

<b>Title of document Infant feeds: premature infants</b>		
Version 2	Last reviewed: Nov 2020	Review date: Nov 2023

# Prescribing Post Discharge Formulas for infants born at <34 weeks gestation and Supplements to Premature Infants born at <36 weeks gestation

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## Introduction

This guide was first written in 2011 at the request of the Nottinghamshire Area Prescribing Committee (APC) and updated in 2016 following updates to the Nottingham University Hospital NHS Trust (NUH) Neonatal Service Nutrition Guidelines.

This guidance in 2020 follows update and ratification of nutrition guidelines at NUH available at <http://www.nuh.nhs.uk/healthcare-professionals/clinical-guidelines/>

Hospital follow-up of infants born prematurely varies according to gestation at birth as well as their individual care needs. Infants born at <30 weeks gestation will usually have neurodevelopmental follow up until 2 years corrected age. Follow-up for infants born at ≥30 weeks gestation will be agreed by the consultant neonatologist before discharge.

Recommendations for Advisory Committee on Borderline Substances (ACBS) approved formulas and other prescribed supplements should be detailed in a letter at the time of discharge. The most common practices are given below and should be adhered to when possible. For the purpose of formula choice and vitamin and iron prescribing in this guidance, <36 weeks gestation is used.

Since the last update there has been an accruing literature on the additional needs of the late or moderately preterm infant, with particular emphasis on nutrition and feeding, defining:

- late preterm as ≥34 weeks of gestation and <37weeks and
- the moderately preterm infant as ≥32 weeks of gestation and <34 weeks.

The most significant change in the recently updated NUH guidance is that preterm infants will not automatically receive a nutrient enriched preterm formula on discharge from hospital. Use of such formulas will be based in individual patient need. The rationale for recommendations in this guideline can be reviewed in the above mentioned NUH guidelines; the reference to this recent European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) paper is made [1].

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**Key Points**

1. '6 months corrected age' is 6 months after the expected date of delivery (EDD).
2. Breast-fed preterm infants (born at <36 weeks gestation) should be prescribed 0.6ml of Abidec® daily until their 1<sup>st</sup> birthday *and* 1ml Sytron® (*or* 0.6ml Fersamal®) from 1 month after birth to 6 months corrected age.
3. Premature infants who have been discharged on infant formula intended for babies born at term should be prescribed 0.3ml of Abidec® daily until their 1<sup>st</sup> birthday *and* 1ml Sytron® (*or* 0.6ml Fersamal®) from 1 month after birth to 6 months corrected age.
4. Premature infants discharged on Nutriprem 2® should be prescribed 5 x 800g packs of powdered Nutriprem 2® per 28 days without any vitamin or iron supplementation. Duration of use will depend on progress with growth following discharge.
5. Premature infants in exceptional circumstances (see page 3) who require ready-to-feed Nutriprem 2® should be prescribed approximately 120 x 200ml bottles of ready-to-feed Nutriprem 2® per 28 days until 6 months corrected age without any vitamin or iron supplementation.
6. Infants who cease Nutriprem 2® much before 6 months corrected age should be prescribed 0.3ml of Abidec® daily until their 1<sup>st</sup> birthday *and* 1ml Sytron® (*or* 0.6ml Fersamal®) from ceasing Nutriprem 2® or 1 month after birth, whichever is later, to 6 months corrected age.
7. Vitamins are advised as above until 1<sup>st</sup> birthday due to prematurity, however, parents should be advised that the Dept. of Health advises all children <5years should receive vitamins. Although it is not necessary, due to prematurity alone, for the GP to prescribe after 1<sup>st</sup> birthday, parents eligible for the Healthy Start Scheme should be advised to give (no more than) 5 drops Healthy Start Vitamins® daily and those not eligible should purchase Healthy Start Vitamins® or an equivalent source of vitamin D (10microgram (400 Units)/ daily dose).
8. All parents should be made aware of how to prepare and store powdered formula milk safely to reduce the risk of potentially serious infection.
9. Approximate cost of six months powder (5 x 800g/28days) = £310
10. Approximate cost of six months ready-to-feed (120 x 200ml/28 days) = £1,250

**Breast Milk**

All neonatal units aim to discharge infants home fully breast-fed. Infants who were born prior to 36 weeks who are breast feeding will need ongoing iron and vitamin supplements due to blood volume expansion and rapid growth [2-4].

**Infants born at <36 weeks of gestation and discharged on maternal breast milk:**

- 0.6ml Abidec® daily until 1<sup>st</sup> birthday and
- 1ml Sytron® daily from 1 month of age to 6 months corrected age

If infants born at <36 weeks of gestation, stop breast feeding before 6 months corrected age, they should either:

- change to a term formula with 0.3ml Abidec® daily until 1<sup>st</sup> birthday with 1ml Sytron® from ceasing breast feeding (or 1 month after birth, whichever is the later) until 6 months corrected age **or**,

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- if growth is poor, change to Nutriprem 2<sup>®</sup>, at which point iron and vitamins can be stopped for the duration of use of Nutriprem 2<sup>®</sup>.

Where infants born at <36 weeks of gestation are still breast feeding but are receiving supplementary Nutriprem 2<sup>®</sup>, the following is suggested:

- 0.6ml Abidec daily until 250ml/day Nutriprem 2<sup>®</sup>
- 0.3ml Abidec daily until 500ml/day Nutriprem 2<sup>®</sup>
- Stop Abidec once on 500ml/day Nutriprem 2<sup>®</sup>.

### **Formula milk**

Maternal choice, and the difficulties faced by mothers trying to maintain lactation, will result in some infants requiring formula milk when discharged from hospital. Infants who were born prior to 36 weeks who are not being breast fed, or who require some supplementary feeding, will transfer to:

- **A whey based term profile formula** of parents' choice and should be prescribed:
  - 0.3ml Abidec<sup>®</sup> daily until 1<sup>st</sup> birthday and
  - 1ml Sytron<sup>®</sup> daily from 1 month of age to 6 months corrected age

#### **OR TO**

- **Nutriprem 2<sup>®</sup>** – the enriched post discharge formula used by NUH neonatal units may be recommended for those infants born <34 weeks gestation, according to the following criteria:
  - Slow growth crossing >2 centiles since birth
  - Increased requirements such as those on domiciliary oxygen
  - Reduced intake due to fluid restriction or poor oral feeding
  - Following specific advice from the neonatal dietitian

No additional iron or vitamins will be required when infants are fully fed on Nutriprem 2

For those discharged home on Nutriprem 2<sup>®</sup>, a letter should be sent by the hospital team to the GP before discharge (Appendix 1) requesting 5 x 800g packs per 28 days for a maximum of 6 months corrected age, as endorsed by the Advisory Committee on Borderline Substances (ACBS). The need to continue this product will be monitored by the Neonatal Consultant at neonatal review.

In exceptional circumstances, an infant discharged on Nutriprem 2<sup>®</sup> may benefit from the sterile ready-to-feed (RTF) product. This will only be recommended occasionally at the request of the Neonatal Dietitian or Consultant Neonatologist when the discharge letter will request 120x200ml bottles per 28 days. The reason for suggesting RTF will be explained with review criteria, as RTF Nutriprem 2<sup>®</sup> costs 4 times as much as the powdered product. *Where parents wish to choose the RTF product, this can be purchased from pharmacies.*

SMA Gold Prem 2<sup>®</sup> is an alternative enriched post-discharge formula. This is *not* the formula of choice for Nottingham Neonatal Units as it always requires iron and vitamin supplements. It is occasionally requested where poor tolerance of Nutriprem<sup>®</sup> has led to a change to SMA<sup>®</sup> products – possibly due to the hydrolysed protein. It can be prescribed in the community but requires:

- 0.3ml Abidec<sup>®</sup> daily until 1<sup>st</sup> birthday and
- 1ml Sytron<sup>®</sup> daily from 1 month of age to 6 months corrected age

The extra nutrition provided by Nutriprem 2<sup>®</sup> (or SMA Gold Prem 2<sup>®</sup>) is most important in the first few weeks after discharge. However, as some infants will gain excess weight on prolonged use, infant

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growth should be reviewed alternate monthly and 6 months corrected age (6 months from EDD) should be set as a review date at the time of starting the formula. This can be discussed with the infant's Neonatologist if still under review. In the more mature infants where the infant is not under the care of a Neonatologist, changing to a standard term formula should be carefully considered between primary care professionals and the infant's weight monitored closely for a few weeks. Any infant changing to term formula much before 6 months corrected age should start:

- 0.3ml Abidec® daily until 1<sup>st</sup> birthday and
- 1ml Sytron® daily from 1 month of age to 6 months corrected age

Parents who wish to continue Nutriprem 2® after 6 months corrected can purchase it but this is not encouraged.

### Vitamins and Iron

Breast milk and some formula milks do not contain recommended intakes of vitamins and iron. Infants born preterm are constitutionally deficient in these. Healthy Start vitamins do not contain adequate vitamins contents until infants reach their 1<sup>st</sup> birthday.

Recommendations for vitamin and iron supplementation for infants who were born before 36 weeks of gestation at birth are:

Milk	Age	Vitamin/ Iron recommendation
Breast Milk	< 6 months corrected age	<ul style="list-style-type: none"> <li>• 0.6ml Abidec® daily</li> <li>• 1ml Sytron® daily from 1 month after birth</li> </ul>
	6 months corrected age to 1 <sup>st</sup> Birthday	• 0.6ml Abidec® daily
	1 <sup>st</sup> birthday to 5 years	Advise 5 drops Healthy Start Vitamins® daily or equivalent source of vitamin D*
Breast Milk with Formula milk	See guidance in text above	
Nutriprem 2®	Review need and stop at 6 months corrected age	Nil (for mixed feeding with breast milk, see guidance in text above)
SMA Gold Prem 2®	Review need and stop at 6 months corrected age	0.3ml Abidec® daily AND 1ml Sytron® daily from 1 month after birth to 6 months corrected age
Term Formula	< 6 months corrected age	0.3ml Abidec® daily AND 1ml Sytron® daily from 1 month after birth to 6 months corrected age
	6 months corrected age - 1 <sup>st</sup> Birthday	0.3ml Abidec® daily
	1 <sup>st</sup> birthday – 5 years	Advise 5 drops Healthy Start Vitamins® daily or equivalent source of vitamin D*

\*a supplement containing no more than 10microgram (400 Units) vitamin D/ daily dose as per DH advice for all infants up to 5 years. This can be as a single vitamin D supplement or a multivitamin such as Healthy Start Vitamins or Abidec®.

### References

1. Lapillonne, A., et al., Feeding the Late and Moderately Preterm Infant: A Position Paper of the ESPGHAN Committee on Nutrition. JPGN, 2019.

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[https://journals.lww.com/jpgn/Abstract/publishahead/Feeding\\_the\\_Late\\_and\\_Moderately\\_Preterm\\_Infant\\_A.96455.aspx#pdf-link](https://journals.lww.com/jpgn/Abstract/publishahead/Feeding_the_Late_and_Moderately_Preterm_Infant_A.96455.aspx#pdf-link)

2. D4 - Enteral Feeding on the Neonatal Unit, 2019 <https://www.nuh.nhs.uk/clinical-guidelines?smbfolder=180>

3. D5 - Iron Supplementation on the Neonatal Unit, 2019 <https://www.nuh.nhs.uk/clinical-guidelines?smbfolder=180>

4. D8 - Vitamin Supplementation on the Neonatal Unit, 2019  
<https://www.nuh.nhs.uk/clinical-guidelines?smbfolder=180>

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## Appendix 1 – Sample of GP letter

Dear Dr .....

This baby will soon be discharged from the Neonatal unit and due to premature birth is feeding on the nutrient enriched post-discharge formula – **Nutriprem 2**. We would be very grateful if you would prescribe this product according to Nottinghamshire APC Guidance.

Name of Product	Manufacturer	Amount per 28 days
<b>Nutriprem 2</b>	<b>Cow &amp; Gate</b>	<b>5 x 800g packs</b>

This is prescribable as a Borderline Substance until the baby is 6 months corrected gestational age, when Nutriprem 2 should be changed to a standard infant formula.

Some babies will make the necessary catch up growth before then so can be changed to a standard formula before 6 months corrected age, and an iron and vitamin supplement prescribed -

1ml Sytron until 6 months corrected or established weaning diet  
0.3ml Abidec daily until 1st birthday when prescribing for prematurity can be stopped.

Thereafter parents should be advised to continue a vitamin D supplement until 5 years of age as advised by the Department of Health for all children.

Nutriprem 2 should not be required beyond 6 months corrected age, so a special case must be made for continuing to prescribe following advice from the neonatal consultant or neonatal dietitian. In order to prevent extended use of this product on prescription, a review date of 6 months corrected age should be entered into the GP electronic record.

Please contact the Neonatal Outreach Team who will be visiting this family with any queries.

Yours sincerely  
Please sign and print name

**Neonatal Outreach Team, Nottingham Neonatal Service**