

# Stanford

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## Meera N. Sankar

Clinical Associate Professor, Pediatrics - Neonatal and Developmental Medicine

### CLINICAL OFFICES

- **Neonatal Intensive Care Unit**

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### Bio

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### CLINICAL FOCUS

- Neonatal-Perinatal Medicine

### ACADEMIC APPOINTMENTS

- Clinical Associate Professor, Pediatrics - Neonatal and Developmental Medicine
- Member, Maternal & Child Health Research Institute (MCHRI)

### BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Council Member, Western Society for Pediatric Research (2020 - present)
- Secretary, California Association of Neonatologists (CAN) (2020 - present)
- Co-Chair, Research Committee, California Association of Neonatologists (CAN) (2018 - present)
- Board Member, American Academy of Pediatrics-California Chapter 1 (2017 - present)
- Board Member, California Association of Neonatologists (2015 - 2018)
- Instructor, Neonatal Resuscitation Program (2004 - present)
- Fellow, American Academy of Pediatrics (1996 - present)

### PROFESSIONAL EDUCATION

- Residency: California Pacific Medical Center Dept of Medicine (1996) CA
- Board Certification: Neonatal-Perinatal Medicine, American Board of Pediatrics (2005)
- Fellowship: UC Davis Neonatology Fellowship (2004) CA
- Board Certification: Pediatrics, American Board of Pediatrics (1996)
- Residency: UCLA Pediatric Residency (1995) CA
- Internship: Childrens Hospital of Michigan Pediatric Residency (1994) MI
- Medical Education: Kilpauk Medical College (1991) India

## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

My recent clinical research project involved being a recipient of UCSF sub-award grant for a Multicenter clinical research study-PDA Tolerate Trial- ( PDA: TO LEave it alone or Respond And Treat Early - Trial)Trial of Early Treatment of the patent ductus arteriosus versus Conservative Treatment.

I have been interested in clinical research on studying factors determining patent ductus arteriosus closure in preterm infants. Despite a large body of basic science and clinical research and clinical experience with thousands of infants over nearly 6 decades, there is still uncertainty and controversy about the significance, evaluation, and management of patent ductus arteriosus in preterm infants, resulting in substantial heterogeneity in clinical practice. My initial research project looked at the factors determining closure of a PDA in preterm infants and examined the role of prophylactic indomethacin treatment in achieving ductal closure. The study found that prophylactic indomethacin improved the rate of permanent ductus closure by increasing the degree of initial constriction. Prophylactic indomethacin did not affect the remodeling process, nor did it alter the inverse relationship between infant maturity and subsequent reopening. Even when managed with prophylactic indomethacin, the rate of ductus reopening remained unacceptably high in the most immature infants. By providing evidence and clinical solutions, this body of work has been widely cited and informed practical applications for clinicians who care for preterm infants.

My interest in PDA in preterm infants extended to research in assessing the safety and efficacy of medications used in the management of PDA. We looked at Mednax National group's extensive database and identified infants <28weeks gestational age discharged from neonatal intensive care units who were treated with indomethacin or ibuprofen between postnatal days 2 and 14. We used multivariable logistic regression to determine the association of indomethacin versus ibuprofen on clinical outcomes. We observed similar effectiveness and safety profiles for indomethacin and ibuprofen in the medical management of PDA in premature infants.

In an effort to study parental knowledge and education in caring for very low birth weight infants, we collaborated with investigators at Center for Policy, Outcomes and Prevention research. We specifically focused on Retinopathy of prematurity (ROP) which is a disorder of the developing retina that occurs in two-thirds of infants born preterm or very low birth weight (VLBW). Given rapid progression of this condition, timely screening exams and treatment by skilled ophthalmologists are necessary to reduce risks of visual impairment and blindness. Parents are also essential partners for ensuring timely ROP care in preterm/VLBW infants. Gaps in parents' understanding of ROP—particularly the importance of and time-sensitivity of ROP exams may compromise timely follow-up and attendance of outpatient ophthalmologic appointments. However, no prior studies have explored parents' knowledge of ROP and parents' experiences obtaining outpatient ROP care for their infants. We found that parents of VLBW infants, particularly those with LEP and/or low health literacy, lack knowledge about ROP. Use of visual modalities, rather than standard verbal or written instructions, may improve parents' understanding and adherence with recommended outpatient ROP care.

## Publications

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### PUBLICATIONS

- **Behavior Profiles at 2Years for Children Born Extremely PretermwithBronchopulmonary Dysplasia.** *The Journal of pediatrics*  
Brumbaugh, J. E., Bell, E. F., Grey, S. F., DeMauro, S. B., Vohr, B. R., Harmon, H. M., Bann, C. M., Rysavy, M. A., Logan, J. W., Colaizy, T. T., Peralta-Carcelen, M. A., McGowan, E. C., Duncan, et al  
2020
- **Comparative effectiveness of drugs used to constrict the patent ductus arteriosus: a secondary analysis of the PDA-TOLERATE trial (NCT01958320)** *JOURNAL OF PERINATOLOGY*  
Liebowitz, M., Kaempf, J., Erdev, O., Bulbul, A., Hakansson, S., Lindqvist, J., Farooqi, A., Katheria, A., Sauberan, J., Singh, J., Nelson, K., Wickremasinghe, A., Dong, et al  
2019; 39 (5): 599–607
- **Lack of Equipoise in the PDA-TOLERATE Trial: A Comparison of Eligible Infants Enrolled in the Trial and Those Treated Outside the Trial.** *The Journal of pediatrics*  
Liebowitz, M., Katheria, A., Sauberan, J., Singh, J., Nelson, K., Hassinger, D. C., Aucott, S. W., Kaempf, J., Kimball, A., Fernandez, E., Carey, W. A., Perez, J., Serize, et al  
2019

- **PDA: To treat or not to treat.** *Congenital heart disease*  
Sankar, M. N., Bhombal, S., Benitz, W. E.  
2019; 14 (1): 46–51
- **Parents' Knowledge and Education of Retinopathy of Prematurity in Four California Neonatal Intensive Care Units** *AMERICAN JOURNAL OF OPHTHALMOLOGY*  
Eneriz-Wiemer, M., Liu, S., Chu, M. Y., Uribe-Leitz, T., Rajani, K., Sankar, M., Robbins, S. L., Lee, H. C., Woodard, C., Wang, C.  
2018; 191: 7–13
- **PDA-TOLERATE Trial: An Exploratory Randomized Controlled Trial of Treatment of Moderate-to-Large Patent Ductus Arteriosus at 1 Week of Age.** *The Journal of pediatrics*  
Clyman, R. I., Liebowitz, M., Kaempf, J., Erdeve, O., Bulbul, A., Håkansson, S., Lindqvist, J., Farooqi, A., Katheria, A., Sauberan, J., Singh, J., Nelson, K., Wickremasinghe, et al  
2018
- **Comparative effectiveness and safety of indomethacin versus ibuprofen for the treatment of patent ductus arteriosus** *EARLY HUMAN DEVELOPMENT*  
Gulack, B. C., Laughon, M. M., Clark, R. H., Sankar, M. N., Hornik, C. P., Smith, P. B.  
2015; 91 (12): 725-729
- **Utility of Genetic Testing for the Detection of Late-Onset Hearing Loss in Neonates** *AMERICAN JOURNAL OF AUDIOLOGY*  
Lim, B. G., Clark, R. H., Kelleher, A. S., Lin, Z., Spitzer, A. R.  
2013; 22 (2): 209-215
- **Pharmacologic closure of the Patent Ductus Arteriosus in the Premature Neonate** *NeoReviews*  
Sankar, M. N.  
2003
- **Prophylactic indomethacin: Factors determining permanent ductus arteriosus closure** *JOURNAL OF PEDIATRICS*  
Narayanan, M., Cooper, B., Weiss, H., Clyman, R. I.  
2000; 136 (3): 330-337
- **Patent Ductus Arteriosus- A physiologic basis for current treatment practices** *Current topics in Neonatology*  
Clyman, R. I., Narayanan, M., McIntosh, N.  
edited by Hansen, T. N.  
WB Saunders, Harcourt Publishers Limited .2000; 4
- **Incidence and outcome of a 10-fold indomethacin overdose in premature infants** *JOURNAL OF PEDIATRICS*  
Narayanan, M., Schlueter, M., Clyman, R. I.  
1999; 135 (1): 105-107
- **Congenital Lobar Emphysema- An Atypical Presentation** *Resident and Staff Physician*  
Narayanan, M., Conrad, C., Hardy, K.  
1997; 43 (7)