

KELLIE M. COLLINS, PT, DPT, PCS

DOCTOR OF PHYSICAL THERAPY
ABPTS BOARD-CERTIFIED PEDIATRIC CLINICAL SPECIALIST
PHD STUDENT



(414) 416-2291



kellie.collins@wisc.edu



Pediatric Neuromodulation Lab
1500 Highland Avenue, Rm 421
Madison, WI 53705

OBJECTIVE

I am a pediatric physical therapist and PhD student specializing in neurodevelopment and motor function. Working closely with children diagnosed with cerebral palsy for over a decade has provided invaluable insights into the challenges and disparities they encounter across their lifespans. My research is dedicated to improving our understanding of how early brain development impacts motor function and rehabilitation outcomes in infants with an early brain injury. I focus on the critical period from birth to 12 months of age when the brain's motor pathways, especially the corticospinal tract (CST), undergo significant changes. By using advanced neuroimaging techniques and non-invasive brain stimulation, I investigate how these pathways influence a child's ability to move and engage with their environment. Additionally, I am interested in how these developmental pathways may differ in infants with varying levels of motor impairments. Understanding these neural processes is crucial for developing personalized rehabilitation strategies to enhance the quality of life and participation of children with motor disabilities. My long-term goal is to translate these scientific insights into clinical practice, helping to shape the future of pediatric rehabilitation and optimize outcomes for children with neurodevelopmental challenges.

EDUCATION & TRAINING

PhD - CLINICAL INVESTIGATION, INSTITUTE OF CLINICAL AND TRANSLATIONAL RESEARCH

University of Wisconsin-Madison | 2023 - Present

Advisor: Bernadette Gillick, PhD, MSPT, PT

DOCTOR OF PHYSICAL THERAPY - DPT

University of Wisconsin-Milwaukee | 2007 - 2010

BACHELOR OF SCIENCE, KINESIOLOGY - EXERCISE SCIENCE

University of Wisconsin-Madison | 2002 - 2006 | Graduated with Distinction

LICENSURE

- Licensed Physical Therapist-Wisconsin | no. 11507-24 | Obtained: 2010
- Wisconsin Department of Public Instruction | School Physical Therapist | no. 753024 | Obtained: 2013

CERTIFICATIONS & TRAINING

- American Board of Physical Therapy Specialties - Pediatric Clinical Specialist | no. 46006 | 2015
- American Physical Therapy Association (APTA) Credentialed Clinical Instructor | 2014
- I-ACQUIRE: Theory and Clinical Application of Pediatric Constraint-Induced Movement Therapy | 2024
- General Movements Assessment (GMA) - Basic Certification | 2023
- Hammersmith Infant Neurological Examination (HINE) | 2023
- Waisman Ethics and Professional Development Training Series | 2023 - 2024

RESEARCH EXPERIENCE

GRADUATE RESEARCH ASSISTANT - PEDIATRIC NEUROMODULATION LABORATORY

Waisman Center, University of Wisconsin-Madison, WI | Madison, WI | June 2022 - Present

Advisor/Principal Investigator: Bernadette Gillick, PhD, MSPT, PT

MANUSCRIPTS

- **Collins KM**, Casey CP, Sutter EN, DeGrave P, Gauthier D, McAdams RM, Rao R, Georgieff MK, Gillick BT. Safety and Feasibility of Transcranial Magnetic Stimulation in Infants with Perinatal Brain Injury. *Frontiers in Pediatrics*. Manuscript summary accepted March 2024; full manuscript submitted July 2024.
- Sutter EN, Legare J, Villegas M, **Collins KM**, Eickhoff J, Gillick BT. Evidence-based infant assessment for cerebral palsy: diagnosis timelines and intervention access in a newborn follow-up setting. *Journal of Child Neurology*. Accepted July 2024.
- Mak V, Shiller J, Grimaldo A, Sutter EN, **Collins KM**, Gillick BT. The “Passport” to Inclusive Research Participant Engagement: Integrating Families in a Research Journey. *Wisconsin Medical Journal*. Accepted April 2024.

FUNDING

Title: Investigating Early Brain Development and Motor Function in Infants with Early Brain Injury

Dates: July 2024 - June 2025

Project #: 5TL1TR002375-08

Funding Agency: National Institutes of Health/Kirschstein-NRSA Award

Project Total or Direct Costs: \$28,224 with coverage of tuition costs and segregated fees

PI: Vivek Prabhakaran

Percent of Effort: 50%

Title: Investigating Early Brain Development and Motor Function in Infants with Early Brain Injury

Dates: September 2024 - August 2027

Project #: n/a

Funding Agency: Morse Society Scholars Fellowship Program

Project Total or Direct Costs: 50% coverage of stipend and tuition remission

PI: Kellie M. Collins

Percent of Effort: n/a

Title: How does the neurophysiological development of the corticomotor system influence and predict motor function and participation in children with CP?

Dates: September 2023 - August 2024

Project #: n/a

Funding Agency: Foundation for Physical Therapy Research Promotion of Doctoral Studies (PODS) I Scholarship

Project Total or Direct Costs: \$7500

PI: Kellie M. Collins

Percent of Effort: n/a

Title: Perinatal Stroke: Longitudinal Assessment of Infant Brain Organization and Recovery through Neuroexcitability, Neuroimaging and Motor Development

Dates: September 2021 - July 2026

Project #: NIH 1R01HD098202-01A1

Funding Agency: National Institutes of Health/NICHD/NINDS through Neuroexcitability, Neuroimaging and Motor Development

Project Total or Direct Costs: \$2,887,346 over 5 years

PI: Bernadette T. Gillick

Percent of Effort: 50% Graduate Research Assistant

PEER-REVIEWED PRESENTATIONS

EUROPEAN ACADEMY OF CHILDHOOD DISABILITY 2024 ANNUAL MEETING

European Academy of Childhood Disability | Bruges, Belgium | 2024

- Orchestrating Change: Integrating Diversity into Pediatric Research Recruitment

STATEWIDE SCHOOL-BASED OT AND PT CONFERENCE

CESA #1 | Wisconsin Dells, WI | 2018

- DPI Updates: Revisions to the Wisconsin OT and PT Evaluation System and Website & Survey Results from the OT and PT Resource and Planning Guide
- College and Career Ready IEPs through Related Service Lens: Focus on Steps 1-2 and Link to Treatment Plans

STATEWIDE SCHOOL-BASED OT AND PT CONFERENCE

CESA #1 | Wisconsin Dells, WI | 2016

- PT Evaluation in the Educational Environment Based on Pediatric Diagnoses
- PT Evaluation in the Educational Environment Based on the ICF Model
- OT/PT Evaluation Rubric Panel

STATEWIDE SCHOOL-BASED OT AND PT CONFERENCE

CESA #1 | Wisconsin Dells, WI | 2015

- Providing Educationally-Based Physical Therapy, Part I: Best Practice for School-Based Evaluations, Writing Collaborative IEP Goals, and Creating Treatment Plans Using the ICF Model
- Providing Educationally-Based Physical Therapy, Part II: Using Service Determination Tools to Establish Treatment Frequency, Models of Intervention, and the Use of Technology for Data Tracking

POSTER PRESENTATIONS

* = Presenting Author(s)

-
- **Collins KM***, Matthews CK, Seaborg K, Gillick BT. *Optimizing Pediatric MRI: Innovations in Infant Sleep Protocols for Sedation-Free Imaging*. Poster presented at: American Academy of Cerebral Palsy and Developmental Medicine 78th Annual Meeting; October 23-26, 2024; Quebec City, Canada.
 - **Collins KM***, Sutter EN, Casey CP, Dean DC, McAdams RM, Gillick BT. *Early Corticospinal Tract Development and Motor Outcomes in Infants with Perinatal Brain Injury*. Poster presented at: American Academy of Cerebral Palsy and Developmental Medicine 78th Annual Meeting; October 23-26, 2024; Quebec City, Canada.
 - **Collins KM***, Casey CP, Sutter EN, Degrave P, Gauthier D, McAdams RM, Rao R, Georgieff MK, Gillick, BT. *Safety and Feasibility of Transcranial Magnetic Stimulation in Infants with Perinatal Brain Injury*. Poster presented at: Midwest Society for Pediatric Research - 2024 Annual Scientific Meeting; September 19, 2024; Madison, WI.
 - Sutter E, **Collins K***, Casey C, Dean D, McAdams R, Gillick B. *Corticospinal tract integrity and motor function in infants with perinatal brain injury: A preliminary study*. Poster presented at: EACD 2024 Annual Meeting: 36th Meeting of the European Academy of Childhood Disability; May 30-31, 2024; Bruges, Belgium.
 - **Collins KM***, Sutter EN, Casey CP, Dean DC, McAdams RM, Gillick BT. *Early Corticospinal Tract Development and Motor Outcomes in Infants with Perinatal Brain Injury*. Poster presented at: University of Wisconsin Department of Pediatrics Research Week; May 17, 2024; Madison, WI.
 - Gauthier D, DeGrave P, **Collins KM**, Casey CP, Sutter EN, Gillick BT. *Infant Transcranial Magnetic Stimulation Safety and Feasibility*. Poster presented at: University of Wisconsin Undergraduate Research Symposium; April 25, 2024; Madison, WI.

- Sutter E*, **Collins K***, Casey C, Dean D, McAdams R, Gillick B. *Early Corticospinal Tract Development and Motor Outcomes in Infants with Perinatal Brain Injury*. Poster presented at: American Physical Therapy Association Combined Sections Meeting; February 17, 2024; Boston, MA.
- Sutter E*, **Collins K***, Villegas M, Legare J, Eickhoff J, Gillick B. *Evidence-based infant assessment for cerebral palsy: relationship to early diagnosis and intervention access*. Poster presented at: American Physical Therapy Association Combined Sections Meeting; February 17, 2024; Boston, MA.
- Degrave P*, **Collins K***, Casey C, Grimaldo A, Sutter E, Mak V, Christopher P, Gillick B. *Assessment of Corticospinal Tract Circuitry in Infants with Early Brain Injury*. Poster presented at: UW-Madison 2024 Research Bazaar; February 7, 2024; Madison, WI.
- Degrave P, **Collins K***, Casey C, Grimaldo A, Sutter E, Mak V, Christopher P, Gillick B. *Assessment of Corticospinal Tract Circuitry in Infants with Early Brain Injury*. Poster presented at: UW-Madison Institute for Clinical and Translational Research (ICTR) Research Day; January 19, 2024; Madison, WI.
- Degrave P*, **Collins K***, Casey C, Grimaldo A, Sutter E, Mak V, Christopher P, Gillick B. *Assessment of Corticospinal Tract Circuitry in Infants with Early Brain Injury*. Poster presented at: UW-Madison Women in Science and Engineering (WISE) Fall 2023 Graduate and Undergraduate Research Poster Session; November 14, 2023; Madison, WI.
- Sutter E, **Collins K***, Casey C, McAdams R, Gillick B. *Multi-modal longitudinal assessment of infant brain organization in perinatal brain injury*. Poster presented at: 2023 Neuroscience Training Program (NTP) Research Symposium; September 27, 2023; Madison, WI.
- Sutter E, **Collins K***, Casey C, McAdams R, Gillick B. *Multi-modal longitudinal assessment of infant brain organization in perinatal brain injury*. Poster presented at: Waisman Center 50th Anniversary Scientific Symposium; September 21, 2023; Madison, WI.
- Sutter E*, **Collins K***, Villegas M, Legare J, Eickhoff J, Gillick B. *Evidence-based infant assessment for cerebral palsy: relationship to clinical diagnosis timelines*. Poster presented at: American Academy of Cerebral Palsy and Developmental Medicine 77th Annual Meeting; September 10-13, 2023; Chicago, IL.
- Sutter E, **Collins K***, Casey C, McAdams R, Gillick B. *Multi-modal longitudinal assessment of infant brain organization in perinatal brain injury*. Poster presented at: Cerebral Palsy Foundation 6th Annual Early Cerebral Palsy Health Summit; June 17-18, 2023; Atlanta, GA.
- Sutter E*, **Collins K***, Villegas M, Legare J, Eickhoff J, Gillick B. *Evidence-based infant assessment for cerebral palsy: relationship to early diagnosis and intervention access*. Poster presented at: University of Wisconsin Department of Pediatrics Research Week; May 19, 2023; Madison, WI.
- Sutter E*, **Collins K**, Villegas M, Legare J, Eickhoff J, Gillick B. *Evidence-based infant assessment for cerebral palsy: relationship to early diagnosis and intervention access*. Poster presented at: American Society of Neurorehabilitation Annual Meeting; March 15, 2023; Charleston, SC.
- Zalewski K, Malzahn J, **Wagner K***, Steinhorst C*, Deja J*, Vanderbloomen K*. *Perception of activity intensity in older adults*. Poster presented at: Wisconsin Physical Therapy Association Spring Conference; April 24, 2009; Waukesha, WI. **Awarded first place in Basic Science category.**

ACADEMIC & PROFESSIONAL AWARDS & HONORS

- Student Travel Scholarship from the American Academy for Cerebral Palsy and Developmental Medicine (AAPDM) | 2024
- University of Wisconsin-Madison ICTR TL1 Predoctoral Training Program | 2024 - 2026
- University of Wisconsin-Madison Morse Society Scholars Program Fellowship Recipient | 2024 - 2027
- University of Wisconsin-Madison Falling Walls Wisconsin Competition - 3rd Place | 2024

- Invited member of the Curriculum Subcommittee of the University of Wisconsin-Madison Graduate Program in Clinical Investigation | 2024 - Present
- Invited participant to Lunch and Conversation event with University of Wisconsin-Madison (UW) Provost Charles Isbell and Dr. William Karpus, Dean of the Graduate School, and UW School of Medicine and Public Health Graduate Students | 2024
- Annual Meeting Preconference Scholarship from the American Academy for Cerebral Palsy and Developmental Medicine (AACPDMD) | 2023
- OrthoPediatrics Travel Scholarship from the American Academy for Cerebral Palsy and Developmental Medicine (AACPDMD) | 2023
- Foundation for Physical Therapy Research Promotion of Doctoral Studies (PODS) I Scholarship | 2023
- Wisconsin Physical Therapy Association (WPTA) Southeast District Graduate Recognition Award | 2009
- Chris Crivello Community Service Award Honorable Mention – Wisconsin Physical Therapy Fund | 2009
- UWM College of Health Sciences Human Movement Sciences Faculty and Alumni Scholarship | 2008
- Helen Pfureder Smith Scholarship – UW-Madison Kinesiology Department | 2006
- Elected Class President of my public speaking class and nominated by my instructor to participate in a persuasive speech competition at UW-Madison | 2006
- Lydia D. Shafer Memorial Scholarship – UW-Madison Kinesiology Department | 2005 & 2006
- General Casualty Scholarship | 2002-2006

TEACHING EXPERIENCE

LECTURER, PHYSICAL THERAPY CLINICAL ASSISTANT – DOCTOR OF PHYSICAL THERAPY PROGRAM

University of Wisconsin-Stevens Point | Stevens Point, WI | 2022-Present

- DPT 763: Physical Therapy Elective - Skills Development (1 credit - Fall 2023)
- DPT 863: Physical Therapy Elective - Skills Development (1 credit - Summer 2023)
- DPT 765: Physical Therapy Elective - Individual Remediation (1 credit - Spring 2023)
- DPT Program Weekly Open Lab (2.5 hrs): teaching and reviewing skills learned in the following courses:
 - DPT 740: Movement Systems Diagnosis I, DPT 713: Clinical Neuroscience, DPT 730: Musculoskeletal PT I, DPT 720: Clinical Biomechanics, DPT 761: Integrated Clinical Practice II (Fall 2022)

LABORATORY INSTRUCTOR – PHYSICAL THERAPY PROGRAM

University of Wisconsin-Milwaukee | Milwaukee, WI | Summer 2022 and 2023

- PT 720: Human Gross Anatomy (3 credits) / ATRAIN 725: Gross Anatomical Kinesiology (2 credits)

ADJUNCT CLINICAL ASSISTANT PROFESSOR & GUEST LECTURER – DOCTOR OF PHYSICAL THERAPY PROGRAM

University of Wisconsin-La Crosse | La Crosse, WI | 2019-2021

- 2019 - Course instructor:
 - PTS 730: Physical Therapy for Children (3 credits)
 - PTS 731: Applied Physical Therapy for Children (1 credit)
- 2020-2021 - Guest lecturer for PTS 730: Physical Therapy for Children

GUEST LECTURER – DOCTOR OF PHYSICAL THERAPY PROGRAM

University of Wisconsin-Madison | Madison, WI | 2016-Present

- Guest lecturer for PT 635: Motor Control Dysfunction: Examination, Diagnosis, and Management I

GUEST LECTURER – PROJECT EPIC (Evidence-based Practices and Interdisciplinary Collaboration)

University of Wisconsin-Madison | Madison, WI | 2017

- Project EPIC: Special education teacher master's training program

VOLUNTEER COURSE ASSISTANT – DOCTOR OF PHYSICAL THERAPY PROGRAM

University of Wisconsin-Milwaukee | Milwaukee, WI | 2009

- HMS 635: Pathophysiology

LABORATORY ASSISTANT - UNDERGRADUATE

University of Wisconsin-Madison | Madison, WI | 2005

- ANAT&PHY 329: Human Anatomy Laboratory

INVITED PROFESSIONAL PRESENTATIONS

Physical Therapy LEAP (Learn. Experience. Advance. Participate.) FORWARD INTERNSHIP PROGRAM

University of Wisconsin-Madison Doctor of Physical Therapy Program | 2024

WOMEN IN SCIENTIFIC EDUCATION & RESEARCH (WISER) SPRING NETWORKING EVENT

University of Wisconsin-Madison Women in Scientific Education and Research (WISER) Student Organization | 2024

RESEARCH EXPERT PANEL DISCUSSION

University of Wisconsin-Madison Doctor of Physical Therapy Program | 2024

APTA WISCONSIN STUDENT CONCLAVE

APTA Wisconsin | Waukesha, WI | 2023

ANNUAL ALL CAMPUS HEALTHCARE SYMPOSIUM

University of Wisconsin-Madison Health Occupation Students of America (HOSA) | Madison, WI | 2016

SPECIAL EDUCATION PROFESSIONAL DEVELOPMENT DAY

Middleton-Cross Plains Area School District | Middleton, WI | 2016

GUEST SPEAKER – KINESIOLOGY CLUB

University of Wisconsin-Madison | Madison, WI | 2016

GUEST SPEAKER – PRE-PT CLUB

University of Wisconsin-Madison | Madison, WI | 2015

FUTURE HEALTH PROFESSIONALS STATE LEADERSHIP CONFERENCE

Wisconsin Health Occupation Students of America (HOSA) | Wisconsin Dells, WI | 2015

PROFESSIONAL MEMBERSHIPS AND SERVICE

AMERICAN ACADEMY FOR CEREBRAL PALSY AND DEVELOPMENTAL MEDICINE (AACPDM) | 2023 - Present

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE (AAAS) | 2024 - Present

AMERICAN PHYSICAL THERAPY ASSOCIATION (APTA) & APTA WISCONSIN

- Section memberships: APTA Academy of Pediatric Physical Therapy, APTA Academy of Research
 - Special Interest Group (SIG) Memberships:
 - APTA Peds Academic and Clinical Educators, Early Intervention, and Neonatology SIGs
- APTA Pediatrics: Wisconsin Pediatric Advocacy Liaison (SPAL) | 2024 - Present
- APTA Pediatrics: Pediatric Outcome Measures by ICF Website Committee Member | 2024 - Present
- APTA Pediatrics: Annual Conference Educational Session Submission Reviewer | 2023, 2024
- APTA Pediatrics: Co-Coordinator of the Research Spotlight | 2023 - 2026
- APTA Pediatrics: Wisconsin State Representative | 2016-2020
- APTA Pediatrics: Member of the ACCESS (school-based SIG's quarterly newsletter) workgroup | 2018

DOCTOR OF PHYSICAL THERAPY STUDENT ASSOCIATION (DPTSA) & UWM BLACK AND GOLD COMMITTEE

University of Wisconsin-Milwaukee (UWM) | Milwaukee, WI | 2007-2009

- Founding President of the UWM DPTSA from 2007-2009
- Member of UWM's College of Health Sciences Black and Gold Committee

NEWBORN BRAIN SOCIETY | 2023 - Present

WISCONSIN BIRTH TO 3 PROGRAM/HIGHER EDUCATION COLLABORATION GROUP | 2023 - Present

AD HOC REVIEWER:

- Journal of Child Neurology | 2024

BOARD MEMBERSHIPS

- Mad City Badgers Wheelchair Basketball Team – Board Member | 2015-2017

CLINICAL EXPERIENCE

SCHOOL-BASED PHYSICAL THERAPIST

Madison Metropolitan School District | Madison, WI | 2021 – Present (*part-time*)

SCHOOL-BASED PHYSICAL THERAPIST

Middleton-Cross Plains Area School District | Middleton, WI | 2013 - 2021

OUTPATIENT PEDIATRIC PHYSICAL THERAPIST

CI Pediatric Therapy Centers | Fitchburg, WI | 2012 - 2016

EARLY INTERVENTION AND OUTPATIENT PEDIATRIC PHYSICAL THERAPIST

Rehab Resources, Inc. | Beaver Dam, WI | 2010 - 2012

OUTPATIENT ORTHOPEDIC, ACUTE CARE, SNF PHYSICAL THERAPIST

Divine Savior Healthcare | Portage, WI | 2010 - 2011

PROFESSIONAL EXPERIENCE

PHYSICAL THERAPY CONSULTANT / PERSONAL SERVICES CONTRACTOR

Wisconsin Department of Public Instruction | Madison, WI | 2016-2019

PHYSICAL THERAPY CONSULTANT / PERSONAL SERVICES CONTRACTOR

Medbridge Education | Seattle, WA | 2019-2020

VOLUNTEER WORK / PROFESSIONAL SERVICE

- Tri 4 Schools, Adaptive Triathlon - Athlete Support Team | 2023
- Adapted Fitness and Personal Training 742-125 undergraduate class at UW-Madison | 2015
- Exceptional Kids Yoga Program | 2015
- Tri 4 Schools, Adapted Triathlon Planning Committee | 2012-2014
- Special Olympics Fun Fitness event through the WPTA | 2009, 2010, 2012, 2013