

VITAMIN E (*d*-alpha TOCOPHEROL)

Indication	<ul style="list-style-type: none"> • Treatment of vitamin E deficiency^{1,2} • May be indicated in babies receiving erythropoietin and high iron dosages¹
ORAL	Presentation <ul style="list-style-type: none"> • Solution: Pretorius Micel E (156 units in 1 mL 104.7 mg in 1 mL)
	Dosage ² <ul style="list-style-type: none"> • 25–50 units/day
	Preparation <ul style="list-style-type: none"> ○ Draw up 50 units (0.32 mL) of vitamin E and make up to 0.5 mL total volume with water for injection ○ <i>Concentration now equal to 100 unit/mL</i>
	Administration <ul style="list-style-type: none"> • Draw up prescribed dose into oral/enteral syringe • Mix well • Oral/OGT/NGT with feeds to reduce gastrointestinal irritation¹
Special considerations	<ul style="list-style-type: none"> • 1 unit is equal to 0.67 mg of <i>d</i>-alpha-tocopherol (natural form)³ • Treatment dose for deficiency usually results in normal levels within 1 week² • No vitamin E content in pentavite®
Monitoring	<ul style="list-style-type: none"> • Feeding tolerance • Physiologic serum vitamin E is 0.8–3.5 mg/dL. Monitoring at SMO discretion
Compatibility	<ul style="list-style-type: none"> • No information
Incompatibility	<ul style="list-style-type: none"> • No information
Interactions	<ul style="list-style-type: none"> • May enhance anticoagulant effect of vitamin K antagonists and antiplatelet agents (e.g. warfarin)² • Do not administer concurrently with ferrous sulfate as iron absorption is impaired¹
Stability	<ul style="list-style-type: none"> • Store below 30 °C in a dry place¹ • Discard 4 weeks after opening or as per local infection control policy (limited evidence)
Side effects	<ul style="list-style-type: none"> • High doses of alpha tocopherol associated with: <ul style="list-style-type: none"> ○ Feed intolerance (due to hyperosmolarity) ○ Increased rates of sepsis (due to antioxidant effect of drug) ○ NEC (due to hyperosmolarity)² with more than 200 units/day in low birth weight babies
Actions	<ul style="list-style-type: none"> • A fat-soluble vitamin with antioxidant properties • Deficiency of vitamin E causing haemolytic anaemia is seen in nutritionally deficient preterm babies and in babies with malabsorption due to cholestasis⁴
Abbreviations	NEC: necrotising enterocolitis
Keywords	Vitamin E, tocopherol acetate, vitamin E acetate, <i>d</i> -a-tocopherol, alpha tocopherol, fat soluble vitamin



The Queensland Clinical Guideline *Neonatal Medicines* is integral to and should be read in conjunction with this monograph. Refer to the disclaimer. Destroy all printed copies of this monograph after use.

References

1. IBM Micromedex®/Neofax®. Vitamin E. In: IBM Micromedex® NeoFax®/Pediatrics (electronic version). IBM Watson Health, Greenwood Village, Colorado, USA. 2021 [cited 2021 January 05]. Available from: <http://neofax.micromedexsolutions.com/neofax>.
2. Westergren T, Kalikstad B. Dosage and formulation issues: oral vitamin E therapy in children. *European Journal of Clinical Pharmacology* 2010;66(2):109-18.
3. Bronsky J, Campoy C, Braegger C, ESPGHAN/ESPEN/ESPR/CSPEN working group on pediatric parenteral nutrition. ESPGHAN/ESPEN/ESPR/CSPEN guidelines on pediatric parenteral nutrition: Vitamins. *Clinical Nutrition* 2018;37:2366-78.
4. Ainsworth S. *Neonatal Formulary 7: Drug Use in Pregnancy and the First Year of Life*. 7th ed. West Sussex: Wiley Blackwell; 2015.

Document history

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