MATERNITY GUIDELINES

Management of infants at the Extremes of Prematurity

Navigation
Guidance document – in the contents page the Press Ctrl on your keyboard and click on a heading to navigate to that section in this document.

Contents

1. Assessment of women presenting at risk of preterm delivery

Women who present to Derriford hospital should be assessed according to the guideline 'Diagnosis and management of threatened preterm labour, and pre-labour premature rupture of membranes'.

If they are deemed to be at risk of premature labour, they should be cared for according to that guideline and this.

2. Agreement for intrauterine transfer

As a level 3 NICU we are the regional centre for extremely premature infants.

It is widely acknowledged that these infants do better if they are delivered in the hospital in which they will have their ongoing care.

However, not all infants will survive labour, and not all parents will wish for resuscitation.

- The case should be discussed with the obstetric and neonatal consultant / post CCT fellow, to determine the likely benefit of transfer to this fetus. This will be with regard to the gestation, fetal weight, pregnancy circumstances and fetal condition etc.

- If the woman is transferred, reassessment of decision making for this fetus and pregnancy by the consultant / post CCT fellow in obstetrics and neonatology will take place. The patient will be counselled by the senior medical team (obstetrics and neonatology) according to the BAPM guidelines and local data. The process of assessing fetal wellbeing in labour, interventions in labour for fetal wellbeing, and assessment of the fetus at delivery as well as comfort care will be discussed, as well as interventions to maximise fetal and neonatal wellbeing and how those may or may not benefit this fetus. All conversations are personalised.

3. Assessment of women on arrival

On arrival to the unit, the woman will have routine observations, and the fetal heart will be auscultated. Reassessment of estimated due date and gestation will take place

- Review by the consultant / post CCT fellow to take place.

- Her risk of delivery will be reassessed, as will fetal wellbeing, as per the guideline 'Diagnosis and management of threatened preterm labour, and pre-labour premature rupture of membranes'

3.1. Decision making with regard to management of labour and delivery

If over **21+6** weeks gestation a further joint discussion with obstetric and neonatology senior staff and the patient should take place to determine:

- how delivery and labour will be managed,
- whether steroids and magnesium sulphate will be given,
- plans for fetal monitoring,
- what will happen based on that monitoring,

- plans for care at delivery including who should be present at delivery
- Whether palliative or active care is offered.
- The extent of resuscitation if active care is offered.
- If there is a change in the clinical condition of the baby before or at delivery the management plan may need to change.

3.2. Decision making when woman arrives in advanced labour

This is a challenging experience for all involved. Discussions are by nature challenging, and the parents do not have much time or the ability to absorb information.

- As much as possible, joint counselling should be advised.
- Steroids and magnesium sulphate should be given in presumption of neonatal support whilst having these conversations
- If there is no time for decision making, assessment of neonatal condition should take place by a senior neonatologist to determine if palliative or active care is given at delivery.

4. Management of Labour and delivery

Labour will be managed as to the agreement by obstetric and neonatal staff and the patient.

- If less than 22 weeks gestation there is no evidence of benefit to neonatal care, and so no evidence of benefit to auscultation (aside from preparing the parents for fetal demise). Be aware even in this setting some neonates will have signs of life.

- The benefit of intervention (ie caesarean section) should have been discussed and plans made as to level of intervention by obstetric team in labour, as for the neonate at delivery.

5. Management of delivery when the plan is for active care

- The neonatal team must called to attend delivery. This can be achieved via switch board by either bleeping the Tier 2 practitioner (doctor or ANNP) if elective or via crash call if in an emergency. Please make it clear that it is an extreme preterm baby so that the Neonatal Consultant on duty as well as neonatal nurse can be contacted to attend as well.
- Ensure that appropriate equipment are in the delivery room/operating theatre. In particular, please make sure that
    - The resuscitaire is present and heating switched on

  - Plastic bag is present for thermoregulation
  - Trans warmer is available if required
  - Airway kit present including appropriately sized masks, oropharyngeal airways, suction catheters, ET tubes and laryngoscopes
  - Oxygen saturation monitor (with appropriate sized leads) should be charged and connected to power
  - Umbilical catheters are present
- Also make sure that the neonatal emergency resus trolley is within easy reach and has been checked
- Following delivery, infant should be placed directly into the plastic bag to maintain temperature control. A hat should also be placed unto the infant's dried head
- Cord clamping should be deferred for a target of at least 60 seconds prior to transfer to resuscitaire. During that period, ongoing assessment of the baby should occur. This includes
  - Heart rate
  - Respiratory effort
  - Colour
- Respiratory support to be commenced as required using appropriate sized face masks connected to oxygen supply in 30% FIO_2 following NLS algorithm.
- Oxygen saturation probe to be connected unto infant's right upper limb. It usually takes a few seconds to get a reliable trace initially so patience is needed once there is good skin contact.
- Axillary temperature measurements should be monitored every fifteen minutes and adequate measures should be taken to ensure that baby is normo-thermic.
- It important to ensure that all activities are documented by a nominated scribe.

- Depending on support needed, a brief cuddle should be facilitated with parents prior to transfer to NICU in the transport incubator.

6 Management of delivery when the plan is for comfort care

If the fetus is born dead, follow the wishes previously expressed as to what to do with the fetus.

If the fetus is born with signs of life, the definition of which is below:
Determining signs of life – this would involve:

- **Easily visible heartbeat seen through chest wall**
- **Visible pulsation of the cord**
- **Breathing or sustained gasps**
- **Definite movement of arms and legs**

This would exclude short-lived fleeting reflex activity in the first minute after birth

- **Transient gasps**
- **Brief visible pulsation of the chest wall**
- **Brief twitches or involuntary muscle movement.**

- Ensure that the parents are informed of the live birth of the baby.
- Offer the parents the opportunity to hold/cuddle baby and have photographs taken if they wish.
- Ensure that the baby is cared with dignity in suitable surroundings until he/she dies. The parents may wish to keep the baby with them. Alternatively, the bereavement room can be used.
- Once the baby has died, the baby will need to be examined by the neonatal tier 2 and death confirmed.
- The neonatal tier 2 will need to complete a Neonatal Death Certificate and a cremation form.
- All cases of neonatal death will need to be discussed with the Coroner even if the cause of death is clear by the certifying doctor.

6.1 Paperwork to be completed where signs of life present

The birth and the death will need to be registered as a neonatal death and the relevant documentation and investigations completed.

- Raise infant notes and register infant as per live birth. If unable to determine the sex of the infant a cord blood or placental tissue sample must be sent to Southmead Hospital, Bristol, for polymerase chain reaction (PCR) analysis to determine gender. A neonatal death certificate **cannot** be completed without the known gender of the infant. This should be explained to the parents and that this process may take a few days and will subsequently delay issue of the death certificate.

- Complete birth notification and register birth and death in the main labour ward register. Complete CPOD forms (available online) and all the necessary documentation contained in the fetal loss and support for parent's guideline.

- For investigations continue management as detailed in guidelines for management of fetal loss (Fetal loss and support for parent's guideline, found in the documents library on G Drive). Gender results will take approximately 4 weeks to obtain from the genetics laboratory at Southmead, Bristol.

7 Notification of the Coroner

- **All Neonatal deaths regardless of gestation and whether a death certificate can be issued must be discussed with the Coroner by the certifying doctor.** Please make every effort to ensure a doctor is present at the delivery to ensure a death certificate can be issued. A doctor must see signs of life in order to issue a death certificate, a midwife cannot issue the death certificate.

8 Record Keeping

It is expected that every episode of care be recorded clearly, in chronological order and as contemporaneously as possible by all healthcare professionals as per Hospital Trust Policy. This is in keeping with standards set by professional colleges, i.e. NMC and RCOG.
All entries must have the **date and time** together with **signature and printed name.**

References

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Cross references

- Maternity Hand Held Notes, Hospital Records and Record Keeping
- Guideline Development within the Maternity Services
- Diagnosis and management of threatened preterm labour, and prelabour premature rupture of membranes
- Fetal Loss and Support for Parents

- **NICU guideline** - Management of extreme prematurity

Monitoring and Audit
Auditable standards:

- Number of intrauterine transfers accepted with and without discussion at the extremes of prematurity
- Counselling by obstetrics and neonatology together
- Outcome of counselling
- Neonates born with signs of life
- Neonates admitted to NICU (active care)
- Neonates discharged from NICU

Reports to:
Maternity Assurance Group – responsible for action plan and implementation of recommendations from audit

Frequency of audit: every other year

Responsible person: S Halawa

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Changes	• Joint decision to accept intra-uterine transfers by obstetric and neonatal teams • Joint counselling by obstetric and neonatal teams • Auscultation to prepare parents during labour prior to 22 weeks gestation • Decision making where the woman arrives in advanced labour		
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