


Vitamin and Mineral supplementation for neonates

BRIEF ADMINISTRATION GUIDE

For detailed information refer to [The Australasian Neonatal Medicines Formulary](#)

 **Note:** Shaded text indicates where Te Whatu Ora Waikato practice differs from ANMF

1. Medicine

1.1. Indications:

Prematurity (see specifics in table under 1.3 Dose)

- ❖ For fat soluble vitamin supplementation (Vitamin A, D, E and K) in fat malabsorption conditions, please refer to [Management of Conjugated Hyperbilirubinaemia in NICU procedure \(1486\)](#)
- ❖ For calcium and phosphate supplementation for metabolic bone disease, please refer to [Metabolic Bone Disease of Prematurity \(6474\)](#) and the [calcium oral \(2903\)](#) and [phosphate oral \(6370\)](#) guidelines
- ❖ For Vitamin K (phytomenadione) refer to [Vitamin K \(phytomenadione\) for neonates \(2980\)](#)

1.2. Route and Presentation:

- Oral
- Retinol (Vitamin A) supplied as Vitamin A oral drops 333.3 microgram per 1 drop (=1111 units per drop) (prepared by Optimus)
 - Cholecalciferol (Vitamin D) supplied as cholecalciferol oral drops 10 microgram per 1 drop (= 400 units per drop) (Puria®)
 - Iron supplied as ferrous sulfate 30 mg/mL (equivalent to 6 mg/mL of elemental iron) oral liquid (Ferrodan®)
 - Folic acid available as 50 microgram/mL oral liquid (prepared by Biomed)

Note: vitamin A (Optimus brand) and folic acid (Biomed brand) are Section 29 products

1.3. Dose:

Supplement	RDI	Indication	Dose	Duration
Retinol (Vitamin A)	250 microg/day	<37w or <2.5kg, *hold dose while on SMOF lipid	333microgram = 0.03ml daily	Until discharge (<u>not</u> prescribed on postnatal ward)
Cholecalciferol (Vitamin D)	5 microg/day 400-1000 IU/day	<ul style="list-style-type: none"> • all infants from Day 1, *hold dose while on SMOF lipid • low serum vitamin D levels^a 	If current weight is ≤1,000 g start 2 drops once daily If current weight is >1,000 g start 1 drop once daily	Until first birthday (prescribe for babies on postnatal ward)
Ferrous Sulfate (Iron)	<u>Prophylaxis:</u> 2-3 mg/kg/day <u>Treatment of iron store depletion:</u> 3-6 mg/kg/day	<37/40 , start at 4-6 weeks postnatally for breastfed infants, (include deferred prescription at discharge if discharged <4w) if <32/40 - check ferritin at 4/52, start if <270	<u>Prophylaxis:</u> 0.5mL/kg = 3mg/kg daily 30 minutes before a feed* <u>Treatment:</u> Up to 1mL/kg = 6mg/kg daily 30 minutes before a feed* *if causing feed intolerance, can be given with feeds	Continue until established on solids
Folic acid	50 microg/day	<37/40, Breastmilk only (at least 50%)	1ml (50 microgram), daily	Until discharge (<u>not</u> prescribed on postnatal ward)

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2. Preparation and Administration

2.1. Compatible fluids:

Breastmilk, artificial formula, sterile water for dilution

2.2. Administration method

- Draw up prescribed dose in an oral syringe or use dropper provided with the bottle

2.3. Monitoring:

- As per clinical requirements (no special monitoring required for vitamin supplementation)

2.4. Storage and Stability

- Store at room temperature, below 25°C
- Vitamin A: Once opened, store refrigerated and discard after 60 days.
- Vitamin D: Once opened, use within 90 days.
- Ferrous sulfate (iron): Discard according to expiry date on the bottle.
- Folic acid: Discard 7 days after opening
- Bottles for all supplements are shared between babies **except cholecalciferol (Vitamin D)**. Each baby should be given their own cholecalciferol bottle to ensure the dropper remains clean.

2.5. Competency for Administration:

This procedure is carried out by, or under, the direct supervision of a registered nurse/registered midwife who holds current Te Whatu Ora Waikato Generic Medicine Management.

3. Associated Documents

- [Management of Conjugated Hyperbilirubinaemia in NICU](#) procedure (Ref. 1486)
- [Vitamin K \(phytomenadione\) for neonates](#) drug guideline (Ref. 2980)
- [Metabolic Bone Disease of Prematurity](#) (Ref. 6474)
- [Calcium oral for neonates drug guideline](#) (Ref.2903)
- [Phosphate Oral for neonates drug guideline](#) (Ref.6370)
- [Probiotic \(Infloran\) for neonates drug guideline](#) (Ref.2931)
- [Fluid orders for neonates](#) guideline on refeeding syndrome (5439)

4. References

- ESPGHAN Committee on Nutrition (Ref: J Ped Gastro Nutr. Jan 2010; 50(1): 85-91)
- Eur Pediatr. 2015; (174:565-576) an expert position paper
- <https://www.starship.org.nz/guidelines/osteopenia-of-prematurity>
- Matejek T et al. [Parathyroid hormone – reference values](#) and association with other bone metabolism markers in very low birth weight infants. J Mat-Fet and Neonatal Med. 2019.
- [Nutrient Reference Values for Australia and NZ including recommended dietary intakes.](#)

Document Ownership

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