

Table 31-3 Treatment of Vitamin Deficiencies

| | CLINICAL FEATURES | SUGGESTED DOSES |
|---------------------------------|--|--|
| Vitamin A | Severe deficiency with xerophthalmia | Infants: 7,500–15,000 U/day IM, followed by oral 5000–10,000 U/day for 10 days. Children 1–8 yr of age: oral 5,000–10,000 U/kg/day for 5 days or until recovery. Children >8 yr of age and adults: oral 500,000 U/day for 3 days; then 50,000 U/day for 14 days; then 10,000–20,000 U/day for 2 mo. |
| | Deficiency without corneal changes | Infants <1 yr of age: 100,000 U/day orally, q4–6mo. Children 1–8 yr of age: 200,000 U/day orally, q4–6mo. Children >8 yr and adults: 100,000 U/day for 3 days, followed by 50,000 U/day for 10 days. |
| | Deficiency | IM given only to those patients with malabsorption in whom oral dosing is not possible. Infants: 7,500–15,000 U/day for 10 days. Children 1–8 yr of age: 17,500–35,000 U/day for 10 days. Children >8 yr of age and adults: 100,000 U/day for 3 days, then 50,000 U/day for 14 days. Give follow-up oral multivitamin that contains vitamin A: LBW infants: no dose established, children ≤8 years of age: 5,000–10,000 U/day, children >8 yr of age and adults: 10,000–20,000 U daily. |
| | Malabsorption syndrome (prophylaxis) | Children >8 yr of age and adults: oral 10,000–50,000 U/day of water-miscible product. |
| | Cystic fibrosis Measles | 1,500–10,000 U/day prophylaxis (CF Foundation). WHO recommendations: single dose, repeating the dose next day and at 4 wk for children with eye findings: 6 mo to 1 yr of age: 100,000 U; >1 yr of age: 200,000 U. |
| Vitamin D | Liver disease | 4,000–8,000 U/day ergocalciferol. |
| | Malabsorption | 1000 U/day ergocalciferol |
| | Nutritional rickets and osteomalacia | Ergocalciferol: children and adults with normal absorption: 1,000–5,000 U/day. Children with malabsorption: 10,000–25,000 U/day. Adults with malabsorption: 10,000–300,000 U/day. |
| | Renal disease and failure | Ergocalciferol: child: 4,000–40,000 U/day; adults: 20,000 U/day. |
| | Cystic fibrosis | Ergocalciferol: 400–800 U/day PO (CF Foundation). |
| | Hypoparathyroidism | Children: 50,000–200,000 U/day ergocalciferol and calcium supplements. Adults: 25,000–200,000 U/day ergocalciferol and calcium supplements. |
| | Vitamin D-dependent rickets Vitamin D-resistant rickets | Children: 3000–5000 U/day ergocalciferol; max: 60,000 U/day. Adults: 10,000–60,000 U/day ergocalciferol. Children: initial 40,000–80,000 U/day with phosphate supplements, daily dosage is increased at 3- to 4-mo intervals in 10,000–20,000 U increments. Adults: 10,000–60,000 U/day with phosphate supplements. |
| Vitamin E | Premature infant, neonates, infants of low birth weight | D- α -tocopherol: 25–50 U/day for 1 wk orally. |
| | Fat malabsorption and liver disease | 10–25 U/kg/day of water-miscible vitamin E preparation. |
| | Cystic fibrosis | <1 yr of age: 25–50 U/day; 1–2 years of age: 100 U/day; >2 yr of age: 100 U/day bid or 200 U daily orally (CF Foundation). |
| | Sickle cell disease | 450 U/day orally. |
| | β -Thalassemia | 750 U/day orally. |
| Vitamin K | Hemorrhagic disease of the newborn | Phytonadione: 0.5–1.0 mg SC or IM as prophylaxis within 1 hr of birth, may repeat 6–8 hours later; 1–2 mg/day as treatment. |
| | Deficiency | Infants and children: 2.5–5 mg/day orally, or 1–2 mg/dose SC, IM, IV as a single dose; adults: 5–25 mg/day or 10 mg IM, IV. |
| | Cystic fibrosis | 2.5 mg, twice a week (CF Foundation). |
| Folate, folic acid, and folacin | Deficiency | Infants: 50 μ g daily. Children 1–10 yr of age: 1 mg/day initially, then 0.1–0.4 mg/day as maintenance. Children >11 yr of age and adults: 1 mg/day initially, then 0.5 mg/day as maintenance. |
| | Hemolytic anemia | May require higher doses than those listed previously. |
| Niacin | Pellagra | Children: 50–100 mg tid. Adults: 50–100 mg/day, max 100 mg/day. |

Continued