

## Thomas K. Shimotake, M.D.



Assistant Clinical Professor of Pediatrics  
Associate Director of Clinical Programs in Neonatology  
Co-Director, Neuro-Intensive Care Nursery  
Fellowship Director, Neonatal-Perinatal Medicine

### Contact Info

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## Curriculum Vitae

### Education

- 1982?1987, Colorado College, Colorado Springs, CO - B.A.
- 1993?1997, University of Illinois at Chicago School of Medicine, Rockford, IL - M.D.

### Residencies

- 1997?1998, University of Chicago Children?s Hospital, Chicago. IL ? Pediatrics Internship
- 1998?2000, University of Chicago Children?s Hospital, Chicago. IL ? Pediatrics Residency

### Fellowships

- 2000?2003, University of Chicago Children?s Hospital, Chicago. IL ? Neonatal-Perinatal Medicine

### Board Certifications

- 2002, American Board of Pediatrics, Boards in General Pediatrics
- 2003, American Board of Pediatrics, Sub-Boards in Neonatal-Perinatal Medicine

## **Clinical Expertise**

- Neonatology

## **Research Interests**

- Neonatal lung physiology and surfactants
- Inherited lung diseases
- Medical education: Web-based and lab-based simulated procedural skills training programs
- Therapeutic hypothermia (cooling) after birth asphyxia

## **Biography**

Dr. Thomas Shimotake currently serves as Associate Director of Clinical Programs in Neonatology at UCSF. Dr. Shimotake earned his medical degree from the University of Illinois at Chicago in 1997. He had previously completed a two-year research assistantship at the National Institute of Mental Health, in the Division of Neuroscience, studying the pharmacokinetics of neuroleptic agents. He then completed his Pediatric internship, residency and sub-specialty fellowship training in Neonatal-Perinatal Medicine at the University of Chicago Children's Hospital. During this time, Dr. Shimotake investigated the mechanisms of airway inflammation from tracheal aspirates of premature infants on mechanical ventilation, under the mentorship of Dr. Marc Hershenson. He also received multiple awards from residents and students in recognition of excellence in teaching.

He joined the faculty as an Instructor in the Department of Pediatrics at the University of California San Francisco in 2003, researching the role of surfactant proteins in neonatal lung homeostasis, under the mentorship of Dr. Sam Hawgood. His current appointment is as HS Assistant Clinical Professor of Pediatrics and he has continued to play an active role in both resident and fellow education. In 2007, he was named Fellowship Director for the Neonatal-Perinatal Medicine Training Program at UCSF. In 2008, Dr. Shimotake also began serving as Co-Director of the UCSF Neuro-Intensive Care Nursery, which is the first unit of its kind in the world.

Dr. Shimotake is a Fellow of the American Academy of Pediatrics and holds memberships in a number of other medical societies and associations. He has played an active role in efforts at both Outreach education and in developing standards for the implementation of therapeutic hypothermia (cooling) after birth asphyxia. He has made numerous presentations to regional hospitals and organizations overseeing the care and transport of Neonates at risk for injury after birth asphyxia.

## **Research Overview**

Dr Shimotake is interested in the physiologic processes and lung components that support and protect normal newborn pulmonary function, as well as the clinical abnormalities that can develop when those processes are deranged. Under the mentorship of Dr. Sam Hawgood, he has studied the role that certain lung surfactant proteins (SP-A and SP-D) play in maintaining

alveolar surfactant homeostasis. He has presented his results at numerous local and national conferences including the Annual National Meetings of the Pediatric Academic Society (PAS), the Federation of American Societies for Experimental Biology (FASEB) Summer Research Conference on Lung Surfactants, and the UCSF Pulmonary Retreat.

Dr. Shimotake has an interest in inherited lung disorders of the newborn. He collaborated with researchers at UCLA to help identify a unique cholesterol transport protein called ABCG1, which is a member of the ATP-binding cassette (ABC) family of transmembrane transporters involved in cholesterol and lipid metabolism. He is collaborating with researchers at Washington University in St. Louis and Johns Hopkins University in understanding a novel case of surfactant protein B (SP-B) deficiency occurring in preterm twins. In addition, he is collaborating with Dr. Robert L. Nussbaum (UCSF-Human Genetics) to understand the respiratory phenotype of the ascorbic acid transporter (vitamin C) gene-targeted knock-out mouse. Vitamin C is an essential co factor in collagen synthesis and a strong reducing/antioxidizing agent in the lung. Dr. Shimotake hopes to gain insight into any Vitamin C dependent mechanisms of normal lung function at birth.

Dr. Shimotake remains interested in Medical Education. He is the Co-Investigators on an education project which is studying the impact of a simulated procedural skills training program on Pediatric resident competencies. Programs developed for this project include both a curriculum-based procedural skills training lab using partial task trainers as well as a web-based procedural skills modules. The investigators believe these will have a significant impact on resident skills training in the future, during a time when fewer real-life training experiences are becoming available for resident training.

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