

## Physical Medicine and Rehabilitation

### Division Photo



*First Row: D. Pruitt; Second Row: L. Michaud, M. McMahon, S. Wade, B. Kurowski, J. Vargus-Adams; Absent: D. Kinnett.*

### Division Data Summary

#### Research and Training Details

Number of Faculty	6
Number of Support Personnel	9
Direct Annual Grant Support	\$1,724,569
Peer Reviewed Publications	17

#### Clinical Activities and Training

Number of Clinical Staff	1
Number of Clinical Fellows	2
Inpatient Encounters	3870
Outpatient Encounters	3,909

### Significant Publications

Wade, S.L., Oberjohn, K., Burkhardt, A. & Greenberg, I. (2009). Preliminary feasibility and efficacy of a positive parenting intervention for young children with TBI. *Journal of Head Trauma Rehabilitation*. 24, 239-

247.

This study provides preliminary evidence of the potential feasibility and efficacy of an online parenting skills intervention for improving positive parenting skills and for reducing child behavior problems following traumatic brain injury sustained at a young age.

**Kramer M.E., Chiu C.Y.P., Shear, P.K. & Wade, S.L. (2009). Neural correlates of verbal associative memory and mnemonic strategy use following childhood traumatic brain injury. *Journal of Pediatric Rehabilitation Medicine*. 2 (4). Kramer M.E., Chiu C.Y.P., Shear, P.K. &(2009). Neural correlates of verbal associative memory and mnemonic strategy use following childhood traumatic brain injury. . 2 (4).**

Use of instruction in an associative memory strategy in children with traumatic brain injury in this study represents the first examination of brain structures supporting associative learning in either children or adults with acquired brain injuries, using functional magnetic resonance imaging (fMRI) to measure the outcome of a cognitive rehabilitation intervention.

**Vargus-Adams JN, McMahon MA, Michaud LJ, Bean J, Vinks S: "Pharmacokinetics of Amantadine in Children with Impaired Consciousness Due to Acquired Brain Injury: Preliminary Findings Using a Sparse-sampling Technique." *PM&R*, 2010; 2: 37-42.**

The effectiveness of neuropsychopharmacological agents including amantadine in children with impaired consciousness from acquired brain injury have been poorly studied to date, with studies conflicting in their findings. Pharmacokinetic data in this study support the use of higher doses of amantadine in the setting of brain injury, as higher exposure of amantadine appeared to be associated with better recovery of consciousness.

**Vargus-Adams JN, Martin LK. Measuring What Matters in Cerebral Palsy: A Breadth of Important Domains and Outcome Measures. *Archives of Physical Medicine and Rehabilitation*, 2009; 90:2089-2095.**

This project, involving parents and children with cerebral palsy from CCHMC, explored the priorities that parents, children, and medical professionals have when considering interventions for cerebral palsy and the best means to assess those areas. The authors report eight areas of concern, with quality of life being most important, and many ways to measure change for children with CP.

## **Division Collaboration**

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**Collaboration with Orthopaedics ; Orthopaedics; Orthopaedics; Plastic Surgery; Physical Medicine and Rehabilitation**

**Collaborating Faculty:** [Charles Mehlman, MD](#); [Mohab Foab, MD](#); [Roger Cornwall, MD](#); [Kevin Yakuboff, MD](#); [Linda Michaud, MD](#)

**Brachial Plexus Center:** A multi-disciplinary program for the treatment of pediatric brachial plexus and Erb's Palsy. The Brachial Plexus Center is actively involved in clinical research to advance the quality and effectiveness of care of children with brachial plexus injuries. June 20th, Brachial Plexus Center offered its second conference: "Brachial Plexus Conference 2010".

**Collaboration with Neurology ; Physical Medicine and Rehabilitation**

**Collaborating Faculty:** [Brenda Wong, MD](#); [Mary McMahon, MD](#)

**Comprehensive Neuromuscular Center:** A multi-disciplinary clinic providing comprehensive treatment for children with neuromuscular disorders.

**Collaboration with Hematology/Oncology ; Physical Medicine and Rehabilitation**

**Collaborating Faculty:** [John Perentesis, MD](#); [David Pruitt, MD](#)

**Neuro-Oncology Clinic:** A multi-disciplinary program providing comprehensive treatment for children with neurological tumors.

**Collaboration with Neurology ; Physical Medicine and Rehabilitation**

**Collaborating Faculty:** [Marielle Kabbouche, MD](#) ; [Jilda Vargus-Adams, MD](#)

**Stroke Clinic:** A multi-disciplinary program that provides comprehensive treatment for children with stroke.

**Collaboration with Orthopaedics ; Physical Medicine and Rehabilitation**

**Collaborating Faculty:** [Alvin Crawford, MD](#); [Douglas Kinnett, MD](#)

**Spine Center:** A multi-disciplinary program that provides comprehensive treatment for children with congenital and acquired abnormalities of the spine.

**Collaboration with DDBP; Physical Medicine and Rehabilitation**

**Collaborating Faculty:** [Sonya Oppenheimer, MD](#); [Mary McMahon, MD](#)

**Myelomeningocele Clinic:** A multi-disciplinary clinic which deals with the treatment of children with myelomeningocele.

**Collaboration with Orthopaedics ; Physical Medicine and Rehabilitation**

**Collaborating Faculty:** [Charles Mehlman, MD](#); [Linda Michaud, MD](#)

**Limb Reconstruction Clinic:** A multi-disciplinary clinic which deals with the treatment of complications after injury and the correction of limb deformity including limb lengthening.

**Collaboration with Rheumatology; Rheumatology; Physical Medicine and Rehabilitation**

**Collaborating Faculty: Esi Morgan-Dewitt, MD; Susmita Kashikar-Zuk, MD; Jilda Vargus-Adams, MD**

A U01 grant evaluating a patient reported outcome measure for use in pediatric pain, reumatology, and rehabilitation research.

**Collaboration with Behavioral Medicine and Psychology; Physical Medicine and Rehabilitation**

**Collaborating Faculty: Nicolay Chertkoff Walz, PhD; Shari Wade, PhD**

Dr. Walz has received mentoring from Dr. Wade and is currently co-investigator on Dr. Wade's competing continuation project examining long-term functional outcomes of early childhood TBI and her Rehabilitation Research and Training Grant for Pediatric TBI Interventions.

**Collaboration with Neuroimaging Research Consortium; Neuroimaging Research Consortium; Physical Medicine and Rehabilitation**

**Collaborating Faculty: Scott Holland, PhD; Kim Cecil, PhD; Shari Wade, PhD**

Completing analyses and write up of grants from the Ohio Emergency Medical Services and the UC Interdisciplinary Research Grants.

**Collaboration with Emergency Medicine; Emergency Medicine; Emergency Medicine; Physical Medicine and Rehabilitation**

**Collaborating Faculty: Lynn Babcock Cimpello, MD; Mike Gittleman, MD; Wendy Pomerantz, MD; Shari Wade, PhD**

Dr. Wade is primary mentor for Dr. Babcock Cimpello's KL2 award investigating predictors of recovery from mild TBI.

**Collaboration with Emergency Medicine; Emergency Medicine; Trauma Services; Physical Medicine and Rehabilitation**

**Collaborating Faculty: Mike Gittleman, MD; Wendy Pomerantz, MD; Richard Falcone, MD; Shari Wade, PhD**

Dr. Wade is part of the steering committee for the Cincinnati Children's Comprehensive Injury Center.

**Collaboration with Bioinformatics; Physical Medicine and Rehabilitation**

**Collaborating Faculty: Keith Marsolo, PhD; Shari Wade, PhD**

Dr. Marsolo is a collaborating investigator on the 5-year RRTC grant for pediatric TBI interventions.

## Faculty Members

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**Linda Michaud, MD**, Associate Professor ; *Division Director; Aaron W. Perlman Professor; Co-Director, Cincinnati Children's Brachial Plexus Center*

**Douglas Kinnett, MD**, Associate Professor ; *Director, Spasticity Management Program; Clinical Director, Cerebral Palsy Center*

**Mary McMahon, MD**, Associate Professor Clinical ; *Director, Residency Training Program, UC Dept. of PM&R ; Director, Medical Student Education, UC Dept. of PM&R*

**David Pruitt, MD**, Assistant Professor ; *Director, A4Rehab ; Director, Pediatric Rehabilitation Medicine Fellowship*

**Jilda Vargus-Adams, MD**, Assistant Professor ; *Research Director, Cerebral Palsy Center*

**Shari Wade, PhD**, Research Professor ; *Director of Research*

## Clinical Staff Members

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- **Lainie Holman, MD**

## Trainees

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- **Glendaliz Bosques, MD**, PGY-6, Baylor College of Medicine/University of Texas Houston
- **Brad Kurowski, MD**, PGY-5, University of Pittsburgh
- **Micah Baird, MD**, PGY-5, Wright State University
- **Matthew Mayer, MD**, PGY-4, University of Cincinnati
- **Phoebe Scott-Wyard, DO**, PGY-3, Western University of Health Sciences
- **Tobias Tsai, MD**, PGY-3, Johns Hopkins University
- **Kimberly Hartman, MD**, PGY-2, Wayne State University
- **Danielle Webster, MD**, PGY-1, University of Missouri, Kansas City

## Significant Accomplishments

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### Brain injury research

Shari Wade, PhD, was awarded a five-year, \$4 million grant from the National Institute on Disability and Rehabilitation Research to study childhood traumatic brain injury (TBI). With collaborators at Case Western Reserve University,

Nationwide Children's Hospital and the Ohio State University, Children's Hospital of Denver, the University of Oregon, and Western Oregon University, we will conduct three multi-site randomized clinical trials of interventions designed to improve cognitive and behavioral functioning following pediatric TBI. Given the current dearth of large scale clinical trials, the center has the potential to substantially advance the field of TBI research and evidence-based practice.

### Cerebral Palsy Center

Our new Cerebral Palsy Center will conduct clinical research related to cerebral palsy in our Division and in collaboration with Occupational and Physical Therapy. Clinical director Doug Kinnett, MD, and research director Jilda Vargus-Adams, PhD, will work to develop a comprehensive health care delivery system while seeking out and applying new discoveries through research, knowledge, and compassion for improving the quality of life of children with cerebral palsy.

## Division Publications

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1. :

## Grants, Contracts, and Industry Agreements

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### Grant and Contract Awards

### Annual Direct / Project Period Direct

#### Vargus-Adams, J

##### Towards Improved Clinical Trials in Cerebral Palsy

National Institutes of Health

K23 HD 049552

09/29/06 - 08/31/11

\$118,000 / \$590,000

##### Use of Oral Baclofen for Treatment of Spasticity of CP

Washington University (National Institutes of Health)

HHSN267200603421C

07/01/08 - 06/30/10

\$72,231 / \$72,231

#### Wade, S

##### Improving Mental Health Outcomes of Child Brain Injury

National Institutes of Health

R01 MH 073764

08/01/06 - 05/31/11

\$365,556 / \$2,431,849

##### Long Term Functional Outcomes of Early TBI

National Institutes of Health

R01 HD 042729

09/01/09 - 08/31/14

\$473,706 / \$2,246,570

##### Rehabilitation Research and Training Center for Traumatic Brain Injury Interventions

US Department of Education

H133B090010

10/01/2009 - 09/30/2014

\$695,076 / \$3,476,834

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**Current Year Direct**

**\$1,724,569**

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**Total \$1,724,569**

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