RL, Park HK, West T, Soltys S, Gibbs I, Adler J, Cheng S. Cyberknife Radiosurgery for very large Spinal Tumors. 10th Biennial Congress of the International Stereotactic Radiosurgery Society. May 8-12, 2011, Paris, France
5. Eckermann JM, Chen W, Jadhav V, Colohan ART, and Zhang JK. Hydrogen is Neuroprotective against Surgically Induced Brain Injury. AANS Annual Meeting. May 2-6, 2009, San Diego, California
6. Eckermann JM, Zouros A. Excision of Subcutaneous Facial Arteriovenous Malformation (AVM) through Eyebrow Incision in a Patient with Wyburn-Mason Syndrome: A Case Report and Technical Consideration. Poster Presentation. XII International Congress of the International Society of Craniofacial Surgery ISCFs. August 23-25, 2007, Salvador, Brazil.
7. Eckermann JM and Teruya T. Necrotic Arachnidism Presenting with Acute Arterial Insufficiency. Poster Presentation. Annual Conference of the Southern California Chapter of the American College of Surgeons January 16, 2004, Santa Barbara, California.

Speaking Experience

1. Eckermann JM, Pilitsis J, Vannaboutathong C, Wagner B, Province-Azalde R, Bendel M. Systematic literature review of spinal cord stimulation to treat chronic low back pain without prior spine surgery. 2021 North American Neuromodulation Society Mid-Year Meeting. July 15-18, 2021, Orlando, Florida
2. Eckermann JM, Panelist, National Advanced Implanter Fellow Cadaver Course & Transition to Practice. April 5-7, 2019. Dallas, Texas
3. Eckermann JM, Invited Speaker, Neuromodulation Hands-On Course, "Boston Scientific Spinal Cord Stimulation Illumina 3D Algorithm," April 1, 2016, Oregon Health Science University, Portland, Oregon
4. Eckermann JM. "Neurosurgery: Brain, Spine, and Nerves" Lecture to college students, California State University Bakersfield, February 8, 2013
5. Eckermann JM, Chen W, Tong W, Jadhav V, Hsu FPK, Colohan ART, and Zhang JH. Hydrogen is Neuroprotective Against Surgical Brain Injury. International Intracerebral Hemorrhage Conference. March 7-9, 2010, Palm Springs, California
6. Eckermann JM, Chang D, Hsu FPK. Two is Better Than One: The Team Approach in Endoscopic Skull Base Surgery. Oral Presentation. Western Neurosurgical Society 54th Annual Meeting August 16-19, 2008, Anchorage, Alaska
7. Eckermann JM. PHYS 645: "Neurosurgical Complications after Brain Injury" Lecture to Graduate students, Department of Physiology, Loma Linda, California, August 12, 2008
8. Eckermann JM. "Unmanned Neurosurgery! The Future of Neurosurgery in the Hands of Robots." Grand Rounds Presentation. Neuroscience Combined Grand

Rounds. Loma Linda University Medical Center, Loma Linda, California, May 10, 2006.

9. Eckermann JM, Razzouk AJ, and Bailey LL. The impact of Pretransplant Diagnosis and Surgical Palliation on the Long-term Outcome of Pediatric Cardiac Transplantation. Oral Presentation. International Society of Heart and Lung Transplantation (ISHLT) April 22, 2004, San Francisco, California