

MONITORING MICRONUTRIENTS IN CHILDREN WITH COMPLEX, MULTIPLE DIAGNOSES ON AMINO ACID FORMULAS (AAF)

Children who are commenced on AAFs require regular monitoring and review, and follow-up is essential to ensure they receive adequate nutrition¹. AAFs are formulated to be nutritionally complete and in line with Foods for Special Medical Purposes (FSMP) legislation. However it is important to regularly check nutritional status, as requirements can change (e.g. with changes in clinical condition, medication use or clinical interventions). Monitoring can include a review of nutritional intake and requirements, anthropometry, assessment of symptoms and micronutrient status¹. This document focuses only on micronutrient monitoring of children who are receiving an AAF as a sole source of nutrition who have complex, multiple diagnoses.

WHICH CHILDREN SHOULD BE MONITORED?

Children with complex systematic disease involving multiple diagnosis who are on AAFs and have any of the following risk factors for developing bone disease:

- History of prematurity²⁻⁴
- Gastrointestinal disease²⁻⁴
- Use of proton pump inhibitors and/or jejunal feeding²⁻⁵
- Immobility⁴.

WHY SHOULD THESE CHILDREN BE MONITORED?

- Children with complex systematic disease involving multiple diagnosis and intestinal disease or a history of prematurity have the potential to develop hypophosphatemia and bone disease²⁻⁴
- Medically complex children may have increased micronutrient losses, a reduced absorptive capacity and/or higher micronutrient demands impacting micronutrient status^{2-4,6-7}
- It can be difficult to establish the micronutrient status of a medically complex child through dietary assessment alone and so reliable blood markers can be helpful⁸.

WHAT MICRONUTRIENTS SHOULD BE MONITORED?

	6 months after commencing AAF	If continuing on AAF review annually
Iron profile: Full blood count & ferritin ⁹	✓	✓
Bone profile: Vitamin D, parathyroid hormone (PTH), phosphate, calcium, and alkaline phosphatase (ALP) ^{2,3,4,10}	✓	✓
Electrolytes: Sodium, potassium, magnesium ¹⁰	✓	✓
Zinc ¹⁰		✓
Selenium ⁹⁻¹⁰		✓

Monitoring may be required earlier or more frequently where there is a clinical concern, or with children that are likely to have/with known unstable micronutrient profiles.

*Serum levels of micronutrients, particularly phosphorus, should be routinely monitored by clinicians when Neocate is used as a primary or sole source of nutrition for patients with complex systemic disease involving multiple diagnoses and intestinal disease, *especially in combination with tube feeding and/or a history of prematurity. Neocate** formulas are intended for use under medical supervision.*

This information is intended for healthcare professionals only.
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**FOR FURTHER INFORMATION
PLEASE VISIT [NUTRICIA.CO.UK](https://www.nutricia.co.uk) OR
CALL OUR DEDICATED HELPLINE
(UK) 08457 623653, OR
(ROI) 1800 412414**

**A retrospective review identified case studies of patients on primary or sole source of nutrition with diagnoses covering multiple systems, including congenital gastrointestinal anomalies and GI surgeries (such as necrotizing enterocolitis, esophageal atresia, tracheoesophageal fistula); neurological conditions (such as seizures intraventricular hemorrhage, hydrocephalus); respiratory (lung disease, tracheostomy, aspiration); cardiac (congenital heart disease); and other systemic conditions, often in conjunction with tube feeding and/or a history of prematurity².*

***Neocate is a Food for Special Medical Purposes for the dietary management of Cow's Milk Allergy, Multiple Food Protein Allergies and other conditions where an amino acid-based formula is recommended. It must be used under medical supervision after consideration of all feeding options, including breastfeeding.*

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