

# Carol M Kao, MD

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## EDUCATION

- 06/2009- 07/2012 Ohio State University College of Medicine, Doctorate in Medicine  
08/2005- 06/2009 Ohio State University, Bachelor of Science, Biology

## POST-DOCTORAL TRAINING AND FELLOWSHIP APPOINTMENTS

- 07/2018 – ongoing Assistant Professor, Children's Healthcare of Atlanta/Emory University Department of Pediatric Infectious Diseases, Atlanta, GA  
07/2015 – 07/2018 Fellowship, Pediatric Infectious Disease, Children's Hospital at Montefiore, Albert Einstein College of Medicine, Bronx, NY  
07/2012 – 06/2015 Residency, General Pediatrics, Cohen Children's Medical Center- Hofstra Northwell School of Medicine, New Hyde Park, NY

## BOARD CERTIFICATION & LICENSING

- 2018 Georgia State licensed physician  
2015 Board certified in pediatrics  
2013 New York State licensed physician

## PROFESSIONAL MEMBERSHIP

- Infectious Disease Society of America (IDSA)  
Pediatric Infectious Disease Society (PIDS)  
Infectious Disease Society of New York (IDSNY)

## GRANT SUPPORT

- 11/2017 – 11/2018 Pediatric Infectious Disease Society - Pichichero Family Foundation Vaccines for Children Initiative Research Grant  
Title of research: Maternal Immunization with a Single-cycle HSV Candidate Vaccine, HSV-2  $\Delta$ gD, Protects Neonatal Mice from Lethal Viral Challenge  
PI: Carol Kao

## HONORS & AWARDS

- 2018 Children's Hospital at Montefiore Pediatric Research Day, 1<sup>st</sup> place  
2018 Montefiore Young Investigators Symposium, 2<sup>nd</sup> place  
2017 Infectious Disease Society of America Travel Grant  
2017 Infectious Disease Society of NY Fellow Basic Science Abstract Award  
2014 Society of Infectious Disease Travel Grant  
2012 Ohio State University Medical Alumni Scholarship  
2005 National Merit Scholarship, Morrill Scholarship recipient

## PEER-REVIEWED PUBLICATIONS

Revision 08.01.2018

Kao CM, Szymczak W, Munjal I. Meningitis due to *Moraxella nonliquefaciens* in a pediatric patient: case report and review of the literature. *JMM Case Reports*. 2017 Feb (4).

Kao C, Goldman D. Cryptococcal Disease in HIV-Infected Children. *Current Infectious Disease Reports*. 2016 Sep;18(9):27.

Kao CM, Schneyer RJ, Bocchini JA. "Child and adolescent immunizations: selected review of recent US recommendations and literature." *Current Opinion Pediatrics*. June 2014. 26(3): 383-95.

## BOOK CHAPTERS

Kao CM, Bernstein HH. Reviewer, In Altmann T and Shelov S, Editors-in-Chief. *Caring For Your Baby and Young Child: Birth to Age 5*. 6th Edition. Chest and Lung (Chapter 19). Elk Grove Village, IL: American Academy of Pediatrics; 2013.

## ABSTRACTS & PRESENTATIONS

Kao CM, Loh L, Burn C, Jacobs WR, Herold BC. Maternal Immunization with  $\Delta$ gD-2 Protects Neonatal Mice Against Lethal Viral Challenge. Oral Presentation at Montefiore Young Investigators Symposium, Bronx, NY. May 2018.

Kao CM, Loh L, Burn C, Jacobs WR, Herold BC. Maternal Immunization with  $\Delta$ gD-2 Protects Neonatal Mice Against Lethal Viral Challenge. Oral Presentation at Children's Hospital at Montefiore Pediatric Research Day, Bronx, NY. April 18, 2018.

Kao CM, Burn C, Jacobs WR, Herold BC. Maternal Immunization with  $\Delta$ gD-2 Protects Neonatal Mice Against Lethal Viral Challenge. Oral Presentation at 2018 St. Jude/PIDS Research Conference, Memphis, TN. March 9, 2018.

Kao CM, Updates on the Diagnosis and Management of Congenital CMV, Presentation at the Montefiore New Rochelle Pediatric Grand Rounds, December 2017.

Kao CM, Burn C, Jacobs WR, Herold BC. Maternal Immunization with a Single-Cycle Herpes Simplex Virus (HSV) Candidate Vaccine,  $\Delta$ gD-2, Protects Neonatal Mice from Lethal Viral Challenge [Abstract 65835]. Platform Presentation at the 2017 IDWeek Meeting, San Diego, CA. October 6, 2017.

Kao CM, Jacobs WR Jr, Herold BC. Characterization of the Antibody response to HSV-2 Infection and Potential Role in Preventing Perinatal HSV Infections. Platform Presentation at the 2017 Annual Harold C. Neu Symposium of the ID Society of New York, New York, NY. May 2, 2017.

Kao CM, Leibowitz-Feder J, Rajan S. "Endocarditis as a complication of Occult Pneumococcal Bacteremia." Presented at North Shore-Long Island Jewish Medical Center Pediatric Research Day, New Hyde Park, NY. May, 2013.

Pietropaolo D, Magee M, Kao CM, Mack K, Salamon D, Barson W, Ramilo O. "Should all young febrile infants 60 days of age or younger be tested for enterovirus in CSF with PCR?" [Abstract 69]. Poster presentation at the 2012 Pediatric Hospital Medicine Conference, Covington, KY. July 20, 2012.

Pietropaolo D, Magee M, Kao CM, Knieper R, Mack K, Salamon D, Barson W, Ramilo O. "Non-CSF PCR Testing for Enterovirus in the Evaluation of Infants with Suspected Sepsis" [Abstract 1149]. Presented at the 2012 IDWeek Meeting, San Diego, CA. October 19, 2012.

## RESEARCH

Maternal Immunization with a Single-cycle HSV Candidate Vaccine, HSV-2  $\Delta$ gD, Protects Neonatal Mice from

### Lethal Viral Challenge

- PI: Carol Kao, Co-PI: Betsy Herold
- Funding: PIDS - Pichichero Family Foundation Vaccines for Children Initiative Research Award, Mentor's RO1 grant
- Brief description: Perinatal HSV is associated with high mortality and morbidity. We recently engineered a single-cycle virus deleted in glycoprotein-D ( $\Delta$ gD-2) that induces high titer Abs that are non-neutralizing, but active the Fc receptor to elicit antibody-dependent cellular cytotoxicity. Maternal immunization with  $\Delta$ gD-2 leads to protection against intranasal challenge in 7 day-old neonatal mice against clinical isolates of HSV-1 and HSV-2, and decreases or prevents virus from being detected in the tri-geminal ganglia. Ongoing studies are examining the role of passive transfer of immune serum and the identification of viral antigenic targets in order to develop therapeutic monoclonal antibodies.

### Missed Opportunities for CMV Screening and Intervention in the Newborn Period

- PI: Carol Kao
- Brief description: Congenital CMV is the leading cause of non-hereditary childhood hearing loss for which there are currently no universal screening guidelines in mothers or infants. We conducted a retrospective chart review of infants born at the NICU and newborn nursery to determine whether infants in whom CMV screening should have been considered were appropriately screened. In conjunction with the Weiler Hospital NICU, we created an algorithm for a targeted screening approach in high-risk groups with plans to re-evaluate the proportion of infants being appropriately screened as well as proportion of positive CMV screening tests before and after implementation.

### OTHER TRAINING /ACTIVITIES

12/2018- ongoing	Ad hoc reviewer for <i>Vaccine</i>
09/2018- ongoing	Emory University School of Medicine Diversity Committee, member
07/2018- ongoing	Emory Children's Center arm of Vaccine Treatment and Evaluation Unit (VTEU)
07/2017-07/2018	Fellowship Curriculum Committee, Children's Hospital at Montefiore
06/2017	NIAID/IDSA Research Careers Meeting, National Institute of Health, Bethesda, Maryland
06/2016-06/2017	Center for Positive Living, AIDS Center, Montefiore Medical Center
07/2017-07/2018	Pediatric Infectious Disease Outpatient Clinic, Children's Hospital at Montefiore
05/2016	Infection Control and Antimicrobial Stewardship Fellows Course, Annual Harold C. Neu Symposium of the IDSNY

### INTERNATIONAL EXPERIENCE

#### Chennai, Tamil Nadu, India (02/2015)

- Cohen Children's Medical Center Global Health Elective
- Serve pediatric outpatient clinics and inpatient clinical wards in St Thomas Hospital, Chennai
- Gained clinical experience in tropical medicine and infectious diseases including Malaria, Dengue, Leptospirosis, TB and Acute Rheumatic Fever.

#### La Romana, Dominican Republic (10/2013)

- Cohen Children's Medical Center Global Health Elective
- Serve pediatric outpatient clinics for displaced Haitian community in La Romana.
- Target community healthcare workers at La Romana for training in the "Helping Babies Breathe" program (neonatal resuscitation program).

Hangzhou, China (06/2011)

- Ohio State University School of Medicine Global Health Elective
- Serves large urban population in China combining Eastern and Western medicine practices.
- Fluent in Mandarin