Mark A Underwood, M.A.S., M.D.

Philosophy of Care
Caring for a premature or sick newborn requires a team of dedicated professionals. I love working with parents, nurses, pharmacists, respiratory therapists, dietitians, social workers, and specialists to provide the very best care for these fragile little guys.

Clinical Interests
Dr. Underwood's clinical activities are in the care of premature and sick newborn infants. His research interests include necrotizing enterocolitis, development of intestinal innate immunity, and mechanisms of probiotics and prebiotics in pre-term infants. Dr. Underwood's research projects include clinical trials of probiotics and prebiotics in premature infants, assessment of Paneth cell antimicrobial expression in infants with necrotizing enterocolitis and evaluation of Paneth cell expression in newborn rats.

Title
Chief of Pediatric Neonatology
Assistant Professor

Specialty
Pediatric Neonatology

Department
Pediatrics

Division
Neonatology

Center/Program Affiliation
UC Davis Children's Hospital

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UC Davis Children's Hospital, NICU, 2315 Stockton Blvd. Sacramento, CA 95817
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Education
M.D., University of Texas, Southwestern Medical School, Dallas, Texas, 1987
M.A.S., UC Davis, Davis, California, 2008
B.A., Brigham Young University, Provo, Utah, 1983

Internships
UCLA, Los Angeles, California, 1988

Residency
UCLA, Los Angeles, California, 1990

Fellowships
UC Davis Medical Center, Sacramento, California, 2006

Board Certifications
American Board of Pediatrics, 2004
American Board of Pediatrics, Neonatal-Perinatal Medicine, 2008

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Professional Memberships

Fellow, American Academy of Pediatrics
Society for Pediatric Research
Western Society for Pediatric Research

Honors and Awards

Dean's Team Award for Excellence, 2013
Eli Gold Faculty Achievement prize, 2012
Alice Litman Moss Pediatric Resident award, 1990
Karl G Maeser Scholar, 1982
National Merit Scholar, 1977
Brigham Young University Trustee Scholar, 1977

Select Recent Publications

Bach H, Huang YY, Underwood MD, Dwork AJ, Mann JJ, Arango V. Elevated serotonin and 5-HIAA in the brainstem and lower serotonin turnover in the prefrontal cortex of suicides. Synapse. 2014 Mar;68(3):127-30. Epub 2013 Jul 23.

Underwood MA, Kalanetra KM, Bokulich NA, Mirmiran M, Barile D, Tancredi DJ, German JB, Lebrilla CB, Mills DA. Prebiotic oligosaccharides in premature infants. J Pediatr Gastroenterol Nutr. 2014 Mar;58(3):352-60.

Smilowitz JT, Gho DS, Mirmiran M, German JB, Underwood MA. Rapid Measurement of Human Milk Macronutrients in the Neonatal Intensive Care Unit: Accuracy and Precision of Fourier Transform Mid-Infrared Spectroscopy. J Hum Lact. 2014 Jan 14.

Underwood MA, Kalanetra KM, Bokulich NA, Lewis ZT, Mirmiran M, Tancredi DJ, Mills DA. A comparison of two probiotic strains of bifidobacteria in premature infants. J Pediatr. 2013 Dec;163 (6):1585-1591.

Dvorak K, Coursodon-Boyiddle CF, Snarrenberg CL, Kananurak A, Underwood MA, Dvorak B. Helicobacter hepaticus increases intestinal injury in a rat model of necrotizing enterocolitis. Am J Physiol Gastrointest Liver Physiol. 2013 Oct 15;305(8):G585-92.

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Scoble JA, Underwood MA. Whole blood polymerase chain reaction in a neonate with disseminated herpes simplex virus infection and liver failure. AJP Rep. 2013 Oct;3(2):67-70.

De Leoz ML, Lebrilla CB, Underwood MA. Response to letter to the editor regarding 'A quantitative and comprehensive method to analyze human milk oligosaccharide structures in the urine and feces of infants'. Anal Bioanal Chem. 2013 Sep;405(24):7899-900.

Bokulich NA, Mills DA, Underwood MA. Surface microbes in the neonatal intensive care unit: changes with routine cleaning and over time. J Clin Microbiol. 2013 Aug;51(8):2617-24.

Lewis ZT, Bokulich NA, Kalanetra KM, Ruiz-Moyano S, Underwood MA, Mills DA. Use of bifidobacterial specific terminal restriction fragment length polymorphisms to complement next generation sequence profiling of infant gut communities. Anaerobe. 2013 Feb;19:62-9.

McElroy SJ, Underwood MA, Sherman MP. Paneth cells and necrotizing enterocolitis: a novel hypothesis for disease pathogenesis. Neonatology. 2013;103(1):10-20.

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