CURRICULUM VITAE SARAH SPENCER WELSH, MD

Division of Critical Care Medicine

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EDUCATION

Undergraduate **Brown University**

Providence, RI

English and American Literature

Bachelor of Arts, 1998

Secondary Education Teaching Certification in English, Undergraduate Teacher Education Program, 1998

Harvard University Cambridge, MA

Post-baccalaureate pre-medical certificate, 2004

Medical School University of Rochester School of Medicine

Rochester, NY

Doctor of Medicine, 2010 Dean's Scholar, 2005 - 2010

POSTGRADUATE TRAINING

Residency Golisano Children's Hospital at Strong Memorial Hospital

> University of Rochester Medical Center 601 Elmwood Avenue, Rochester, NY 14642

Pediatric Resident, 2010-2013 Pediatric Chief Resident, 2013-2014

Fellowship The Children's Hospital of Philadelphia

> 3401 Civic Center Boulevard, Philadelphia, PA 19104 Fellow in Pediatric Critical Care Medicine, 2014-2017

POSTGRADUATE HONORS AND AWARDS

June 2018 Divisional Teaching Award – Pediatric Critical Care Medicine
Awarded yearly by the Pediatric Housestaff

May 2019 Selected as member of Young Physicians Leadership Alliance, American
Academy of Pediatrics

PROFESSIONAL LICENSES AND BOARD CERTIFICATION

New York State Medical License 2012-2014 Pennsylvania State Medical License 2014-2016 Pennsylvania State Medical Training License 2014-2017 Rhode Island State Medical License 2017-present

General Pediatrics Board Certification, 2013 Pediatric Critical Care Medicine Board Certification, 2018

ACADEMIC APPOINTMENTS

Assistant Professor of Pediatrics, Warren Alpert School of Medicine at Brown University Clinician Educator August 2017 – present

HOSPITAL APPOINTMENTS

Attending Physician, Division of Critical Care Medicine Associate Medical Director, Pediatric Intensive Care Unit Director of Pediatric Focused Assessment and Stabilization Team (FAST)

Department of Pediatrics Hasbro Children's Hospital, Providence RI August 2017 – present

HOSPITAL COMMITTEES

2014 – 2016	Chair, Fellow Retreat Planning and Implementation Committee, Critical Care Medicine, The Children's Hospital of Philadelphia
2014 – 2017	Quality Improvement and Patient Safety Committee, Critical Care Medicine, The Children's Hospital of Philadelphia
2015 – 2016	Morbidity and Mortality Committee, Critical Care Medicine, The Children's Hospital of Philadelphia
2015 – 2016	Evaluation and Feedback Committee, Critical Care Medicine, The Children's Hospital of Philadelphia

2016 – 2017	Fellowship Program Evaluation Committee, Critical Care Medicine, The Children's Hospital of Philadelphia
2016 – 2017	Chair, Fellow Didactics Committee, Critical Care Medicine, The Children's Hospital of Philadelphia
2016 – 2017	Fellow Director, Neurocritical Care Conference, Critical Care Medicine, The Children's Hospital of Philadelphia
2017 – present	Pediatric Trauma Committee, Hasbro Children's Hospital
2017 – present	Chair, Central Line Associated Bloodstream Infection Hospital Acquired Condition Committee, Hasbro Children's Hospital
2017 – present	Chair, Venous Thromboembolism Hospital Acquired Condition Committee, Hasbro Children's Hospital
2017 – present	Cardiac Arrest Committee, Hasbro Children's Hospital
2018 – present	Chair, Department of Pediatrics Morbidity and Mortality Committee, Hasbro Children's Hospital
2018 – present	Chair, Pediatric FAST Team Committee, Hasbro Children's Hospital
2018 – present	Chair, Pediatric Intensive Care Unit Morbidity and Mortality Committee, Hasbro Children's Hospital
2018 – present	Chair, Pediatric Intensive Care Unit Core Committee, Hasbro Children's Hospital
2018 – present	Director, Pediatric Neurocritical Care Conference, Hasbro Children's Hospital
2018 – present	Organ Donation Advisory Council, Rhode Island Hospital

UNIVERSITY COMMITTEES

2018 – present Elected representative, Medical Faculty Executive Committee, Warren Alpert School of Medicine at Brown University

NATIONAL COMMITTEES

2018 – present Society for Critical Care Medicine/American Academy of Pediatrics Critical Care Committee on Pediatric Quality and Safety

MEMBERSHIP IN SOCIETIES

2010 – Present American Academy of Pediatrics, Member
 2012 – Present American Heart Association, Instructor

2013 – Present Society of Critical Care Medicine, Member

2016 – Present Neurocritical Care Society, Member

PUBLICATIONS LIST

ORIGINAL PUBLICATIONS IN PEER-REVIEWED JOURNALS

Sarah S. Welsh, Nan Lin, Alexis A. Topjian, Nicholas S. Abend. "Safety of intravenous lacosamide in critically ill children." *Seizure*, November 2017. 52(2017), 76-80.

Elizabeth R. McAnarney, M.D., Jennifer Zarcone, Ph.D., Pamela Singh, B.A., Jennifer Michels, M.A., **Sarah Welsh, M.D.,** Theresa Litteer, M.S., P.N.P., Hongyue Wang, Ph.D., and Jonathan D. Klein, M.D., M.P.H. "Restrictive Anorexia Nervosa and Set Shifting in Adolescents: A Biobehavioral Interface." *Journal of Adolescent Health*, July 2011. 49(1), 99-101.

BOOKS AND BOOK CHAPTERS

Jennifer Zarcone, **Sarah Spencer Welsh**. "Prader-Willi Syndrome." *Cognitive and Behavioral Abnormalities of Pediatric Diseases*, eds. Yitzchak Frank and Ruth Nass, Oxford University Press, 2010.

Sarah Welsh MD, Genevieve Dupont-Thibodeau MD, Matthew Kirschen MD, PhD. "Neuroprognostication after severe brain injury in children: science fiction or plausible reality?" *Neuroethics: Anticipating the Future*, ed. Judy Iles, Oxford University Press, 2017.

Sarah Welsh, James Riviello, Alexis Topjian. "Status Epilepticus in the Pediatric Population." *Handbook of ICU EEG, Second Edition*, eds. Suzette LaRoche and Hiba Haider, Spring Publishing, March 2018.

PUBLICATIONS SUBMITTED OR IN PREPARATION

Sarah Welsh and Katherine Mason. "Pediatric Advanced Life Support." *The Pre-Clerkship Guide*, eds. Adam Eltorai and Paul George, Wolters Kluwer, in press.

ABSTRACTS

- 1. **Welsh SS**, James K, Rodgers N, Evers R, Heinert E, Dadiz R, Garfunkel LC. "Implementation of a Peer-Created Multimedia Bundle to Improve Intern and Staff Satisfaction with Neonatal ICU (NICU) Orientation." Association of Pediatric Program Directors, 2013 April 10-13, Nashville TN.
- 2. **Welsh SS**, James K, Rodgers N, Evers R, Heinert E, Dadiz R, Garfunkel LC. "Implementation of a Peer-Created Multimedia Bundle to Improve Intern and Staff

- Satisfaction with Neonatal ICU (NICU) Orientation." Pediatric Academic Societies, 2013 May 4-7; Washington D.C.
- 3. Sarah Welsh, MD; Joshua J. Blinder, MD; Therese M. Giglia, MD; Leslie Raffini, MD; Whitney L. Petrosa, NP; Christopher E. Mascio, MD; Kimberly Y. Lin, MD; Joseph M. Rossano, MD; Maryam Y. Naim, MD. "Ventricular Assist Device as a Bridge to Transplant in a Patient with Giant Coronary Aneurysms Secondary to Kawasaki Disease." Pediatric Cardiac Intensive Care Society, 2016 December 8-10; Miami, FL.
- 4. **Sarah Welsh**, Nan Lin, Alexis Topjian, Nicholas Abend. "Lacosamide is a safe option for treatment of status epilepticus in critically ill children." Society of Critical Care Medicine Critical Care Congress, 2017 January 21-26; Honolulu, HI.
- 5. **Sarah Welsh**, Samuel Rosenblatt, Vandana Batra, Marisol Betensky, Rebecca Ichord, Adam Himebauch. "Progressive malignant arterial ischemic stroke: A rare presentation of pediatric APL." Society of Critical Care Medicine Critical Care Congress, 2017 January 21-26; Honolulu, HI.
- 6. Lin N, **Welsh S**, Topjian A, Abend N. ""Safety of intravenous lacosamide in critically ill children." American Epilepsy Society Annual Meeting, 2017 December 2-5; Washington, D.C.
- 7. **Sarah Welsh**, Tracey Polsky, Derick Lim, Susan Warrington, Donald Boyer. "Pseudohypernatremia due to esmolol: a novel case report of drug interference in laboratory testing." Society of Critical Care Medicine Critical Care Congress, 2018 February 24-28; San Antonio, TX.
- 8. Eloise Salmon, Ulf Beier, Donald Boyer, **Sarah Welsh**, Jennifer Hewlett, Derick Lim, Tracey Polsky. ""Vecuronium-induced Pseudohypernatremia: A Case Report." Eastern Society for Pediatric Research Scientific Meeting, 2019 March 22-24, Philadelphia, PA.
- 9. Monica Serrano Gonzalez, Lisa Swartz-Topor, Anna Chin, **Sarah Welsh**, Angela Anderson, Gita Harappanahally, Jose B. Quintos. "Acute Painful Mononeuropathy in a 16 year-old-Female with New Onset Diabetes presenting with Ketoacidosis, Cerebral Edema and Cerebral Venous Sinus Thrombosis." Accepted for presentation at Pediatric Academic Societies, April 24-May 1 2019, Baltimore, MD.

PRESENTATIONS

Teaching Presentations

- 1. "Intubation Choices and Management Strategies: New Diagnosis of Myasthenia Gravis Presenting in Respiratory Failure." Emergency Medicine/Critical Care Medicine Joint Conference, The Children's Hospital of Philadelphia, September 2014.
- 2. "A Case of Pancytopenia, Rash, and Hypothermia." Morbidity and Mortality Conference, Critical Care Medicine, The Children's Hospital of Philadelphia, December 2014.

- 3. "Poly-Trauma: Teenage Boy versus High-Speed Train." Critical Care Medicine Case Conference, The Children's Hospital of Philadelphia, December 2014.
- 4. "A Penetrating Knife Wound to the Left Ventricle: Resuscitation and Post-Surgical Course." Emergency Medicine/Critical Care Medicine Joint Conference, The Children's Hospital of Philadelphia, January 2015.
- 5. "Herpes Simplex Infection in Toddler Status Post Orthotopic Heart Transplant." Critical Care Medicine Case Conference, The Children's Hospital of Philadelphia, March 2015.
- 6. "Neuro-Inflammatory Lesion Versus Toxoplasmosis in Previously Healthy 10 Year-Old Girl." Critical Care Medicine Case Conference, The Children's Hospital of Philadelphia, April 2015.
- 7. "Midazolam Pharmacokinetics in Refractory Status Epilepticus." Critical Care Medicine Research Conference, The Children's Hospital of Philadelphia, June 2015.
- 8. "Non-Fatal Drowning with Progressive ARDS in Young Girl with Cockayne Syndrome: Transport and ECMO Considerations." Critical Care Medicine Case Conference, The Children's Hospital of Philadelphia, August 2015.
- 9. "Intracranial Pressure Monitoring in Severe TBI." Critical Care Medicine Journal Club, The Children's Hospital of Philadelphia, November 2015.
- 10. "Spinal Cord Injuries and Pediatric Autonomic Dysreflexia." Critical Care Medicine Case Conference, The Children's Hospital of Philadelphia.
- 11. "Abdominal Catastrophe in Infant with Eagle-Barrett Syndrome: Considerations for Code Outside the ICU." Critical Care Medicine Case Conference, The Children's Hospital of Philadelphia, January 2016.
- 12. "Case-Based Neuroimaging Review." Neurocritical Care Conference, The Children's Hospital of Philadelphia, June 2016.
- 13. "Traumatic Brain Injury Case Presentation and Pathway Review." Neurocritical Care Conference, The Children's Hospital of Philadelphia, July 2016.
- 14. "Kawasaki Disease with Giant Coronary Aneurysm and Persistent Thrombus; Review of Pediatric Ventricular Assist Devices." Critical Care Medicine Case Conference, The Children's Hospital of Philadelphia, July 2016.
- 15. "Fire-Related Inhalational Injury." Critical Care Medicine Case Conference, The Children's Hospital of Philadelphia, August 2016.
- 16. "Case-Based Review of Refractory Status Epilepticus Management." Neurocritical Care

- Conference, The Children's Hospital of Philadelphia, September 2016.
- 17. "Intensive Blood Pressure Management in Intracerebral Hemorrhage." Neurocritical Care Conference Journal Club, The Children's Hospital of Philadelphia, September 2016.
- 18. "Pharmacology Research Opportunities in Pediatric Status Epilepticus." Critical Care Medicine Research Conference, The Children's Hospital of Philadelphia, November 2016.
- 19. "Critical Care Emergencies." Hasbro Children's Hospital Pediatric Resident Noon Conference, September 26, 2017.
- 20. "A case of status epilepticus in a neonate with a urinary tract infection." Attending Case Conference, Hasbro Children's Hospital, August 30, 2018.
- 21. "Traumatic Brain Injury." Hasbro Children's Hospital Pediatric Resident Noon Conference, September 18, 2018.
- 22. Physician and Nursing Instruction, "High Quality CPR, Role of the CPR Coach, and Zoll R Series Defibrillators." 8 sessions, 4-6 learners per session, December 2018 January 2019.
- 23. PALS Instruction for Wards Nurses (morning and afternoon sessions, 10 learners), Lifespan Medical Simulation Center, May 2019.

Continuing Medical Education Presentations

- 1. "Best Practices for Pediatric Intensive Care Morbidity and Mortality Conference." Pediatric Intensive Care Unit Morbidity and Mortality Conference, Hasbro Children's Hospital, May 2018.
- 2. "Pediatric Traumatic Brain Injury." Pediatric Neurocritical Care Conference, Hasbro Children's Hospital, June 2018.
- 3. "Neonatal Pulmonary Hypertension and Transport for ECMO." Pediatric Intensive Care Unit Morbidity and Mortality Conference, Hasbro Children's Hospital, June 2018.
- 4. "Complex Trauma Care and Traumatic Brain Injury." Pediatric Critical Care Medicine/Pediatric Surgery Combined Conference, Hasbro Children's Hospital, July 2018.
- 5. "Pediatric Stroke and Intracerebral Hemorrhage." Pediatric Neurocritical Care Conference, Hasbro Children's Hospital, July 2018.
- 6. "Spontaneous Intracerebral Hemorrhage." Pediatric Intensive Care Unit Morbidity and Mortality Conference, Hasbro Children's Hospital, July 2018.

- 7. "Pediatric Status Epilepticus." Pediatric Neurocritical Care Conference, Hasbro Children's Hospital, September 2018.
- 8. "Severe Pediatric Traumatic Brain Injury." Pediatric Intensive Care Unit Morbidity and Mortality Conference, Hasbro Children's Hospital, September 2018.
- 9. "Acute Croup." Department of Pediatrics Morbidity and Mortality Conference, Hasbro Children's Hospital, September 2018.
- 10. "Acute on Chronic Respiratory Failure and Cardiac Arrest." Pediatric Intensive Care Unit Morbidity and Mortality Conference, Hasbro Children's Hospital, October 2018.
- 11. "Acute Dehydration and Fluid Management." Department of Pediatrics Morbidity and Mortality Conference, Hasbro Children's Hospital, October 2018.
- 12. "Pediatric Neuroimaging for Common Neurologic Complaints." Pediatric Neurocritical Care Conference, Hasbro Children's Hospital, October 2018.
- 13. "Legionella Pneumonia in an Immunosuppressed Host." Department of Pediatrics Morbidity and Mortality/Professor Rounds Conference, Hasbro Children's Hospital, November 2018.
- 14. "Anoxic Brain Injury by Self-Inflicted Hanging." Pediatric Intensive Care Unit Morbidity and Mortality Conference, Hasbro Children's Hospital, December 2018.
- 15. "Complications from Severe Diabetic Ketoacidosis." Department of Pediatrics Morbidity and Mortality/Professor Rounds Conference, Hasbro Children's Hospital, December 2018.
- 16. "Review of 2018 Mortalities." Pediatric Intensive Care Unit Morbidity and Mortality Conference, Hasbro Children's Hospital, January 2019.
- 17. "Anoxic brain injury and post-arrest care." Pediatric Neurocritical Care Conference, Hasbro Children's Hospital, January 2019.
- 18. "Pediatric ARDS." Pediatric Intensive Care Unit Morbidity and Mortality Conference, Hasbro Children's Hospital, February 2019.
- 19. "Critical Mitral Stenosis and Acute Cardiopulmonary Arrest." Pediatric Intensive Care Unit Morbidity and Mortality Conference, Hasbro Children's Hospital, March 2019.
- 20. "Hematemesis and Abdominal Catastrophe." Department of Pediatrics Morbidity and Mortality Conference, Hasbro Children's Hospital, April 2019.
- 21. "Drowning and Adrenal Insufficiency with Cardiac Arrest." Pediatric Intensive Care Unit

Morbidity and Mortality Conference, Hasbro Children's Hospital, May 2019.

22. "Critical Coarctation of the Aorta." Department of Pediatrics Morbidity and Mortality Conference, Hasbro Children's Hospital, May 2019.

<u>Invited Presentations – Local and Regional</u>

- 1. "Envisioning a Comprehensive Pediatric Resident Educational Curriculum." Department of Pediatrics Grand Rounds, Golisano Children's Hospital, November 2013.
- 2. "Refractory Status Epilepticus and Midazolam Pharmacokinetics." Critical Care Nurse Practitioner Education Conference, The Children's Hospital of Philadelphia, August 2016.
- 3. Invited speaker, Rhode Island Emergency Medical Services Refresher Day, Pediatric Skills Instruction, Brown University Emergency Medical Services Division at Lifespan Simulation Center, March 11, 2018.
- 4. Invited panelist, "Life After Residency: Making a Successful Transition from Training to Practice." Irene J. Owens Lecture for House Staff, Office of Women in Medicine and Science at Brown University, March 29, 2018.

<u>Invited Presentations – National</u>

 Society for Critical Care Medicine/American Academy of Pediatrics PICU Quality and Safety Committee, "Maximizing Quality and Safety Knowledge Sharing with Social Media." Webex presentation, October 30, 2018.