University Hospitals Sussex
NHS Foundation Trust

Pre-term Labour

Maternity Protocol: MP031

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Cross reference:	**MP001** Antenatal booking **MP019** Hypertensive Disease **MP023** Maternal & In Utero Transfers **MP032** Rupture of Membranes (RoM) **MP037** Fetal Heart monitoring **MP020** Multiple Pregnancy **MP050** Caesarean Section (LSCS) **MP066** Neonatal Resuscitation (term & pre-term) **MP068** Admission to NICU/SCBU **MP077** Cervical cerclage

Table of Contents

Key principles:

A protocol is a set of measurable, objective standards used to determine a course of action. Professional judgement and clinical context should be considered in the application of a protocol.

Scope:

This protocol applies to

- All pregnant people or women with **threatened or actual** pre-term labour
- All infants born under 37 weeks gestation requiring support at birth

Responsibilities:

Midwives, Obstetricians & Neonatologists:

- To access, read, understand and follow this guidance
- To use their professional judgement in application of this protocol

Management:

- To ensure the protocol is reviewed as required in line with Trust and National recommendations
- To ensure the protocol is accessible to all relevant staff
- To ensure the protocol is available to service users on request

1 Pre-Term Labour

Preterm birth is the most important single determinant of adverse infant outcome in terms of survival and quality of life (RCOG 2011).

1.1 Definition:
Regular and painful uterine contractions which lead to cervical change (effacement and dilatation) prior to 37 completed weeks of gestation.

Threatened pre-term labour should be considered for any women presenting at less than 37 weeks gestation with uterine contractions +/- pre-term rupture of membranes, even in the absence of cervical change.

1.2 Identification of risk factors at booking

Any pregnant person or woman with a history of preterm birth(s) <37 weeks, or with a history of mid-trimester loss(es) should have consultant-led care and be referred to antenatal clinic at booking. The following factors in the history should generate a referral to preterm clinic by the booking midwife:

- All patients with 2+ previous preterm births or premature pre-labour rupture of membranes (PPROM) and delivery before 35 weeks
- All patients with previous 2nd trimester loss or 2nd trimester termination of pregnancy
- All patients who have had a previous elective or emergency cervical cerclage
- All patients with a history of multiple LLETZ, single knife cone biopsy or single LLETZ to a depth of >10mm

2 Referral of pregnant people or women with suspected preterm labour

When taking a referral it is important to ask the following questions and document information in the telephone log and on the triage board:

2.1 Patient's demographics and contact telephone number

2.2 Obstetric history: gravidity / parity

2.3 Gestation and EDD

2.4 Any other pregnancy complications: e.g. Hypertension or fetal growth restriction

2.5 Presenting complaint:

2.5.1 Abdominal pain
- Constant or intermittent?
- What is the frequency, duration and strength of contractions
- Is there an urge to push?

2.5.2 Vaginal loss:
- Bleeding/discharge/liquor.
- Is there a history of PPROM? If so when and what colour is the liquor?

2.5.3 Maternal and fetal well-being i.e. does mum feel well and can she feel baby moving?

2.6 Give the following information:

2.6.1 If in active labour / delivery imminent / concern for maternal or fetal well-being then discuss with the labour ward coordinator and advise the woman to come to labour ward for urgency assessment. Consider ambulance transfer if necessary.

2.6.2 If there are no concerns, then ask the woman to come to MAU on L12 at the RSCH or triage/DAU at PRH for assessment as soon as possible.

2.6.3 The midwife or doctor taking the referral is responsible for informing the labour ward coordinator and obstetric registrar or consultant of the patient's expected arrival.

2.7 **Initial Assessment on arrival**

On arrival, the admitting midwife should perform and document the following and investigations with maternal informed consent:

2.7.1 Maternal observations

2.7.2 Urine dip and MSU

2.7.3 Confirm EDD

2.7.4 Enquire and document general maternal well-being and any medical problems including the presenting complaint.

2.7.5 Enquire and document the obstetric history for this pregnancy and other pregnancies, with particular attention to gestation and mode of delivery.

2.7.6 Palpation of the abdomen, symphysis-fundus height measurement and assessment of lie/presentation. Record the strength, frequency and duration of contractions. Consult the most recent USS report to identify the placental location.

2.7.7 Assessment of fetal wellbeing:

2.7.7.1 Ask about movements

2.7.7.2 Perform a CTG from 26^{+0} weeks gestation, using antenatal CTG criteria initially for interpretation. If the trace is not normal, inform the senior midwife and obstetrician immediately.

2.7.7.3 If between 24^{+0} and 25^{+6} weeks then auscultation by the midwife is appropriate initially. A CTG **may** sometimes be indicated between 24^{+0} and 25^{+6} weeks gestation, but only after obstetric review and discussion with the obstetric consultant. See section 2.9 below

2.7.8 Assessment of sanitary pad and question with regard to vaginal loss i.e. is there a history rupture of membranes?

2.7.9 Obtain IV access if delivery is imminent or if there are risk factors for post-partum haemorrhage. Take bloods for full blood count, CRP and group and save if membranes have ruptured.

2.7.10 If in active labour, delivery is imminent or there are any concerns for fetal or maternal well-being, then transfer to labour ward and inform the senior midwife and obstetrician immediately. Contact TMBU/SCBU and the neonatal team as a matter of urgency.

2.8 **No concerns on initial assessment**

If there are no concerns and delivery is not imminent, then inform the Obstetric registrar of findings and request a senior review. If there are any changes in clinical condition of mother or fetus whilst awaiting obstetric review, then inform the senior midwife and obstetrician immediately.

2.9 **Gestation 22+0 – 27+6**

There should be a multidisciplinary discussion between the obstetric team, neonatal team and parent(s) to decide on whether active management is appropriate in the context of the BAPM framework. Wherever possible, the patient should be reviewed with both teams present to aid discussions. The interventions of corticosteroids, tocolysis and magnesium sulphate (see sections 8.0, 9.0 and 10.0) should only be offered where a decision has been made to for active management. At the extremes of viability, it may be the multidisciplinary decision that these interventions are currently not appropriate.

3 Fetal Fibronectin

3.1 Any woman who presents between 22^{+0} and 34^{+6} weeks gestation with a history of tightening's, who is not in active pre-term labour should be recommended to have a fetal Fibronectin (FFN) test.

3.2 This test can only be routinely performed if the following criteria are fulfilled:

3.2.1 22^{+0} – 34^{+6} weeks

3.2.2 Membranes intact

3.2.3 No sexual intercourse in the past 24 hours

3.2.4 No speculum examination or VE within the last 24 hours

3.2.5 No aquagel use within the last 24 hours

3.2.6 No vaginal bleeding within the last 24 hours

3.3 If the above criteria are fulfilled then the test may be performed with maternal consent documented. This involves a speculum examination without aquagel in order to assess the cervix and then take a swab from the posterior fornix (for approximately 10 seconds). The contents of the swab container are then pipelled into a cassette which is read by the fetal fibronectin machine. It takes 25 minutes to produce a result.

3.4 Results and Actions:

3.4.1 Negative FFN – a negative fibronectin test (a value of less than 50) has a high negative predictive value i.e. it confers a low risk of pre-term labour. In this situation further investigations are needed to rule out alternative causes of abdominal pain, including non-obstetric causes. If the pain is severe or persistent, it may be appropriate to involve other specialities in assessment eg. Surgical team, If non-obstetric causes are thought to be unlikely, the woman may go home if she feels well and has normal observations.

3.4.2 Positive FFN – A positive test (a value of greater than 50) confers a higher risk that the woman will labour pre-term over the next 2 weeks. Hence a positive result usually necessitates admission to hospital + steroids +/- tocolytics. However treatment should be adjusted in light of the numeric value according to the below table.

3.5 **Results and Actions Table:**

FFN value	***% who will deliver within 2 weeks***	***% who will deliver at <34 weeks***	***Management guidelines***
0 - 9	<2	<2	Discharge with routine midwife follow up
10 - 49		5 – 15	Discharge with routine midwife follow up
50 – 199	5 – 15	10 - 15	• Admit • Give Dexamethasone Phosphate 12mg IM 12 hours apart
>200 499	30	30	• Admit • Give Dexamethasone Phosphate 12mg IM 12 hours apart • Tocolysis if tightening: See section 9.0 below
>500	50	75	• Admit • Give Dexamethasone Phosphate 12mg IM 12 hours apart • Tocolysis if tightening: See section 9.0 below

3.6 The obstetric registrar should be informed about the result of all FFN tests so that a management plan may be made.

4 Obstetric review:

4.1 Verbal handover from Midwife on details of their initial assessment and care using the SBAR tool and BSOTS

4.2 Review of information gathered from initial assessment including confirmation of presenting complaint and obstetric history

4.3 General inspection of maternal condition and observations

4.4 With maternal informed consent:

- Abdominal palpation to confirm symphysis-fundal height
- Fetal lie, presentation and engagement of presenting part. USS may be necessary to confirm fetal presentation
- Assessment of uterine activity, including frequency, duration and strength of contractions

4.5 Review of CTG / enquire about fetal movement and review previous USS and obstetric notes to identify any risk factors for pre-term labour e.g. history of pre-term labour.

4.6 With maternal informed consent: Perform a sterile speculum examination +/- fetal fibronectin test. If there has been rupture of membranes i.e. you can see pooling of liquor in the posterior fornix then an HVS should be taken. See MP032 Rupture of Membranes for further details.

4.7 If there are regular painful contractions and/or the cervix appears to be dilated on speculum – gain consent to perform a vaginal examination to assess the length, position, dilatation and effacement of the cervix - this will confirm whether the woman is in labour. NB even with a closed, posterior cervix on admission, changes may occur with ongoing contractions.

4.8 Any woman with a positive FFN or presenting in pre-term labour should be admitted for observations and management. Women with a negative FFN should have other causes for their abdominal pain excluded and then discharged.

4.9 If in active labour with strong and frequent contractions then immediate transfer to labour ward is necessary. It is the decision of the senior obstetrician regarding the use of tocolytics, corticosteroids, continuous fetal monitoring and if necessary, the timing and mode of delivery. The Labour ward coordinator should be involved in these discussions and informed of any care/management decisions made

4.10 TMBU/SCBU and the neonatal team should be informed as soon as possible by the admitting doctor or midwife, to check cot availability and arrange for the presence of a neonatal registrar at delivery.

4.11 TMBU can accept babies born from 22 weeks gestation and the SCBU at PRH can accept babies born from 34 weeks gestation. Hence women presenting to PRH with a positive FFN or in active pre-term labour at <34 weeks should be transferred to the RSCH at the earliest appropriate time.

4.11.1 (*Please see Maternity Protocol MP023: Maternal & In Utero Transfers*) In the rare event that there is not a cot available on TMBU, the obstetric registrar or senior midwife can organise for In utero transfer to another unit, provided that this has been deemed safe/appropriate by the obstetric consultant on call and initial management has been instigated. There is a folder of contact details for neonatal units available on labour ward. Ideally the closest unit with an available cot would be allocated. The transfer of a woman should be discussed with a senior member of staff on the neonatal unit and the obstetric registrar on-call in the receiving unit.

4.12 The admitting doctor should write a summary of the obstetric history, examination findings and management plan so that the team in the receiving hospital are aware of any issues.

5 Other Investigations

5.1 **MSU / HVS**
It is the responsibility of the midwife and doctors looking after the patient to chase the results of the MSU and HVS taken on admission (these are usually available within 48 hours). The clinical team should check regularly to see if the results are available. Treatment of an identified urinary tract infection or vaginal infection should be guided by sensitivities.

5.2 **Bloods**
It is the responsibility of the midwife and doctors looking after the woman to chase the results of blood tests taken on admission (these are usually available within 2 hours of admission). The clinical team should check regularly to see if the results are available.

5.3 **Ultrasound Scan**
For those women with threatened preterm labour +/- PROM, a departmental USS should be requested by the admitting doctor at the earliest opportunity in order to assess fetal growth, liquor volume and dopplers if appropriate. This should be reviewed by the obstetric registrar or consultant on call.

6 Rupture of Membranes

6.1 For information on the management of ROM (please see Maternity Protocol MP032: Rupture of Membranes (RoM) for further details)

6.2 ROM should not affect the decision to give corticosteroids in threatened pre-term labour unless there are signs of sepsis. If unsure, ask the obstetric registrar or consultant

6.3 Tocolytics can be used with Preterm ROM, unless there is a contraindication to delaying delivery, to allow time for administration of corticosteroids

6.4 If there is a cervical suture then it should be removed when there is any cervical dilatation or rupture of membranes. If membranes are ruptured but there is no evidence of cervical dilatation or strong contractions, removal of a cervical suture may be delayed in order to give time for administration of steroids and magnesium sulphate, or for intra-uterine transfer. The decision to leave a suture in situ should be discussed with a consultant. The suture should, however, be removed once these treatments are completed.

6.5 If Magnesium Sulphate is indicated (i.e. gestation less than 30 weeks) then it should be used with caution due to tocolytic effect and only if there is no evidence of infection

7 Antenatal Corticosteroids

7.1 A single course of corticosteroids can be given to any women with threatened pre-term labour from 23 - 34^{+6}/40 gestation. Corticosteroids may sometimes be considered at gestations from 22+0 to 22+6, but this decision should be taken by the obstetric and neonatal consultants after consideration of active management in line with the BAPM framework

7.2 Evidence reveals that in women with threatened pre-term labour receiving a course of corticosteroids, there was a significant reduction in:

7.2.1 Neonatal respiratory distress

7.2.2 Intraventricular haemorrhage

7.2.3 Necrotising enterocolitis

7.2.4 Systemic infection in the first 48 hours of life

7.2.5 Admission to neonatal intensive care

7.2.6 Neonatal death

7.3 **The recommended course of corticosteroids is:**

7.3.1 Dexamethasone Phosphate 12mg IM – 2 doses given 12 hours apart

OR

Betamethasone 12mg IM – 2 doses given 12 hours apart

7.4 Both courses are effective at reducing neonatal morbidity, but betamethasone use is associated with a greater reduction in neonatal death.

7.5 There have been no adverse effects on maternal or fetal health demonstrated following a single course of steroids.

7.6 If antenatal corticosteroids have been given at gestations less than 26^{+0} weeks, then consideration should be given to a further course if there is another admission with suspected preterm labour under 32^{+0} weeks if delivery is considered highly likely to happen. More than 2 courses of steroids is not recommended

7.7 The optimum effect of a steroid course is seen if delivery occurs between 24 hours and 7 days after the last dose. Steroids should not routinely be given unless there is a serious anticipation that delivery may occur in the subsequent week (see fetal fibronectin table 3.5) A course of steroids can be initiated if delivery is anticipated within 24 hours as there is still a beneficial effect on neonatal death.

7.8 NICE recommends that any woman with diabetes or gestational diabetes may need to have a variable rate insulin infusion when receiving corticosteroids for threatened pre-term labour.ward). Women already on insulin will need to be admitted to labour ward for a sliding scale. For women with gestational diabetes on diet or metformin only, please refer to MP018 Diabetes In Pregnancy.

8 Tocolysis

8.1 A continuous CTG should be started prior to giving nifedipine and then continued for at least 2 hours until the loading doses are given.

8.2 If tightening's have not settled despite treatment then discuss with the consultant on call.

8.3 The decision to give tocolytic drugs should be taken by the obstetric registrar or consultant.

8.4 Tocolytics should not be used when there is a contraindication to delaying delivery e.g. pre-eclampsia, antepartum haemorrhage or chorioamnionitis.

8.5 The use of nifedipine is contraindicated when there is severe hypovolaemia e.g. in maternal sepsis or if there is a cardiac problem such as cardiomyopathy, angina or recent MI. In the presence of any suspected contraindication contact the obstetric consultant on call. **N.B** Nifedipine should be used with caution when using magnesium sulphate.

8.6 **Nifedipine regime**

Stat dose	**10mg Nifedipine Capsule** (rapid acting) and **20mg Nifedipine MR tablet** (slow acting) PO stat
Regimen	**10mg Nifedipine Capsule** (rapid acting) PO every 15 minutes until contractions cease or the maximum of 4 doses/40mg is reached. This 40mg does NOT include the 10mg in the stat dose (50mg in total
Maintenance dose	**20mg Nifedipine MR Tablet** (slow acting) PO 8-12 hourly for 48 hours. The first dose should administered 8 hours after the stat dose

8.6.1 The aim of the maintenance dose is to maintain uterine quiescence for the duration of in-utero transfer, or for 24 hours post administration of the final dose of corticosteroids.

8.6.2 During treatment the midwife caring for the woman should use a MEOWS chart to record observations (particularly blood pressure) every 15 minutes for the first 2 hours, and then 4 hourly.

9 Magnesium Sulphate and Neuroprotection of the Fetus

9.1 Women at risk of early preterm (<30/40) imminent birth may be considered. Magnesium Sulphate (Magnesium Sulphate) should be considered when one or more of the following features are present:

9.1.1 There is suspected preterm labour (< 30 weeks) with a high risk of delivery within 2 weeks according to a fetal fibronectin test (value greater than 500)

9.1.2 Delivery below 30 week is being considered electively because of maternal or fetal compromise

9.1.3 There is suspected preterm labour below 30 weeks and a FFN test was not possible (e.g. premature rupture of the membranes)

9.2 The decision to use Magnesium Sulphate for fetal neuroprotection of the preterm infant should be made by a Consultant Obstetrician. Delivery should not be delayed for discussion or Magnesium Sulphate administration if there are fetal or maternal indications for emergency delivery.

9.3 Magnesium Sulphate should be given in accordance with the protocol used for the treatment of severe pre-eclampsia (MP019 Hypertensive diseases). The following protocol for dosing and observations should be followed:

9.3.1 There is no clear consensus regarding the optimal dosing of Magnesium Sulphate and therefore should be given in line with local Magnesium Sulphate in Pre-eclampsia guidelines so as not to introduce unnecessary confusion. To reduce risk of side effects, the loading dose should be given over a longer period i.e. 20-30min. 4g loading dose, followed by 1g/hr.

Loading Dose	Maintenance Dose
4g Magnesium Sulphate (8mls of 50% solution) Mixed with 12 ml Sodium Chloride 0.9% for injections I.V. over 5 mins	10g Magnesium Sulphate (20mls) Mixed with 30mls Sodium Chloride 0.9% for injection to total volume 50ml Infusion to run at a rate of 5mls/hour (1g/hour)

9.3.2 Regular measurement (at least hourly) of: BP, reflexes, respiratory rate, urine output and VIP (venous infusion phlebitis) score.

9.3.3 It is only necessary to measure serum magnesium levels if toxicity is suspected (therapeutic range 1.5-3.0mmol/L)

9.3.4 The Magnesium Sulphate infusion should be stopped if: knee reflexes are absent, urine output < 100mls/4 hours, respiratory rate < 12 breaths/min

9.4 The 2008 Cochrane Review (Doyle et al, 2008) concluded that antenatal magnesium sulphate therapy given to women at risk of preterm birth substantially reduces the risk of cerebral palsy in their children (RR 0.68, 95% CI 0.54 to 0.87; five trials, 6145 infants). Despite this, there have been limited changes in clinical practice across the UK and, although acknowledged, the RCOG have not wholeheartedly endorsed standardised preventative treatment with Magnesium Sulphate. The SAC Opinion Paper 29 (RCOG, 2011b) offered: data from one study showing adverse neonatal outcomes following magnesium sulphate; the lack of a statistically significant difference in primary outcome measures from all the randomised controlled trials; and the large number needed to treat for benefit (63 to benefit 1), as likely reasons for reluctance in universally adopting this practice.

9.5 If Magnesium Sulphate is commenced for neuroprotection, tocolysis should be ceased (as Magnesium Sulphate is itself a tocolytic). Hence Nifedipine therapy should be stopped. (Please see Maternity Protocol MP019 – Hypertensive Disease).

9.6 Magnesium Sulphate should be ceased if delivery is no longer imminent or 24hrs of therapy has been reached.

9.7 There is insufficient evidence to mandate a repeat course of Magnesium Sulphate for fetal neuroprotection later in the pregnancy if delivery does not occur, however it is reasonable to consider repeating the course if delivery seems likely at a later date and the patient is still <30+0.

10 Mode of Delivery and Fetal Monitoring

10.1 If labour progresses despite treatment or active labour is diagnosed, confirm presentation with USS and discuss mode of delivery with the Consultant obstetrician.

10.2 A discussion with the woman about delivery should be clearly documented in the notes by the senior obstetrician. The neonatal team should be involved in decision making. This should include evidence of discussion and decisions about the following,

10.2.1 Whether or not the woman will have continuous CTG in labour:

This will depend on gestation and other factors such as infection that may affect the neonate's chance of survival. In normal circumstances CTG monitoring should be standard from 26+0 gestation, but can be considered from 24+0 weeks. It should be taken into consideration that a decision to offer CTG monitoring in labour is synonymous with an agreement to deliver by caesarean section if the CTG becomes abnormal. The risks to the woman (and any future pregnancies she may have) of very preterm caesarean section should be discussed and documented, including the unclear benefits to the baby at very preterm gestations. After this discussion, there should be clear documentation on monitoring and mode of delivery agreed if a CTG becomes abnormal

10.3 The role of the neonatal team at delivery and what to expect

10.3.1 If gestation is < 27+6, the woman and family should be offered the appropriate neonatal information leaflet (see appendix: B, C, D & E)

10.3.2 All women in threatened preterm or preterm labour <34 weeks gestation should be offered a neonatal review for counselling. At gestations of <27+6, this review should ideally be joint with obstetrics to allow full discussion on whether active management is appropriate (see section 2.9)

10.4 Preterm vaginal delivery is a high risk labour so the following are recommended:

10.4.1 Experienced midwife or doctor to deliver

10.4.2 Larger delivery room where possible

10.4.3 Continuous CTG from 26+0, where it has been decided that active management is appropriate

10.4.4 **IV antibiotics** be routinely offered for neonatal Group B Strep prevention required (NEW: RCOG 2017) in all preterm labours <36+6

First Line	
Benzylpenicillin	**IV infusion** 3g then
Benzylpenicillin	**IVI** 1.5g every **FOUR HOURS** until delivery
Penicillin allergy	
Cefuroxime	**IV STAT** 1.5g then
Cefuroxime	**IV** 750mg every **EIGHT HOURS** until delivery
Severe Penicillin allergy (e.g. anaphylaxis, angioedema or respitory distress)	

Vancomycin	**IV** 1g **STAT** (as per trust guidance)
Vancomycin	every **TWELVE HOURS** until delivery refer to Micro guide

10.4.5 Avoid FBS fetal blood sampling (FBS) and fetal scalp electrode (FSE) if <34/40 as lack of clotting factors

10.4.6 Membranes left intact provided progress normal – risk of cord prolapse secondary to unstable lie.

10.4.7 Short second stage (one hour, consider Oxytocin)

10.4.8 If an instrumental delivery is required, **ventouse is absolutely contra-indicated at <34/40 gestation**. Forceps may be considered depending on the circumstances as there is no evidence for a lower gestational limit for use of forceps. Forceps may also be considered for the after coming head of the preterm breech baby.

10.4.9 Neonatal support (at RSCH this should be the middle grade plus nursing support) at delivery - if possible delay cord clamping and perform milking of cord (PRH this should be an ANNP plus nursing support)

10.4.10 Cord gases

10.4.11 Try to avoid giving opiates in labour as this may further suppress respiratory effort in the preterm neonate.

10.5 Caesarean Section:

10.5.1 Please see MP050: Caesarean Section (LSCS)

10.5.2 Only after discussion with consultant obstetrician on call – see section above

10.5.3 Routine caesarean is not recommended for pre-term breech presentation as there is no current evidence that it improves outcomes for the neonate. The risk of complications such as head entrapment should be discussed and weighed against the risks of caesarean section (see MP046 Management of Breech)

10.5.4 Delivery may be difficult at early gestations – consider extending incision or opting for classical scar (this is a consultant decision). J-incisions or classical caesarean scars may carry increased risks to future pregnancy. The increased risks of caesarean section at early gestations should be discussed with the pregnant person or woman and taken into account when deciding on mode of delivery

10.5.5 Keep Neonatal team informed of progress in labour and estimated time of delivery.

References

Preterm labour and tocolytic drugs, Green-top guideline 1B, RCOG (Feb 2011)

Preterm Labour and Birth, NICE Guideline no. 25, Nov 2015

Preterm prelabour rupture of membranes, Green-top guideline 44, RCOG (Oct 2010)

Antenatal corticosteroids to reduce neonatal morbidity, Green-top guideline 7, RCOG (Oct 2010)

Group B Strep green topPrevention of Early-onset Neonatal Group B Streptococcal Disease, Green-top Guideline no. 36, BJOG 2017

NICE Guideline – Antenatal Ccare, NICE Guideline CG62 Jan 2017(June 2010)

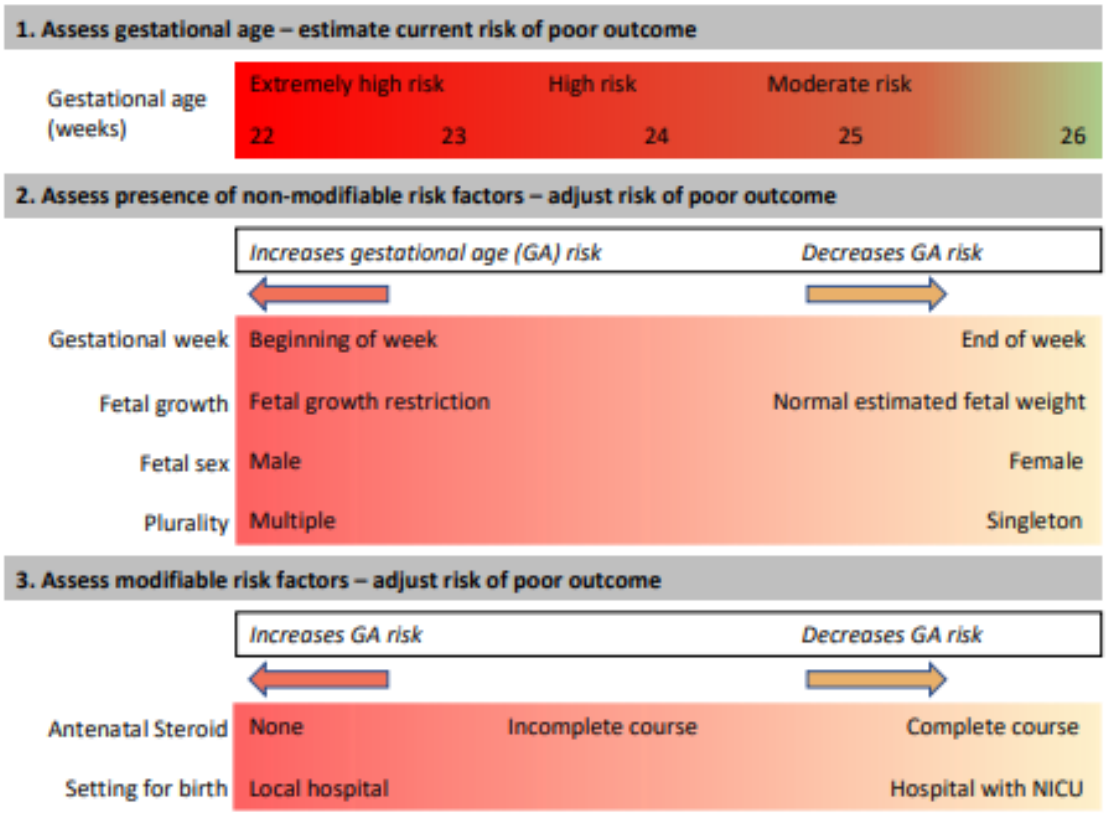
NICE Guideline – Intrapartum Ccare, NICE Guideline CG120 Feb 2017

NICE Guideline – Diabetes mellitus Iin Ppregnancy, NICE Guideline NG3, Aug 2015
Abbott DS, Radford SK, Seed PT, et al. (2012) Evaluation of a quantitative fetal fibronectin test for spontaneous preterm birth in symptomatic women. Am J Obstet Gynecol 2012;208

Doyle LW, Crowther CA, Middleton P, Marret S, Rouse D. Magnesium sulphate for women at risk of preterm birth for neuroprotection of the fetus. Cochrane Database of Systematic Reviews 2009, Issue 1. Art. No.: CD004661. DOI: 10.1002/14651858.CD004661.pub3.

Magnesium Sulphate to Prevent Cerebral Palsy following Preterm Birth Scientific Impact Paper No. 29. RCOG press. August 2011 .

Appendix A: Perinatal management of Extreme preterm birth before 27 weeks of gestation



BOX 1

Extremely high risk: The Working Group considered that babies with a > 90% chance of either dying or surviving with severe impairment if active care is instigated would fit into this category. For example, this would include:

- babies at 22^{+0} - 22^{+6} weeks of gestation with unfavourable risk factors
- some babies at 23^{+0} - 23^{+6} weeks of gestation with unfavourable risk factors, including severe fetal growth restriction
- (rarely) babies ≥ 24^{+0} weeks of gestation with significant unfavourable risk factors, including severe fetal growth restriction

High risk: The Working Group considered that babies with a 50-90% chance of either dying or surviving with severe impairment if active care is instituted would fit into this category. For example, this would include:

- babies at 22^{+0} - 23^{+6} weeks of gestation with favourable risk factors
- some babies ≥ 24^{+0} weeks of gestation with unfavourable risk factors and/or co-morbidities

Moderate risk: The Working Group considered that babies with a < 50% chance of either dying or surviving with severe impairment if active care is instituted would fit into this category. For example, this would include:

- most babies ≥ 24^{+0} weeks of gestation
- some babies at 23^{+0} – 23^{+6} weeks of gestation with favourable risk factors.

Box 1 represents the consensus of the Working Group in regard to risk categories for the purposes of this framework.

There is no objective way of defining a risk as 'extremely high' versus 'high' and families differ in the outcome that they regard as unacceptably poor. Thus risk assessment may need to be modified in the light of the parents' knowledge, views and values. It is important that parents are offered choices and supported to make decisions appropriate for their individual preferences.

For women presenting to a non-tertiary maternity and neonatal centre, assessment of risk should include early discussion with the relevant referral centre. For pregnancies from 22^{+0} weeks of gestation decisions should not be based on gestational age alone. Within a multiple pregnancy, the risk may differ between fetuses and so each should be considered as an individual. This means that appropriate management may not be the same for each baby, even with the same gestational age. If birth occurs prior to 22^{+0} weeks of gestation active obstetric and neonatal management is not appropriate.

The agreed risk for the baby has ethical and practical implications for the options that should be available.

Extremely high risk: For babies with an extremely high risk of death or of survival with unacceptably severe impairment despite treatment, palliative (comfort-focused) care would be in the best interests of the baby and life-sustaining treatment should not be offered. There is no absolute indication for paediatric attendance at the birth although for individual families this may be helpful.

High risk: For babies with a > 50% risk of death or of surviving with unacceptably severe impairment despite treatment, it is uncertain whether active (survival focused) management is in the best interests of the baby and their family. Parents should be counselled carefully and parental wishes should inform a joint decision to provide either active or palliative treatment. Ideally, a senior neonatal clinician who has previously met the parents will be available to attend the birth and supervise implementation of the agreed plan.

Moderate risk: For babies with a < 50% risk of death or of survival with unacceptably severe impairment, active management would be in the best interests of the baby. A senior neonatal clinician should attend the birth.


Outcome for babies born alive between 22 & 26 weeks' gestation†
Survival
In babies who receive intensive treatment
Died
Survived
Severe disability
In survivors**
Severe disability
No severe disability**
22 weeks
7 in 10 babies die
[51 to 79%]*
3 in 10 babies survive
1 in 3 babies has severe disability
[24 to 43%]
2 in 3 do not**
23 weeks
6 in 10 babies die
[56 to 68%]*
4 in 10 babies survive
1 in 4 babies has severe disability
[16 to 33%]
3 in 4 do not**
24 weeks
4 in 10 babies die
[35 to 45%]*
6 in 10 babies survive
1 in 7 babies has severe disability
[11 to 24%]
6 in 7 do not**
25 weeks
3 in 10 babies die
[22 to 30%]*
7 in 10 babies survive
1 in 7 babies has severe disability
[10 to 21%]
6 in 7 do not**
26 weeks
2 in 10 babies die
[15 to 21%]*
8 in 10 babies survive
1 in 10 babies has severe disability
[6 to 14%]
9 in 10 do not**
The survival percentages are for babies who are born alive and receive active stabilisation.
†Some babies born this prematurely cannot survive labour and birth
* The lower and upper figures indicate how certain we are of the true survival rate.
** Up to a quarter of children without severe disability may nonetheless have milder forms of disability such as learning difficulty, mild cerebral palsy or behavioural problems.
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