

## Department of Pediatrics

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# PEDIATRIC FELLOWSHIP NEWSLETTER

Winter 2016

[pediatrics.urmc.edu/fellowships](http://pediatrics.urmc.edu/fellowships)

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## Fellow Research Spotlight

Javed Mannan, M.D., M.P.H., Second Year Neonatology Fellow

*"The Effect of Chest Shielding on the Incidence of Patent Ductus Arteriosus (PDA) in Premature Infants Undergoing Phototherapy"*



[Javed Mannan, MD, MPH](#), second year neonatology fellow, is the recent recipient of a \$20,000 Gerber Foundation Grant, which will help support his research looking at the effect of chest shielding on the incidence of patent ductus arteriosus (PDA) in premature infants undergoing phototherapy. PDA, an opening between two major blood vessels in the heart, does not close in nearly 70-80% of premature babies. While a small PDA may never cause problems, a large PDA can lead to poor feeding and growth, difficulty breathing, rapid heart rate and weakening of the heart muscle. With only two treatment options currently in existence for PDA closure – the use of IV medication, indomethacin, and surgery, both of which come with significant risks that include bleeding, renal dysfunction, intestinal perforation and even death – Dr. Mannan has proposed an alternative method to prevent PDA related symptoms.

It has been proven in animal and clinical studies that phototherapy, a therapy that the majority of full and preterm infants undergo for jaundice, causes photorelaxation, or the dilation of blood vessels. Thus, when the light penetrates the heart, the dilation causes an open PDA to grow and further prevents closure. Dr. Mannan and his mentor, [Sanjiv Amin, MBBS](#), have hypothesized that blocking the light with a chest shield of aluminum foil will keep the blood from flowing to the PDA, preventing growth and causing it to close faster. This intervention may decrease complications and diminish the risk of developing an enlarged PDA, promoting earlier feedings, shortened hospital stays, and improved long-term outcomes.

Dr. Mannan has devised a double blind randomized study to assess this causal relation between phototherapy and PDA, focusing on infants  $\leq 29$  weeks gestational age, the highest risk population for PDA. Prohibiting any kind of bias, the study is blinded so that half of the infants receive a chest shield with aluminum foil and half receive a placebo chest shield, both appearing identical in design. The study's primary outcome will be the incidence of symptomatic PDA, with the secondary outcome being the magnitude or size of the PDA verified by echocardiography.

Currently a pilot study, the goal is to expand to a neonatal network study involving multiple centers. If their findings are consistent, just as eye shielding is current protocol for all babies undergoing phototherapy, Dr. Mannan's ultimate goal would be that all preterm babies undergoing phototherapy also receive a chest shield. Such an intervention would save money and reduce significant short- and long-term health problems for preterm babies with a PDA.

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## Recent Fellow Publications

Gad A, **Mannan J**, Chhabra M, Zhang XY, Narula P, Hoang D. "[Prominent Eustachian Valve in Newborns: A Report of Four Cases.](#)" *Am J Perinatol Rep*. Efirst. Nov 2015.

**Frey SM**, Wiegand TJ, Green JL, Heard KJ, Wilkins DG, Gorodetsky RM, Dart RC. ["Confirming the Causative Role of Acetaminophen in Indeterminate Acute Liver Failure Using Acetaminophen-Cysteine Adducts."](#) *Journal of Medical Toxicology : Official Journal of the American College of Medical Toxicology*. 2015;11(2):218-22.

**Frey SM**, Fagnano M, Halterman JS. ["Caregiver Education to Promote Appropriate Use of Preventive Asthma Medications: What is Happening in Primary Care?"](#) *The Journal of Asthma : Official Journal of the Association for the Care of Asthma*. 2015; Epub 2015 Aug 19.

Forbes L, **Ebsworth-Mojica K**, DiDone L, Li SG, Freundlich JS, Connell N, Dunman PM, and Krysan DJ. ["A High Throughput Screening Assay for Anti-Mycobacterial Small Molecules Based on Adenylate Kinase Release as a Reporter of Cell Lysis."](#) *PLOS One*; June 2015

**Rosen-Carole C**, Waltermaurer E, Goudreault M, Larimer A, Pokharel-Wood M, Rajupet S, Kouba N. ["Assessing the Efficacy of a Breastfeeding-Friendly Quality Improvement Project in a Large Federally Qualified Health Center Network."](#) *Journal of Human Lactation : Official Journal of International Lactation Consultant Association*. 2015; Epub 2015 Oct 23.

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## Fellow Awards and Honors

### Cardiology

#### **Ryan Alanzalon, M.D. (1st Year Fellow)**

- Matthew's Hearts of Hope Research Grant for Pediatric Cardiology Fellows: "Inhibition of Cyclophilin D to Increase Cardiac Function in the Neonate," December 2015

### Developmental-Behavioral Pediatrics

#### **Robert Nutt, M.D. (3rd Year Fellow)**

- AAP Early Hearing Detection & Intervention (EHDI) Leadership Team, Positional: National Committee Member, American Academy of Pediatrics, October 2015

### Hematology/Oncology

#### **Akua Asante, M.D. (1st Year Fellow)**

- Selected participant, Hematology Fellows Consortium, Isle of Palms, SC, October 2015

### Neonatology

#### **Sarah Volz, D.O. (3rd Year Fellow)**

- Honorary, The Thomas Jefferson Honorarium and Speakership for Research in Neonatology, AAP Mid- Atlantic Conference on Perinatal Research, September 2015

#### **Javed Mannan M.D. (2nd Year Fellow)**

- The Gerber Foundation, Gerber Grant, \$20,000, November 2015

#### **Jayson Lingan, M.D. (3rd Year Fellow)**

- 87th Perinatal & Development Medicine Symposium Travel Grant, October 2015
  - ARC Coalition Sponsored Grant from the 2<sup>nd</sup> Neonatal Cardiopulmonary Biology for Young Investigators' Forum, September 2015
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## Pediatric Fellows Work With Nationally Recognized ECMO Program

Pediatric fellows benefit through their involvement with the Extracorporeal Membrane Oxygenation (ECMO) service at the Golisano Children's Hospital, recently named a "2015-2018 Center of Excellence" by the Extracorporeal Life Support Organization, one of only 15 to receive this designation nationwide.

According to Patricia Chess, MD, Vice Chair of Education, Department of Pediatrics, fellows receive instrumental training through their involvement with the care of complex and high-risk cases encountered on the ECMO service. Through didactic discussions at the bedside and the opportunity to think through treatment plans for critically ill patients, fellows gain a greater understanding of the pathophysiology. In addition, they are better prepared to work with families who face end of life decisions of care. Through communication with ECMO specialists and functioning as essential members in that patient's care, fellows have access to a vital resource; a certified, multidisciplinary team specialized in providing life-saving support to children experiencing organ failure.

This three-year Center of Excellence designation is recognized by *U.S. News* and World Report and *Parents* magazine as a criterion for top institutions.



Members of the Golisano Children's Hospital extracorporeal life support team at the new children's hospital lobby entrance.

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## Did You Know?

Residents and fellows can receive Maintenance of Certification (MOC) credit from the American Board of Pediatrics for involvement in QI projects. Learn more about the eligibility requirements and guidelines for submission on the [ABP website](#).

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## GOLISANO CHILDREN'S HOSPITAL OPENS



Take a look inside the new Golisano Children's Hospital and learn more about [Phase II](#), currently underway.

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### SAVE THE DATE!

Department of Pediatrics' Alumni Reunion

**Saturday, June 4, 2016**

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**Current and Graduated Fellows – Please send us your news!**  
[meghan\\_plog@urmc.rochester.edu](mailto:meghan_plog@urmc.rochester.edu)