
BIOGRAPHICAL SKETCH

NAME: Malow, Beth Ann

eRA COMMONS USER NAME: BMALOW

POSITION TITLE: Professor of Neurology and Pediatrics; Burry Chair in Cognitive Childhood Development

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Northwestern University, Evanston, IL	BS	06/1984	Medical Science
Northwestern University, Chicago, IL	MD	06/1986	Medicine
School of Public Health, University of Michigan, Ann Arbor, MI	MS	04/1997	Clinical Research

A. Personal Statement

My training and experience in clinical research design, statistical analysis, and mentorship in adult and child neurology has prepared me to serve in the role of mentor for Dr. McDonald. I received a Master's Degree in Clinical Research Design and Statistical Analysis from the University of Michigan and completed the Executive Leadership in Academic Medicine (ELAM) program. I am the Associate Director of Vanderbilt's Clinical Research Center, Director of Clinical Research for the Department of Neurology, Director of Vanderbilt's Sleep Division and Sleep Research Core, and Principal Investigator (PI) for two networks, Vanderbilt's Network for Excellence in Neuroscience Clinical Trials (NeuroNEXT) and Vanderbilt's Autism Speaks Autism Treatment Network (AS ATN). I have served as PI or co-investigator on several federally-funded grants, and have served as a mentor for many trainees.

B. Positions and Honors

1986-1987	Research Associate, Burke Rehabilitation Center, Cornell University, White Plains, New York
1987-1988	Intern, Beth Israel Medical Center, New York, New York
1988-1991	Resident, Harvard-Longwood Neurological Training Program, Boston, Massachusetts
1991-1994	Postdoctoral Fellow, Clinical Neurophysiology, National Institutes of Health, Bethesda, Maryland
1994-2001	Assistant Professor of Neurology, Department of Neurology, University of Michigan
2001-2003	Associate Professor of Neurology, Department of Neurology, University of Michigan, Ann Arbor, Michigan (with tenure)
2003-2008	Associate Professor of Neurology and Division Chief, Sleep Disorders, Department of Neurology, Vanderbilt University, Nashville, Tennessee (with tenure)
2007-Pres	Professor of Neurology and Division Chief, Sleep Disorders, Department of Neurology, Vanderbilt University, Nashville, Tennessee (with tenure)
2003-Pres	Medical Director, Vanderbilt Sleep Disorders Center, Vanderbilt University, Nashville, Tennessee
2003-Pres	Investigator, Vanderbilt Kennedy Center for Research on Human Development, Vanderbilt University, Nashville, Tennessee
2004-Pres	Associate Director, Vanderbilt Clinical Research Center, Vanderbilt University, Nashville, Tennessee
2005-Pres	Director, Vanderbilt Sleep Research Core, Vanderbilt University, Nashville, Tennessee
2010-Pres	Professor of Pediatrics (Secondary Appointment)
2011-Pres	Burry Chair in Cognitive Childhood Development, Department of Pediatrics

2014-2015 Graduate, Executive Leadership in Academic Medicine (ELAM) program

Honors

1985 Alpha Omega Alpha, Northwestern University
2002 Elected Member, American Neurological Association (ANA)
2007, 09, 10 Professional Research Consultants (PRC) Five Star Customer Service Award for Excellence in Quality of Physician Care (top 10% of physicians nationally)
2008 Health Care Provider Award, Mayor's Advisory Committee for People with Disabilities
2009 Pfizer Visiting Professorship in Neurology
2010 Robert Haslam Lectureship in Pediatrics, Hospital for Sick Children, Toronto
2012 Sleep Science Award, American Academy of Neurology

Experience

2008-Pres Chair, ANA/NINDS Career Development Symposium
2009 NIMH Review Panel for ARRA Projects in Autism Spectrum Disorders
2012 Scientific Program Committee, International Meeting for Autism Research
2012- Pres Vanderbilt Brain Institute Steering Committee, Research Subcommittee
2016- Pres Sleep Research Society Physician Scientist-Pipeline Committee

C. Contributions to Science

My own research has focused on the relationship of sleep to neurological disease across the lifespan, encompassing children and adults, with an emphasis on epilepsy and neurodevelopmental disorders. I have also served as a mentor to trainees at many levels, including residents and fellows, in a variety of disciplines. A full list of publications (100 peer-reviewed) is located at: <http://www.ncbi.nlm.nih.gov/pubmed/?term=malow+b>

1. Research Training and Mentorship in Sleep- As a junior faculty member at the University of Michigan, I held a K08 award followed by a K02 award from NINDS and earned a Master Degree in Clinical Research. I also served on the Clinical Research Subcommittee of the American Academy of Neurology and the Research Committee of the American Academy of Sleep Medicine, and gave presentations at these meetings and others (American Epilepsy Society, American Neurological Association) on grant writing and mentorship aimed at trainees and junior faculty. I continued this work in my faculty position at Vanderbilt, serving as the Chair of the ANA/NINDS Career Development Symposium (training program for K awardees), and most recently, participating in the Sleep Research Society Physician Scientist Pipeline Committee along with the Neurology Taskforce, aimed at increasing the pipeline of academic physicians in sleep medicine and neuroscience. I am passionate about seeing trainees get involved in sleep research and incorporate research into their academic careers.

Examples of publications in which I provided mentorship to trainees (outside of my primary research focus):

Robinson A, Malow BA. Gabapentin shows promise in treating refractory insomnia in children. *J Child Neurology* 2013; 28(12):1618-21.

Peltier AC, Bagai K, Artibee K, Diedrich A, Garland E, Elasy T, Shi Y, Wang L, Feldman E, Robertson D, Malow BA. Effect of mild hyperglycemia on autonomic function in obstructive sleep apnea. *Clinical Autonomic Research* 2012; 22(1):1-8.

Robinson AA, Goldman S, Barnes G, Goodpaster L, Malow BA. Electroencephalogram (EEG) duration needed to detect abnormalities in Angelman Syndrome: Is 1 Hour of overnight recording sufficient? *J Child Neurol*. 2014; 30(1): 58-62.

Bagai K, Muldowney JAS, Song Y, Wang L, Bagai J, Artibee KJ, Vaughan DE, Malow, BA. Circadian Variability of fibrinolytic markers and endothelial function in patients with obstructive sleep apnea. *SLEEP* 2014; 37(2):359-67.

2. Sleep in Autism- Approximately 50-80% of children with autism have sleep problems. These problems are very common and not only affect child health, but child daytime behavior and family functioning. In our work, we initially performed descriptive studies documenting an association between parent report of sleep in autism and objective studies (polysomnography and actigraphy). These studies were followed by

interventional trials of parent sleep education and supplemental melatonin, showing improvements in sleep, daytime behavior, and family functioning.

Goldman SE, Adkins KW, Calcutt MW, Carter MD, Goodpaster RL, Wang L, Shi Y, Burgess HJ, Hachey DL, Malow BA. Melatonin in children with autism spectrum disorders: Endogenous and pharmacokinetic profiles in relation to sleep. *Journal of Autism and Developmental Disorders* 2014; 44(10):2525-2535.

Veatch OJ, Pendergast JS, Allen MJ, Leu RM, Johnson CH, Elsea SH, Malow BA. Genetic variation in melatonin pathway enzymes in children with autism spectrum disorder and comorbid sleep onset delay. *J Autism Dev Disord*. 2015;45(1):100-10.

Malow BA, Adkins KW, McGrew SG, Wang L, Goldman SE, Fawkes D, Burnette C. Melatonin for sleep in children with autism: A controlled trial examining dose, tolerability, and outcomes. *Journal of Autism and Developmental Disorders*. *J Autism Dev Disord*. 2012;42(8):1729-1737.

Malow BA, Connolly HV, Weiss SK, Halbower A, Goldman S, Hyman SL, Katz T, Madduri N, Shui A, Macklin E, Reynolds AM. The Pediatric Sleep Clinical Global Impressions Scale-- A new tool to measure pediatric insomnia in autism spectrum disorders. *J of Developmental and Behavioral Pediatrics* 2016;37(5):370-6.

3. Real World Effectiveness Research—My research in sleep and autism includes specific projects that have real world effectiveness. For example, we have developed a practice pathway for pediatric clinicians to help identify, evaluate, and manage insomnia in clinical settings. We also have developed practical approaches to parent-based sleep education and actigraphy research.

Reed HE, McGrew SG, Artibee K, Surdyka K, Goldman SE, Frank K, Wang L, Malow BA. Parent-based sleep education workshops in autism. *Journal of Child Neurology* 2009; 24(8):936-45.

Malow BA, Byars K, Johnson K, Weiss S, Bernal P, Goldman SE, Panzer R, Coury D, Glaze DG. A practice pathway for the identification, evaluation and management of insomnia in children and adolescents with autism spectrum disorders. *Pediatrics*. 2012;130 Suppl 2:S106-24.

Malow BA, Adkins KW, Reynolds A, Weiss SK, Loh A, Fawkes D, Katz T, Goldman SE, Madduri N, Hundley R, Clemons T. Parent-based sleep education for children with autism spectrum disorders. *J Autism Dev Disord*. 2014; 44(1):216-28.

Fawkes DB, Malow BA, Weiss SK, Reynolds A, Loh A, Adkins K, Wofford D, Wyatt AD, Goldman SE. Conducting actigraphy research in children with neurodevelopmental disorders-A practical approach. *Behavioral Sleep Medicine* 2014; 12:1–16.

D. Research Support

Ongoing Research Support

NIH/NINDS 1 U10 NS077318 Malow (PI) 09/30/2011- 08/31/2018

Vanderbilt Site for Network of Excellence in Neuroscience Clinical Trials

The major goal of this project is to establish a site for neuroscience clinical trials at Vanderbilt.

Dr. Malow serves as the PI for the Vanderbilt site and also serves on the Network-wide CTSA and Publications and Data Sharing Committee, and co-chairs the Industry Pipeline Committee

NIH/NCATS 2 UL1 TR00445-05 Bernard (PI) 06/27/2012-05/31/2017

Vanderbilt Institute for Clinical and Translational Research (VICTR)

The major goal is to support the infrastructure for clinical and translational research.

Role: Co-I (Vanderbilt CRC Associate Director)

NIH/NIDDK 1R21DK110657 Jaser (PI) 08/01/2016-06/30/2018

Sleep Promotion to Improve Diabetes Management in Adolescents

The major goal is to develop a behavioral sleep intervention to improve diabetes management.

Role: Co-I

NIH/NHLBI 1R01HL134015 Pack (PI) 08/15/2016-04/30/2020
Approaches to Genetic Heterogeneity of Obstructive Sleep Apnea
The major goal of this project is to study the genetic contributions to sleep apnea.
Role: Site PI

Department of Defense Idea Development Award Cheak-Zamora (PI) 09/30/2014-9/29/2017
Improving Healthcare Transition Planning and Health-Related Independence for Youth with ASD and their Families
The major goal of this project is to validate a series of surveys for caregivers of youth with ASD.
Role: Site PI

Autism Speaks Malow (PI) 01/01/2011 – 8/31/2017
Autism Treatment Network Clinical Treatment Center
The major goal of the project is to establish an Autism Treatment Network site at Vanderbilt to develop standards of care for the medical management of children with autism spectrum disorders.
Role: Site PI and Sleep Specialist. Dr. Malow also is the co-chair of the AS ATN sleep workgroup.

Health Resources and Services Administration Kuhlthau (PI) 09/01/2015 – 08/31/2020
Autism Intervention Research Network on Physical Health (AIR-P)
The major goal of this project is to support guideline development within the Autism Treatment Network nationally and at the Vanderbilt site
Role: Site Co-PI and Sleep Specialist. Dr. Malow has led the development of a guideline/algorithm to evaluate insomnia in children with autism and is working to disseminate the algorithm at ATN sites.

Neurim Pharmaceuticals Malow (site PI) 10/01/13-present
Randomized, Placebo-Controlled Study to Investigate the Efficacy and Safety of Circadin® To Alleviate Sleep Disturbances in Children with Neurodevelopmental Disabilities NEU CH 7911
The major goal of this project is to test Circadin® in children with neurodevelopmental disorders and insomnia.

Meharry-Vanderbilt Community Engagement Research Core Malow (PI) 04/01/15-09/30/16
Parent-Based Sleep Education in Autism: A Community-Academic Research Partnership
The major goal of this project is to pilot training of personnel in community settings in parent-based sleep education

American Sleep Medicine Foundation Malow (PI) 02/01/16-01/31/18
Behavioral Sleep Education for Children with Insomnia and Autism Spectrum Disorders: Partnering with Community Practices
The major goal of this project is to test the model of community practices providing behavioral sleep education

Completed Research Support

Health Resources and Services Administration Perrin (PI) 03/01/2009 – 08/31/2014
Autism Intervention Research Network on Physical Health (AIR-P)
Subcontract for Parent-Based Sleep Education Program for Children with Autism Spectrum Disorders
The major goal of this project is to develop and test a multicenter parent sleep education program for children with autism

NIH/NCRR UL1 Malow (Project Director) 09/30/2009 – 05/31/2012
Measuring Sleep in Autism: Use of Wireless, Comfortable, and Home-Based Tools

R01HD059253 Malow (PI) 04/01/2008 - 03/31/2011
NIH/NICHHD
Melatonin for Sleep in Children with Autism: Safety, Tolerability, and Dosing
The major goal of this project is to study the dose-response, including pharmacokinetics in relation to polysomnography, of melatonin in children with autism spectrum disorders.