

- Individuals who use milk products not supplemented with vitamin D (e.g., yogurt,* raw cow's milk) as the primary source of milk
- Children who are overweight or obese ([Turer, Lin, and Flores, 2013](#))

The [American Academy of Pediatrics \(2008\)](#) recommends that infants who are exclusively breastfed receive 400 IU of vitamin D beginning shortly after birth to prevent rickets and vitamin D deficiency. Vitamin D supplementation should continue until the infant is consuming at least 1 L/day (or 1 quart/day) of vitamin D–fortified formula ([American Academy of Pediatrics, 2008](#)). Non-breastfed infants who are taking less than 1 L/day of vitamin D–fortified formula should also receive a daily vitamin D supplement of 400 IU. Inadequate maternal ingestion of cobalamin (vitamin B₁₂) may contribute to infant neurologic impairment when exclusive breastfeeding (past 6 months) is the only source of the infant's nutrition. A correlation between the incidence of childhood upper respiratory infections and vitamin D deficiency has been found, but the implications of the findings have yet to be completely understood ([Taylor and Camargo, 2011](#); [Walker and Modlin, 2009](#)).

Children may also be at risk for vitamin deficiencies secondary to disorders or their treatment. For example, vitamin deficiencies of the fat-soluble vitamins A and D may occur in malabsorptive disorders, such as cystic fibrosis and short bowel syndrome. Preterm infants may develop rickets in the second month of life as a result of inadequate intake of vitamin D, calcium, and phosphorus. Children receiving high doses of salicylates may have impaired vitamin C storage. Environmental tobacco smoke exposure has been implicated in decreased concentrations of vitamin A, E, and C in infants ([Yilmaz, Agras, Hizli, et al, 2009](#)). Children with chronic illnesses resulting in anorexia, decreased food intake, or possible nutrient malabsorption as a result of multiple medications should be carefully evaluated for adequate vitamin and mineral intake in some form (parenteral or enteral).

Children with thalassemia are reported to have suboptimal intakes (according to DRI recommendations) of vitamins A, D, E, and K, folate, calcium, and magnesium, and the inadequacies continue to increase with advanced age ([Fung, Xu, Trachtenberg, et](#)