Emergency Medicine

Division Photo

Front Row: M. Mallory, R. Ruddy, N. Timm; Middle Row: J. Reed, L. Johnson, S. Kennebeck, J. Luria, R. Bond, E. Duma, B. Bennett, S. Iyer, M. Gittelman; Back Row: M. Patterson, M. Mahabee-Gittens, L. Babcock Cimpello, R. Shapiro, R. Strait, M. Mittiga, H. Schwartz, T. Byczkowski

Division Data Summary

<table>
<thead>
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<th>Research and Training Details</th>
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<th>Clinical Activities and Training</th>
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Significant Publications


In developing countries, a decision rule to determine who required treatment with an expensive resource is important. We determined that using the two simple physical findings, small pupils and CNS depression, physicians could determine two risk groups of children very early after exposure to an organophosphate or carbamate insecticide. Absence of either finding predicts an uncomplicated course and determines no need for referral to more expensive resources.

Grupp-Phelan J, Mahajan P, Foltin GL, Jacobs E, Tunik M, Sonnett M, Miller S, Dayan P. Referral and
The study, using a generalizable sample of pediatric hospitals within the Pediatric Emergency Care Applied Research Network reports the high volume and resource intensity of psychiatric visits to pediatric emergency departments. Key findings include the scope of pediatric emergency psychiatric care and high variability to resource use and management in a similar setting.


Diaphragmatic ultrasound is one of several potential applications of sonography to confirm endotracheal intubation. Previous work without a gold standard found diaphragmatic ultrasound accurate for both mainstem and esophageal misplacement. The novel application demonstrated rapid and highly reproducible results confirming ETT position within the airway in emergently intubated children. X-ray appears to verify level of mainstem intubation in a cohort of children, particularly the infant under 2 years of age.


This manuscript describes the results of the effect of a brief tobacco cessation intervention delivered to parental smokers in a pediatric emergency department (ED). A prospective randomized control trial design was used and participants were either given usual care or a brief intervention using tobacco cessation advice to quit based on the first 2 of the 5A’s of the Clinical Practice Guidelines and fax referral to the state telephone-based tobacco Quitline. The results were encouraging and suggest that the ED may be both a novel and important venue in which to deliver tobacco cessation counseling in a population with a high prevalence of tobacco use.


Crowding in emergency departments (EDs) is a growing, system wide problem in the United States. This study demonstrated that ED boarding of admitted patients and the number of daily visits are independently associated with increasing the length of stay, time to physician, and number of patient elopements in a pediatric emergency department.

Division Highlights

Pediatric Emergency Care Applied Research Network

The network has continued to thrive since formation in 2001 with 21 Emergency Departments and over 900,000 encounters to study patients from. The site leaders are Andrea Quinn, CRC, and Richard Ruddy, MD. CCHMC collaborators include Benjamin Kerrey, MD, (development of decision tool to reduce CT in intra-abdominal injury), Scott Reeves, MD, (development of decision tool for cervical spine injury), Jacqueline Grupp-Phelan, MD, MPH, (mental health emergencies - health services analysis), Richard Ruddy, MD, (core data project, biosignatures in infants with febrile illness, patient safety study), Gary Geis, MD, and Derek Wheeler, MD, (hypothermia to improve outcome in CPA), Hamilton Schwartz, MD, (pre-hospital care for children), Lynn Babcock Cimpello, MD, (intra-abdominal fat and appendix study and progesterone for traumatic brain injury), and Todd Glass, MD, MS (development of decision tool for CT and head injuries).

National Improvement Collaborative in Pediatric Emergency Care

In partnership with NACHRI, the ABP, and PEM leadership around the country, CCHMC is taking a leadership role in the development of a clinical/improvement science and research effort with Richard Ruddy, MD, and Evaline Alessandrin, MD, MSCE.

Prevention Science in the Pediatric ED

Using the ED as a platform to engage families into healthier behaviors, the Prevention Focus Group continues to be successful in funding research in mental health service engagement (Jacqueline Grupp-Phelan, MD, MPH), tobacco cessation interventions (Melinda Mahabee-Gittens, MD, MS) and Injury Prevention (Michael Gittelman, MD, and Wendy Pomerantz, MD, MS). The group has been using these interest areas as a basis for collaboration to further the understanding of best practices for screening and interventions in the ED.

Division Collaboration

Collaboration with Center for Health Care Quality
Collaborating Faculty: Srikant Iyer, MD, MPH; Terri Byczkowski, PhD, MBA; Peter Margolis, MD, PhD
Design of a multi-component intervention to improve acute pain management in the ED.

Collaboration with Center for Health Care Quality
Collaborating Faculty: Srikant Iyer, MD, MPH; Carole Lannon, MD, MPH
Improvement advisor for the Joint Commission on Congenital Heart Disease Improvement Collaborative.

Collaboration with Center for Innovation in Chronic Disease
Collaborating Faculty: Terri Byczkowski, PhD, MBA; Maria Britto, MD, MPH
Chronic Care Innovation Lab: improving outcomes for adolescents with asthma.

Collaboration with Center for Simulation and Research; Division of Hematology/Oncology, Bone Marrow Transplant Program
Collaborating Faculty: Mary Patterson, MD, MEd; Stella Davies, MBBS, PhD, MRCP
Development and implementation of serious safety event reduction training, and evaluation of outcomes for BMT.

Collaboration with Center for Simulation and Research; Critical Intensive Care Unit
Collaborating Faculty: Mary Patterson, MD, MEd; Terri Byczkowski, PhD, MBA; Bradley Marino, MD, MPP, MSCE; Catherine Dent Krawczeski, MD
Development, implementation and evaluation of outcomes of serious safety event reduction training in the ICU.

Collaboration with Center for Simulation and Research; Division of Critical Care Medicine
Collaborating Faculty: Mary Patterson, MD, MEd; Derek Wheeler, MD
Implementation of in situ simulations: mock codes on clinical units.

Collaboration with Division of Adolescent Medicine
Collaborating Faculty: Michael FitzGerald, PhD; Corinne Lehmann, MD, MEd
A computer-based tool for providing frequent and specific feedback to residents, its feasibility and impact when used for formative assessment.

Collaboration with Division of Adolescent Medicine; Behavioral Medicine and Clinical Psychology
Collaborating Faculty: Melinda Mahabee-Gittens, MD, MS; Lorah Dorn, PhD; Robert Ammerman, PhD, APBB
Adolescent smoking prevention.

Collaboration with Division of Adolescent Medicine
Collaborating Faculty: Jennifer Reed, MD; Jill Huppert, MD, MPH
Research on diagnosis of STIs and use of biomarkers to evaluate for ovarian torsion versus other acute abdominal/pelvic conditions.

Collaboration with Division of Allergy and Immunology
Collaborating Faculty: Laurie Johnson, MD; Michelle Lierl, MD
Nebulized magnesium in acute asthma, inter-rater reliability of asthma score and provider impression of clinical severity of exacerbation.

Collaboration with Division of Allergy and Immunology
Collaborating Faculty: Laurie Johnson, MD; Rick Strait, MD; Richard Ruddy, MD; Gurjit Khurana Hershey, MD, PhD
Gene expression profiles of acute asthma and subphenotypes of treatment response.

Collaboration with Division of Allergy and Immunology
Collaborating Faculty: Rick Strait, MD; Fred Finkelman, MD
Immunology of anaphylaxis and of transfusion related acute lung injury.

Collaboration with Division of Allergy and Immunology
Collaborating Faculty: Rick Strait, MD; Simon Hogan, PhD; Marc Rothenberg, MD, PhD
Food anaphylaxis.
Collaborating Faculty: Rick Strait, MD; Joerg Koehl, MD
TRALI and complement activation including FcRs.

Collaboration with Division of Biomedical Informatics
Collaborating Faculty: Richard Ruddy, MD; John Pestian, PhD, MBA
Use of natural language for patient care improvement.

Collaboration with Division of Endocrinology; General and Community Pediatrics
Collaborating Faculty: Michael Gittelman, MD; Wendy Pomerantz, MD, MS; David Klein, MD, PhD; Christopher Bolling, MD; Mona Ho, MS; Amy Bernard, PhD
Screen and provide a program to reduce the obesity problem among youth in Avondale, providing after school curriculum.

Collaboration with Division of Infectious Diseases
Collaborating Faculty: Rick Strait, MD; Ramu Subbramanian, PhD; Rebecca Brady, MD
T-cell response in naive influenza infection in infants.

Collaboration with Division of Pediatric Surgery; Trauma Services
Collaborating Faculty: Berkeley Bennett, MD, MS; Richard Falcone, Jr., MD
Racial bias in evaluation of children for non-accidental trauma.

Collaboration with Division of Pediatric Surgery; Trauma Services; Health Policy and Clinical Effectiveness
Collaborating Faculty: Michael Gittelman, MD; Wendy Pomerantz, MD, MS; Richard Falcone, Jr., MD; Lisa Simpson, MB, BCH, MPH
Develop a center with coordination of research and outreach efforts to prevent injuries.

Collaboration with Division of Pediatric Surgery; Trauma Services
Collaborating Faculty: Mary Patterson, MD, MEd; Richard Falcone, Jr., MD; Margot Daugherty, MSN, MEd, RN, EMT-P; Lynn Schweer, RN, CNP; Victor Garcia, MD
Multidisciplinary pediatric trauma team training and utilizing high fidelity trauma simulation.

Collaboration with Division of Psychiatry; Division of Biomedical Informatics
Collaborating Faculty: Jacqueline Grupp-Phelan, MD, MPH; Robert Kowatch, MD, PhD; John Pestian, PhD, MBA
Suicide risk assessment and prevention.

Collaboration with Education and Training Department
Collaborating Faculty: Lisa Vaughn, PhD; Rebecca Phillips, PhD
Intercultural adjustment.

Collaboration with Education and Training Department
Collaborating Faculty: Lisa Vaughn, PhD; Janet Forbes, MSeD
Resilience and cultural issues.

Collaboration with Education and Training Department
Collaborating Faculty: Lisa Vaughn, PhD; Daniel McLinden, EdD
Cultural health attributions questionnaire.

Collaboration with General and Community Pediatrics
Collaborating Faculty: Lisa Vaughn, PhD; Raymond Baker, MD, MEd
Cultural dimensions of medical education.

Collaboration with Mayerson Center for Safe and Health Children
Collaborating Faculty: Berkeley Bennett, MD, MS; Robert Shapiro, MD; Kathi Makoroff, MD
Utility of follow up skeletal surveys in suspected victims of physical abuse.

Collaboration with Center for Simulation and Research; Section of Neonatology, Perinatal and Pulmonary Biology
Collaborating Faculty: Gary Geis, MD; Tara Lang, MD; Elizabeth Wetzel, MD; Beth Haberman, MD
Provide education in the simulation lab for CCHMC RCNIC staff in order to improve both clinical and behavioral outcomes and subsequently improve the quality and safety of care that neonatal patients receive at CCHMC.
Collaboration with Trauma Services

Collaborating Faculty: Michael Gittelman, MD; Wendy Pomerantz, MD, MS; Talicia McNealy, MBA; Deatra Greene, MS

Injury Free Coalition for Kids of Cincinnati (Emergency Medicine) and Safe Kids Coalition (Trauma) working together on multiple community outreach programs, including Walk Child to School.

Faculty Members

Richard M. Ruddy, MD, Professor Clinical; Division Director
Research Interests: Pediatric Emergency Care Applied Research Network Multicenter Trials, Asthma and Quality Research

Lynn Babcock Cimpello, MD, Associate Professor Clinical
Research Interests: Closed Head Injury (translational research including clinical and psychometric outcomes with biomarkers and research imaging to identify and treat high risk patients)

Berkeley L. Bennett, MD, MS, Adjunct Assistant Professor; Fellow, Child Abuse Pediatrics
Research Interests: Cardiac Injury in Association with Non-Accidental Trauma, Optimal Utilization of Skeletal Surveys for Identification of Non-Accidental Trauma

G. Randall Bond, MD, Professor Clinical; Medical Director, Drug Poison Information Center
Research Interests: Improvement of Outcomes in Victims of Acute Poisoning

Terri L. Byczkowski, PhD, MBA, Field Service Assistant Professor
Research Interests: Patient and Family Experience of Emergency Care

Patricia Chambers, MD, Adjunct Assistant Professor
Research Interests: Quality Care

Elena Duma, MD, Assistant Professor Clinical; Clinical Staff Coordinator
Research Interests: Pediatric Emergency Medicine, Child Abuse

Mary Jo-Ellen Erickson, MD, Assistant Professor Clinical
Research Interests: Use of Ultrasound in ED

Michael FitzGerald, PhD, Field Service Assistant Professor
Research Interests: Feedback in Medical Education, Assessment and Evaluation of Medical Learners

Gary L. Geis, MD, Assistant Professor Clinical; Assistant Medical Director, The Cincinnati Children's Center for Simulation and Research
Research Interests: Resuscitation, Febrile Infants, Medical Simulation

Michael Gittelman, MD, Associate Professor Clinical; Co-Director, Injury Free Coalition for Kids; Co-Director, Safety Store
Research Interests: Injury Control, Behavior Change Counseling, Community Prevention

Todd Glass, MD, MS, Associate Professor Clinical; Medical Director, Liberty Campus Emergency Department
Research Interests: Pediatric Trauma, Traumatic Brain Injury, Care Delivery Systems Design and Improvement

Javier Gonzalez del Rey, MD, MEd, Professor Clinical; Associate Director, Division of Emergency Medicine; Director, Pediatric Residency Training Program
Research Interests: Medical Education and Training

Jacqueline Grupp-Phelan, MD, MPH, Associate Professor Clinical; The Richard Ruddy and Barbara Wriston-Ruddy Endowed Chair for Pediatric Research; Associate Director, Division of Emergency Medicine; Director of Research
Research Interests: Mental Health Services and Treatment Engagement; Health Services Research, Cost-Effectiveness, Clinical Effectiveness and Utilization

Selena Hariharan, MD, Associate Professor Clinical
Research Interests: Prevention

Srikant Iyer, MD, MPH, Assistant Professor Clinical
Research Interests: Systems and Process Improvement, Patient Flow, and Acute ED Pain Management

Laurie H. Johnson, MD, Assistant Professor Clinical
Research Interests: Asthma

Stephanie Kennebeck, MD, Assistant Professor Clinical; EPIC IT Leadership
Research Interests: Quality Care, Overcrowding in ED

Benjamin Kerrey, MD, Assistant Professor Clinical
Research Interests: Procedural Education for Pediatric Residents, Quality of the Intubation and Confirmatory Process in Emergent Pediatric Intubations, Need for Imaging in Pediatric Blunt Abdominal Trauma
Joseph Luria, MD,  Professor Clinical ; Associate Director, Division of Emergency Medicine; Medical Director, Emergency Department
  Research Interests: Improvement Related to ED Quality; Patient Safety, Efficiency and Flow

Melinda Mahabee-Gittens, MD, MS,  Associate Professor Clinical
  Research Interests: Adolescent Tobacco Prevention, Adult Tobacco Cessation, Intervention Development

Mia L. Mallory, MD,  Assistant Professor Clinical ; Associate Director, Pediatric Residency Training Program
  Research Interests: Resident Education

Constance McAneney, MD, MS,  Associate Professor Clinical ; Associate Director, Division of Emergency Medicine; Director, Pediatric Emergency Medicine Fellowship Program; Director, Medical Student Education
  Research Interests: Medical Student Education

Matthew Mittiga, MD,  Assistant Professor Clinical
  Research Interests: Resuscitation Team Training and Communication, Critical Care in the Pediatric ED, Pediatric Airway Management/Complications, Resident and Fellow PEM Education

Mary Patterson, MD, MEd,  Associate Professor Clinical ; Medical Director, The Cincinnati Children’s Center for Simulation and Research
  Research Interests: Simulation in Healthcare, Patient Safety, Teamwork and Communication

Wendy Pomerantz, MD, MS,  Associate Professor Clinical ; Co-Director, Injury Free Coalition for Kids; Co-Director, Safety Resource Center
  Research Interests: Injury and Poison Prevention, Epidemiology, Geographic Information Systems, Playground Related Injuries, ATV and Motorbike-Related Injuries

Jennifer Reed, MD,  Assistant Professor Clinical
  Research Interests: Adolescent Health Issues in the ED Including STI Testing

Scott Reeves, MD,  Associate Professor Clinical ; Coordinator, Emergency Department Resident Education
  Research Interests: Quality Care, Network Research - PECARN Multicenter Trials

Charles J. Schubert, MD,  Professor Clinical
  Research Interests: Global Child Health and Vulnerable Populations

Hamilton P. Schwartz, MD,  Assistant Professor Clinical ; Medical Director, Transport Team; Medical Director, Statline; Pediatric Director, Assistant Medical Director, Cincinnati Fire Department
  Research Interests: Pediatric EMS and Transport Medicine

Robert Allan Shapiro, MD,  Professor Clinical ; Medical Director, Mayerson Center for Safe and Healthy Children
  Research Interests: Sexually Transmitted Disease, Fractures Caused by Abuse

Stephanie Spanos, MD,  Assistant Professor Clinical

Richard Strait, MD,  Assistant Professor Clinical
  Research Interests: Early Immunologic Response to Infectious Disease, Immunologic Response to Anaphylaxis, Procedural Sedation

Nathan Timm, MD,  Assistant Professor Clinical ; CCHMC Emergency Preparedness Officer
  Research Interests: Hospital Emergency Management, Quality Care, Overcrowding in ED

Joint Appointment Faculty Members

Evaline Alessandri, MD, MSE,  Professor Clinical
  Health Policy & Clinical Effectiveness
  Outcomes and Risk-Adjustment in Pediatric Emergency Care, Quality Measurement

Lisa Vaughn, PhD,  Field Service Associate Professor
  General and Community Pediatrics
  Cross-Cultural Psychology Issues Especially with Latinos, Women and Children; Dyadic Relationships (i.e. Parent-Child, Teacher-Learner, etc); International Global Studies; Social Psychology Related

Clinical Staff Members

- Kirsten Ahrens, MD
- Arash Babaoff, MD
- Kate Balkoweic, MD
- Courtenay Barlow, MD
- Eunice Blackmon, MD
Trainees

- Holly Brodzinski, MD, PL-VI, Children's Hospital of Philadelphia, Philadelphia, PA
- Andrea Rinderknecht, MD, PL-VI, Cincinnati Children's Hospital Medical Center, Cincinnati, OH
- Jennifer Setlik, MD, PL-VI, Washington University, St. Louis, MO
- Carolyn Holland, MD, MEd, PL-VI, University Hospital, University of Cincinnati College of Medicine, Cincinnati, OH
- Cinnamon Dixon, DO, PL-V, Kirksville College of Osteopathic Medicine, Bolder, CO
- Carla Pruden, MD, MPH, PL-V, Children's Hospital at Montefiore, New York, NY
- Brad Sobolewski, MD, PL-V, Cincinnati Children's Hospital Medical Center, Cincinnati, OH
- Brian Hang, MD, PL-IV, New York University, New York, NY
- Eileen Murtagh-Kurowski, MD, PL-IV, University of Pittsburgh Medical Center, Pittsburgh, PA

Significant Accomplishments

Quality Research
This research team led by Scott Reeves, MD, and Mike Buncher, MBA, has demonstrated improvement in outcomes for patients with painful fractures and in the development of measures and interventions to handle ED overcrowding, a national issue.

Prevention Research
This research team led by Jacqueline Grupp-Phelan, MD, MPH, and Michael Gittleman, MD, has led Emergency Medicine with the development of prevention program strategies in the ED. The areas include key national priorities,
including screening for mental health issues (Grupp-Phelan), smoke prevention in children (Mahabee-Gittens) and injury control (Gittelman, Pomerantz) through interventions that cut across the larger health care system.

**Clinical Program**

**Liberty Township Campus Freestanding Emergency Department:** The ED on the Liberty Township Campus opened in August 2008, with 24 hour pediatric emergency medicine attending coverage, and extended coverage with a pediatrician under the leadership of Medical Director, Todd Glass, MD, MS, and Clinical Director, Nancy Zahradnik, RN. Growth was rapid to an 11 month annual visit count of 24,812 children. Key components: Accepts all acuities and life squads, integration of pediatric transport to insure rapid transfer for tertiary care, integrated direct transfer to observation beds at Liberty Campus and to inpatient and higher level subspecialty care at the main hospital.

**CCHMC ED:** Clinical Systems Improvement led by Medical Director, Joe Luria, MD, and Senior Clinical Director, Julie Shaw, RN, MSN, had significant accomplishments.

- Evidence-based care led by Scott Reeves, MD, and Eric Mailloux, RN, in treatment across the spectrum of painful conditions.
- Safety with leadership of Rima Rusnak, MD, and Sharon Foreman, RN, has shown increases in safety culture and the department had zero serious safety events this year.
- Partnership with the resuscitation / simulation team has led to dramatic changes in communication around high risk patients through consistent use of communication tools.

**Division Publications**

Injury Free Kids Coalition - Price Hill Expansion

Grants, Contracts, and Industry Agreements

Grant and Contract Awards

Annual Direct / Project Period Direct

GITTELMAN, M

Injury Free Kids Coalition - Price Hill Expansion
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<td>Teen Screen</td>
<td>Columbia University</td>
<td>01/01/09 - 12/31/09</td>
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<td>University of Cincinnati Clinical Research Curriculum</td>
<td>National Institutes of Health (University of Cincinnati)</td>
<td>08/01/08 - 07/31/09</td>
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<td>CTSA: K30 Training Program</td>
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<td>IYER, S</td>
<td>Multi-Dimensional Intervention to Improve Pain Management</td>
<td>The Mayday Fund</td>
<td>09/01/08 - 08/31/10</td>
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<td>KERREY, B</td>
<td>Decision Rule for Identifying Intra-Abdominal Injuries</td>
<td>Centers for Disease Control and Prevention (University of California-Davis)</td>
<td>09/01/06 - 08/31/09</td>
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<td>MAHABEE-GITTENS, M</td>
<td>Improving Parent/Adolescent Communication about Tobacco</td>
<td>National Institutes of Health</td>
<td>07/01/06 - 06/30/11</td>
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<td>RUDDY, R</td>
<td>EMSC Network Development Demonstration Project</td>
<td>Health Resources and Services Administration (University of California-Davis)</td>
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<td>STRAIT, R</td>
<td>IgG Isotype Regulation of Antibody-Mediated Disorders</td>
<td>National Institutes of Health (University of Cincinnati)</td>
<td>08/15/07 - 07/31/12</td>
<td>$57,706 / $306,244</td>
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**Current Year Direct** $ 720,508  
**Total** $ 720,508