

# **Perinatal Excellence in Reducing Injury in Premature birth**:

a bundle of perinatal interventions that will contribute to a reduction in brain injury and neonatal mortality across the South West of England by optimising;

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#### Place of Birth

Babies delivered at less than 27 weeks or with an expected birth weight of under 800 grams (less than 28 weeks for multiple births) should be born in a maternity service on the same site as a designated NICU.

[Ref: 1,2,3,4,]

#### **Early Maternal Breast Milk (MBM)**

Babies born at less than 34 weeks gestational age should receive MBM within 6 hours of birth.

Units should monitor (and aim to increase) rates of first MBM within 6 hours of birth for babies born at less than 34 weeks gestational age.

MBM feeding at 14 days - Units should monitor (and aim to increase) rates of babies born at less than 34 weeks gestational age receiving MBM at 14 days of age.

bmj. 2019 Oct 16;367:l5678.

Cochrane Database Syst Rev 2009:CD004661

NHS England: Neonatal Critical Care Transformation Review (2019)

NNAP (RCPCH) 2020 Audit standards, set by NNAP Project Board.

ww.england.nhs.uk/publication/implementing-the-recom

NICE Guidance for Preterm Birth (2019) https://www.nice.org.uk/guidance/ng25

İssue 9. Art. No.: CD003248. DOI: 10.1002/14651858.CD003248.pub4.

#### [Ref: 2,8]

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### Antenatal **Steroids**

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full course of antenatal steroids.

[Ref: 2,4,5,6]

## Caffeine



"starting it as early as possible and ideally before

- (consider 32 34 weeks)
- Birth weight less than 1500g

[Ref 9,10]

https://www.rcpch.ac.uk/sites/default/files/2019-11/nnap\_2020\_audit\_measures\_quide\_v1.0\_191119\_0.pdf



Antenatal

**Sulphate** 

Mothers who

give birth at less

than 30 weeks

gestational age

Magnesium Sulphate.

**Probiotics** 

should receive

[Ref: 2,4,5,6]

antenatal

Magnesium

### Intrapartum **Antibiotic Prophylaxis**

95% of women in established preterm labour (less than 34 weeks gestation) to receive Intrapartum Antibiotic Prophylaxis at least 4 hours prior to birth.

[Ref: 12]

#### **Volume Guarantee** (VG) or Volume **Targeted** Ventilation (VTV)

For babies who need invasive ventilation, use volume-targeted ventilation (VTV) in combination with synchronised ventilation as the primary mode of respiratory support.



Babies born at less than 34 weeks gestational age should have their cord clamped at or after one minute.

[Ref: 2,4,7]

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#### **Prophylactic Hydrocortisone**

Babies born <28 weeks gestation should receive prophylactic hydrocortisone from day 0 of life.

[Ref 10]

- Parker MG, Melvin P, Graham DA et al. Timing of First Milk Expression to Maximize Breastfeeding Continuation Among 8. Mothers of Very Low-Birth-Weight Infants. Obstet Gynecol. 2019b;133(6):1208-1215
  - http://swneonatalnetwork.co.uk/media/107035/swnn-guideline-caffeine-use-in-preterm-infants-rs.pdf 9
  - Specialist neonatal respiratory care for babies born preterm, NICE guideline [NG124]Published date: April 2019 10. https://www.nice.org.uk/guidance/ng124/chapter/Recommendations
  - http://www.swneonatalnetwork.co.uk/media/89842/swnn-guideline-probiotics-in-preterm-babies-final-January-2016-version-02.pdf 11.
  - Kenyon S, Boulvain M, Neilson JP. Antibiotics for preterm rupture of membranes. Cochrane Database of Systematic Reviews 2013, Issue 12. Art. No.: CD001058. DOI: 10.1002/14651858.CD001058.pub3. Accessed 07 January 2021. 12.
  - https://swahsn.com/news/new-evaluation-shows-quality-improvement-project-is-improving-care-for-premature-babies 13.
  - 14 https://www.researchsguare.com/article/rs-1550325/v1
  - https://swahsn.com/wp-content/uploads/2022/08/A4-PERIPrem-Bitesize-evaluation-V4.pdf 15.
  - 16. https://fn.bmj.com/content/early/2023/01/01/archdischild-2022-324579
  - 17. https://www.weahsn.net/news/precept-national-programme-evaluation



- 3 days of age") in all babies:
- Less than 30 weeks gestation

Helenius K, Longford N, Lehtonen L, Modi N, Gale C. Association of early postnatal transfer and birth outside a tertiary hospital

with mortality and severe brain injury in extremely preterm infants: observational cohort study with propensity score matching.

Doyle LW, Crowther CA, Middleton P, et al. Magnesium sulphate for women at risk of preterm birth for neuroprotection of the fetus.

BAPM: Perinatal Management of Extreme Preterm Birth Before 27 Weeks of Gestation (2019). Available at www.bapm.org

Rabe H, Gyte GML, Díaz-Rossello JL, Duley L. Effect of timing of umbilical cord clamping and other strategies to influence

placental transfusion at preterm birth on maternal and infant outcomes. Cochrane Database of Systematic Reviews 2019,







endations-of-the-neonatal-critical-care-transformation-review

Supporting compliance with the complete bundle for all eligible mothers and their babies born at less than 34 weeks gestation to improve the optimisation and stabilisation of the very preterm infant



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#### Normothermia

Babies born at less than 34 weeks gestational age should have a temperature on admission which is both between 36.5–37.5°C and measured within one hour of birth.

[Ref: 2,4]

#### **Evaluating** the impact

The South West AHSN was commissioned to evaluate the impact of PERIPrem with a quantitative evaluation, published in BMJ Open Quality, and an evaluation on the barriers and enablers to the implementation of PERIPrem published in Research Square. Explore the findings in a bite sized summary of the evaluation. [Ref 13-15]

The use of magnesium sulphate came from our earlier collaborative, PReCePT. The national rollout of this by the AHSN Network using a QI approach has been found effective according to an evaluation by the National Institute for Health and Care Research (NIHR). The findings, led by researchers at the University of Bristol, are published in the Archives of Disease in Childhood. [Ref 16-17]