Psychiatry

RESEARCH AND TRAINING DETAILS

<table>
<thead>
<tr>
<th>Faculty</th>
<th>20</th>
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<tbody>
<tr>
<td>Joint Appointment Faculty</td>
<td>2</td>
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<tr>
<td>Support Personnel</td>
<td>19</td>
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<tr>
<td>Direct Annual Grant Support</td>
<td>$870,361</td>
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<tr>
<td>Direct Annual Industry Support</td>
<td>$262,242</td>
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<tr>
<td>Peer Reviewed Publications</td>
<td>40</td>
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CLINICAL ACTIVITIES AND TRAINING

<table>
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<tr>
<th>Clinical Fellows</th>
<th>21</th>
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<tr>
<td>Inpatient Encounters</td>
<td>27,010</td>
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<tr>
<td>Outpatient Encounters</td>
<td>39,832</td>
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Research Highlights

Ernest V. Pedapati, MD

Children with autism, especially in combination with intellectual disability and severe communication impairments, can suffer from psychiatric disorders such as ADHD, irritability and depression. Pedapati is an assistant professor with a joint
appointment in the Division of Psychiatry and Neurology with a clinical focus on the treatment of severe behavioral symptoms in children with developmental disabilities. Pedapati’s research focuses on identifying physiological markers including transcranial magnetic stimulation (TMS) measurements and electroencephalography (EEG) to predict treatment response to commonly used medications and decrease trial and error in these sensitive populations. Pedapati’s research is supported by the Procter Scholar Award, a multiyear institutional funded scholarship, which supports his research activities and mentorship. In addition, in 2015, he was selected as the recipient of the American Academy of Child and Adolescent Psychiatry Junior Investigator award for investigating eye-tracking markers of stimulant response in autism.

Richard Gilman, PhD

Richard Gilman, PhD, recently received an R21 funding from NICHD to investigate the effects of an empirically based, family-focused therapy for veterans diagnosed with post traumatic stress disorder (PTSD). Children and families are often silent victims to the ravages of combat-related PTSD, and yet are rarely involved in treatment planning. The research is in collaboration with UC College of Medicine and the Cincinnati Veterans Administration. Data thus far indicate that in comparison to individual therapy, veterans and their partners who received cognitive-behavioral therapy, plus parent management training, report significantly lower levels of veteran PTSD symptoms, significantly higher levels of relationship and parenting satisfaction and significantly lower instances of child misbehaviors. Read more about this study here.

New Residential Building at College Hill Campus

In FY15, the Division of Psychiatry opened a new 35,000-square-foot residential building at our College Hill Campus, with a playground and outdoor space. The opening of this new facility continues Cincinnati Children’s commitment to pediatric mental health. The Convalescent Hospital for Children’s unprecedented generosity and donation allows the College Hill Campus to serve its patient population of over 2,100 annually with state-of-the-art technology and facilities. The expansion offers a balance between private patient rooms that provide heightened safety and open patient unit spaces flooded with natural light and vibrant colors that stimulate comfort. The flexibility of the space meets the needs of both residential patients and inpatients in a homelike environment. This building will allow the Division of Child and Adolescent Psychiatry to expand to its full 92-bed capacity. The single rooms also allow families to stay longer with children, as some families stay with patients 24 hours a day, seven days a week.

Significant Publications


This is the first manuscript to demonstrate the pharmacodynamics impact of acamprosate on amyloid precursor protein derivatives in human blood. This is of importance because excessive amyloid precursor protein alpha is implicated in the pathophysiology of fragile X syndrome and potential autism spectrum disorder. Some correlation was also noted for the first time with improvement in social relatedness and reduction in blood amyloid precursor protein alpha in the clinical trials included in the analysis. We continue to investigate the impact of acamprosate on amyloid precursor protein levels in placebo controlled trials in autism and fragile X syndrome.

Division Publications


31. Strawn JR, John Wegman C, Dominick KC, Swartz MS, Wehry AM, Patino LR, Strakowski SM, Adler CM, Eliassen JC,


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**Faculty, Staff, and Trainees**

**Faculty Members**

- **Michael Sorter, MD**, Professor  
  Leadership Division Director, Division of Psychiatry

- **Drew Barzman, MD**, Associate Professor  
  Leadership Director of Child and Adolescent Forensic Psychiatry Service

- **Sandra Batsel-Thomas, MD**, Assistant Professor

- **Jennifer Bowden, MD**, Assistant Professor

- **Anthony Cavalieri, MD**, Assistant Professor

- **Sergio Delgado, MD**, Professor
Leadership

Director of Outpatient Services

Carol Engel, MD, Associate Professor

Leadership Residency Training Director, Triple Board Program

Craig Erickson, MD, Associate Professor

Richard Gilman, PhD, Professor

Reyna Gilmore, MD, Assistant Professor

Elana Harris, MD, Assistant Professor

Emily Harris, MD, Assistant Professor

Mark Johnson, MD, Assistant Professor

Brian Kurtz, MD, Assistant Professor

Leadership Director of Consultation Services

Mary Matias-Akhtar, MD, Assistant Professor

Daniel Nelson, MD, Professor

Leadership Director of Inpatient Services

Ernest Pedapati, MD, Assistant Professor

Suzanne Sampang, MD, Associate Professor

Leadership Residency Training Director, Child and Adolescent Psychiatry

Daniel Vogel, MD, Assistant Professor

Logan Wink, MD, Assistant Professor

Joint Appointment Faculty Members

Melissa DelBello, MD, Professor (Psychiatry)

Jeffrey Strawn, MD, Associate Professor (Psychiatry)

Trainees

- Daniel Almeida, MD, PGY 5, Universidade Federal Do, Ceara, Brazil
- Amelia Campos, MD, PGY 5, University of Louisville, Louisville, KY
- Giuliana Centurion, DO, PGY 5, Nova Southeastern College of Osteopathic Medicine, Ft. Lauderdale, FL
- Leslie Deckter, MD, PGY 5, University of Cincinnati, Cincinnati, OH
- Rokeya Tasnin, MD, PGY5, Dhaka Medical College, Bangladesh
- Ismail Badran, MD, PGY4, University School of Medicine, Grenada
- Katherine Lee, MD, PGY4, University of Cincinnati, Cincinnati, OH.
- Eric Rueff, DO, PGY4, Michigan State School of Osteopathic Medicine, East Lansing, MI
- Courtney Cinko, MD, PL5, Rush Medical College, Chicago, IL
- Paul Houser, MD, PL 5, St. Louis University School of Medicine, St. Louis, MO
- Kelli Dominick, MD/PhD, PL 4, Boston University School of Medicine
- Yesie Yoon, MD, PL 4, Yonsei University
- Sophianne Subbiah, MD, PL 3, University of Iowa School of Medicine, Iowa City, IA
- Theresa Umhoefer, MD, PL 3, University of Wisconsin School of Medicine and Public Health, Madison, WI
- Melissa Schuman-Wagner, MD, PL 3, Medical College of Wisconsin, Milwaukee, WI
- Nina Butler, MD, PL 2, Michigan State University College of Medicine, East Lansing, MI
- Martine Lamy, MD/PhD, PL 2, University of Cincinnati School of Medicine, Cincinnati, OH
- Joseph Sin, MD, PL 2, University of Utah, Salt Lake City, UT
- Katherine Glass, MD, PL 1, University of Washington School of Medicine, Seattle, WA
- Nicole Jederlinic, DO, PL 1, New York College of Osteopathic Medicine, Old Westbury, NY
- Katie Richards, MD, PL 1, University of Chicago School of Medicine, Chicago, IL.

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# Grants, Contracts, and Industry Agreements

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<tr>
<th>Grant and Contract Awards</th>
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<tr>
<td>Erickson, C</td>
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<tr>
<td>Pilot Double-Blind, Placebo-Controlled Study of Acampros</td>
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<td>Autism Speaks Grant Administration</td>
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<td>A Randomized, Placebo-Controlled Trial of D-Cycloserine</td>
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<td>Department of Defense (Indiana University Health)</td>
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<tr>
<td>Acamprosate in Fragile X Syndrome</td>
<td>$250,000</td>
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<tr>
<td>The John Merck Fund</td>
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Gilman, R

Research on Children in Military Families: The Impact of Parental Family Deployment and Reintegration on Child and Family Functioning

National Institutes of Health

Harris, E

Frontal Cortical Gamma Oscillations Mark Contamination Obsessions in Youth

National Institutes of Health

K23 MH100640 2/15/2014-1/31/2018 $164,553

Sorter, M

Partnerships that Promote Integrated, Multidisciplinary Training Models and Increase Healthcare Access for the Ohio Medicaid Population

Ohio Department of Medicaid (University of Cincinnati)

5/9/2014-6/30/2015 $203,063

Wink, L

Phenotyping of the Severely Affected Autism Population

Simons Foundation (Central Maine Medical Center)

4/1/2014-9/30/2015 $41,393

Phenotyping of the Severely Affected Autism Population_Reimbursement

Simons Foundation (Central Maine Medical Center)

4/1/2014-9/30/2015 $8,287

Current Year Direct $870,361

Industry Contracts

Barzman, D

Teva Pharmaceuticals $11,165

Delgado, S

Pfizer, Inc $21,604

Erickson, C

Alcobra Pharma $24,631

Neuren Pharmaceuticals Limited $105,510

Roche Laboratories, Inc $63,818

Seaside Therapeutics, Inc. $2,698
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<th>Wink, L</th>
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<tr>
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<td>Current Year Direct Receipts</td>
<td>$262,242</td>
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<tr>
<td></td>
<td>Total</td>
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Alcoholism Drug May Help Treat Fragile X Syndrome-Related Autism Spectrum Disorder

A drug originally approved for treating alcoholism is showing promise in modulating the underlying neurochemistry of a type of autism linked to Fragile X Syndrome, an inherited genetic disorder.

Craig Erickson, MD, and his team have discovered that acamprosate, a drug that may modulate glutamate and gaba-aminobutyric acid (GABA) neurotransmission in the brain, normalizes the expression of proteins in the blood known to be dysregulated in people with Fragile X Syndrome-related autism spectrum disorder (ASD), and it produces improved behavior and social interaction skills in some of them.

Nearly half of children with Fragile X syndrome exhibit a type of autism marked by development disabilities, distinctive facial characteristics, social anxiety, communication deficiencies or repetitive movement behaviors. They also tend to have higher plasma levels of a derivative of amyloid-β precursor protein, called secreted APPa (sAPPa), as well as excessive levels of glutamate and insufficient levels of GABA, two abundant and critical neurotransmitters.

In collaboration with researchers at the Indiana University School of Medicine, Erickson reported on initial results of the positive impact of acamprosate on APP levels in blood. Now Erickson is collaborating with Rush Medical Center in Chicago on a 48-participant clinical trial of the drug, in which researchers will analyze blood levels for sAPPa, eye-tracking data, social interactions, and other ASD behavioral markers.

“Acamprosate is really a targeted treatment based on the physiology and neurochemistry of the disease,” Erickson says. “We’re trying to regulate and normalize some of the signaling pathways by use of this drug.” Tests on mice, he notes, produce similar molecular neurochemistry results.

Plasma protein derivative analysis, Erickson says, holds promise as a biomarker for ASD-targeted treatment, and acamprosate may have “novel pharmacodynamics properties” to reduce amyloid-β precursor proteins in children with this type of ASD.
Results from two pilot studies show that treatment with the drug acamprosate produce improved behavior and social interaction skills in some children with Fragile X Syndrome-related autism spectrum disorder. These fan plots show blood test results from FXS patients assayed for selected processing products of the plasma amyloid-b precursor protein (APP), including sAPP, sAPP\textsubscript{a}, Ab42, Ab40, and Ab42/Ab40. Gray lines show individual subjects. Orange solid lines show mean sample change. Orange dashed lines show mean sample change excluding the most extreme result. Blue lines show "null" zero. Acamprosate use was associated with a significant reduction in plasma sAPP(total) and sAPP\textsubscript{a} levels, but no change occurred in Ab40 or Ab42 levels.

“We’re trying to regulate and normalize some of the signaling pathways by use of this drug.”