

## Willard Stein Kasoff, M.D., M.P.H.

Department of Neurosurgery  
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### Employment:

- 11/1/2021 – present Associate Professor of Neurosurgery  
Vice Chair for Research, Department of Neurosurgery (2022 – present)  
Temple University Lewis Katz School of Medicine, Philadelphia, PA
- Director of Stereotactic and Functional Neurosurgery  
Temple University Health System, Philadelphia, PA
- 5/1/2014 – 8/31/2021 Assistant Professor of Neurosurgery and Neurology  
Director, Neuromodulation Program  
Vice Chair for Quality, Department of Neurosurgery (2020-2021)  
University of Arizona College of Medicine, Tucson, AZ
- 8/1/2012 – 7/31/2013 Senior Associate, Department of Neurosurgery  
Emory University School of Medicine, Atlanta, GA

### Education:

- 8/1/2012 – 7/31/2013 Fellow in Functional and Stereotactic Neurosurgery  
Emory University School of Medicine, Atlanta, GA
- 7/1/2005 – 6/30/2012 Resident and Chief Resident, Department of Neurological Surgery  
Yale School of Medicine, New Haven, CT
- 7/1/2009 – 6/30/2010 M.P.H. in Health Policy and Administration  
Yale School of Public Health, New Haven, CT
- 4/1/2008 – 3/31/2009 Fellow in Epilepsy Surgery  
Yale Epilepsy Surgery Program, New Haven, CT
- 8/28/2000 – 6/1/2005 M.D. with Distinction in Research in Epilepsy  
Albert Einstein College of Medicine, Bronx, NY
- 9/18/1995 – 6/10/1999 B.A. *cum laude* in Biology  
Harvard University, Cambridge, MA

### Licensure and Certification:

- 9/13/2021 – present Pennsylvania Board of Medicine, License #MD475645  
11/21/2017 – present Diplomate, American Board of Neurological Surgery  
4/30/2014 – 1/18/22 Arizona Medical Board, License #48925  
6/8/2012 – 9/30/2013 Georgia Composite Medical Board, License #68042  
1/10/2008 – present NPI #122-521-4166

### Clinical Affiliations:

3/21/2022 – present Chestnut Hill Hospital, Philadelphia, PA  
11/1/2021 – present Temple University Hospital, Philadelphia, PA  
11/1/2021 – present Temple University Hospital, Jeanes Campus, Philadelphia, PA  
11/1/2021 – present Fox Chase Cancer Center, Philadelphia, PA  
8/6/2018 – 8/31/2021 Children’s Clinics, Tucson AZ  
5/1/2014 – 8/31/2021 Banner University Medical Center-Tucson (formerly University of Arizona Medical Center), Tucson, AZ  
8/1/2012 – 7/31/2013 Emory University Hospital, Atlanta, GA  
8/1/2012 – 7/31/2013 Emory University Hospital Midtown, Atlanta, GA  
8/1/2012 – 7/31/2013 Grady Memorial Hospital, Atlanta, GA  
6/18/2012 – 8/31/2013 Children’s Healthcare of Atlanta, Atlanta, GA

### Awards:

2011 Young Investigator Award, American Epilepsy Society  
7/1/2002 – 6/30/2003 Einstein Research Fellowship, Albert Einstein College of Medicine, Bronx, NY

### Research Affiliations:

12/2022 – present Post-traumatic epilepsy: prevalence and follow-up among TUH trauma patients.  
Temple University IRB #29697  
Role: Principal Investigator

8/2019 – 8/2021 Neuromodulation Program Clinical Database  
University of Arizona IRB #1906737419  
Role: Principal Investigator

2/2019 – 8/2021 A Post-Market Study Evaluating the Safety of Infinity DBS System with MR Conditional Labeling. Abbott Protocol # ABT-CIP-10262.  
Role: Principal Investigator

9/2018 – 8/2023 Development of high-speed and quantitative neuro MRI technologies for challenging patient populations  
NIH R01 NS102220-01A1  
Role: Co-Investigator (PI: Nan-kuei Chen, Ph.D.)

8/2018 – 8/2021 Transcranial Ultrasound for Detection of Deep Brain Stimulation Electrodes  
University of Arizona IRB #1808913591  
Role: Principal Investigator

1/2017 – 8/2021 Direct Measurement of Current Flow from Deep Brain Stimulation Electrodes Using Magnetic Resonance Electrical Impedance Tomography (MREIT).  
University of Arizona Department of Surgery Faculty Seed Grant  
Role: Co-Principal Investigator

2/2016 – 4/2019 Assessing Gait And Balance Using Body Worn Sensors: Does a Successful Clinical Intervention Also Improve Gait and Balance?  
University of Arizona IRB #1200000616  
Role: Principal Investigator

10/2015 – 8/2021 Boston Scientific RELIEF Registry Protocol  
Role: Sub-Investigator (PI: Mohab Ibrahim, M.D., Ph.D.)

6/2015 – 8/2021 Deep Brain Stimulation for Dystonia  
University of Arizona IRB #1506936307  
Role: Principal Investigator

### Society Membership:

2020 – present	AANS/CNS Section on Pain
2015 – present	North American Neuromodulation Society
2012 – present	American Society for Stereotactic and Functional Neurosurgery
2011 – present	American Epilepsy Society
2006 – present	Yale Surgical Society
2005 – present	American Association of Neurological Surgeons
2005 – present	Congress of Neurological Surgeons

### Committee Membership:

2022 – present	Peer Review Committee, Temple University Hospital, Philadelphia, PA
2021 – present	Clinical Competency Committee, Department of Neurosurgery, Lewis Katz School of Medicine at Temple University, Philadelphia, PA
2020 – 2021	Pandemic Ethical Guidance Team, Banner Health, Phoenix, AZ
2020 – 2021	Committee of Ten, University of Arizona College of Medicine, Tucson, AZ
2020 – 2021	Neurosciences Quality Steering Committee, Banner University Medical Center-Tucson, Tucson, AZ
2020 – 2021	Trauma Peer Review Committee, Banner University Medical Center-Tucson, Tucson, AZ
2018 – 2020	Surgery Quality Improvement Steering Committee, Banner University Medical Center-Tucson, Tucson AZ
2017 – 2021	Peer Review Committee, Banner University Medical Center-Tucson, Tucson, AZ
2016 – 2021	Bioethics Committee, Banner University Medical Center-Tucson, Tucson, AZ
2014 – 2021	Institutional Review Board, Human Subjects Protection Program, University of Arizona College of Medicine, Tucson, AZ
2014 – 2021	Clinical Competency Committee, Department of Neurosurgery, University of Arizona College of Medicine, Tucson, AZ
2009 – 2012	Clinical Ethics Committee, Yale-New Haven Hospital, New Haven, CT
2009 – 2010	Provider Advisory Committee, Sustinet Health Partnership, Hartford, CT
2009 – 2010	Committee on Academic and Professional Integrity, Yale School of Public Health, New Haven, CT
2006 – 2009	Graduate Medical Education Committee, Yale University School of Medicine, New Haven, CT
2001 – 2005	Committee on Student Promotions and Professional Standards, Albert Einstein College of Medicine, Bronx, NY
2001 – 2005	Bioethics Committee, Montefiore Medical Center, Bronx, NY
2001 – 2003	Preclerkship Curriculum Committee, Albert Einstein College of Medicine, Bronx, NY

### Community Service:

2019 – 2021	Member, Arizona Governor’s Council on Spinal and Head Injury, Phoenix, AZ. <a href="https://headspineaz.org">https://headspineaz.org</a> .
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### Editorial Service:

2021 – present	Reviewer, <i>Neuromodulation</i> .
2018 – present	Reviewer, <i>World Neurosurgery</i> .

## Book Chapters:

Kasoff WS and Gross RE. Deep brain stimulation: introduction and technical aspects. In *Neuromodulation in Psychiatry*, eds. Hamani C, Holtzheimer PE, Lozano AM, and Mayberg HS. Hoboken: John Wiley & Sons, 2016.

## Journal Publications (ORCID 0000-0003-3665-5554):

- Kotas D, Zhao H, Turella J, Kasoff WS. Post-traumatic epilepsy: observations from an urban Level 1 trauma center. *Neurology International*. 2024; 16(4):845-852. <https://doi.org/10.3390/neurolint16040063>.
- Darrow JJ, Robertson CT, Kasoff WS. Evidence supporting surgical procedures: can we do better? *The American Surgeon*. 2020. DOI: 10.1177/0003134820979792. PMID: 33342290.
- Barragan A, Preston C, Alvarez A, Bera T, Qin Y, Weinand M, Kasoff W, Witte R. Acoustoelectric imaging of deep dipoles in a human head phantom for guiding treatment of epilepsy. *J Neural Eng*. 2020 Oct 30;17(5):056040. DOI: 10.1088/1741-2552/abb63a. PMID: 33124600.
- Gravbrot N, Saranathan M, Nagae LM, Becker J and Kasoff WS. Safety profile of Infinity™ deep brain stimulation electrode placement in a 1.5T interventional MRI suite: consecutive single-institution case series. *AJNR Am J Neuroradiol*. 2020 Dec;41(12):2257-2262. DOI: 10.3174/ajnr.A6776. Epub 2020 Oct 1. PMID: 33004341.
- Palsma R, Gravbrot N, Bina R, Agastya M and Kasoff WS. Deep brain stimulation surgery for essential tremor in a patient with Type A hemophilia. *World Neurosurgery* 2020;139:158-162. <https://doi.org/10.1016/j.wneu.2020.03.174>.
- Gravbrot N, Burket A, Saranathan M and Kasoff WS. Asleep deep brain stimulation of the nucleus ventralis intermedius for essential tremor using indirect targeting and interventional MRI: case series of 12 consecutive patients at a single institution. *Movement Disorders Clinical Practice* 2020 (Epub before print). DOI: 10.1002/mdc3.12955.
- Bina RW, Palsma RS, Weinand ME and Kasoff WS. Peripheral nerve stimulation for refractory trigeminal pain: recent single-institution case series with long-term follow-up. *Neuromodulation*. 2020 Mar 5. DOI: 10.1111/ner.13132. PMID: 32141164.
- Preston C, Alvarez A, Barragan A, Becker J, Kasoff WS and Witte R. High resolution transcranial acoustoelectric imaging of current densities from a directional deep brain stimulator. *Journal of Neural Engineering* 2020 Jan 24. DOI: 10.1088/1741-2552/ab6fc3. [Epub ahead of print]. PMID: 31978914. (Editor's Choice, *Science Translational Medicine* 26 Feb 2020; Vol. 12, Issue 532, eabb0791, DOI: 10.1126/scitranslmed.abb0791)
- Texakalidis P, Tora MS, Anthony CL, Greven A, McMahon TJ, Nagarajan PP, Kasoff WS, Yong NA and Boulis NM. Peripheral trigeminal branch stimulation for refractory facial pain: a single-center experience. *Clinical Neurology and Neurosurgery*. 2020 Apr 1;194:105819. doi: 10.1016/j.clineuro.2020.105819. Online ahead of print. PMID: 32259672.
- Gravbrot N, Saranathan M, Pouratian N and Kasoff WS. Advanced imaging and direct targeting of the motor thalamus and dentato-rubro-thalamic tract for tremor: a systematic review. *Stereotactic and Functional Neurosurgery* 2020 May 13:1-21. (Online ahead of print.) DOI: 10.1159/000507030. PMID: 32403112.
- Krase JM, Kasoff WS and DuPont JP. Mohs micrographic surgery of the scalp in a patient with a deep brain stimulator. *Dermatologic Surgery* 2019 Dec 30. DOI: 10.1097/DSS.0000000000002308. PMID:31895256.
- Kasoff WS and Bina RW. Placement and anchoring of trigeminal neurostimulation electrodes: technical report. *Stereotactic and Functional Neurosurgery* 2020;97(5-6):285-292. DOI: 10.1159/000503731. PMID: 31968343.

- Zaninovich O, Ramey W, Eldersveld and Kasoff WS. Malignant melanotic schwannian tumor presenting with spinal cord infarction due to occlusion of the artery of Adamkiewicz: case report and review of the literature. *World Neurosurgery* 2019 Aug;128:422-425. DOI: 10.1016/j.wneu.2019.04.267. PMID: 31108251.
- Su J, Thomas ST, Kasoff WS, Tourdias T, Choi EY, Rutt BK and Saranathan M. Thalamus Optimized Multi Atlas Segmentation (THOMAS): fast, fully automated segmentation of thalamic nuclei from structural MRI. *Neuroimage* 2019 Jul;194:272-282. DOI: 10.1016/j.neuroimage.2019.03.021. PMID: 30894331
- Sprissler R, Bina R, Kasoff WS, Witte MH, Bernas M, Walter C, Labiner DM, Lau B, Hammer MF and Weinand ME. Leukocyte expression profiles reveal gene sets with prognostic value for seizure-free outcome following stereotactic laser amygdalohippocampotomy. *Nature Scientific Reports* 2019 Jan 31;9(1):1086. DOI: 10.1038/s41598-018-37763-5. PMID: 30705324.
- Preston C, Kasoff WS and Witte RS. Selective mapping of DBS lead currents using acoustoelectric imaging. *Ultrasound in Medicine and Biology* 2018 Nov;44(11):2345-2357. DOI: 10.1016/j.ultrasmedbio.2018.06.021. PMID: 30119863.
- Chen N, Chou Y, Sundman M, Hickey P, Kasoff WS, Bernstein A, Trouard TP, Lin T, Rapcsak SZ and Weingarten C. Alteration of diffusion-tensor magnetic resonance imaging measures in brain regions involved in early stages of Parkinson's disease. *Brain Connectivity* 2018 Aug;8(6):343-349. DOI: 10.1089/brain.2017.0558. PMID: 29877094.
- Laxpati NG\*, Kasoff WS\* and Gross RE. Deep brain stimulation for the treatment of epilepsy: circuits, targets, and trials. *Neurotherapeutics* 2014 Jul;11(3):508-26. DOI: 10.1007/s13311-014-0279-9. Review. PMID: 24957200.
- Çavus I, Kasoff WS, Cassaday MP, Jacob R, Gueorgieva R, Sherwin RS, Krystal JH, Spencer DD and Abi-Saab WM. Extracellular metabolites in the cortex and hippocampus of epileptic patients. *Annals of Neurology* 2005;57:226-235. PMID: 15668975.
- Lehmann LS, Kasoff WS, Koch P and Federman DD. A survey of medical ethics education at U.S. and Canadian medical schools. *Academic Medicine* 2004;79:682-689. PMID: 15234922.

#### Abstracts, Posters and Conference Presentations:

- Kotas D and Kasoff WS. Post-traumatic Epilepsy: Prevalence and Follow-up Among Trauma Patients. Poster presentation at American Academy of Neurology annual meeting, Denver, CO April 13-18, 2024.
- Kasoff WS. Deep brain stimulation targets for dystonia. Delaware Valley Regional Movement Disorders Association. Philadelphia, PA, March 2, 2023.
- Chauhan M, Sajib SZK, Sahu S, Kasoff WS and Sadleir RJ. Imaging of current density distribution in deep brain stimulation (DBS). *International Society for Magnetic Resonance in Medicine* 2020. August 8-14, 2020.
- Bina RW and Kasoff WS. Peripheral nerve stimulation for complex craniofacial pain: recent single-institution experience. Oral presentation at the Arizona Neurosurgical Society, Marana, AZ, November 17, 2018.
- Bina RW and Kasoff WS. Peripheral nerve stimulation for complex craniofacial pain: recent single-institution experience. Oral presentation at ASSFN Biennial Meeting, Denver, CO, June 5, 2018.
- Kasoff WS and Bina RW. Placement and anchoring of craniofacial neurostimulation electrodes: technical note. Poster presentation at ASSFN Biennial Meeting, Denver, CO, June 4, 2018.
- Thomas FT, Kasoff W and Saranathan M. A novel strategy for automated near-real-time segmentation of the ventral intermediate (Vim) nucleus for deep brain stimulation (DBS) surgery. *International Society for Magnetic Resonance in Medicine*. Paris, France, June 16-21, 2018.
- Preston C, Kasoff WS and Witte RS. Non-invasively mapping deep brain stimulation currents in 4D using acoustoelectric imaging. *Minnesota Neuromodulation Symposium*. Minneapolis, MN. April 23-13, 2018

- Preston C, Qin Y, Burton A, Ingram P, Kasoff W and Witte R. Acoustoelectric imaging of time-varying current produced by a clinical deep brain stimulator. 2017 IEEE International Ultrasonics Symposium (IUS), Washington, DC, 2017, pp. 1-1. <http://ieeexplore.ieee.org/document/8092105/>
- Preston C, Ingram P, Qin Y, Kasoff W, Burton A, Witte R. Acoustoelectric imaging of current stimulation patterns from a clinical DBS device. BMES 2017 Annual Meeting, Phoenix, AZ, October 11-14, 2017.
- Kasoff WS, Zaveri HP, Duckrow RB, Hirsch LJ, Vives KP, Spencer SS and Spencer DD. Expansion of intracranial electrode arrays at a single institution: safety and evidence for epileptogenic networks. Annual Meeting, American Epilepsy Society, Baltimore, MD, December 2-6, 2011. (*Young Investigator Award*)
- Kasoff WS. Policy analysis of head injury prevention and treatment in collegiate and scholastic sports. Annual Meeting, Congress of Neurological Surgeons, San Francisco, CA, October 16-21, 2010.
- Kasoff WS and Spencer DD. Utility and ethics of placebo controls in trials of cellular transplantation for Parkinson's disease. 2004 Annual Meeting, American Association of Neurological Surgeons, Orlando, Florida, April 30 - May 6, 2004.
- Kasoff WS, Duckrow RB and Spencer DD. Epilepsy surgery and invasive basic research in a clinical setting. Cleveland Clinic Neuroethics Symposium, Cleveland, OH, October 3, 2010.
- Spencer DD and Kasoff WS. Epilepsy surgery: the substrate approach. First Regional Caribbean Epilepsy Congress. Montego Bay, Jamaica, May 31, 2008.
- Spencer DD and Kasoff WS. Surgery for cortical dysplasia. Annual Scientific Meeting, International League Against Epilepsy UK Chapter, Southampton, UK, October 11, 2007.
- Kasoff WS, Knisely JP, Higgins SA and Chiang VL. Stereotactic radiosurgery for ovarian cancer brain metastases: 11-year experience at a single institution. 8<sup>th</sup> Bi-Annual Congress and Exhibition, International Stereotactic Radiosurgery Society, San Francisco, CA, June 23-27, 2007.
- Çavus I, Kasoff WS, Sherwin RS, Krystal J and Spencer DD. Interictal neurometabolite levels in the anterior versus posterior hippocampus in temporal lobe epilepsy: a microdialysis study. *Epilepsia* 2003;44 Suppl. 9:175.

#### Invited Grand Rounds and Presentations:

- Clinical perspective on safety and error reduction in stereotactic systems. Regulatory roundtable on neurologic stereotactic system, Food and Drug Administration, White Oak, MD. June 13, 2024.
- STN vs. GPi for dystonia. Delaware Valley Regional Movement Disorders Society. March 2, 2023.
- New frontiers in epilepsy surgery. Keynote address, Philadelphia Chapter, American Association of Neuroscience Nurses, October 27, 2022.
- Deep brain stimulation for movement disorders. Stony Brook University Neurosciences Grand Rounds, Stony Brook, NY, December 13, 2013.
- Emerging indications for deep brain stimulation. Montefiore Medical Center Movement Disorders Conference, Bronx, NY, November 13, 2013.

#### Community Outreach:

- How to treat trigeminal neuralgia, one of the worst pains you can feel in your face. 6ABC News. May 13, 2024. <https://6abc.com/post/trigeminal-neuralgia-face-pain-temple-health-symptoms/14808331/>
- Deep brain stimulation for Parkinson's disease. Temple University Hospital-Jeanes Parkinson's disease support group. April 10, 2024.
- Temple Health provides peer support, not just medical care, for those living with Parkinson's. 6ABC News. January 10, 2024. <https://6abc.com/parkinsons-disease-temple-health-progressive-disorders-support-groups/14274514/>
- Surgical treatment of trigeminal neuralgia and facial pain. TNA-Facial Pain Association of Philadelphia. October 21, 2023.

Deep brain stimulation for Parkinson's disease. Temple University Hospital-Jeanes Parkinson's disease support group. October 11, 2023.

Deep brain stimulation for Parkinson's disease. Cherry Hill Parkinson's Support Group, September 6, 2022.

Going beyond opioids for managing cancer pain: raising awareness of the intrathecal pump. 6ABC News. July 3, 2023. <https://6abc.com/cancer-pain-management-fox-chase-center-intrathecal-pumps/13437204/>

Movement disorders. 6ABC News Facebook Live event. May 16, 2023. Archived at <https://6abc.com/temple-health-neurologists-movement-disorders-parkinsons-disease/13224461/>

Neurostimulation in epilepsy surgery. Epilepsy Foundation of Eastern Pennsylvania, November 5, 2022.

Options for breaking free of excruciating facial pain. 6ABC News. July 26, 2022. <https://6abc.com/trigeminal-neuralgia-facial-pain-blood-vessel-temple-health/12063720/>

Deep brain stimulation for Parkinson's disease. Cherry Hill Parkinson's Support Group, June 22, 2022.

Deep brain stimulation for Parkinson's disease and essential tremor. Jeanes Hospital Community Classroom, June 1, 2022.

Deep brain stimulation for Parkinson's disease. Central Bucks Parkinson's Support Group, May 10, 2022.

Deep brain stimulation for Parkinson's disease. Central Bucks Parkinson's Support Group, March 15, 2022.

Surgical treatment of trigeminal neuralgia and facial pain. TNA-Facial Pain Association, Tucson AZ, May 12, 2018.

Meet your local comprehensive epilepsy center neurosurgeons. Facebook Live event with the Epilepsy Foundation of Arizona and Neuropace. July 19, 2018. Video at <https://www.facebook.com/epilepsyaz/videos/10156816663346189/>

Old and new surgical options for trigeminal neuralgia and facial pain. TNA-Facial Pain Association, Tucson AZ, May 12, 2018.

DBS for Parkinson's disease: what, who and how. Parkinson's Disease and Movement Disorders Foundation, Tucson chapter, April 15, 2018.

Surgical treatments for facial pain. Trigeminal Neuralgia Association/Facial Pain Association, Tucson AZ, May 14, 2016.

Deep brain stimulation for Parkinson's disease. American Parkinson's Disease Foundation, Tucson Chapter, "Power Over Parkinson's" event, December 10, 2015.

Percutaneous approaches and neuromodulation for craniofacial pain. TNA/Facial Pain Association, Tucson, AZ, November 15, 2014.

Stereotactic laser ablation for epilepsy. Epilepsy Foundation conference, Tucson, AZ, October 25, 2014.

#### Social Media and Online:

4/26/2022 Truth or TV: Is Grey's Anatomy's Parkinson's "Cure" Real? WebMD interview. [https://www.webmd.com/parkinsons-disease/features/is-greys-anatomys-parkinsons-cure-real?src=rss\\_public](https://www.webmd.com/parkinsons-disease/features/is-greys-anatomys-parkinsons-cure-real?src=rss_public)