University Hospitals Sussex
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TRUST CLINICAL GUIDELINE

Care of the Newborn

OVERVIEW

To provide evidence-based guidance on the care of the newborn.

This guideline applies to:

- Midwives
- Maternity support staff
- Paediatricians
- Neonatal Staff

OWNER	Clinical Director
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Care of the newborn

1.0 Introduction

This guideline provides evidence-based guidance on the care of the newborn. It applies to:

- Midwives
- Maternity support staff
- Paediatricians
- Neonatal Staff

2.0 Definitions and abbreviations used in this document

EONS - Early Onset Neonatal Sepsis	**NEWTT -** Newborn Early Warning Trigger & Track
GTT - Glucose Tolerance Test	**TMBU -** Trevor Mann Baby Unit
SCBU - Special Care Baby Unit	**IPPV -** Intermittent Positive Pressure Ventilation
SBAR - Situation, Background, Assessment, Recommendation	**ANNP -** Advanced Neonatal Nurse Practitioner
TCB - Transcutaneous bilirubinometer	**BGL** - blood glucose measurement
PRH - Princess Royal Hospital	**RSCH -** Royal Sussex County Hospital
GBS - Group B Streptococcal	**FBC -** Full Blood Count
CRP - C-Reactive Protein	**IV -** Intravenous
RGN - Registered General Nurse	**SHO -** Senior House Officer
CHD - Coronary Heart Disease	**SATs -** Oxygen Saturation
Kg - Kilograms	

Full set of observations is defined as:

- General wellbeing and behaviour.
- Chest movements, grunting and nasal flaring skin colour including perfusion, by testing capillary refill time.
- Feeding
- Muscle tone
- Temperature
- Heart rate and respiration rate.

3.0 Duties and responsibilities

All midwives, maternity support staff, paediatricians, neonatal staff working in the Trust	• To access, read, understand and follow this guideline. • To use their professional judgement in application of this guideline.

Maternity Managers	• To ensure the guideline is reviewed three yearly and aligns with national standards. • To ensure the guideline is accessible to all relevant staff.

4.0 Care of the newborn immediately after birth

- Most newborns will breathe within ninety seconds of birth and very few need resuscitation. However, every newborn should be individually assessed.
- Ensure the newborn is born in a warm environment. Wet newborns lose heat, can become hypoxic, hypothermic and develop metabolic acidosis.
- Prevent heat loss by drying the newborn at birth with a warm towel; remove the wet towels and cover.
- If baby is born in the pool, bring to the surface gently and face first. Keep the baby's body under the water and ensure the face is out of the water.
- Whilst drying the newborn assess their condition, colour, tone, breathing and heart rate.
- A newborn that is not breathing adequately or is blue or floppy should be dried covered and placed under a radiant heat source so that further resuscitation can take place.
- **CALL FOR HELP IF YOU NEED IT. Ring 2222 and ask for a 'NEONATAL EMERGENCY' stating your location**
- Keep the newborn warm and promote skin-to-skin contact with the mother or birthing person, when possible, in a well newborn (see below).
- Early feeding is recommended within the first hour of life and with uninterrupted skin-to-skin contact in a well newborn (see section 6 MP072 Newborn Feeding protocol).

4.1 Skin-to-skin contact

- Observations of the mother or birthing person's vital signs and level of consciousness should be continued throughout the period of skin-to-skin contact. Mother and birthing person may be very tired following birth and so may need constant support and supervision to observe changes in their baby's condition or to reposition their baby when needed.
- Many mothers and birthing people can continue to hold their baby in skin-to-skin contact during perineal suturing, providing they have adequate pain relief. However, a mother or birthing person who is in pain may not be able to hold her baby safely. Babies should not be in skin-to-skin contact with their mother or birthing person when they are receiving Entonox or other analgesics that impact consciousness. As an alternative, staff could support the birth partner to have skin-to-skin contact until the procedure is completed.
- During skin-to-skin the baby's position should be checked to ensure that a clear airway is maintained.
- Observation should be made of the:
  - Respiratory rate and chest movement.
  - Unusual breathing sounds or absence of noise from the baby
  - Changes in colour, the baby should be assessed by looking at the whole of the baby's body as the limbs can often be discoloured first. Subtle changes to colour indicate changes in the baby's condition (this can be difficult to assess depending on lighting conditions).

  - Tone – the baby should have a good tone and not be limp or unresponsive
  - Temperature – ensure the baby is kept warm during skin-to-skin contact.
- Separation of a woman or birthing parent and their baby within the first hour of the birth for routine postnatal procedures, for example weighing and checking should be avoided unless these measures are requested by the woman and person or are necessary for the immediate care of the baby.
- Body temperature and birth weight should be recorded soon after the first hour following birth.
- An initial examination should be undertaken by a midwife, neonatal nurse or paediatrician to detect any major physical abnormality and to identify any problems that require referral.
- Any examination or treatment of the baby should be undertaken with the consent and in the presence of the parents or, if this is not possible, with their knowledge.
- Administer Vitamin K according to the parents' wishes and with their consent. Provide the Vitamin K information leaflet if the parents are undecided. Accessible at: Vitamin-K-deficiency-of-the-newborn (uhsussex.nhs.uk)
- See Appendix 1 for Vitamin K prescription chart.

5.0 Routine postnatal care of the baby

- At each postnatal contact, ask parents if they have any concerns about their baby's general wellbeing, feeding or development. Review the history and assess the baby's health, including physical inspection and observation. If there are any concerns, take appropriate further action.
- Be aware that if the baby has not passed meconium within 24 hours of birth, this may indicate a serious disorder and requires medical advice.
- Carry out a complete examination of the baby within 72 hours of the birth and at 6 to 8 weeks after the birth (see the Public Health England newborn and infant physical examination [NIPE] screening programme. Trust guideline: MP070 Examination of the Newborn
- For advice on identifying and managing jaundice, see section 8.0.
- If there are concerns about the baby's growth, see the NICE guideline on Faltering growth.
- Carry out newborn blood spot screening in line with the NHS newborn screening.
- The blood spot sample should be taken on day 5 for all babies. For the purpose of screening, day of birth is day 0.
- In exceptional circumstances the sample can be taken between day 5 and day 8.
- Carry out newborn hearing screening in line with the NHS newborn hearing screening programme. Newborn blood spot sampling guidelines: quick reference guide - GOV.UK (www.gov.uk)
- Give parents information about:
  - How to bathe their baby and care for their skin.
  - Care of the umbilical stump.
  - Feeding (see recommendations on planning and supporting babies' feeding).

  - Bonding and emotional attachment (see recommendations on promoting emotional attachment).
  - How to recognise if the baby is unwell, and how to seek help (see recommendations on symptoms and signs of illness in babies).
  - Established guidance on safer sleeping (including recommendations on bed sharing).
  - Maintaining a smoke-free environment for the baby (see also the NICE guideline on smoking: stopping in pregnancy and after childbirth).
  - Vitamin D supplements for babies in line with the NICE guideline on vitamin D supplement use.
  - Immunising the baby in line with Public Health England's routine childhood immunisations schedule.
- Advise parents to seek advice from a healthcare professional if they think their baby is unwell, and to contact emergency services (call 999) if they think their baby is seriously ill.

6.0 Management of the newborn with meconium-stained liquor at birth

Meconium-stained liquor occurs in 10 – 20% of births, which increases to over 20% after 42 weeks' gestation. Meconium aspiration syndrome occurs in 2-5% of babies born through meconium-stained liquor.

6.1 At birth

- A neonatologist or advanced neonatal nurse practitioner (ANNP) to be called to attend all births with meconium-stained liquor (Pre-delivery Communication and Neonatal team attendance at delivery MP067).
- **CALL FOR HELP IF YOU NEED IT. Ring 2222 and ask for a 'NEONATAL EMERGENCY' stating your location**.

6.2 Immediately following birth - Vigorous screaming baby

- Do not suction the airway, there is no evidence that this improves outcome.
- If heart rate over 100bpm, baby crying with normal respiratory rate between 30-60 per minute and spontaneous movements – dry and hand to mother or birthing person.

6.3 Immediately following birth - non-vigorous baby and/or not breathing well

- Dry and wrap the baby
- Assess: colour, tone, heart rate, breathing and document APGAR score, call for help if indicated.
- Place baby into neutral position
- If no meconium present, follow resuscitation protocol
- If meconium present – suction the oral cavity only if you are unable to inflate the chest.
- **Do not** lavage trachea
- Take paired cord samples for blood gas analysis.

- Neonatal Resuscitation (Term & Pre-term) MP066

6.4 Well babies

Babies who are well following birth should be transferred with the mother or birthing person to the postnatal ward after the following observations have been performed.

All observations should include:

- General wellbeing and behaviour.
- Chest movements, grunting and nasal flaring skin colour including perfusion, by testing capillary refill time.
- Feeding
- Muscle tone
- Temperature
- Heart rate and respiration rate.

All observations should be documented on BadgerNet Maternity using the newborn observation tab.

If any observations are outside normal limits or concerns raised, the health care professional should request a review by a neonatologist accordingly to NEWS score chart. (Appendix 2)

6.5 Significant meconium

- If there has been significant meconium staining (defined as either dark green or black amniotic fluid which is thick or tenacious (sticky) or any type of amniotic fluid that contains lumps of meconium) and the baby is in good condition, the baby should be closely observed. These observations should be performed at 1 and 2 hours of age and then 2 hourly until 12 hours of age. If not clearly thick or light meconium, then the 12 hours of observations should be performed.
- If thick meconium is present, then antibiotics for the baby should be considered see Early Onset Neonatal Sepsis (EONS) check list and inform neonatal Team.
- Babies born through significant meconium who require on-going IPPV or have on-going respiratory distress should be discussed with the neonatal team for admission to TMBU/SCBU.

6.6 Light meconium

- If there has been light meconium staining, the baby should be similarly observed by the healthcare professional at 1 and 2 hours and only then discontinued if within normal limits. If the baby's condition causes concern at any time, he/she should be reviewed by a neonatologist urgently.

Although NICE does not make a distinction between the type of meconium in labour, for the purpose of neonatal care the above can still apply.

If there is any doubt regarding whether it is light meconium or not always opt for the full 12 hours of monitoring.

7.0 Hypothermia

7.1 Definition (all axillary temperatures)

Normal	36.6 – 37.2ºC
Mild	36.0 – 36.5ºC
Moderate	32.0 – 35.9ºC
Severe	below 32ºC

7.2 Prevention of hypothermia

- The risk of developing hypothermia is greatest immediately after delivery and in the first 24 hours.
- Preterm babies (<37 weeks) and low-birth weight babies (<2.5kg) are at greatest risk. Also consider for babies of a diabetic mother or birthing person, macrosomic babies and polycythaemic babies. Temperature instability can be seen in these cases.
- Hypothermia may also be a sign of sepsis. Hypothermia is associated with increased mortality and morbidity, especially in low-birth weight and/or preterm babies. The risk of mortality increases by 28% for every degree of temperature lost < 36.5ºC in these babies.
- Babies should be dried promptly after delivery (unless in the pool when the baby's body should be kept under the water with the face out of the water).
- Towels and blankets should be pre-warmed.
- Babies should be covered and be cared for in warm, draught free rooms.
- Maintain room temperatures above 20ºC, if a preterm birth is expected, the delivery room/theatre temperature should be increased to at least 25ºC
- For waterbirth maintain water temperature about 37ºC for birth and post birth period.
- Keep babies away from windows or cold walls and keep windows closed in the first 24 hours to avoid heat loss.
- Detection of hypothermia; babies should have their axillary temperature taken as part of their routine check following birth, using an electronic thermometer NOT a Tempadot. The temperature probe should be placed alongside the body in a vertical direction into the axilla, removing any vernix from there first.
- The midwife and nursery nurse should observe the baby for clinical signs of hypothermia as part of their routine care (see below).
- Babies who are under 37 weeks or less than 2.5kg birth weight should have 4hrly temperature for 24 hours post birth.
- All observations and any clinical signs of hypothermia should be documented in the baby's postnatal notes along with a management plan.

7.3 Clinical signs of hypothermia

- Bradycardia
- Grunting
- Apnoea
- Hypotension
- Lethargy

7.4 Management of hypothermia

7.4.1 Mild hypothermia (36-36.5ºC)

- Skin-to-skin contact with either parent, ensuring the baby's body is covered with a blanket.
- If the baby is not having skin-to-skin contact, dress them in 2 layers (vest and baby-grow), hat and blanket. Place the baby feet to the foot of the cot position in the cot, tuck the baby in well with the blanket. Ensure clothes are well-fitting and not too big.
- Consider the use of a radiant warmer if skin-to-skin cannot occur, or if after an hour it does not improve baby's temperature. If under a radiant heater, a full set of observations to be taken every 15 minutes and documented clearly. A direct heat source can influence vasodilation, overheating and hypotension. Whilst baby is under the radiant heater, remove all clothing, leave nappy in situ. Maintain a warm, draught free room.
- Check the baby's temperature hourly once normal and removed from radiant heat until the decision is made that the infant can maintain its own temperature.
- Using SBAR, inform senior midwife and junior member of the neonatal team. Bleep Neonatal SHO/ANNP.

7.4.2 Moderate hypothermia (32-35.9ºC)

- Using SBAR inform senior midwife and senior member of the neonatal team. Bleep neonatal registrar/ANNP.
- Use a radiant heater, full observations every 15 minutes, until normal temperature and document.
- If radiant heat source not available, dress the baby in 3 layers, with a hat and blanket. Check baby's temperature every hour until normal and stable. Knitted hats and blankets are more effective.
- Measure blood glucose level.
- Follow neonatal plan.
- Discus with the neonatal team about the need for transfer to TMBU/SCBU.

7.4.3 Severe hypothermia (<32ºC)

- Midwife/nursery nurse to call 2222, state 'neonatal emergency' and consider involvement of neonatal consultant.
- Put baby under radiant heater, continuous temperature monitory (using Panda probe), complete and document full set of observations every 15 minutes, until neonatal review.

- Transfer baby to TMBU/SCBU to be nursed in a warmed incubator
- Feeding should continue to provide calories and fluid which will help to maintain blood glucose levels.

7.5 Using a heated mattress 'HOT COT' to maintain the baby's temperature within normal range

- Follow manufacturer's instructions.
- Once cot temperature is at 37ºC place the baby in it.
- Position a lightly dressed baby (nappy, long sleeved baby vest *or* baby grow, cotton hat) on its back on the hot cot and cover the baby with 1 - 3 layers of cotton blanket.
- Check baby's temperature every hour until normal temperature is achieved (36.6 - 37.2ºC), check temperature 4 hourly thereafter.
- Once baby's temperature is normal on 2 consecutive occasions, and after a neonatal review, it can be removed from the hot cot, dressed in 3 layers of clothes and a hat and 1-3 blankets, and placed in a normal cot. Layers can be slowly removed once baby's temperature has remained normal on 2 further consecutive occasions.
- If the temperature is above 37.2 ºC take them out of the hot cot but dress them with extra layers as indicated in the bullet above and re-check temp hourly until within the normal range again.

7.6 Clinical signs of hyperthermia

Please be aware of signs of hyperthermia and if concerned call neonatal team:

- Tachycardia
- Tachypnoea
- Hypertension
- Flushing (in term Newborns)
- Sweating
- Restlessness (term Newborn)

8.0 Jaundice

8.1 Introduction

- Jaundice is one of the most common conditions needing medical attention in newborn babies.
- Approximately 60% of term and 80% of preterm babies develop jaundice in the first week of life, and about 10% of breastfed babies are still jaundiced at 1 month of age. In most babies' early jaundice is harmless. However, a few babies will develop very high levels of bilirubin, which can be harmful if not treated.

Clinical recognition and assessment of jaundice can be difficult, particularly in babies with dark skin tones.

8.2 Antenatal

If there is anticipated haemolytic disease from maternal or birthing person antibodies antenatally, this should be discussed with a neonatologist so a postnatal plan can be made. Referrals are made by the screening midwifery team once a concern is identified. This plan should be followed postnatally should also be flagged to the neonatologist / ANNP immediately after birth.

8.3 Postnatal

Parents/carers should be given information about neonatal jaundice. This can be written and /or verbal. Information should include:

- Risk factors for developing jaundice.
- How to check the baby for jaundice.
- What to do if they suspect jaundice.
- The importance of recognising jaundice in the first 24 hours and of seeking urgent medical advice.
- The importance of checking the baby's nappies for dark urine or pale chalky stools.
- The fact that neonatal jaundice is common and reassurance that it is usually transient and harmless but further investigations will be undertaken if there are any concerns.
- Reassurance that breastfeeding can usually continue unless advised otherwise.
- Encourage mothers and birthing people of breastfed babies with jaundice to breastfeed frequently, and to wake the baby for feeds if necessary.
- Provide lactation/feeding support to the breastfeeding mother or birthing person whose baby is visibly jaundiced.
- Please note that sunlight is not a treatment for jaundice.

8.4 Risk factors for jaundice needing treatment

- Gestational age under 38 weeks.
- A previous sibling with neonatal jaundice requiring phototherapy.
- Visible jaundice in the first 24 hours of life. Any jaundice within the first 24 hours will require urgent investigation.
- Exclusive breastfeeding; ensure adequate support is offered to all women and birthing parents that are intending to breastfeed exclusively.

In all babies:

- Check whether there are risk factors.
- Examine the baby for jaundice at each contact, especially in the first 72 hours.

8.5 Visual inspection for Jaundice

Parents, carers and healthcare professionals should all look for jaundice (visual inspection) in babies.

When performing a visual inspection:

- Check the naked baby in bright and preferably natural light.
- Examination of the sclerae, gums and blanched skin is useful across all skin tones.
- Do not rely on visual inspection alone to estimate the bilirubin level in a baby with suspected jaundice (see below).

8.6 Jaundice within 24 hours of birth

- Babies who appear jaundiced on visual inspection pre-24hrs always need to be assessed by a neonatologist / ANNP.
- Measure and plot serum bilirubin immediately.
- Full set of observations must be performed.
- Please note that measurement of jaundice levels using a transcutaneous bilirubinometer is contraindicated in infants less than 24 hours age.

8.7 Jaundice between 24-72 hours of birth

- Initial measurement can be performed using the transcutaneous bilirubinometer
- Serum bilirubin must be used in absence of TCB or if infant less than 35 weeks
- Full set of observations must be performed

8.8 Measuring the bilirubin level

- Use a TCB in babies with a gestational age of 35 weeks or more and a postnatal age over 24 hours.
- If a TCB is not available, the serum bilirubin level should be checked immediately.
- If a TCB measurement indicates a bilirubin level greater than 250 micromol/litre check the result by measuring the serum bilirubin.
- Always use serum bilirubin as first line management to determine the bilirubin level in babies:
  - With jaundice in the first 24 hours of life.
  - Less than 35 weeks gestational age.
  - Babies at or above the relevant treatment thresholds according to TCB reading for their postnatal age, and for all subsequent measurements.

8.9 Additional care

- Ensure babies with factors associated with an increased likelihood of developing significant hyperbilirubinemia receive an additional visual inspection by a healthcare professional during the first 48 hours of life.

8.10 Use of treatment threshold graphs

- Treatment threshold graphs will help staff assess whether babies with jaundice should be given phototherapy or exchange transfusion.
- Ensure gestational age of the neonate is correct and chart appropriate for gestation is selected (use gestation at birth).

- Be sure to plot TCB results under the correct note in BadgerNet Maternity.
- Be sure to plot Serum bilirubin under the correct 'bloods' note in BadgerNet Maternity and plot it to the graph.
- If the decision is made to commence phototherapy, please refer to the neonatal hyperbilirubinemia guideline on SharePoint for on-going plans of care.

8.11 Care of the neonate receiving phototherapy

- Initially, refer to neonatology / ANNP plan.
- A serum bilirubin test is usually performed 4-6 hours after initiating phototherapy.
- Once the bilirubin level is stable or falling serum bilirubin is checked every 6-12 hours unless otherwise stated in neonatology / ANNP plan.
- Phototherapy is usually stopped once bilirubin levels is >50 micromol/litre below the treatment threshold, a rebound level is checked 12-18 hours after stopping.
- If the rebound level is acceptable (discuss with neonatologist / ANNP) then baby can return to routine care and repeat only if further clinical concerns.

8.12 Information for parents or carers with infants on phototherapy

Offer parents or carers verbal and written information on phototherapy including the following:

- Why phototherapy is being considered and needed.
- Possible adverse effects of phototherapy.
- The need for eye protection and routine eye care where overhead phototherapy lights are being used.
- Reassurance that shorts breaks (a maximum of 30 minutes) for feeding, nappy changing, and cuddles will be encouraged.
- What happens if phototherapy does not work.
- Rebound jaundice.
- Potential impact on breastfeeding and how to minimise this.

8.13 General care of the infant during phototherapy

- Ensure infant is in a supine position.
- Expose the maximum area of skin possible to the phototherapy lights.
- Monitor the infant's temperature regularly and ensure that infant's environment is warm and draft free.
- Monitor hydration by daily weighing of the infant and assessing for appropriate numbers of wet nappies according to the baby's age by days
- Support parents and carers to interact with their infant.
- Give the infant eye protection and routine eye care where appropriate.
- Provide support with lactation where necessary.
- Where parents are breastfeeding, ensure they are expressing after breastfeeds. This protects the milk supply and reduces the risk of formula supplementation.

8.14 Monitoring the infant during phototherapy

During phototherapy:

- Using clinical judgement, encourage short breaks (of up to 30 minutes) for feeding, nappy changing and cuddles
- Continue lactation / feeding support
- Do not give additional fluids to otherwise well babies who are breastfed
- Maternal or birthing person expressed milk is the additional feed of choice if available, and when additional feeds are indicated.

9.0 Hypoglycaemia

For full protocol: Hypoglycemia and Hyperglycemia (Neonatology Brighton PRH).docx

8.1 Background

Definition of hypoglycaemia:

- Birth to 72 hours of life (term) or 96 hours of life (preterm): < 2.6 mmol/l (plasma).
- 72 hours of life (term) or 96 hours (preterm) of life: < 3.4 mmol/l (plasma).

Aetiology:

- Low glycogen stores or early depletion of the glycogen stores.
- Impaired gluconeogenesis.
- Hyperinsulinism or lack of counter insulinaemic hormones solely or in combination.

Complications:

- Plasma Glucose < 1.1 mmol/l for > 2 h cause cerebral neuronal necrosis in primates.
- Plasma Glucose < 2.6 mmol/l on > 5 single days/occasions or for > 48 h is associated with neurodevelopmental and physical growth deficits.

Prevention:

- Maintenance of normal body temperature
- Early feeding within first 3 hours of life
- Prompt management of other clinical concerns

9.2 Prevention and detection of hypoglycaemia in the newborn

- Health professional providing care should undertake a risk assessment for each individual parent and baby and identify babies at risk of hypoglycaemia.

9.3 Identification and management of at-risk newborns

- Newborns identified at being at risk should be monitored and placed on the hypoglycaemia pathway - for list of risk factors for commencing the hypoglycaemia pathway and growth charts with thresholds for gestation and weights to identify babies at risk (see Appendix 3).
- Document birth weight on BadgerNet Maternity and confirm with neonatal centile chart that weight does not trigger for hypoglycaemia pathway.
- All infants identified as at risk, require 4 hourly BGL monitoring. Monitoring can be stopped after 12 hours in newborns of diabetic mothers and birthing people and large for gestational age newborns, and those with siblings greater than the 91st centile. All other newborns require monitoring for at least 24 hours. Do not discharge babies into community until they are at least 24 hours, maintaining their blood glucose level and feeding well.
- Follow hypoglycaemia algorithm (Appendix 4).
- Glucose 40% oral gel is part of the management of hypoglycaemia see algorithm. This is categorised as a food supplement and does not need to be prescribed. Squeeze some of the gel from the tube into a small medicine pot. Use a 2.5mg syringe and draw up dose (0.5mls/kg). Dry the baby's mouth with gauze and massage the gel into the buccal mucosa. The baby should then be encouraged to feed. Discard the open tube and contents of the pot. Glucogel should only be administered twice before admission to TMBU/SCBU is considered.
- If risk factors are identified antenatally then a management plan should be clearly documented in the maternal or birthing person's notes relating to the care and management of the newborn baby, by the health professional providing antenatal care. This is usually found under "Scanned Documents" on BadgerNet Maternity.
- Explain plan of care to parents. It is best practice to provide written information alongside verbal.
- If no risks are identified and the baby is full term no blood glucose monitoring should be required unless symptoms become apparent.

Preventative measures should be undertaken for all newborns:

- Maintain normal body temperature (skin-to-skin contact).
- Early feeding (Feed baby within 1 hour of birth i.e. put to breast and provide support and guidance where required).
- Manage other clinical concerns promptly.
- Measure blood glucose IMMEDIATELY if hypoglycaemia is suspected.

9.4 Signs and symptoms of hypoglycaemia

Urgent neonatal review if any of the following signs or symptoms are evident:

- Irritability
- Lethargy/stupor/tremor
- Poor feeding & dry nappies
- Hypothermia
- Hypotonia

- Tachypnoea
- Jitteriness
- Seizures
- Apnoea – 2222 neonatal emergency

9.5 Measurement and diagnosis of hypoglycaemia

- If suspected, a blood glucose measurement (BGL) should be undertaken from a heel-prick sample.
- Point-of-Care (hand-held or blood gas machine) devices are used for routine assessment of blood sugar.
- The decision to undertake a BGL should only be made by a midwife, ANNP or neonatologist.
- The health professional providing care should inform the parent of the indication and implication for BGL monitoring and gain informed consent. Inform parents of the care of wound site following the procedure.
- A BGL can be undertaken by an appropriately trained health professional
- Babies should be kept warm and as calm as possible during the procedure. It is preferable that the parents are not separated from their baby for this procedure.
- Aseptic technique should be employed by the health profession
- The blood glucose monitoring machine is used for routine assessment of blood sugar. The normal range is 2.6 – 4.5mmol/L in plasma. Blood glucose concentrations from handheld devices can vary substantially from plasma concentrations (especially when < 2.6 mmol/l) as they are based on whole blood measurements. For more accurate results, wipe the first two drops of blood from the baby's heel prior to collecting a sample.
- At RSCH and PRH a blood gas machine is available on TMBU and SCBU for borderline Glucose results (needs 35 microliter of blood in a capillary tube).
- Always aim to perform a plasma blood Glucose (venous sample) immediately, if the glucometer or gas machine reading is < 2.6 mmol/l.
- All results should be documented, by the health professional performing the test, under "Baby", "Summary of Care", Blood Tests and Results". Ensure the accurate time of sample is recorded.

10.0 Management of newborns at risk of early and late neonatal infections

For full protocol go to: Care of Newborns at Risk of Early and Late Neonatal Infections

10.1 Background and definition

- Early-onset neonatal infection: Infection with onset in the first 72h of life.
- Late-onset neonatal infection: Infection with onset after the first 72h of life.

10.2 Early onset sepsis management

- All infants that have an identified risk factor for sepsis should be commenced on the following observations:

  - At 1 & 2 hours of age followed by 2 hourly observations for 10 hours, then 4 hourly depending on risk factors, clinical condition and antibiotic treatment. These should be documented on the neonatal observation chart on BadgerNet Maternity.
- Observations must include:
  - Body temperature and overall wellbeing and behaviour.
  - Skin colour, including capillary refill time.
  - Grunting, nasal flaring, chest movements, respiratory rate, heart rate, feeding.
  - Muscle tone.
- It is the health care professional's responsibility to assess for and identify risk factors for sepsis in either the mother or birthing person, or baby that occurred antenatally, intrapartum or in the postnatal period.
- The prompt card Appendix 5 should be used to identify risk.
- If any risk factors are present in the mother or birthing person, or baby inform the Neonatal SHO/ ANNP immediately and bleep for review.
- The following information will also need to be provided in order for a full assessment to take place.
  - **Highest maternal or birthing person antepartum / intrapartum temperature (˚C)**
  - **Duration of rupture of membranes (hours)**
  - **Maternal or birthing person GBS status**
  - **Maternal or birthing person intrapartum antibiotic prophylaxis**
  - **Gestational age**
- The neonatal team will then decide if there are any maternal or birthing person, or neonatal red flags that require an immediate start of IV Antibiotics and documented care plan including frequency and duration of observations.

10.3 Early onset sepsis calculator

For all NON-RED FLAG sepsis risk factors the neonatologist will use the risk calculator. It provides an EOS risk/1000 births.

Neonatal Early-Onset Sepsis Calculator, Kaiser Permanente

See Eolas Medical for antibiotic guidance.

The following management pathway will then be used as indicated by the calculator (Green/Amber/Red) combined with the classification of the clinical examination Well/ Equivocal/ Clinically Unwell as defined by the calculator: N.B Temperature instability (> 100.4˚F or < 97.5˚F) = (<36.4 - >37.9°C)

No culture No antibiotics	• Observations at 1 & 2 h followed by 2 hourly observations for 10 h (total 12 h). • Babies with abnormal observations or other concerning signs will require a neonatal review. • Babies with completely normal observations will need a final neonatal review before discharge.

No culture No antibiotics	• Observations at 1 & 2 h followed by 2 hourly observations for 10 h and then 4 hourly observations for 12 h (total 24 h). • Babies with abnormal observations or other concerning signs will require a neonatal review. • Babies with completely normal observations will need a final neonatal review before discharge.
Blood Culture	• Observations at 1 & 2 h followed by 2 hourly observations for 10 h and then 4 hourly observations for 12 h (total 24 h). • Investigations: FBC, CRP, Blood culture. Consider chest x-ray if chest pathology signs/symptoms present. • Hold IV antibiotics pending results. • Repeat FBC and CRP >6 h <24 h after the first blood test. • Babies with abnormal investigations or observations or other concerning signs will require a neonatal review and consideration of IV antibiotics. • Discharge only once all results are back and reassuring. • Babies with completely normal observations and not started on IV antibiotics will need a final neonatal review before discharge.
Empiric antibiotics	• Observations at 1 & 2 h followed by 2 hourly observations for 10 h and then 4 hourly observations until antibiotics stopped. • Investigations: FBC, CRP, Blood culture. Consider chest x-ray if chest pathology signs/symptoms present. • Aim to administer IV antibiotics within 1h of the decision to treat. • Repeat FBC and CRP >6 h <24 h after the first blood test. • Babies started on IV antibiotics should remain on 4 h observations until antibiotics are stopped. • Discharge once results are back, reassuring and antibiotic treatment completed.

- The clinical examination as well as the Sepsis Calculator outcome must be documented on BadgerNet Maternity.
- Give the parental information leaflet and explain the management pathway.
- The Post-natal doctor/ANNP to complete and update the EOS audit tool. (T drive/TMBUSHO/Postnatal Ward Handover/KP Audit Data Collection).

10.4 Investigations

- Always ensure adequate analgesia for procedures.
- FBC, CRP, Blood culture will be taken before starting antibiotics.
- Repeat FBC and CRP >6h <24h after the first blood test.
- Chest x-ray if chest pathology signs/symptoms present.
- CSF – LP, if it does not delay treatment, for:
  - Septic shock (very unwell newborn) irrespective of CRP.
  - Unwell baby with a CRP ≥10–20 mg/l.
  - Any baby with high CRP ≥20mg/l.
  - Positive blood culture irrespective of CRP.
  - CNS signs/symptoms (encephalopathic) irrespective of CRP considering differential diagnoses.

- Poor response to antibiotic treatment present.
- Skin or eye swabs only if signs/symptoms of local infection or for specific indications, e.g. suspected HSV.

10.5 Antibiotic treatment

10.5.1 Early and late onset sepsis

- Cefotaxime is the first line treatment for the postnatal ward (see local formulary).
- Cefotaxime is administered on the postnatal ward by a Neonatal Nurse and checked by a Midwife/ Maternity RGN.
- The loading dose of Cefotaxime is 50mg/kg. The second dose needs to be given not less than 5 hours and not more than 16 hours after the loading dose.
- All doses of Cefotaxime following the loading dose are administered at 25mg/kg unless documented by neonatal team that increased to 50mg/kg due to clinical condition.

10.5.2 Focal infection:

- Flucloxacillin (+/- Gentamicin) for soft tissue infection including omphalitis.
- Chloramphenicol (topical) for bacterial conjunctivitis.
- A minimum of 36-48h of antibiotics is recommended in any case
- Stop treatment after 36-48h:
  - If blood culture negative
    AND
  - Low level of suspicion
    AND
  - Well baby
    AND
  - CRP <10mg/l and no other abnormal laboratory markers.
- Continue treatment otherwise:
  - For as long as needed, if blood culture negative, but baby is unwell (review need for antibiotics every 24h).
  - For 7 days if blood culture positive.
  - For >7-10 days if blood culture positive and baby unwell.
  - For 14 days if GBS meningitis present.
  - For 21 days if Gram-negative meningitis present.
- Discuss with Microbiology Consultant as needed.

10.6 Group B Streptococcus (GBS)

Management of a newborn where there is known GBS present in either parent or newborn: Parents should be informed about GBS, the risks, available evidence and recommendations for observations and treatment. Parents should be supported to make an informed decision about care and treatment for their baby.

For information on which women and birthing people should have prophylactic antibiotics see MP008 Infections in pregnancy: GBS, Herpes, Varicella and UTI's.

10.6.1 Observations

- All observations should be documented in the neonatal observations tab on BadgerNet Maternity. If all observations are within normal limits they can be discontinued after 12 or 24 hours as applicable. Babies of mothers and birthing people with previous GBS infection should be monitored for 12 hours. If any other Early Onset Neonatal Risk Factors (see Appendix 5) are identified, please consult with ANNP/Neonatal SHO. If baby is born via elective caesarean (not in labour) and no PROM, observations are not required.
- If observations are abnormal or the baby shows clinical signs of being unwell it should be immediately reviewed by a member of the neonatal team.
- Mothers and birthing people of a baby born with pre-labour rupture of membranes should be asked to inform their midwife or GP immediately of any concerns about their baby's wellbeing in the first 5 days following birth, particularly in the first 12hours when the infection risk is the greatest.

11.0 Care of newborns exposed to unprescribed medication or substance misuse

Available from: Neonatal Abstinence and Abnormal Postnatal Adaptation Syndrome (Neonatology Brighton PRH).docx

11.1 Unprescribed medication or substances (substance use in pregnancy)

Documented One-Stop letters and plans (from 32 weeks) are available from BadgerNet Maternity

NB. 'Mini-morph' is not currently administered on the postnatal ward.

Exposure to prescribed medication in Pregnancy, available from: Exposure to Prescribed Medication During Pregnancy (Neonatology Brighton PRH).docx

12.0 Newborn pulse oximetry screening

12.1 Rationale

This is a non-invasive test measuring oxygen concentration in the blood using a sensor applied to the right hand and foot. Lower oxygen levels may be indicative of CHD and other significant non cardiac conditions, such as, pulmonary hypertension, sepsis and pneumothorax that require further investigation.

12.2 Method and timing

- Screening should be performed by midwives or nursery nurses.
- Screening should take place between 4-8 hours of age.
- Staff should use the portable SATs machine.
- Staff should take readings from the right hand and any foot.
- Oxygen saturations should be completed alongside routine observations prior to 4hrs and after 8hrs if clinically needed or if the baby becomes unwell.

- Follow Flow Chart if results abnormal and refer to neonatologist (Appendix 6).
- Results should be documented on BadgerNet Maternity under observations.
- Clear documentation needs to be made if there is a screen positive test regarding discussion with neonatal team and plan made.

13.0 Care of the late preterm baby

13.1 Risks associated with the late preterm infant

The late preterm infant is at increased risk of the following -

Hypoglycaemia:

- Higher metabolic rate.
- Limited brown fat stores.
- Low glycogen stores.
- Temperature instability.
- Ineffective feeding due to weak suck and/or fatigue.

Hypothermia:

- Decreased brown fat for thermogenesis and white fat for insulation.
- Increased heat loss due to higher surface-area-to-mass-ratio.

Respiratory distress and/or apnoea:

- Immature lung development.
- Decreased surfactant.
- Immature breathing control.
- Reduced clearance of lung fluid.
- Decreased airway muscle tone.

Sepsis:

- Immaturity of the immune system.
- Precipitating factors of preterm birth - e.g.: chorioamnionitis, pre-labour rupture of membranes.
- GBS positive.
- Exposure to nosocomial pathogens.
- Invasive procedures.
- Potential delay in initiation and establishment of breastfeeding.

Hyperbilirubinemia:

- Slower passage of meconium.
- Decreased bilirubin-conjugating glucuronyl transferase.

- Poor arousal and immature suck reflex leading to ineffective feeding and increased risk of dehydration and jaundice.
- Peak serum bilirubin at 5-7 days rather than 2-3 days.
- Have a higher incidence of kernicterus, with an up to 10-fold increase in risk for re-hospitalisation for phototherapy.

Feeding difficulties:

- Immature suck/swallow/breathing co-ordination
- Low oromotor tone, central nervous system (CNS) immaturity, limited brown fat stores, poor regulation of state behaviour and excessive sleepiness contribute to feeding issues.
- Separation from mother or birthing person affecting milk supply and establishment of breastfeeding.

Poor weight gain:

- Poor suck feeding.
- Use of supplementation (formula, fortification, vitamins) may be medically indicated.

Psychosocial issues:

- Higher incidence of breast-feeding problems in mothers and birthing people of late preterm infants due to separation and associated maternal or birthing person morbidity (e.g. diabetes, pre-eclampsia).
- Maternal or birthing person anxiety and fatigue.
- Medicalised and stressful environment of the neonatal unit.

13.2 Late preterm infant feeding

For support and guidance on feeding the late preterm infant, guidance for discharge and support in the community please go MP072 Newborn Feeding.

14.3 Thermal care

- Ensure temperature is maintained and that proactive measures are taken to increase temperature if needed. These include skin-to-skin and/or increased layers of clothing.
- 4 hourly temperatures should be taken alongside blood sugar monitoring.

14.4 Weighing

Poor weight gain or considerable weight loss is almost always the result of inadequate milk intake. This could be a result of insufficient milk production or inability of the baby to take in sufficient milk, or a combination of both.

Day 3:

- Late preterm babies should be weighed on Day 3 to monitor and address excessive weight loss or dehydration.
- Feeding should be observed and assessed thoroughly, regardless of feeding methods.
- Please refer to the infant feeding protocol for weight loss.

14.5 Discharge from the postnatal ward

- Late preterm babies that are sent home before they are ready have an increased risk of readmission to hospital. They are at greater risk for readmission with hyperbilirubinemia, feeding problems, respiratory concerns (including apnoea) and suspected sepsis (often due to low temperature and poor feeding).
- A late preterm baby may be considered for discharge from the postnatal ward after 72 hours of age if they fulfil all of the following criteria:
  - Established feeding MP072 Newborn Feeding
  - Temperature stability
  - Community discharge plan in place

15.0 Documentation

Full and contemporaneous records of any preventative measures, detection / testing, and management should be documented on BadgerNet Maternity by the staff providing care.

The following are minimum documentation requirements in the postnatal tab on BadgerNet Maternity:

- Details of the prevention, detection and management of hypoglycaemia in the newborn.
- Details of the prevention, detection and management of hypoglycaemia in the newborn of women with diabetes.
- Details of the prevention, detection and management of hypothermia in the newborn.
- Details of the management of a newborn with meconium-stained liquor present at delivery.
- Details of the management of a newborn where there is known group B haemolytic streptococcus present in either mother or birthing person, or newborn.
- Details of the management of the newborn of women and birthing people known to have misused substances in pregnancy.
- All discussions and advice given to mothers and birthing people / parents should be documented in the maternal or birthing person's, or baby's notes (including leaflets given) by the person providing care.

Appendix 1: Vitamin K Prescription Form

Newborn Vitamin K Prescription and Administration Chart

(PRH&RSCH Maternity Use Only)

University Hospitals Sussex
NHS Foundation Trust

Name:

Date of Birth:

Time of Birth:

NHS Number:

Hospital Number:

Vitamin K leaflet given ☐ Counselled by Midwifery team ☐ Informed consent gained

Newborn Infants over 36 weeks gestation						
Midwife Exemptions for Administration– Single IM Phytomenadione dose						
Day	Drug	Dose	Route	Given By	Date	Time
Birth	Phytomenadione (Vitamin K)	1mg	IM			

Newborn Infants over 36 weeks gestation						
Midwife Exemptions for Supply – First Oral dose						
Day	Drug	Dose	Route	Given By	Date	Time
Birth	Phytomenadione (Vitamin K)	2mg	Oral			

TTO supply under Midwife Exemptions for Supply for 2nd and 3rd Oral Dose over 36 weeks gestation							
Day	Drug	Dose	Route	Signed	Dispensed	Date	Time
4-7	Phytomenadione (Vitamin K)	2mg	Oral				
1 month*	Phytomenadione (Vitamin K)	2mg	Oral				

**Third oral dose at 1 month only necessary if baby exclusively breastfeeding*

Newborn Infants under 36week Gestation – BY ANNP/DOCTOR PRESCRIPTION ONLY							
Infants >2.5kg = 1mg Infants <2.5kg <36w = 0.4mg/kg							
Day	Drug	Dose	Route	Prescribed By	Given By	Date	Time
Birth	Phytomenadione (Vitamin K)						

Once completed, give 1 copy to parents, scan into BadgerNet Maternity

Appendix 2: BadgerNet Maternity observations chart and escalation

	3	2	1	0	1	2	3	Mandatory/ optional	Data entry Type
Temperature	<32	32 - 35.9	36.0 - 36.5	36.6 - 37.2	37.3 – 37.9	>37.9		Mandatory	Numeric
Pulse	<80	80 - 99	100 - 119	120 - 159	160 - 179	180 - 219	>219	Mandatory	Numeric
Respiration Rate		<20	20 - 29	30 - 60	61 - 69	>69		Mandatory	Numeric
Respiratory Distress				Absent		Present		Mandatory	List
Conscious Level				Alert	Irritable, Jittery	Lethargic	Unresponsive	Mandatory	List
Blood sugar (pre feed) mmol		<1.5	1.5 - 2.5	N/A, 2.6 - 5.9	>5.9			Optional	Numeric
Vomited Green Bile				N	Y			Mandatory	List (Y/N)

EWS Score	Current Assessed Status		Obs Summary Guidance Text	Alert Severity	Neonatal Doctor Seniority	Response Due	Alert Reminder	Obs Profile
0	0	Default	Review observation frequency as per trans care pathway and set appropriate profile	0	~	~	~	1hr
1			Using SBAR Inform senior midwife and junior member of the neonatal team. Bleep Neonatal SHO/ANNP Review observation frequency as per trans care pathway and set appropriate profile		SHO/ANNP	30mins		1hr
2			Using SBAR inform senior midwife and senior member of the neonatal team. Bleep neonatal registrar/ANNP Review observation frequency as per trans care pathway and set appropriate profile		Reg/ANNP	30mins		1hr
3			Call 2222 state Neonatal Emergency. Consider involvement of neonatal consultant Review observation frequency as per trans care pathway and set appropriate profile		Reg/ANNP	30mins		1hr

Appendix 3: Risk factors for neonatal hypoglycaemia

The following Newborns should be monitored and placed on the hypoglycaemia pathway

NEONATAL HYPOGLYCAEMIA PATHWAY TRIGGERS

Risk Factors for Hypoglycaemia

Maternal or birthing person

- Diagnosed pre-eclampsia/eclampsia or pregnancy induced or essential hypertension.
- Diabetic mother or birthing person (any diabetes type).
- Earlier pregnancy with a macrosomic infant (>91st centile).
- Treatment with beta adrenergic tocolytics within 7 days of delivery, most common examples are MgSO4 and nifedipine.
- Treatment with tricyclic antidepressants or serotonin-norepinephrine reuptake inhibitors. Examples include Amitriptyline, duloxetine and venlafaxine.
- Treatment with beta blockers for example labetalol and propanalol.
- Symptoms of neonatal abstinence syndrome (this can mask symptoms of hypoglycaemia).
- Maternal or birthing person glucose infusion.

Neonatal

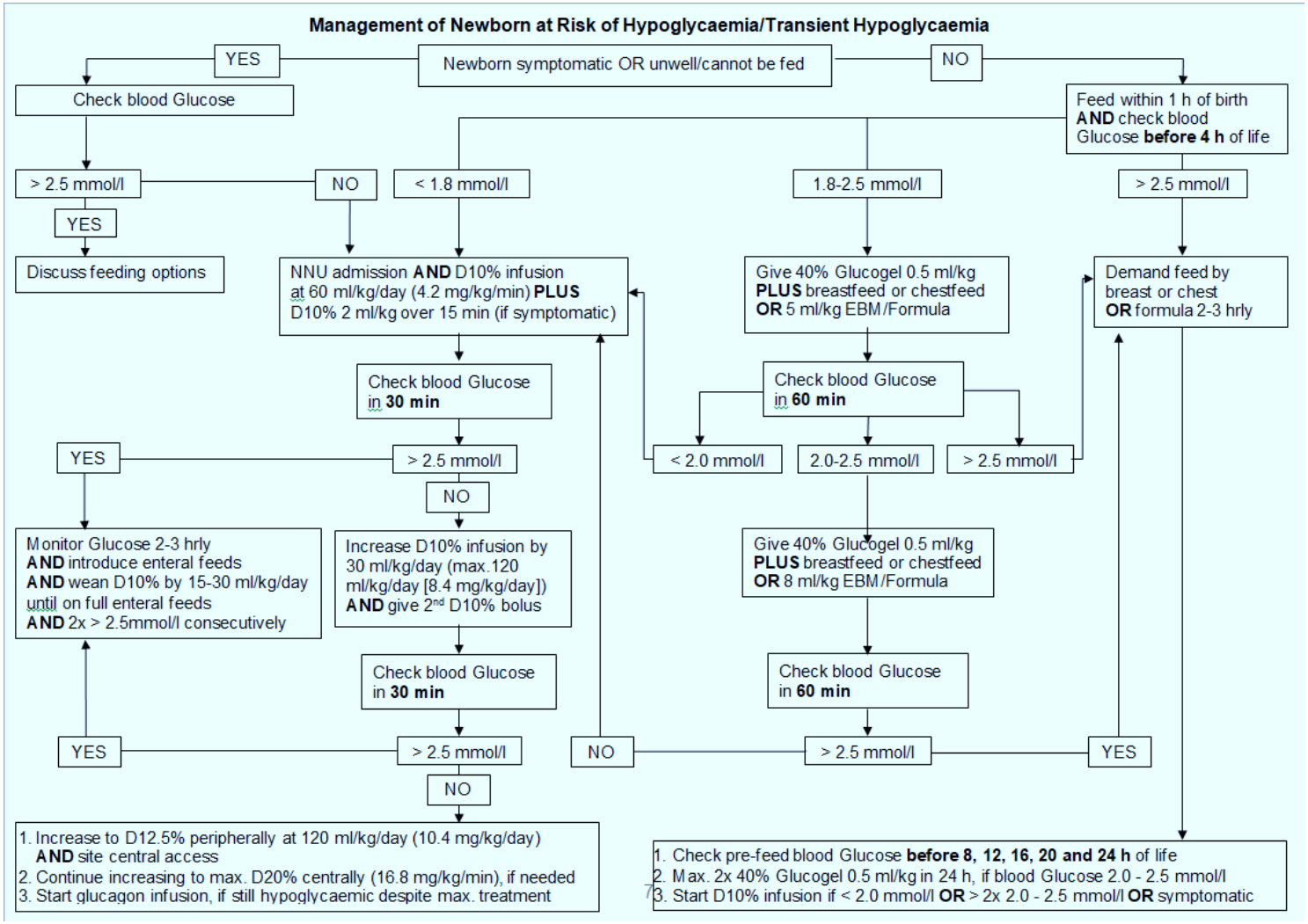
- Cord pH < 7.1
- < 37 weeks gestation.
- Small for gestational age (< 9th centile) or Intrauterine Growth Restriction, see chart and check BadgerNet Maternity when inputting birth weight.
- Macrosomia plus abnormal HbA1c or GTT in mother or birthing person (OR > 91st percentile alone if HbA1C or GTT not done).
- Discordant twin (weight discordance > 10%).
- Infections (i.e. babies on IV antibiotics in first 24 hours of life or those older than 24 hours who are clinically unwell or who have evidence of infection).
- Endocrine disorders: (e.g. congenital adrenal hyperplasia, adrenal insufficiency, growth hormone deficiency, pituitary disorders etc.)
- Inborn errors of metabolism: (e.g. maple syrup urine disease, organic acidaemias, disorders of carbohydrate metabolism, mitochondrial disorder, disorders of fatty acid oxidation).
- Hypoxic-ischaemic encephalopathy or CPR at birth.
- Known genetic conditions, e.g. Beckwith-Wiedemann.

Neonatal Red Flags that develop within the postnatal period that require neonatal review and requirement to commence hypoglycaemia pathway

- Hypothermia.
- Infants with respiratory distress.
- Delayed Feeding (e.g. feeding intolerance (especially persistent vomiting), lack of milk supply) also see Newborn feeding protocol MP072 Appendix 2B.
- Plethoric infant/ hyperviscosity, but also severe haemolytic disease.
- Symptoms of neonatal abstinence syndrome (this can mask symptoms of hypoglycaemia).

Appendix 4: Flow chart for the management of asymptomatic babies at risk of hypoglycaemia on postnatal wards

Hypoglycaemia Algorithm



Appendix 5: Risk factors for Early Onset Neonatal Sepsis

PROMPT CARD for Risk Factors for EONS on labour / postnatal ward

If any risk factors are present, please bleep the neonatal SHO for review. Please have the following information ready: Gestation, Duration of ROM, Max maternal or birthing person temp, GBS status and if IVABs administered in labour

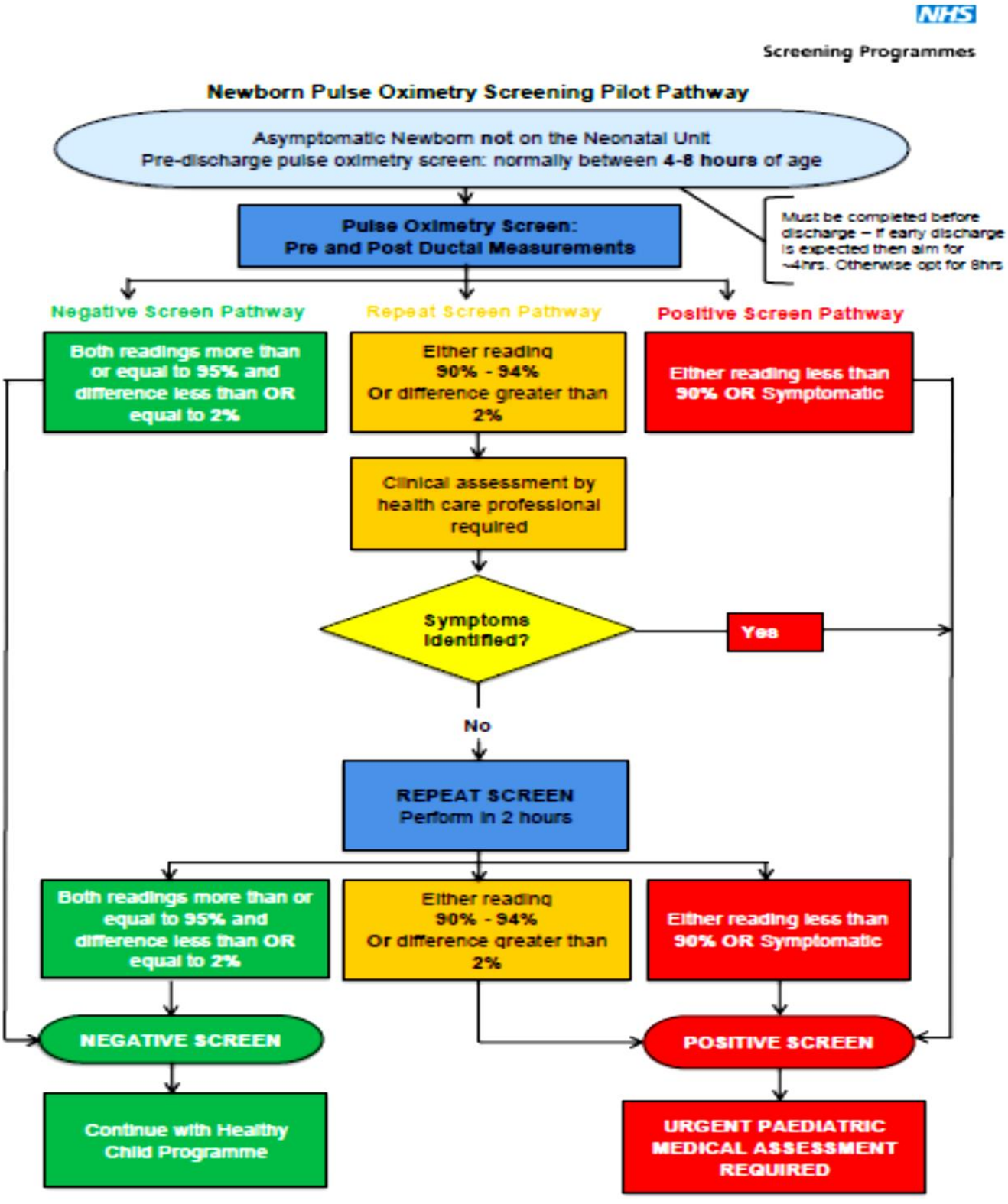
Are there any risk factors in the mother or birthing person ?

- **Maternal or birthing person sepsis.**
- **Chorioamnionitis.**
- **Previous baby with invasive GBS infection.**
- **Maternal or birthing person GBS colonisation, bacteriuria or infection in this pregnancy.**
- **Maternal or birthing person rupture of membranes > 24 hours PROM.**
- **Maternal or birthing person fever before (> 37.5°C on 2 or more occasions at least 1 hour apart, or a single temperature > 38°C, before or during birth.**
- **Prematurity < 35 weeks.**
- **Low Birth Weight < 2500g.**
- **Meconium Liquor.**

Are there any risk factors in the baby?

- **Apgar <5 at 5 mins.**
- **Siblings from the same pregnancy started on IVABs.**
- **Temperature instability.**
- **Respiratory distress (respiratory rate>60bpm, grunting, flaring or retracting).**
- **Bradycardia or Tachycardia.**
- **Poor feeding, vomiting, signs and symptoms of abdominal pathology or Oliguria > 24 hrs after birth.**
- **Hypo/Hyperglycemia, metabolic acidosis BE > 7 mmol/l.**
- **Petechiae, other signs and symptoms of bleeding disorder.**
- **Jaundice < 24 hrs, umbilical flair, signs/ symptoms of local infection.**
- **Abnormal muscle tone. Signs and symptoms of mild encephalopathy.**
- **Abnormal vigilance state, irritability lethargy.**

Appendix 6: Failed O2 saturation flowchart



Appendix 7: Monitoring

Issue being monitored	Monitoring method	Responsibility	Frequency	Reviewed by and actions arising followed up by
All Term Admissions including those related to hypothermia, hypoglycaemia, respiratory distress and jaundice	Weekly case review at ATAIN (Avoiding Term Admissions into Neonatal Units)	ATAIN lead Postnatal (PN) Leads	**Quarterly reports**	Neonatal Governance team Maternity Governance Team Reports to neonatal safety champion and Trust Board
Transitional Care & Late Preterm)	Audit	PN Leads	**Quarterly Reports**	Neonatal Governance team Maternity GovernanceTeam Reports to neonatal safety champion and Trust Board
Sepsis (kaiserpermanente tool)	Audit	Neonatal Team	**Ongoing**	Neonatal Governance Lead/ Infection Lead
Neonatal Pulse Oximetry	Snapshot audit of compliance and outcomes	PN Leads	**3 yearly**	Neonatal Governance

- Any neonatal issues that arise within clinical practice will be escalated to neonatal and safety Governance leads

Appendix 8: Guideline Version Control Log

Change Log – Care of the Newborn

Version	Date	Author(s)	Reason for change
3.0	February 2024	Nicola Hilton, Postnatal Lead Midwife	Update following review and addition of aspects of care not previously covered. To bring in line with protocols and guidance from TMBU.

Appendix 9: Due Regard Assessment Tool

To be completed and attached to any guideline when submitted to the appropriate committee for consideration and approval.

		Yes/No	Comments
1.	**Does the document/guidance affect one group less or more favourably than another on the basis of:**		
	Age	*No*	
	· Disability	*No*	
	· Gender (Sex)	*No*	
	· Gender Identity	*No*	
	· Marriage and civil partnership	*No*	
	· Pregnancy and maternity	*No*	
	· Race (ethnicity, nationality, colour)	*No*	
	· Religion or Belief	*No*	
	· Sexual orientation, including lesbian, gay and bisexual people	*No*	
2.	**Is there any evidence that some groups are affected differently and what is/are the evidence source(s)?**	*No*	
3.	**If you have identified potential discrimination, are there any exceptions valid, legal and/or justifiable?**	*NA*	
4.	**Is the impact of the document likely to be negative?**	*No*	
5.	**If so, can the impact be avoided?**	*NA*	
6.	**What alternative is there to achieving the intent of the document without the impact?**	*NA*	
7.	**Can we reduce the impact by taking different action and, if not, what, if any, are the reasons why the guideline should continue in its current form?**	*NA*	
8.	**Has the document been assessed to ensure service users, staff and other stakeholders are treated in line with Human Rights FREDA principles (fairness, respect, equality, dignity and autonomy)?**	*Yes*	

If you have identified a potential discriminatory impact of this guideline, please refer it to [Insert Name], together with any suggestions as to the action required to avoid/reduce this impact. For advice in respect of answering the above questions, please contact uhsussex.equality@nhs.net 01273 664685).

Appendix 10: Template Dissemination, Implementation and Access Plan

To be completed and attached to any guideline when submitted to Corporate Governance for consideration and TMB approval.

	Dissemination Plan	Comments
1.	Identify:	
	Which members of staff or staff groups will be affected by this guideline?	Midwives and obstetricians
	How will you confirm that they have received the guideline and understood its implications?	Dissemination through the usual Communication channels and highlighted at Safety Huddles.
	How have you linked the dissemination of the guideline with induction training, continuous professional development and clinical supervision as appropriate?	All new members of staff shown where to access Clinical documents that are relevant to their area of practice.
2.	How and where will staff access the document (at operational level)?	Accessed by staff via Sharepoint

		Yes/No	Comments
3.	Have you made any plans to remove old versions of the guideline or related documents from circulation?	Yes	Previous versions will be archived.
4.	Have you ensured staff are aware the document is logged on the organisation's register?	Yes	Dissemination plan includes notifying staff via email, safety noticeboards, departmental newsletter and departmental social media page.

Appendix 11: Additional guidance and information

BAPM 2017 Identification and Management of Hypoglycaemia in the full term infant. For information leaflet go to Appendix 1
CG21010 Care of Late Peterm Newborn V1.1

HSIP (2020) National Learning Report. Neonatal Collapse alongside skin to skin contact

Jones,T (2020) Management of Thermal stability IN Boxwell,G, Petty J and

Kaiser,L Neonatal Intensive Care Nursing chapter 11 pp 248-267. Oxon,Routledge

NHS Improvement (2017) Reducing harm leading to avoidable admissions of full-term babies into neonatal units.

NICE 2016 CG98 Jaundice in newborn babies under28 days

NICE 2021 NG194 Postnatal Care

NICE 2021 Neonatal Infection: Antibiotics for Prevention and Treatment

NICE 2022 CG190 Intrapartum Care for healthy women and babies

PHE 2016 Newborn Pulse Oximetry Feeding Pilot End Project Report

https://www.unicef.org.uk/babyfriendly/baby-friendly-resources/implementing-standards-resources/skin-to-skin-contact/

Unicef UK Baby Friendly Initiative: Sample Infant feeding policy (maternity)

https://www.unicef.org.uk/

www.babyfriendly/baby-friendly-resources/implementing-standards-resources/sample-infant-feeding-policies/

TMBU 2021 Management of Newborns at Risk of Early and Late Onset Sepsis
Management of Newborns at Risk of Early and Late Onset Sepsis

TMBU 2022 Management of Hypoglycemia and Hyperglycemia
Hypoglycemia and Hyperglycemia

TMBU 2022 Care of newborns Exposed to Unprescribed Medications and Substance Misuse
Management of Neonatal Abstinence and Abnormal Postnatal Adaptation Syndrome

TMBU 2022 Exposure to prescribed medication During Pregnancy Exposure to Prescribed Medication During Pregnancy

Newborn blood spot sampling guidelines: quick reference guide - GOV.UK (www.gov.uk)