

Vitamin A (Retinol)

Trade Name	Vitamin A Suspension (Optimus Healthcare)
Class	Vitamin supplement
Mechanism of Action	Retinol (vitamin A) is an important co-factor in many biochemical processes associated with development of immuno-competence, reproductive function, growth, vision and differentiation and maintenance of epithelial tissue particularly in the lungs.
Indications	<ol style="list-style-type: none"> 1. Babies less than 30 weeks to reduce the risk of chronic lung disease. 2. Babies 30-34⁺⁶ weeks gestation as preterm 3. Supplementation for liver dysfunction/cholestatic jaundice
Contraindications	Hypersensitivity
Supplied As	Each drop is 0.03mL and contains 333mcg or 1110 IU 10mL suspension in a blue glass dropper bottle with glass dropper.
Dilution	N/A
Dosage	<p>Preterm or low birthweight babies on oral feeds start Vitamin A the day after lipid finishes.</p> <ol style="list-style-type: none"> 1. 3 drops (=1000 microgram) 2. 2 drops (= 666 microgram) 3. 10 drops or 0.3mL (= 3330 microgram)
Interval	<p>Once a day</p> <p>Indications 1 and 2. Stop at discharge or 36 weeks (whichever is earliest) if not on respiratory support.</p> <p>Indication 3: Stop when conjugated hyperbilirubinaemia has resolved</p>
Administration	<p>Oral</p> <p>Vitamin A may be given with food or milk. Shake well before use.</p> <p>Larger Doses for Cholestasis:</p> <p>The dropper can be removed and the dose drawn up by syringe. Keep the vial upright as with the dropper removed there can be leakage.</p>
Compatible With	Do not mix with other medications prior to administration.
Incompatible With	Glucocorticosteroids, eg. dexamethasone can cause significant short term increases in retinol plasma concentrations and levels of retinol binding protein. Use vitamin A supplements with caution in babies who require concurrent steroid treatment.

Monitoring	<p>Retinol (vitamin A) normal range is 200-800 microg/L.</p> <p>Routine levels for babies <30 weeks stopped in Oct 2018 after repeat audits.</p> <p>Check levels monthly in babies with conjugated jaundice on supplements</p> <p>Signs of toxicity have been reported to include; full fontanelle, lethargy, irritability, hepatomegaly, oedema, mucocutaneous lesions and bone tenderness.</p>
Stability	Use within 60 days of opening.
Storage	Unopened bottle should be stored below 25 °C. Once opened store in the refrigerator. Do not freeze. Protect from light.
Adverse Reactions	<p>Reports of adverse reactions to Vitamin A are rare and have mainly occurred when vitamin A is used for prolonged periods at high doses.</p> <p>Acute adverse effects that have been associated with vitamin A therapy include: anaemia, coagulation defects, neutropenia, seizures, pseudo-tumor cerebri, and drowsiness.</p> <p>Chronic therapy may result in the development of headaches, insomnia, somnolence, diplopia, hepatotoxicity osteoporosis and skin rashes/ eczema.</p>
Metabolism	Retinol is absorbed in the intestine, metabolised by glucuronidation and oxidation in the liver and metabolites are excreted in faeces and urine.
Comments	<p>Other excipients in this suspension are : glycerol, sorbitol, sodium benzoate, purified water.</p> <p>Each baby prescribed Vitamin A should have their own bottle.</p> <p>Vitamin A is a section 29 medication (unregistered in NZ) and is only usually funded for use in the community under special authority See the link below for further details</p> <p>https://pharmac.govt.nz/assets/form-alphatocopherylacetate-VitaminE-and-Retinol-vitaminA.pdf</p>
References	<ol style="list-style-type: none"> 1. Medicines for Children, RCPCH 2003 2. NEOFAX 3. Micromedex 4. Taketomo C et al Paediatric and Neonatal Dosage Handbook Lexicomp 19th edition 2012. 5. Rahmathullah L, Tielsch JM, Thulasiraj RD et al. BMJ 2003; 327:254-259 6. Robbins ST & Fletcher AB. Early vs delayed vitamin A supplementation in very-low-birth-weight infants. J Parenter Enteral Nutrition 1993; 17:220-225. 7. Tyson JE, Wright LL, Oh W et al. Vitamin A supplementation for extremely-low-birth-weight infants. New Engl J Med 1999; 340(25): 1962 – 1968 8. www.rbht.nhs.uk. Clinical Guidelines for care of children with cystic fibrosis.
Updated By	<p>N. Austin, M Wallenstein, B Robertshawe, Nicky Clark (Dietitian) March 2020.</p> <p>Updated April 2020, December 2020, Jan 2023 (remove references to Vitadol C)</p> <p>A Lynn, B Robertshawe Sept 2023 (align dosing with Starship guideline)</p>