Dr. Derryl Joseph Miller

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EDUCATION

Fellowship, Indiana University School of Medicine, 2020-2021. Clinical Neurophysiology

Residency, Indiana University School of Medicine, 2017-2020. Pediatrics and Child Neurology.

Internship, Indiana University School of Medicine, 2016-2017. Pediatrics.

MD, Indiana University School of Medicine, 2015. Major: Medicine.

BS, University of Notre Dame, 2011. Major: Dual Biochemistry and Mathematics.

Appointments

- "Clinical Assistant Professor", Indiana University Purdue University Indianapolis, NEUROLOGY. (July 28, 2021 June 30, 2024).
- "Clinical Assistant Professor Probationary", Indiana University Purdue University Indianapolis, NEUROLOGY. (July 28, 2021 June 30, 2024).

RESEARCH

Publications

- * Dani C, **Miller DJ**, Boustany R, Obeid M. (Submitted 2024) High Diagnostic Yield of Next Generation Sequencing in Children with Drug-Resistant Epilepsy and Global Developmental Delays. *Pediatric Neurology.*
- * Faust SL, Mattson KS, **Miller DJ.** (Submitted 2024) A Case Study on Focal Epileptic Encephalopathy with Spike-Wave Activation in Sleep. *The Neurodiagnostic Journal.*
- * † Sheikh K, **Miller DJ**, Blake R, Smith L, Conrad S, Obeid M, Radhakrishnan R, Schultheis A, Raskin J. (Submitted 2024). Using Magnetic Resonance-Guided Laser Interstitial Thermal Therapy to Lateralize a Seizure Focus for Staged Surgical Approach. *Journal of Pediatric Epilepsy.*
- * † & Komanapalli H, **Miller DJ.** (Accepted 2024) A Cross-Sectional Analysis of Change in Management with Evoked Potentials: Considering Study Characteristics Can Suggest Consistent Changes. American Academy of Neurology 76th Annual Meeting. *Neurology Supplement*.
- * † **Miller, DJ**, Komanapalli H, and Dunn, DW. Comorbidity of Attention Deficit Hyperactivity Disorder in a Patient with Epilepsy: Staring Down the Challenge of Inattention Versus Nonconvulsive Seizures. *Epilepsy & Behavior Reports*. 2024; 25: 100651. https://doi.org/10.1016/j.ebr.2024.100651
- * Miller, D. J., Walsh, L., Smith, L., Supakul, N., Ho, C., & Onishi, T. Magnetic Resonance Imaging Enhancement of Spinal Nerve Roots in a Boy with X-Linked Adrenoleukodystrophy Before Diagnosis of Chronic Inflammatory demyelinating Polyneuropathy. *Radiology Case Reports*. 2024; 19(1):493-498. ISSN 1930-0433. https://doi.org/10.1016/j.radcr.2023.10.065

- * O'Neil, J., & **Miller, D. J**. Growth-attenuation Therapy for Children with Profound Cognitive and Physical Disabilities. *The National Catholic Bioethics Quarterly*, 2023; *23*(1):71–82. https://doi.org/https://doi.org/10.5840/ncbq20232317
- * † & Heckman, C. A., **Miller, D. J.**, Kremer, K. M., Martinez, M. L., & Jea, A. H. An ischemic myelopathy case series: flaccid paraplegia following a spikeball save & numbness while walking normally. *Brain Circulation*, 2023; 9: 107–111. https://doi.org/10.4103/bc.bc 80 22
- **Miller, D. J.**, Felker, M., & Ciccarelli, M. Transitioning Ambulatory Medicine from Pediatrics to Adult Care for Patients with Epilepsy and Intellectual Disability. *Journal of Pediatric Epilepsy*, 2020; 9(4):172–176. https://doi.org/10.1055/s-0040-1717135
- Sokol, D. K., **Miller, D. J.**, Westmark, C. J., & Lahiri, D. K. Behavior and Blood Biomarker Differences for Children with Fragile X Syndrome and Idiopathic Autism. *Archives of Clinical Neuropsychology*, 2020; 35(6), 857–858. https://doi.org/10.1093/arclin/acaa068.067
- Miller, D. J., & Bodkin, C. The Utility of Inpatient Electromyography/Nerve Conduction Studies: Quality Over Quantity Saves Quite a Quota (134). *Neurology*, 2020; *94*(15 Supplement), 134. https://n.neurology.org/content/94/15 Supplement/134#hw-e-letters-form
- **Miller, D. J.** Breaking Burnout: A Personal Reflection on Mindfulness Exercises for Physicians. *Journal of Yoga and Physiotherapy*, 2020; 8(5), 0088–0090. https://doi.org/10.19080/JYP.2020.08.555746
- **Miller, D. J.**, & Kremer, K. Frequent Awakenings and Fits with Aerobics. *Pediatric Neurology*, 2020; *106*, 72–73. https://doi.org/10.1016/j.pediatrneurol.2020.01.014
- Turner, C., **Miller, D. J.**, Coyne, K. J., & Corush, J. Improved Methods for Capture, Extraction, and Quantitative Assay of Environmental DNA from Asian Bigheaded Carp (Hypophthalmichthys spp.). *PLoS ONE*, 2014; 9(12), 1–20. https://doi.org/10.1371/ journal.pone.0114329
- Jerde, C. L., **Miller, D. J.**, Mahon, A. R., Chadderton, L., & Lodge, D. M. Response to Casey et al.'s sensitivity of detecting environmental DNA comment. *Conservation Letters*, 2012; *5*(2012), 241–242. https://doi.org/10.1111/j.1755-263X.2012.00231.x
- Turner, C. R., **Miller, D. J.**, Jerde, C. L., Mahon, A. R., Barnes, M. A., & Lodge, D. M. (2010). *Modeling and Estimating Uncertaintyin Environmental DNA Surveillance of Invasive Asian Carps*. (p. 84). 7th International Conference on Aquatic Invasive Species. https://www.yumpu.com/en/document/view/37175602/17th-international-conference-on-aquatic-invasive-species-icais
- **Miller, D. J.**, Klug, P., & Gerrish, G. (2010). Peromyscus maniculatus seed selection as densities of seeds of native and invasive species from the Palouse prairie of western Montana are manipulated. In *No* (p. 1). https://underc.nd.edu/assets/174589/fullsize/miller_2010.pdf
- **Miller, D. J.**, & Mahon, A. R. (2009). *DNA barcoding parasite organisms found in terrestrial mammal scat using COI sequence data.* (pp. 1–22). https://underc.nd.edu/assets/156403/fullsize/miller2009.pdf

Posters/Presentations

- * † & Komanapalli H, **Miller DJ.** American Academy of Neurology 76th Annual Meeting 2024, "A Cross-Sectional Analysis of Change in Management with Evoked Potentials: Considering Study Characteristics Can Suggest Consistent Changes," American Academy of Neurology, Denver, CO, United States. (Accepted for April 13, 2024).
- * † & Ozkir, MR, **Miller DJ.** AES 2023, "Folate Prescribing Habits and Reproductive Counseling for Young Women with Epilepsy. Abstract ID: 1553558," American Epilepsy Society, Orange County Convention Center, West Concourse, Orlando, FL, United States. (December 3, 2023).
- * Miller DJ, Obeid M, Schultheis A, Wilson S, Parrish T. Riley Epilepsy Symposium, "Seizure First Aid and What to do Afterwards," Riley Children's Health, Riley Outpatient Center Auditorium, Indianapolis, United States. (October 5, 2023).
- * † Sheikh K, **Miller DJ**, Blake R, Smith L, Conrad S, Radhakrishnan R, Schultheis A, Raskin J. 2nd Annual Big Ten Neuroscience Meeting 6-15-23 to 6-16-23, "P1. Using Magnetic Resonance-Guided Laser Interstitial

- Thermal Therapy (MRgLITT) Corpus Callosotomy (CC) for Staged Surgical Approach to Lateralize a Seizure Focus [Conference Poster Abstract].," Indiana University Office of Conference and Registration Services, Goodman Campbell Neuroscience Center, Indianapolis, IN, United States. (June 15, 2023).
- * Miller DJ, Schultheis A, Desai V, Blake R, Conrad S, Smith L, Raskin J. American Epilepsy Society 75th Annual Meeting, "Coordinating Post-operative Care with the Intracranial Electrode Safety Board in the Epilepsy Monitoring Unit," Hyatt Conference Center McCormick Place West, Chicago, IL, United States. (December 5, 2021).
- **Miller DJ**, Schultheis A, Desai V, Blake R, Conrad S, Smith L, Raskin J. 5th Annual Patient Safety Day, "Coordinating Care for Intracranial Electrode Safety," Indianapolis, IN, United States. United States. (June 11, 2021). -> 3rd place abstract award noted here: https://medicine.iu.edu/blogs/house-staff-life/neurological-surgery-residents-well-represented-at-patient-safety-day
- Sokol DK, **Miller DJ**, Westmark CJ, Lahiri DK. National Academy of Neuropsychology, Inc., "Behavior and blood marker differences for children with Fragile X Syndrome and Idiopathic Autism," Virtual. (October 15, 2020).
- Miller DJ, Bodkin C. American Academy of Neurology 72nd Annual Meeting, "Utility & Limitations of Inpatient EMG/NCS: Quality Over Quantity Saves Quite a Quota," Toronto, Ontario, Canada. (April 30, 2020).
- Turner CR, **Miller DJ**, Jerde C, Mahon A, Barnes M, Lodge D. 17th International Conference on Aquatic Invasive Species, "Modeling and Estimating Uncertainty in Environmental DNA Surveillance of Invasive Asian Carps," ICAIS, Westin San Diego, San Diego, CA, USA, San Diego, CA, United States. (August 31, 2010).

Grants

- * Miller DJ, Padilla MG, Keefer K, Kane G, Kippenbrock J, Jones J. "Annual Recurring Grant for Management of the St. Raphael Catholic Medical Association Guild," Sponsored by Ascension St. Vincent Hospital, Notfor-Profit, \$10,000.00. (June 1, 2023 Present).
- * Miller DJ, Tailor J, Coven S. "CURE Epilepsy Catalyst Award," Sponsored by CURE Epilepsy, Foundation, Submitted June 25, 2023. Unfunded.
- * Miller DJ. "Epilepsy Foundation Social Determinants of Health Mini-Grant," Sponsored by Epilepsy Foundation, Not-for-Profit, Submitted April 11, 2023. Unfunded.

SERVICE

- * Committee Member, Clinical Neurophysiology Fellowship Annual Program Evaluation Committee to Create and Review Graduate Surveys. (May 20, 2022 Present).
- * Board Member, Catholic Medical Association St. Raphael Guild. (October 1, 2021 Present).
- * Committee Member, Epilepsy Presurgical Committee at Riley Hospital. (August 1, 2021 Present).
- * Reviewer, Journal Article, Journal Article Reviewer for Journal of Clinical Neuroscience (January 8, 2024 January 19, 2024). JOCN-D-23-02114
- * Reviewer, Journal Article, Journal Article Reviewer for Journal of Clinical Neuroscience (December 25, 2023 December 31, 2023). JOCN-D-23-01876R1
- * Reviewer, Journal Article, Journal Article Reviewer for Journal of Clinical Neuroscience (December 19, 2023 December 30, 2023). JOCN-D-23-02135
- * Reviewer, Journal Article, Journal Article Reviewer for Journal of Clinical Neuroscience (November 21, 2023 November 26, 2023). JOCN-D-23-01266R2
- * Reviewer, Journal Article, Journal Article Reviewer for Journal of Clinical Neuroscience (November 8, 2023 November 21, 2023). JOCN-D-23-01876

- * Reviewer, Journal Article, Journal Article Reviewer for Journal of Clinical Neuroscience (October 14, 2023 October 27, 2023). JOCN-D-23-01266R1
- * Reviewer, Journal Article, Journal Article Reviewer for Journal of Clinical Neuroscience (September 2, 2023 September 15, 2023). JOCN-D-23-01390
- * Reviewer, Journal Article, Journal Article Reviewer for Journal of Clinical Neuroscience (August 24, 2023 August 30, 2023). JOCN-D-23-01266
- * Reviewer, Journal Article, Journal Article Reviewer for Journal of Clinical Neuroscience (June 27, 2023 June 27, 2023). JOCN-D-23-00697R2
- * Reviewer, Journal Article, Journal Article Reviewer for Journal of Clinical Neuroscience (June 9, 2023 June 11, 2023). JOCN-D-23-00697R1
- * Reviewer, Journal Article, Journal Article Reviewer for Journal of Clinical Neuroscience (May 30, 2023 June 6, 2023). JOCN-D-23-00697
- * Reviewer, Journal Article, Journal Article Review for Journal of Sleep Medicine and Disorders (March 1, 2023 March 11, 2023).
- * Reviewer, Journal Article, Journal Article Review for Annals of Clinical Gastroenterology (August 10, 2021 December 8, 2021).
- * Reviewer, Journal Article, Journal Article Reviewer for Journal of Pediatric Neurology (March 6, 2020 March 16, 2020).
- * Guest Speaker, Testified in Court for Nonaccidental Trauma Case x 1. (September 22, 2022).
- * Artist, St. John the Evangelist Chorus and Flautist. (July 1, 2020 Present).

PROFESSIONAL

Licensures

Physician Controlled Substances License 01084560B, Indiana Professional License. (October 15, 2021 - October 15, 2022).

Physician's License for Indiana 01084560A, Indiana Professional Licensing Agency. (October 15, 2021 - October 15, 2022).

Professional Organization Memberships

- * American Academy of Neurology. (July 15, 2021 Present).
- * American Epilepsy Society. (July 15, 2020 Present).
- * Child Neurology Society. (October 1, 2017 Present).
- * American Academy of Pediatrics. (June 15, 2015 Present).
- * American Medical Association. (June 15, 2015 Present).

Professional Development

- * Certification, "Academy of Teaching Scholars," Indiana University School of Medicine Faculty Affairs, Professional Development, and Diversity, Indianapolis, IN, United States. (October 1, 2022 February 25, 2023).
- * Workshop/tutorial attendance, "Leadership in Academic Medicine (LAMP)," Indiana University School of Medicine, Indianapolis, IN, United States. (August 24, 2022 March-1-2023).

- * + Coursework/Continuing Education, "Neurology Diversity, Equity, and Inclusion Workshop," Neurology Department at Indiana University, Indianapolis. (August 4, 2023).
- * Conference attendance "2024 Annual American Academy of Neurology Meeting." Denver, CO, United States. (April 14, 2024 April 18, 2024).
- * Conference attendance, "2023 American Society for Experimental Neurotherapeutics Annual Meeting," American Society for Experimental Neurotherapeutics, Haddonfield, NJ, United States. (March 13, 2023 March 15, 2023).
- * Conference attendance, "2022American Epilepsy Society Annual Meeting," American Epilepsy Society Music City Center201 Rep. John Lewis Way South, Nashville, TN, United States. (December 2, 2022 December 6, 2022).
- * Certification, "American Board of Psychiatry and Neurology Certification Examination in Clinical Neurophysiology for," American Board of Psychiatry and Neurology, Deerfield, IL, United States. (November 3, 2021 January 28, 2022).
- * Conference Attendance, "American Epilepsy Society Annual Meeting," American Epilepsy Society, Chicago, IL, United States. (December 2, 2021 December 6, 2021).
- Conference Attendance, "2020 Annual Meeting of the American Academy of Neurology." Toronto, Canada. (April 25 2020 May 1 2020).
- Conference Attendance, "Riley 5th Annual Patient Safety Day," Riley Hospital for Children, Indianapolis, IN, United States. (June 11, 2021).
- Certification, "American Board of Psychiatry and Neurology Certification Examination in Child Neurology," American Board of Psychiatry and Neurology, Deerfield, IL, United States. (September 21, 2020 December 16, 2020).
- Conference Attendance, "American Academy of Neurology Annual Meeting," American Academy of Neurology, Toronto, Canada. (April 25, 2020 May 1, 2020).
- Conference Attendance, "Child Neurology Society Annual Meeting," Child Neurology Society, Charlotte, NC, United States. (October 23, 2019 October 26, 2019).
- Conference Attendance, "American Academy of Neurology Annual Meeting," American Academy of Neurology, Philadelphia, PA, United States. (May 4, 2019 May 10, 2019).

TEACHING

Teaching assignments

- * Medicine MED-C 710, Foundations of Clinical Practice Longitudinal Preceptor. 2023-2024
- * Medicine MED-C 710, Foundations of Clinical Practice Year 2 Small Group. 2023-2024
- * Medicine MED-C 710, Foundations of Clinical Practice Longitudinal Preceptor. 2022-2023
- * Medicine MED-C 710, Foundations of Clinical Practice Year 2 Small Group. 2022-2023
- * Medicine MED-C 710, Foundations of Clinical Practice Longitudinal Preceptor. 2021-2022
- * Medicine MED-C 710, Foundations in Clinical Practice Year 2 Small Group. 2021-2022

Mentoring and Other Teaching

* Continuing Education, Indiana University School of Medicine Faculty Affairs, Professional Development, Diversity (FAPDD), 1 participant. (October 5, 2022 - Present).

Teaching Innovation and Development

- * Child Neurology Grand Rounds Presentation for Students, Residents, and Staff at Riley. Treatment of Status Epilepticus, Refractory Status Epilepticus, and Super Refractory Status Epilepticus. January 11, 2023. This was a comprehensive lecture given to the Riley Child Neurology Staff, Residents, and Students on service regarding the evidence for treatment of status epilepticus, refractory status epilepticus, and super refractory status epilepticus. This lecture revisited the definitions of these, initiation of treatment, workup throughout the course of treatment as well as evidence for anesthetic drips, immunomodulating therapies, the ketogenic diet, epilepsy surgery, vitamin therapies for inborn errors of metabolism, and electroconvulsive therapy.
- * Lecture to Medical Students and Residents on Inpatient Service. ILAE Classification of Epilepsy Syndromes. August 16, 2022 Present.

This lecture to the medical students and residents on the inpatient service at Riley was aimed at defining epilepsy, common epilepsy syndromes, and the recent push of the ILAE to first describe seizures, define epilepsy syndromes, and then move beyond the epilepsy syndrome to an etiology of the epilepsy for better treatment of patients. This lecture was especially important to teach the residents that if cohorts of patients could be studied with both epilepsy syndrome and etiology similarity such as Tuberous Sclerosis and West Syndrome that we could more accurately predict which medications would be helpful with the teaching point being that vigabatrin is superior to hormonal agents for West Syndrome due to Tuberous Sclerosis. This will hopefully result in curiosity and further study of epilepsy syndromes with common etiologies.

- * Child Neurology Grand Rounds Lecture to Students, Residents, Staff at Riley. Neurology of Micturition. August 10, 2022 Present.
 - This was a grand rounds neurology lecture over the anatomy and pathologies affecting micturition in patients. This was aimed at helping to localize and utilize lesions along the pathways to aid in diagnosis and management of neurologic disease.
- * Child Neurology Grand Rounds Lecture to Students, Residents, Staff at Riley. Epilepsy Surgery Updates from the American Epilepsy Society Meeting in 12-2021. December 15, 2021 - Present. This Child Neurology Grand Rounds was aimed at presenting new data from the American Epilepsy Society meeting in 12-2021 to the students, residents, and staff. This lecture focused on the definition of intractable epilepsy, the phase 1 presurgical evaluation, the identification of an operable epilepsy, resection, ablation, and disconnection surgeries, and briefly the neuromodulation options available to patients with intractable epilepsy.
- * Lectures for Indiana Society of Electroneurodiagnostic Technologists and Technicians (ISETT). Epilepsy Syndromes: How to approach an abnormal EEG? April 30, 2022.

 I provided a 1 hour talk about identification of epilepsy syndromes as well as the International League Against Epilepsy (ILAE) framework for describing seizure semiology, epilepsy syndrome, and further determining etiology of epilepsy. The goal of this talk was to help our Diagnostic Technologists to better interpret EEG studies after taking a patient history during hookup.
- * Lecture to Residents on Inpatient Service. EEG Variants: The Good, The Bad, and The Ugly Part 2. March 22, 2022.

I gave part 2 of the series to the residents while on the Neurology Consult Service entitled "EEG Variants: The Good, The Bad, and The Ugly Part 2" which was a talk about the semiology of seizures with various interictal epileptiform patterns and identification of common ictal patterns and discussion about epileptic seizures in general on 3-22-22

* New Course Development. The Electroencephalogram (EEG) Self Study for Residents and Fellows. August 1, 2021 - January 17, 2022.

Developed an 8 module study course for residents and fellows rotating through the Clinical Neurophysiology (EEG) rotation as well as through the Epilepsy Monitoring Unit (EMU) with the following modules with deidentified patient examples:

- 1. Normal EEG
- 2. EEGs with interictal epileptiform discharges
- 3. EEGs with seizures
- 4. EEGs with psychogenic nonepileptic seizures
- 5. EEGs with slowing

- 6. EEGs with artifacts
- 7. EEGs with hypsarrhythmia
- 8. EEGs which are just plain ugly
- * Lecture to Residents on Inpatient Service. EEG Variants: The Good, The Bad, and The Ugly Part 1. January 4, 2022.

I gave a lecture to the residents while on the Neurology Consult Service entitled "EEG Variants: The Good, The Bad, and The Ugly Part 1" which was a talk about normal EEG background, benign variants, and briefly the criteria detailed by Pierre Gloor, MD for interictal epileptiform discharges on 1-4-22.

* New Lecture Series for Residents and Fellows. Evoked Potential Lecture Series. August 1, 2021 - December 31, 2021.

Developed a 4 lecture series which was uploaded to the Canvas website for residents/fellows for self study of evoked potentials including the following lectures:

- 1. Basics and the Somatosensory Evoked Potential (SSEP)
- 2. Visual Evoked Potential (VEP)
- 3. Brainstem Auditory Evoked Potential (BAEP)
- 4. Motor Evoked Potential (MEP)
- * Lecture to Residents on Inpatient Service. Review of Basics of Evoked Potentials with Visual Evoked Potentials and Brainstem Auditory Evoked Potentials. November 9, 2021.

My second week on the neurology consult service in 11-9-21, I gave the second part of the evoked potentials series "Review of Basics of Evoked Potentials with Visual Evoked Potentials and Brainstem Auditory Evoked Potentials." This lecture reviewed the indications for evoked potentials and utilizing cases demonstrated the interpretation of Visual Evoked Potentials and Brainstem Auditory Evoked Potentials.

* Lecture to Residents on Inpatient Service. Basics of Evoked potentials and somatosensory Evoked Potentials or...What happens if we shock hundreds of times?!?! August 21, 2021.

For my first week on the neurology consult service in 8-21-21, I was able to give a lecture entitled "Basics of Evoked potentials and somatosensory Evoked Potentials or...What happens if we shock hundreds of times?!?!" This was a lecture on the utility and theory of evoked potentials as well as a deeper review of somatosensory evoked potential examples and how to interpret them.

- Lectures for Indiana Society of Electroneurodiagnostic Technologists and Technicians (ISETT). EEG Variants, the Good, the Bad, and the Ugly Part 2. September 26, 2020.
 - Lecture called EEG Variants, the Good, the Bad, and the Ugly Part 2 which reviews interictal epileptiform discharge morphology and common appearances of seizures.
- Lectures for Indiana Society of Electroneurodiagnostic Technologists and Technicians (ISETT). EEG Variants the Good, the Bad, and the Ugly Part 1. July 7, 2020.

Lecture called EEG Variants, the Good, the Bad, and the Ugly Part 1 which reviews benign variants, interictal epileptiform discharge morphology, and seizure.

Awards

- * Nominated for, Riley Hospital For Children Riley One Team Values Award for Compassion "I want to recognize Dr. Miller for the compassion he shows patients, families, as well as staff on 9W. Dr. Miller always goes above in beyond in working as a team and makes everyone feel as their role is important. I specifically appreciate that Dr Miller utilized child life appropriately and understands what our role is. I am lucky to work along side Dr Miller and Riley is very lucky to have him!". (December 14, 2022).
- Third Place Abstract at 5th Annual Patient Safety Day on 6-11-2020 noted here:

 https://medicine.iu.edu/blogs/house-staff-life/neurological-surgery-residents-well-represented-at-patient-safety-day
- Other, Arnold P. Gold Humanism Honors Society Janice M. Pascuzzi Scholarship Given to those who have the overall ability to make people feel better with the care provided on a daily basis. (October 17, 2014).