NEONATAL

COLECALCIFEROL (Vitamin D3)

This document should be read in conjunction with this **DISCLAIMER**

Presentation	Oral solution: 5000 Units / mL

Action& Indication	Vitamin D3 Supplement. Regulates calcium homeostasis and bone metabolism. Increases intestinal absorption and renal reabsorption of calcium and phosphate. Promotes bone mineralisation.
	• Treatment of Vitamin D deficiency or Rickets
	• Prevention of Vitamin D deficiency in preterm infants;
	  ○ Infants born <35 weeks corrected gestational age with a weight below 1.8kg who are fed fortified breastmilk (PreNAN HMF) and/or preterm formula (PreNAN HA)
	  ○ Infants born <35 weeks corrected gestational age fed unfortified breastmilk or term formula.
	• Prevention of Vitamin D deficiency in infants with one or more risk factors for Vitamin D deficiency;
	  ○ Infants born to a mother with low Vitamin D and receiving breast milk
	  ○ Lack of exposure to sunlight
	  ○ Dark skin
	  ○ Conditions affecting Vitamin D metabolism and storage (hypoparathyroidism, renal osteodystrophy, cholestatic liver disease)

Dose	**PREVENTION OF VITAMIN D DEFICIENCY** **ORAL:** 500 Units (0.1 mL) ONCE daily **TREATMENT OF VITAMIN D DEFICIENCY** **ORAL:** 1000 Units (0.2 mL) ONCE daily

FREQUENCY OF MONITORING:

Inpatients:

All infants receiving vitamin D for prevention of deficiency should have levels done at 4, 8 and 12 weeks of age (monthly) and/or just prior to discharge.

All Infants receiving vitamin D for the treatment of a deficiency are to also have calcium, phosphate, parathyroid hormone, alkaline phosphatase monthly.

At Discharge:

Infants born <35 weeks gestation

- If infant has vitamin D deficiency and is receiving treatment, then discharge with the current dosage and organize GP review at 6-8 weeks (GP letter required).
- If infant has sufficient vitamin D with one or more risk factors, then continue prophylaxis vitamin D and organize GP review at 6-8 weeks (GP letter required).
- If infant has sufficient vitamin D with no risk factors, then discharge without vitamin D

Infants born ≥35 weeks gestation with one or more risk factors listed above who are considered for vitamin D prophylaxis:

- No Vitamin D level is required prior to discharge
- Commence prophylaxis Vitamin D as required and organise GP review at 6-8 weeks (GP letter required)

SERUM LEVELS: Monitor 25 hydroxy Vitamin D

Level (nmol/L)	**Range**	**Action**
≤30	Severely Low	Requires treatment for vitamin D Deficiency
30-50	Low	Requires treatment for vitamin D Deficiency
50 - 200	Target range	Nil, or remain of preventative dose
≥ 200	High	Cease Supplementation. Perform dipstick of urine daily. • If large amount of blood (3+) on two samples; organise for renal ultrasound • If renal ultrasound identifies renal calculi discuss with renal physician and paediatric urologist

Administration	**ORAL:** When tolerating full feeds, give with feeds.
Adverse Effect	**Common:** Nil **Serious:** nephrocalcinosis, renal calculi **Over dosage symptoms:** Poor feeding, vomiting, diarrhoea, weight loss, polyuria, sweating, irritability, elevated plasma calcium and phosphate in plasma and urine.
Related clinical guidelines	Neonatal management for existing maternal conditions - Maternal Vitamin D deficiency Neonatal management on post-natal wards - Neonatal discharge / transfer planning
Comments	Breast milk fortifiers and term and preterm formulas contain varying amounts of Vitamin D (Colecalciferol). All mothers with Vitamin D deficiency should seek the advice of their GP to become Vitamin D replete through Vitamin D supplementation.
References	Handbook AM. Australian Medicines Handbook 2016. Australian Medicines Hand; 2016. Mangum B. Neofax 2012. Thomson Reuters; 2012. Taketomo CK, Hodding JH, Kraus DM. Pediatric and neonatal dosage handbook. Hudson (OH): Lexi Comp; 2010. Paediatric Formulary Committee. BNF for Children: 2012-2013. Pharmaceutical Press; 2012.

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