

Vitamin E

Newborn use only

2020

Alert	This formulary covers oral vitamin E. Vitamin E 1 International Unit (hereafter referred to as “units”) = 0.67 mg d-alpha-tocopherol. ¹ Penta-Vite, a commonly used multi-vitamin supplement doesn't contain vitamin E.
Indication	Prevention and treatment of vitamin E deficiency.
Action	Fat soluble vitamin. It is an antioxidant protecting cell membranes from oxidative stress. Active isomer is α-tocopherol.
Drug type	Fat soluble vitamin.
Trade name	Micel-E oral liquid (Oral liquid SAS product may be available – water soluble liquid, Aqua-E containing 16 mg/mL (20 IU/mL).
Presentation	Micel-E oral liquid: d-alpha-tocopherol 104.7 mg/mL (vitamin E 156 units/mL); 50 mL bottle.
Dose	Vitamin E supplementation in preterm neonates* 8 units/kg daily (6-12 IU/kg/day) ² *Preterm human milk + Human milk fortifier (HMF) at 170 mL/kg/day provides an average 8 units/kg/day.
Dose adjustment	Therapeutic hypothermia – No information. ECMO – No information. Renal impairment – No information. Hepatic impairment – No information.
Maximum dose	Doses exceeding 25 units/kg/day ORAL may pose more risk than benefit for preterm neonates. ³
Total cumulative dose	
Route	Oral
Preparation	No preparation is required.
Administration	Administer undiluted.
Monitoring	Serum vitamin E levels – Not routinely required. Target 1.0-2.0 mg/dL. ^{4,5}
Contraindications	Hypersensitivity to vitamin E or any component
Precautions	Interacts with iron and other oxidants or any polyunsaturated fatty acids. Increases serum bilirubin.
Drug interactions	Iron - Lowers bioavailability of Vitamin E. Vitamin E may increase the effects of vitamin K antagonists and antiplatelet agents.
Adverse reactions	Sepsis. Intracranial haemorrhage (IV dosing). Necrotising enterocolitis.
Compatibility	Not applicable.
Incompatibility	Not applicable.
Stability	
Storage	Micel E oral liquid: Store below 25°C (room temperature).
Excipients	Micel-E: Potassium sorbate, citric acid anhydrous, glycerol, PEG-35 castor oil, ethanol, water.
Special comments	
Evidence	Refer to full version.
Practice points	Vitamin E content in preterm human milk: 0.64 units/dL (0.43 mg/dL) Average human milk fortifier (HMF) at 80 kcal/100 mL provides additional 4-4.5 units/dL. Preterm human milk + HMF at 170 mL/kg/day provides an average 8 units/kg/day. Recommended dietary allowances Colostrum and preterm human milk contains 2-3 times more alpha-tocopherol in mature milk. ^{2,8} Vitamin E supplements for the preterm infant less than 1000 g birth weight are recommended to be 2.8 to 3.5 units/kg/day parenterally and 6 to 12 units/kg/day enterally. ^{2,3,9,10} (LOE III-3 GOR B) Recommended parenteral vitamin E for preterm neonates: 3 units/kg/day (2.8-3.5 units/kg/day). ^{2,10} SMOFlipid 20% contains 163 – 225 mg dl-alpha-tocopherol per 1000 mL. Vitalipid-N Infant contains 0.64 mg dl-alpha-tocopherol per 1 mL. ¹¹ The current Australasian consensus parenteral nutrition provides 2.8 IU/kg/day at 150 mL/kg/day. ¹²
References	Refer to full version.

VERSION/NUMBER	DATE
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