VITAMIN E – alpha tocopherol

Trade Name	Micel E® (Pretorius)
Class	Antioxidant
Mechanism of Action	Stabilises cell membranes. Has been investigated in relation to prevention of retinopathy, Anaemia of prematurity, CLD and IVH.
Indications	**Indication 1:** Babies <30 weeks or <1250g at birth **Indication 2:** Babies with confirmed Vitamin E deficiency anaemia **Indication 3:** Malabsorption ie Cholestasis / Cystic Fibrosis
Contraindications	Hypersensitivity to Vitamin E
Supplied As	d-alpha Tocopherol acetate 156 units/mL
Dilution	Not required
Dosage	**Indication 1 and 2:** 30 units (0.2mL) **Indication 3:** 75 units (0.5mL)
Interval	Once Daily
Administration	Oral - Avoid giving at the same time of day as iron
Compatible With	Water and juice when given orally
Incompatible With	Do not mix in the same oral syringe as other medications
Interactions	Do not give at same time as Iron – interferes with the intestinal absorption of Vitamin E (and vice versa). Vitamin E may increase the effect of vitamin K and antiplatelet medication.
Monitoring	Vitamin E normal range is 23-70 micromol/L. The need for routine levels in babies <30 weeks was stopped in Oct 2018 after repeat audits showed it was no longer required. Levels required monthly for babies with conjugated hyperbilirubinaemia on vitamin supplementation.
Stability	Manufacturer's expiry of 6 months after opening whichever is shorter.
Storage	Room temperature (below 30ºC). Protect from direct sunlight
Adverse Reactions	Diarrhoea, abdominal pain
Metabolism	Oral absorption can be variable in immature infants due to individual variance in bile salts and pancreatic esterases.

Comments	Preterm infants are born with lower Vitamin E levels than their term equivalent. Vitamin E levels fall if not supplemented after birth. The effect of supplementation with Vitamin E for the prevention of consequences of prematurity (IVH, ROP, CLD, anaemia) has been inconclusive and requires further study. Prophylactic administration of Vitamin E is aimed to keep levels in the normal range An audit in April 2002 and 2015/16 showed low levels in 17% compared with 45% (2001) when no vitamin E was given. Further audit in 2018 showed that increasing the standard dose from 30iu to 50iu for all babies didn't decrease incidence of low levels but resulted in high levels for some. Recommendation, give 30iu daily to babies who are less than 30 weeks or less than 1250g. Micel E is a section 29 medication (unregistered in NZ) and is only usually funded for use in the community under special authority for cystic fibrosis, liver disease or short gut syndrome. See the link below for further details https://pharmac.govt.nz/assets/form-alphatocopherylacetate-VitaminE-and-Retinol-vitaminA.pdf
References	1. Medicines for Children RCPCH 1999 2. Neofax 2009 and in www.micromedexsolutions.com 3. www.anmfonline.org 4. Khalid et al Antioxidant vitamins and hyperbilirubinaemia in neonates Ger Med Sci 2007;5:Dcc03 5. www.nzf.org.nz 6. www.pharmac.govt.nz
Updated By	Nicola Austin June 2001, amended June 2003, May 2005 A Lynn, B Robertshawe, H Little, N Austin Feb 2008 A Lynn, B Robertshawe Dec 2012 (re-order profile) A Lynn, H Little, N Austin July 2013 (clarify indications) A Lynn, B Robertshawe July 2016 (amend dose for malabsorption) A Lynn, B Robertshawe, N Austin , H Little, B Dixon (change to 50IU for only <30wk or <1250g in line with ROP screening) A Lynn, B Dixon, A Zarifeh Oct 2018 (stop routine levels on rpt audit data) A Lynn, B Robertshawe March 2022 (routine update)