

**Julia Muzzy Williamson, PharmD, BCPPS, BCNSP**

**Vitamins: Supplementation and Optimization During Shortages**

Dr. Julia Muzzy Williamson is an assistant professor of practice at North Dakota State University and a pediatric clinical pharmacist currently practicing in the neonatal intensive care unit at Sanford Health in Fargo. At NDSU, she instructs students in the doctorate of pharmacy on topics including nutrition, pediatrics, and women's health. Her practice in the NICU focuses on nutrition in the smallest patients including management of complex patients with short gut, parenteral nutrition dependence and complications, and micronutrient management. Dr. Muzzy is currently dual board certified as a Board Certified Pediatric Pharmacotherapy Specialist and Nutrition Support Pharmacist.

**Description of Presentation:**

This presentation will focus on vitamin supplementation in high risk patient populations and how to identify patients that may already be experiencing insufficiencies or deficiencies. In addition to multivitamin IV drug shortages, I will emphasize on navigating supplementation of vitamin B12, folic acid, vitamin D, and thiamine. Special populations that will be included pediatrics, pregnancy, gastrointestinal surgical patients and more.

**Learning Objectives:**

1. Discuss patient populations most at risk of vitamin deficiencies
2. Identify signs and symptoms associated with common vitamin deficiencies
3. Determine supplementation options to meet the needs of patient populations